

**Huawei Cloud Meeting**

# **Client SDK Reference**

**Issue** 100.10.5

**Date** 2024-12-27



**Copyright © Huawei Technologies Co., Ltd. 2024. All rights reserved.**

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

## **Trademarks and Permissions**



HUAWEI and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

## **Notice**

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

---

# Contents

---

|   |           |
|---|-----------|
| <b>1 SDK Overview</b>                                 | <b>1</b>  |
| <b>2 Demos</b>  | <b>3</b>  |
| 2.1 Downloading Demo Installation Packages            | 3         |
| 2.2 Verifying the Demo Package Integrity              | 5         |
| <b>3 Building the Demo in One Minute</b>              | <b>7</b>  |
| 3.1 Building the Android Demo                         | 7         |
| 3.2 Building the iOS Demo                             | 14        |
| 3.3 Building the Windows Demo                         | 23        |
| 3.4 Building the macOS Demo                           | 27        |
| 3.5 Building the Electron Demo                        | 32        |
| <b>4 Downloading SDKs</b>                             | <b>39</b> |
| 4.1 Downloading an App SDK                            | 39        |
| 4.2 Verifying Integrity of an App SDK Package         | 47        |
| <b>5 SDK Maintenance Cycle</b>                        | <b>49</b> |
| <b>6 Android SDK</b>                                  | <b>51</b> |
| 6.1 Introduction                                      | 51        |
| 6.2 Getting Started                                   | 51        |
| 6.3 Typical Scenarios                                 | 64        |
| 6.3.1 API Call in Typical Scenarios                   | 65        |
| 6.3.2 Scenario 1: Initialization                      | 67        |
| 6.3.3 Scenario 2: Login Using an Account and Password | 68        |
| 6.3.4 Scenario 3: Login Using an App ID               | 69        |
| 6.3.5 Scenario 4: Scheduling a Meeting                | 70        |
| 6.3.6 Scenario 5: Editing a Meeting                   | 71        |
| 6.3.7 Scenario 6: Creating a Meeting                  | 73        |
| 6.3.8 Scenario 7: Joining a Meeting                   | 75        |
| 6.3.9 Scenario 8: Logout                              | 76        |
| 6.4 API Reference                                     | 76        |
| 6.4.1 Basic Settings                                  | 76        |
| 6.4.1.1 Initializing the SDK Synchronously            | 76        |
| 6.4.1.2 Initializing the SDK Asynchronously           | 78        |

|  |     |
|--|-----|
| 6.4.1.3 Configuring an Access Site.....  | 79  |
| 6.4.1.4 Customizing the Panel Used to Share a Meeting.....                             | 80  |
| 6.4.1.5 Customizing a Log Storage Path.....  | 81  |
| 6.4.1.6 Enabling or Disabling Chat for a Meeting.....                                  | 82  |
| 6.4.1.7 Enabling or Disabling HD Video First for a Video Meeting.....                  | 83  |
| 6.4.1.8 Enabling or Disabling the Camera and Microphone When Joining a Meeting.....    | 83  |
| 6.4.1.9 Customizing the Ringing and Vibration for Incoming Meetings.....               | 84  |
| 6.4.1.10 Hiding the External Label.....  | 85  |
| 6.4.1.11 Disabling Prompt Tones.....   | 86  |
| 6.4.1.12 Setting the Network Mode.....   | 87  |
| 6.4.1.13 Enabling a Function.....  | 88  |
| 6.4.1.14 Setting the Language.....   | 89  |
| 6.4.1.15 Setting Guaranteed IP Addresses for Meeting Control.....                      | 90  |
| 6.4.2 UI Customization.....  | 91  |
| 6.4.2.1 Customizing the Bottom Menu Bar.....   | 91  |
| 6.4.2.2 Customizing a Menu on the Participants Screen.....                             | 104 |
| 6.4.2.3 Customizing the Menu Displayed upon a Touch on the Title Bar in a Meeting..... | 111 |
| 6.4.2.4 Customizing a Screen for Adding Participants to a Meeting.....                 | 114 |
| 6.4.2.5 Customizing a Notification Bar in a Meeting.....                               | 115 |
| 6.4.2.6 Customizing the Profile Picture.....   | 116 |
| 6.4.2.7 Customizing a Watermark for a Meeting.....                                     | 120 |
| 6.4.2.8 Customizing the Status Bar Menu.....   | 122 |
| 6.4.2.9 Obtaining an Error Message.....  | 122 |
| 6.4.2.10 Android Menu Functions.....   | 123 |
| 6.4.2.11 Customizing the Text for a Specific Scenario.....                             | 141 |
| 6.4.2.12 Customizing the Icon for a Specific Scenario.....                             | 142 |
| 6.4.2.13 Customizing the Button of Adding a Virtual Background Image.....              | 143 |
| 6.4.3 Account Operations.....  | 144 |
| 6.4.3.1 Login Using an Account and Password.....                                       | 144 |
| 6.4.3.2 Login Using an App ID.....   | 146 |
| 6.4.3.3 SSO Login.....   | 148 |
| 6.4.3.4 Uploading a Profile Picture.....   | 150 |
| 6.4.3.5 Logging Out.....   | 151 |
| 6.4.4 Meeting Management.....  | 152 |
| 6.4.4.1 Scheduling a Meeting.....  | 152 |
| 6.4.4.2 Editing a Meeting.....   | 160 |
| 6.4.4.3 Canceling a Meeting.....   | 161 |
| 6.4.4.4 Obtaining the Meeting List.....  | 162 |
| 6.4.4.5 Obtaining Meeting Details.....   | 163 |
| 6.4.4.6 Obtaining the Cloud Meeting Room List.....                                     | 165 |
| 6.4.4.7 Modifying Cloud Meeting Room Information.....                                  | 167 |
| 6.4.4.8 Scheduling a Recurring Meeting Series.....                                     | 168 |

|   |     |
|---|-----|
| 6.4.4.9 Editing a Recurring Meeting Series.....   | 171 |
| 6.4.4.10 Canceling a Recurring Meeting Series.....  | 172 |
| 6.4.4.11 Editing a Recurring Meeting.....   | 173 |
| 6.4.4.12 Canceling a Recurring Meeting.....   | 174 |
| 6.4.5 Meeting Control.....  | 175 |
| 6.4.5.1 Creating a Meeting.....   | 175 |
| 6.4.5.2 Joining a Meeting.....  | 178 |
| 6.4.5.3 Adding Participants.....  | 181 |
| 6.4.5.4 Scanning a QR Code to Invite a Large Screen to a Meeting.....                               | 182 |
| 6.4.5.5 Setting the Sharing Permission.....   | 183 |
| 6.4.5.6 Leaving a Meeting.....  | 184 |
| 6.4.5.7 Ending a Meeting.....   | 185 |
| 6.4.5.8 Starting an Instant Meeting.....  | 185 |
| 6.4.6 Meeting Information.....  | 188 |
| 6.4.6.1 Obtaining the Participant List.....   | 188 |
| 6.4.6.2 Obtaining the Attendee List.....  | 189 |
| 6.4.6.3 Obtaining a User Status.....  | 189 |
| 6.4.7 Audio and Video Data Streams.....   | 190 |
| 6.4.7.1 Enabling Third-Party Video Streaming.....   | 190 |
| 6.4.7.2 Configuring Video Mirroring of Third-Party Streaming.....                                   | 191 |
| 6.4.7.3 Pushing Video Streams Using a Third Party.....  | 191 |
| 6.5 Notification Reference.....   | 193 |
| 6.5.1 Account Status Change Notification.....   | 194 |
| 6.5.2 Meeting Status Change Notification.....   | 194 |
| 6.5.2.1 Meeting End Notification.....   | 195 |
| 6.5.2.2 Meeting Details Notification.....   | 196 |
| 6.5.2.3 Poor Connection Notification.....   | 199 |
| 6.5.2.4 Notification of Instant Meeting Records.....  | 200 |
| 6.5.2.5 Notification of Participant Addition Results.....   | 202 |
| 6.5.3 Service Message Notification.....   | 203 |
| 6.5.3.1 Notification of Individual Role Changes.....  | 204 |
| 6.5.3.2 Notification of Meeting List Changes.....   | 205 |
| 6.5.3.3 Notification of Changes on the Meeting Recording Permission.....                            | 205 |
| 6.5.3.4 Notification of Changes of the Permission of Sending SMS Messages for a Scheduled Meeting.. | 205 |
| 6.5.3.5 Notification of Changes of Information About Shared Cloud Meeting Rooms.....                | 206 |
| 6.5.4 Answering Policy Configuration of Incoming Calls.....   | 207 |
| 6.5.5 UI-related Notification.....  | 207 |
| 6.5.5.1 Notification Indicating that the Audio and Video Floating Window Appeared.....              | 208 |
| 6.5.5.2 Notification Indicating that the Audio and Video Floating Window Disappeared.....           | 208 |
| 6.6 Error Code Reference.....   | 208 |
| 6.6.1 Common Error Codes.....   | 208 |
| 6.6.2 Error Codes.....  | 210 |

|                              |     |
|------------------------------|-----|
| 6.7 Version Updates.....     | 245 |
| 6.7.1 100.10.7 Updates.....  | 245 |
| 6.7.2 100.10.6 Updates.....  | 246 |
| 6.7.3 100.10.5 Updates.....  | 246 |
| 6.7.4 100.9.7 Updates.....   | 246 |
| 6.7.5 100.9.5 Updates.....   | 246 |
| 6.7.6 100.7.13 Updates.....  | 247 |
| 6.7.7 100.7.8 Updates.....   | 247 |
| 6.7.8 100.7.6 Updates.....   | 247 |
| 6.7.9 100.7.5 Updates.....   | 247 |
| 6.7.10 100.5.5 Updates.....  | 247 |
| 6.7.11 100.3.6 Updates.....  | 247 |
| 6.7.12 90.12.7 Updates.....  | 247 |
| 6.7.13 90.12.5 Updates.....  | 248 |
| 6.7.14 90.10.8 Updates.....  | 248 |
| 6.7.15 90.9.8 Updates.....   | 248 |
| 6.7.16 90.9.7 Updates.....   | 248 |
| 6.7.17 90.9.6 Updates.....   | 248 |
| 6.7.18 90.9.5 Updates.....   | 248 |
| 6.7.19 90.7.5 Updates.....   | 248 |
| 6.7.20 90.6.5 Updates.....   | 249 |
| 6.7.21 80.15.21 Updates..... | 249 |
| 6.7.22 80.15.5 Updates.....  | 249 |
| 6.7.23 80.13.6 Updates.....  | 249 |
| 6.7.24 80.13.5 Updates.....  | 249 |
| 6.7.25 80.12.6 Updates.....  | 249 |
| 6.7.26 80.12.5 Updates.....  | 250 |
| 6.7.27 80.10.6 Updates.....  | 250 |
| 6.7.28 80.10.5 Updates.....  | 250 |
| 6.7.29 80.9.5 Updates.....   | 250 |
| 6.7.30 80.8.5 Updates.....   | 250 |
| 6.7.31 80.7.5 Updates.....   | 250 |
| 6.7.32 80.5.11 Updates.....  | 250 |
| 6.7.33 80.5.5 Updates.....   | 250 |
| 6.7.34 70.16.5 Updates.....  | 251 |
| 6.7.35 70.14.5 Updates.....  | 252 |
| 6.7.36 70.13.5 Updates.....  | 252 |
| 6.7.37 70.12.6 Updates.....  | 253 |
| 6.7.38 70.12.4 Updates.....  | 253 |
| 6.7.39 70.11.5 Updates.....  | 253 |
| 6.7.40 70.10.5 Updates.....  | 253 |
| 6.7.41 70.9.5 Updates.....   | 253 |

|   |            |
|---|------------|
| 6.7.42 70.8.6 Updates.....  | 253        |
| 6.7.43 70.8.5 Updates.....  | 253        |
| 6.7.44 70.7.5 Updates.....  | 254        |
| 6.7.45 70.6.5 Updates.....  | 254        |
| 6.7.46 70.5.8 Updates.....  | 254        |
| 6.7.47 70.4.5 Updates.....  | 254        |
| 6.7.48 70.3.5 Updates.....  | 255        |
| 6.7.49 60.15.6 Updates.....   | 255        |
| 6.7.50 60.13.2 Updates.....   | 255        |
| 6.7.51 60.12.5 Updates.....   | 255        |
| 6.7.52 60.11.1 Updates.....   | 256        |
| 6.7.53 60.10.5 Updates.....   | 256        |
| 6.7.54 60.8.1 Updates.....  | 256        |
| 6.7.55 60.7.1 Updates.....  | 257        |
| 6.8 Change History.....   | 260        |
| <b>7 iOS SDK.....</b>   | <b>273</b> |
| 7.1 Introduction.....   | 273        |
| 7.2 Getting Started.....  | 273        |
| 7.2.1 Preparations.....   | 273        |
| 7.2.2 Quick Integration.....  | 273        |
| 7.2.3 Screen Sharing Integration.....                                     | 280        |
| 7.2.4 Service Integration.....  | 290        |
| 7.3 Typical Scenarios.....  | 290        |
| 7.3.1 API Call in Typical Scenarios.....                                  | 291        |
| 7.3.2 Scenario 1: Initialization.....                                     | 294        |
| 7.3.3 Scenario 2: Login.....  | 294        |
| 7.3.3.1 Login Using an Account and Password.....                          | 295        |
| 7.3.3.2 Login Using an App ID.....  | 295        |
| 7.3.4 Scenario 3: Scheduling a Meeting.....                               | 296        |
| 7.3.5 Scenario 4: Editing a Meeting.....                                  | 297        |
| 7.3.6 Scenario 5: Creating a Meeting.....                                 | 298        |
| 7.3.7 Scenario 6: Joining a Meeting.....                                  | 299        |
| 7.3.8 Scenario 7: Adding Participants.....                                | 300        |
| 7.3.9 Scenario 8: Logout.....   | 300        |
| 7.4 API Reference.....  | 301        |
| 7.4.1 Basic Settings.....   | 301        |
| 7.4.1.1 Initializing the SDK.....   | 301        |
| 7.4.1.2 Setting the Language.....   | 304        |
| 7.4.1.3 Setting a Log Path.....   | 306        |
| 7.4.1.4 Setting the Incoming Call Notification Mode.....                  | 306        |
| 7.4.1.5 Enabling or Disabling the Camera and Microphone in a Meeting..... | 307        |
| 7.4.1.6 Enabling a Function.....  | 308        |

|  |     |
|--|-----|
| 7.4.1.7 Setting the Network Mode.....  | 309 |
| 7.4.1.8 Disabling Prompt Tones.....  | 310 |
| 7.4.1.9 Setting Guaranteed IP Addresses for Meeting Control.....   | 311 |
| 7.4.1.10 Setting a Bundle ID of the Screen Sharing Extension.....  | 311 |
| 7.4.2 Account Operations.....  | 312 |
| 7.4.2.1 Login.....   | 312 |
| 7.4.2.2 Logout.....  | 315 |
| 7.4.2.3 Uploading a Profile Picture.....   | 316 |
| 7.4.3 UI Customization.....  | 317 |
| 7.4.3.1 Configuring the UI.....  | 317 |
| 7.4.3.2 Clearing UI Configurations.....  | 326 |
| 7.4.3.3 Customizing Social Sharing.....  | 326 |
| 7.4.3.4 Customizing the Bottom Toolbar.....  | 331 |
| 7.4.3.5 Customizing a Menu on the Participants Screen.....   | 336 |
| 7.4.3.6 Customizing the Menu That Appears in Response to Touches on the Title Bar of the Meeting Page<br>..... | 348 |
| 7.4.3.7 Customizing a Contact Selection UI.....  | 350 |
| 7.4.3.8 Customizing the Profile Picture Display.....   | 351 |
| 7.4.3.9 Customizing a Watermark for a Meeting.....   | 353 |
| 7.4.3.10 Customizing the Recording Button.....   | 355 |
| 7.4.3.11 Obtaining an Error Message.....   | 357 |
| 7.4.3.12 Customizing the Text for a Specific Scenario.....   | 357 |
| 7.4.3.13 Customizing the Icon for a Specific Scenario.....   | 358 |
| 7.4.3.14 Customizing the Button of Adding a Virtual Background Image.....                                      | 359 |
| 7.4.4 Meeting Control.....   | 360 |
| 7.4.4.1 Creating a Meeting.....  | 360 |
| 7.4.4.2 Joining a Meeting.....   | 365 |
| 7.4.4.3 Adding Participants.....   | 367 |
| 7.4.4.4 Scanning a QR Code to Invite a Large Screen to a Meeting.....  | 368 |
| 7.4.4.5 Setting the Sharing Permission.....  | 369 |
| 7.4.4.6 Leaving a Meeting.....   | 370 |
| 7.4.4.7 Ending a Meeting.....  | 371 |
| 7.4.4.8 Starting an Instant Meeting.....   | 371 |
| 7.4.5 Meeting Management.....  | 374 |
| 7.4.5.1 Scheduling a Meeting.....  | 374 |
| 7.4.5.2 Editing a Meeting.....   | 380 |
| 7.4.5.3 Obtaining the Meeting List.....  | 381 |
| 7.4.5.4 Obtaining Meeting Details.....   | 383 |
| 7.4.5.5 Canceling a Meeting.....   | 386 |
| 7.4.5.6 Obtaining the Cloud Meeting Room List.....   | 386 |
| 7.4.5.7 Modifying Cloud Meeting Room Information.....  | 388 |
| 7.4.5.8 Scheduling a Recurring Meeting Series.....   | 389 |
| 7.4.5.9 Editing a Recurring Meeting Series.....  | 392 |



|  |     |
|--|-----|
| 7.4.5.10 Canceling a Recurring Meeting Series.....   | 394 |
| 7.4.5.11 Editing a Recurring Meeting.....  | 394 |
| 7.4.5.12 Canceling a Recurring Meeting.....  | 396 |
| 7.4.6 Meeting Information.....   | 397 |
| 7.4.6.1 Obtaining the Participant List.....  | 397 |
| 7.4.6.2 Obtaining the Audience List.....   | 398 |
| 7.4.6.3 Determining Whether You Are a Host.....  | 398 |
| 7.4.6.4 Obtaining a User Status.....   | 399 |
| 7.5 Notification Reference.....  | 399 |
| 7.5.1 Precautions.....   | 400 |
| 7.5.2 Account Status Change Notification.....  | 400 |
| 7.5.2.1 Forcible Logout Notification.....  | 400 |
| 7.5.3 Meeting Status Change Notification.....  | 400 |
| 7.5.3.1 Notifications for Meeting Status Changes.....  | 401 |
| 7.5.3.2 Notification of Incoming Meeting Calls.....  | 401 |
| 7.5.3.3 Meeting Details Notification.....  | 402 |
| 7.5.3.4 Meeting Information Change Notification.....   | 403 |
| 7.5.3.5 Meeting End Notification.....  | 406 |
| 7.5.3.6 Poor Connection Notification.....  | 407 |
| 7.5.3.7 Notification of Participant Addition Results.....  | 408 |
| 7.5.4 Service Message Notification.....  | 409 |
| 7.5.4.1 Notifications for Host Role Changes.....   | 409 |
| 7.5.4.2 Notifications for Meeting List Changes.....  | 409 |
| 7.5.4.3 Notifications for Changes on Video Meeting Recording Permissions.....                        | 410 |
| 7.5.4.4 Notifications for Changes of Permissions of Sending SMS Messages for Scheduled Meetings..... | 410 |
| 7.5.4.5 Notification of Shared Cloud Meeting Rooms.....  | 411 |
| 7.5.5 Incoming Call Answering Policy Configuration.....  | 411 |
| 7.5.5.1 Configuring the Policy for Answering a Meeting Call.....                                     | 412 |
| 7.5.6 UI-related Notification.....   | 412 |
| 7.5.6.1 Notifications Indicating that the Floating Window Appeared.....                              | 412 |
| 7.5.6.2 Notifications Indicating that the Floating Window Disappeared.....                           | 413 |
| 7.6 Error Code Reference.....  | 413 |
| 7.6.1 Common Error Codes.....  | 413 |
| 7.6.2 Error Codes.....   | 417 |
| 7.7 Version Updates.....   | 453 |
| 7.7.1 100.10.7 Updates.....  | 453 |
| 7.7.2 100.10.6 Updates.....  | 453 |
| 7.7.3 100.10.5 Updates.....  | 453 |
| 7.7.4 100.9.7 Updates.....   | 454 |
| 7.7.5 100.9.5 Updates.....   | 454 |
| 7.7.6 100.7.13 Updates.....  | 454 |
| 7.7.7 100.7.8 Updates.....   | 454 |

|                              |     |
|------------------------------|-----|
| 7.7.8 100.7.6 Updates.....   | 454 |
| 7.7.9 100.7.5 Updates.....   | 454 |
| 7.7.10 100.5.5 Updates.....  | 454 |
| 7.7.11 100.3.6 Updates.....  | 455 |
| 7.7.12 90.12.7 Updates.....  | 455 |
| 7.7.13 90.12.5 Updates.....  | 455 |
| 7.7.14 90.10.8 Updates.....  | 455 |
| 7.7.15 90.9.6 Updates.....   | 455 |
| 7.7.16 90.9.5 Updates.....   | 455 |
| 7.7.17 90.7.5 Updates.....   | 455 |
| 7.7.18 90.6.5 Updates.....   | 456 |
| 7.7.19 80.15.21 Updates..... | 456 |
| 7.7.20 80.15.6 Updates.....  | 456 |
| 7.7.21 80.15.5 Updates.....  | 456 |
| 7.7.22 80.13.8 Updates.....  | 456 |
| 7.7.23 80.13.6 Updates.....  | 457 |
| 7.7.24 80.13.5 Updates.....  | 457 |
| 7.7.25 80.12.6 Updates.....  | 457 |
| 7.7.26 80.12.5 Updates.....  | 457 |
| 7.7.27 80.10.5 Updates.....  | 457 |
| 7.7.28 80.9.5 Updates.....   | 457 |
| 7.7.29 80.8.5 Updates.....   | 458 |
| 7.7.30 80.7.5 Updates.....   | 458 |
| 7.7.31 80.5.11 Updates.....  | 458 |
| 7.7.32 80.5.5 Updates.....   | 458 |
| 7.7.33 70.16.5 Updates.....  | 458 |
| 7.7.34 70.14.5 Updates.....  | 459 |
| 7.7.35 70.13.5 Updates.....  | 459 |
| 7.7.36 70.12.6 Updates.....  | 459 |
| 7.7.37 70.12.4 Updates.....  | 459 |
| 7.7.38 70.11.5 Updates.....  | 459 |
| 7.7.39 70.10.5 Updates.....  | 460 |
| 7.7.40 70.9.5 Updates.....   | 460 |
| 7.7.41 70.8.6 Updates.....   | 460 |
| 7.7.42 70.8.5 Updates.....   | 460 |
| 7.7.43 70.7.5 Updates.....   | 460 |
| 7.7.44 70.6.5 Updates.....   | 460 |
| 7.7.45 70.5.8 Updates.....   | 461 |
| 7.7.46 70.4.5 Updates.....   | 461 |
| 7.7.47 70.3.5 Updates.....   | 461 |
| 7.7.48 60.15.5 Updates.....  | 461 |
| 7.7.49 60.13.2 Updates.....  | 461 |

|   |            |
|---|------------|
| 7.7.50 60.12.5 Updates.....   | 461        |
| 7.7.51 60.11.6 Updates.....   | 462        |
| 7.7.52 60.10.5 Updates.....   | 462        |
| 7.7.53 60.8.1 Updates.....  | 463        |
| 7.7.54 60.7.1 Updates.....  | 463        |
| 7.7.55 90.10.8 Updates.....   | 464        |
| 7.8 Change History.....   | 464        |
| <b>8 Windows SDK.....</b>   | <b>475</b> |
| 8.1 Introduction.....   | 475        |
| 8.2 Getting Started.....  | 475        |
| 8.3 Typical Scenarios.....  | 495        |
| 8.3.1 API Call in Typical Scenarios.....                                | 495        |
| 8.3.2 Scenario 1: Initialization.....                                   | 498        |
| 8.3.3 Scenario 2: Login.....  | 499        |
| 8.3.4 Scenario 3: Scheduling a Meeting.....                             | 501        |
| 8.3.5 Scenario 4: Editing a Meeting.....                                | 503        |
| 8.3.6 Scenario 5: Canceling a Meeting.....                              | 504        |
| 8.3.7 Scenario 6: Creating a Meeting.....                               | 505        |
| 8.3.8 Scenario 7: Joining a Meeting.....                                | 508        |
| 8.3.9 Scenario 8: Joining a Meeting by Clicking a Link in an Email..... | 509        |
| 8.3.10 Scenario 9: Adding Participants.....                             | 510        |
| 8.3.11 Scenario 10: Customizing the Invite Button in a Meeting.....     | 512        |
| 8.3.12 Scenario 11: Logout.....   | 513        |
| 8.3.13 Scenario 12: Exit.....   | 514        |
| 8.4 API Reference.....  | 514        |
| 8.4.1 Basic Settings.....   | 515        |
| 8.4.1.1 Initializing the SDK.....                                       | 515        |
| 8.4.1.2 Exiting the SDK.....  | 518        |
| 8.4.1.3 Setting the Language.....                                       | 519        |
| 8.4.1.4 Enabling a Function.....  | 522        |
| 8.4.1.5 Setting the Path for Saving User Files.....                     | 524        |
| 8.4.1.6 Obtaining the Path for Saving User Files.....                   | 525        |
| 8.4.1.7 Setting the Network Mode.....                                   | 527        |
| 8.4.1.8 Disabling Prompt Tones.....                                     | 529        |
| 8.4.1.9 Setting the Path for Saving Logs.....                           | 531        |
| 8.4.1.10 Setting Guaranteed IP Addresses for Meeting Control.....       | 532        |
| 8.4.1.11 Setting Login Server Information.....                          | 532        |
| 8.4.1.12 Setting Proxy Information.....                                 | 533        |
| 8.4.1.13 Setting Certificate Verification Information.....              | 535        |
| 8.4.2 Account Operations.....   | 536        |
| 8.4.2.1 Login.....  | 536        |
| 8.4.2.2 SSO.....  | 539        |

|   |     |
|---|-----|
| 8.4.2.3 Logout.....   | 541 |
| 8.4.2.4 Uploading a Profile Picture.....                                    | 542 |
| 8.4.2.5 Deleting a Profile Picture.....                                     | 543 |
| 8.4.3 UI Customization.....   | 544 |
| 8.4.3.1 Configuring the UI.....   | 544 |
| 8.4.3.2 Customizing Meeting Control Buttons.....                            | 557 |
| 8.4.3.3 Clearing UI Configurations.....                                     | 561 |
| 8.4.3.4 Updating Custom Button Configurations.....                          | 562 |
| 8.4.3.5 Customizing a Watermark for a Meeting.....                          | 564 |
| 8.4.3.6 Customizing the Settings Screen.....                                | 567 |
| 8.4.3.7 Displaying the Settings Window.....                                 | 571 |
| 8.4.3.8 Displaying a Toast Message.....                                     | 572 |
| 8.4.3.9 Obtaining Information About the Main Window.....                    | 573 |
| 8.4.3.10 Obtaining an Error Message.....                                    | 575 |
| 8.4.3.11 Making Windows Transparent During Screen Sharing.....              | 576 |
| 8.4.3.12 Setting Whether to Automatically Hide the Meeting Control Bar..... | 577 |
| 8.4.3.13 Customizing the Text for a Specific Scenario.....                  | 578 |
| 8.4.3.14 Customizing the Icon for a Specific Scenario.....                  | 580 |
| 8.4.4 Meeting Control.....  | 582 |
| 8.4.4.1 Creating a Meeting.....   | 582 |
| 8.4.4.2 Joining a Meeting.....  | 588 |
| 8.4.4.3 Joining a Meeting Using a Random Code.....                          | 590 |
| 8.4.4.4 Setting the Participant Name.....                                   | 592 |
| 8.4.4.5 Inviting a Participant.....   | 593 |
| 8.4.4.6 Starting Sharing.....   | 595 |
| 8.4.4.7 Ending Sharing.....   | 598 |
| 8.4.4.8 Configuring Automatic Answering for Incoming Calls.....             | 599 |
| 8.4.4.9 Displaying the Main Meeting Window.....                             | 600 |
| 8.4.4.10 Setting a Sharing Policy.....                                      | 601 |
| 8.4.4.11 Setting Audio Sharing.....   | 603 |
| 8.4.4.12 Controlling Audio and Video Devices.....                           | 604 |
| 8.4.4.13 Setting the Sharing Permission.....                                | 605 |
| 8.4.4.14 Leaving a Meeting.....   | 606 |
| 8.4.4.15 Ending a Meeting.....  | 607 |
| 8.4.4.16 Starting an Instant Meeting.....                                   | 608 |
| 8.4.4.17 Starting Projection.....   | 610 |
| 8.4.5 Meeting Management.....   | 612 |
| 8.4.5.1 Obtaining the Cloud Meeting Room List.....                          | 612 |
| 8.4.5.2 Scheduling a Meeting.....   | 615 |
| 8.4.5.3 Editing a Meeting.....  | 622 |
| 8.4.5.4 Canceling a Meeting.....  | 625 |
| 8.4.5.5 Obtaining Meeting Details.....                                      | 626 |

|   |     |
|---|-----|
| 8.4.5.6 Modifying Cloud Meeting Room Information.....                         | 629 |
| 8.4.5.7 Scheduling a Recurring Meeting Series.....                            | 630 |
| 8.4.5.8 Editing a Recurring Meeting Series.....                               | 633 |
| 8.4.5.9 Canceling a Recurring Meeting Series.....                             | 634 |
| 8.4.5.10 Editing a Recurring Meeting.....                                     | 635 |
| 8.4.5.11 Canceling a Recurring Meeting.....                                   | 637 |
| 8.4.6 Obtaining Meeting Information.....                                      | 638 |
| 8.4.6.1 Obtaining the Participant List.....                                   | 638 |
| 8.4.6.2 Obtaining the Attendee List.....                                      | 639 |
| 8.4.6.3 Obtaining a User Status.....  | 639 |
| 8.4.7 Audio and Video Data Streams.....                                       | 640 |
| 8.4.7.1 Obtaining Audio Data Streams.....                                     | 640 |
| 8.5 Notification Reference.....   | 642 |
| 8.5.1 Basic Configuration Change Notification.....                            | 642 |
| 8.5.1.1 Disconnection Notification.....                                       | 642 |
| 8.5.1.2 Enterprise Configuration Change Notification.....                     | 643 |
| 8.5.1.3 Changing Enterprise Information.....                                  | 644 |
| 8.5.1.4 Notification of Shared Cloud Meeting Rooms.....                       | 645 |
| 8.5.1.5 Notification of User Data Path Changes.....                           | 645 |
| 8.5.2 Account Status Change Notification.....                                 | 646 |
| 8.5.2.1 Forcible Logout Notification.....                                     | 646 |
| 8.5.3 Customized UI Event Notification.....                                   | 646 |
| 8.5.3.1 Click Injection Notification.....                                     | 646 |
| 8.5.3.2 Displaying Meeting Information Box Notification.....                  | 649 |
| 8.5.3.3 Destroying a Meeting Information Box.....                             | 651 |
| 8.5.3.4 Querying Profile Pictures in the External Address Book.....           | 652 |
| 8.5.4 Meeting Status Change Notification.....                                 | 653 |
| 8.5.4.1 Incoming Call Notification.....                                       | 653 |
| 8.5.4.2 Meeting Status Notification.....                                      | 654 |
| 8.5.4.3 Meeting Details Notification.....                                     | 656 |
| 8.5.4.4 Meeting Information Change Notification.....                          | 658 |
| 8.5.4.5 Meeting List Notification.....  | 661 |
| 8.5.4.6 Notifications for Changes on the Status of Sharing Data.....          | 663 |
| 8.5.4.7 Notifications for Changes on the Status of Receiving Shared Data..... | 665 |
| 8.5.4.8 Obtaining Remote Control Permission Notification.....                 | 666 |
| 8.5.4.9 Granting the Remote Control Permission to Others.....                 | 666 |
| 8.5.4.10 Notifications for Sharing Lock Status Changes.....                   | 667 |
| 8.5.4.11 Meeting End Notification.....  | 668 |
| 8.5.4.12 Poor Connection Notification.....                                    | 668 |
| 8.5.4.13 Notification of Instant Meeting Records.....                         | 670 |
| 8.5.4.14 Notification of Participant Addition Results.....                    | 671 |
| 8.5.5 Audio and Video Device Status Notification.....                         | 672 |

|                               |     |
|-------------------------------|-----|
| 8.6 Error Code Reference..... | 672 |
| 8.6.1 Common Error Codes..... | 672 |
| 8.6.2 Error Codes.....        | 677 |
| 8.7 Version Updates.....      | 713 |
| 8.7.1 100.10.7 Updates.....   | 713 |
| 8.7.2 100.10.6 Updates.....   | 713 |
| 8.7.3 100.10.5 Updates.....   | 713 |
| 8.7.4 100.9.7 Updates.....    | 713 |
| 8.7.5 100.9.5 Updates.....    | 713 |
| 8.7.6 100.7.13 Updates.....   | 714 |
| 8.7.7 100.7.8 Updates.....    | 714 |
| 8.7.8 100.7.6 Updates.....    | 714 |
| 8.7.9 100.7.5 Updates.....    | 714 |
| 8.7.10 100.5.5 Updates.....   | 715 |
| 8.7.11 100.3.7 Updates.....   | 715 |
| 8.7.12 100.3.6 Updates.....   | 715 |
| 8.7.13 90.12.7 Updates.....   | 715 |
| 8.7.14 90.12.5 Updates.....   | 715 |
| 8.7.15 90.9.5 Updates.....    | 716 |
| 8.7.16 90.7.6 Updates.....    | 716 |
| 8.7.17 90.7.5 Updates.....    | 716 |
| 8.7.18 90.6.5 Updates.....    | 717 |
| 8.7.19 80.15.21 Updates.....  | 718 |
| 8.7.20 80.15.5 Updates.....   | 718 |
| 8.7.21 80.13.6 Updates.....   | 718 |
| 8.7.22 80.13.5 Updates.....   | 718 |
| 8.7.23 80.12.7 Updates.....   | 718 |
| 8.7.24 80.12.6 Updates.....   | 718 |
| 8.7.25 80.12.5 Updates.....   | 718 |
| 8.7.26 80.10.5 Updates.....   | 718 |
| 8.7.27 80.9.5 Updates.....    | 719 |
| 8.7.28 80.8.5 Updates.....    | 719 |
| 8.7.29 80.7.5 Updates.....    | 720 |
| 8.7.30 80.5.11 Updates.....   | 721 |
| 8.7.31 80.5.5 Updates.....    | 721 |
| 8.7.32 70.16.5 Updates.....   | 721 |
| 8.7.33 70.14.5 Updates.....   | 721 |
| 8.7.34 70.13.5 Updates.....   | 722 |
| 8.7.35 70.12.6 Updates.....   | 722 |
| 8.7.36 70.12.4 Updates.....   | 722 |
| 8.7.37 70.11.5 Updates.....   | 722 |
| 8.7.38 70.10.5 Updates.....   | 722 |

|   |            |
|---|------------|
| 8.7.39 70.9.5 Updates.....  | 723        |
| 8.7.40 70.8.6 Updates.....  | 723        |
| 8.7.41 70.8.5 Updates.....  | 723        |
| 8.7.42 70.7.5 Updates.....  | 723        |
| 8.7.43 70.6.5 Updates.....  | 723        |
| 8.7.44 70.5.8 Updates.....  | 723        |
| 8.7.45 70.4.5 Updates.....  | 723        |
| 8.7.46 70.3.5 Updates.....  | 724        |
| 8.7.47 60.15.5 Updates.....   | 724        |
| 8.7.48 60.13.2 Updates.....   | 724        |
| 8.7.49 60.12.5 Updates.....   | 724        |
| 8.7.50 60.11.6 Updates.....   | 725        |
| 8.7.51 60.10.5 Updates.....   | 725        |
| 8.7.52 60.8.1 Updates.....  | 725        |
| 8.8 Change History.....   | 725        |
| <b>9 macOS SDK.....</b>   | <b>744</b> |
| 9.1 Overview.....   | 744        |
| 9.2 Quick Start.....  | 744        |
| 9.2.1 Preparations.....   | 744        |
| 9.2.2 Quick Integration.....  | 744        |
| 9.2.3 Service Integration.....  | 750        |
| 9.3 Typical Scenarios.....  | 751        |
| 9.3.1 API Call in Typical Scenarios.....                                  | 751        |
| 9.3.2 Scenario 1: Initialization.....                                     | 753        |
| 9.3.3 Scenario 2: Login.....  | 753        |
| 9.3.3.1 Login Using an Account and Password.....                          | 753        |
| 9.3.3.2 Login Using an App ID.....  | 754        |
| 9.3.4 Scenario 3: Scheduling a Meeting.....                               | 755        |
| 9.3.5 Scenario 4: Editing a Meeting.....                                  | 756        |
| 9.3.6 Scenario 5: Creating a Meeting.....                                 | 756        |
| 9.3.7 Scenario 6: Joining a Meeting.....                                  | 758        |
| 9.3.8 Scenario 7: Adding Participants.....                                | 758        |
| 9.3.9 Scenario 8: Logout.....   | 759        |
| 9.4 APIs.....   | 760        |
| 9.4.1 Basic Settings.....   | 760        |
| 9.4.1.1 Initializing the SDK.....   | 760        |
| 9.4.1.2 Setting a Language.....   | 762        |
| 9.4.1.3 Enabling or Disabling the Camera and Microphone in a Meeting..... | 763        |
| 9.4.1.4 Customizing a Local Recording Path.....                           | 764        |
| 9.4.1.5 Enabling a Function.....  | 765        |
| 9.4.1.6 Setting the Network Mode.....                                     | 768        |
| 9.4.1.7 Disabling Prompt Tones.....                                       | 769        |

|  |     |
|--|-----|
| 9.4.1.8 Setting a Log Path.....                                  | 770 |
| 9.4.1.9 Setting Guaranteed IP Addresses for Meeting Control..... | 771 |
| 9.4.1.10 Setting Login Server Information.....                   | 771 |
| 9.4.1.11 Setting Certificate Verification Information.....       | 772 |
| 9.4.2 Account Operations.....                                    | 773 |
| 9.4.2.1 Logging In to Huawei Cloud Meeting.....                  | 773 |
| 9.4.2.2 Logging Out of Huawei Cloud Meeting.....                 | 777 |
| 9.4.2.3 Uploading a Profile Picture.....                         | 778 |
| 9.4.3 UI Customization.....                                      | 778 |
| 9.4.3.1 Configuring the UI.....                                  | 778 |
| 9.4.3.2 Clearing UI Configurations.....                          | 779 |
| 9.4.3.3 Customizing the Bottom Toolbar.....                      | 779 |
| 9.4.3.4 Customizing the Sharing Toolbar.....                     | 781 |
| 9.4.3.5 Customizing the More Menu on the Bottom Toolbar.....     | 782 |
| 9.4.3.6 Customizing the More Menu on the Sharing Toolbar.....    | 783 |
| 9.4.3.7 Customizing the Social Sharing Window.....               | 784 |
| 9.4.3.8 Customizing the Contact Selection Window.....            | 785 |
| 9.4.3.9 Customizing the Profile Picture.....                     | 786 |
| 9.4.3.10 Customizing Other UIs.....                              | 788 |
| 9.4.3.11 Customizing a Watermark for a Meeting.....              | 788 |
| 9.4.3.12 Customizing the Settings Page.....                      | 789 |
| 9.4.3.13 Customizing Contact Information.....                    | 793 |
| 9.4.3.14 Customizing the Recording Button.....                   | 794 |
| 9.4.3.15 Displaying the Settings Window.....                     | 795 |
| 9.4.3.16 Customizing Subitems in the Participant List.....       | 797 |
| 9.4.3.17 Displaying a Toast Message.....                         | 798 |
| 9.4.3.18 Obtaining Information About the Main Window.....        | 799 |
| 9.4.3.19 Obtaining an Error Message.....                         | 800 |
| 9.4.3.20 Displaying the Meeting Control Assistant.....           | 801 |
| 9.4.3.21 Customizing the Text for a Specific Scenario.....       | 801 |
| 9.4.4 Meeting Control.....                                       | 803 |
| 9.4.4.1 Creating a Meeting.....                                  | 803 |
| 9.4.4.2 Joining a Meeting.....                                   | 808 |
| 9.4.4.3 Inviting a Participant.....                              | 810 |
| 9.4.4.4 Displaying the Main Meeting Window.....                  | 810 |
| 9.4.4.5 Setting the Sharing Permission.....                      | 811 |
| 9.4.4.6 Leaving a Meeting.....                                   | 812 |
| 9.4.4.7 Ending a Meeting.....                                    | 812 |
| 9.4.4.8 Starting an Instant Meeting.....                         | 813 |
| 9.4.4.9 Starting Projection.....                                 | 815 |
| 9.4.5 Meeting Management.....                                    | 817 |
| 9.4.5.1 Scheduling a Meeting.....                                | 817 |



|   |     |
|---|-----|
| 9.4.5.2 Editing a Meeting.....                                    | 823 |
| 9.4.5.3 Obtaining the Meeting List.....                           | 824 |
| 9.4.5.4 Obtaining Meeting Details.....                            | 825 |
| 9.4.5.5 Canceling a Meeting.....                                  | 827 |
| 9.4.5.6 Obtaining the Cloud Meeting Room List.....                | 828 |
| 9.4.5.7 Modifying Cloud Meeting Room Information.....             | 830 |
| 9.4.5.8 Scheduling a Recurring Meeting Series.....                | 831 |
| 9.4.5.9 Editing a Recurring Meeting Series.....                   | 834 |
| 9.4.5.10 Canceling a Recurring Meeting Series.....                | 835 |
| 9.4.5.11 Editing a Recurring Meeting.....                         | 836 |
| 9.4.5.12 Canceling a Recurring Meeting.....                       | 838 |
| 9.4.6 Conference Information.....                                 | 838 |
| 9.4.6.1 Obtaining the Participant List.....                       | 839 |
| 9.4.6.2 Obtaining the Attendee List.....                          | 839 |
| 9.4.6.3 Obtaining a User Status.....                              | 840 |
| 9.4.6.4 Determining Whether You Are a Host.....                   | 840 |
| 9.4.7 Audio and Video Data Streams.....                           | 841 |
| 9.4.7.1 Obtaining Audio Data Streams.....                         | 841 |
| 9.5 Notification Reference.....                                   | 841 |
| 9.5.1 Precautions.....  | 842 |
| 9.5.2 Account Status Change Notification.....                     | 842 |
| 9.5.2.1 Forcible Logout Notification.....                         | 842 |
| 9.5.3 Basic Configuration Change Notification.....                | 843 |
| 9.5.3.1 Enterprise Configuration Information.....                 | 843 |
| 9.5.4 Customized UI Event Notification.....                       | 844 |
| 9.5.4.1 Notification of Opening the Contact Selection Window..... | 844 |
| 9.5.4.2 Notification of Closing the Contact Selection Window..... | 845 |
| 9.5.4.3 Notification of Setting a Dock Icon.....                  | 846 |
| 9.5.4.4 Notification of Obtaining the User Profile Picture.....   | 846 |
| 9.5.4.5 Meeting Information Sharing Notification.....             | 847 |
| 9.5.4.6 Custom Meeting Details Sharing Notification.....          | 848 |
| 9.5.5 Meeting Status Change Notification.....                     | 849 |
| 9.5.5.1 Meeting Status Change Notification.....                   | 849 |
| 9.5.5.2 Ongoing Meeting Details Change Notification.....          | 850 |
| 9.5.5.3 Notification of Ongoing Meeting Information Changes.....  | 851 |
| 9.5.5.4 Notifications for Poor Network Connection.....            | 854 |
| 9.5.5.5 Notification of Incoming Meeting Call Status Changes..... | 855 |
| 9.5.5.6 Notification of Instant Meeting Records.....              | 857 |
| 9.5.5.7 Meeting End Notification.....                             | 858 |
| 9.5.5.8 Notification of Participant Addition Results.....         | 860 |
| 9.5.6 Service Message Notification.....                           | 861 |
| 9.5.6.1 Role Change Notification.....                             | 861 |

|  |     |
|--|-----|
| 9.5.6.2 Meeting List Change Notification.....                    | 862 |
| 9.5.6.3 Audio Data Stream Notification.....                      | 863 |
| 9.5.6.4 Notification of Shared Cloud Meeting Rooms.....          | 865 |
| 9.5.7 Incoming Call Answering Policy Configuration.....          | 865 |
| 9.5.7.1 Configuring the Policy for Answering a Meeting Call..... | 865 |
| 9.5.7.2 Notification of Setting the Microphone Status.....       | 866 |
| 9.5.7.3 Notification of Setting the Camera Status.....           | 866 |
| 9.6 Error Code Reference.....                                    | 867 |
| 9.6.1 Common Error Codes.....                                    | 867 |
| 9.6.2 Error Codes.....   | 868 |
| 9.7 Version Updates.....   | 904 |
| 9.7.1 100.10.7 Updates.....                                      | 904 |
| 9.7.2 100.10.6 Updates.....                                      | 904 |
| 9.7.3 100.10.5 Updates.....                                      | 904 |
| 9.7.4 100.9.7 Updates.....                                       | 904 |
| 9.7.5 100.9.5 Updates.....                                       | 904 |
| 9.7.6 100.7.13 Updates.....                                      | 905 |
| 9.7.7 100.7.8 Updates.....                                       | 905 |
| 9.7.8 100.7.6 Updates.....                                       | 905 |
| 9.7.9 100.7.5 Updates.....                                       | 905 |
| 9.7.10 100.5.5 Updates.....                                      | 905 |
| 9.7.11 100.3.6 Updates.....                                      | 906 |
| 9.7.12 90.12.7 Updates.....                                      | 906 |
| 9.7.13 90.12.5 Updates.....                                      | 906 |
| 9.7.14 90.9.5 Updates.....                                       | 906 |
| 9.7.15 90.7.5 Updates.....                                       | 907 |
| 9.7.16 90.6.5 Updates.....                                       | 907 |
| 9.7.17 80.15.21 Updates.....                                     | 907 |
| 9.7.18 80.15.5 Updates.....                                      | 907 |
| 9.7.19 80.13.6 Updates.....                                      | 907 |
| 9.7.20 80.13.5 Updates.....                                      | 907 |
| 9.7.21 80.12.7 Updates.....                                      | 907 |
| 9.7.22 80.12.6 Updates.....                                      | 907 |
| 9.7.23 80.12.5 Updates.....                                      | 908 |
| 9.7.24 80.10.5 Updates.....                                      | 908 |
| 9.7.25 80.9.5 Updates.....                                       | 908 |
| 9.7.26 80.8.5 Updates.....                                       | 908 |
| 9.7.27 80.7.5 Updates.....                                       | 908 |
| 9.7.28 80.5.11 Updates.....                                      | 908 |
| 9.7.29 80.5.5 Updates.....                                       | 909 |
| 9.7.30 70.16.5 Updates.....                                      | 909 |
| 9.7.31 70.14.5 Updates.....                                      | 909 |

|  |            |
|--|------------|
| 9.7.32 70.13.5 Updates.....  | 910        |
| 9.7.33 70.12.6 Updates.....  | 910        |
| 9.7.34 70.12.4 Updates.....  | 910        |
| 9.7.35 70.11.5 Updates.....  | 910        |
| 9.7.36 70.10.5 Updates.....  | 910        |
| 9.7.37 70.9.5 Updates.....   | 910        |
| 9.7.38 70.8.6 Updates.....   | 910        |
| 9.7.39 70.8.5 Updates.....   | 910        |
| 9.7.40 70.7.5 Updates.....   | 911        |
| 9.7.41 70.6.5 Updates.....   | 911        |
| 9.7.42 70.5.8 Updates.....   | 911        |
| 9.7.43 70.4.5 Updates.....   | 912        |
| 9.7.44 70.3.5 Updates.....   | 912        |
| 9.7.45 60.15.5 Updates.....  | 912        |
| 9.7.46 60.13.2 Updates.....  | 912        |
| 9.7.47 60.12.5 Updates.....  | 912        |
| 9.8 Change History.....  | 913        |
| <b>10 Electron SDK.....</b>  | <b>921</b> |
| 10.1 Overview.....   | 921        |
| 10.2 Getting Started.....  | 921        |
| 10.3 Typical Scenarios.....  | 925        |
| 10.3.1 API Call in Typical Scenarios.....                                | 925        |
| 10.3.2 Scenario 1: Initialization.....                                   | 928        |
| 10.3.3 Scenario 2: Login.....  | 929        |
| 10.3.4 Scenario 3: Scheduling a Meeting.....                             | 930        |
| 10.3.5 Scenario 4: Editing a Meeting.....                                | 932        |
| 10.3.6 Scenario 5: Canceling a Meeting.....                              | 934        |
| 10.3.7 Scenario 6: Creating a Meeting.....                               | 935        |
| 10.3.8 Scenario 7: Joining a Meeting.....                                | 937        |
| 10.3.9 Scenario 8: Joining a Meeting by Clicking a Link in an Email..... | 938        |
| 10.3.10 Scenario 9: Adding Participants.....                             | 939        |
| 10.3.11 Scenario 10: Customizing the Invite Button in a Meeting.....     | 940        |
| 10.3.12 Scenario 11: Logout.....   | 942        |
| 10.3.13 Scenario 12: Exit.....   | 943        |
| 10.4 APIs.....   | 943        |
| 10.4.1 UISDK API Management Objects.....                                 | 943        |
| 10.4.1.1 Initializing the SDK.....                                       | 943        |
| 10.4.1.2 Exiting the SDK.....  | 946        |
| 10.4.1.3 Obtaining a Login Service Object.....                           | 946        |
| 10.4.1.4 Obtaining a Meeting Control Service Object.....                 | 946        |
| 10.4.1.5 Obtaining a Meeting Management Service Object.....              | 946        |
| 10.4.1.6 Obtaining a Configuration Service Object.....                   | 947        |

|   |      |
|---|------|
| 10.4.1.7 Obtaining a UI Configuration Service Object.....                         | 947  |
| 10.4.1.8 Subscribing to Disconnection Notifications.....                          | 947  |
| 10.4.2 Login Management Objects.....  | 948  |
| 10.4.2.1 Subscribing to Login Kickout Notifications.....                          | 948  |
| 10.4.2.2 Subscribing to Enterprise Configuration Notifications.....               | 948  |
| 10.4.2.3 Subscribing to Login Error Notifications.....                            | 950  |
| 10.4.2.4 Subscribing to Shared Cloud Meeting Room Changes.....                    | 951  |
| 10.4.2.5 Account and Password Login.....  | 952  |
| 10.4.2.6 App ID Login.....  | 953  |
| 10.4.2.7 SSO.....   | 955  |
| 10.4.2.8 Logout.....  | 957  |
| 10.4.2.9 Setting the Network Mode.....  | 958  |
| 10.4.2.10 Uploading a Profile Picture.....  | 960  |
| 10.4.2.11 Setting Guaranteed IP Addresses for Meeting Control.....                | 961  |
| 10.4.2.12 Setting Login Server Information.....                                   | 962  |
| 10.4.2.13 Setting Proxy Information.....  | 963  |
| 10.4.2.14 Setting Certificate Verification Information.....                       | 964  |
| 10.4.3 Meeting Control Objects.....   | 966  |
| 10.4.3.1 Subscribing to Meeting Status Notifications.....                         | 966  |
| 10.4.3.2 Subscribing to Meeting End Notifications.....                            | 967  |
| 10.4.3.3 Subscribing to the Callback of Instant Meeting Records.....              | 970  |
| 10.4.3.4 Subscribing to Meeting Details Notifications.....                        | 972  |
| 10.4.3.5 Subscribing to Sharing Status Notifications.....                         | 975  |
| 10.4.3.6 Subscribing to Role Change Notifications.....                            | 977  |
| 10.4.3.7 Subscribing to Poor Network Connection Notifications.....                | 978  |
| 10.4.3.8 Subscribing to Notifications of Ongoing Meeting Information Changes..... | 981  |
| 10.4.3.9 Subscribing to Participant Addition Result Notifications.....            | 987  |
| 10.4.3.10 Creating a Meeting.....   | 989  |
| 10.4.3.11 Starting an Instant Meeting.....  | 997  |
| 10.4.3.12 Joining a Meeting.....  | 1000 |
| 10.4.3.13 Joining a Meeting Using a Random Code.....                              | 1002 |
| 10.4.3.14 Adding Participants.....  | 1004 |
| 10.4.3.15 Leaving a Meeting.....  | 1007 |
| 10.4.3.16 Ending a Meeting.....   | 1008 |
| 10.4.3.17 Obtaining the Participant List.....                                     | 1009 |
| 10.4.3.18 Obtaining the Attendee List.....  | 1013 |
| 10.4.3.19 Obtaining a User Status.....  | 1017 |
| 10.4.3.20 Obtaining Your Role in a Meeting.....                                   | 1019 |
| 10.4.3.21 Setting the Participant Name.....                                       | 1020 |
| 10.4.3.22 Starting Projection.....  | 1021 |
| 10.4.3.23 Automatically Hiding the Meeting Control Bar.....                       | 1022 |
| 10.4.4 Meeting Management Objects.....  | 1023 |

|           |   |      |
|-----------|---|------|
| 10.4.4.1  | Subscribing to Incoming Call Notifications.....   | 1023 |
| 10.4.4.2  | Subscribing to Meeting List Notifications.....  | 1025 |
| 10.4.4.3  | Scheduling a Meeting.....   | 1035 |
| 10.4.4.4  | Canceling a Meeting.....  | 1052 |
| 10.4.4.5  | Editing a Meeting.....  | 1053 |
| 10.4.4.6  | Obtaining the Cloud Meeting Room List.....  | 1065 |
| 10.4.4.7  | Obtaining Meeting Details.....  | 1067 |
| 10.4.4.8  | Modifying Cloud Meeting Room Information.....   | 1081 |
| 10.4.4.9  | Obtaining the Meeting List.....   | 1083 |
| 10.4.4.10 | Scheduling a Recurring Meeting Series.....  | 1092 |
| 10.4.4.11 | Editing a Recurring Meeting Series.....   | 1111 |
| 10.4.4.12 | Editing a Recurring Meeting.....  | 1124 |
| 10.4.4.13 | Canceling a Recurring Meeting Series.....   | 1127 |
| 10.4.4.14 | Canceling a Recurring Meeting.....  | 1128 |
| 10.4.5    | Common Configuration Management Objects.....  | 1129 |
| 10.4.5.1  | Subscribing to Notifications of Reporting Audio Stream Frame Data.....                        | 1129 |
| 10.4.5.2  | Subscribing to Notifications of User Data Path Changes.....                                   | 1131 |
| 10.4.5.3  | Enabling or Disabling Functions.....  | 1132 |
| 10.4.5.4  | Setting the Language.....   | 1134 |
| 10.4.5.5  | Setting the Save Path.....  | 1136 |
| 10.4.5.6  | Obtaining the Save Path.....  | 1137 |
| 10.4.5.7  | Enabling or Disabling Audio Streams.....  | 1139 |
| 10.4.5.8  | Setting the Call Answer Mode.....   | 1140 |
| 10.4.5.9  | Configuring Device Statuses After a Meeting Call Is Answered.....                             | 1141 |
| 10.4.5.10 | Obtain the Meeting PSTN Number.....   | 1142 |
| 10.4.5.11 | Disabling Prompt Tones.....   | 1144 |
| 10.4.5.12 | Setting the Sharing Permission.....   | 1145 |
| 10.4.5.13 | Setting the Path for Saving Logs.....   | 1146 |
| 10.4.5.14 | Obtaining an Error Message.....   | 1147 |
| 10.4.5.15 | Making Windows Transparent During Screen Sharing.....   | 1147 |
| 10.4.5.16 | Customizing the Text for a Specific Scenario.....   | 1149 |
| 10.4.5.17 | Customizing the Icon for a Specific Scenario.....   | 1151 |
| 10.4.6    | UI Configuration Management Objects.....  | 1153 |
| 10.4.6.1  | Subscribing to Click Injection Notifications.....   | 1153 |
| 10.4.6.2  | Subscribing to Click Injection Notifications of Participant List Subitems.....                | 1155 |
| 10.4.6.3  | Subscribing to Click Injection Notifications of the Call all Button.....                      | 1156 |
| 10.4.6.4  | Subscribing to Window Handle Notifications.....   | 1158 |
| 10.4.6.5  | Subscribing to Notifications of Profile Picture Query in an External Corporate Directory..... | 1159 |
| 10.4.6.6  | Configuring the UI.....   | 1161 |
| 10.4.6.7  | Customizing a Watermark for a Meeting.....  | 1162 |
| 10.4.6.8  | Obtaining the Window Handle List.....   | 1163 |
| 10.4.6.9  | Displaying the Meeting Window.....  | 1164 |

|   |      |
|---|------|
| 10.4.6.10 Configuring a Profile Picture.....                      | 1165 |
| 10.4.6.11 Customizing the Meeting Window Icon on the Taskbar..... | 1166 |
| 10.4.6.12 Displaying the Settings Window.....                     | 1168 |
| 10.4.6.13 Displaying a Toast Message.....                         | 1169 |
| 10.4.6.14 Obtaining Information About the Main Window.....        | 1170 |
| 10.5 Error Codes.....   | 1172 |
| 10.6 Remarks.....   | 1253 |
| 10.6.1 JSON Description for UI Configuration.....                 | 1253 |
| 10.6.2 Customizing Meeting Control Buttons.....                   | 1261 |
| 10.6.3 Common Error Codes.....                                    | 1266 |
| 10.7 Version Updates.....   | 1271 |
| 10.7.1 100.10.7 Updates.....                                      | 1271 |
| 10.7.2 100.10.6 Updates.....                                      | 1271 |
| 10.7.3 100.10.5 Updates.....                                      | 1271 |
| 10.7.4 100.9.7 Updates.....                                       | 1271 |
| 10.7.5 100.9.5 Updates.....                                       | 1271 |
| 10.7.6 100.7.13 Updates.....                                      | 1272 |
| 10.7.7 100.7.8 Updates.....                                       | 1272 |
| 10.7.8 100.7.6 Updates.....                                       | 1272 |
| 10.7.9 100.7.5 Updates.....                                       | 1272 |
| 10.7.10 100.5.5 Updates.....                                      | 1273 |
| 10.7.11 100.3.7 Updates.....                                      | 1273 |
| 10.7.12 100.3.6 Updates.....                                      | 1273 |
| 10.7.13 90.12.7 Updates.....                                      | 1273 |
| 10.7.14 90.12.5 Updates.....                                      | 1273 |
| 10.7.15 90.10.8 Updates.....                                      | 1274 |
| 10.7.16 90.10.5 Updates.....                                      | 1274 |
| 10.7.17 90.9.5 Updates.....                                       | 1274 |
| 10.7.18 90.7.5 Updates.....                                       | 1274 |
| 10.7.19 90.6.5 Updates.....                                       | 1274 |
| 10.7.20 80.15.21 Updates.....                                     | 1275 |
| 10.7.21 80.15.5 Updates.....                                      | 1275 |
| 10.7.22 80.13.6 Updates.....                                      | 1275 |
| 10.7.23 80.13.5 Updates.....                                      | 1275 |
| 10.7.24 80.12.7 Updates.....                                      | 1275 |
| 10.7.25 80.12.6 Updates.....                                      | 1275 |
| 10.7.26 80.12.5 Updates.....                                      | 1275 |
| 10.7.27 80.10.5 Updates.....                                      | 1275 |
| 10.7.28 80.9.5 Updates.....                                       | 1276 |
| 10.7.29 80.8.5 Updates.....                                       | 1276 |
| 10.7.30 80.7.5 Updates.....                                       | 1276 |
| 10.7.31 80.5.11 Updates.....                                      | 1277 |

|   |             |
|---|-------------|
| 10.7.32 80.5.5 Updates.....   | 1277        |
| 10.8 Change History.....  | 1277        |
| <b>11 Known Security Vulnerabilities of SDKs.....</b>   | <b>1286</b> |
| <b>12 FAQs.....</b>   | <b>1288</b> |
| 12.1 Huawei Cloud Meeting Resource Types.....   | 1288        |
| 12.2 How Do I Collect SDK Logs?.....  | 1288        |
| 12.3 Android SDK.....   | 1294        |
| 12.3.1 How Do I Configure 64-bit Libraries?.....  | 1294        |
| 12.3.2 What Do I Do If a Route Redirection Error Occurs After I Use a Third-Party Security Software?.....   | 1296        |
| 12.3.3 What Should I Do If the SDK Prompts a Message Indicating that It Cannot Switch Between Chinese and English?.....                                       | 1297        |
| 12.3.4 What Should I Do If SDK Initialization Fails and No Callback or Message Is Displayed When the Meeting Creation or Joining API Is Called.....           | 1297        |
| 12.4 iOS SDK.....   | 1298        |
| 12.4.1 How Do I Use #import"xxx.h" to Import Files in the iOS SDK?.....   | 1298        |
| 12.4.2 What Should I Do If Notification Methods Cannot Be Implemented?.....   | 1298        |
| 12.4.3 What Should I Do If an Error Is Reported When AFNetworking Is Imported?.....   | 1299        |
| 12.4.4 How Do I Apply for a Certificate for iOS?.....   | 1299        |
| 12.5 Windows SDK.....   | 1316        |
| 12.5.1 What Should I Do If a Third-Party Client Needs to Wait for a Period of Time Before Exit When the Exit API Is Called?.....                              | 1316        |
| 12.6 Electron SDK.....  | 1317        |
| 12.6.1 What Should I Do If the Message "electron failed to install correctly" Is Displayed When I Start the Electron Demo?.....                               | 1317        |
| 12.6.2 What Should I Do If the Error Message "permission denied" Is Displayed When I Install an Environment on macOS?.....                                    | 1317        |
| 12.6.3 What Should I Do If the Error Message "no template named'remove_cv_t\" Is Displayed When I Compile a .node File on macOS?.....                         | 1318        |
| 12.6.4 What Should I Do If the Error Message "Could not find any Python installation to use" Is Displayed When I Compile a .node File on Windows?.....        | 1318        |
| 12.6.5 What Should I Do If the Error Message "Could not find any Visual Studio installation to use" Is Displayed When I Compile a .node File on Windows?..... | 1319        |
| 12.6.6 What Should I Do If an Error Message Indicating that the Arm64 Architecture Is Required Is Displayed When I Run the Electron SDK on My MacBook?.....   | 1320        |
| 12.6.7 Why Does My Application Crash When I Join a Meeting After Integrating the Electron SDK with macOS and Packaging My Application?.....                   | 1320        |
| 12.6.8 What Should I Do When the Electron SDK Fails to Be Run on Windows and the Message "HwmUisdk.node is not a valid Win32 application" Is Displayed?.....  | 1321        |
| 12.6.9 What Should I Do When the Electron SDK Fails to Be Run on Windows and the Message "The specified module could not be found" Is Displayed?.....         | 1322        |
| <b>13 Terms.....</b>  | <b>1323</b> |
| 13.1 Account-related Terms.....   | 1323        |
| 13.2 Meeting ID Terms.....  | 1323        |

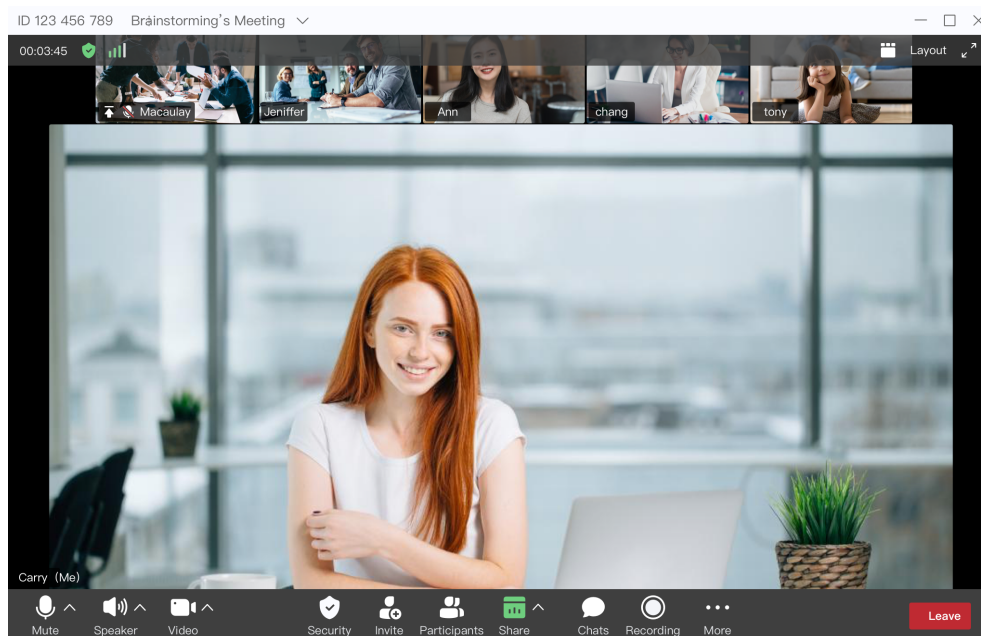
# 1 SDK Overview

Huawei Cloud Meeting provides Windows, Android, iOS, macOS, and Electron client SDKs for developers to quickly integrate the audio meeting, video meeting, and desktop sharing capabilities of Huawei Cloud Meeting into their own applications.

Client SDKs of Huawei Cloud Meeting have implemented UI functions, including participant image display, meeting control, and desktop sharing. You only need to call a few APIs to integrate Huawei Cloud Meeting capabilities. Client SDKs provide the following UIs. (The Windows SDK is used as an example. SDK capabilities of other platforms are the same, but the UI layouts are different.)

## 1. Main screen during a meeting

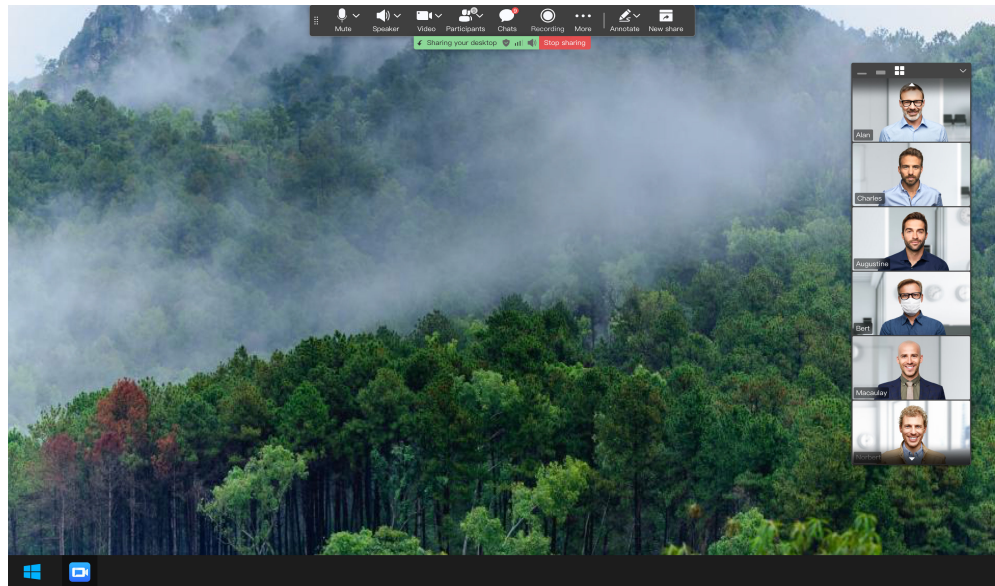
**Figure 1-1** Main screen during a meeting



## 2. Desktop sharing screen

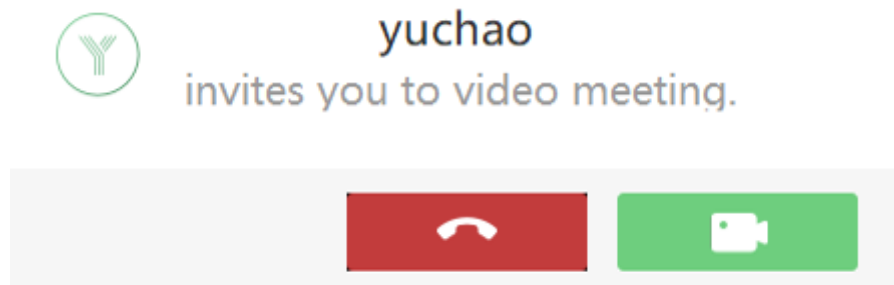


**Figure 1-2** Desktop sharing screen



### 3. Incoming call screen

**Figure 1-3** Incoming call screen



#### NOTE

- On the incoming call notification screen, incoming call notifications can only be received when the application process is not terminated by the system. The mobile app SDKs do not provide the VoIP Push capability.

# 2 Demos

---

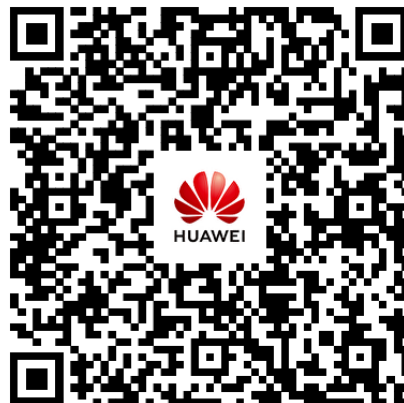
## 2.1 Downloading Demo Installation Packages

 NOTE

After the demo is downloaded, verify the package integrity by referring to [Verifying the Demo Package Integrity](#).

1. **Download the Android demo installation package.**

Figure 2-1 QR code for downloading the Android demo installation package



 NOTE

Use a **browser on your mobile phone** to scan the QR code to download the package.

2. **Download the Windows demo installation package.**

**Figure 2-2** Downloading the Windows demo installation package



Download link of the 32-bit Windows demo: [hmwsdk-win-demo-win32.zip](#)

Integrity check: [hmwsdk-win-demo-win32-sha256](#)

Download link of the 64-bit Windows demo: [hmwsdk-win-demo-x64.zip](#)

Integrity check: [hmwsdk-win-demo-x64-sha256](#)

3. **Download the macOS demo installation package.**

**Figure 2-3** Downloading the macOS demo installation package



Download link of the demo for Intel-based Mac computers: [hwmsdk-mac-demo.dmg](#)

Integrity check: [hwmsdk-mac-demo-sha256](#)

Download link of the demo for Mac computers with M-series chips: [hwmsdk-mac-arm64-demo.dmg](#)

Integrity check: [hwmsdk-mac-arm64-demo-sha256](#)

4. **Download the Electron demo installation package.**

**Figure 2-4** Downloading the Electron demo installation package



Download link of the 32-bit Windows Electron demo: [hwmsdk-electron-demo-win-ia32.zip](#)

Integrity check: [hwmsdk-electron-demo-win-ia32-sha256](#)

Download link of the 64-bit Windows Electron demo: [hwmsdk-electron-demo-win-x64.zip](#)

Integrity check: [hwmsdk-electron-demo-win-x64-sha256](#)

Download link of the Electron demo for Intel-based Mac computers: [hwmsdk-electron-demo-mac.dmg](#)

Integrity check: [hwmsdk-electron-demo-mac-sha256](#)

Download link of the Electron demo for Mac computers with M-series chips: [hwmsdk-electron-demo-mac-arm64.dmg](#)

Integrity check: [hwmsdk-electron-demo-mac-arm64-sha256](#)

## 2.2 Verifying the Demo Package Integrity

### Function

Check the integrity of downloaded demo packages, that is, check whether the packages are tampered with or packets are lost during download.

### Procedure

1. Download a demo package based on the download path of the Android/Windows/macOS/Electron demo in [Downloading Demo Installation Packages](#).
2. Download the demo package to your device.
3. Open the CLI and run the following command to generate the SHA-256 value of the downloaded demo package. In the command, **D:\hmwsdk-win-demo-win32.zip** indicates the local path for storing the package and the package name. Replace it with the actual value.

```
certutil -hashfile D:\hmwsdk-win-demo-win32.zip SHA256
```

The following is an example of the command output:

```
SHA256 D:\hmwsdk-win-demo-win32.zip hash:  
67244236887ae862adbe2c8ee2f4612e5d483d0562087c7f084484318655d702  
CertUtil: -hashfile Command executed
```

Compare the generated SHA-256 value with that listed in the package download path table. If they are the same, no tampering or packet loss occurred during download.

# 3 Building the Demo in One Minute

## 3.1 Building the Android Demo

This section describes how to quickly compile and run the Android demo of the client SDK.

### Environment Requirements

Ensure that the following environment requirements are met during the compilation and running of the Android demo.

**Table 3-1** Environment requirements (mandatory)

| Item                                  | Requirement  |
|---------------------------------------|--|
| JDK version                           | 1.8.0 or later                                       |
| Minimum Android API version           | API 23   |
| CPU architecture support              | Arm64 and Armv7                                      |
| Integration Tool                      | Android Studio (latest official version recommended) |
| Requesting test resources and app IDs | For details, see <a href="#">Preparations</a> .      |

**Table 3-2** Compilation configuration requirements (optional)

| Item              | Requirement  |
|-------------------|--|
| JDK configuration | sourceCompatibility<br>JavaVersion.VERSION_11<br>targetCompatibility<br>JavaVersion.VERSION_11 |
| Gradle version    | gradle-7.4-all   |

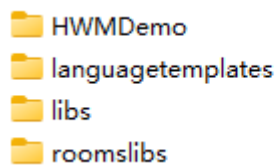
| Item                    | Requirement                          |
|-------------------------|--------------------------------------|
| compileSdkVersion       | 31                                   |
| Target SDK version      | 31                                   |
| Gradle plugin version   | com.android.tools.build:gradle:7.1.3 |
| SDK Build-Tools version | 31.0.0                               |

## Procedure

### Step 1 Download the SDK and demo source code.

- Download the ZIP package of the SDK by following the instructions provided in [Table 4-1](#).
- Decompress the ZIP package to a folder named **DEMO**. [Figure 3-1](#) shows the files and directories in the folder.
- [Figure 3-2](#) shows the directory structure of the demo project.

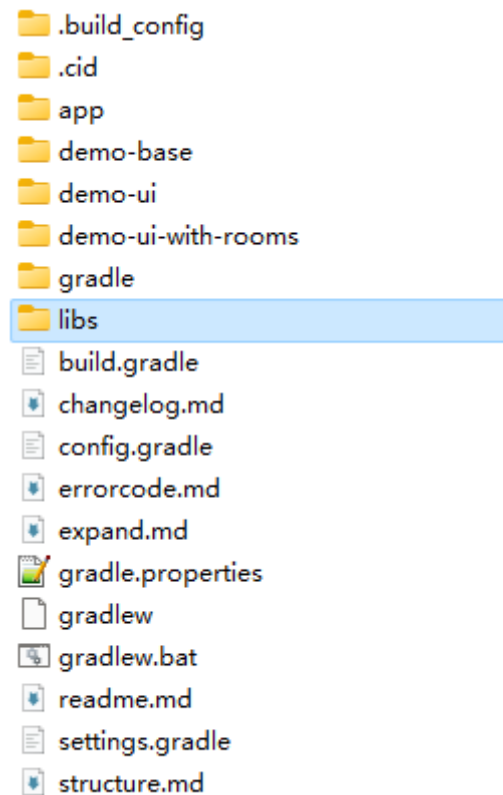
**Figure 3-1** Directory structure after the SDK ZIP package is decompressed



### Step 2 Copy the SDK AAR files.

- Copy all AAR resources in the **libs** folder in the SDK ZIP package to the **libs** folder of the demo project.

**Figure 3-2** Directory structure of the demo project



**Step 3 Edit and run the demo project.**

- Start Android Studio.
- Open the demo project, as shown in [Figure 3-3](#).  
The screen shown in [Figure 3-4](#) is displayed.



**Figure 3-3** Project directories

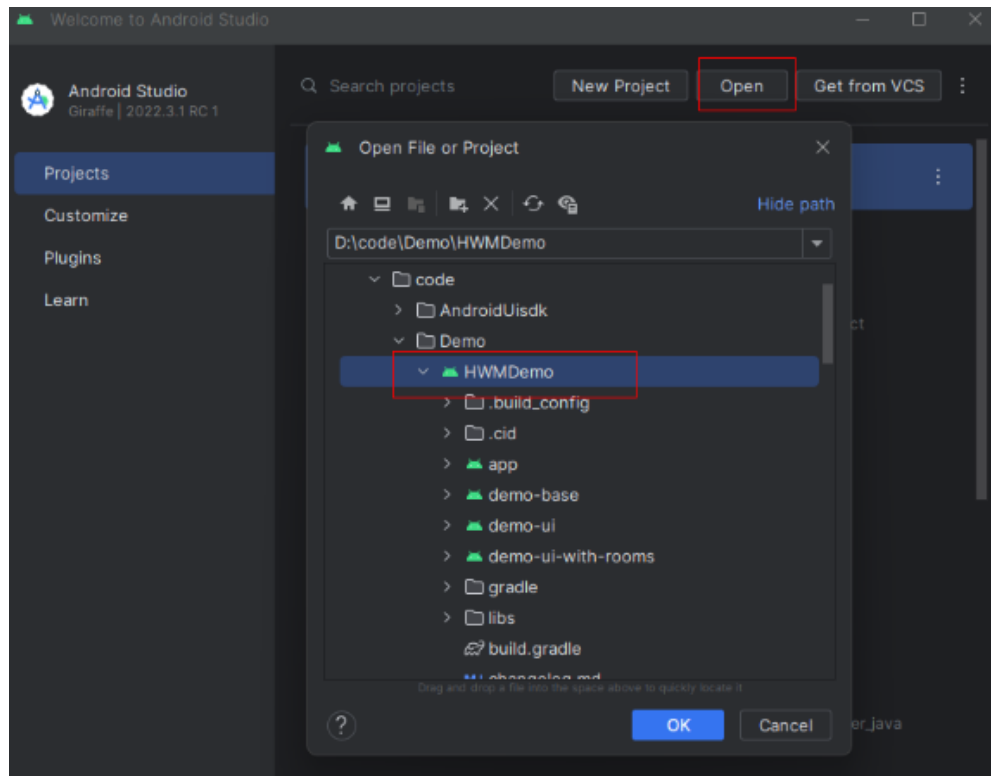
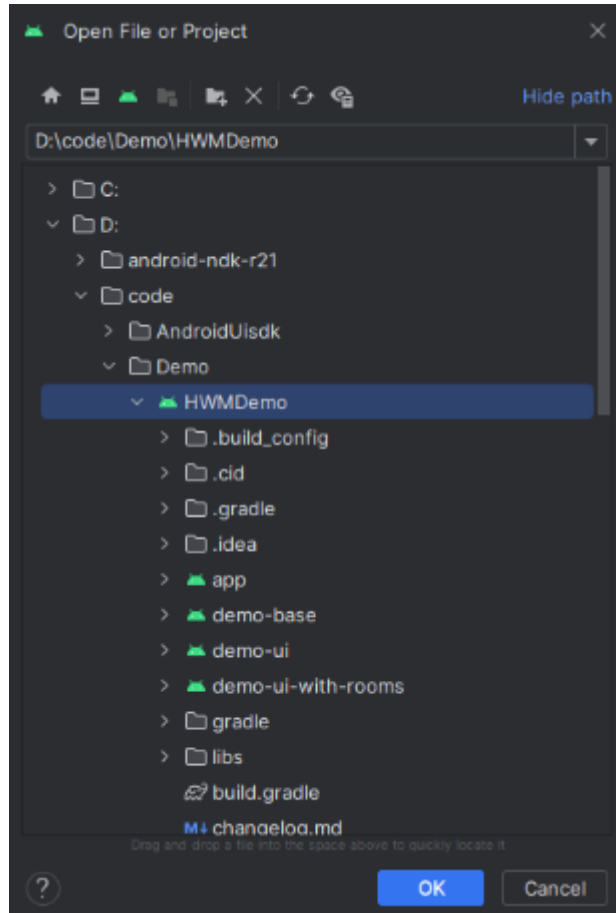
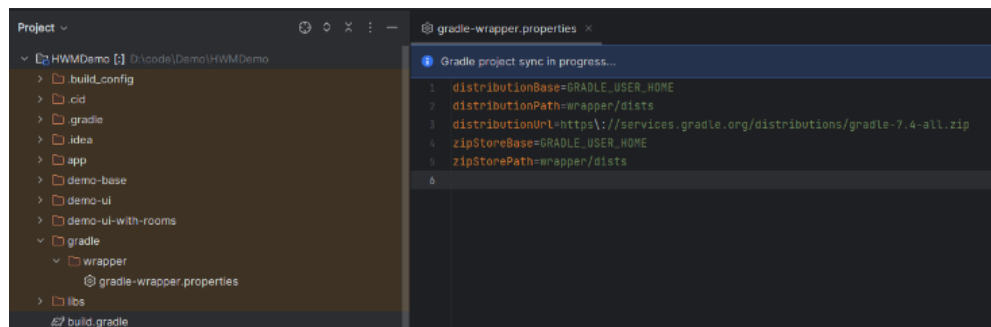


Figure 3-4 Project directories

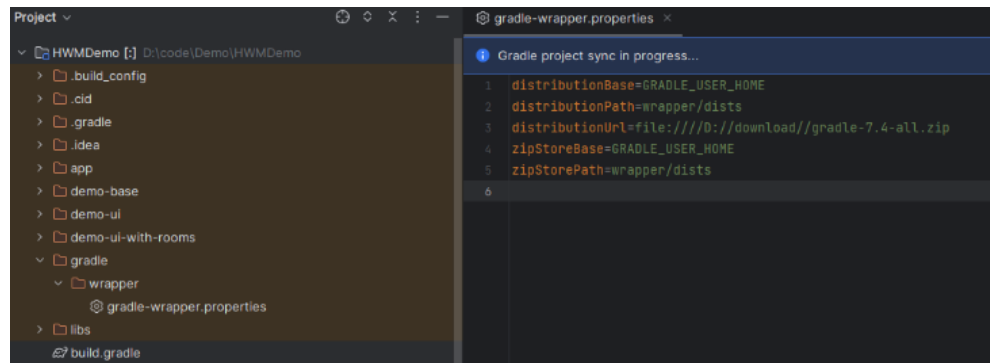


- Open the **gradle-wrapper.properties** file and check whether Gradle can be downloaded. If Gradle cannot be downloaded, manually download it from the website specified in the file, and configure the local dependency.

Figure 3-5 Configuring gradle-wrapper.properties

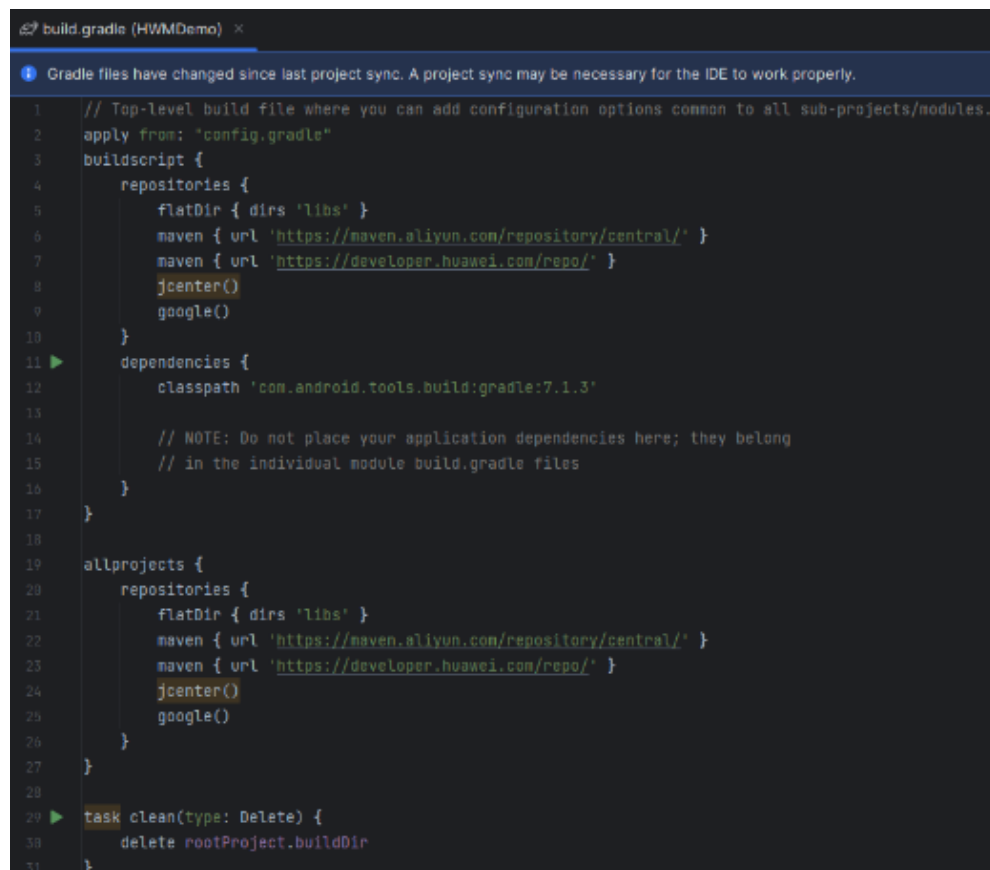


**Figure 3-6** Configuring the local Gradle



- Open the **build.gradle** file and check whether Google can be connected. If no, comment out other information and add an available Maven repository.

**Figure 3-7** Configure Maven.



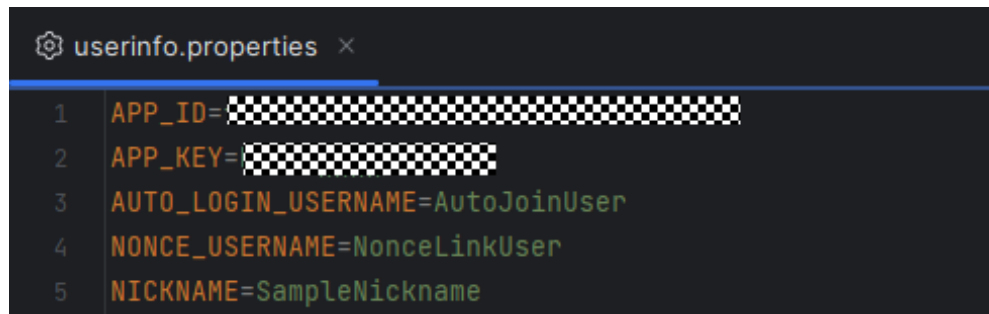
- Compile and run the demo project.

**Step 4** Request an app ID.

For details about how to request an app ID, see [Introduction to App ID Authentication](#).

Replace **APP\_ID** in the **userinfo.properties** configuration file with the obtained app ID.

**Figure 3-8** Replacing the app ID

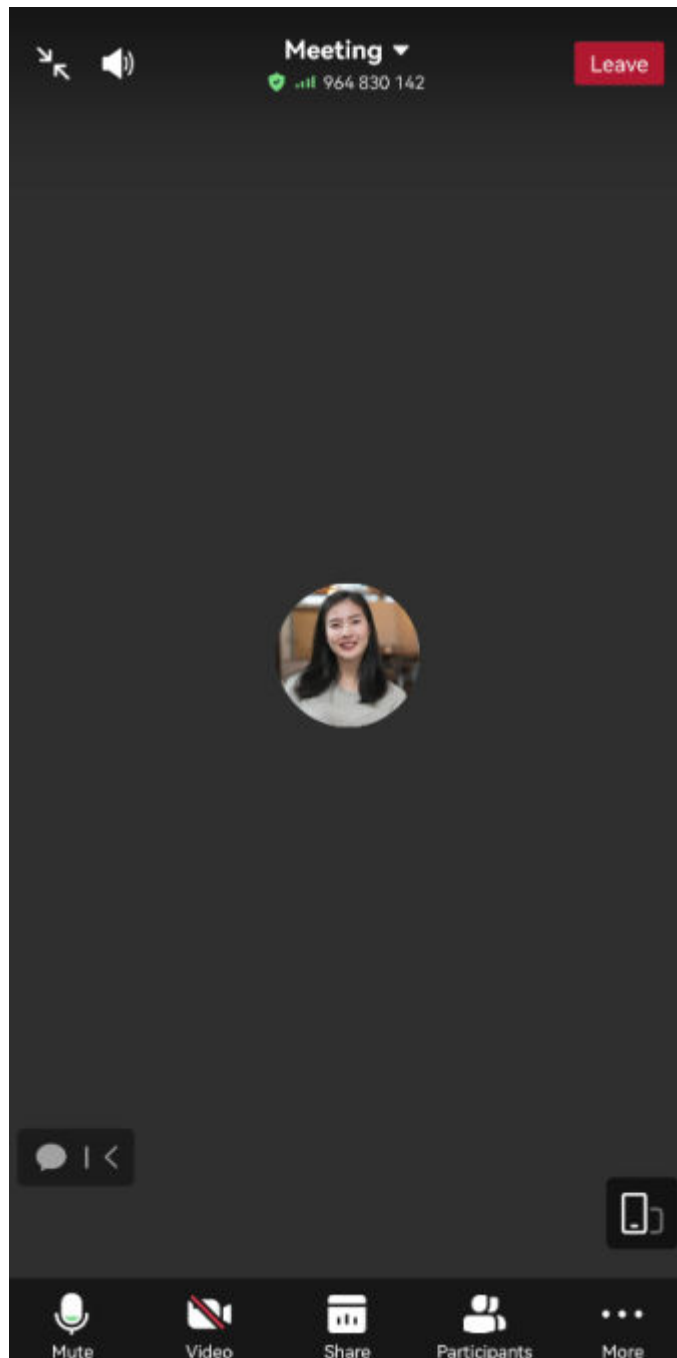


```
userinfo.properties x
1 APP_ID=
2 APP_KEY=
3 AUTO_LOGIN_USERNAME=AutoJoinUser
4 NONCE_USERNAME=NonceLinkUser
5 NICKNAME=SampleNickname
```

**Step 5 Use the demo.**

- Login  
Touch **Log in** and enter a Huawei Cloud Meeting account and password.
- Creating a meeting  
Touch **Create meeting** to create a meeting.
- In-meeting screen

**Figure 3-9** In-meeting screen of the Android demo



----End

## 3.2 Building the iOS Demo

This section describes how to quickly compile and run the iOS demo of the client SDK.

## Environment Requirements

Ensure that the following environment requirements are met during the compilation and running of the iOS demo.

**Table 3-3** Environment requirements

| Environment and Tool                  | Version                            | Description   |
|---------------------------------------|------------------------------------|---|
| OS                                    | macOS High Sierra 10.14.4 or later | Requirement of Xcode on the macOS. The recommended version is 10.15 or later. |
| Xcode                                 | Xcode 11 or later                  | Xcode 11.3.1 is used as an example in the demo and documentation.             |
| iOS                                   | iOS 11.0 or later, 64-bit device   | The screen sharing function requires iOS 12 or later.                         |
| Requesting test resources and app IDs | -                                  | For details, see <a href="#">Preparations</a> .                               |

**Table 3-4** Project configuration requirements

| Item                | Requirement | Description   |
|---------------------|-------------|---|
| Enable Bitcode      | No          | Compilation code optimization is not supported.   |
| Valid Architectures | Arm64       | CPU architecture is supported.  |
| Other Link Flags    | -ObjC       | Load all Objective-C classes and categories in the static library to the final executable file. |

**Table 3-5** Third-party open-source libraries

| Open Source Library Name | Recommended Version                 |
|--------------------------|-------------------------------------|
| Masonry                  | The version must be 1.1.0 or later. |
| SSZipArchive             | 2.1.3                               |
| YYModel                  | 1.0.4                               |

| Open Source Library Name | Recommended Version |
|--------------------------|---------------------|
| CocoaLumberjack          | 3.4.1               |
| libyuv                   | 1.0.2               |
| AFNetworking             | 4.0.1               |

## Procedure

### Step 1 Download the SDK and demo source code.

1. Download the ZIP package of the SDK by following the instructions provided in [Table 4-1](#).
2. Decompress the ZIP package to obtain the following files and directories:

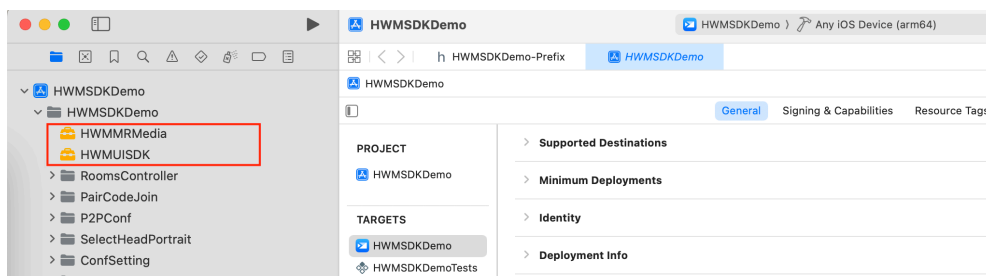
**Figure 3-10** Directory structure of the SDK package

| Name                   | Date Modified  | Size | Kind   |
|------------------------|----------------|------|--------|
| > HWMSDKDemo ← Demo    | Today at 14:59 | --   | Folder |
| > libs ← SDK resources | Today at 14:59 | --   | Folder |

### Step 2 Add a dependency library.

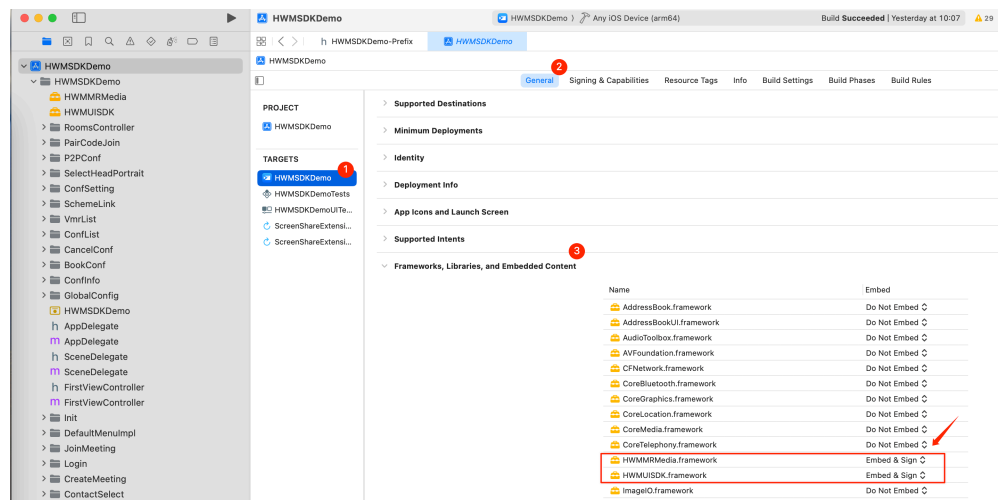
1. Open the demo project and copy **HWMUISDK.framework** and **HWMMRMedia.framework** to the demo project.

**Figure 3-11** HWMUISDK.framework and HWMMRMedia.framework added



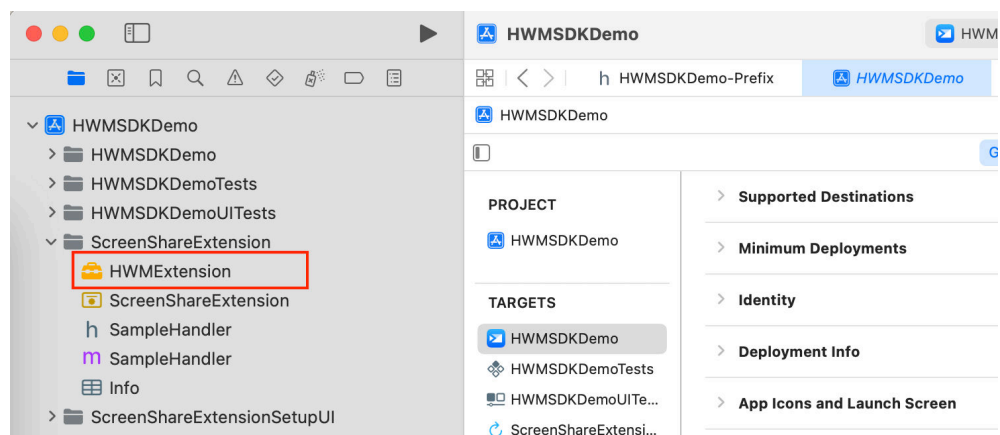
2. Choose **TARGETS > HWMSDKDemo > General**, choose **Frameworks, Libraries, and Embedded Content** separately, and change the value in the **Embed** column of **HWMUISDK.framework** and **HWMMRMedia.framework** to **Embed & Sign**.

Figure 3-12 HWMUISDK.framework and HWMRMedia.framework settings



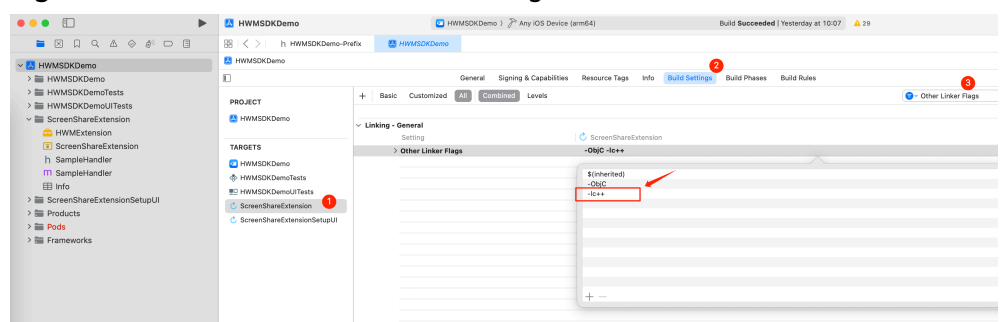
3. Copy **HWMExtension.framework** to the **ScreenShareExtension** directory.

Figure 3-13 HWMExtension.framework added



4. Added the **-lc++** configuration in **TARGETS > ScreenShareExtension > Build Settings > Other Linker Flags**.

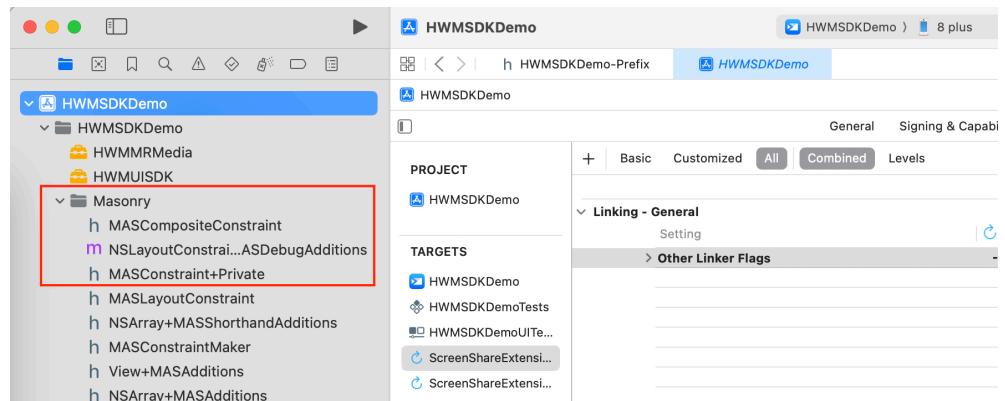
Figure 3-14 ScreenShareExtension settings



5. Download **Masonry** and copy the source code to the project.

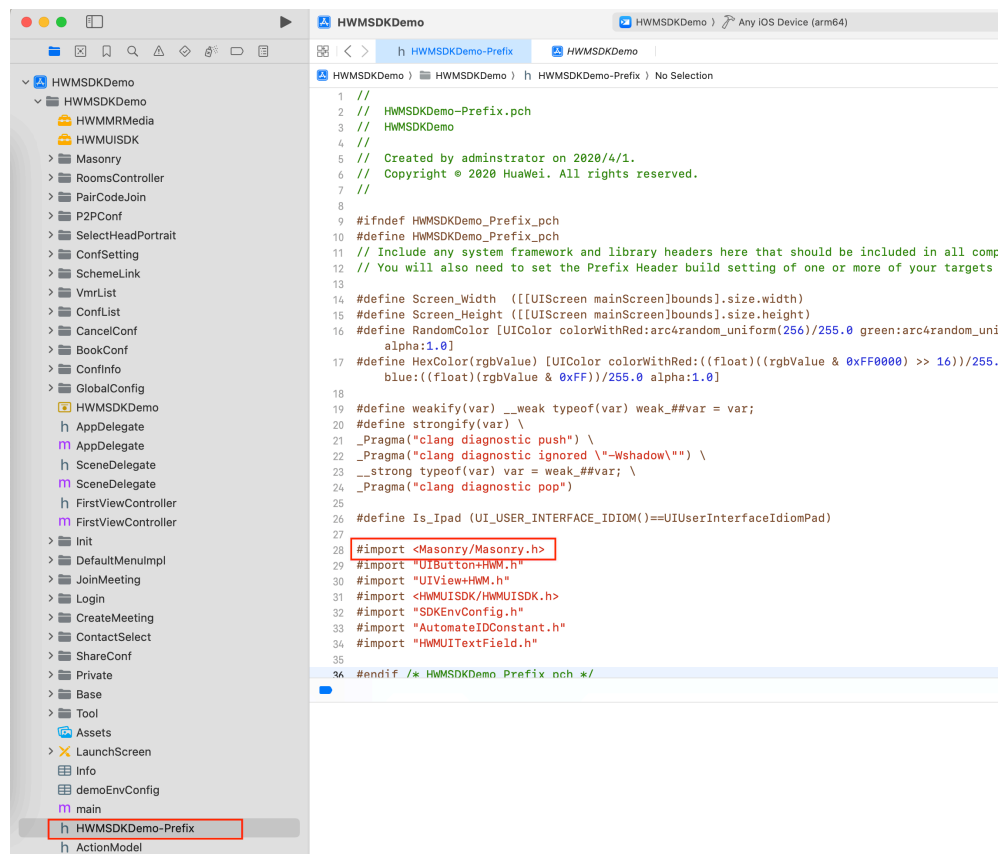


Figure 3-15 Masonry added



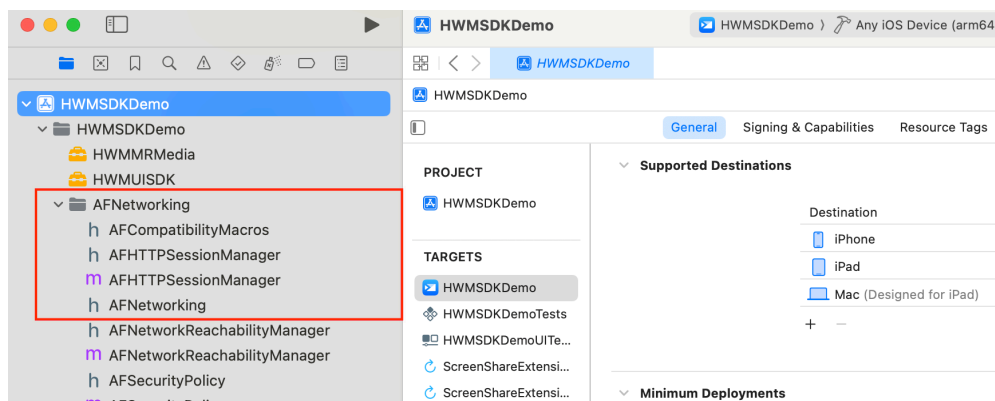
6. Modify the Masonry reference mode in HWMSDKDemo-Prefix.h.

Figure 3-16 Modifying the Masonry reference mode



7. Download [AFNetworking](#) and copy the source code to the project.

Figure 3-17 AFNetworking added



8. Modify the AFNetworking reference mode in **SchemeLinkViewController.m** and **APPIDLoginViewController.m**.

Figure 3-18 Modifying the AFNetworking reference mode in SchemeLinkViewController.m

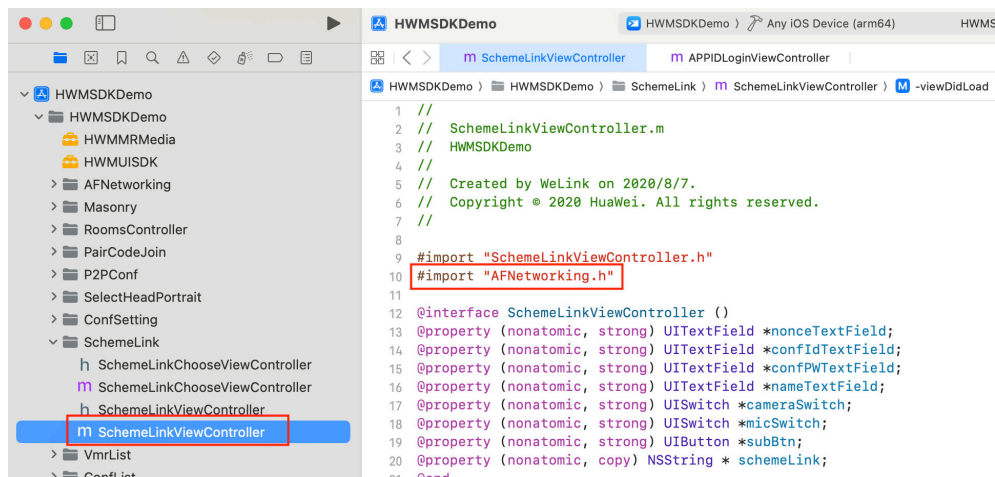
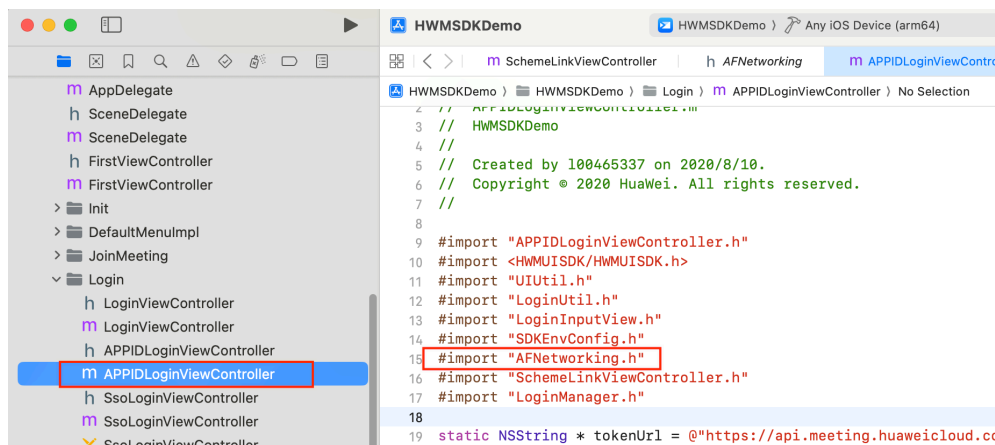


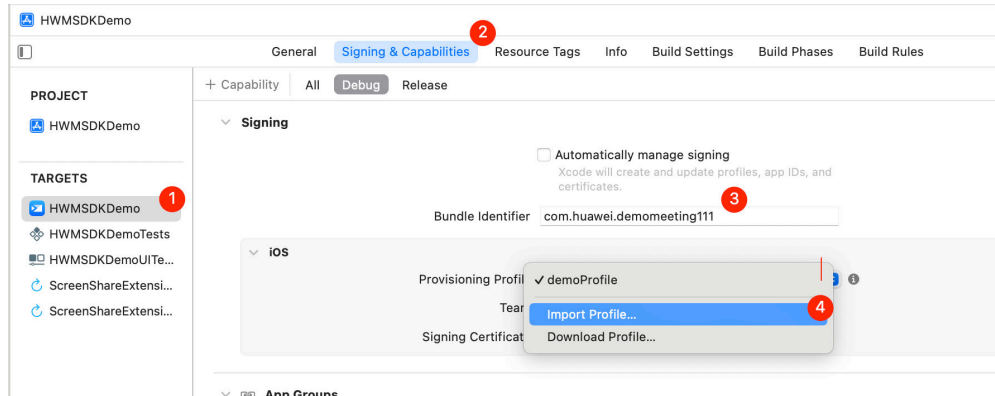
Figure 3-19 Modifying the AFNetworking reference mode in APPIDLoginViewController.m



**Step 3 Configure the project.**

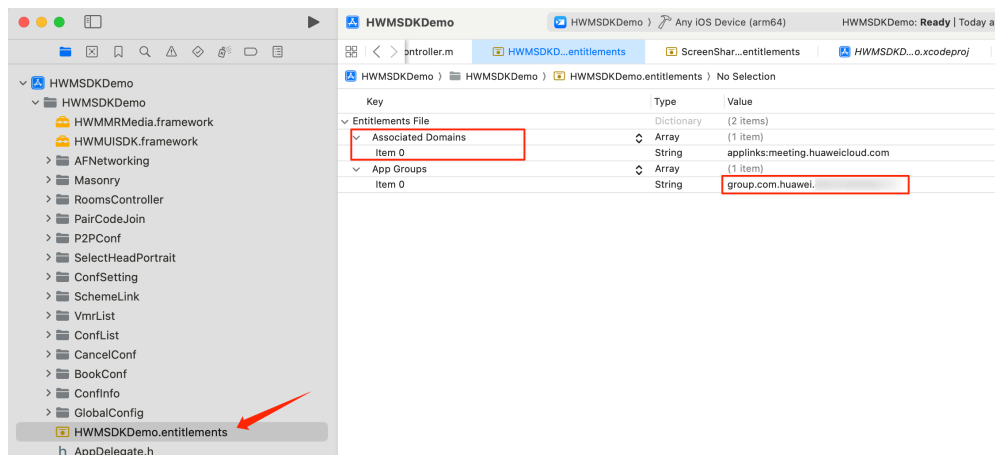
1. Modify the bundle ID in **HWMSDKDemo** and import the profile. For details about how to create a certificate and profile, see [How Do I Apply for a Certificate for iOS?](#)

Figure 3-20 Configuration page



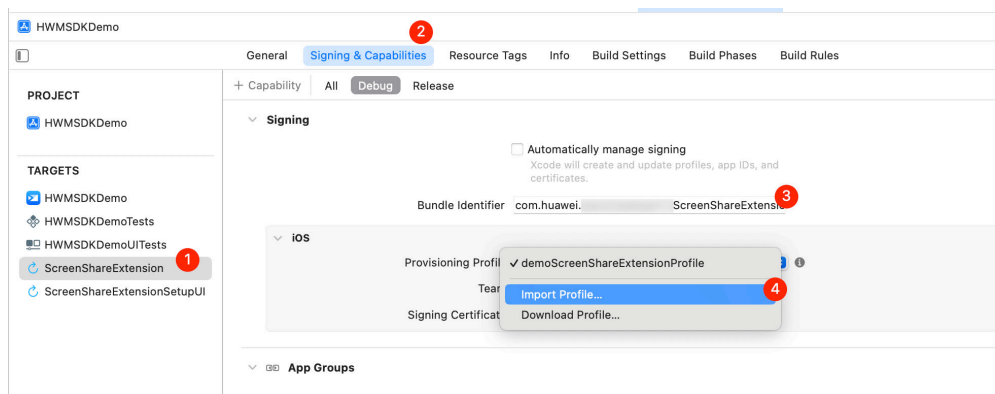
2. Edit **HWMSDKDemo.entitlements**, delete the items under **Associated Domains**, and change the value of **App Groups** to the app group corresponding to the bundle ID of **HWMSDKDemo**.

Figure 3-21 Configuration page of HWMSDKDemo.entitlements



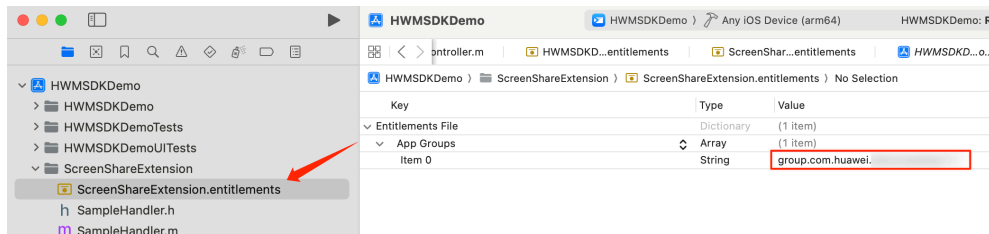
3. Modify the bundle ID in **ScreenShareExtension** and import the profile.

Figure 3-22 Configuration page



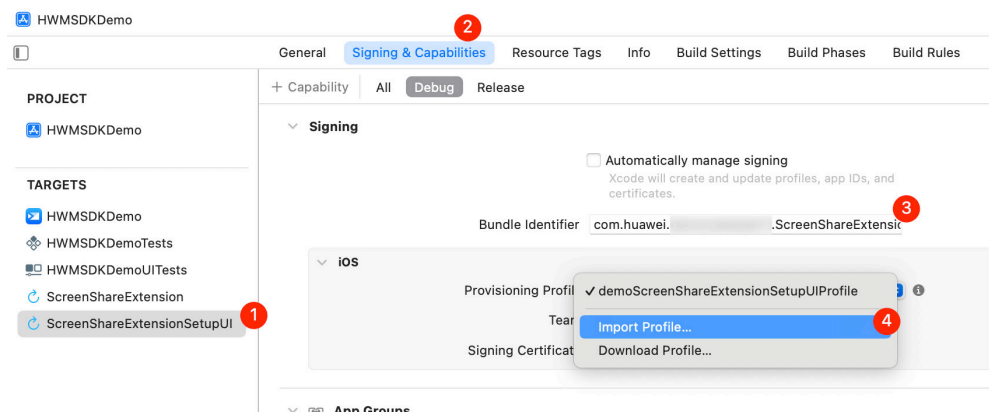
4. Edit **ScreenShareExtension.entitlements** and change the value of **App Groups** to the app group corresponding to the bundle ID of **ScreenShareExtension**.

Figure 3-23 Configuration page of ScreenShareExtension.entitlements



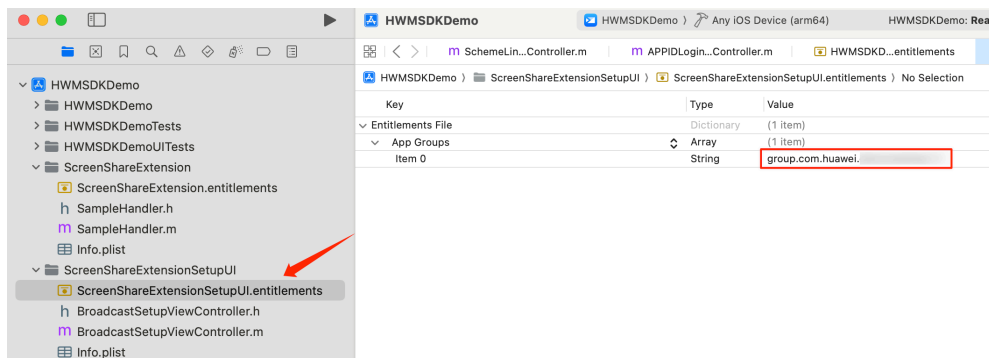
5. Modify the bundle ID in **ScreenShareExtensionSetupUI** and import the profile.

Figure 3-24 Configuration page



6. Edit **ScreenShareExtensionSetupUI.entitlements** and change the value of **App Groups** to the app group corresponding to the bundle ID of **ScreenShareExtensionSetupUI**.

Figure 3-25 Configuration page of ScreenShareExtensionSetupUI.entitlements



7. Compile and run the project.

#### Step 4 Use the demo.

The following describes how to create an instant meeting:

1. Touch **Initialization** to initialize the SDK.

2. Log in to the system.

**Login using an account and password:** Click the login button. On the login screen, enter the account and password and click **Log in**.

**Login using an app ID**

For details about how to request an app ID, see [Introduction to App ID Authentication](#).

Method 1: Change the default value in the code.

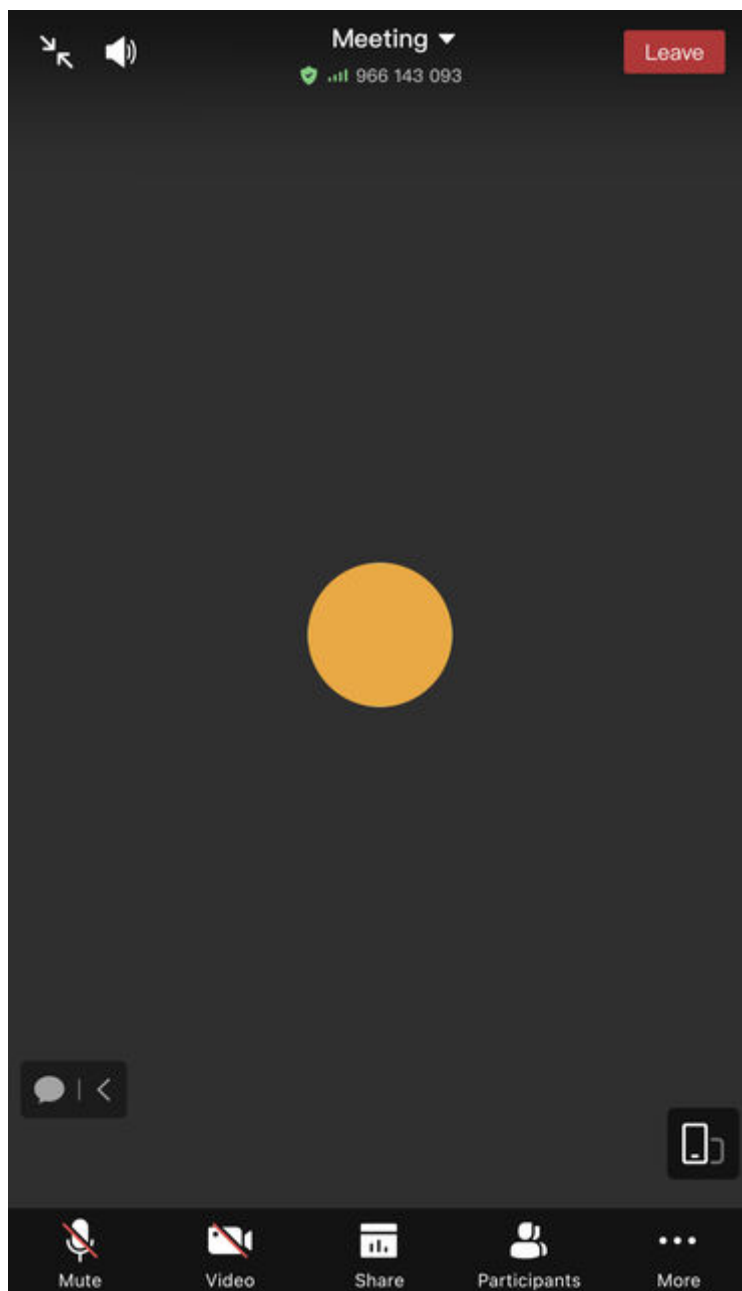
Replace **AppId** and **AppKey** in **HWMUISDKDemoConfig.plist** with the obtained app ID and key.

Method 2: Modify the app ID and initialize the SDK.

Open the demo, access the global configuration screen, configure the app ID and key, save the settings, initiate the SDK, and log in to the system.

3. Touch **Create meeting**.

Figure 3-26 In-meeting screen of the iOS demo



----End

## 3.3 Building the Windows Demo

This section describes how to quickly compile and run the Windows MFC demo of the client SDK.

### Environment Requirements

Ensure that the following environment requirements are met during the compilation and running of the Windows MFC demo.

**Table 3-6** Environment requirements

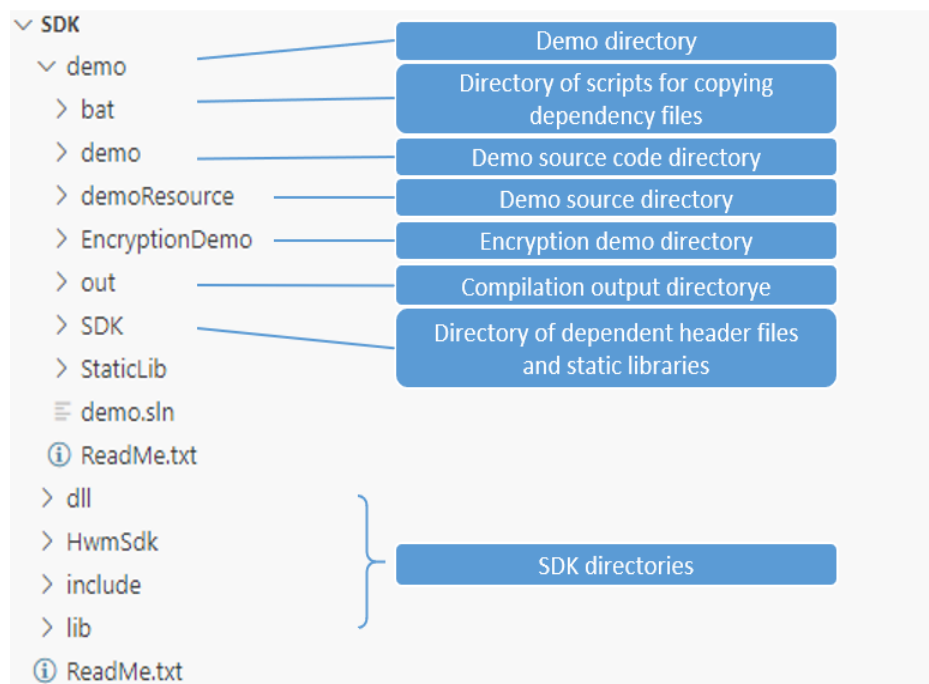
| Environment and Tool                  | Version                 | Description   |
|---------------------------------------|-------------------------|---|
| OS                                    | Windows 10 Professional | Hardware requirements <ul style="list-style-type: none"> <li>• CPU: i5-2400 quad-core, 3.1 GHz or above</li> <li>• Memory: 4 GB or above</li> </ul> |
| Microsoft Visual Studio               | Visual Studio 2017      | During the installation, select <b>Desktop development with C++, Visual C++ MFC for x86 and x64, and Windows 10 SDK (10.0.15063.0)</b> .            |
| Requesting test resources and app IDs | N/A                     | For details, see <a href="#">Preparations</a> .   |

## Procedure

### Step 1 Download the SDK and demo source code.

1. Download the ZIP package of the SDK by following the instructions provided in [Table 4-1](#).
2. Decompress the ZIP package to obtain the following files and directories:

**Figure 3-27** Directory structure of the SDK package



## Step 2 Copy dependency files.

1. Run batch processing scripts in the **bat** directory. For example, to compile a 32-bit Release version, run the **copy\_dependency\_win32\_release.bat** script. The script automatically performs the following steps:
  - Copy the header files and LIB files of the SDK to the **SDK** directory.
  - Copy the .dll files and resource files of the SDK to the **out** directory.

## Step 3 Request an app ID and change the app ID in the demo to the requested one.

For details about how to request an app ID, see [Introduction to App ID Authentication](#).

Replace the app ID in **SDK\demo\demoResource\loginCfg.ini** with the obtained app ID.

**Figure 3-28** Replacing the app ID

```
BOOL demoInitDlg::OnInitDialog()
{
    BOOL ret = CDialogEx::OnInitDialog();

    m_comboSiteType.InsertString(0, _T(""));
    m_comboSiteType.InsertString(1, _T(""));
    m_comboSiteType.SetCurSel(0);

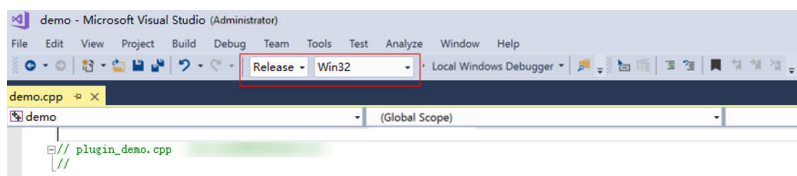
    m_comboLogLevel.InsertString(0, _T("INFO"));
    m_comboLogLevel.InsertString(1, _T("WARNING"));
    m_comboLogLevel.InsertString(2, _T("ERROR"));
    m_comboLogLevel.SetCurSel(0);

    CString defaultAppId = _T("");
    CTools::getIniConfigParam(_T("LoginConfig"), _T("defaultAppId"), defaultAppId);
    m_editAppId.SetWindowText(defaultAppId);
    m_editExeName.SetWindowText(_T("HwmSdk"));
    m_logKeepDays.SetWindowText(_T("0"));
    return ret;
}
```

## Step 4 Compile and run the project.

1. Double-click the **demo.sln** file in the **demo** directory.
2. Select the 32-bit Release version in the Visual Studio.

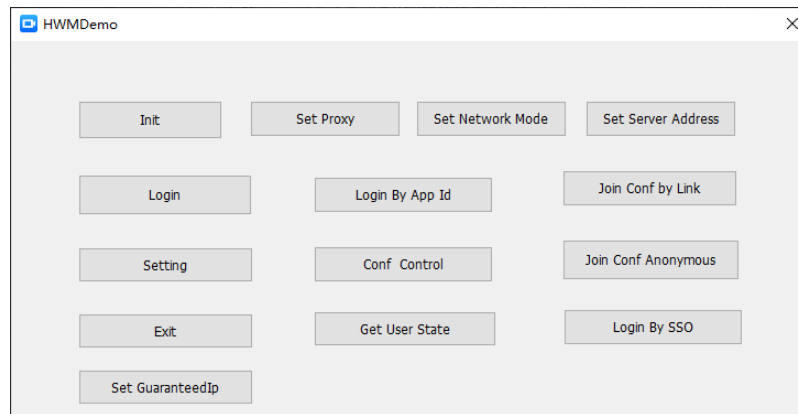
**Figure 3-29** Selecting the 32-bit Release version



3. Compile and run the demo project.



**Figure 3-30** Windows demo screen before login

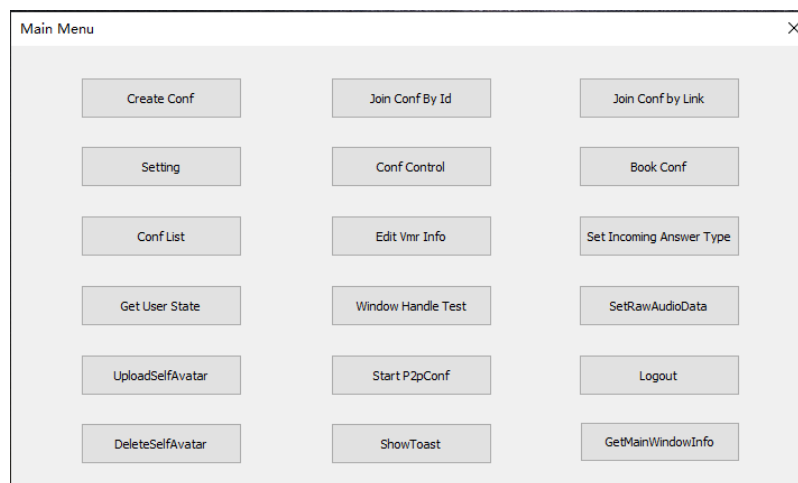


**Step 5 Use the demo.**

It is assumed that no proxy is deployed on the network, and the PC can directly access the public network. The following describes how to create an instant meeting:

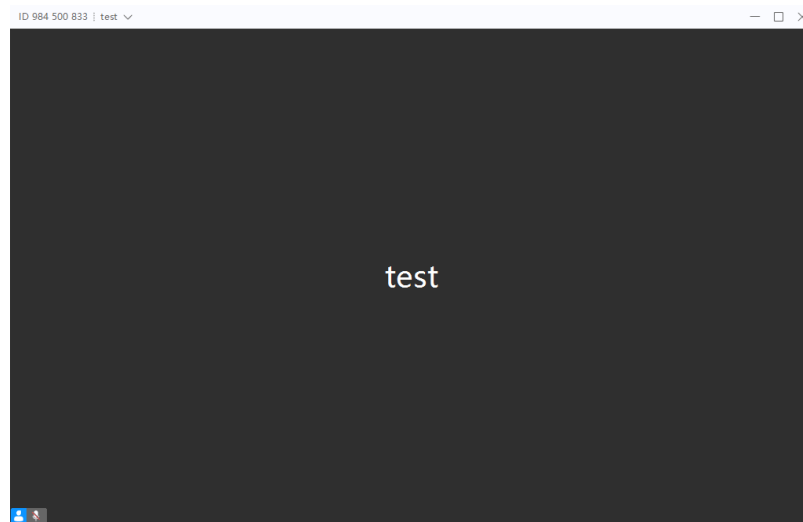
1. Click **Init**.
2. Click **Login** and enter a Huawei Cloud Meeting account and password.

**Figure 3-31** Windows demo screen after login



3. Click **Create Conf** to create a meeting.

**Figure 3-32** In-meeting screen



----End

## 3.4 Building the macOS Demo

This section describes how to quickly compile and run the macOS Native demo of the client SDK.

### Hardware Requirements

Ensure that the following hardware requirements are met during the compilation and running of the macOS Native demo.

| SDK Type                   | Hardware Requirements                       | Description   |
|----------------------------|---|---|
| For Intel chips (x86_64)   | Mac devices                                 | The Intel-based SDKs can be used on all Mac devices.  |
| For M-series chips (ARM64) | Apple-developed devices with M-series chips | SDKs of this type outperform the Intel-based SDKs on Apple devices with M-series chips, reducing both memory and CPU usage significantly. |

### Environment Requirements

Ensure that the following environment requirements are met during the compilation and running of the macOS Native demo.

**Table 3-7** Environment requirements

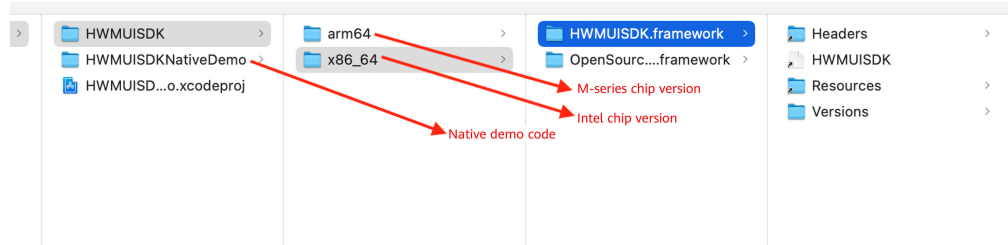
| Environment and Tool                  | Version                            | Description   |
|---------------------------------------|------------------------------------|---|
| OS                                    | macOS High Sierra 10.14.4 or later | Requirement of Xcode on the macOS. The recommended version is 10.15 or later. |
| Xcode                                 | Xcode 11 or later                  | Xcode 12.0.1 is used as an example in the demo and documentation.             |
| Requesting test resources and app IDs | -                                  | For details, see <a href="#">Preparations</a> .                               |

## Procedure

### Step 1 Download the SDK and demo source code.

1. Download the ZIP package of the SDK by following the instructions provided in [Table 4-1](#).
2. Decompress the ZIP package to obtain the following files and directories:

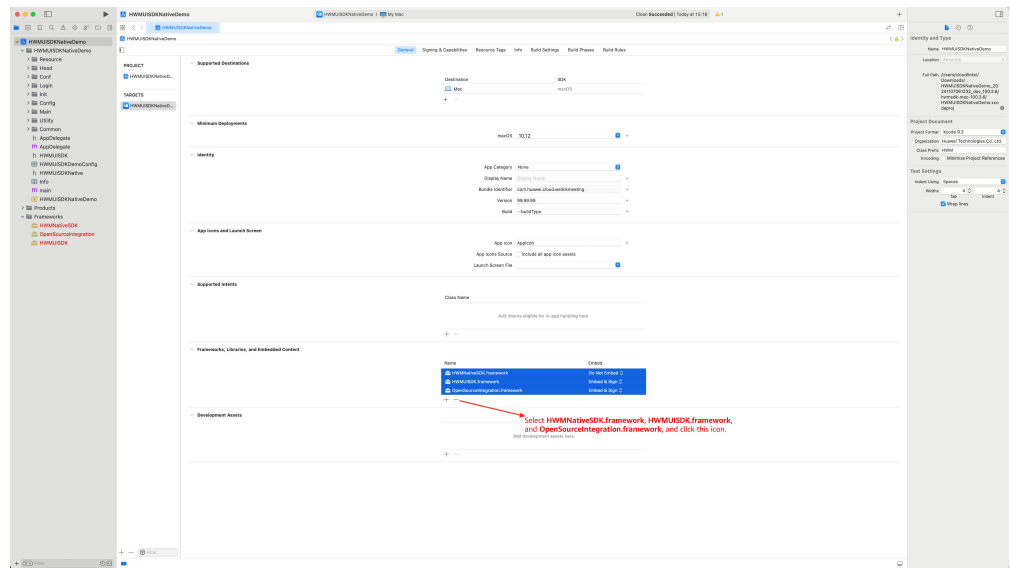
**Figure 3-33** Directory structure of the SDK package



### Step 2 Select an SDK library based on hardware requirements (x86\_64 SDK by default).

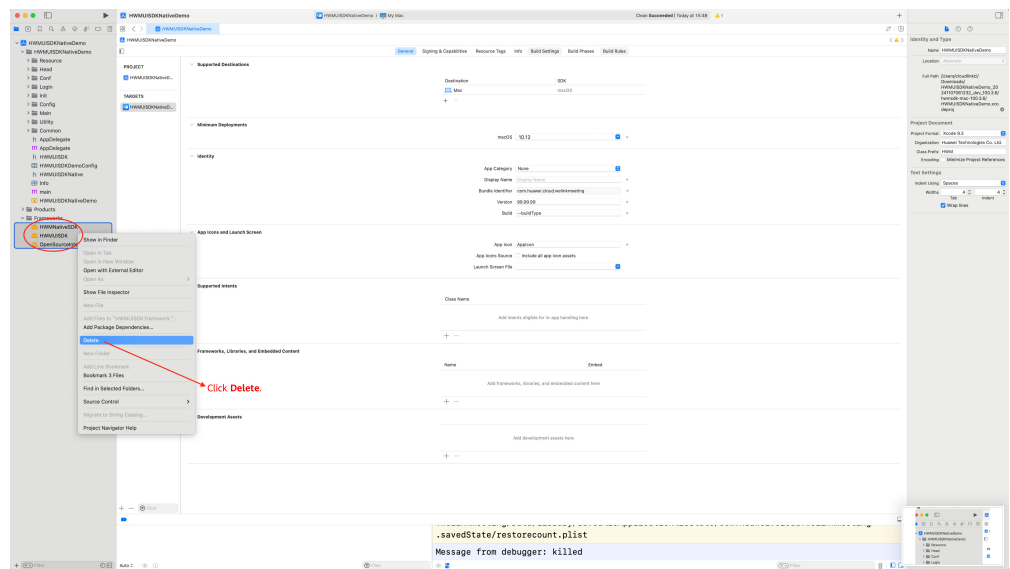
1. Delete the original SDK libraries.

Figure 3-34 Deleting the original SDK libraries



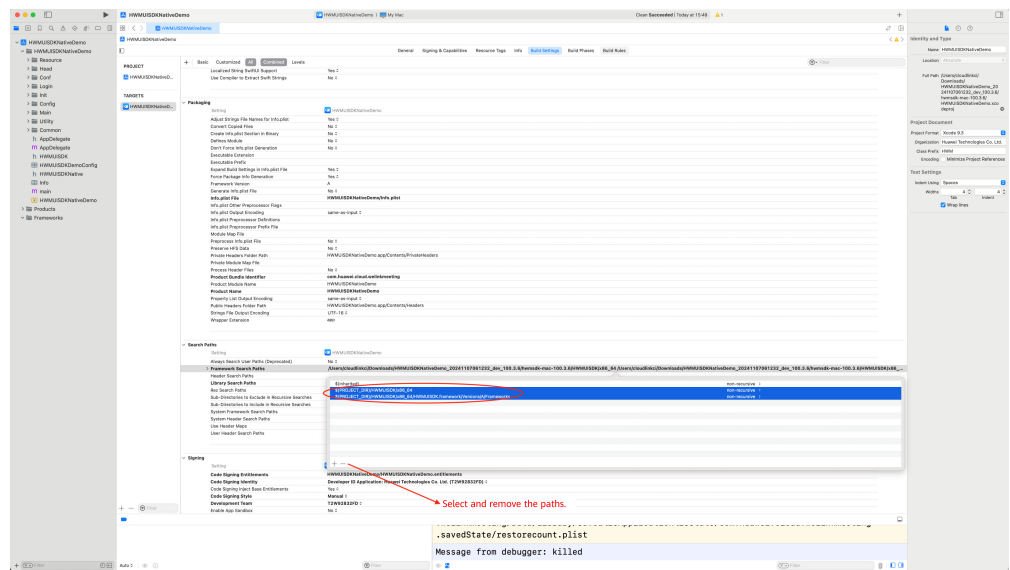
- 2. Delete the original SDK library dependencies.

Figure 3-35 Deleting the original SDK library dependencies



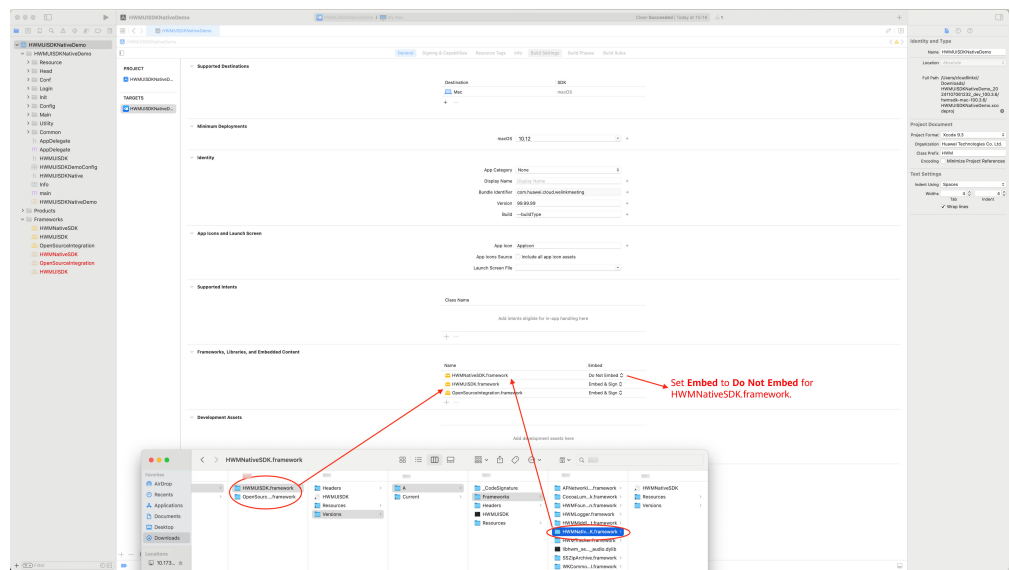
- 3. Delete the original framework search paths.

Figure 3-36 Deleting the original framework search paths



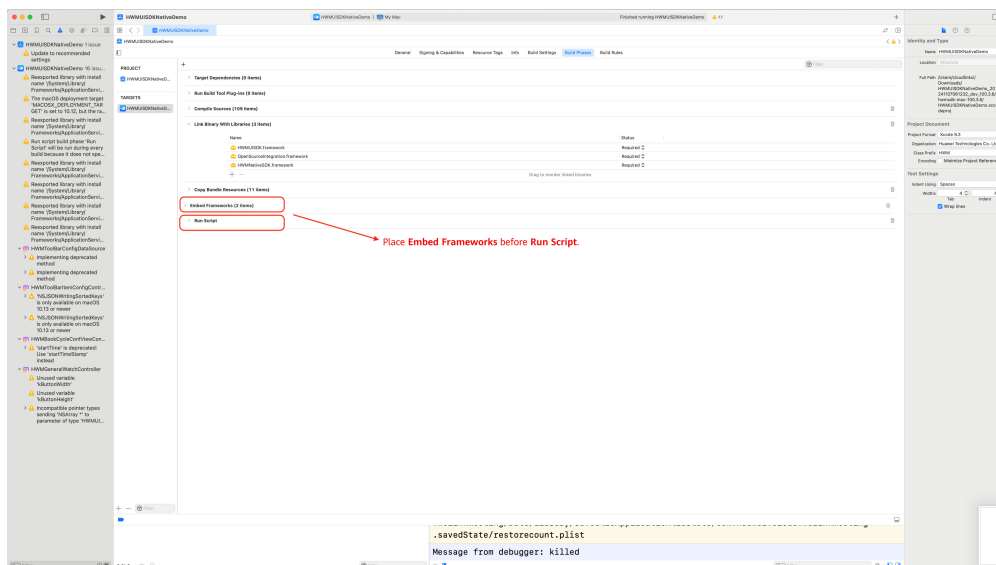
4. Add the SDK libraries in the **HWMUISDK** directory to **Frameworks, Libraries, and Embedded Content** of the project based on the hardware requirements, and modify the value of **Embed**.

Figure 3-37 Adding SDK libraries



5. Ensure that **Embed Frameworks** are executed before **Run Script**.

Figure 3-38 Placing Embed Frameworks before Run Script



**Step 3 Request an app ID and change the app ID in the demo to the requested one.**

For details about how to request an app ID, see [Introduction to App ID Authentication](#).

Replace the app ID in HWMAppKeyManager with the obtained app ID.

Figure 3-39 Changing the default app ID of the demo

```

- (NSString *)appid {
    if (appid.length == 0) {
        // Replace AppID with the AppID that you have applied for.
        NSString *plistPath = [[NSBundle bundleForClass:[self class]] pathForResource:@"HWMUISDKDemoConfig"
                                ofType:@"plist"];
        NSMutableDictionary *plistDic = [[NSMutableDictionary alloc] initWithContentsOfFile:plistPath];
        _appid = [plistDic valueForKey:@"AppID"];
    }
    return _appid;
}

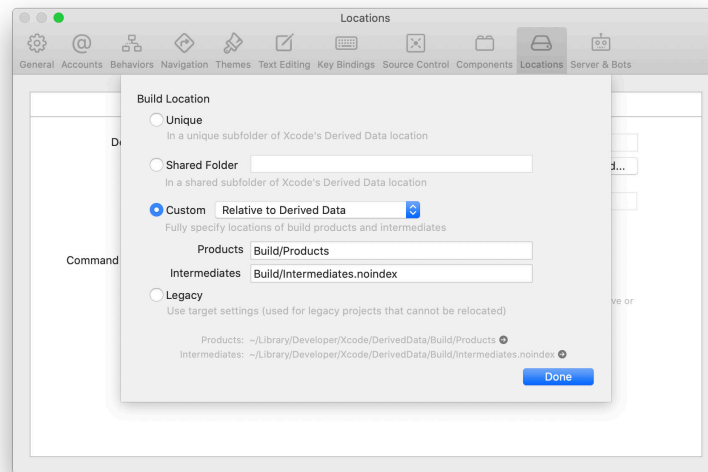
- (NSString *)appKey {
    if (appKey.length == 0) {
        /*
        1. Replace AppKey with the AppKey you have applied for.
        2. The AppKey stored in the Demo is used only for demonstration. In actual commercial use, the AppKey must be
        encrypted and stored on the server, and the authentication signature must be calculated on the server.
        */
        NSString *plistPath = [[NSBundle bundleForClass:[self class]] pathForResource:@"HWMUISDKDemoConfig"
                                ofType:@"plist"];
        NSMutableDictionary *plistDic = [[NSMutableDictionary alloc] initWithContentsOfFile:plistPath];
        _appKey = [plistDic valueForKey:@"AppKey"];
    }
    return _appKey;
}

```

**Step 4 Edit and run the demo project.**

1. Modify the bundle identifier and install the corresponding certificate. Replace it with the certificate of your company.
2. Set **Build Location** to **Custom** under **Preferences** of Xcode.

**Figure 3-40** Changing Xcode Build location



3. Compile and run the project.

#### Step 5 Use the demo.

The following describes how to create an instant meeting:

1. Click **Initialization** to initialize the SDK.
2. Log in to the system.  
Login using an account and password: Click the login button. On the login screen, enter the account and password and click **Log in**.
3. Click **Create meeting**.

----End

## 3.5 Building the Electron Demo

This section describes how to quickly compile and run the Electron demo of the client SDK.

### Environment Requirements

Ensure that the following environment requirements are met during the compilation and running of the Electron demo.

**Table 3-8** Windows Environment Requirements

| Environment and Tool                  | Version                  | Description   |
|---------------------------------------|--------------------------|---|
| OS                                    | Windows 10 Professional  | Hardware requirements <ul style="list-style-type: none"> <li>• CPU: i5-2400 quad-core, 3.1 GHz or above</li> <li>• Memory: 4 GB or above</li> </ul> |
| Python                                | 3.x                      | Optional. This tool is required only when add-ons need to be recompiled.  |
| Microsoft Visual Studio               | Visual Studio 2017       | Optional. This tool is required only when add-ons need to be recompiled.  |
| Node.js                               | 16.20.0 or later, 64-bit | N/A   |
| Electron                              | 13.6.7 or later          | N/A   |
| Requesting test resources and app IDs | N/A                      | For details, see <a href="#">Preparations</a> .   |

 **NOTE**

For details about the version mapping between Node.js and Electron, see <https://www.electronjs.org/docs/latest/tutorial/electron-timelines>.

**Table 3-9** macOS environment requirements

| Environment and Tool                  | Version          | Description                                     |
|---------------------------------------|------------------|---|
| OS                                    | macOS 10.15      | N/A   |
| Xcode                                 | 12.0 or later    | N/A   |
| Node.js                               | 16.20.0 or later | N/A   |
| Electron                              | 13.6.7 to 24.8.8 | N/A   |
| Requesting test resources and app IDs | N/A              | For details, see <a href="#">Preparations</a> . |

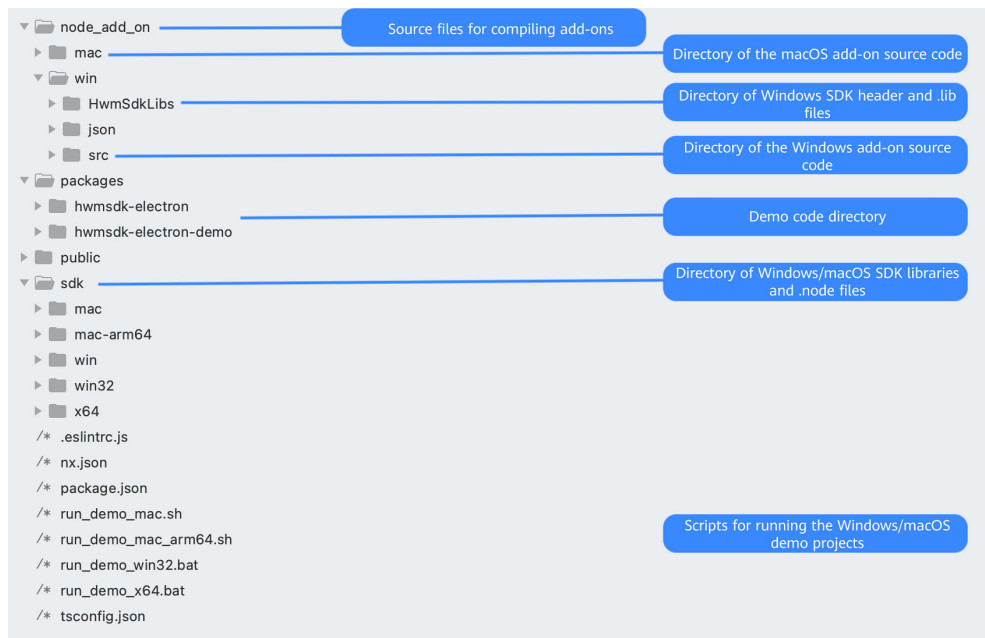
## Procedure

### Step 1 Download the SDK and demo source code.



1. Download the Electron SDK ZIP package (for example, **hwmsdk-electron-70.16.5.zip**) by referring to [Table 4-1](#).
2. Decompress the ZIP package to obtain the following files and directories:

**Figure 3-41** Directory structure of the SDK package



## Step 2 Prepare for the environment.

1. Node.js
2. After installing Node.js, configure the npm mirror.

Before installing the dependency, run the following commands to configure the npm mirror to improve the installation speed.

```
npm config set registry http://registry.npm.taobao.org/
npm config set electron_mirror https://npm.taobao.org/mirrors/electron/
```

### NOTE

1. If Node.js has been installed, run the following command to check the Node.js version. The result **x64** indicates 64-bit and **ia32** indicates 32-bit.

```
$ node -p "process.arch"
```

2. If Node.js is not installed, download the required version from the [Node.js website](#).
3. If the preceding mirror addresses cannot be reached, change them to the following addresses:

```
registry=https://registry.npmmirror.com/
electron_mirror=https://npmmirror.com/mirrors/electron/
```

4. If error **npm error `electron\_mirror` is not a valid npm option** is reported, manually add the addresses to the .npmrc file in **%HOMEDRIVE%%HOMEPATH%**. Example addresses: registry=http://registry.npm.taobao.org/

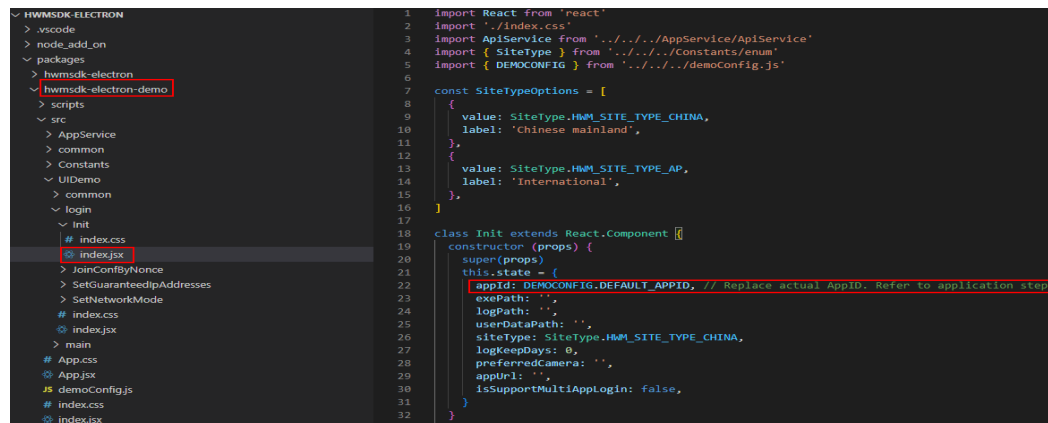
```
electron_mirror=https://npm.taobao.org/mirrors/electron/
```

## Step 3 Request an app ID and change the app ID in the demo to the requested one.

For details about how to request an app ID, see [Introduction to App ID Authentication](#).

Replace `DEFAULT_APPID` in `hwmsdk-electron\packages\hwmsdk-electron-demo\src\demoConfig.js` with the obtained app ID.

Figure 3-42 Replacing the app ID



#### Step 4 Run the Electron demo.

1. Run the `.bat` or `.sh` script in the `hwmsdk-electron` directory to compile the demo project. The script installs the corresponding environment, copies the SDK library and `HwmUisdk.node`, converts TS files to JS files, triggers compilation, and runs the demo.

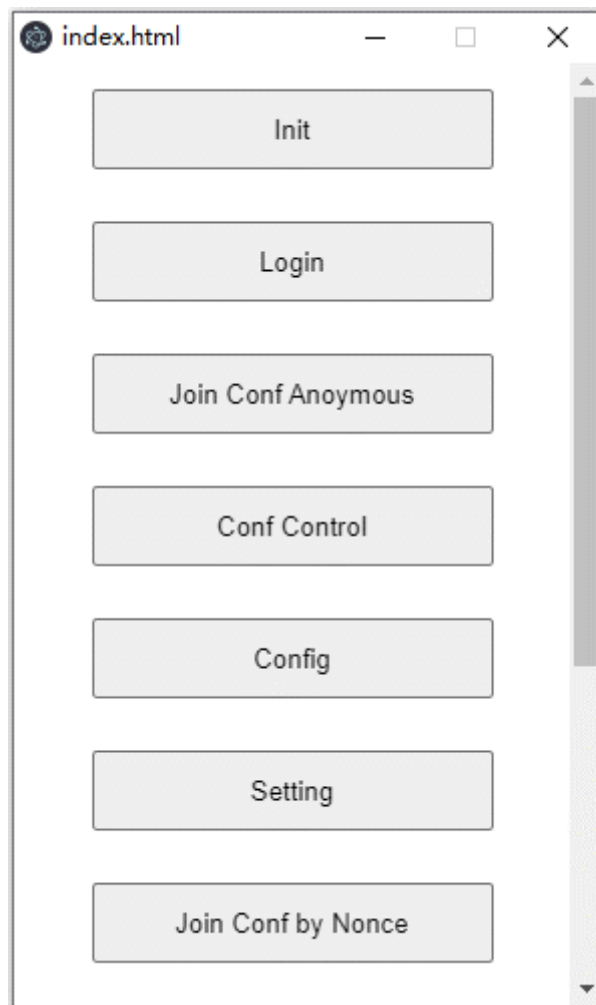
- To run the Windows 32-bit demo when the Node.js version is 32-bit, run **run\_demo\_win32.bat**.
- To run the Windows 64-bit demo when the Node.js version is 64-bit, run **run\_demo\_x64.bat**.
- To run the macOS demo, run **run\_demo\_mac.sh**.

#### NOTE

The `.bat` or `.sh` script can perform the following operations:

- Compile TS APIs and generate JS and types files.
- Copy the SDK files of the corresponding platform to the corresponding directory (**sdk/win32**, **sdk/x64**, or **sdk/mac**).
- Run the demo.

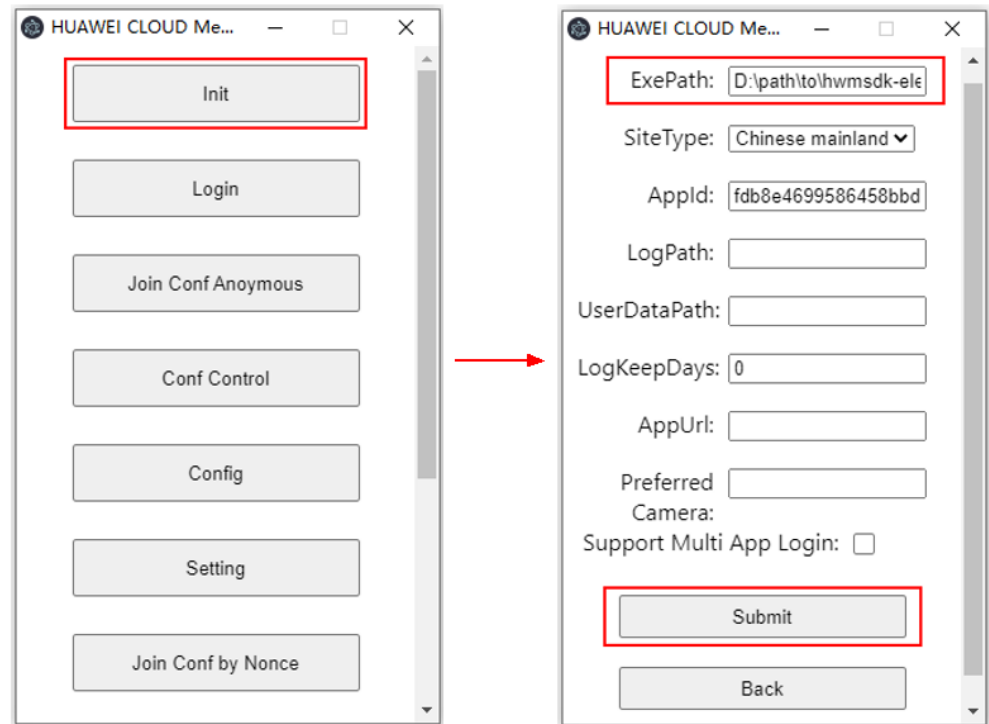
**Figure 3-43** Electron demo main screen



**Step 5** Use the Electron demo.

- Click **Init** to initialize the SDK. (**ExePath** is required only for the 64-bit demo.)

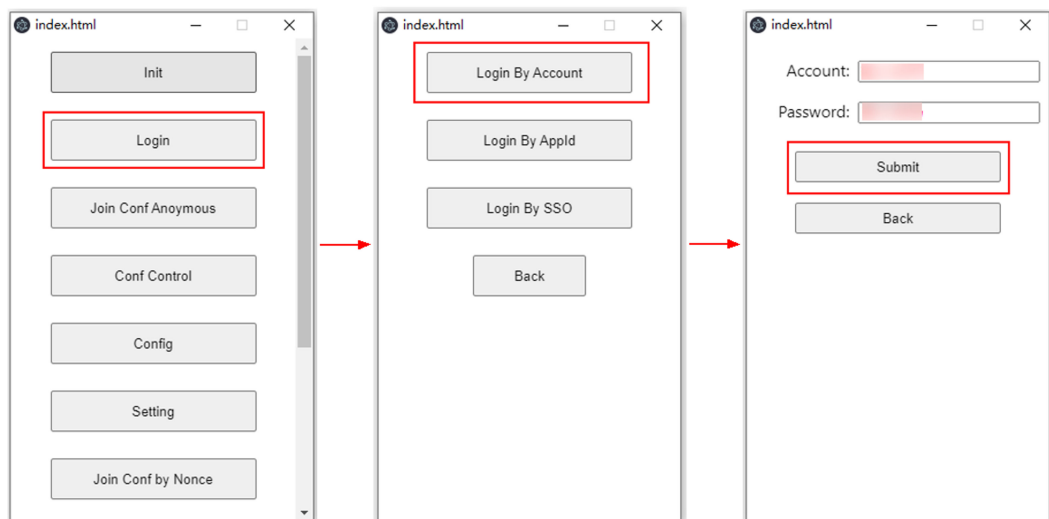
Figure 3-44 SDK initialization



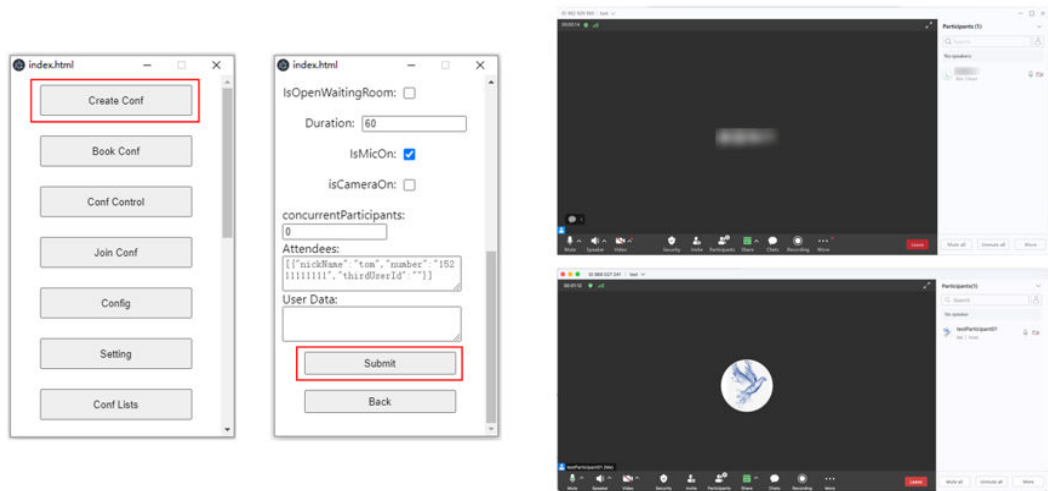
**NOTE**

**ExePath** is the absolute path of HwmSdk of the Windows SDK, for example, **D:\path\to\hwmsdk-electron-demo-win-x64-100.5.5\hwmsdk-electron-x64\resources\sdk\x64\HwmSdk\HwmSdk.exe**.

Figure 3-45 Login



**Figure 3-46** Creating a meeting



----End

# 4 Downloading SDKs

## 4.1 Downloading an App SDK

 NOTE

The maintenance period of UI SDKs of Huawei Cloud Meeting is one year. If an issue occurs in a UI SDK used for more than one year, upgrade the SDK to the latest version.

After downloading an SDK, verify the package integrity by referring to [Verifying Integrity of an App SDK Package](#).

**Table 4-1** Android/iOS/Windows/macOS/Electron UI SDK download path

| Version           | Released On | Resource       | Download Link  | Incremental Installation Package Size                          | Description |
|-------------------|-------------|----------------|--|--|-------------|
| 100.10.7 (latest) | 2024-12-04  | Android UI SDK | <a href="#">hwmsdk-android-100.10.7.zip</a><br>Integrity check: <a href="#">hwmsdk-android-100.10.7-sha256</a> | 32-bit: 35.0 MB<br>64-bit: 37.4 MB<br>32-bit + 64-bit: 57.4 MB | -           |
|                   |             | iOS UI SDK     | <a href="#">hwmsdk-ios-100.10.7.zip</a><br>Integrity check: <a href="#">hwmsdk-ios-100.10.7-sha256</a>         | 30.9 MB  | -           |

| Version                   | Released On | Resource        | Download Link  | Incremental Installation Package Size   | Description |
|---------------------------|-------------|-----------------|--|---|-------------|
|                           |             | Windows UI SDK  | <a href="#">hwmsdk-win-100.10.7.zip</a><br>Integrity check: <a href="#">hwmsdk-win-100.10.7-sha256</a>           | About 102.9 MB  | -           |
|                           |             | macOS UI SDK    | <a href="#">hwmsdk-mac-100.10.7.zip</a><br>Integrity check: <a href="#">hwmsdk-mac-100.10.7-sha256</a>           | Intel chip version: about 55.1 MB<br>M-series chip version: about 51.3 MB                                   | -           |
|                           |             | Electron UI SDK | <a href="#">hwmsdk-electron-100.10.7.zip</a><br>Integrity check: <a href="#">hwmsdk-electron-100.10.6-sha256</a> | Windows: about 102.9 MB<br>macOS: Intel chip version: about 55.1 MB<br>M-series chip version: about 51.3 MB | -           |
| 100.10.6 (in maintenance) | 2024-11-27  | Android UI SDK  | <a href="#">hwmsdk-android-100.10.6.zip</a><br>Integrity check: <a href="#">hwmsdk-android-100.10.6-sha256</a>   | 32-bit: 35.0 MB<br>64-bit: 37.4 MB<br>32-bit + 64-bit: 57.4 MB  | -           |
|                           |             | iOS UI SDK      | <a href="#">hwmsdk-ios-100.10.6.zip</a><br>Integrity check: <a href="#">hwmsdk-iOS-100.10.6-sha256</a>           | 30.9 MB   | -           |

| Version | Released On | Resource        | Download Link  | Incremental Installation Package Size  | Description |
|---------|-------------|-----------------|--|--|-------------|
|         |             | Windows UI SDK  | <a href="#">hwmsdk-win-100.10.6.zip</a><br>Integrity check: <a href="#">hwmsdk-win-100.10.6-sha256</a>           | About 102.9 MB   | -           |
|         |             | macOS UI SDK    | <a href="#">hwmsdk-mac-100.10.6.zip</a><br>Integrity check: <a href="#">hwmsdk-mac-100.10.6-sha256</a>           | Intel chip version: about 55.1 MB<br>M-series chip version: about 51.3 MB                                      | -           |
|         |             | Electron UI SDK | <a href="#">hwmsdk-electron-100.10.6.zip</a><br>Integrity check: <a href="#">hwmsdk-electron-100.10.6-sha256</a> | Windows: about 102.9 MB<br>macOS:<br>Intel chip version: about 55.1 MB<br>M-series chip version: about 51.3 MB | -           |



| Version                   | Released On | Resource       | Download Link  | Incremental Installation Package Size                                     | Description  |
|---------------------------|-------------|----------------|--|---|--|
| 100.10.5 (in maintenance) | 2024-11-19  | Android UI SDK | <a href="#">hwmsdk-android-100.10.5.zip</a><br>Integrity check: <a href="#">hwmsdk-android-100.10.5-sha256</a> | 32-bit: 35.0 MB<br>64-bit: 37.4 MB<br>32-bit + 64-bit: 57.4 MB            | Changed the class name of the button for allowing sharing. If you have customized this button, you need to change its class name from <b>SwitchMenu</b> to <b>TextMenu</b> . For details, see <a href="#">Android Menu Functions</a> . |
|                           |             | iOS UI SDK     | <a href="#">hwmsdk-ios-100.10.5.zip</a><br>Integrity check: <a href="#">hwmsdk-ios-100.10.5-sha256</a>         | 30.9 MB   | -  |
|                           |             | Windows UI SDK | <a href="#">hwmsdk-win-100.10.5.zip</a><br>Integrity check: <a href="#">hwmsdk-win-100.10.5-sha256</a>         | About 102.9 MB  | -  |
|                           |             | macOS UI SDK   | <a href="#">hwmsdk-mac-100.10.5.zip</a><br>Integrity check: <a href="#">hwmsdk-mac-100.10.5-sha256</a>         | Intel chip version: about 55.1 MB<br>M-series chip version: about 51.3 MB | Added the SDK for devices with Apple-developed M-series chips.   |

| Version                  | Released On | Resource        | Download Link  | Incremental Installation Package Size   | Description  |
|--------------------------|-------------|-----------------|--|---|--|
|                          |             | Electron UI SDK | <a href="#">hwmsdk-electron-100.10.5.zip</a><br>Integrity check: <a href="#">hwmsdk-electron-100.10.5-sha256</a> | Windows: about 102.9 MB<br>macOS: Intel chip version: about 55.1 MB<br>M-series chip version: about 51.3 MB | Added the macOS SDK for devices with Apple-developed M-series chips. |
| 100.9.7 (in maintenance) | 2024-10-31  | Android UI SDK  | <a href="#">hwmsdk-android-100.9.7.zip</a><br>Integrity check: <a href="#">hwmsdk-android-100.9.7-sha256</a>     | 32-bit: 35.0 MB<br>64-bit: 37.4 MB<br>32-bit + 64-bit: 57.3 MB  | -  |
|                          |             | iOS UI SDK      | <a href="#">hwmsdk-ios-100.9.7.zip</a><br>Integrity check: <a href="#">hwmsdk-ios-100.9.7-sha256</a>             | 30.8 MB   | -  |
|                          |             | Windows UI SDK  | <a href="#">hwmsdk-win-100.9.7.zip</a><br>Integrity check: <a href="#">hwmsdk-win-100.9.7-sha256</a>             | About 102.9 MB  | -  |
|                          |             | macOS UI SDK    | <a href="#">hwmsdk-mac-100.9.7.zip</a><br>Integrity check: <a href="#">hwmsdk-mac-100.9.7-sha256</a>             | About 55 MB   | -  |

| Version                  | Released On | Resource        | Download Link  | Incremental Installation Package Size                          | Description |
|--------------------------|-------------|-----------------|--|--|-------------|
|                          |             | Electron UI SDK | <a href="#">hwmsdk-electron-100.9.7.zip</a><br>Integrity check: <a href="#">hwmsdk-electron-100.9.7-sha256</a> | Windows: about 102.9 MB<br>macOS: about 55 MB                  | -           |
| 100.9.5 (in maintenance) | 2024-10-12  | Android UI SDK  | <a href="#">hwmsdk-android-100.9.5.zip</a><br>Integrity check: <a href="#">hwmsdk-android-100.9.5-sha256</a>   | 32-bit: 35.0 MB<br>64-bit: 37.4 MB<br>32-bit + 64-bit: 57.3 MB | -           |
|                          |             | iOS UI SDK      | <a href="#">hwmsdk-ios-100.9.5.zip</a><br>Integrity check: <a href="#">hwmsdk-ios-100.9.5-sha256</a>           | 30.8 MB  | -           |
|                          |             | Windows UI SDK  | <a href="#">hwmsdk-win-100.9.5.zip</a><br>Integrity check: <a href="#">hwmsdk-win-100.9.5-sha256</a>           | About 102.9 MB   | -           |
|                          |             | macOS UI SDK    | <a href="#">hwmsdk-mac-100.9.5.zip</a><br>Integrity check: <a href="#">hwmsdk-mac-100.9.5-sha256</a>           | About 55 MB  | -           |
|                          |             | Electron UI SDK | <a href="#">hwmsdk-electron-100.9.5.zip</a><br>Integrity check: <a href="#">hwmsdk-electron-100.9.5-sha256</a> | Windows: about 102.9 MB<br>macOS: about 55 MB                  | -           |

| Version                   | Released On | Resource        | Download Link  | Incremental Installation Package Size                          | Description |
|---------------------------|-------------|-----------------|--|--|-------------|
| 100.7.13 (in maintenance) | 2024-10-12  | Android UI SDK  | <a href="#">hwmsdk-android-100.7.13.zip</a><br>Integrity check: <a href="#">hwmsdk-android-100.7.13-sha256</a>   | 32-bit: 36.2 MB<br>64-bit: 38.6 MB<br>32-bit + 64-bit: 58.7 MB | -           |
|                           |             | iOS UI SDK      | <a href="#">hwmsdk-ios-100.7.13.zip</a><br>Integrity check: <a href="#">hwmsdk-iOS-100.7.13-sha256</a>           | 30.6 MB  | -           |
|                           |             | Windows UI SDK  | <a href="#">hwmsdk-win-100.7.13.zip</a><br>Integrity check: <a href="#">hwmsdk-win-100.7.13-sha256</a>           | About 102.9 MB   | -           |
|                           |             | macOS UI SDK    | <a href="#">hwmsdk-mac-100.7.13.zip</a><br>Integrity check: <a href="#">hwmsdk-mac-100.7.13-sha256</a>           | About 54.9 MB  | -           |
|                           |             | Electron UI SDK | <a href="#">hwmsdk-electron-100.7.13.zip</a><br>Integrity check: <a href="#">hwmsdk-electron-100.7.13-sha256</a> | Windows: about 102.9 MB<br>macOS: about 54.9 MB                | -           |
| 100.7.8 (in maintenance)  | 2024-08-23  | Android UI SDK  | <a href="#">hwmsdk-android-100.7.8.zip</a><br>Integrity check: <a href="#">hwmsdk-android-100.7.8-sha256</a>     | 32-bit: 36.2 MB<br>64-bit: 38.6 MB<br>32-bit + 64-bit: 58.7 MB | -           |

| Version                  | Released On | Resource        | Download Link  | Incremental Installation Package Size                          | Description |
|--------------------------|-------------|-----------------|--|--|-------------|
|                          |             | iOS UI SDK      | <a href="#">hwmsdk-ios-100.7.8.zip</a><br>Integrity check: <a href="#">hwmsdk-ios-100.7.8-sha256</a>           | 30.6 MB  | -           |
|                          |             | Windows UI SDK  | <a href="#">hwmsdk-win-100.7.8.zip</a><br>Integrity check: <a href="#">hwmsdk-win-100.7.8-sha256</a>           | About 102.9 MB   | -           |
|                          |             | macOS UI SDK    | <a href="#">hwmsdk-mac-100.7.8.zip</a><br>Integrity check: <a href="#">hwmsdk-mac-100.7.8-sha256</a>           | About 54.9 MB  | -           |
|                          |             | Electron UI SDK | <a href="#">hwmsdk-electron-100.7.8.zip</a><br>Integrity check: <a href="#">hwmsdk-electron-100.7.8-sha256</a> | Windows: about 102.9 MB<br>macOS: about 54.9 MB                | -           |
| 100.7.6 (in maintenance) | 2024-08-16  | Android UI SDK  | <a href="#">hwmsdk-android-100.7.6.zip</a><br>Integrity check: <a href="#">hwmsdk-android-100.7.6-sha256</a>   | 32-bit: 36.2 MB<br>64-bit: 38.6 MB<br>32-bit + 64-bit: 58.7 MB | -           |
|                          |             | iOS UI SDK      | <a href="#">hwmsdk-ios-100.7.6.zip</a><br>Integrity check: <a href="#">hwmsdk-ios-100.7.6-sha256</a>           | 30.6 MB  | -           |

| Version | Released On | Resource        | Download Link  | Incremental Installation Package Size           | Description |
|---------|-------------|-----------------|--|---|-------------|
|         |             | Windows UI SDK  | <a href="#">hwmsdk-win-100.7.6.zip</a><br>Integrity check: <a href="#">hwmsdk-win-100.7.6-sha256</a>           | About 102.9 MB                                  | -           |
|         |             | macOS UI SDK    | <a href="#">hwmsdk-mac-100.7.6.zip</a><br>Integrity check: <a href="#">hwmsdk-mac-100.7.6-sha256</a>           | About 54.9 MB                                   | -           |
|         |             | Electron UI SDK | <a href="#">hwmsdk-electron-100.7.6.zip</a><br>Integrity check: <a href="#">hwmsdk-electron-100.7.6-sha256</a> | Windows: about 102.9 MB<br>macOS: about 54.9 MB | -           |

 NOTE

1. For details about how to select a 32-bit or 64-bit version for the Android SDK, see [How Do I Configure 64-bit Libraries?](#)

## 4.2 Verifying Integrity of an App SDK Package

### Function

Check the integrity of downloaded SDK packages, that is, check whether the packages are tampered with or packets are lost during download.

### Procedure

1. Obtain the download path of the Android/iOS/Windows/macOS/Electron UI SDK package from [Downloading an App SDK](#).
2. Download the SDK package to your device.
3. Open the CLI and run the following command to generate the SHA-256 value of the downloaded SDK package. In the command, **D:\hwmsdk-win-80.12.7.zip** indicates the local path for storing the SDK package and the SDK package name. Replace it with the actual value.

```
certutil -hashfile D:\hwmsdk-win-80.12.7.zip SHA256
```

The following is an example of the command output:

```
SHA256 D:\hwmsdk-win-80.12.7.zip hash:  
85a691c46a56572ea092945e9565f7927e6c1b4c612b35d01b1c8a9524f8c498  
CertUtil: -hashfile Command executed
```

Compare the generated SHA-256 value with that listed in the package download path table. If they are the same, no tampering or packet loss occurred during download.

# 5 SDK Maintenance Cycle

The maintenance cycle of Huawei Cloud Meeting UI SDKs is one year. [Table 5-1](#) describes the maintenance cycle of each version.

**Table 5-1** Android/iOS/Windows/macOS/Electron UI SDK maintenance cycle

| Version  | Released On | Maintenance End Time |
|----------|-------------|----------------------|
| 100.10.7 | 2024-12-04  | 2025-12-03           |
| 100.10.6 | 2024-11-27  | 2025-11-26           |
| 100.10.5 | 2024-11-19  | 2025-11-18           |
| 100.9.7  | 2024-10-31  | 2025-10-30           |
| 100.9.5  | 2024-10-12  | 2025-10-11           |
| 100.7.13 | 2024-10-12  | 2025-10-11           |
| 100.7.8  | 2024-08-23  | 2025-08-22           |
| 100.7.6  | 2024-08-16  | 2025-08-15           |
| 100.7.5  | 2024-08-08  | 2025-08-07           |
| 100.5.5  | 2024-06-13  | 2025-06-12           |
| 100.3.7  | 2024-05-21  | 2025-05-20           |
| 100.3.6  | 2024-04-23  | 2025-04-22           |
| 90.12.7  | 2024-02-17  | 2025-02-16           |
| 90.12.5  | 2024-01-10  | 2025-01-09           |
| 90.10.8  | 2023-12-14  | 2024-12-13           |
| 90.10.5  | 2023-11-23  | 2024-11-22           |



Versions earlier than 90.10.5 are no longer maintained. If any problem occurs during using them, upgrade them to the latest version.

# 6 Android SDK

---

## 6.1 Introduction

The Android SDK of Huawei Cloud Meeting provides a complete set of APIs for secondary development. You can call these APIs to quickly integrate voice and video meeting functions, including creating, scheduling, and joining meetings, and sharing screens.

### NOTE

- The Android SDK can run only on mainstream mobile phones and tablets. If it runs on an Android device with custom hardware, issues such as low image resolution, incorrect image rotation angle, and audio feedback may occur.
- The Android SDK cannot be used for secondary development on HUAWEI Vision or IdeaHub.

## 6.2 Getting Started

This document is intended for developers who have mastered some Android native development knowledge. It describes how to use the SDK to perform secondary development by taking the process of logging in to Huawei Cloud Meeting and initiating and joining a video meeting as an example.

### Preparations

Prepare the following environment:

#### **Environment requirements (mandatory)**

The following environment provides reference for the personnel who compile and run the source code:





#### **Environment requirements (optional)**

## SDK Integration

### Step 1 Decompress the SDK package.

Download and decompress the software package to obtain the files shown in the figure below.

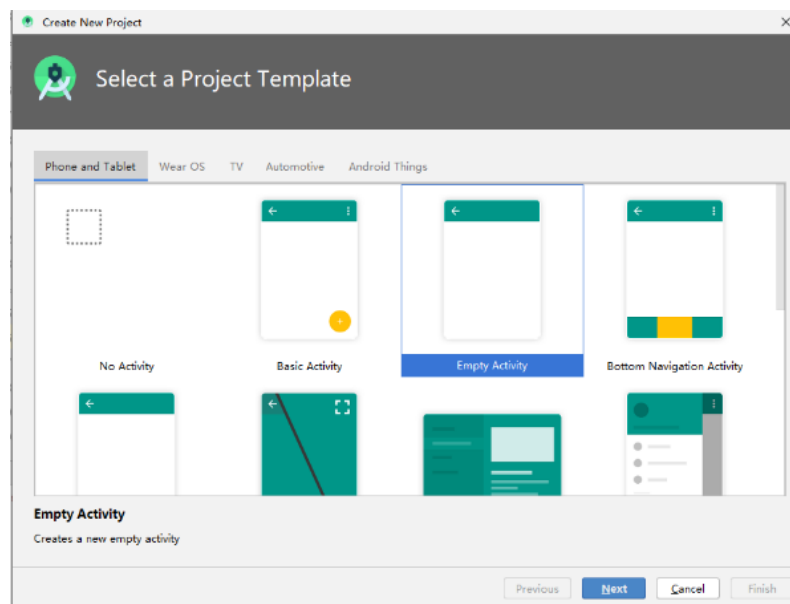
Figure 6-1 File directory

|   |                |
|---|----------------|
|  HWMDemo           | 2024/7/11 3:17 |
|  languagetemplates | 2024/7/11 3:17 |
|  libs              | 2024/7/11 3:17 |
|  roomslibs         | 2024/7/11 3:17 |

### Step 2 Create a project.

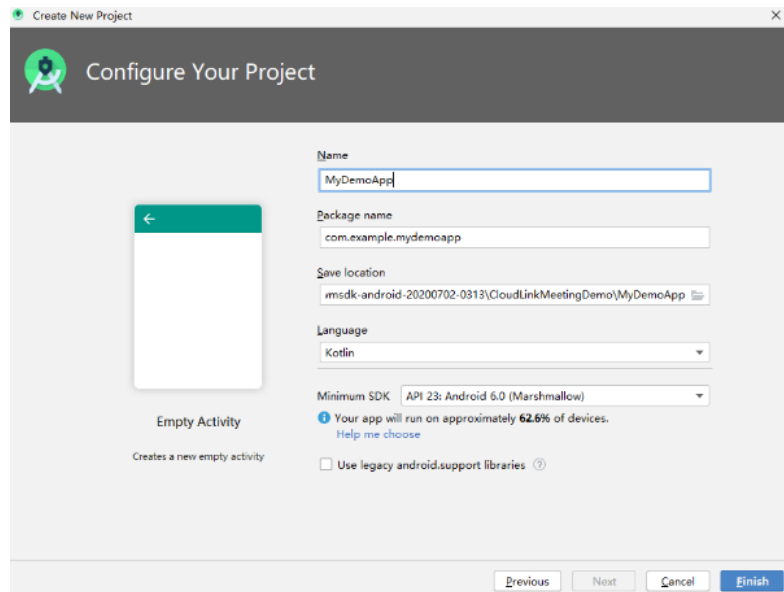
- Open Android Studio, choose **File > New > New Project**, choose **Phone and Tablet > Empty Activity**, and click **Next**.

Figure 6-2 Creating a project



- Enter project information and click **Finish**. (Note that the minimum Android API version is 23.)

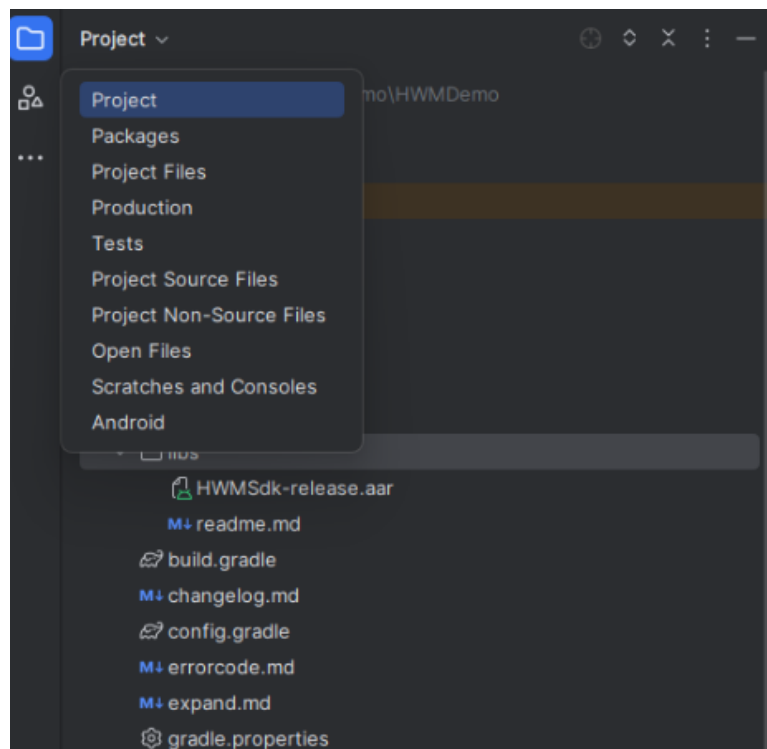
**Figure 6-3** Setting project information



**Step 3 Integrate the SDK.**

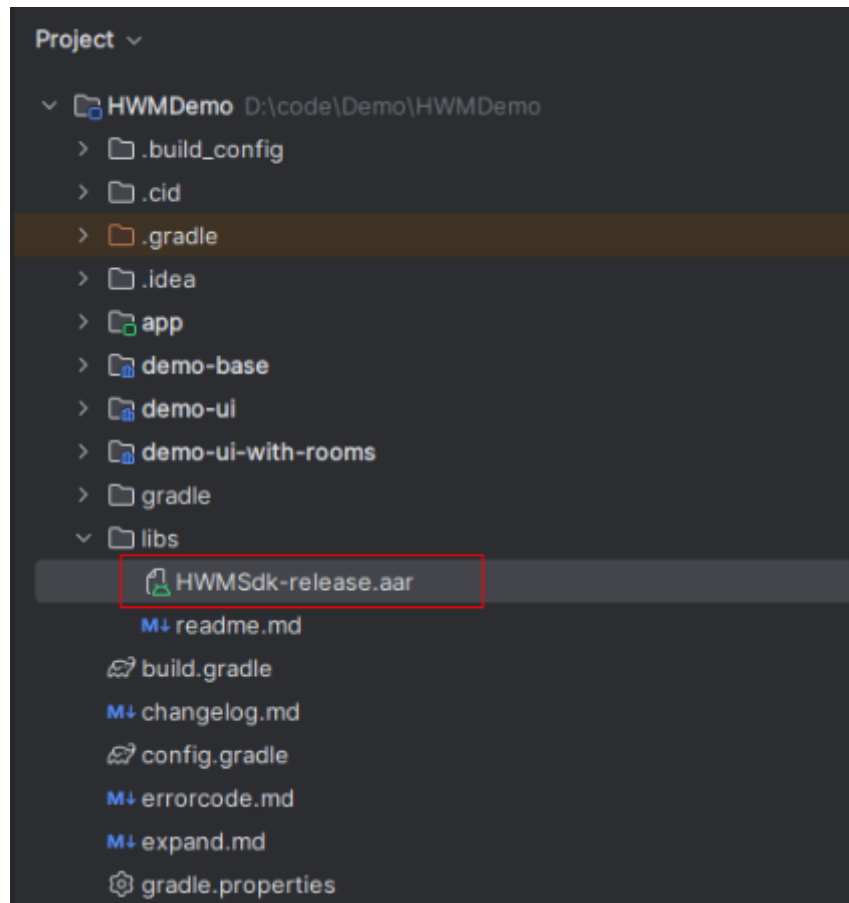
- In Android Studio, switch the project directory to **Project**.

**Figure 6-4** Switching to Project



- Copy the **.aar** packages in the **libs** directory to your project directory.

**Figure 6-5** Adding the .aar packages



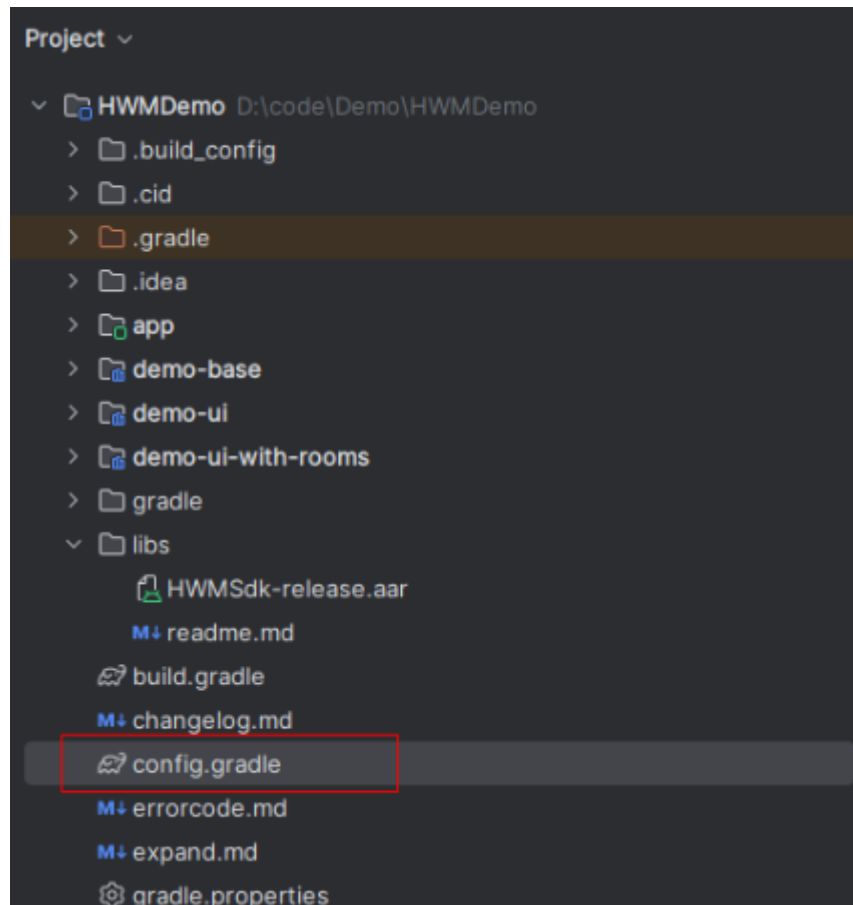
**Step 4 Add dependencies.**

- Add a third-party dependency.

The SDK depends on some open-source libraries. You must add dependencies on these libraries in Gradle as follows:

Create the **config.gradle** file in the root directory of the project. (If you have created a unified configuration file, refer to the **config.gradle** file in the demo to configure the version.)

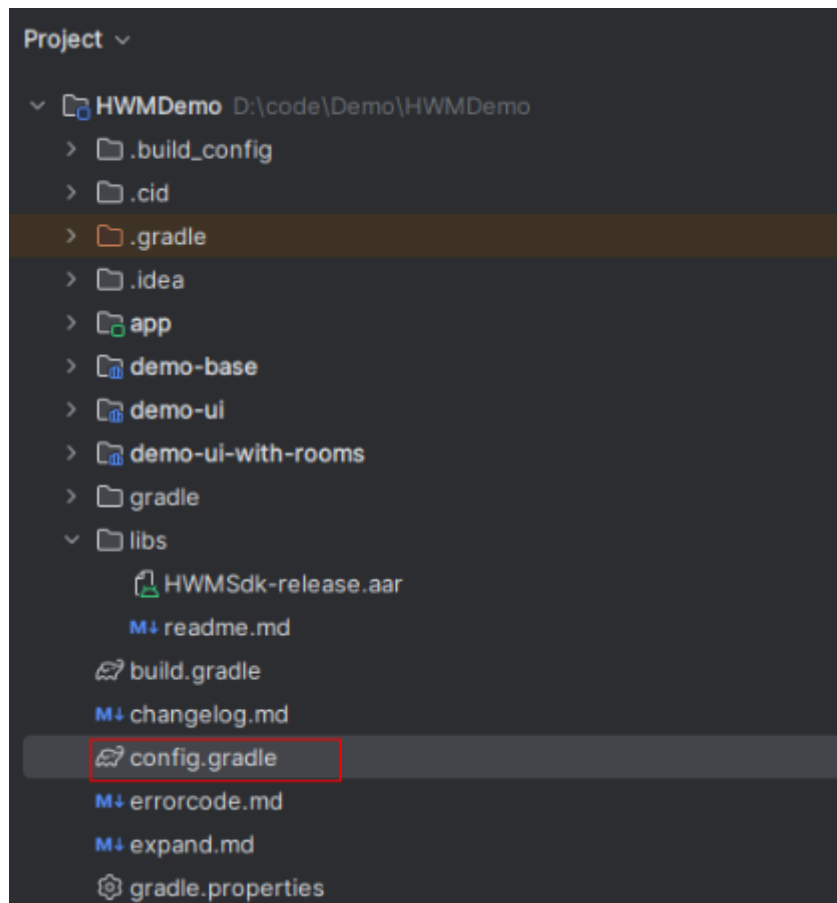
**Figure 6-6** Opening the config.gradle file



- Add the following information to the first line of the **build.gradle** file:  
apply from:"config.gradle"

The third-party dependency statement and version number used in config.gradle are as follows:

```
"rxandroid"      : 'io.reactivex.rxjava3:rxandroid:3.0.2',
"appcompat-v7"  : 'androidx.appcompat:appcompat:1.4.1',
"vectordrawable" : 'androidx.vectordrawable:vectordrawable:1.2.0-beta01',
"rxjava"        : 'io.reactivex.rxjava3:rxjava:3.0.13',
"recyclerview"  : 'androidx.recyclerview:recyclerview:1.2.1',
"palette"       : 'androidx.palette:palette:1.0.0',
"aspectjrt"     : 'org.aspectj:aspectjrt:1.9.6',
"okhttp"        : 'com.squareup.okhttp3:okhttp:4.11.0',
"gson"          : 'com.google.code.gson:gson:2.10.1',
"design"         : 'com.google.android.material:material:1.6.1',
"annotations"   : 'androidx.annotation:annotation:1.0.0',
"lifecycle-process" : 'androidx.lifecycle:lifecycle-process:2.5.1',
"eventbus"      : 'org.greenrobot:eventbus:3.2.0',
"tinypinyin"    : 'com.github.promeg:tinypinyin:3.0.0',
"constraint-layout" : 'androidx.constraintlayout:constraintlayout:2.0.4',
"glide"         : 'com.github.bumptech.glide:glide:4.11.0',
"glide:compiler" : 'com.github.bumptech.glide:compiler:4.11.0',
"legacy"        : 'androidx.legacy:legacy-support-v13:1.0.0',
"swiperefreshlayout" : 'androidx.swiperefreshlayout:swiperefreshlayout:1.1.0',
"viewbinding"   : 'androidx.databinding:viewbinding:7.1.3'
```

**Figure 6-7** Setting the project build.gradle

- Add the open-source package dependencies and meeting SDK dependencies to **app/build.gradle**.

#### NOTE

The original Android Support Library is no longer maintained or evolved by Google. Therefore, Android 28 will be upgraded to AndroidX.

**Since the 70.8.5 version released in August, Huawei Cloud Meeting will no longer be developed based on the Support Library. Instead, AndroidX will be used for iteration.**

If you are still using the original Android Support Library dependency:

- It is recommended that you change it to the AndroidX dependency. Otherwise, you may fail to connect to the AndroidX SDK version in subsequent development. For details, see [Getting Started](#).
- If you cannot upgrade to Android X as soon as possible, we will provide the original SDK developed based on the Support Library and maintain the SDK for six months. During the maintenance period, you can still integrate our SDK of 70.7.5 and earlier versions for development. Issues found in these versions will be fixed and updated. However, new functions in later iterations will be implemented only on the SDK of AndroidX.

```
// Some third-party frameworks used by the SDK
api rootProject.ext.dependencies["appcompat-v7"]
api rootProject.ext.dependencies["recyclerview"]
api rootProject.ext.dependencies["design"]
```

```
api rootProject.ext.dependencies["aspectjrt"]
api rootProject.ext.dependencies["rxandroid"]
api rootProject.ext.dependencies["constraint-layout"]
api rootProject.ext.dependencies["glide"]

implementation rootProject.ext.dependencies["rxjava"]
implementation rootProject.ext.dependencies["gson"]
implementation rootProject.ext.dependencies["eventbus"]
implementation rootProject.ext.dependencies["okhttp"]
implementation rootProject.ext.dependencies["lifecycle-process"]
implementation rootProject.ext.dependencies["viewbinding"]
implementation rootProject.ext.dependencies["swiperefreshlayout"]
// Add the meeting dependencies.
implementation(name: 'hwmmediapicker-release', ext: 'aar')
implementation(name: 'HWMSdk-release', ext: 'aar')
```

- Add the following to **project/build.gradle allprojects/repositories**:  

```
flatDir { dirs 'libs' }
```

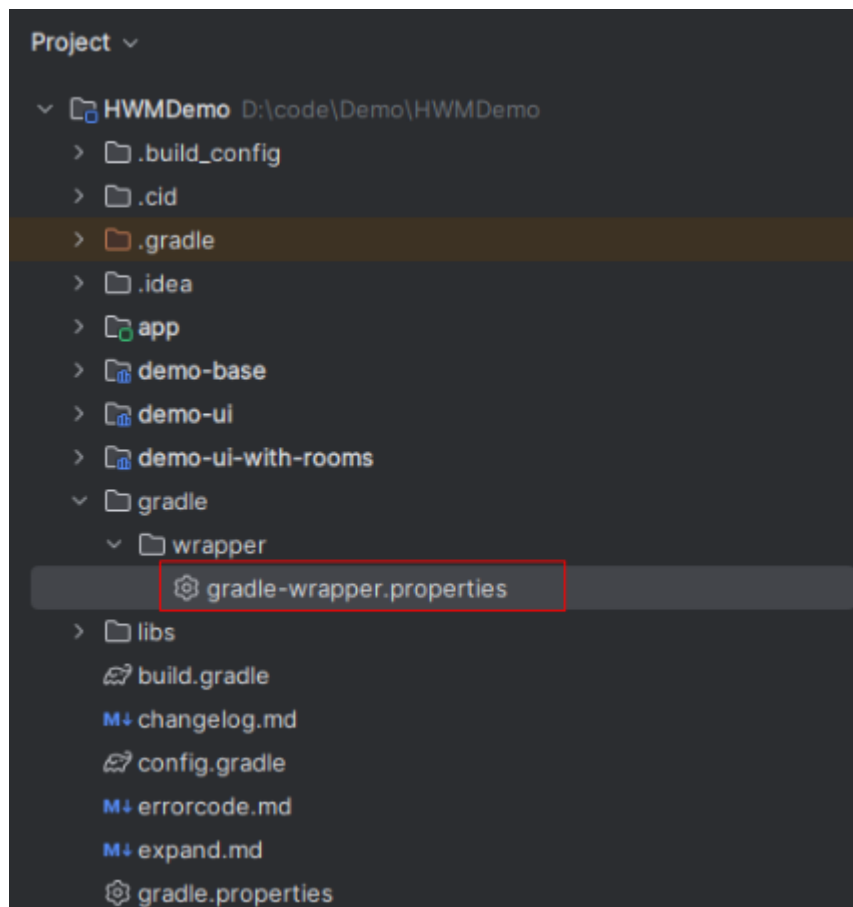
If Google cannot be connected, you can add your own Maven repository.

**Figure 6-8** Adding a Maven repository

```
repositories {
    flatDir { dirs 'libs' }
    maven { url 'http://maven.aliyun.com/nexus/content/repositories/jcenter/' }
    maven { url 'http://developer.huawei.com/repo/' }
}
```

- Configure **gradle-wrapper.properties** by following the instructions provided in [Configuring gradle-wrapper.properties](#).



**Figure 6-9** gradle-wrapper.properties

- Choose **Build > make project** and wait until the project compilation is complete.

**NOTE**

If **libc++\_shared.so** is integrated into the application layer, no configuration is required. If the dynamic library is used in the **.aar** package of a third-party library, you only need to add the following configuration in the **build.gradle** file:

```
packagingOptions {  
    merge lib/armeabi-v7a/libc++shared.so  
}
```

**Step 5** Configure the obfuscation script.

- Add the following information to the **build.gradle** file to configure the obfuscation script:

```
buildTypes {  
    release {  
        minifyEnabled true  
        proguardFiles getDefaultProguardFile('proguard-android.txt'), 'proguard-rules.pro'  
    }  
}
```

- Add the following information to the **proguard-rules.pro** file:  
# Do not enable optimization, because Android dex does not require optimize and preverify.  
-dontoptimize  
# Do not use case-sensitive class names. Windows users must set this option for ProGuard,

```
# because Windows is case-insensitive. For example, a.java and A.java are considered as the same file.
# If you do not do so and there are more than 26 classes in your project, ProGuard will use case-
insensitive file names by default, causing class files to overwrite.
-dontusemixedcaseclassnames
# Specify that non-public library classes and members are not ignored.
-dontskipnonpubliclibraryclasses
-dontskipnonpubliclibraryclassmembers
# If an exception is thrown, the code line number is kept unobfuscated to facilitate fault locating.
-keepattributes SourceFile,LineNumberTable
# Rename the file that throws an exception to facilitate fault locating.
-renamesourcefileattribute SourceFile
# A mapping file is generated after obfuscation.
# This file contains the mappings between the class names and the obfuscated class names.
# Use printmapping to specify the name of the file.
-verbose
# Preverify is not required. (Preverify is one of the four steps of ProGuard.)
# Android does not require preverify. Remove this step to speed up obfuscation.
-dontpreverify
# The dump.txt file lists the internal structure of all classes in the .apk package.
-dump class_files.txt
# The seeds.txt file lists the classes and members that are not obfuscated.
-printseeds seeds.txt
# The usage.txt file lists the code deleted from the .apk package.
-printusage usage.txt
# The mapping.txt file lists the mapping before and after the obfuscation.
-printmapping mapping.txt

# Ignore the classes that are not modified by public in the library.
# Non-public classes in the library cannot be used by programs. Ignore these classes to speed up
obfuscation.
# Note that this step cannot be performed in the following special case: The code written by the
developer is in the same package as the classes in the class library, and the non-public classes of the
package are used.
-skipnonpubliclibraryclasses

# Keep the annotation unobfuscated, because the annotation is implemented through the reflection
mechanism.
-keepattributes *Annotation*
# Keep the JavaScript interface unobfuscated.
-keepattributes *JavascriptInterface*
# Keep exceptions unobfuscated.
-keepattributes Exceptions
# Keep inner classes unobfuscated.
-keepattributes InnerClasses
# Keep the generics unobfuscated.
-keepattributes Signature

# Keep the local native methods unobfuscated.
-keepclasseswithmembernames class * {
    native <methods>;
}
# Keep enumeration classes unobfuscated.
-keepclassmembers enum * {
    public static **[] values();
    public static ** valueOf(java.lang.String);
}
# Keep the Parcelable class unobfuscated.
-keep class * implements android.os.Parcelable {
    public static final android.os.Parcelable$Creator *;
}
# Keep the Serializable class unobfuscated.
-keepclassmembers class * implements java.io.Serializable {
    static final long serialVersionUID;
    private static final java.io.ObjectStreamField[] serialPersistentFields;
    !static !transient <fields>;
    !private <fields>;
```

```
!private <methods>;
private void writeObject(java.io.ObjectOutputStream);
private void readObject(java.io.ObjectInputStream);
java.lang.Object writeReplace();
java.lang.Object readResolve();
}
# Keep the resource application name unobfuscated.
-keepclassmembers class **.R$* {
    public static <fields>;
}
# Ignore the warnings in the support package.
-dontwarn android.support.**
# Keep the animations in the support package unobfuscated.
-keep class android.support.annotation.Keep
-keep @android.support.annotation.Keep class * {*;}
-keepclasseswithmembers class * {
    @android.support.annotation.Keep <methods>;
}
-keepclasseswithmembers class * {
    @android.support.annotation.Keep <fields>;
}
-keepclasseswithmembers class * {
    @android.support.annotation.Keep <init>(…);
}
# Keep the system class libraries unobfuscated.
-keep public class * extends android.app.Activity
-keep public class * extends android.app.Application
-keep public class * extends android.app.Service
-keep public class * extends android.content.BroadcastReceiver
-keep public class * extends android.preference.Preference
-keep public class * extends android.content.ContentProvider
-keep public class * extends android.view.View {
    public <init>(android.content.Context);
    public <init>(android.content.Context, android.util.AttributeSet);
    public <init>(android.content.Context, android.util.AttributeSet, int);
    public void set*(…);
}
# Keep Huawei SDK-related configurations unobfuscated.
-keep class com.hianalytics.android.**{*;}
-keep class com.huawei.updatesdk.**{*;}
-keep class com.huawei.hms.**{*;}
-keep class com.huawei.android.hms.agent.**{*;}
# OKhttp obfuscation configuration.
#https://github.com/square/okhttp/blob/5fe3cc2d089810032671d6135ad137af6f491d28/
README.md#proguard
-dontwarn okhttp3.**
-dontwarn okio.**
-dontwarn javax.annotation.**
-dontwarn org.conscrypt.**
# A resource is loaded with a relative path so the package of this class must be preserved.
-keepnames class okhttp3.internal.publicsuffix.PublicSuffixDatabase
# EventBus obfuscation configuration.
#http://greenrobot.org/eventbus/documentation/proguard/
-keepclassmembers class ** {
    @org.greenrobot.eventbus.Subscribe <methods>;
}
-keep enum org.greenrobot.eventbus.ThreadMode { *; }
# Only required if you use AsyncExecutor
#-keepclassmembers class * extends org.greenrobot.eventbus.util.ThrowableFailureEvent {
#    <init>(java.lang.Throwable);
#}

# Keep HME java unobfuscated, because HMW-Video.jar will be invoked in C++.
-keep class com.huawei.media.audio.AudioDeviceAndroid { *;}
-keep class com.huawei.media.audio.AudioDeviceAndroidService { *;}
-keep class com.huawei.media.audio.JniAudioDeviceImpl { *;}
-keep class com.huawei.media.audio.JniAudioDeviceMeetingImpl { *;}
-keep class com.huawei.media.audio.JniAudioDeviceRtclImpl { *;}
```

```
-keep class com.huawei.media.video.Camera2Characteristic { *;}
-keep class com.huawei.media.video.CaptureCapabilityAndroid { *;}
-keep class com.huawei.media.video.DeviceInfo { *;}
-keep class com.huawei.media.video.H264Decoder { *;}
-keep class com.huawei.media.video.HmeDefinitions { *;}
-keep class com.huawei.media.video.JNIBridge { *;}
-keep class com.huawei.media.video.JNIBridgeImpl { *;}
-keep class com.huawei.media.video.JNIMeetingImpl { *;}
-keep class com.huawei.media.video.JNIRtcImpl { *;}
-keep class com.huawei.media.video.KirinMediaCodecEncoder { *;}
-keep class com.huawei.media.video.LogFile { *;}
-keep class com.huawei.media.video.MediaCodecDecoder { *;}
-keep class com.huawei.media.video.MediaCodecEncoder { *;}
-keep class com.huawei.media.video.ScreenCaptureImageActivity { *;}
-keep class com.huawei.media.video.SurfaceEncoder { *;}
-keep class com.huawei.media.video.VideoCapture { *;}
-keep class com.huawei.media.video.VideoCapture2Android { *;}
-keep class com.huawei.media.video.VideoCaptureAndroid { *;}
-keep class com.huawei.media.video.VideoCaptureDeviceInfo { *;}
-keep class com.huawei.media.video.VideoCaptureDeviceInfoAndroid { *;}
-keep class com.huawei.media.video.VideoRender { *;}
-keep class com.huawei.media.video.VideoRenderNoGLES { *;}
-keep class com.huawei.media.video.ViEAndroidGLES20 { *;}
-keep class com.huawei.media.video.ViERenderer { *;}
-keep class com.huawei.media.video.ViESurfaceRenderer { *;}
-keep class com.huawei.media.video.VtNativeDecoder { *;}
-keep class com.huawei.media.video.codec.KirinDecoder { *;}
-keep class com.huawei.media.video.codec.KirinEncoder { *;}
-keep class com.huawei.media.video.codec.** { *;}
-keep class com.huawei.media.video.Camera2VideoCapture { *;}
-keep class com.huawei.media.video.capture.Camera2EncodedImageReader { *;}
-keep class com.huawei.media.video.capture.Camera2TextureImageReader { *;}
-keep class com.huawei.media.video.capture.Camera2VideoCaptureImpl { *;}
-keep class com.huawei.media.video.capture.Camera2YUVImageReader { *;}
-keep class com.huawei.media.video.capture.CaptureRequestExKeyUtils { *;}
-keep class com.huawei.media.video.capture.StreamConfig { *;}
-keep class com.huawei.media.video.capture.StreamResolution { *;}
-keep class com.huawei.media.video.capture.VideoCaptureDevInfoCamera2Impl { *;}
-keep class com.huawei.media.mcuvideo.CaptureCapabilityAndroid { *;}
-keep class com.huawei.media.mcuvideo.HmeDefinitions { *;}
-keep class com.huawei.media.mcuvideo.JNIBridge { *;}
-keep class com.huawei.media.mcuvideo.LogFile { *;}
-keep class com.huawei.media.mcuvideo.MediaCodecDecoder { *;}
-keep class com.huawei.media.mcuvideo.MediaCodecEncoder { *;}
-keep class com.huawei.media.mcuvideo.VideoCapture { *;}
-keep class com.huawei.media.mcuvideo.VideoCaptureDeviceInfo { *;}
-keep class com.huawei.media.mcuvideo.VideoRender { *;}
-keep class com.huawei.media.mcuvideo.VideoRenderNoGLES { *;}
-keep class com.huawei.media.mcuvideo.ViERenderer { *;}
-keep class com.huawei.media.mcuvideo.codec.** { *;}
-keep class com.huawei.media.mcuvideo.capture.Camera2EncodedImageReader { *;}
-keep class com.huawei.media.mcuvideo.capture.Camera2TextureImageReader { *;}
-keep class com.huawei.media.mcuvideo.capture.Camera2VideoCaptureImpl { *;}
-keep class com.huawei.media.mcuvideo.capture.Camera2YUVImageReader { *;}
-keep class com.huawei.media.mcuvideo.capture.CaptureRequestExKeyUtils { *;}
-keep class com.huawei.media.mcuvideo.capture.StreamConfig { *;}
-keep class com.huawei.media.mcuvideo.capture.StreamResolution { *;}
-keep class com.huawei.media.mcuvideo.capture.VideoCaptureDevInfoCamera2Impl { *;}
-keep class com.huawei.media.oldvideo.CaptureCapabilityAndroid { *;}
-keep class com.huawei.media.oldvideo.HmeDefinitions { *;}
-keep class com.huawei.media.oldvideo.JNIBridge { *;}
-keep class com.huawei.media.oldvideo.LogFile { *;}
-keep class com.huawei.media.oldvideo.MediaCodecDecoder { *;}
-keep class com.huawei.media.oldvideo.MediaCodecEncoder { *;}
-keep class com.huawei.media.oldvideo.VideoCapture { *;}
-keep class com.huawei.media.oldvideo.VideoCaptureDeviceInfo { *;}
-keep class com.huawei.media.oldvideo.VideoRender { *;}
-keep class com.huawei.media.oldvideo.VideoRenderNoGLES { *;}
-keep class com.huawei.media.oldvideo.ViERenderer { *;}
```

```
-keep class com.huawei.media.oldvideo.codec.** { *;}
# Keep TUP Java unobfuscated, because it will be invoked in C++.
-keep class tupsdk.Tupmedia { *;} #TupCall.jar
-keep class com.huawei.media.data.Conference { *;} #TupConf.jar

-keep class imssdk.** { *;}
# RTC SDK obfuscation
-keep class com.huawei.mmr.**{*;}
-keep class com.huawei.mmrallplatform.**{*;}
### Native SDK obfuscation
-keep class com.huawei.hwmsdk.**{*;}
# Keep WebViewInterface unobfuscated.
-keepclassmembers class com.huawei.hwmlink.jsbridge.model.GHConfigModel {
    public *;
}
# Keep APIs unobfuscated.
-keep public class com.huawei.**Api { *;}
-keep class com.huawei.cloudlink.openapi.api.ICloudLinkOpenApi{*;}
-keep class com.huawei.cloudlink.openapi.api.impl.CloudLinkOpenApiImpl{*;}
-keep class com.huawei.hwmbiz.IBizOpenApi{*;}
-keep class com.huawei.hwmbiz.impl.BizOpenApiImpl{*;}
# Keep microservices unobfuscated. It is called using reflection. For details, see the Huawei Cloud
configuration.
-keep public class * extends com.huawei.hwmfoundation.microservice.HCMicroService
-keep public class * extends com.mapp.hcmobileframework.microapp.HCMicroApplicationDelegate
-keep public class * implements com.huawei.hwmlink.jsbridge.bridge.** { *;}
# Keep the constructors for the classes inherited from AbsCache unobfuscated, regardless of whether
they are being used. Otherwise, the constructors will be optimized.
-keepclassmembers class * {
    <init>(...);
}
# Keep RXJava unobfuscated, because there are hook operations inside it.
-keep class io.reactivex.**{*;}
# Keep custom annotations unobfuscated.
-keep public class com.huawei.hwmbiz.aspect.CheckToken
-keep public class com.huawei.hwmfoundation.hook.annotation.TimeConsume
-keep public class com.huawei.hwmfoundation.hook.annotation.HookDisable
-keep public class com.huawei.hwmfoundation.hook.annotation.HookNotNeeded
# Keep glide unobfuscated.
-keep class com.github.bumptech.glide.**{*;}
# Conversion from the JSON format into the javabean format is required. Obfuscation is not needed.
-keep public class * extends com.huawei.hwmfoundation.base.BaseModel{*;}
# Keep HMS SDK unobfuscated.
-ignorewarnings
-keepattributes *Annotation*
-keepattributes Exceptions
-keepattributes InnerClasses
-keepattributes Signature
-keepattributes SourceFile,LineNumberTable
-keep class com.hianalytics.android.**{*;}
-keep class com.huawei.updatesdk.**{*;}
-keep class com.huawei.hms.**{*;}
# AndroidX obfuscation configuration.
-keep class com.google.android.material.** { *;}
-keep class androidx.** { *;}
-keep public class * extends androidx.**
-keep interface androidx.** { *;}
-dontwarn com.google.android.material.**
-dontnote com.google.android.material.**
-dontwarn androidx.**
# Keep the route table unobfuscated. After the startup, the route table is summarized from the fixed
package.
-keep class com.huawei.cloudlink.router.routermap.** { *;}
# crashreport obfuscation configuration.
-keep public class com.huawei.crashreport.**{*;}
# IMSDK obfuscation configuration.
-keep class com.huawei.imsdk.ECSProxy { *;}
-keep class com.huawei.imsdk.msg.** { *;}
# Keep HWMUserState unobfuscated.
```

```
-keep public class com.huawei.cloudlink.openapi.model.HWMUserState{*;}
# Keep Netty unobfuscated. -keep class io.netty.**{*;} is required for projection.

# Keep demo code unobfuscated.
-keep class com.huawei.hwmdemo.** { *;}
```

## Step 6 Add permissions.

Add permissions required in the **AndroidManifest.xml** file.

```
<uses-permission android:name="android.permission.INTERNET" />
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE" />
<uses-permission android:name="android.permission.ACCESS_WIFI_STATE" />
<uses-permission android:name="android.permission.READ_PHONE_STATE" />
<uses-permission android:name="android.permission.CAMERA" />
<uses-permission android:name="android.permission.READ_CONTACTS" />
<uses-permission android:name="android.permission.MODIFY_AUDIO_SETTINGS" />
<uses-permission android:name="android.permission.RECORD_AUDIO" />
<uses-permission android:name="android.permission.WAKE_LOCK" />
<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
<uses-permission android:name="android.permission.DISABLE_KEYGUARD" />
<uses-permission android:name="android.permission.SYSTEM_ALERT_WINDOW" />
<uses-permission android:name="android.permission.REQUEST_INSTALL_PACKAGES" />
<uses-permission android:name="com.huawei.android.launcher.permission.CHANGE_BADGE" />
<uses-permission android:name="android.permission.BLUETOOTH" android:maxSdkVersion="30"/>
<uses-permission android:name="android.permission.BLUETOOTH_CONNECT" />
<uses-permission android:name="android.permission.VIBRATE" />
<uses-permission android:name="android.permission.READ_EXTERNAL_STORAGE" />
<uses-permission android:name="android.permission.SYSTEM_OVERLAY_WINDOW" />
<uses-permission android:name="android.permission.QUERY_ALL_PACKAGES"/>
<!--Enable the foreground server to keep connections alive during the meeting.-->
<uses-permission android:name="android.permission.FOREGROUND_SERVICE" />
```

## Step 7 Add the screen sharing service.

To use the screen sharing function, add the following service statement to the **AndroidManifest.xml** file:

```
<!-- Add the following configuration to the SDK. If the value of compileSdkVersion is greater than or equal to 29, add android:foregroundServiceType="mediaProjection". Otherwise, delete android:foregroundServiceType="mediaProjection".-->
<service android:name="com.huawei.hwmdemo.sdk.ScreenRecorderService"
    android:exported="false"
    android:enabled="true"/>
```

## Step 8 Initialize the SDK.

- It is recommended that the initialization be placed in **onCreate** of the application and called as early as possible, so that the SDK can obtain the current activity and jump to a specified page by listening to the activity lifecycle.

```
OpenSDKConfig sdkConfig = new OpenSDKConfig(this)
    .setAppId(getAppId()) // Set a unique app ID. You can enter the application name. This
    parameter is mandatory when the app ID is used for login.
HWMSdk.init(this,sdkConfig);
```

## Step 9 Learn the examples.

- **Login API**  
HWMSdk.getOpenApi(Application).login(LoginParam, HwmCallback<LoginResult>);
- **API for creating a meeting**  
HWMSdk.getOpenApi(Application).createConf(CreateConfParam, HwmCancelableCallBack<ConfInfo>);
- **API for joining a meeting**  
HWMSdk.getOpenApi(Application).joinConf(JoinConfParam, HwmCancelableCallBack<Void>);
- **Logout API**  
HWMSdk.getOpenApi(Application).logout(HwmCallback<LoginCompletedResult>);

After the preceding steps are complete, you can run the new demo project.

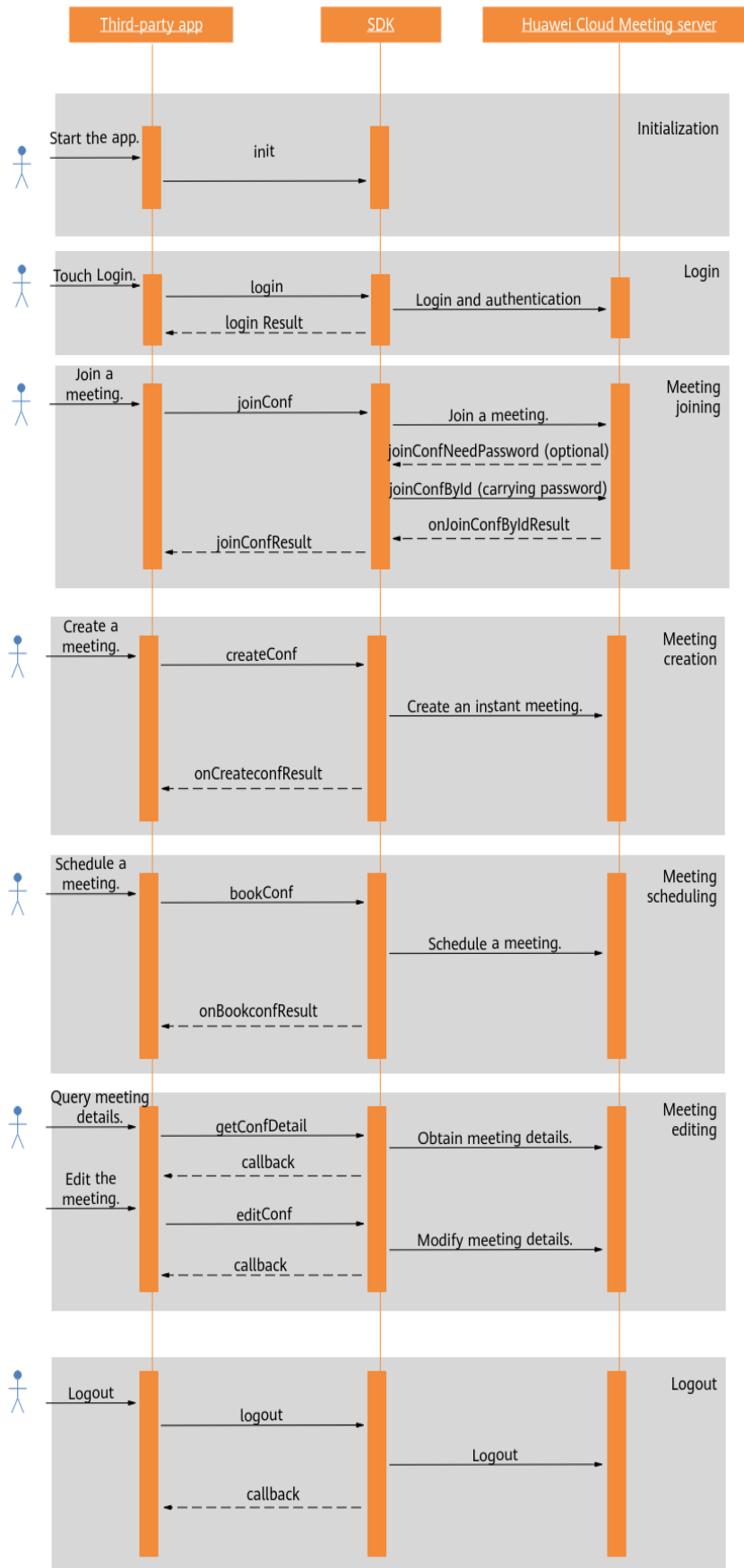
----End

## 6.3 Typical Scenarios

## 6.3.1 API Call in Typical Scenarios



Figure 6-10 API call process



 NOTE

Login is not mandatory. You can use the meeting ID and password to join a created meeting without login.

APIs for starting sharing, ending sharing, leaving a meeting, and ending a meeting have been provided on the UI of the SDK. If a third-party application does not need these functions, it does not need to call the corresponding APIs.

## 6.3.2 Scenario 1: Initialization

### Description

Before using SDK service components, initialize the basic components of the SDK.

There are synchronous initialization and asynchronous initialization APIs. The initialization takes about 1 to 2 seconds. If there are requirements on the app startup speed, use the asynchronous initialization API.

### Synchronous Initialization Process

Call `HWMSdk.init(Application, OpenSDKConfig)` to initialize the SDK. Before initialization, you can customize the SDK. For details on the configuration procedure and sample code, see [8. Initialize the SDK](#).

### Asynchronous Initialization Process

#### Step 1 Register a listener.

Listen to the activity lifecycle in Application.

```
registerActivityLifecycleCallbacks(new ActivityLifecycleHandle());
```

#### Step 2 Call an API.

Call `HWMSdk.initAsync(Application, OpenSDKConfig, SdkCallback)` to initialize the SDK asynchronously. Before initialization, you can customize the SDK. For details on the configuration procedure and sample code, see [8. Initialize the SDK](#).

#### Step 3 Process the callback.

Listen to the `onSuccess` callback and **call other APIs after the Android SDK is initialized.**

----End

### Notes

1. During asynchronous initialization, you must listen to the activity lifecycle (step 1). If this step is skipped, multiple functions of the SDK will be affected. **Perform step 1 before calling the initialization API.**
2. Asynchronous initialization can be performed in a subthread. **Use other SDK functions after the initialization is complete.**
3. The **Application** parameter in the initialization API must be specified to ensure successful initialization. **If you log in to Huawei Cloud Meeting using an app ID, call `OpenSDKConfig.setAppId` to set the Application parameter.**

## 6.3.3 Scenario 2: Login Using an Account and Password

### Description

Before using Huawei Cloud Meeting, you must complete login authentication on the server.

#### NOTE

If you have not logged in, you can only join created meetings.

### Service Process

#### Step 1 Call the API.

1. Create a **LoginParam** object.
  - a. Select a proper login type.
  - b. Set the account and password.
2. Call the **login** API to log in. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback.

Process the result in the callback.

----End

### Sample Code

```
// Create a login object.
// It is recommended that accounts and passwords used for authentication be stored in ciphertext in the
// configuration file or as environment variables and be decrypted during usage.
LoginParam loginParam = new LoginParam()
    .setLoginAuthType(LoginAuthType.Account_And_Password)
    .setAccount(getAccount()) // Login account
    .setPassword(getPassword()); // Login password
// Start to log in.
HWMSdk.getOpenApi(getApplication()).login(loginParam, new HwmCallback<LoginResult>() {
    @Override
    public void onSuccess(LoginResult loginResult) {
        Log.i(TAG, "Login succeeded");
    }
    @Override
    public void onFailed(final int retCode, String desc) {
        HwmContext.getInstance().runOnMainThread(new Runnable() {
            @Override
            public void run() {
                Error error = HWMBizSdk.getLoginApi().convertErrorCodeToUI(retCode);
                Log.i(TAG, "Login failed: "+ error.getMessage());
            }
        });
    }
});
```

### Precautions

The **login** API can be called only after **HWMSdk.init** is successfully called.

## 6.3.4 Scenario 3: Login Using an App ID

### Description

If you have requested an app ID, you can use the app ID to log in to Huawei Cloud Meeting, without entering an account and password.

#### NOTE

If you have not logged in, you can only join created meetings.

### Service Process

#### Step 1 Call the API.

1. Create an **AppIdAuthParam** object.
  - a. Set the unique ID of a third-party account.
  - b. Set a random character string.
  - c. Set signature information.
  - d. ID of the enterprise to which the user belongs. This parameter is mandatory only in **SP mode**.
  - e. Set the password expiration time.
  - f. Set the nickname of the login account.
  - g. Set the email address of the login account.
  - h. Set the mobile number of the login account.
2. Call the **loginByAppid** API to log in. The data in the preceding step is used as input parameters. The meeting server registers the user accordingly.

#### Step 2 Implement the callback.

Process the result in the callback.

----End

### Sample Code

```
// Create a login object.
AppIdAuthParam appIdAuthParam = new AppIdAuthParam();
// Set the signature expiration time. The value is a Unix timestamp, in seconds. If the value is 0, the
signature will not expire.
appIdAuthParam.setExpireTime(1599618620);
// Set a random character string consisting of 32 to 64 characters.
appIdAuthParam.setNonce(getNonce());
// Set the ID of the enterprise to which the user belongs. This parameter is required only in the SP login
scenario.
appIdAuthParam.setCorpid(getCorpid());
// Set the ID of the third-party account. The value contains 1 to 64 characters.
appIdAuthParam.setUserId(getUserId());
// Set signature information.
appIdAuthParam.setSignature(getSignature());
// Set the user nickname.
appIdAuthParam.setUserName(getUserName());
// Set the email address, which must meet the format requirements.
appIdAuthParam.setUserEmail(getUserEmail());
// Set the mobile number, which must be in the correct format, for example, ^$|^+[+]?[0-9]+$$.
appIdAuthParam.setUserPhone(getUserPhone());
// Start to log in.
```

```
HWMSdk.getOpenApi(getActivity().getApplication()).loginByAppId(appIdAuthParam, new
HwmCallback<LoginResult>() {
    @Override
    public void onSuccess(LoginResult loginResult) {
        dismissLoading();
        dismiss();
        if (loginResult != null) {
            DemoUtil.showToast("Login succeeded" + loginResult.getUserUid());
        }else{
            DemoUtil.showToast("Logged in");
        }
    }

    @Override
    public void onFailed(int retCode, String desc) {
        HwmContext.getInstance().runOnMainThread(() ->{
            dismissLoading();
            Error error = HWMBizSdk.getLoginApi().convertErrorCodeToUI(retCode);
            DemoUtil.showToast("Login failed: "+ getLoginErrTips(error));
            dismiss();
        });
    }
});
```

## Precautions

The **loginByAppId** API can be called only after **HWMSdk.init** is successfully called.

## 6.3.5 Scenario 4: Scheduling a Meeting

### Description

After logging in to Huawei Cloud Meeting using an account, you can schedule a meeting. When scheduling the meeting, you can add participants in addition to setting mandatory meeting parameters.

### Service Process

Process the meeting scheduling information entered on the UI, call the **bookConf** API, and then implement **hwmCallback** and **onConfListChanged** of **BizNotificationHandler**.

#### Step 1 Call the API.

1. Create a **BookConfParam** object.
2. Call the **bookConf** API to schedule a meeting. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback function.

Implement the **hwmCallback** function.

#### Step 3 Implement the notification function.

Implement the **onConfListChanged** function.

----End

### Sample Code

```
// Set a callback to receive the meeting scheduling result.
HwmCallback<ConfInfo> completeHandler = new HwmCallback<ConfInfo>() {
```

```
@Override
public void onSuccess(ConfInfo result) {
    dismissLoading();
    DemoUtil.showToast("Meeting scheduled");
}

@Override
public void onFailed(int retCode, String desc) {
    dismissLoading();
    dismiss();
    String err = ErrorMessageFactory.create(Utils.getApp(), retCode);
    if (TextUtils.isEmpty(err)) {
        err = Utils.getApp().getString(R.string.hwmconf_book_conf_fail);
    }
    DemoUtil.showToast("Failed to schedule the meeting: " + retCode + ", desc: "+ err);
}

boolean needWithMember = true;
List<AttendeeModel> attendeeInfos = new ArrayList<>();
if (needWithMember) {
    // The following three methods are available:
    String name = getName();
    String number = getNumber();
    String thirdAccountId = getThirdAccountId();
    if (!TextUtils.isEmpty(thirdAccountId)) {
        attendeeList.add(AttendeeModel.buildAttendeeByThirdUserId(thirdAccount, name));
    } else if (number.startsWith("+99")) {
        // A SIP number is used to join the meeting.
        attendeeInfos.add(AttendeeModel.buildAttendeeBySipNumber(number, name));
    } else {
        // A mobile number or a fixed-line phone number is used to join the meeting.
        attendeeInfos.add(AttendeeModel.buildAttendeeByPhone(number, name));
    }
}
BookConfParam bookConfParam = new BookConfParam()
    .setConfSubject(getConfSubject())
    .setStartTime(1599574798)
    .setTimeZone(56)
    .setDuration(60)
    .setConfType(MeetingType.CONF_VIDEO)
    .setVmrlFlag(false)
    .setVmrlId("")
    .setNeedConfPwd(true)
    .setJoinConfRestrictionType(JoinConfPermissionType.PERMIT_EVERYONE)
    .setRecordOn(true)
    .setMailOn(true)
    .setSmsOn(true)
    .setEmailCalenderOn(true)
    .setAttendees(attendeeInfos);
HWMBizSdk.getBizOpenApi().bookConf(bookConfParam, this.completeHandler);
```

## 6.3.6 Scenario 5: Editing a Meeting

### Description

After logging in to Huawei Cloud Meeting using an account, call the API for [Obtaining Meeting Details](#) to obtain the meeting details and then call the `editConf` API to edit the meeting.

### Service Process

To start a meeting using the SDK, call the `editConf` API and then implement `hwmCallback`.

**Step 1 Call the API.**

Call the **editConf** API to edit a meeting.

**Step 2 Implement the callback.**

Implement **hwmCallback**.

----End

**Sample Code**

```
// Assemble parameters required for editing a meeting.
// Set the meeting topic.
String subject = getSubject();
// Set the start time, time zone, and duration of the meeting.
String startTimeLocal = startTimeText.getText().toString();
String startTime = BaseDateUtil.transTimeZone(startTimeLocal, TimeZone.getTimeZone("GMT+08:00"),
TimeZone.getTimeZone("GMT+00:00"), BaseDateUtil.FMT_YMDHMS);
long startTimeStamp = BaseDateUtil.dateToTimeStamp(startTime, BaseDateUtil.FMT_YMDHMS);
String timeZomeStr = timezomeText.getText().toString();
String timedurStr = timeDuartionText.getText().toString();
int timeZone = Integer.parseInt(timeZomeStr);
int timeDuration = Integer.parseInt(timedurStr);
// Set the meeting type.
MeetingType confType = audioBtn.isChecked() ? MeetingType.CONF_AUDIO : MeetingType.CONF_VIDEO;
String joinConfTypeStr = joinConfPerText.getText().toString();
// Set restrictions on participants.
int joinConfPermission = Integer.parseInt(joinConfTypeStr);
JoinConfPermissionType permissionType = JoinConfPermissionType.valueOf(joinConfPermission);
// Specify whether to record the meeting.
boolean needRecord = recordSwitch.isChecked();
// Specify whether to send email notifications.
boolean needEmail = sendEmailSwitch.isChecked();
// Specify whether to send SMS notifications.
boolean needSms = sendSmsSwitch.isChecked();
// Specify whether to send an email calendar.
boolean needEmailCalendar = sendEmailCalendarSwitch.isChecked();
// Set the participant list.
List<AttendeeModel> attendeeInfos = this.confDetailModel.getAttendeeModels();
Switch needWithMemberSwitch = findViewById(R.id.edit_switch_with_attend);
boolean needWithMember = needWithMemberSwitch.isChecked();
if (needWithMember) {
    // The following three methods are available:
    String name = getName();
    String number = getNumber();
    String thirdAccount = getThirdAccount();
    if (!TextUtils.isEmpty(thirdAccount)) {
        if (LoginStatusCache.getLoginAccountInfo() instanceof AppIdAuthParam) {
            // An app ID is used for login.
            attendeeList.add(AttendeeModel.buildAttendeeByThirdUserId(thirdAccount, name));
        }
    } else if (number.startsWith("+99")){
        // A SIP number is used to join the meeting.
        attendeeList.add(AttendeeModel.buildAttendeeBySipNumber(number, name));
    } else {
        // A mobile number or a fixed-line phone number is used to join the meeting.
        attendeeList.add(AttendeeModel.buildAttendeeByPhone(number, name));
    }
}

EditConfParam editConfParam = new EditConfParam()
    .setConfId(this.confDetailModel.getConfId())
    .setVmridFlag(1 == this.confDetailModel.getVmridFlag())
    .setVmrid(this.confDetailModel.getVmrid())
    .setConfSubject(subject)
    .setStartTime(startTimeStamp)
```

```
.setTimeZone(timeZone)
.setDuration(timeDuration)
.setConfType(confType)
.setNeedConfPwd(!this.confDetailModel.getIsGuestFreePwd())
.setJoinConfRestrictionType(permissionType)
.setRecordOn(needRecord)
.setMailOn(needEmail)
.setSmsOn(needSms)
.setEmailCalenderOn(needEmailCalendar)
.setAttendees(attendeeInfos);
// Call the editConf API.
HWMBizSdk.getBizOpenApi().editConf(editConfParam, new HwmCallback<Integer>() {
    @Override
    public void onSuccess(Integer integer) {
        dismissLoading();
        DemoUtil.showToast("Meeting edited:" + integer);
    }

    @Override
    public void onFailed(int retCode, String desc) {
        dismissLoading();
        String err = ErrorMessageFactory.create(Utils.getApp(), retCode);
        if (TextUtils.isEmpty(err)) {
            err = Utils.getApp().getString(R.string.hwmconf_edit_failed);
        }
        DemoUtil.showToast("Failed to edit the meeting: " + retCode + ", desc: "+ err);
    }
});
```

## 6.3.7 Scenario 6: Creating a Meeting

### Description

Create an instant meeting and immediately join the meeting. You can specify whether the meeting is a voice or video meeting and whether a password is required by setting input parameters.

### Service Process

#### Step 1 Define parameters required for creating a meeting.

Prepare parameters for creating a meeting. The type is `CreateConfParam`. For details, see the definition of `CreateConfParam`. The following parameters are required: meeting subject, meeting type, whether a password is required, participant list (passed when participants are carried), whether to enable the camera (disabled by default), whether to enable the microphone (disabled by default), cloud meeting room ID (passed when a cloud meeting room is used), and the scope of users who are allowed to join the meeting (mandatory. **0**: everyone; **2**: corporate users only; **3**: invited users only)

```
// Create a CreateConfParam object.
CreateConfParam createConfParam = new CreateConfParam()
    .setSubject(getSubject()) // Set the meeting topic.
    .setConfType(ConfType.CONF_AUDIO) // Set the meeting type. For details, see Table 6-52.
    .setVmrlId(getVmrlId()) // (Optional) Set the cloud meeting room ID.
    .setJoinConfRestrictionType(JoinConfPermissionType.PERMIT_EVERYONE) // Specify the scope of users
who are allowed to join the meeting.
    .setCameraOn(true) // Specify whether to enable the camera.
    .setMicOn(true) // Specify whether to enable the microphone.
    .setRecordOn(true) // Specify whether to enable meeting recording.
    .setNeedPassword(true); // Specify whether a password is required.
```

#### Step 2 (Optional) Specify whether to carry participant information.



If participant information needs to be carried when creating a meeting, set **members** in the parameters generated in the previous step to an array that carries participant information. If participant information does not need to be carried, the parameter **members** does not need to be carried.

```
List<AttendeeModel> attendeeList = new ArrayList<>();
// The following three methods are available:
String name = getName();
String number = getNumber();
String thirdAccount = getThirdAccount();
if (!TextUtils.isEmpty(thirdAccount)) {
    if (LoginStatusCache.getLoginAccountInfo() instanceof AppIdAuthInfo) {
        // An app ID is used for login.
        attendeeList.add(AttendeeModel.buildAttendeeByThirdUserId(thirdAccount,name));
    }
} else if(number.startsWith("+99")){
    // A SIP number is used to join the meeting.
    attendeeList.add(AttendeeModel.buildAttendeeBySipNumber(number, name));
} else {
    // A mobile number or a fixed-line phone number is used to join the meeting.
    attendeeList.add(AttendeeModel.buildAttendeeByPhone(number, name));
}
// Create a CreateConfParam object.
CreateConfParam createConfParam = new CreateConfParam()
    .setSubject(getSubject()) // Set the meeting topic.
    .setConfType(ConfType.CONF_AUDIO) // Set the meeting type. For details, see Table 6-52.
    .setVmrid(getVmrid()) // (Optional) Set the cloud meeting room ID.
    .setJoinConfRestrictionType(JoinConfPermissionType.PERMIT_EVERYONE) // Specify the scope of users
    who are allowed to join the meeting.
    .setCameraOn(true) // Specify whether to enable the camera.
    .setMicOn(true) // Specify whether to enable the microphone.
    .setRecordOn(true) // Specify whether to enable meeting recording.
    .setNeedPassword(true) // Specify whether a password is required.
    .setAttendeeMembers(attendeeInfos); // Add participant information.
```

### Step 3 Call the API.

Use the meeting creation parameters generated in [Step 1](#) and [Step 2](#), and check and process the execution result based on the callback. In the callback, **onSuccess** indicates a success, **onFailed** indicates a failure, and **onCancel** indicates that the creation is canceled due to no network. You can use **ErrorMessageFactory.create** to convert the scenario-specific error code into an error message.

----End

## Sample Code

```
// Create a meeting.
HWMSdk.getOpenApi(getActivity()).createConf(createConfParam, new HwmCancelableCallBack
<ConfInfo>() {
    @Override
    public void onSuccess(ConfInfo confInfo) {
        // The meeting details are displayed when the meeting is created.
        // Meeting ID: confInfo.getConfId();
        // Meeting password: confInfo.getConfPwd();
    }
    @Override
    public void onFailed(int retCode, String desc) {
        // Failed to create the meeting.
        String err = ErrorMessageFactory.create(Utils.getApp(), retCode);
        if (TextUtils.isEmpty(err)) {
            err =
Utils.getApp().getString(com.huawei.hwmmobileconfui.R.string.conf_create_error);
        }
        Log.i(TAG, "Create meeting failed: "+ err);
    }
}
@Override
```

```
public void onCancel() {
    Log.i(TAG, "Meeting creation canceled");
}
});
```

## Precautions

The initialization and login are complete before you create a meeting.

## 6.3.8 Scenario 7: Joining a Meeting

### Description

You can join a meeting using the meeting ID and password regardless of whether you have logged in.

### Service Process

#### Step 1 Call the API.

1. Create a **JoinConfParam** object.
  - a. **PasswordJoinConfParam** is used to join a meeting based on the meeting ID.
  - b. **RandomJoinConfParam** is used to join a meeting in random mode.

```
// Create a JoinConfParam object.
PasswordJoinConfParam passwordJoinConfParam = new PasswordJoinConfParam()
    .setConfId(getConfId()) // Set the meeting ID.
    .setName(getConfId()) // Set the name in the meeting.
    .setCameraOn(true) // Specify whether to enable the camera.
    .setMicOn(true); // Specify whether to enable the microphone.
    .setPassword(true) // Set the password for joining the meeting.
```

2. Call the **joinConf** API to join the meeting. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback.

Process the result in the callback.

----End

### Sample Code

```
// Join a meeting.
HWMSdk.getOpenApi(getActivity()).joinConf(passwordJoinConfParam, new
HwmCancelableCallBack<Void>() {
    @Override
    public void onSuccess(Void ret) {
        Log.i(TAG, "Meeting joined");
    }
}
@Override
public void onFailed(int retCode, String desc) {
    String err = ErrorMessageFactory.create(Utils.getApp(), retCode);
    if (TextUtils.isEmpty(err)) {
        err = Utils.getApp().getString(com.huawei.hwmmobileconfui.R.string.conf_join_fail_tip);
    }
    Log.i(TAG, "Join meeting failed: "+ err);
}
@Override
public void onCancel() {
    Log.i(TAG, "Canceled the request to join the meeting");
```

```
}  
});
```

## Precautions

If you call this API without logging in to Huawei Cloud Meeting, the **nickname** parameter must be specified.

## 6.3.9 Scenario 8: Logout

### Description

You can log out of Huawei Cloud Meeting.

### Service Process

#### Step 1 Call the API.

1. Call the **logout** API to log out of Huawei Cloud Meeting.

#### Step 2 Implement the callback.

Process the result in the callback.

----End

### Sample Code

```
HWMSdk.getOpenApi(getActivity()).logout(new HwmCallback<LoginCompletedResult>() {  
    @Override  
    public void onSuccess(LoginCompletedResult result) {  
        DemoUtil.showToast(getContext(), "Logout succeeded");  
    }  
    @Override  
    public void onFailed(int retCode, String desc) {  
        DemoUtil.showToast(getContext(), "Logout failed: " + retCode + "; " + desc);  
    }  
});
```

## 6.4 API Reference

### 6.4.1 Basic Settings

#### 6.4.1.1 Initializing the SDK Synchronously

##### Init

Initializing the SDK synchronously

```
HWMSdk.init(Application,OpenSDKConfig)
```

##### API Description

This API is used to initialize the SDK and prepare the environment. It must be called prior to other APIs. It needs to be called only once. You are advised to call

this API in **onCreate** of the application. Call this API as early as possible so that the SDK can obtain the current activity and jump to a specified page by listening to the activity lifecycle.

### Precautions

1. Initializing the API takes about 1 to 2 seconds. If you have requirements on the initialization speed, use the [asynchronous initialization API](#).
2. Pass the correct **Application** and **OpenSDKConfig** objects.
3. If you do not want to call this API in **onCreate** of the application, set **openSDKConfig.setInitOnAppStart(false)**.

### Method Definition

```
/**
 * Initializes the SDK.
 * @param application Indicates the application object.
 * @param sdkConfig Indicates the SDK configuration object.
 */
void init(@NonNull Application application, OpenSDKConfig sdkConfig);
```

### Parameter Description

**Table 6-1** Parameter description

| Parameter   | Mandatory | Type          | Description               |
|-------------|-----------|---------------|---------------------------|
| application | Yes       | Application   | Application object.       |
| sdkConfig   | Yes       | OpenSDKConfig | SDK configuration object. |

**Table 6-2** Initialization information OpenSDKConfig

| Parameter       | Mandatory | Type    | Description   |
|-----------------|-----------|---------|---|
| appId           | Yes       | String  | App ID. You need to request an app ID. For details, see <a href="#">Introduction to App ID Authentication</a> in <i>Developer Guide</i> . |
| serverAddresses | No        | String  | Server address.   |
| serverPort      | No        | String  | Server port.  |
| needConfChat    | No        | Boolean | Whether the in-meeting chat function is required.   |

| Parameter                     | Mandatory | Type    | Description  |
|-------------------------------|-----------|---------|--|
| logKeepDays                   | No        | Integer | Log storage duration. Valid value range is 3–30. The default value is <b>0</b> . <b>0</b> indicates that logs are not deleted by day.<br>Note: <b>1</b> and <b>2</b> will be converted to <b>3</b> , and the values greater than 30 will be converted to <b>30</b> . |
| isDisableIncomingNotification | No        | Boolean | Whether to disable automatic display of the notification when an incoming call is received.  |
| isSupportMultiAppLogin        | No        | Boolean | Whether to support login to multiple applications on the same device.  |

### Sample Code

```
OpenSDKConfig sdkConfig = new OpenSDKConfig(this)
    .setAppId(getAppId())
// Request an app ID. For details, see Requesting an App ID.
HWMSdk.init(this,sdkConfig);
```

## 6.4.1.2 Initializing the SDK Asynchronously

### InitAsync

Initializing the SDK

```
HWMSdk.initAsync(Application,OpenSDKConfig, SdkCallback)
```

#### API Description

This API is used to asynchronously initialize the SDK and prepare the environment. Before calling other APIs, complete asynchronous initialization and receive the **onSuccess** callback. Call this API only once. Before calling this API, register a listener of the activity lifecycle in **onCreate** of **Application**, so that the SDK can obtain the current activity and jump to a specified page by listening to the activity lifecycle.

#### Precautions

1. If you have requirements on the initialization speed, use the asynchronous initialization API.
2. Complete initialization before using other SDK functions.
3. Before calling the asynchronous initialization API, register an activity lifecycle listener in **onCreate** of **Application** by referring to the sample code.

## Method Definition

```
/**
 * SDK asynchronous initialization API. Complete initialization before using any other functions of the UISDK.
 *
 * @param application Indicates the input application, which is internally converted to applicationContext for
 * users to obtain system resources.
 * @param sdkConfig Indicates the SDK configuration.
 * @param sdkCallback Indicates the SDK callback.
 */
void initAsync(@NonNull Application application, OpenSDKConfig sdkConfig, SdkCallback<Integer>
sdkCallback)
```

## Parameter Description

**Table 6-3** Parameter description

| Parameter   | Mandatory | Type                     | Description   |
|-------------|-----------|--------------------------|---|
| application | Yes       | Application              | Application object.                                 |
| sdkConfig   | Yes       | OpenSDKCo<br>nfig        | SDK configuration object.                           |
| SdkCallback | Yes       | SdkCallback<br><Integer> | Callback of the asynchronous initialization result. |

## Sample Code

```
// [Important] Register a listener of the activity lifecycle in onCreate of Application.
registerActivityLifecycleCallbacks(new ActivityLifecycleHandle());

// Demonstrate the initialization of subthreads.
new Thread(() -> HWMSdk.initAsync(mApp, sdkConfig, new SdkCallback<Integer>() {
    @Override
    public void onFailed(SDKERR sdkerr) {
        HLog.e(TAG, "init failed:" + sdkerr.getDescription());
    }

    @Override
    public void onSuccess(Integer integer) {
        HLog.i(TAG, "init success:" + integer);
        // Implement other SDK-related logic.
        mHandler.sendMessage(0);
    }
})).start();
```

### 6.4.1.3 Configuring an Access Site

You can configure a custom server access site (such as Asia Pacific and Chinese mainland) in OpenSDKConfig.

The default site is Chinese mainland.

#### Application Scenarios

Users outside the Chinese mainland can access the near Asia Pacific site.

#### Precautions

sdkConfig takes effect only when this configuration is passed during SDK initialization.

### Sample Code

```
public class MSiteTypeStrategy implements ISiteTypeStrategy {
    @Override
    public SiteType getSiteType() {
        return SiteType.SITE_TYPE_HEC_AP;
    }
}
sdkConfig.setSiteTypeStrategy(new MSiteTypeStrategy());
```

**Table 6-4** SiteType description

| Enumerated Value          | Description       |
|---------------------------|-------------------|
| SiteType.SITE_TYPE_HEC_CN | Chinese mainland. |
| SiteType.SITE_TYPE_HEC_AP | Asia Pacific.     |

#### NOTE

- You can customize the default access site as the Chinese mainland or Asia Pacific site. The default login server address varies depending on the site.
- If no access site is set, the Chinese mainland site is used by default.

## 6.4.1.4 Customizing the Panel Used to Share a Meeting

You can customize the panel used to share a meeting in OpenSDKConfig.

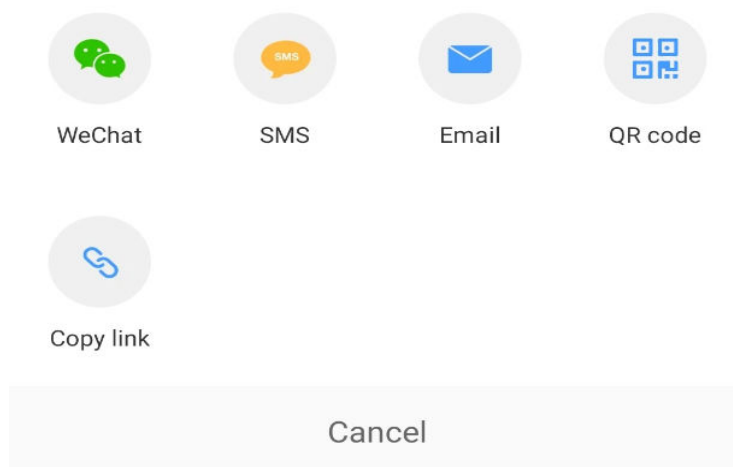
**Figure 6-11** displays the sharing effect.

### Application Scenarios

On the participant list screen, when a user touches the share button, the sharing panel is displayed. You can customize the style and content of the sharing panel.

### Precautions

1. sdkConfig takes effect only when this configuration is passed during SDK initialization.

**Figure 6-11** Sample of a custom panel used to share a meeting

### Sample Code

```
// Customize the menu used to share a meeting.
public class CustomShareHandle implements IShareHandle {
    @Override
    public List<IShareModel> buildShareItems(Context context, ConfInfo confInfo, ShareTypeEnum
shareTypeEnum) {
        String subject = confInfo.getConfSubject();
        String guestUrl = confInfo.getConfGuestUri();
        String time = DateUtil.getDateTimeStringForUi(confInfo.getConfStartTime(),
confInfo.getConfEndTime());
        String chairman = confInfo.getConfScheduserName();
        String confId = confInfo.getConfId();
        String guestPwd = TextUtils.isEmpty(confInfo.getConfPwd()) ?
Utils.getApp().getString(com.huawei.hwmmobileconfui.R.string.conf_no_pwd) : confInfo.getConfPwd();
        String content =
String.format(Utils.getApp().getString(com.huawei.hwmmobileconfui.R.string.conf_share_content), subject,
time, chairman, confId, guestPwd, guestUrl);
        // Set the SMS sharing menu.
        SmsShareModel smsShareModel = new SmsShareModel();
        smsShareModel.setContent(content);
        // Set the copy link.
        CopyShareModel copyShareModel = new CopyShareModel();
        copyShareModel.setContent(content);
        List<IShareModel> shareModels = new ArrayList<>();
        shareModels.add(smsShareModel);
        shareModels.add(copyShareModel);
        return shareModels;
    }
}
sdkConfig.setShareHandle(new CustomShareHandle());
```

### 6.4.1.5 Customizing a Log Storage Path

You can customize a path for storing SDK logs in OpenSDKConfig.

#### Application Scenarios

The default log path of the SDK is **`/sdcard/Android/data/Application_package_name/files/log`**.

You can change the path for storing logs as required.

#### Precautions



1. After customizing the log storage path, ensure that logs are obtained from the same path. For details about how to obtain logs, see [Collecting Android SDK Logs](#).
2. sdkConfig takes effect only when this configuration is passed during SDK initialization.

### Sample Code

```
// Customize a log storage path.
public class CustomLoggerHandle implements ILoggerHandle {
    private Application application;
    public CustomLoggerHandle(Application application) {
        this.application = application;
    }
    // Customize a log storage address.
    @Override
    public String getLogPath() {
        return FileUtil.getExternalFilesDir(this.application) + "/log/meeting/";
    }
}
sdkConfig.setLoggerHandle(new CustomLoggerHandle());
```

## 6.4.1.6 Enabling or Disabling Chat for a Meeting

You can configure whether to enable the chat function for a meeting in OpenSDKConfig.

[Figure 6-12](#) displays the screen when the chat function is enabled in the meeting.

[Figure 6-13](#) displays the screen when the chat function is disabled in the meeting.

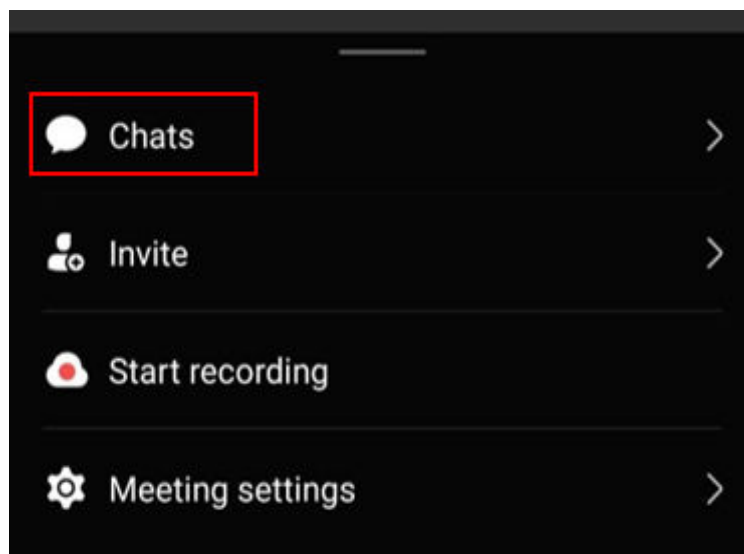
### Application Scenarios

If in-meeting chat is not required in the application, you can disable in-meeting chat.

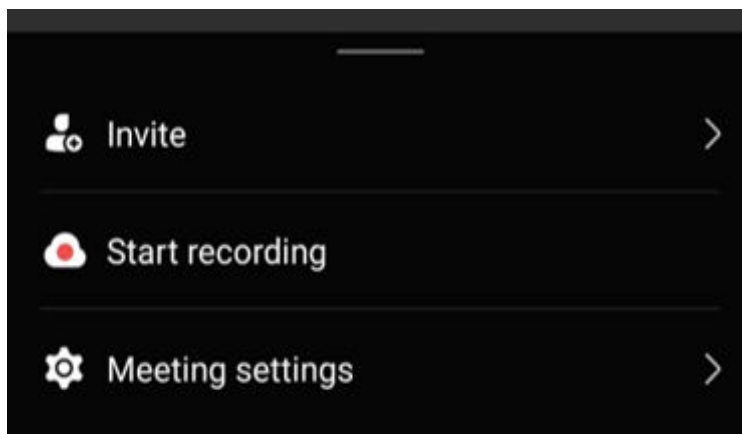
### Precautions

1. sdkConfig takes effect only when this configuration is passed during SDK initialization.

**Figure 6-12** Chat enabled



**Figure 6-13** Chat disabled



### Sample Code

```
OpenSDKConfig sdkConfig = new OpenSDKConfig(Context)
    .setNeedConfChat(false)
```

## 6.4.1.7 Enabling or Disabling HD Video First for a Video Meeting

You can configure whether to enable the HD video first function in `OpenSDKConfig`.

When HD video first is enabled:

1. The local client can send HD video.
2. You can choose to watch HD video.
3. The sending resolution is not reduced based on factors such as mobile phone performance.

### Application Scenarios

Scenarios that require HD video

### Precautions

1. `sdkConfig` takes effect only when this configuration is passed during SDK initialization.

#### NOTE

Before the meeting starts, specify whether to enable the function of preferentially transmitting HD video images. After the function is enabled, HD video images are preferentially transmitted, with the network and mobile phone performance ignored.

### Sample Code

```
OpenSDKConfig sdkConfig = new OpenSDKConfig(Context)
    .setHighResolutionFirst(true)
```

## 6.4.1.8 Enabling or Disabling the Camera and Microphone When Joining a Meeting

You can configure whether to automatically enable the camera or microphone when joining a meeting in `OpenSDKConfig`.

When you join a meeting, the SDK uses this callback API to obtain whether the camera and microphone are enabled and configure whether to enable the camera and microphone.

### Application Scenarios

Users can enable or disable the camera and microphone in the application settings. You can customize this callback API to ensure that the status of the camera and microphone is the same as that configured by users in the application settings when the users join a meeting.

### Precautions

1. The application must have the permission to enable the camera. Otherwise, the camera cannot be enabled.
2. sdkConfig takes effect only when this configuration is passed during SDK initialization.

### Sample Code

```
public class MyDeviceStrategyWhenConfAccept implements IDeviceStrategyWhenConfAccept {
    @Override
    public boolean isTurnOnCameraWhenConfAccept() {
        // Sets whether to enable the camera when joining a meeting.
        return DemoUtil.needCustom(NeedCustomType.CONF_OPEN_CAMERA);
    }

    @Override
    public boolean isTurnOnMicWhenConfAccept() {
        // Sets whether to enable the microphone when joining a meeting.
        return DemoUtil.needCustom(NeedCustomType.CONF_OPEN_MIC);
    }
}

sdkConfig.setDeviceStrategyWhenConfAccept(new MyDeviceStrategyWhenConfAccept());
```

## 6.4.1.9 Customizing the Ringing and Vibration for Incoming Meetings

```
HWMSdk.getOpenApi.changeInComingNotice(boolean isVibrate, boolean isRing, HwmCallback<Boolean>
callback);
```

### API Description

This API is used to modify the incoming meeting notification mode.

### Precautions

This API takes effect only after you log in and before you receive an incoming meeting.

### Method Definition

```
/**
 * Changes the incoming meeting notification mode.
 * @param isVibrate Indicates whether to enable vibration.
 * @param isRing Indicates whether to enable ringing.
 */
void changeInComingNotice(boolean isVibrate, boolean isRing, HwmCallback<Boolean> callback);
```

### Parameter Description

**Table 6-5** Parameter description

| Parameter | Mandatory | Type        | Description   |
|-----------|-----------|-------------|---|
| isVibrate | Yes       | boolean     | Whether to enable vibration.                                |
| isRing    | Yes       | boolean     | Whether to enable ringing.                                  |
| callback  | Yes       | HwmCallback | Callback of setting the incoming meeting notification mode. |

### Return Values

None

### Sample Code

```
HWMSdk.getOpenApi(HWMBizSdk.getApplication()).changeInComingNotice(isOpenVibrate, isOpenRing,
new HwmCallback<Boolean>() {
    @Override
    public void onFailed(int retCode, String desc) {
        dismissLoading();
        dismiss();
        if (!TextUtils.isEmpty(desc)) {
            DemoUtil.showToast(desc);
        } else {
            DemoUtil.showToast("Failed to modify the incoming meeting notification mode.");
        }
    }

    @Override
    public void onSuccess(Boolean aBoolean) {
        dismissLoading();
        dismiss();
    }
});
```

## 6.4.1.10 Hiding the External Label

By default, the **External** label is displayed for external enterprise users and anonymous users in the participant list.

You can configure whether to hide the **External** label in OpenSDKConfig.

### Application Scenarios

If you do not want to display the **External** label in your application, you can hide it.

### Precautions

1. sdkConfig takes effect only when this configuration is passed during SDK initialization.

### Sample Code

```
// Customize whether to hide the External label.
sdkConfig.setHideExternalLabelHandle(new IHideExternalLabelHandle() {
    @Override
    public boolean onHideExternalLabelEvent() {
```

```
// true: indicates to hide the label; false: indicates to display the label.  
return DemoUtil.needCustom(NeedCustomType.HIDE_EXTERNAL_LABEL);  
}  
});  
ConfUI.setHideExternalLabelHandle(sdkConfig.getHideExternalLabelHandle());
```

## 6.4.1.11 Disabling Prompt Tones

### DisableVoicePrompts

#### API Description

This API is used to disable prompt tones.

#### Precautions

1. This API is optional. If it is not called, prompt tones are played by default.
2. This API is a synchronous API. The returned value is an error code.

#### Method Definition

```
SDKERR disableVoicePrompts(VoicePrompts voicePrompts);
```

#### Parameter Description

Table 6-6 Parameter description

| Parameter    | Man<br>dato<br>ry | Type         | Description              |
|--------------|-------------------|--------------|--------------------------|
| voicePrompts | Yes               | VoicePrompts | Prompt tone information. |

Table 6-7 VoicePrompts parameter

| Parameter             | Man<br>dato<br>ry | Type    | Description   |
|-----------------------|-------------------|---------|---|
| disableMutePromp<br>t | Yes               | boolean | Whether to disable the mute prompt. The value <b>true</b> indicates that the mute prompt is disabled, and the value <b>false</b> indicates that the mute prompt is enabled. |

#### Return Values

#### Sample Code

```
VoicePrompts voicePrompts = new VoicePrompts();  
voicePrompts.setDisableMutePrompt(true);  
SDKERR result = HWMBizSdk.getBizOpenApi().disableVoicePrompts(voicePrompts);  
Log.i(TAG, "result code:" + result.getValue() + " desc:" + result.getDescription());
```

## 6.4.1.12 Setting the Network Mode

### setNetworkMode

#### API Description

This API is used to set the network mode to enterprise intranet access if the media nodes of Huawei Cloud Meeting are deployed in an enterprise and management nodes are accessed through the proxy of the enterprise.

#### NOTE

This API needs to be called only when the app cannot directly access the public network (that is, when the media nodes and management nodes are deployed in the enterprise).

#### Precautions

1. This API is optional. If it is not called, the default mode is used.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
IHwmNetwork.getInstance().setNetworkMode(networkInfo)
```

#### Parameter Description

**Table 6-8** NetWorkModelInfo description

| Parameter   | Mandatory | Type             | Description               |
|-------------|-----------|------------------|---------------------------|
| networkInfo | Yes       | NetWorkModelInfo | Network mode information. |

**Table 6-9** NetWorkModelInfo parameter description

| Parameter  | Mandatory | Type              | Description          |
|------------|-----------|-------------------|----------------------|
| accessType | Yes       | NetWorkAccessType | Network access type. |

**Table 6-10** Enumerated values of NetworkAccessType

| Value            | Description  |
|------------------|--|
| ACCESS_TYPE_AUTO | Default value. Currently, the value is the same as the extranet access mode. |

| Value             | Description   |
|-------------------|---|
| ACCESS_TYPE_INNER | Intranet access, which is used when the media and signaling nodes are deployed in the enterprise. The app uses the intranet for access. Signaling and media messages access the Huawei Cloud Meeting server through the proxy server.             |
| ACCESS_TYPE_OUTER | External network access, which is used when the media and signaling nodes are not deployed in the enterprise. The app uses the Internet for access. Signaling and media messages access the Huawei Cloud Meeting server through the proxy server. |

**Table 6-11** Return value

| Value | Description  |
|-------|--|
| int   | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. |

### Sample Code

```
NetworkModelInfo netWorkModelInfo = new NetworkModelInfo();
netWorkModelInfo.setAccessType(NetworkAccessType.enumOf(NetworkAccessType.ACCESS_TYPE_AUTO));
NativeSDK.getNetworkApi().setNetworkMode(netWorkModelInfo);
```

## 6.4.1.13 Enabling a Function

### enableFeature

#### API Description

This API is used to enable a function.

#### Precautions

1. By default, the breakout room function is enabled. You can call this API to disable it.
2. Create an initialization object **HWMOpenSDKConfig** before calling this API, and call the initialization API after calling this API.

#### Method Definition

```
void enableFeature(HWMEnableFeatureType confCapabilityType, boolean enable)
```

#### Parameter Description

**Table 6-12** Enumerated values of HWMEnableFeatureType

| Value   | Description  |
|---|--|
| HWM_FEATURE_TYPE_BREAKOUT_CONF                      | Breakout room function.  |
| HWM_FEATURE_TYPE_CONFIRM_RECORD                     | Displaying the recording security prompt. By default, it is not displayed. |
| HWM_FEATURE_TYPE_SAVE_NICK_NAME_WHEN_ANONYMOUS_JOIN | Saving the display name when you join a meeting anonymously.               |
| HWM_ENABLE_FEATURE_TYPE_VIRTUAL_BACKGROUND          | Virtual backgrounds.   |

### Return Values

None

### Sample Code

```
// Enable or disable a function.
openSDKConfig.enableFeature(HWMEnableFeatureType.HWM_FEATURE_TYPE_CONFIRM_RECORD, true);
```

## 6.4.1.14 Setting the Language

### setLanguage

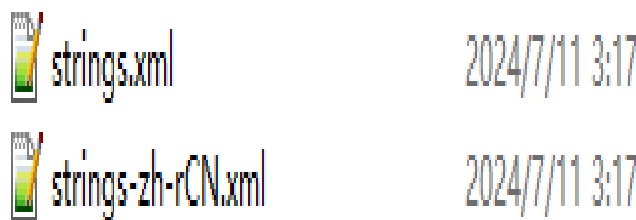
#### API Description

This API is used to set the SDK language. The default language is Chinese.

#### Precautions

To customize a language, create the corresponding internationalization file under `/src/main/res/` of the main project. For example, to add Arabic, you can create `/values-ar/string.xml`. Refer to the language templates in the **language templates** folder. The language set through this API must be the same as the system language.

**Figure 6-14** Internationalization language templates



#### Method Definition



```
void setLanguage(LanguageType languageType, String language);
```

### Parameter Description

**Table 6-13** Parameter description

| Parameter    | Mandatory | Type                | Description   |
|--------------|-----------|---------------------|---|
| languageType | Yes       | <b>LanguageType</b> | Enumerated values of languages.   |
| language     | Yes       | String              | If <b>LanguageType</b> is set to Chinese or English, this parameter can be left empty or set to any value.<br><br>If <b>LanguageType</b> is set to other languages, set this parameter to the language code, for example, <b>ar</b> (Arabic). |

**Table 6-14** Enumerated values of LanguageType

| Enumerated Value         | Description      |
|--------------------------|------------------|
| LANGUAGE_TYPE_CN_ZH      | Chinese.         |
| LANGUAGE_TYPE_EN         | English.         |
| LANGUAGE_TYPE_CUSTOMIZED | Custom language. |

### Return Values

None

### Sample Code

```
// Specify the enumerated value if you set the language to Chinese or English.
HWMSdk.getOpenApi(this).setLanguage(LanguageType.LANGUAGE_TYPE_EN, "");

// If you set the language to other languages, add the language code, for example, ar for Arabic, and add
the Arabic translation files to the resource folder of the main project.
HWMSdk.getOpenApi(this).setLanguage(LanguageType.LANGUAGE_TYPE_CUSTOMIZED, "ar");
```

## 6.4.1.15 Setting Guaranteed IP Addresses for Meeting Control

### API Description

This API is used to set the guaranteed IP addresses for meeting control.

### Precautions

1. This API is optional. If it is not called, the default IP address is used.

- Up to four IP addresses are supported. They are separated by semicolons (;).

### Method Definition

```
SDKERR setGuaranteedIpAddresses(String addresses);
```

### Sample Code

```
SDKERR sdkerr = HWMBizSdk.getBizOpenApi().setGuaranteedIpAddresses(ip);  
DemoUtil.showToast("Configuration result: " + sdkerr.getValue() + " " + sdkerr.getDescription());
```

## 6.4.2 UI Customization

### 6.4.2.1 Customizing the Bottom Menu Bar

You can add, delete, and customize menu items on the bottom menu bar of a meeting screen.

There are two types of bottom menu bars and customization methods:

- ConfAudioToolbar: customizes the bottom menu bar for voice meetings (see [Customizing a Menu for Voice Meetings](#)).
- ConfVideoToolbar: customizes the bottom menu bar for video meetings (see [Customizing a Menu for Video Meetings](#)).

#### Application Scenarios

Menu items on the bottom menu bar need to be adjusted.

#### Precautions

- sdkConfig takes effect only when this configuration is passed during SDK initialization.

## Customizing Menu Settings

### Sample Code

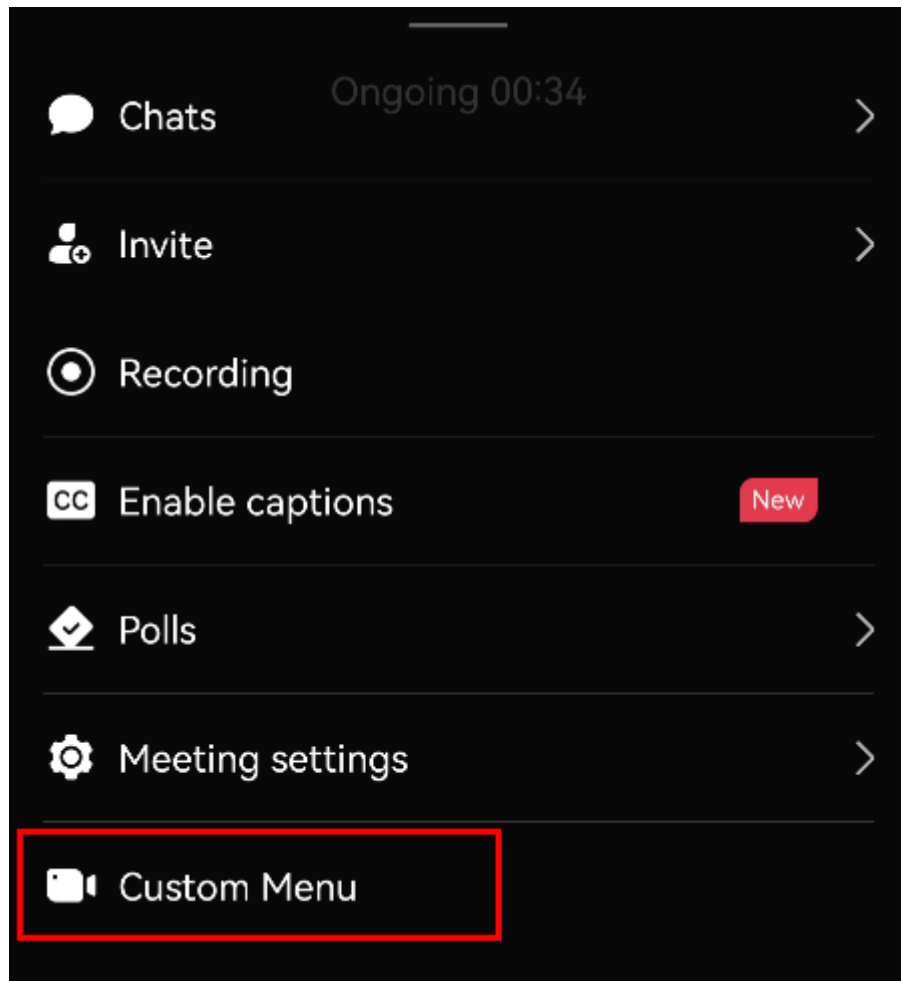
```
ToolBarMenuProxy toolBarMenuProxy = new ToolBarMenuProxy();  
toolBarMenuProxy.setConfAudioToolbarHandle(new CustomConfAudioToolbarHandle());  
toolBarMenuProxy.setConfVideoToolbarHandle(new CustomConfVideoToolbarHandle());  
sdkConfig.setToolBarMenuProxy(toolBarMenuProxy);
```

## Customizing a Menu for Voice Meetings

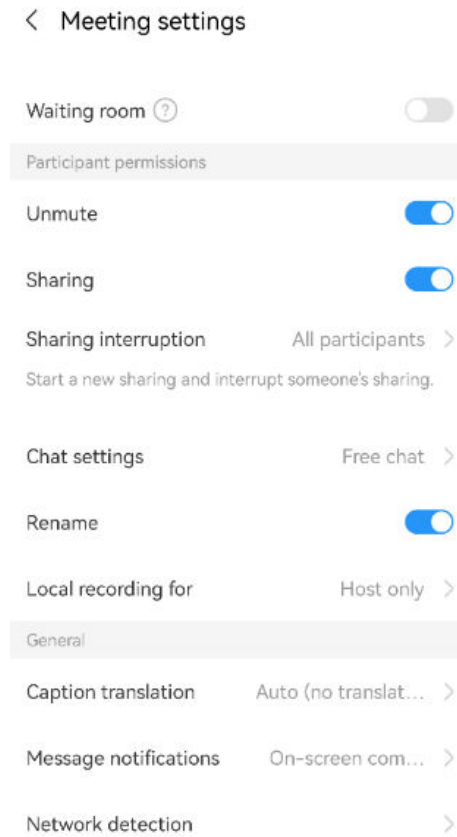
Figure 6-15 Sample of a custom menu for voice meetings



**Figure 6-16** Sample of a custom More menu for voice meetings



**Figure 6-17** Sample of a custom Meeting settings menu for voice meetings



### Sample Code

```
/**
 * Demo of customizing a toolbar for voice meetings
 */
public class CustomConfAudioToolbarHandle implements IToolbarMenuStrategy {
    @Override
    public List<IConfMenu> buildMenuItems() {
        List<IConfMenu> confMenus = new ArrayList<>();
        confMenus.add(new MicMenu());
        confMenus.add(new SpeakerMenu());
        confMenus.add(new ParticipantMenu());
        // [Demo] Add a custom menu.
        confMenus.add(new CustomMenu());
        confMenus.add(new MoreMenu());
        return confMenus;
    }
    @Override
    public List<IConfMenu> buildMoreMenuItems() {
        List<IConfMenu> confMenus = new ArrayList<>();
        confMenus.add(new ConnectAudioMenu());
        confMenus.add(new DisconnectAudioMenu());
        confMenus.add(new ChatMenu());
        confMenus.add(new InterpretMenu());
        confMenus.add(new HandsUpOrDownMenu());
        confMenus.add(new InviteMoreMenu());
        confMenus.add(new OpenOrCloseRecordMenu());
        confMenus.add(new SubtitlesMenu());
        confMenus.add(new CloudLiveMenu());
        confMenus.add(new VoteMenu());
        confMenus.add(new ConfSettingMenu());
        // [Demo] Add a custom menu.
        confMenus.add(new CustomMenu());
    }
}
```

```
        return confMenus;
    }
    @Override
    public List<IConfMenu> buildSettingMenuItems() {
        List<IConfMenu> menus = new ArrayList<>();

        List<IConfMenu> audioVideomenuChildren = new ArrayList<>();
        IConfMenu howlDetectMenu = new SwitchMenu(R.id.hwmmconf_confsetting_whistle_detection,
R.string.hwmmconf_mine_calling_setting_howl_auto_mute, true);
        IConfMenu noiseReductionMenu = new SwitchMenu(R.id.hwmmconf_confsetting_noise_reduction,
            R.string.hwmmconf_audio_noise_reduction, true);
        audioVideomenuChildren.add(howlDetectMenu);
        audioVideomenuChildren.add(noiseReductionMenu);
        MenuContainer audioVideoMenuContainer = new
MenuContainer(R.id.hwmmconf_setting_menu_audio_video, R.string.hwmmconf_setting_audio_video,
audioVideomenuChildren);

        List<IConfMenu> securityMenuChildren = new ArrayList<>();
        // Lock the meeting.
        IConfMenu lockConfMenu = new SwitchMenu(R.id.hwmmconf_confsetting_lock_meeting,
R.string.hwmmconf_lock, false);
        securityMenuChildren.add(lockConfMenu);
        // Set users who can join the meeting.
        IConfMenu allowJoinConfMenu = new TextMenu(R.id.hwmmconf_confsetting_allow_join_conf,
R.string.hwmmconf_allow_incoming_call, R.string.hwmmconf_everyone);
        securityMenuChildren.add(allowJoinConfMenu);
        // Enable the waiting room.
        IConfMenu enableWaitingRoomMenu = new
SwitchMenu(R.id.hwmmconf_confsetting_enable_waiting_room,
            R.string.hwmmconf_enable_waiting_room, false);
        securityMenuChildren.add(enableWaitingRoomMenu);
        MenuContainer securityMenuContainer = new MenuContainer(R.id.hwmmconf_setting_menu_security,
R.string.hwmmconf_setting_safe, securityMenuChildren);

        List<IConfMenu> attendeePermissionMenuChildren = new ArrayList<>();
        // Allow unmuting.
        IConfMenu allowReleaseMuteMenu = new SwitchMenu(R.id.hwmmconf_confsetting_allow_unmute,
R.string.hwmmconf_allow_ummute_self, false);
        IConfMenu allowShareMuteMenu = new SwitchMenu(R.id.hwmmconf_confsetting_allow_sharing,
R.string.hwmmconf_allow_sharing, false);
        // Set the sharing interruption permission.
        IConfMenu preemptShareTypeMenu = new TextMenu(R.id.hwmmconf_confsetting_preempt_share_type,
            R.string.hwmmconf_preempt_share_permission, R.string.hwmmconf_preempt_share_only_host);
        // Set the chat permission.
        IConfMenu chatPermissionMenu = new TextMenu(R.id.hwmmconf_confsetting_chat_permission,
            R.string.hwmmconf_chat_settings, R.string.hwmmconf_private_chat_free);
        // Allow renaming.
        IConfMenu allowRenameMenu = new SwitchMenu(R.id.hwmmconf_confsetting_allow_rename,
R.string.hwmmconf_set_allow_rename, true);
        IConfMenu allowLocalRecordMenu = new
RouterMenu(R.id.hwmmconf_confsetting_local_record_permission, R.string.hwmmconf_allow_record, "");
        attendeePermissionMenuChildren.add(allowReleaseMuteMenu);
        attendeePermissionMenuChildren.add(allowShareMuteMenu);
        attendeePermissionMenuChildren.add(preemptShareTypeMenu);
        attendeePermissionMenuChildren.add(chatPermissionMenu);
        attendeePermissionMenuChildren.add(allowRenameMenu);
        attendeePermissionMenuChildren.add(allowLocalRecordMenu);
        MenuContainer attendeePermissionMenuContainer = new
MenuContainer(R.id.hwmmconf_setting_menu_participant_permission,
R.string.hwmmconf_setting_participant_permission, attendeePermissionMenuChildren);

        List<IConfMenu> commonMenuChildren = new ArrayList<>();
        // Set the caption translation language.
        IConfMenu subtitlesLanguageMenu = new TextMenu(R.id.hwmmconf_confsetting_subtitles_language,
R.string.hwmmconf_subtitle_translation_language, R.string.hwmmconf_auto_no_translation);
        commonMenuChildren.add(subtitlesLanguageMenu);
        // Configure chat message notification.
        IConfMenu chatMessageRemindMenu = new
TextMenu(R.id.hwmmconf_confsetting_chat_message_remind,
```

```
R.string.hwmconf_message_notify_mode, R.string.hwmconf_bubble_message_mode);
commonMenuChildren.add(chatMessageRemindMenu);
// Check the network quality.
IConfMenu networkDetectMenu = new RouterMenu(R.id.hwmconf_confsetting_network_detect,
R.string.hwmconf_network_check, "cloudlink://hwmeeting/networkdetection");
commonMenuChildren.add(networkDetectMenu);
MenuContainer commonMenuContainer = new MenuContainer(R.id.hwmconf_setting_menu_common,
R.string.hwmconf_setting_common, commonMenuChildren);

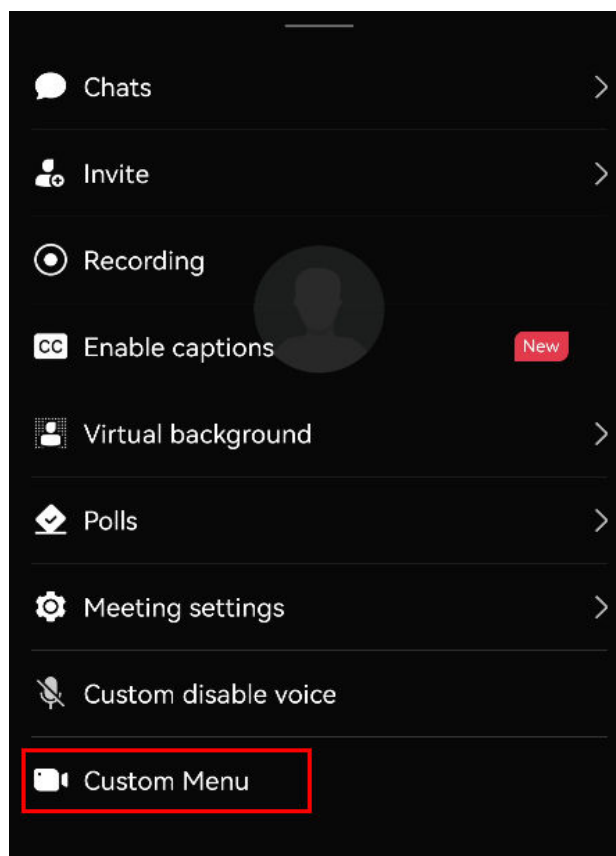
menus.add(audioVideoMenuContainer);
menus.add(securityMenuContainer);
menus.add(attendeePermissionMenuContainer);
menus.add(commonMenuContainer);
return menus;
}
```

## Customizing a Menu for Video Meetings

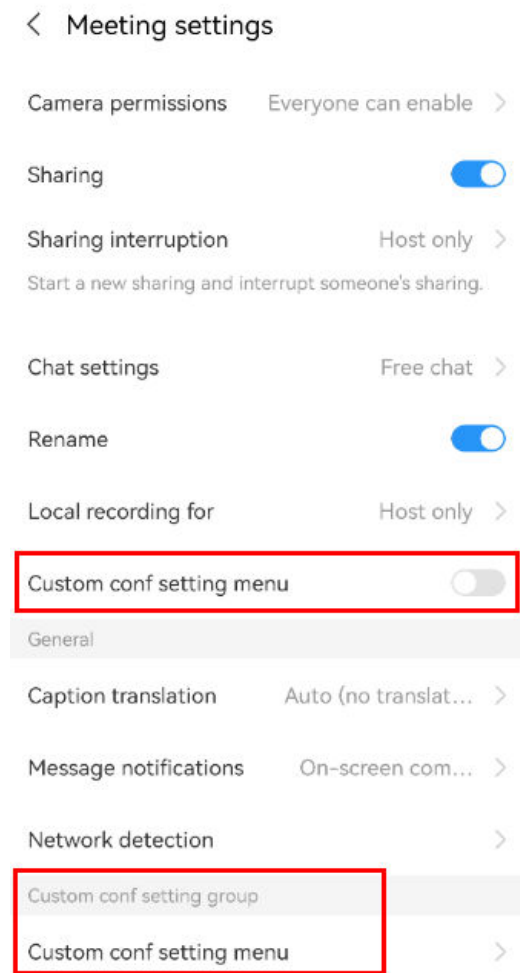
Figure 6-18 Sample of a custom menu for video meetings



Figure 6-19 Sample of a custom More menu for video meetings



**Figure 6-20** Sample of a custom Meeting settings menu for video meetings



### Sample Code

```
/**
 * Demo of customizing a toolbar for video meetings
 */
public class CustomConfVideoToolbarHandle implements IToolbarMenuStrategy {
    @Override
    public List<IConfMenu> buildMenuItems() {
        List<IConfMenu> confMenus = new ArrayList<>();
        confMenus.add(new MicMenu());
        confMenus.add(new CameraMenu());
        confMenus.add(new ParticipantMenu());
        // [Demo] Add a custom menu.
        confMenus.add(new CustomMenu());
        confMenus.add(new MoreMenu());
        return confMenus;
    }
    @Override
    public List<IConfMenu> buildMoreMenuItems() {
        List<IConfMenu> confMenus = new ArrayList<>();
        confMenus.add(new ConnectAudioMenu());
        confMenus.add(new DisconnectAudioMenu());
        confMenus.add(new ChatMenu());
        confMenus.add(new InterpretMenu());
        confMenus.add(new HandsUpOrDownMenu());
        confMenus.add(new InviteMoreMenu());
        confMenus.add(new OpenOrCloseRecordMenu());
        confMenus.add(new SubtitlesMenu());
    }
}
```

```
confMenus.add(new CloudLiveMenu());
confMenus.add(new SwitchCameraMenu());
confMenus.add(new VirtualBackgroundMenu());
confMenus.add(new VoteMenu());
confMenus.add(new ConfSettingMenu());
// [Demo] Add a custom menu for disabling voice prompts.
confMenus.add(new CustomDisableVoicePromptsMenu());
// [Demo] Add a custom menu.
confMenus.add(new CustomMenu());
return confMenus;
}
@Override
public List<IConfMenu> buildSettingMenuItems() {
    List<IConfMenu> menus = new ArrayList<>();

    List<IConfMenu> audioVideomenuChildren = new ArrayList<>();
    IConfMenu howlDetectMenu = new SwitchMenu(R.id.hwmmconf_confsetting_whistle_detection,
R.string.hwmmconf_mine_calling_setting_howl_auto_mute, true);
    IConfMenu beautyMenu = new SwitchMenu(R.id.hwmmconf_confsetting_beauty,
R.string.hwmmconf_setting_beauty, true);
    IConfMenu mirrorMenu = new SwitchMenu(R.id.hwmmconf_confsetting_video_mirror,
R.string.hwmmconf_video_mirroring, true);
    IConfMenu pipMenu = new SwitchMenu(R.id.hwmmconf_confsetting_hide_self,
R.string.hwmmconf_setting_pip, true);
    IConfMenu directionMenu = new RouterMenu(R.id.hwmmconf_confsetting_camera_direction,
R.string.hwmmconf_auto, "cloudlink://hwmeeting/cameradirection");
    IConfMenu noiseReductionMenu = new SwitchMenu(R.id.hwmmconf_confsetting_noise_reduction,
R.string.hwmmconf_audio_noise_reduction, true);
    IConfMenu highResMenu = new SwitchMenu(R.id.hwmmconf_confsetting_high_resolution,
R.string.hwmmconf_mine_calling_setting_high_resolution, true);
    IConfMenu enableBrightenMenu = new SwitchMenu(R.id.hwmmconf_confsetting_enable_brighten,
R.string.hwmmconf_enhance_video_quality, false);
    IConfMenu pictureRatioMenu = new TextMenu(R.id.hwmmconf_confsetting_picture_ratio,
R.string.hwmmconf_picture_ratio, R.string.hwmmconf_picture_ratio_original_size);
    audioVideomenuChildren.add(directionMenu);
    audioVideomenuChildren.add(howlDetectMenu);
    audioVideomenuChildren.add(beautyMenu);
    audioVideomenuChildren.add(mirrorMenu);
    audioVideomenuChildren.add(pipMenu);
    audioVideomenuChildren.add(noiseReductionMenu);
    audioVideomenuChildren.add(highResMenu);
    audioVideomenuChildren.add(enableBrightenMenu);
    audioVideomenuChildren.add(pictureRatioMenu);
    MenuContainer audioVideoMenuContainer = new
MenuContainer(R.id.hwmmconf_setting_menu_audio_video, R.string.hwmmconf_setting_audio_video,
audioVideomenuChildren);

    List<IConfMenu> securityMenuChildren = new ArrayList<>();
    // Lock the meeting.
    IConfMenu lockConfMenu = new SwitchMenu(R.id.hwmmconf_confsetting_lock_meeting,
R.string.hwmmconf_lock, false);
    securityMenuChildren.add(lockConfMenu);
    // Set users who can join the meeting.
    IConfMenu allowJoinConfMenu = new TextMenu(R.id.hwmmconf_confsetting_allow_join_conf,
R.string.hwmmconf_allow_incoming_call, R.string.hwmmconf_everyone);
    securityMenuChildren.add(allowJoinConfMenu);
    IConfMenu enableWaitingRoomMenu = new
SwitchMenu(R.id.hwmmconf_confsetting_enable_waiting_room,
R.string.hwmmconf_enable_waiting_room, false);
    securityMenuChildren.add(enableWaitingRoomMenu);
    MenuContainer securityMenuContainer = new MenuContainer(R.id.hwmmconf_setting_menu_security,
R.string.hwmmconf_setting_safe, securityMenuChildren);

    List<IConfMenu> attendeePermissionMenuChildren = new ArrayList<>();
    // Allow unmuting.
    IConfMenu allowReleaseMuteMenu = new SwitchMenu(R.id.hwmmconf_confsetting_allow_unmute,
R.string.hwmmconf_allow_unmute_self, false);
    // Allow participants to enable the camera.
    IConfMenu cameraRestrictionSwitch = new
```



```
SwitchMenu(R.id.hwmconf_confsetting_allow_open_camera, R.string.hwmconf_allow_open_video, false);
    IConfMenu cameraRestrictionMenu = new RouterMenu(R.id.hwmconf_confsetting_camera_restriction,
R.string.hwmconf_camera_restriction, "");
    IConfMenu allowShareMuteMenu = new SwitchMenu(R.id.hwmconf_confsetting_allow_sharing,
R.string.hwmconf_allow_sharing, false);
    // Set the sharing interruption permission.
    IConfMenu preemptShareTypeMenu = new TextMenu(R.id.hwmconf_confsetting_preempt_share_type,
R.string.hwmconf_preempt_share_permission, R.string.hwmconf_preempt_share_only_host);
    // Set the chat permission.
    IConfMenu chatPermissionMenu = new TextMenu(R.id.hwmconf_confsetting_chat_permission,
R.string.hwmconf_chat_settings, R.string.hwmconf_private_chat_free);
    // Allow renaming.
    IConfMenu allowRenameMenu = new SwitchMenu(R.id.hwmconf_confsetting_allow_rename,
R.string.hwmconf_set_allow_rename, true);
    IConfMenu allowLocalRecordMenu = new
RouterMenu(R.id.hwmconf_confsetting_local_record_permission,
R.string.hwmconf_allow_record, "");
    attendeePermissionMenuChildren.add(allowReleaseMuteMenu);
    attendeePermissionMenuChildren.add(cameraRestrictionSwitch);
    attendeePermissionMenuChildren.add(cameraRestrictionMenu);
    attendeePermissionMenuChildren.add(allowShareMuteMenu);
    attendeePermissionMenuChildren.add(preemptShareTypeMenu);
    attendeePermissionMenuChildren.add(chatPermissionMenu);
    attendeePermissionMenuChildren.add(allowRenameMenu);
    attendeePermissionMenuChildren.add(allowLocalRecordMenu);
    /*
    * [Demo] Add a setting item to Meeting settings.
    */
    IConfMenu customeSettingMenuTest1 = new SwitchMenu(R.id.conf_setting_menu_test1,
R.string.menu_conf_setting_menu_test1, false);
    attendeePermissionMenuChildren.add(customeSettingMenuTest1);
    MenuContainer attendeePermissionMenuContainer = new
MenuContainer(R.id.hwmconf_setting_menu_participant_permission,
R.string.hwmconf_setting_participant_permission, attendeePermissionMenuChildren);

    List<IConfMenu> commonMenuChildren = new ArrayList<>();
    // Set the caption translation language.
    IConfMenu subtitlesLanguageMenu = new TextMenu(R.id.hwmconf_confsetting_subtitles_language,
R.string.hwmconf_subtitle_translation_language, R.string.hwmconf_auto_no_translation);
    commonMenuChildren.add(subtitlesLanguageMenu);
    // Configure chat message notification.
    IConfMenu chatMessageRemindMenu = new
TextMenu(R.id.hwmconf_confsetting_chat_message_remind,
R.string.hwmconf_message_notify_mode, R.string.hwmconf_bubble_message_mode);
    commonMenuChildren.add(chatMessageRemindMenu);
    // Check the network quality.
    IConfMenu networkDetectMenu = new RouterMenu(R.id.hwmconf_confsetting_network_detect,
R.string.hwmconf_network_check, "cloudlink://hwmeeting/networkdetection");
    commonMenuChildren.add(networkDetectMenu);
    MenuContainer commonMenuContainer = new MenuContainer(R.id.hwmconf_setting_menu_common,
R.string.hwmconf_setting_common, commonMenuChildren);

    menus.add(audioVideoMenuContainer);
    menus.add(securityMenuContainer);
    menus.add(attendeePermissionMenuContainer);
    menus.add(commonMenuContainer);

    /*
    * [Demo] Add a group of setting items to Meeting settings.
    */
    List<IConfMenu> customChildren = new ArrayList<>();
    // Check the network quality.
    IConfMenu customSettingMenuTest2 = new RouterMenu(R.id.conf_setting_menu_test2,
R.string.menu_conf_setting_menu_test1, "test");
    customChildren.add(customSettingMenuTest2);
    MenuContainer customContainer = new MenuContainer(R.id.conf_setting_menu_test_group,
R.string.menu_conf_setting_menu_test_group, customChildren);
    menus.add(customContainer);
    return menus;
```

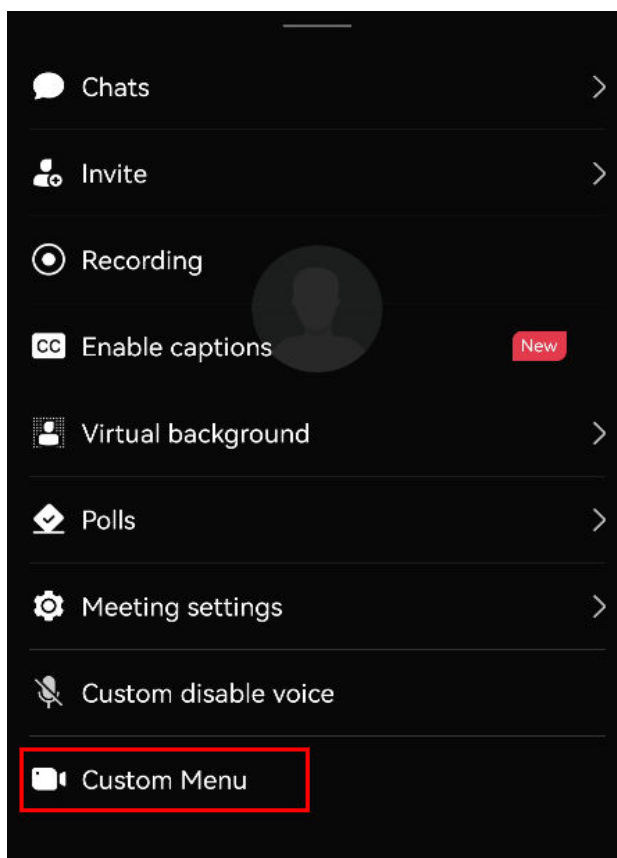
```
}  
}
```

## Customizing a Menu for Webinars

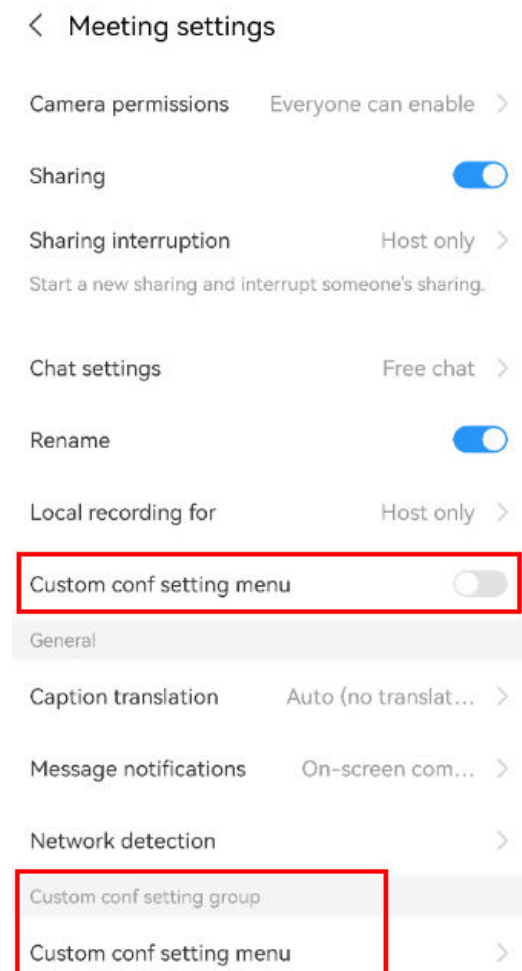
Figure 6-21 Sample of a custom menu for webinars



Figure 6-22 Sample of a custom More menu for webinars



**Figure 6-23** Sample of a custom meeting settings menu for webinars



### Sample Code

```
/**
 * Demo of customizing a toolbar for webinars
 */
public class CustomConfWebinarToolbarHandle implements IToolbarMenuStrategy {

    @Override
    public List<IConfMenu> buildMenuItems() {

        if (!NativeSDK.getConfMgrApi().isInConf()) {
            return buildAllMenuItems();
        }

        if (NativeSDK.getConfStateApi().getSelfRole() == ConfRole.ROLE_AUDIENCE) {
            return buildAudienceMenuItems();
        }

        if (NativeSDK.getConfStateApi().getSelfRole() == ConfRole.ROLE_HOST) {
            return buildHostMenuItems();
        }

        return buildAttendeeMenuItems();
    }

    private List<IConfMenu> buildAllMenuItems() {
        List<IConfMenu> confMenus = new ArrayList<>();
        confMenus.add(new MicMenu());
        confMenus.add(new CameraMenu());
    }
}
```

```
        if (TupConfig.isNeedConfChat()) {
            confMenus.add(new ChatMenu());
        }
        confMenus.add(new HandsMenu());
        if (TupConfig.isNeedScreenShare() &&
CpuLevelUtil.isHigherThan(CpuLevel.CALL_CPU_LEVEL_SUPER_LOW)) {
            confMenus.add(new ShareMenu());
        }
        if (ConfUIConfig.getInstance().isAudience()) {
            confMenus.add(new VoteBtnMenu());
        }
        confMenus.add(new AudienceJoinMenu());
        confMenus.add(new ParticipantMenu());
        confMenus.add(new MoreMenu());
        return confMenus;
    }

    private List<IConfMenu> buildAudienceMenuItems() {
        List<IConfMenu> confMenus = new ArrayList<>();
        confMenus.add(new MicMenu());
        if (TupConfig.isNeedConfChat()) {
            confMenus.add(new ChatMenu());
        }
        confMenus.add(new HandsMenu());
        if (ConfUIConfig.getInstance().isAudience()) {
            confMenus.add(new VoteBtnMenu());
        }
        confMenus.add(new MoreMenu());
        return confMenus;
    }

    private List<IConfMenu> buildAttendeeMenuItems() {
        List<IConfMenu> confMenus = new ArrayList<>();
        confMenus.add(new MicMenu());
        confMenus.add(new CameraMenu());
        if (TupConfig.isNeedScreenShare() &&
CpuLevelUtil.isHigherThan(CpuLevel.CALL_CPU_LEVEL_SUPER_LOW)) {
            confMenus.add(new ShareMenu());
        }
        confMenus.add(new ParticipantMenu());
        if (ConfUIConfig.getInstance().isAudience()) {
            confMenus.add(new VoteBtnMenu());
        }
        confMenus.add(new MoreMenu());
        return confMenus;
    }

    private List<IConfMenu> buildHostMenuItems() {
        List<IConfMenu> confMenus = new ArrayList<>();
        confMenus.add(new MicMenu());
        confMenus.add(new CameraMenu());
        confMenus.add(new AudienceJoinMenu());
        confMenus.add(new ParticipantMenu());
        confMenus.add(new MoreMenu());
        return confMenus;
    }

    @Override
    public List<IConfMenu> buildMoreMenuItems() {
        List<IConfMenu> confMenus = new ArrayList<>();
        confMenus.add(new ConnectAudioMenu());
        confMenus.add(new DisconnectAudioMenu());
        confMenus.add(new RenameMenu());
        confMenus.add(new StartOrStopShareMenu());
        confMenus.add(new ChatMenu());
        confMenus.add(new ShareConfLinkMenu());
        confMenus.add(new HandsUpOrDownMenu());
        confMenus.add(new InviteMoreMenu());
        confMenus.add(new OpenOrCloseRecordMenu());
    }
}
```

```
confMenus.add(new SubtitlesMenu());
confMenus.add(new CloudLiveMenu());
confMenus.add(new SwitchCameraMenu());
confMenus.add(new VirtualBackgroundMenu());
confMenus.add(new VoteMenu());
confMenus.add(new ConfSettingMenu());
// [Demo] Add a custom menu.
confMenus.add(new CustomMenu());
return confMenus;
}

@Override
public List<IConfMenu> buildSettingMenuItems() {

    List<IConfMenu> menus = new ArrayList<>();

    List<IConfMenu> audioVideomenuChildren = new ArrayList<>();
    IConfMenu howlDetectMenu = new SwitchMenu(R.id.hwmconf_confsetting_whistle_detection,
com.huawei.hwmdemo.R.string.hwmconf_mine_calling_setting_howl_auto_mute, true);
    IConfMenu beautyMenu = new SwitchMenu(R.id.hwmconf_confsetting_beauty,
com.huawei.hwmdemo.R.string.hwmconf_setting_beauty, true);
    IConfMenu mirrorMenu = new SwitchMenu(R.id.hwmconf_confsetting_video_mirror,
R.string.hwmconf_video_mirroring, true);
    IConfMenu pipMenu = new SwitchMenu(R.id.hwmconf_confsetting_hide_self,
com.huawei.hwmdemo.R.string.hwmconf_setting_pip, true);
    IConfMenu directionMenu = new RouterMenu(R.id.hwmconf_confsetting_camera_direction,
R.string.hwmconf_auto, "cloudlink://hwmeeting/cameradirection");
    IConfMenu noiseReductionMenu = new SwitchMenu(R.id.hwmconf_confsetting_noise_reduction,
R.string.hwmconf_audio_noise_reduction, true);
    IConfMenu highResMenu = new SwitchMenu(R.id.hwmconf_confsetting_high_resolution,
R.string.hwmconf_mine_calling_setting_high_resolution, true);
    IConfMenu enableBrightenMenu = new SwitchMenu(R.id.hwmconf_confsetting_enable_brighten,
R.string.hwmconf_enhance_video_quality, false);
    IConfMenu pictureRatioMenu = new TextMenu(R.id.hwmconf_confsetting_picture_ratio,
R.string.hwmconf_picture_ratio, R.string.hwmconf_picture_ratio_original_size);
    audioVideomenuChildren.add(howlDetectMenu);
    audioVideomenuChildren.add(beautyMenu);
    audioVideomenuChildren.add(mirrorMenu);
    audioVideomenuChildren.add(pipMenu);
    audioVideomenuChildren.add(directionMenu);
    audioVideomenuChildren.add(noiseReductionMenu);
    audioVideomenuChildren.add(highResMenu);
    audioVideomenuChildren.add(enableBrightenMenu);
    audioVideomenuChildren.add(pictureRatioMenu);
    MenuContainer audioVideoMenuContainer = new
MenuContainer(R.id.hwmconf_setting_menu_audio_video,
com.huawei.hwmdemo.R.string.hwmconf_setting_audio_video, audioVideomenuChildren);

    List<IConfMenu> securityMenuChildren = new ArrayList<>();
    // Lock the meeting.
    IConfMenu lockConfMenu = new SwitchMenu(R.id.hwmconf_confsetting_lock_meeting,
com.huawei.hwmdemo.R.string.hwmconf_lock, false);
    securityMenuChildren.add(lockConfMenu);
    // Set users who can join the meeting.
    IConfMenu allowJoinConfMenu = new TextMenu(R.id.hwmconf_confsetting_allow_join_conf,
R.string.hwmconf_allow_incoming_call, R.string.hwmconf_everyone);
    securityMenuChildren.add(allowJoinConfMenu);
    // Enable the waiting room.
    IConfMenu enableWaitingRoomMenu = new
SwitchMenu(R.id.hwmconf_confsetting_enable_waiting_room,
R.string.hwmconf_enable_waiting_room, false);
    securityMenuChildren.add(enableWaitingRoomMenu);
    MenuContainer securityMenuContainer = new MenuContainer(R.id.hwmconf_setting_menu_security,
com.huawei.hwmdemo.R.string.hwmconf_setting_safe, securityMenuChildren);

    List<IConfMenu> attendeePermissionMenuChildren = new ArrayList<>();
    // Allow unmuting.
```

```
        IConfMenu allowReleaseMuteMenu = new SwitchMenu(R.id.hwmdemo_confsetting_allow_unmute,
com.huawei.hwmdemo.R.string.hwmdemo_confsetting_allow_unmute_self, false);
        // Allow participants to enable the camera.
        IConfMenu cameraRestrictionSwitch = new
SwitchMenu(R.id.hwmdemo_confsetting_allow_open_camera, R.string.hwmdemo_confsetting_allow_open_video, false);
        IConfMenu cameraRestrictionMenu = new RouterMenu(R.id.hwmdemo_confsetting_camera_restriction,
R.string.hwmdemo_confsetting_camera_restriction, "");
        IConfMenu allowShareMuteMenu = new SwitchMenu(R.id.hwmdemo_confsetting_allow_sharing,
com.huawei.hwmdemo.R.string.hwmdemo_confsetting_allow_sharing, false);
        // Set the sharing interruption permission.
        IConfMenu preemptShareTypeMenu = new TextMenu(R.id.hwmdemo_confsetting_preempt_share_type,
R.string.hwmdemo_confsetting_preempt_share_permission, R.string.hwmdemo_confsetting_preempt_share_only_host);
        // Set the chat permission.
        IConfMenu chatPermissionMenu = new TextMenu(R.id.hwmdemo_confsetting_chat_permission,
R.string.hwmdemo_confsetting_chat_settings, R.string.hwmdemo_confsetting_private_chat_free); // Allow renaming.
        // Allow renaming.
        IConfMenu allowRenameMenu = new SwitchMenu(R.id.hwmdemo_confsetting_allow_rename,
com.huawei.hwmdemo.R.string.hwmdemo_confsetting_set_allow_rename, true);
        IConfMenu allowLocalRecordMenu = new
RouterMenu(R.id.hwmdemo_confsetting_local_record_permission,
R.string.hwmdemo_confsetting_allow_record, "");
        attendeePermissionMenuChildren.add(allowReleaseMuteMenu);
        attendeePermissionMenuChildren.add(cameraRestrictionSwitch);
        attendeePermissionMenuChildren.add(cameraRestrictionMenu);
        attendeePermissionMenuChildren.add(allowShareMuteMenu);
        attendeePermissionMenuChildren.add(preemptShareTypeMenu);
        attendeePermissionMenuChildren.add(chatPermissionMenu);
        attendeePermissionMenuChildren.add(allowRenameMenu);
        attendeePermissionMenuChildren.add(allowLocalRecordMenu);
        /*
        * [Demo] Add a setting item to Meeting settings.
        */
        IConfMenu customeSettingMenuTest1 = new
SwitchMenu(com.huawei.hwmdemo.R.id.conf_setting_menu_test1,
com.huawei.hwmdemo.R.string.conf_setting_menu_test1, false);
        attendeePermissionMenuChildren.add(customeSettingMenuTest1);
        MenuContainer attendeePermissionMenuContainer = new
MenuContainer(R.id.hwmdemo_confsetting_participant_permission,
com.huawei.hwmdemo.R.string.hwmdemo_confsetting_participant_permission, attendeePermissionMenuChildren);

        List<IConfMenu> commonMenuChildren = new ArrayList<>();
        // Set the caption translation language.
        IConfMenu subtitlesLanguageMenu = new TextMenu(R.id.hwmdemo_confsetting_subtitles_language,
R.string.hwmdemo_confsetting_subtitle_translation_language, R.string.hwmdemo_confsetting_auto_no_translation);
        commonMenuChildren.add(subtitlesLanguageMenu);
        // Configure chat message notification.
        IConfMenu chatMessageRemindMenu = new
TextMenu(R.id.hwmdemo_confsetting_chat_message_remind,
R.string.hwmdemo_confsetting_chat_message_notify_mode, R.string.hwmdemo_confsetting_bubble_message_mode);
        commonMenuChildren.add(chatMessageRemindMenu);
        // Check the network quality.
        IConfMenu networkDetectMenu = new RouterMenu(R.id.hwmdemo_confsetting_network_detect,
com.huawei.hwmdemo.R.string.hwmdemo_confsetting_network_check, "cloudlink://hwmeeting/networkdetection");
        commonMenuChildren.add(networkDetectMenu);
        MenuContainer commonMenuContainer = new MenuContainer(R.id.hwmdemo_confsetting_menu_common,
com.huawei.hwmdemo.R.string.hwmdemo_confsetting_common, commonMenuChildren);

        menus.add(audioVideoMenuContainer);
        menus.add(securityMenuContainer);
        menus.add(attendeePermissionMenuContainer);
        menus.add(commonMenuContainer);

        /*
        * [Demo] Add a group of setting items to Meeting settings.
        */
        List<IConfMenu> customChildren = new ArrayList<>();
        // Check the network quality.
        IConfMenu customeSettingMenuTest2 = new
```

```
RouterMenu(com.huawei.hwmdemo.R.id.conf_setting_menu_test2,  
com.huawei.hwmdemo.R.string.menu_conf_setting_menu_test1, "test");  
    customChildren.add(customSettingMenuTest2);  
    MenuContainer customContainer = new  
MenuContainer(com.huawei.hwmdemo.R.id.conf_setting_menu_test_group,  
com.huawei.hwmdemo.R.string.menu_conf_setting_menu_test_group, customChildren);  
    menus.add(customContainer);  
  
    return menus;  
}
```

### 6.4.2.2 Customizing a Menu on the Participants Screen

This API is used to customize the following menus on the **Participants** screen:

1. `buildParticipantMoreMenuItems`: customizes the menu items (area 1 in [Figure 6-24](#)) on the right of the title bar.
2. `buildParticipantItemMenuItems`: customizes the menu ([Figure 6-25](#)) displayed when a user touches a participant (area 2 in [Figure 6-24](#)) in the participant list.
3. `buildParticipantToolbarMenuItems`: customizes the bottom menu bar (area 3 in [Figure 6-24](#)) of the **Participants** screen during a meeting.
4. `buildParticipantToolbarMoreMenuItems`: customizes the menu ([Figure 6-26](#)) displayed when a user touches **More** (area 4 in [Figure 6-24](#)) at the bottom.
5. `buildWaitingToolbarMenuItems`: customizes the menu bar (in the red box in [Figure 6-27](#)) at the bottom of the **Waiting** screen.
6. `buildUnJoinedToolbarMenuItems`: customizes the menu bar (in the red box in [Figure 6-28](#)) at the bottom of the **Absent** screen.

#### Application Scenarios

Menu items in the six areas on the **Participants** screen need to be customized.

#### Precautions

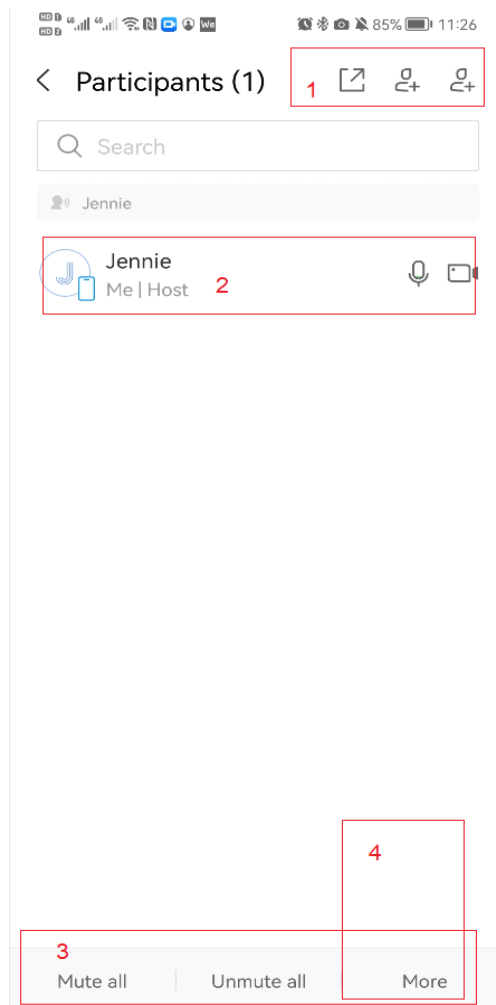
1. `sdkConfig` takes effect only when this configuration is passed during SDK initialization.

## Customizing the Menu Items on the Participants Screen

### Sample Code

```
sdkConfig.setParticipantMenuStrategy(new CustomParticipantMenuHandle());
```

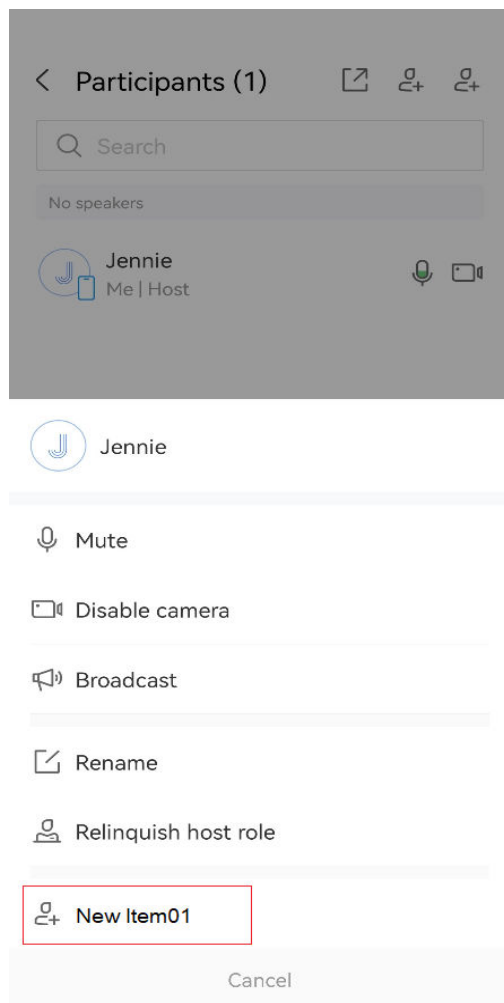
**Figure 6-24** Menu areas in the Participants screen



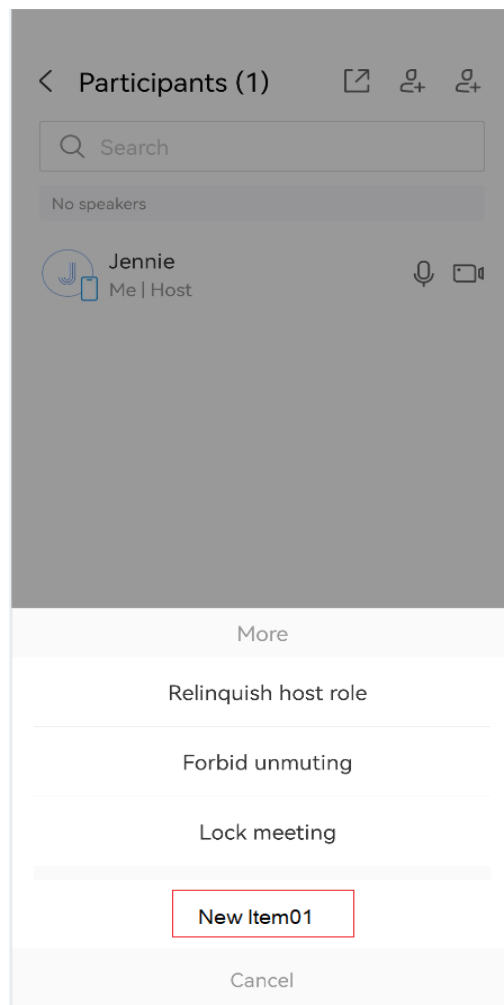


## Customizing a More Menu in the Participants List

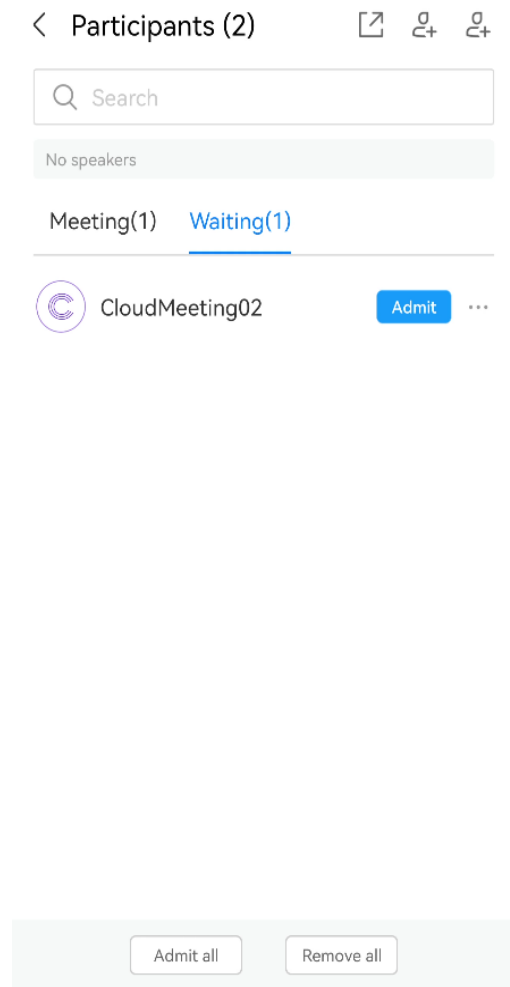
Figure 6-25 Customizing a More menu in the Participants list



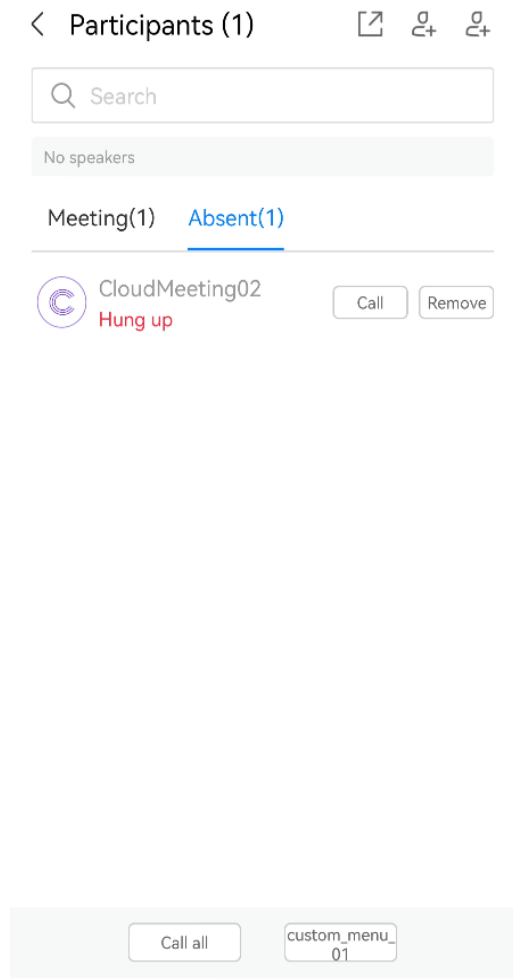
**Figure 6-26** Sample of a custom More menu in the participants list



**Figure 6-27** Customizing a menu in the waiting member list



**Figure 6-28** Customizing a menu in the absent participant list



### Sample Code

```
public class CustomParticipantMenuHandle implements IParticipantMenuStrategy {
    @Override
    public List<IConfMenu> buildParticipantMoreMenuItems() {
        List<IConfMenu> confMenus = new ArrayList<>();
        confMenus.add(new ParticipantShareMenu());
        confMenus.add(new ContantMenu());
        // [Demo] Add a custom menu.
        confMenus.add(new CustomMoreMenu());
        return confMenus;
    }
    @Override
    public List<IConfMenu> buildParticipantItemMenuItems() {
        List<IConfMenu> confMenus = new ArrayList<>();
        // Group 1
        confMenus.add(new MuteOrUnmuteMenu()); // Mute
        confMenus.add(new CameraMenu()); // Video
        confMenus.add(new HandsUpOrDownMenu().setDarkIcon(true)); // Raise hand
        confMenus.add(new SelectWatchOrCacnelMenu()); // Focus
        confMenus.add(new PrivateChatMenu()); // Direct message
        confMenus.add(new SharingBroadcastAndCancelMenu()); // Broadcast sharing
        confMenus.add(new BroastAndCacelMenu()); // Broadcast video
        // Group 2
        confMenus.add(new RenameMenu()); // Rename
        confMenus.add(new InviteOrCancelShareMenu()); // Invite to share or cancel sharing
    }
}
```

```
confMenus.add(new GrantOrCancelLocalRecordMenu()); // Allow or forbid local recording
confMenus.add(new SetAttendeeMenu()); // Set as panelist
confMenus.add(new ReleaseOrRequestChairManMenu()); // Apply to be host or relinquish host role
confMenus.add(new SetChairmanMenu()); // Set as host
confMenus.add(new SetOrCancelCoHostMenu()); // Set or unassign as co-host
confMenus.add(new MoveToWaitingRoomMenu()); // Move to waiting room
confMenus.add(new RecallMenu()); // Recall
if (HWMBizSdk.getPublicConfigApi().isChinaSite()) {
    confMenus.add(new CallOtherNumberMenu()); // Call other number
}
// Group 3
confMenus.add(new HangupMenu()); // Disconnect
confMenus.add(new AdmitMenu()); // Admit
confMenus.add(new AutoAdmitMenu()); // Auto admit
confMenus.add(new RemoveMenu()); // Remove

// [Demo] Add a custom menu.
confMenus.add(new CustomMoreMenu());
return confMenus;
}
@Override
public List<IConfMenu> buildParticipantToolbarMenuItems() {
    List<IConfMenu> confMenus = new ArrayList<>();
    //-----Menus available only for hosts-----
    // Mute all
    confMenus.add(new MuteAllMenu());
    // Unmute all
    confMenus.add(new CancelAllMuteMenu());
    // More
    confMenus.add(new MoreMenu());
    //-----Menus available only for non-host users-----
    // Raise hand
    confMenus.add(new HandsupMenu());
    // Lower hand
    confMenus.add(new HandsDownMenu());
    // Apply to be host
    confMenus.add(new RequestChairmanMenu());
    //-----Demo of adding a custom menu-----
    confMenus.add(new CustomMenu());
    return confMenus;
}
@Override
public List<IConfMenu> buildWaitingToolbarMenuItems() {
    List<IConfMenu> confMenus = new ArrayList<>();
    confMenus.add(new AdmitAllMenu());
    confMenus.add(new RemoveAllMenu());
    return confMenus;
}
@Override
public List<IConfMenu> buildUnJoinedToolbarMenuItems() {
    List<IConfMenu> confMenus = new ArrayList<>();
    confMenus.add(new CallAllMenu());
    return confMenus;
}
@Override
public List<IConfMenu> buildParticipantToolbarMoreMenuItems() {
    List<IConfMenu> confMenus = new ArrayList<>();
    confMenus.add(new ReleaseOrRequestChairManMenu());
    confMenus.add(new AllowUnmuteOrNotMenu());
    confMenus.add(new LockOrUnlockConfMenu());
    // [Demo] Add a custom menu.
    confMenus.add(new CustomMoreMenu());
    return confMenus;
}
}
```

### 6.4.2.3 Customizing the Menu Displayed upon a Touch on the Title Bar in a Meeting

You can customize the menu ([Figure 6-30](#)) displayed when you touch the title bar ([Figure 6-29](#)) in a meeting.

#### Application Scenarios

The content displayed on the meeting details panel needs to be adjusted, for example, hiding the password or adding a custom item.

#### Precautions

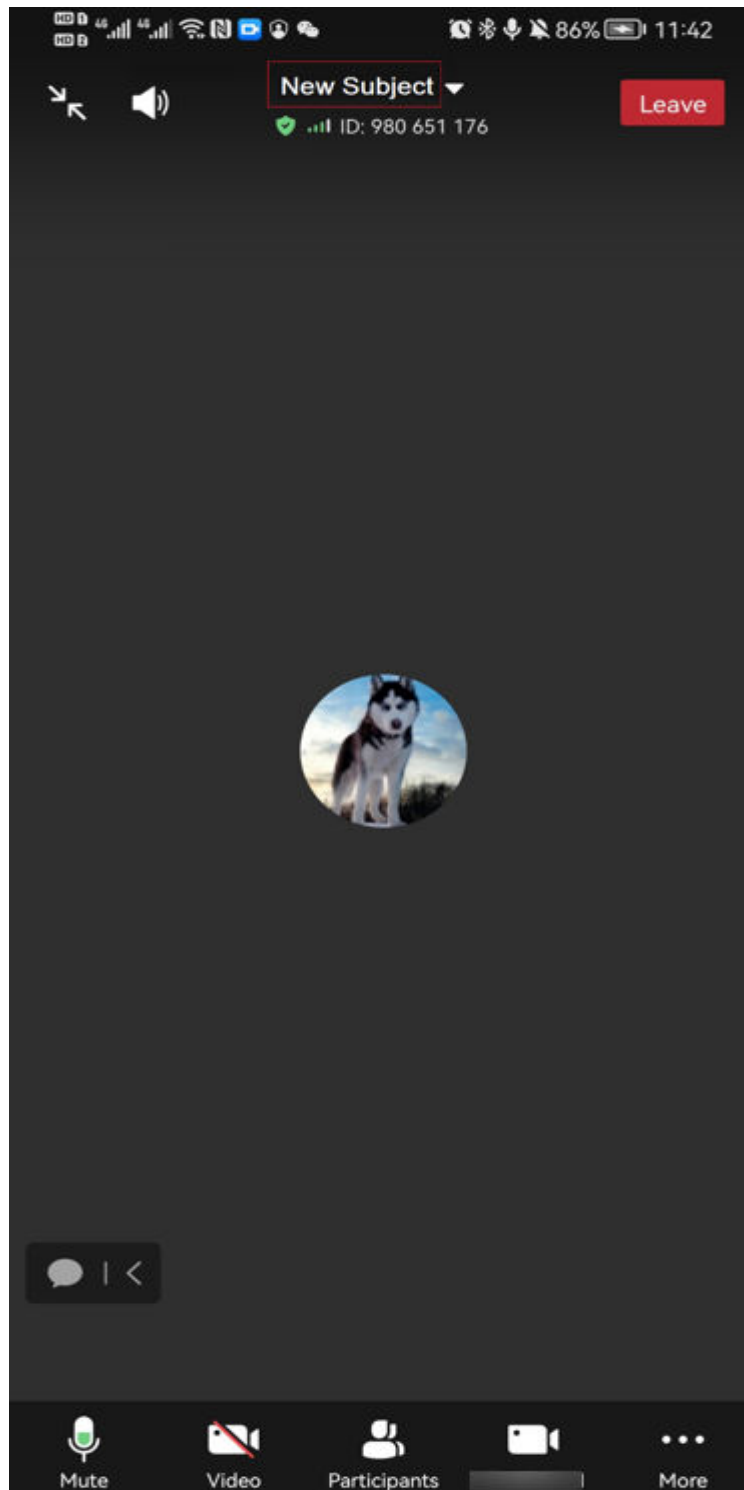
1. sdkConfig takes effect only when this configuration is passed during SDK initialization.

### Customizing the Menu Displayed upon a Touch on the Title Bar in a Meeting

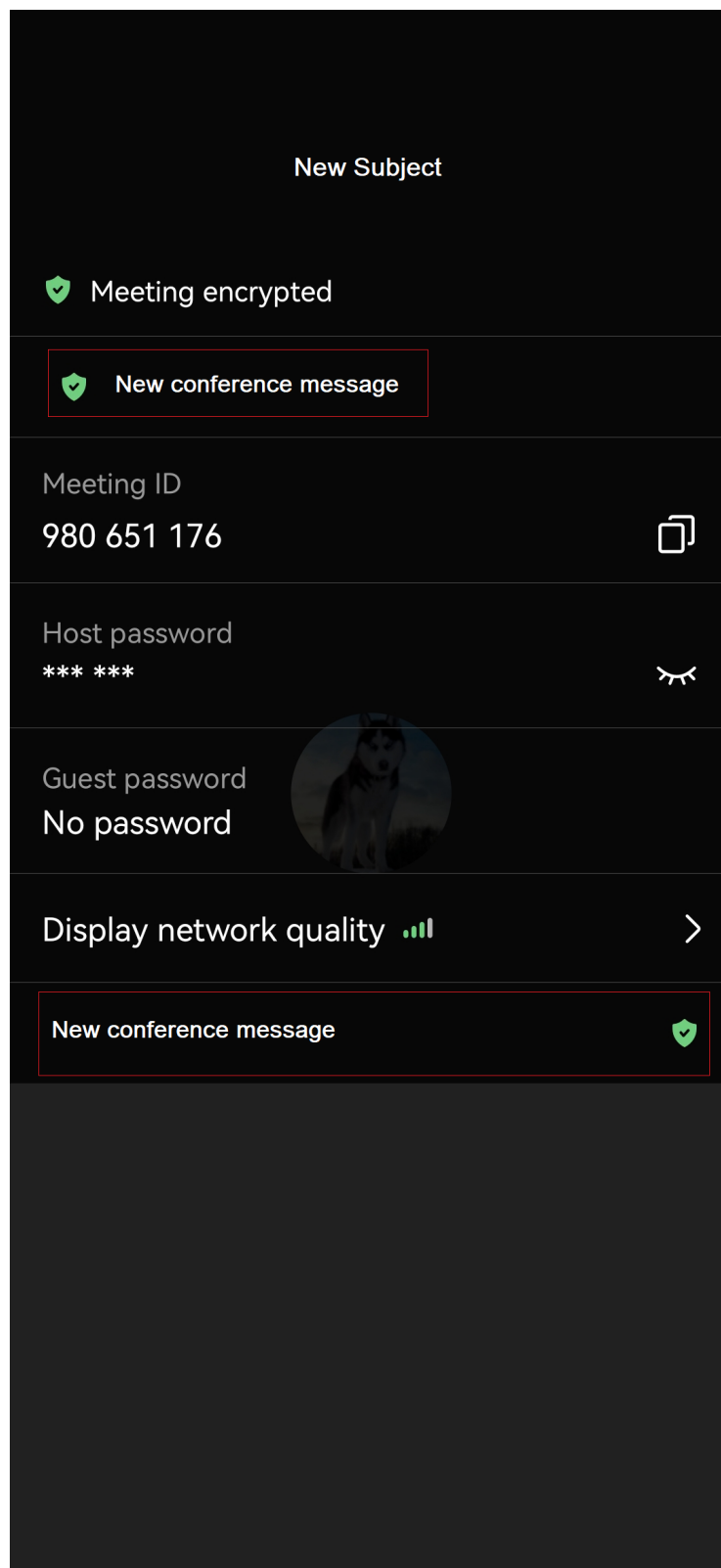
#### Sample Code

```
sdkConfig.setConfTitlePopwindowHandle(new CustomConfTitleBarPopwindowHandle());
```

Figure 6-29 Title bar area in a meeting



**Figure 6-30** Custom meeting details panel



### Sample Code

```
// Customize the menu displayed when the title bar in a meeting is touched. IMenuAction defines some view functions, which can be directly converted into ViewGroup to add, delete, modify, and query subviews.
```



```
public class CustomConfTitleBarPopwindowHandle implements IConfTitleBarPopwindowHandle {
    @Override
    public void buildConfTitleBarPopwindow(IMenuAction iMenuAction) {
        if (!HwMBizSdk.getBizOpenApi().isSelfChairMan()) {
            // Set the view of hiding the password if the user is not the host.
            View mPwdView = iMenuAction.findView(BuildInMenuType.CONF_TITLE_PWD_LAYOUT);
            if (mPwdView != null) {
                mPwdView.setVisibility(View.GONE);
            }
        } else {
            // Set the view of showing the password if the user is the host.
            View mPwdView = iMenuAction.findView(BuildInMenuType.CONF_TITLE_PWD_LAYOUT);
            if (mPwdView != null) {
                mPwdView.setVisibility(View.VISIBLE);
            }
        }
    }
}
```

### 6.4.2.4 Customizing a Screen for Adding Participants to a Meeting

When you touch the **Invite** button in the upper right corner of the participant list, the `doAddAttendees` callback method is triggered. You can customize the method, select contacts to be added to the meeting, and return the selected contact list via `onSuccess` of the callback.

#### Application Scenarios

Your application has integrated a corporate directory and you need to customize the function of adding contacts to a meeting.

#### Precautions

1. `sdkConfig` takes effect only when this configuration is passed during SDK initialization.

API for customizing the function of adding contacts to a meeting:

```
sdkConfig.setAddAttendeesHandle(new CustomAddAttendeesHandle());
```

The following figure shows the effect.

#### Sample code of customizing the method of adding participants

```
// Inject the screen for adding participants. The screen of selecting participants is displayed in the method.
public class CustomAddAttendeesHandle implements IAddAttendeesHandle {
    private HwmCallback<List<AttendeeModel>> callback;
    /**
     * Activity called by the curActivity.
     * selectedAccount: indicates the selected account.
     * isScheled: specifies whether to schedule a meeting.
     * callback: After the participant is added, the list of selected participants is returned.
     */
    @Override
    public void doAddAttendees(Activity curActivity, List<AttendeeModel> selectedAccount, String
selectParam, boolean isScheled, HwmCallback<List<AttendeeModel>> hwmCallback) {
        callback = hwmCallback;
        // You can pass the selected participant list to facilitate operations on the custom screen.
        Intent intent = new Intent(Utils.getApp(), AddPeopleByAppidAuthActivity.class);
        activity.startActivityForResult(intent,5000);
    }
    @Override
    public void dealContactSelect(Intent intent) {
    }
    @Override
    public void onActivityResult(int requestCode, int resultCode, Intent data) {
```

```
        if (requestCode == 5000){
            if(null != callback){
                // Callback returned if the selected participant joins the meeting.
                callback.onSuccess(DemoUtil.selectModels);
            }
        }
    }
}
```

**Sample code** of processing the custom screen of adding participants to a meeting. `AddPeopleByAppidAuthActivity` is a custom screen example.

```
public class AddPeopleByAppidAuthActivity extends Activity {
    private List<AttendeeModel> members;
    @SuppressWarnings("CheckResult")
    @Override
    public void onCreate(@Nullable Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.customize_add_people_by_appid_auth);
        TextView thirdAccountIdTextView = findViewById(R.id.third_account_id);
        TextView sipNumberTextView = findViewById(R.id.sip_number);
        TextView userPhoneTextView = findViewById(R.id.user_phone);
        TextView userNameTextView = findViewById(R.id.user_name);
        findViewById(R.id.add_people).setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String thirdAccountId = thirdAccountIdTextView.getText().toString();
                String sipNumber = sipNumberTextView.getText().toString();
                String phoneNumber = userPhoneTextView.getText().toString();
                // The display name is optional. If it is left empty, the display name in the corporate directory is
                used.
                String name = userNameTextView.getText().toString();
                members = new ArrayList<>();
                // Select one of the three methods. The ID of the third-party address book is valid only for app ID
                login.
                if (!TextUtils.isEmpty(thirdAccountId)) {
                    AttendeeModel attendeeModel = AttendeeModel.buildAttendeeByThirdUserId(thirdAccountId,
                    name);
                    members.add(attendeeModel);
                } else if (!TextUtils.isEmpty(sipNumber)) {
                    // Select one of the three methods. The SIP number is the account identifier of the meeting
                    corporate directory.
                    AttendeeModel attendeeModel =
                    AttendeeModel.buildAttendeeBySipNumber(sipNumber,name);
                    members.add(attendeeModel);
                } else if (!TextUtils.isEmpty(phoneNumber)) {
                    // Select one of the three methods. If a mobile number is specified, the outgoing call permission
                    is required.
                    AttendeeModel attendeeModel = AttendeeModel.buildAttendeeByPhone(phoneNumber,
                    name);
                    members.add(attendeeModel);
                } else {
                    DemoUtil.showToast("Select one of the three methods for joining a meeting.");
                    return;
                }
                DemoUtil.selectModels = members;
                Intent intent = new Intent();
                setResult(1,intent);
                finish();
            }
        });
    }
}
```

### 6.4.2.5 Customizing a Notification Bar in a Meeting

This API is used to customize the meeting notification icon in the notification bar. [Figure 6-31](#) shows the default icon.

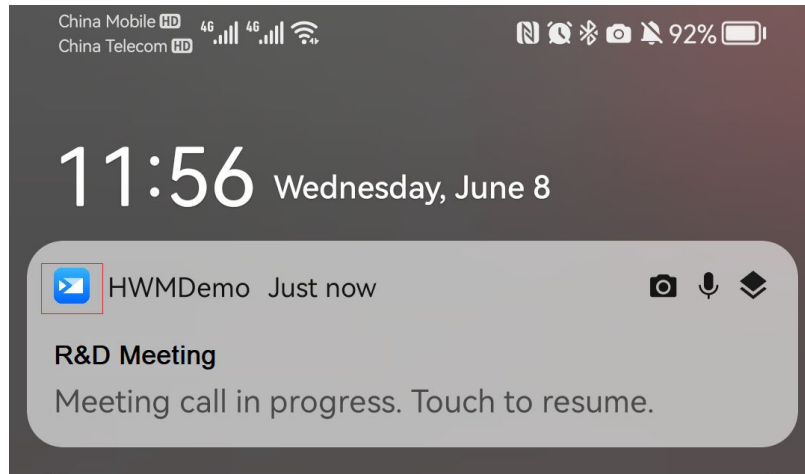
### Application Scenarios

The notification icon in the notification bar needs to be the same as the app icon.

### Precautions

1. sdkConfig takes effect only when this configuration is passed during SDK initialization.

**Figure 6-31** Sample of a custom notification bar in meetings



### Sample Code

```
sdkConfig.setNotificationStrategy(new INotificationStrategy() {  
    @Override  
    public int resSmallIcon() {  
        return R.mipmap.ic_launcher;  
    }  
});
```

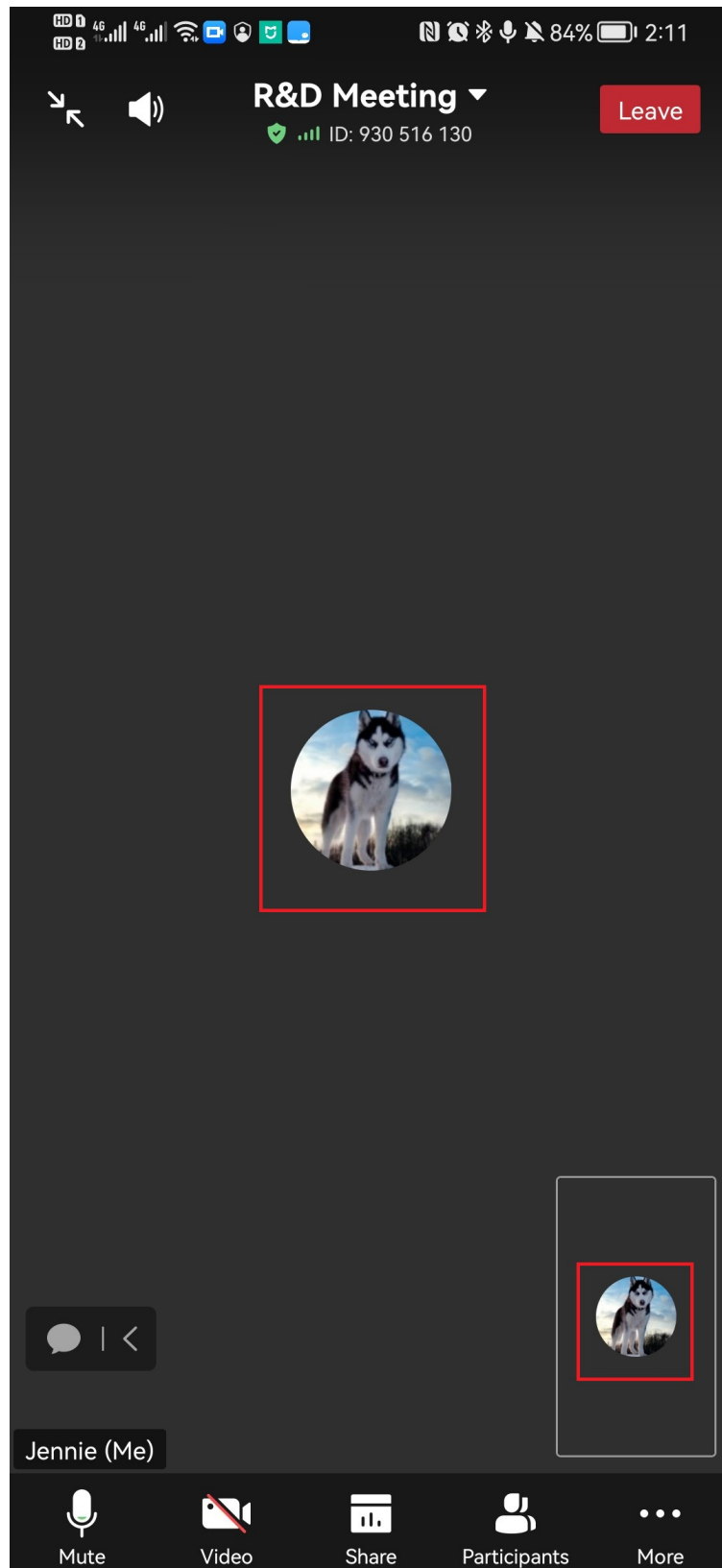
## 6.4.2.6 Customizing the Profile Picture

### API Description

This API is used to customize the profile picture displayed after login.

### Scenarios

Figure 6-32 PiP view



**Figure 6-33** Gallery view

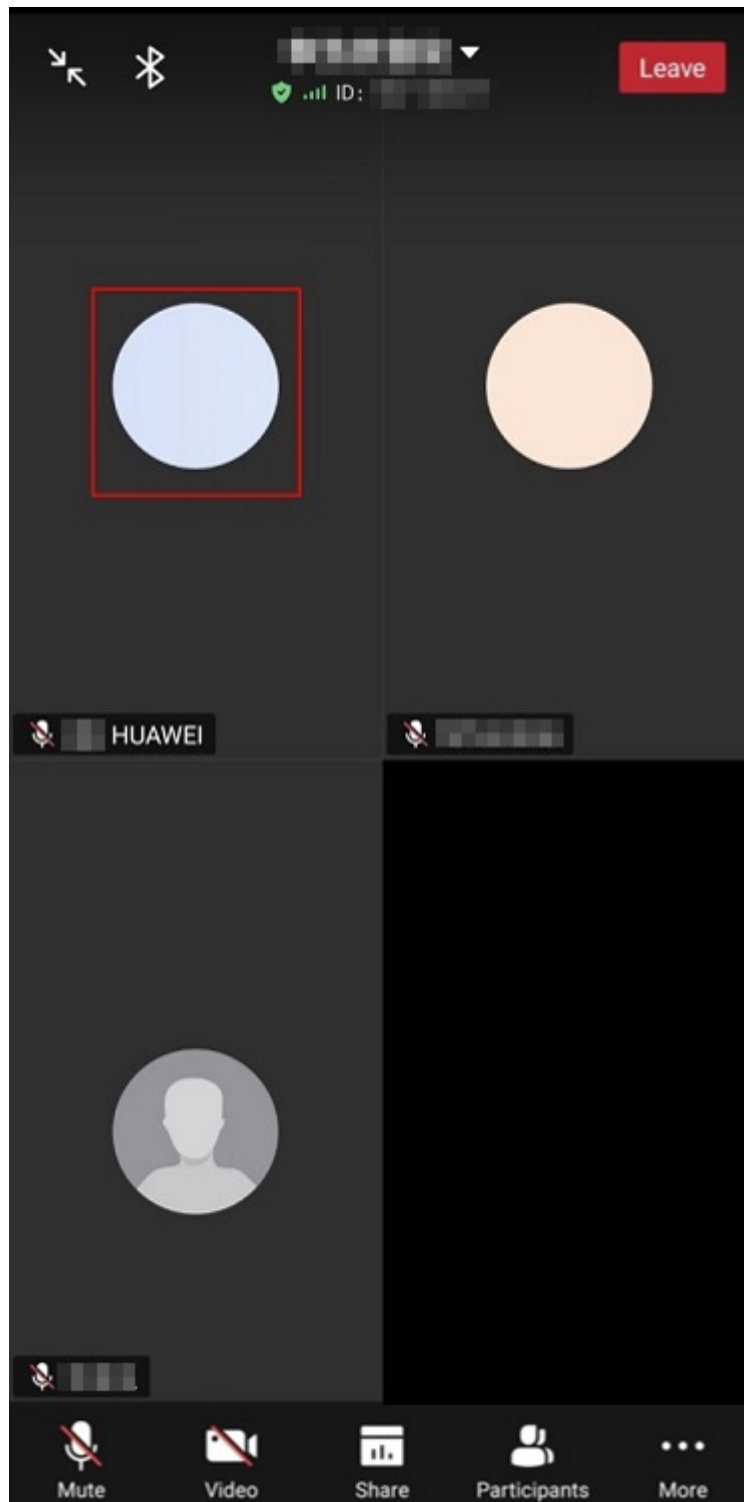
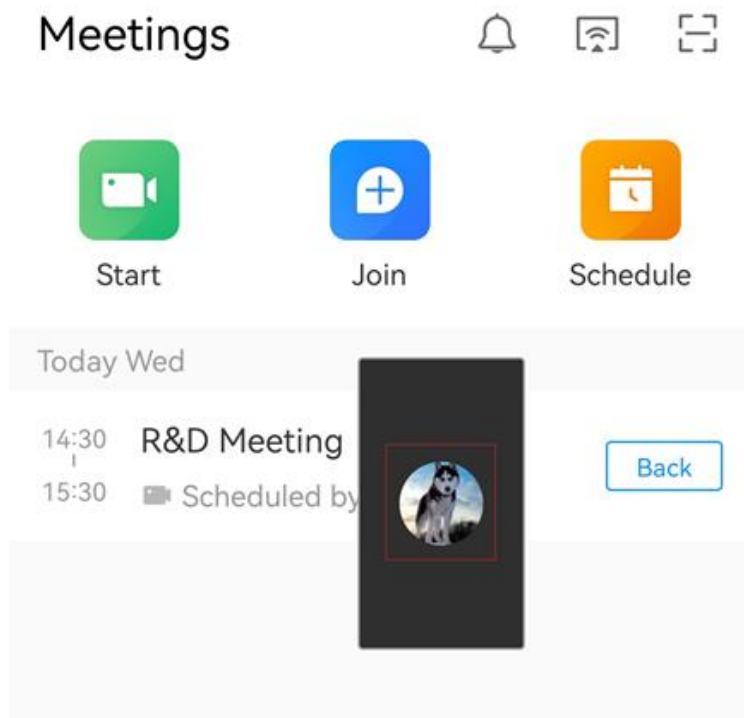


Figure 6-34 Mini window



### Precautions

The profile picture of a user who has not logged in cannot be customized.

### Method Definition

```
public Bitmap queryContactAvatar(ContactInfo contactInfo)
```

### Parameter Description

Table 6-15 ContactInfo parameter description

| Parameter   | Type   | Description   |
|-------------|--------|---|
| account     | String | This parameter is preferentially used in the account and password login scenario. |
| thirdUserId | String | This parameter is preferentially used in the app ID login scenario.               |
| sipNumber   | String | This parameter is preferentially used in the cross-enterprise scenario.           |

### Return Values

**Table 6-16**

| Parameter | Type   | Description                          |
|-----------|--------|--------------------------------------|
| bitmap    | Bitmap | Bitmap class of the profile picture. |

**Sample Code**

```
sdkConfig.setQueryContactAvatarStrategy(new IQueryContactAvatarStrategy() {
    @Override
    public Bitmap queryContactAvatar(ContactInfo contactInfo) {
        String extendedField = contactInfo.getExtendedField();
        HCLog.i(TAG, "setQueryContactInfoStrategy account: " +
        StringUtil.formatString(contactInfo.getAccount())
        + " thirdUserId: " + StringUtil.formatString(contactInfo.getThirdUserId())
        + " sipNumber: " + StringUtil.formatString(contactInfo.getSipNumber())
        + " extendedField: " + StringUtil.formatString(extendedField)
        + " realNameAccount : " + StringUtil.formatName(contactInfo.getRealNameAccount()));
        // When a third party queries the address book, the profile picture of the corresponding user is
        returned. In the sample code, a default picture is returned.
        return BitmapFactory.decodeResource(resources, R.mipmap.ic_launcher);
    }
});
```

### 6.4.2.7 Customizing a Watermark for a Meeting

You can customize a watermark for shared content in a meeting in OpenSDKConfig.

**Figure 6-35** displayed the watermark effect.

**Application Scenarios**

Watermarks need to be added to shared content in the following scenarios:

1. Internal meetings in which shared materials are confidential and can be viewed only by some personnel
2. Cross-enterprise/region meetings that require leakage prevention of shared materials
3. Other scenarios that may cause leakage of important shared materials

**Precautions**

1. sdkConfig takes effect only when this configuration is passed during SDK initialization.

Figure 6-35 Sample of a custom watermark



**NOTE**

Watermarks can be added to images presented to recipients during desktop, program, and whiteboard sharing. The custom watermarks take effect only when the watermark function is enabled on the server. If you do not customize a watermark, the mobile number, email address, meeting ID, and nickname are displayed in descending order by priority by default. The font transparency is 10%.

**Sample Code**

```
// Customize the watermark to be displayed in a meeting.
public class CustomWatermarkHandle implements IWatermarkHandle {
    @Override
    public Bitmap getWatermarkBitmap(Activity curActivity) {
        Bitmap bitmap = BitmapFactory.decodeResource(curActivity.getResources(), R.drawable.watermark);
        return bitmap;
    }
}
```



```
}  
sdkConfig.setWatermarkHandle(new CustomWatermarkHandle());
```

### 6.4.2.8 Customizing the Status Bar Menu

You can customize the status bar in **OpenSDKConfig**.

#### Application Scenarios

Hide the recording button on the status bar.

#### Precautions

1. sdkConfig takes effect only when this configuration is passed during SDK initialization.

#### Sample Code

```
public class CustomStatusBarMenuHandle implements IStatusBarMenuStrategy {  
    @Override  
    public List<IConfMenu> buildRecordMenuItems() {  
        List<IConfMenu> confMenus = new ArrayList<>();  
        // If the recording button does not need to be displayed on the status bar in the upper left corner of a  
        meeting, comment out the following code.  
        confMenus.add(new StatusBarRecordMenu());  
        return confMenus;  
    }  
}  
  
sdkConfig.setStatusBarMenuStrategy(new CustomStatusBarMenuHandle ());
```

### 6.4.2.9 Obtaining an Error Message

This API is used to obtain an error message.

#### Precautions

None

#### Method Definition

```
String getErrorMessage(int errCode);
```

#### Sample Code

```
public static void showToast(String apiName, int retCode, String desc) {  
    String msg = HWMBizSdk.getBizOpenApi().getErrorMessage(retCode);  
    if (TextUtils.isEmpty(msg)) {  
        Log.i(TAG, "showToast msg == null!");  
    }  
    String errorMsg = msg + "\n" + "Error code: " + retCode + "\n" + "Error description: " + desc;  
    BaseDialogBuilder baseDialogBuilder = new BaseDialogBuilder(DemoActivity.getInstance());  
    baseDialogBuilder  
        .setMessage(errorMsg)  
        .addAction("OK",  
            (dialog, button, index) -> {  
                dialog.dismiss();  
            })  
        .show();  
}
```

### 6.4.2.10 Android Menu Functions

| Scenario    | Button ID                   | Class            | Path   | Button Name           | Description  |
|-------------|-----------------------------|------------------|--|-----------------------|--|
| Bottom menu | hwmconf_menu_audience_join  | AudienceJoinMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/ | Attendee view         | Used by the webinar host to allow attendees to watch the webinar |
|             | hwmconf_menu_hands          | HandsMenu        | com/huawei/hwmconf/presentation/dependency/menu/buildin/ | Raise hand/Lower hand | Used by a guest/attendee to raise or lower their hand            |
|             | hwmconf_menu_invite         | InviteMenu       | com/huawei/hwmconf/presentation/dependency/menu/buildin/ | Invite                | Used by the host to invite users to the meeting                  |
|             | hwmconf_inmeeting_video_btn | CameraMenu       | com/huawei/hwmconf/presentation/dependency/menu/buildin/ | Video                 | Enable or disable the camera during a meeting                    |
|             | hwmconf_inmeeting_mic_btn   | MicMenu          | com/huawei/hwmconf/presentation/dependency/menu/buildin/ | Mute/Unmute           | Enable or disable the microphone during a meeting                |

| Scenario | Button ID                           | Class             | Path   | Button Name      | Description   |
|----------|-------------------------------------|-------------------|--|------------------|---|
|          | hwmconf_in_meeting_chat_btn         | ChatMenu          | com/huawei/hwmconf/presentation/dependency/menu/buildin/ | Chats            | Opening the chat screen during a meeting                  |
|          | hwmconf_in_meeting_participants_btn | ParticipantMenu   | com/huawei/hwmconf/presentation/dependency/menu/buildin/ | Participants     | Opening the participant list during a meeting             |
|          | hwmconf_menu_share_conf_link        | ShareConfLinkMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/ | Share            | Sharing meeting details during a meeting                  |
|          | hwmconf_in_meeting_share_screen     | ShareMenu         | com/huawei/hwmconf/presentation/dependency/menu/buildin/ | Share            | Initiating sharing during a meeting                       |
|          | hwmconf_in_meeting_speaker_btn      | SpeakerMenu       | com/huawei/hwmconf/presentation/dependency/menu/buildin/ | Speaker/Earpiece | Switching between speakers and earpieces during a meeting |

| Scenario  | Button ID                        | Class                | Path  | Button Name     | Description                                |
|-----------|----------------------------------|----------------------|---|-----------------|--|
|           | hwmconf_menu_trans_video         | TransVideoMenu       | com/huawei/hwmconf/presentation/dependency/menu/buildin/      | Switch to video | Switching a P2P voice call to a video call |
|           | hwmconf_inmeeting_more_btn       | MoreMenu             | com/huawei/hwmconf/presentation/dependency/menu/buildin/      | More            | More meeting control operations            |
| More menu | hwmconf_more_menu_audio_to_video | CallAudioToVideoMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/call/ | Video           | Switching a P2P voice call to a video call |
|           | hwmconf_more_menu_video_to_audio | CallVideoToAudioMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/call/ | Switch to voice | Switching a P2P video call to a voice call |
|           | hwmconf_inmeeting_chat_btn       | ChatMenu             | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Chats           | Opening the chat screen during a meeting   |

| Scenario | Button ID                           | Class               | Path  | Button Name               | Description  |
|----------|-------------------------------------|---------------------|---|---------------------------|--|
|          | hwmconf_in_meeting_cloud_live       | CloudLiveMenu       | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Live broadcast            | Starting or ending streaming a meeting                                       |
|          | hwmconf_in_meeting_conf_setting     | ConfSettingMenu     | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Settings                  | Meeting setting button   |
|          | hwmconf_in_meeting_connect_audio    | ConnectAudioMenu    | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Set audio                 | Enabling audio (In this case, speakers cannot be disabled.)                  |
|          | hwmconf_in_meeting_disconnect_audio | DisconnectAudioMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Disconnect audio          | Disconnecting audio in a meeting to disable speakers                         |
|          | hwmconf_in_meeting_hands_up_toast   | HandsUpOrDownMenu   | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Raise hand/<br>Lower hand | Used by a participant/attendee to raise or lower their hand during a meeting |

| Scenario | Button ID                             | Class                        | Path  | Button Name                                   | Description  |
|----------|---------------------------------------|------------------------------|---|---|--|
|          | hwmconf_inmeeting_simul_interpret     | InterpretMenu                | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Interpret                                     | Setting the simultaneous interpretation language           |
|          | hwmconf_inmeeting_invite_btn          | InviteMoreMenu               | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Invite  | Inviting participants                                      |
|          | hwmconf_inmeeting_recording_start     | OpenOrCloseRecordingMenu     | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Recording                                     | Enabling or pausing cloud recording during a meeting       |
|          | hwmconf_participant_release_host      | ReleaseOrRequestChairmanMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Apply for being host/<br>Relinquish host role | Applying for being the host or relinquishing the host role |
|          | hwmconf_more_menu_start_or_stop_share | StartOrStopShareMenu         | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Share   | Initiating or stopping screen sharing during a meeting     |

| Scenario             | Button ID                              | Class                 | Path  | Button Name                       | Description   |
|----------------------|--|-----------------------|---|-----------------------------------|---|
|                      | hwmconf_subtitle_btn                   | Subtitles Menu        | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Enable captions                   | Enabling or disabling live caption translation during a meeting |
|                      | hwmconf_more_menu_switch_camera        | SwitchCameraMenu      | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Switch camera                     | Switching between the front and rear cameras                    |
|                      | hwmconf_inmeeting_virtual_bg           | VirtualBackgroundMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/ | Virtual background                | Setting a virtual background during a meeting                   |
| <b>Settings menu</b> | hwmconf_configsetting_camera_direction | RouterMenu            | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml      | Auto<br><b>(Camera direction)</b> | Setting the camera shooting angle during a meeting              |
|                      | hwmconf_configsetting_network_detect   | RouterMenu            | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml      | Network detection                 | Checking the current network environment during a meeting       |

| Scenario | Button ID                                      | Class      | Path   | Button Name         | Description  |
|----------|--|------------|--|---------------------|--|
|          | hwmconf_confsetting_camera_restriction         | RouterMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Camera permissions  | Used by the host to allow or forbid participants to enable the camera or force all participants to enable the camera |
|          | hwmconf_confsetting_local_recording_permission | RouterMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Local recording for | Used by the host to open recording to only the host, everyone, or specific participants                              |
|          | hwmconf_confsetting_beauty                     | SwitchMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Beautification      | Enabling beauty filters during a meeting   |
|          | hwmconf_confsetting_video_mirroring            | SwitchMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Video mirroring     | Enabling video mirroring during a meeting  |
|          | hwmconf_confsetting_hide_self                  | SwitchMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | My feed             | Displaying your feed in the upper right corner during a meeting  |
|          | hwmconf_confsetting_noise_reduction            | SwitchMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Noise reduction     | Filtering out ambient sounds to make your voice clearer in the noisy environment                                     |
|          | hwmconf_confsetting_high_resolution            | SwitchMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | HD preferred        | Prioritizing HD video during a meeting   |



| Scenario | Button ID                               | Class      | Path   | Button Name                    | Description   |
|----------|---|------------|--|--------------------------------|---|
|          | hwmconf_confsetting_whistle_detection   | SwitchMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Auto mute if feedback detected | Automatically muting the microphone when feedback is detected during a meeting  |
|          | hwmconf_confsetting_lock_meeting        | SwitchMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Lock meeting                   | Locking a meeting to allow users to join the meeting only when they are invited by the host                                       |
|          | hwmconf_confsetting_enable_waiting_room | SwitchMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Waiting room                   | Enabling/Disabling the waiting room. When the waiting room is enabled, guests cannot join the meeting until the host admits them. |
|          | hwmconf_confsetting_allow_unmute        | SwitchMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Unmute                         | Used by the host to allow participants to unmute themselves during a meeting  |
|          | hwmconf_confsetting_allow_sharing       | TextMenu   | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Share screen                   | Allowing only the host or everyone to share content during a meeting  |
|          | hwmconf_confsetting_allow_rename        | SwitchMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Rename                         | Used by the host to allow participants to rename themselves during a meeting  |
|          | hwmconf_confsetting_enable_brighten     | SwitchMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Adjust lighting                | Improving video experience when lighting is poor  |

| Scenario | Button ID                               | Class      | Path   | Button Name           | Description   |
|----------|---|------------|--|-----------------------|---|
|          | hwmconf_confsetting_allow_open_camera   | SwitchMenu | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Enable camera         | Used by the host to allow participants to enable or disable the camera  |
|          | hwmconf_confsetting_picture_ratio       | TextMenu   | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Video ratio           | Using adaptive/original video aspect ratio during a meeting   |
|          | hwmconf_confsetting_allow_join_conf     | TextMenu   | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Open to               | Used by the host to set the scope of users (everyone, corporate users, or invited users) who can join a meeting                 |
|          | hwmconf_confsetting_preempt_share_type  | TextMenu   | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Sharing interruption  | Used by the host to allow or forbid a participant to stop sharing of another participant and start new sharing                  |
|          | hwmconf_confsetting_chat_permission     | TextMenu   | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Chat settings         | Used by the host to allow participants to chat freely or with the host only, disable direct messaging, or disable chats for all |
|          | hwmconf_confsetting_subtitles_language  | TextMenu   | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Caption translation   | Setting the caption language to Chinese, English, or German during a meeting  |
|          | hwmconf_confsetting_chat_message_remind | TextMenu   | HWMPermission<br>\src\main<br>\res\values<br>\ut_ids.xml | Message notifications | Notifying chat messages on the screen or as pop-ups, or disabling notifications   |

| Scenario   | Button ID                               | Class                | Path  | Button Name  | Description  |
|--|---|----------------------|---|--------------|--|
| Menu bar in the upper right corner of the participant list | hwmconf_participant_participants_add    | ContantMenu          | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/more/ | Contacts     | Accessing the custom address book  |
|  | hwmconf_participant_download_link_share | ParticipantShareMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/more/ | Share        | Sharing the meeting details  |
| Menus displayed after tapping a participant                | hwmconf_participant_item_admit          | AdmitMenu            | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Admit        | Used by the host to admit a member in the waiting room to a meeting  |
|  | hwmconf_menu_attendee_profile           | AttendeeProfileMenu  | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | View profile | Viewing details about a participant (You can call the <b>IUserProfileHandle</b> API to customize the redirection to the participant details screen.) |

| Scenario | Button ID                                   | Class               | Path  | Button Name                | Description  |
|----------|---|---------------------|---|----------------------------|--|
|          | hwmconf_participant_item_auto_admit         | AutoAdmitMenu       | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Auto admit to meeting      | Used by the host to allow a user to automatically join a meeting without waiting |
|          | hwmconf_ctrl_back_to_main_conf              | BackToMainConfMenu  | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Return to main session     | Used by a participant to return to the main session from a breakout room         |
|          | hwmconf_participant_item_broadcast          | BroastAndCacelMenu  | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Broadcast/Cancel broadcast | Used by the host to broadcast a participant or cancel broadcast                  |
|          | hwmconf_participant_item_call_other_numbers | CallOtherNumberMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Call other number          | Dialing another number of a participant during a meeting                         |

| Scenario | Button ID                                    | Class                   | Path  | Button Name     | Description  |
|----------|--|-------------------------|---|-----------------|--|
|          | hwmconf_ctrl_end_conf                        | EndConfMenu             | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | End for all     | Used by the host to end a meeting for all participants       |
|          | hwmconf_participant_item_hang_up             | HangupMenu              | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Disconnect      | Used by the host to disconnect a participant                 |
|          | hwmconf_participant_item_invite_screen_share | InviteOrCancelShareMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Invite to share | Used by the host to invite a participant to share content    |
|          | hwmconf_ctrl_leave_conf                      | LeaveConfMenu           | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Leave           | Used by a participant to leave a meeting or the waiting room |

| Scenario | Button ID                                     | Class                 | Path  | Button Name          | Description  |
|----------|---|-----------------------|---|----------------------|--|
|          | hwmconf_participant_item_move_to_waiting_room | MoveToWaitingRoomMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Move to waiting room | Used by the host to move a participant to the waiting room |
|          | hwmconf_participant_item_mute_unmute          | MuteOrUnmuteMenu      | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Mute/Unmute          | Used by the host to mute or unmute a participant           |
|          | hwmconf_participant_item_chat_with            | PrivateChatMenu       | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Direct message       | Direct messaging a participant                             |
|          | hwmconf_participant_item_redial               | RecallMenu            | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Call                 | Used by the host to call a participant again               |

| Scenario | Button ID                       | Class                   | Path  | Button Name        | Description                                      |
|----------|---------------------------------|-------------------------|---|--------------------|--|
|          | hwmconf_participant_item_remove | RemoveMenu              | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Remove             | Used by the host to remove a participant         |
|          | hwmconf_menu_rename             | RenameMenu              | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Rename             | Renaming a participant                           |
|          | hwmconf_participant_item_report | ReportMenu              | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Report             | Reporting a participant                          |
|          | hwmconf_participant_item_watch  | SelectWatchOrCancelMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Focus/Cancel focus | Focusing on a participant or cancelling focusing |

| Scenario | Button ID                           | Class                 | Path  | Button Name     | Description  |
|----------|-------------------------------------|-----------------------|---|-----------------|--|
|          | hwmconf_menu_set_attendee           | SetAttendeeMenu       | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Set as attendee | Used by the host to set a panelist as an attendee in a webinar |
|          | hwmconf_participant_item_set_chair  | SetChairmanMenu       | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Set as host     | Used by the host to transfer the host role to a participant    |
|          | hwmconf_participant_item_set_cohost | SetOrCancelCoHostMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Set as co-host  | Used by the host to set a participant as a co-host             |
|          | hwmconf_menu_set_panelist           | SetPanelistMenu       | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/item/ | Set as panelist | Used by a webinar host to set an attendee as a panelist        |



| Scenario | Button ID                                | Class                           | Path  | Button Name         | Description  |
|----------|--|---------------------------------|---|---------------------|--|
|          | hwmconf_menu_allow_speak_or_not          | AllowSpeakerOrNotMenu           | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/     | Block unmute        | Used by the host to forbid a participant to unmute   |
|          | hwmconf_participant_allow_unmute_self    | AllowUnmuteOrNotMenu            | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/     | Allow unmute        | Used by the host to allow a participant to unmute  |
|          | hwmconf_participant_item_local_recording | GrantOrCancelLocalRecordingMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/     | Allow recording     | Used by the host to allow or forbid a participant to perform local recording   |
|          | hwmconf_ctrl_trans_chair_and_leave_conf  | TransferChairAndLeaveMenu       | com/huawei/hwmconf/presentation/dependency/menu/participant/item/ | Assign host & leave | Used by the host to assign a new host and leave a meeting<br>(You can use the <b>openSDKConfig.setSupportTransferChairOnLeave(true)</b> method to display this button. <b>true</b> : displays the button. <b>false</b> (default value): hides the button.) |

| Scenario                                       | Button ID                             | Class             | Path   | Button Name | Description   |
|--|---------------------------------------|-------------------|--|-------------|---|
| Menu bar at the bottom of the participant list | hwmconf_participant_unmute_all        | CancelAllMuteMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/toolbar/ | Unmute all  | Used by the host to unmute all participants                                   |
|  | hwmconf_participant_bottom_hands_down | HandsDownMenu     | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/toolbar/ | Lower hand  | Used by a guest to lower their hand or by the host to lower participant hands |
|  | hwmconf_participant_bottom_hands_up   | HandsUpMenu       | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/toolbar/ | Raise hand  | Used by a guest to raise their hand   |
|  | hwmconf_participant_more_btn          | MoreMenu          | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/toolbar/ | More        | More buttons on the menu bar at the bottom of the participant list            |

| Scenario | Button ID                       | Class               | Path   | Button Name      | Description                                 |
|----------|---------------------------------|---------------------|--|------------------|---|
|          | hwmconf_participant_mute_all    | MuteAllMenu         | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/toolbar/ | Mute all         | Used by the host to mute all participants   |
|          | hwmconf_participant_apply_chair | RequestChairmanMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/toolbar/ | Apply to be host | Used by a guest to apply for being the host |
|          | hwmconf_participant_admit_all   | AdmitAllMenu        | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/toolbar/ | Admit all        | Admit all waiting members to the meeting    |
|          | hwmconf_participant_remove_all  | RemoveAllMenu       | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/toolbar/ | Remove all       | Remove all members from the waiting room    |

| Scenario  | Button ID                        | Class                | Path   | Button Name  | Description  |
|---|----------------------------------|----------------------|--|--------------|--|
|   | hwmconf_participant_call_all     | CallAllMenu          | com/huawei/hwmconf/presentation/dependency/menu/buildin/participant/toolbar/ | Call all     | Call all absent participants (Use the <b>ICallAllAttendees-Strategy</b> class to customize the event of touching this button.) |
| More menu bar at the bottom of the participant list | hwmconf_participant_lock_meeting | LockOrUnlockConfMenu | com/huawei/hwmconf/presentation/dependency/menu/buildin/more/                | Lock meeting | Locking a meeting to allow users to join the meeting only when they are invited by the host                                    |

### 6.4.2.11 Customizing the Text for a Specific Scenario

This API is used to customize the text for a specific scenario.

#### Precautions

None

#### Method Definition

```
String getString(HWMUICustomTextScene scene);
```

#### Parameter Description

**Table 6-17** Enumerated values of HWMUICustomTextScene

| Enumerated Value                       | Description  |
|--|--|
| CLOUD_RECORD_FINISHED_ALERT_TEXT_SCENE | Text in the dialog box displayed when cloud recording ends due to meeting closure. |

| Enumerated Value                                  | Description   |
|---|---|
| CLOUD_RECORD_FINISHED_ALERT_TEXT_IN_MEETING_SCENE | Text in the dialog box displayed when cloud recording ends in an ongoing meeting. |
| LEAVE_OR_END_CONF_POPUP_WINDOW_TEXT_SCENE         | Title of the dialog box for leaving or ending a meeting.                          |
| CLOUD_RECORD_MENU_TITLE_TEXT_SCENE                | Cloud recording title in the recording pop-up menu.                               |
| MAIN_WINDOW_CLOUD_RECORD_DESCRIPTION_TEXT_SCENE   | Cloud recording description in the main window.                                   |

### Sample Code

```
public class CustomIUICustomTextHandler implements IUICustomTextHandler {
    @Override
    public String getString(HWMUICustomTextScene scene) {
        Map<HWMUICustomTextScene, String> customTextMap = new HashMap<>();
        customTextMap.put(HWMUICustomTextScene.CLOUD_RECORD_FINISHED_ALERT_TEXT_SCENE,
            DemoUtil.getResContext().getString(R.string.conf_cloud_record_finished_alert_text));
        customTextMap.put(HWMUICustomTextScene.CLOUD_RECORD_FINISHED_ALERT_TEXT_IN_MEETING_SCENE,
            DemoUtil.getResContext().getString(R.string.conf_cloud_record_finished_alert_text_in_meeting));
        customTextMap.put(HWMUICustomTextScene.LEAVE_OR_END_CONF_POPUP_WINDOW_TEXT_SCENE,
            DemoUtil.getResContext().getString(R.string.leave_or_end_conf_popup_window_text_scene));
        customTextMap.put(HWMUICustomTextScene.CLOUD_RECORD_MENU_TITLE_TEXT_SCENE,
            DemoUtil.getResContext().getString(R.string.cloud_record_menu_title_text_scene));
        customTextMap.put(HWMUICustomTextScene.MAIN_WINDOW_CLOUD_RECORD_DESCRIPTION_TEXT_SCENE,
            DemoUtil.getResContext().getString(R.string.main_window_cloud_record_des_text_scene));
        String value = customTextMap.get(scene);
        return value != null ? value : "";
    }
}
```

## 6.4.2.12 Customizing the Icon for a Specific Scenario

This API is used to customize the icon for a specific scenario.

### Precautions

None

### Method Definition

```
HWMUICustomImageInfo getImage(HWMUICustomImageScene scene);
```

### Parameter Description

**Table 6-18** Enumerated values of HWMUICustomImageScene

| Enumerated Value              | Description   |
|-------------------------------|---|
| CLOUD_RECORD_ICON_IMAGE_SCENE | Main cloud recording icon in a meeting (in the recording pop-up menu and participant list). |

| Enumerated Value                    | Description                                    |
|-------------------------------------|--|
| MAIN_WINDOW_CLOUD_RECORD_ICON_SCENE | Small cloud recording icon in the main window. |
| MAIN_WINDOW_CLOUD_RECORD_LOGO_SCENE | Large cloud recording logo in the main window. |

**Table 6-19** HWMUICustomImageInfo parameter description

| Parameter | Type | Description                 |
|-----------|------|-----------------------------|
| image     | int* | Custom icon resource index. |
| width     | int  | Icon width, in pixel.       |
| height    | int  | Icon height, in pixel.      |

### Sample Code

```
public class CustomUICustomImageHandler implements IUICustomImageHandler {
    @Override
    public HWMUICustomImageInfo getImage(HWMUICustomImageScene scene) {
        Map<HWMUICustomImageScene, HWMUICustomImageInfo> customImageMap = new HashMap<>();
        HWMUICustomImageInfo cloudRecordIcon = new HWMUICustomImageInfo();
        cloudRecordIcon.setImage(R.mipmap.hwmconf_ic_launcher)
            .setWidth(ViewGroup.LayoutParams.WRAP_CONTENT)
            .setHeight(ViewGroup.LayoutParams.WRAP_CONTENT);
        customImageMap.put(HWMUICustomImageScene.CLOUD_RECORD_ICON_IMAGE_SCENE,
            cloudRecordIcon);
        HWMUICustomImageInfo mainCloudRecord = new HWMUICustomImageInfo();
        mainCloudRecord.setImage(R.mipmap.hwmconf_ic_launcher)
            .setWidth(ViewGroup.LayoutParams.WRAP_CONTENT)
            .setHeight(ViewGroup.LayoutParams.WRAP_CONTENT);
        customImageMap.put(HWMUICustomImageScene.MAIN_WINDOW_CLOUD_RECORD_ICON_SCENE,
            mainCloudRecord);
        return customImageMap.get(scene);
    }
}
```

## 6.4.2.13 Customizing the Button of Adding a Virtual Background Image

This API is used to customize the button of adding a virtual background image.

### Precautions

None

### Method Definition

```
void onClickAddVirtualBackgroundItem(Activity curActivity);
```

### Sample Code

```
public class CustomVirtualBackgroundHandle implements IVirtualBackgroundHandle {
    @Override
    public void onClickAddVirtualBackgroundItem(Activity curActivity) {
        DemoUtil.showToast("You will be redirected to a screen for setting a virtual background.");
    }
}
```

```

        showPictureActivity(curActivity);
    }
}

```

## 6.4.3 Account Operations

### 6.4.3.1 Login Using an Account and Password

```
HWMSdk.getOpenApi.login(LoginParam,HwmCallback)
```

#### API Description

This API is used to log in to Huawei Cloud Meeting.

#### Precautions

You can join a meeting anonymously. However, if you want to use other services, you must log in first.

#### NOTE

After the login is successful, the callback **onSuccess** is invoked.

#### Method Definition

```

/**
 * Logs in.
 * @param LoginParam Indicates the LoginParam object.
 * @param hwmCallback Indicates the result callback.
 */
void login(LoginParam loginParam, HwmCallback<LoginResult> hwmCallback)

```

#### Parameter Description

**Table 6-20** Parameter description

| Parameter   | Mandatory | Type                     | Description        |
|-------------|-----------|--------------------------|--------------------|
| loginParam  | Yes       | LoginParam               | LoginParam object. |
| hwmCallback | Yes       | HwmCallback<LoginResult> | Callback object.   |

#### Return Values

None

#### Parameter Extension

**Table 6-21** LoginParam description

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| account   | Yes       | String | Username.   |
| password  | Yes       | String | Password.   |

| Parameter | Mandatory | Type   | Description   |
|-----------|-----------|--------|---------------|
| nickName  | No        | String | Display name. |

**Table 6-22** LoginResult type description

| Parameter    | Type    | Description   |
|--------------|---------|---|
| userId       | String  | User UUID, which is the unique user ID allocated by the system.   |
| account      | String  | Login account.  |
| thirdAccount | String  | Third-party login account (in the app ID login scenario).   |
| isFreeUser   | boolean | Whether the user is a free user.  |
| refreshToken | String  | Refresh token.  |
| siteDomain   | String  | Login domain name. This parameter is available only in site switchover scenarios. When a user selects the International site but uses a Chinese mainland account to log in, the system automatically switches to the Chinese mainland site and returns the domain name of the Chinese mainland. |

### Sample Code

```
// It is recommended that accounts and passwords used for authentication be stored in ciphertext in the
// configuration file or as environment variables and be decrypted during usage.
LoginParam loginParam = new LoginParam()
    .setLoginAuthType(LoginAuthType.Account_And_Password) // Set the login mode.
    .setAccount(getAccount()) // Login account
    .setPassword(getPassword()); // Login password

HWMSdk.getOpenApi(getActivity()).login(loginParam, new HwmCallback<LoginResult>() {
    @Override
    public void onSuccess(LoginResult loginResult) { // Callback invoked upon a successful login.
        if (loginResult != null) {
            Log.i(TAG, "Login succeeded" + loginResult.getUserId());
        }
    }
    @Override
    public void onFailed(int retCode, String desc) { // Callback invoked upon a login failure.
        Error error = HWMBizSdk.getLoginApi().convertErrorCodeToUI(retCode);
        String errorTip = getLoginErrTips(error); // Output the error cause based on the returned
        error value.
        Log.e(TAG, errorTip);
    }
});
```



### 6.4.3.2 Login Using an App ID

HWMSdk.getOpenApi.loginByAppId(AppIdAuthParam,HwmCallback)

#### API Description

This API is used for login using an app ID.

#### Precautions

You can join a meeting anonymously. However, if you want to use other services, you must log in first.

#### NOTE

After the login is successful, the callback **onSuccess** is invoked.

#### Method Definition

```
/**
 * Logs in.
 * @param appIdAuthParam Indicates the appIdAuthParam object.
 * @param hwmCallback Indicates the result callback.
 */
void loginByAppId(AppIdAuthParam appIdAuthParam, HwmCallback<LoginResult> hwmCallback)
```

#### Parameter Description

**Table 6-23** Parameter description

| Parameter      | Mandatory | Type   | Description            |
|----------------|-----------|--|------------------------|
| appIdAuthParam | Yes       | AppIdAuthParam                                 | appIdAuthParam object. |
| hwmCallback    | Yes       | <a href="#">HwmCallback&lt;LoginResult&gt;</a> | Callback object.       |

#### Return Values

None

#### Parameter Extension

**Table 6-24** AppIdAuthParam description

| Parameter   | Mandatory | Type   | Description  |
|-------------|-----------|--------|--|
| thirdUserId | Yes       | String | Unique ID of a third-party account. The value contains 1 to 64 characters.<br><br>Note: When the app ID authentication mode is used, ensure that the app ID has been applied for on the meeting server. When the app ID is passed using <b>HWMSdk.init</b> , the <b>OpenSdkConfig</b> parameter must be transferred using <b>OpenSdkConfig.setAppId(appid)</b> . |
| nonce       | Yes       | String | A random character string consisting of 32 to 64 characters.   |
| corpId      | No        | String | ID of the enterprise to which the user belongs. This parameter is mandatory only in SP mode. Do not set this parameter in single-enterprise mode. Otherwise, the authentication will fail.   |
| signature   | Yes       | String | Signature information.   |
| expireTime  | Yes       | long   | Signature expiration time. The value is a Unix timestamp, in seconds. If the value is 0, the signature will not expire.  |
| userName    | No        | String | Username. If this parameter is left blank, the value of this parameter is the same as that of <b>thirdUserId</b> by default.   |
| userEmail   | No        | String | Email address of the user.   |
| userPhone   | No        | String | Mobile number of the user.   |
| deptCode    | No        | String | Department code.   |

### Sample Code

```
// Create a login object.
AppIdAuthParam appIdAuthParam = new AppIdAuthParam();
```

```
// Set the signature expiration time. The value is a Unix timestamp, in seconds. If the value is 0, the
signature will not expire.
appldAuthParam.setExpireTime(1599618620);
// Set a random character string consisting of 32 to 64 characters.
appldAuthParam.setNonce(getNonce());
// Set the ID of the enterprise to which the user belongs. This parameter is required only in the SP login
scenario.
appldAuthParam.setCorpld(getCorpld());
// Set the ID of the third-party account. The value contains 1 to 64 characters.
appldAuthParam.setUserId(getUserId());
// Set signature information.
appldAuthParam.setSignature(getSignature());
// Set the user nickname.
appldAuthParam.setUserName(getUserName());
// Set the email address, which must meet the format requirements.
appldAuthParam.setUserEmail(getUserEmail());
// Set the mobile number, which must be in the correct format, for example, ^$|^[+]?[0-9]+$
appldAuthParam.setUserPhone(getUserPhone());
// Start to log in.
HWMSdk.getOpenApi(getActivity().getApplication()).loginByAppld(appldAuthParam, new
HwmCallback<LoginResult>() {
    @Override
    public void onSuccess(LoginResult loginResult) {
        dismissLoading();
        dismiss();
        if (loginResult != null) {
            DemoUtil.showToast("Login succeeded" + loginResult.getUserUid());
        }else{
            DemoUtil.showToast("Logged in");
        }
    }

    @Override
    public void onFailed(int retCode, String desc) {
        HwmContext.getInstance().runOnMainThread(() ->{
            dismissLoading();
            Error error = HWMBizSdk.getLoginApi().convertErrorCodeToUI(retCode);
            DemoUtil.showToast("Login failed: "+ getLoginErrTips(error));
            dismiss();
        });
    }
});
});
```

### 6.4.3.3 SSO Login

```
HWMSdk.getOpenApi.loginBySSO(SsoAuthParam ssoAuthParam, HwmCallback<LoginResult> callback)
```

#### API Description

This API is used for login in single sign-on (SSO) mode.

#### Precautions

You can join a meeting anonymously. However, if you want to use other services, you must log in first.

#### NOTE

After the login is successful, the callback **onSuccess** is invoked.

#### Method Definition

```
/**
 * SSO login API
 * @param code Indicates the authorization code.
 * @param domain Indicates the enterprise domain name.
 * @param authServerType Indicates the authentication server type.
```

```
* @param callback
*/
void loginBySSO(SsoAuthParam ssoAuthParam, HwmCallback<LoginResult> callback);
```

### Parameter Description

**Table 6-25** Parameter description

| Parameter    | Mandatory | Type   | Description                          |
|--------------|-----------|--|--------------------------------------|
| ssoAuthParam | Yes       | SsoAuthParam                                   | SSO login authentication parameters. |
| callback     | Yes       | <a href="#">HwmCallback&lt;LoginResult&gt;</a> | Callback object.                     |

**Table 6-26** SsoAuthParam parameter description

| Parameter      | Mandatory | Type           | Description   |
|----------------|-----------|----------------|---|
| code           | Yes       | String         | SSO authorization code.   |
| domain         | Yes       | String         | SSO enterprise domain name.   |
| authServerType | Yes       | AuthServerType | Authentication server type.<br>Value:<br>AUTH_SERVER_TYPE_OAUTH2 (0, "SSO") |

### Return Values

None

### Sample Code

```
SsoAuthParam ssoAuthParam = new SsoAuthParam();
ssoAuthParam.setDomain(domain);
ssoAuthParam.setCode(code);
ssoAuthParam.setAuthServerType(AuthServerType.AUTH_SERVER_TYPE_OAUTH2);
HWMSdk.getOpenApi(ssoAuthParam, new HwmCallback<LoginResult>() {
    @Override
    public void onSuccess(LoginResult loginResult) {
        dismissLoading();
        if (loginResult != null) {
            DemoUtil.showToast("Login succeeded" + loginResult.getUserUid());
        } else {
            DemoUtil.showToast("Logged in");
        }
    }
}

@Override
public void onFailed(int retCode, String desc) {
    HwmContext.getInstance().runOnMainThread() -> {
        DemoUtil.showToast("Login error: code=" + retCode + " desc=" + desc);
        dismissLoading();
    }
});
```

```
    }  
});
```

### 6.4.3.4 Uploading a Profile Picture

```
HWMBizSdk.getBizOpenApi().uploadSelfAvatar(String path, HwmCallback<Void> hwmCallback)
```

#### API Description

This API is used to upload a profile picture to the address book on the meeting server.

#### Precautions

1. Call this API only when you have logged in.
2. Upload a PNG or JPG image no more than 200 KB.

#### Method Definition

```
/**  
 * Uploads your profile picture to the address book on the meeting server.  
 * @param path Indicates the local path of the profile picture.  
 * @param hwmCallback Indicates the callback of the profile picture setting result.  
 */  
void uploadSelfAvatar(String path, HwmCallback<Void> hwmCallback);
```

#### Parameter Description

Table 6-27 Parameter description

| Parameter   | Mandatory | Type              | Description                        |
|-------------|-----------|-------------------|------------------------------------|
| path        | Yes       | String            | Local path of the profile picture. |
| hwmCallback | Yes       | HwmCallback<Void> | Callback object.                   |

#### Return Values

None

#### Sample Code

```
HWMBizSdk.getBizOpenApi().uploadSelfAvatar(filepath, new HwmCallback<Void>() {  
    @Override  
    public void onSuccess(Void aVoid) {  
        if (getActivity() != null) {  
            ((DemoActivity) getActivity()).dismissLoading();  
        }  
        DemoUtil.showToast("Profile picture set.");  
    }  
  
    @Override  
    public void onFailed(int retCode, String desc) {  
        if (getActivity() != null) {  
            ((DemoActivity) getActivity()).dismissLoading();  
        }  
        if (!TextUtils.isEmpty(desc)) {  
            DemoUtil.showToast(desc);  
        } else {
```

```

        DemoUtil.showToast("Failed to set the profile picture.");
    }
}
});

```

### 6.4.3.5 Logging Out

`HWMSdk.getOpenApi.logout(HwmCallback<LogoutResult> hwmCallback)`

#### API Description

This API is used to log out of an account.

#### Precautions

Call this API only when you have logged in.

#### Method Definition

```

/**
 * Logs out.
 * @param hwmCallback Indicates the result callback.
 */
void logout(HwmCallback<LogoutResult> hwmCallback);

```

#### Parameter Description

**Table 6-28** Parameter description

| Parameter   | Mandatory | Type                      | Description      |
|-------------|-----------|---------------------------|------------------|
| hwmCallback | Yes       | HwmCallback<LogoutResult> | Callback object. |

**Table 6-29** LogoutResult description

| Parameter    | Type   | Description   |
|--------------|--------|---|
| userId       | String | User UUID, which is the unique user ID allocated by the system. |
| account      | String | Login account.  |
| thirdAccount | String | Third-party login account (in the app ID login scenario).       |

#### Return Values

None

#### Sample Code

```

HWMSdk.getOpenApi(getActivity()).logout(new HwmCallback<LogoutResult>() {
    @Override
    public void onSuccess(LogoutResult result) {
        Log.i("", getContext(), "Logout succeeded");
    }
}

```

```
@Override
public void onFailed(int retCode, String desc) {
    Log.i("", getContext(), "Logout failed: " + retCode + "; " + desc).
}
});
```

## 6.4.4 Meeting Management

### 6.4.4.1 Scheduling a Meeting

#### API Description

This API is used to schedule a meeting.

#### Precautions

- This API can be called only when you have logged in to Huawei Cloud Meeting.
- The meeting start time must be later than the current time, and the meeting duration must be longer than 15 minutes.
- The **vmrId** parameter must be passed for a personal meeting or cloud meeting room.
- The **attendees** parameter must be passed if participant information needs to be carried.
- The **result** parameter in the callback returns the meeting details. For details, see [Table 6-32](#).

#### Method Definition

```
/**
 * Schedules a meeting.
 * @param bookConfParam Indicates the bookConfParam object.
 * @param hwmCallback Indicates the result callback.
 */
void bookConf(BookConfParam bookConfParam , HwmCallback<ConfInfo> hwmCallback);
```

#### Parameter Description

**Table 6-30** BookConfParam description

| Parameter   | Mandatory | Type   | Description   |
|-------------|-----------|--------|---|
| confSubject | Yes       | String | Meeting topic.  |
| startTime   | Yes       | long   | Meeting start time, which is the difference between the UTC time and the UTC offset (converted into seconds). For example, if the time zone is UTC+08:00, the value is the UTC timestamp - (8 x 60 x 60). |

| Parameter     | Mandatory | Type                | Description   |
|---------------|-----------|---------------------|---|
| duration      | Yes       | int                 | Meeting duration, in minutes. The value ranges from 15 to 1,440.  |
| timeZone      | No        | int                 | Time zone code. The default value is <b>56</b> , indicating GMT+08:00. For details, see <a href="#">Time Zone Table</a> .   |
| confType      | Yes       | MeetingType         | Meeting type. The default value is <b>CONF_VIDEO</b> .<br><b>CONF_AUDIO</b> (0, "Voice meeting"),<br><b>CONF_VIDEO</b> (1, "Video meeting");                                  |
| attendees     | No        | List<AttendeeModel> | Participant list.   |
| vmrIdFlag     | No        | boolean             | Whether to use the cloud meeting room ID for meeting scheduling. The default value is <b>false</b> .  |
| vmrId         | No        | String              | Cloud meeting room ID. This parameter is mandatory when <b>vmrIdFlag</b> is set to <b>true</b> .  |
| isNeedConfPwd | No        | boolean             | Whether a guest password is required. The default value is <b>true</b> .<br><b>NOTE</b><br>This parameter is valid only for meetings with a random ID.                        |
| guestPwd      | No        | String              | Guest password. If this parameter is left blank, the guest password is generated by the server.<br><b>NOTE</b><br>This parameter is valid only for meetings with a random ID. |



| Parameter               | Mandatory | Type                   | Description   |
|-------------------------|-----------|------------------------|---|
| joinConfRestrictionType | No        | JoinConfPermissionType | <p>Range of participants who are allowed to join the meeting. The default value is <b>PERMIT_EVERYONE</b>.</p> <p><b>PERMIT_EVERYONE</b>("PERMIT_EVERYONE", 0, "Everyone is allowed to join the meeting.")</p> <p><b>PERMIT_ENTERPRISE_USER</b>("PERMIT_ENTERPRISE_USER", 2, " Only corporate users are allowed to join the meeting.")</p> <p><b>PERMIT_INVITED_USER</b>("PERMIT_INVITED_USER", 3, "Only invited users are allowed to join the meeting.")</p> |
| isRecordOn              | No        | boolean                | <p>Whether recording is supported. The default value is <b>false</b>.</p> <p><b>NOTE</b><br/>This parameter is valid only for cloud recording, not for local recording on clients.</p>  |
| isAutoRecord            | No        | boolean                | <p>Whether to automatically start recording after the meeting starts. The default value is <b>false</b>. Meeting recording must be enabled if automatic recording is enabled.</p> <p><b>NOTE</b><br/>This parameter is valid only for cloud recording, not for local recording on clients.</p>  |
| isSmsOn                 | No        | boolean                | <p>Whether to send SMS notifications. The default value is <b>false</b>. This function must be enabled in the enterprise configuration. Otherwise, this function does not take effect.</p>  |
| isMailOn                | No        | boolean                | <p>Whether to send email notifications. The default value is <b>false</b>.</p>  |

| Parameter               | Mandatory | Type      | Description  |
|-------------------------|-----------|-----------|--|
| isEmailCalendarOn       | No        | boolean   | Whether to send email calendars. The default value is <b>false</b> .   |
| vmrIdType               | No        | VmrIdType | Meeting ID type of the cloud meeting room. The ID can be fixed or random.  |
| allowGuestStartConf     | No        | boolean   | Whether to allow guests to join the meeting ahead of the host.<br><b>NOTE</b> <ul style="list-style-type: none"> <li>This parameter is valid only for meetings with a random ID.</li> <li>For meetings with fixed IDs, use the API for <a href="#">Modifying Cloud Meeting Room Information</a>.</li> </ul>  |
| allowGuestStartConfTime | No        | int       | Time range allowed for guests to join the meeting in advance, in minutes.<br><b>0</b> : Guests can join the meeting at any time before the scheduled time.<br><b>x</b> : Guest can join the meeting <i>x</i> minutes before the scheduled time.<br><b>NOTE</b> <ul style="list-style-type: none"> <li>This parameter is valid only for meetings with a random ID.</li> <li>For meetings with fixed IDs, the time range cannot be set.</li> </ul> |
| isOpenWaitingRoom       | No        | boolean   | Whether to enable the waiting room.<br><b>NOTE</b> <ul style="list-style-type: none"> <li>The function takes effect only after the waiting room function is enabled.</li> </ul>  |
| customInfo              | No        | String    | User-defined data on the device side. The server is unaware of the data.   |

| Parameter                | Mandatory | Type         | Description  |
|--------------------------|-----------|--------------|--|
| concurrentParticipants   | No        | int          | Maximum number of participants in the meeting. If this parameter is left blank, there is no restriction.   |
| confResType              | No        | ConfResType  | Meeting resource type. This parameter is mandatory only for a shared cloud meeting room (set the value to <b>ConfResType.CONF_RESTYPE_SHARE_VMR</b> ). |
| autoMuteMode             | No        | AutoMuteType | Whether to automatically mute personal client users when they join the meeting.  |
| hardTerminalAutoMuteMode | No        | AutoMuteType | Whether to automatically mute meeting room device users when they join the meeting.  |

**Table 6-31** AttendeeModel description

| Parameter    | Mandatory | Type    | Description  |
|--------------|-----------|---------|--|
| number       | Yes       | String  | SIP number or phone number (Specify either <b>number</b> or <b>thirdUserId</b> ).  |
| thirdUserId  | Yes       | String  | Third-party account in the app ID login scenario.<br><b>NOTE</b><br>Specify either <b>number</b> or <b>thirdUserId</b> . |
| name         | Yes       | String  | Name. The value can contain up to 96 characters.   |
| isSelf       | No        | boolean | Whether you are the participant.   |
| isAutoInvite | No        | boolean | Whether to automatically make a call when the start time arrives.  |
| isMute       | No        | boolean | Whether to mute the microphone when joining the meeting.   |

| Parameter   | Mandatory | Type                     | Description   |
|-------------|-----------|--------------------------|---|
| accountId   | No        | String                   | Unique ID of the user account in the corporate directory.   |
| type        | No        | HwmAttendeeType          | Participant type.   |
| email       | No        | String                   | Email address.  |
| sms         | No        | String                   | Mobile number.  |
| email       | No        | String                   | Email address.  |
| orgId       | No        | String                   | Enterprise ID of the user, which is used to identify whether the user belongs to your enterprise (when the API for obtaining the participant list is called). |
| isAnonymous | No        | boolean                  | Whether to join the meeting anonymously.  |
| state       | No        | <b>ConfAttendeeState</b> | Participant status. (This parameter is used only for obtaining the participant list.)   |

**Table 6-32** ConfInfo description

| Parameter          | Type    | Description  |
|--------------------|---------|--|
| confSubject        | String  | Meeting topic.                                     |
| confId             | String  | Meeting ID.  |
| isOtherCorpConf    | boolean | Whether the meeting is held in another enterprise. |
| vmrConferenceId    | String  | Personal meeting ID.                               |
| confPwd            | String  | Meeting password.                                  |
| confAccessNum      | String  | Meeting access number.                             |
| confChairPwd       | String  | Host password.                                     |
| confGuestUri       | String  | Guest link.  |
| confStartTimeStamp | String  | Meeting start time.                                |
| confEndTimeStamp   | String  | Meeting end time.                                  |

| Parameter            | Type                    | Description  |
|----------------------|-------------------------|--|
| confSchedulerName    | String                  | Meeting creator.                                       |
| confOrgId            | String                  | Enterprise ID.   |
| audienceJoinUri      | String                  | Attendee link (for webinars).                          |
| audienceJoinPwd      | String                  | Attendee password (for webinars).                      |
| confType             | ConfType                | Meeting type, which can be general meeting or webinar. |
| conferenceType       | ConferenceType          | Whether the meeting is a general or recurring meeting. |
| cycleConfParam       | CycleConfParam          | Recurring meeting series parameters.                   |
| subConfSize          | int                     | Number of recurring meetings.                          |
| subConfParam         | List<SubCycleConfParam> | Recurring meeting parameters.                          |
| selfConfRole         | ConfRole                | Role in the meeting.                                   |
| isInBreakoutSub-Conf | boolean                 | Whether the participant is in a breakout room.         |

**Table 6-33** Enumerated values of VmrlIdType

| Enumeration Name | Enumerated Value | Description                   |
|------------------|------------------|-------------------------------|
| FIXED_ID         | 0                | <b>VmrlId</b> is a fixed ID.  |
| RANDOM_ID        | 1                | <b>VmrlId</b> is a random ID. |

**Table 6-34** Enumerated values of ConfResType

| Enumeration Name       | Enumerated Value | Description                |
|------------------------|------------------|----------------------------|
| CONF_RESTYPE_DEFAULT   | 0                | Default.                   |
| CONF_RESTYPE_SHARE_VMR | 3                | Shared cloud meeting room. |

### Sample Code

Constructor of List<AttendeeModel>:

```
boolean needWithMember = true;
List<AttendeeModel> attendeeInfos = new ArrayList<>();
if (needWithMember) {
    // The following three methods are available:
    String name = getName();
    String number = getNumber();
    String thirdAccountId = getThirdAccountId();
    if (!TextUtils.isEmpty(thirdAccountId)) {
        attendeeInfos.add(AttendeeModel.buildAttendeeByThirdUserId(thirdUserId, name));
    } else if (number.startsWith("+99")) {
        // A SIP number is used to join the meeting.
        attendeeInfos.add(AttendeeModel.buildAttendeeBySipNumber(number, name));
    } else {
        // A mobile number or a fixed-line phone number is used to join the meeting.
        attendeeInfos.add(AttendeeModel.buildAttendeeByPhone(number, name));
    }
}
```

Construct a participant model for login using an app ID. For details about other models, see the demo code.

```
public static AttendeeModel buildAttendeeByThirdUserId(@NonNull String thirdUserId,
String nickName) {
    AttendeeModel attendeeInfo = new AttendeeModel();
    attendeeInfo.setAppId(Foundation.getAppId());
    attendeeInfo.setThirdUserId(thirdUserId);
    attendeeInfo.setName(nickName);
    attendeeInfo.setIsAutoInvite(true);
    attendeeInfo.setIsMute(true);
    attendeeInfo.setRole(ConfRole.ATTENDEE);
    attendeeInfo.setType(HwmAttendeeType.ATTENDEE_TYPE_NORMAL);
    return attendeeInfo;
}
```

```
private HwmCallback<ConfInfo> completeHandler = new HwmCallback<ConfInfo>() {
    @Override
    public void onSuccess(ConfInfo result) {
        dismissLoading();
        DemoUtil.showToast("Meeting scheduled.");
    }

    @Override
    public void onFailed(int retCode, String desc) {
        dismissLoading();
        dismiss();
        String err = ErrorMessageFactory.create(Utils.getApp(), retCode);
        if (TextUtils.isEmpty(err)) {
            err = Utils.getApp().getString(R.string.hwmconf_book_conf_fail);
        }
        DemoUtil.showToast("Schedule meeting failed.: " + retCode + ", desc: " + err);
    }
};
```

```
BookConfParam bookConfParam = new BookConfParam()
    .setConfSubject(getSubject())
    .setStartTime(1599574798)
    .setTimeZone(56)
    .setDuration(60)
    .setConfType(MeetingType.CONF_VIDEO)
    .setVmrlidFlag(false)
    .setVmrlid("")
    .setNeedConfPwd(true)
    .setJoinConfRestrictionType(JoinConfPermissionType.PERMIT_EVERYONE)
    .setRecordOn(true)
    .setMailOn(true)
    .setSmsOn(true)
    .setEmailCalenderOn(true)

    .setAttendees(attendeeInfos);
HwMBizSdk.getBizOpenApi().bookConf(bookConfParam, this.completeHandler);
```

## 6.4.4.2 Editing a Meeting

### API Description

This API is used to edit a meeting.

### Precautions

- Call this API before a meeting starts. If the meeting is already in progress, calling this API is invalid.
- **All fields are mandatory. Specify the fields to be edited as required, and assign values in the meeting details to remaining fields.**

### Method Definition

```
/**
 * Edits a meeting.
 * @param editConfParam Indicates the editConfParam object.
 * @param hwmCallback Indicates the result callback.
 */
void editConf(EditConfParam editConfParam, HwmCallback<Integer> hwmCallback);
```

### Parameter Description

Table 6-35 EditConfParam description

| Parameter                | Mandatory | Type         | Description   |
|--------------------------|-----------|--------------|---|
| confId                   | Yes       | String       | Meeting ID.   |
| isLiveOn                 | No        | boolean      | Whether live broadcast is enabled for the meeting.                                  |
| customInfo               | No        | String       | User-defined data on the device side. The server is unaware of the data.            |
| autoMuteMode             | No        | AutoMuteType | Whether to automatically mute personal client users when they join the meeting.     |
| hardTerminalAutoMuteMode | No        | AutoMuteType | Whether to automatically mute meeting room device users when they join the meeting. |

For details on other parameters, see [Parameter Description](#).

### Sample Code

```
EditConfParam editConfParam = new EditConfParam()
    .setConfId(this.confDetailModel.getConfId())
    .setVmridFlag(1 == this.confDetailModel.getVmrFlag())
    .setVmrid(this.confDetailModel.getVmrid())
    .setConfSubject(getSubject())
    .setStartTime(1599574798)
    .setTimeZone(56)
    .setDuration(60)
```

```
.setConfType(MeetingType.CONF_VIDEO)
.setNeedConfPwd(!this.confDetailModel.getIsGuestFreePwd())
.setJoinConfRestrictionType(JoinConfPermissionType.PERMIT_EVERYONE)
.setRecordOn(true)
.setMailOn(true)
.setSmsOn(true)
.setEmailCalenderOn(true)
.setAttendees(attendeeInfos);
HWMBizSdk.getBizOpenApi().editConf(editConfParam, new HwmCallback<Integer>() {
    @Override
    public void onSuccess(Integer integer) {
        dismissLoading();
        DemoUtil.showToast("Meeting edited:" + integer);
    }

    @Override
    public void onFailed(int retCode, String desc) {
        dismissLoading();
        String err = ErrorMessageFactory.create(Utils.getApp(), retCode);
        if (TextUtils.isEmpty(err)) {
            err = Utils.getApp().getString(R.string.hwmconf_edit_failed);
        }
        DemoUtil.showToast("Failed to edit the meeting: " + retCode + ", desc: "+ err);
    }
});
```

### 6.4.4.3 Canceling a Meeting

#### API Description

This API is used to cancel a scheduled meeting that has not been started.

#### Precautions

Call this API before a meeting starts. If the meeting is already in progress, calling this API is invalid.

#### Method Definition

```
/**
 * Cancels a meeting.
 *
 * @param confId Indicates the meeting ID.
 * @param hwmCallback Indicates the result callback.
 */
void cancelConf(String confId, HwmCallback<Integer> hwmCallback);
```

#### Parameter Description

Table 6-36 Parameters

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| confId    | Yes       | String | Meeting ID. |

#### Sample Code

```
HWMBizSdk.getBizOpenApi().cancelConf(item.getConfId(), new HwmCallback<Integer>() {
    @Override
    public void onSuccess(Integer result) {
        dismissLoading();
        DemoUtil.showToast("Meeting canceled");
    }
});
```



```
@Override
public void onFailed(int retCode, String desc) {
    dismissLoading();
    dismiss();
    String err = ErrorMessageFactory.create(Utils.getApp(), retCode);
    if (TextUtils.isEmpty(err)) {
        err = Utils.getApp().getString(R.string.hwmmconf_cancel_fail_tip);
    }
    DemoUtil.showToast("Failed to cancel the meeting: "+ err);
}
});
```

#### 6.4.4.4 Obtaining the Meeting List

##### API Description

This API is used to obtain the meeting list.

##### Precautions

This API is valid only after you have logged in to Huawei Cloud Meeting and received the meeting list notification. Otherwise, an empty list is returned.

##### Method Definition

```
/**
 * Obtains the meeting list.
 * @return
 */
List<ConfBaseInfo> getConfList();
```

##### Parameter Description

Table 6-37

| Parameter       | Type   | Description  |
|-----------------|--------|--|
| confId          | String | Meeting ID.  |
| vmrConferenceId | String | Cloud meeting room ID, which is used when the cloud meeting room is displayed. |
| confSubject     | String | Meeting topic.   |
| chairmanPwd     | String | Host password. (The host password is displayed only when you are the host.)    |
| guestPwd        | String | Guest password.  |
| startTimeStamp  | long   | Meeting start time. The value is a UTC timestamp, accurate to seconds.         |
| endTimeStamp    | long   | Meeting end time. The value is a UTC timestamp, accurate to seconds.           |
| mediaType       | int    | <b>17</b> : voice meeting; <b>21</b> : video meeting.                          |
| scheduserName   | String | Scheduler name.  |

| Parameter    | Type   | Description  |
|--------------|--------|--|
| chairJoinUri | String | Link for the host to join the meeting (available only for the host). |
| guestJoinUri | String | Link for guests to join the meeting.                                 |
| accessNumber | String | Meeting access number.   |

### Sample Code

```
HwMBizSdk.getBizOpenApi().getConfList()
```

## 6.4.4.5 Obtaining Meeting Details

### API Description

This API is used to obtain meeting details.

### Precautions

ConfDetailModel parameters are inherited from [ConfBaseInfo](#).

### Method Definition

```
/**
 * Obtains meeting details by meeting ID.
 *
 * @param confId Indicates the meeting ID.
 * @param hwmCallback Indicates the result callback.
 */
void getConfDetail(String confId, HwmCallback<ConfDetailModel> hwmCallback);
```

### Parameter Description

**Table 6-38** ConfDetailModel description (inherited from ConfBaseInfo)

| Parameter | Type      | Description   |
|-----------|-----------|---|
| vmrId     | String    | ID of the meeting created using the cloud meeting room ID, which is used for editing a meeting. |
| vmrFlag   | int       | Whether the meeting is held in a cloud meeting room.  |
| vmrIdType | VmrIdType | ID type of the meeting if it is held in a cloud meeting room.                                   |

| Parameter                | Type                    | Description  |
|--------------------------|-------------------------|--|
| callInRestriction-Type   | JoinConfPermissionType  | Users who are allowed to join the meeting.<br>PERMIT_EVERYONE("PERMIT_EVERYONE", 0, "Everyone is allowed to join the meeting."),<br>PERMIT_ENTERPRISE_USER(PERMIT_EVERYONE, "PERMIT_ENTERPRISE_USER", 2, " Only corporate users are allowed to join the meeting."),<br>PERMIT_INVITED_USER("PERMIT_INVITED_USER", 3, "Only invited users are allowed to join the meeting."); |
| isRecordOn               | boolean                 | Whether to record the meeting.   |
| isAutoRecord             | boolean                 | Whether to automatically start recording after the meeting starts.   |
| isLiveOn                 | boolean                 | Whether live broadcast is enabled.   |
| isMailOn                 | boolean                 | Whether to send email notifications.   |
| isSmsOn                  | boolean                 | Whether to send SMS notifications.   |
| isEmailCalenderOn        | boolean                 | Whether to send calendar notifications.  |
| isGuestFreePwd           | boolean                 | Whether guests can join the meeting without a password.  |
| minutes                  | int                     | Meeting duration.  |
| allowGuestStart-Conf     | boolean                 | Whether to allow guests to join the meeting ahead of the host.   |
| allowGuestStart-ConfTime | int                     | Time range allowed for guests to join the meeting in advance, in minutes.<br><b>0</b> : Guests can join the meeting at any time before the scheduled time.<br><i>x</i> : Guest can join the meeting <i>x</i> minutes before the scheduled time.  |
| attendeeModels           | List<AttendeeModel>     | Participant list.  |
| isCycleConf              | boolean                 | Whether the meeting is a recurring meeting.  |
| cycleConfParam           | CycleConfParam          | Recurring meeting attributes.  |
| subCycleConfList         | List<SubCycleConfParam> | Recurring meeting list.  |
| isOpenWaitingRoom        | boolean                 | Whether to enable the waiting room.  |

| Parameter                | Type         | Description   |
|--------------------------|--------------|---|
| customInfo               | String       | User-defined data on the device side. The server is unaware of the data.  |
| concurrentParticipants   | int          | Maximum number of participants in the meeting. The value <b>0</b> indicates that the number of participants is not limited.   |
| timeZone                 | int          | Time zone. The current time zone is used by default. Value range: 1–73. For China, the value is <b>56</b> and GMT+08:00 time is used. For details, see the time zone table. |
| autoMuteMode             | AutoMuteType | Whether to automatically mute personal client users when they join the meeting.   |
| hardTerminalAutoMuteMode | AutoMuteType | Whether to automatically mute meeting room device users when they join the meeting.   |

### Sample Code

```

HWMBizSdk.getBizOpenApi().getConfDetail(confid, new HwmCallback<ConfDetailModel>() {
    @Override
    public void onSuccess(ConfDetailModel confDetailModel) {
        DemoUtil.showToast("Meeting details obtained.");
        Message message = Message.obtain(confDetailPageHandler);
        message.what = HANDLE_MESSAGE_GET_CONF_DETAIL_SUCCESS;
        message.obj = confDetailModel;
        message.sendToTarget();
    }

    @Override
    public void onFailed(int retCode, String desc) {
        DemoUtil.showToast("Failed to obtain meeting details: " + retCode + ", "+ desc);
    }
});

```

## 6.4.4.6 Obtaining the Cloud Meeting Room List

### API Description

This API is used to obtain the cloud meeting room list.

### Precautions

None

### Method Definition

```

/**
 * Obtains the list of cloud meeting rooms. You can schedule a meeting in a cloud meeting room.
 *
 * @param hwmCallback Indicates the result callback.
 */
void getVmrInfoList(HwmCallback<VmrInfoListModel> hwmCallback);

```

## Parameter Description

**Table 6-39** VmrInfoListModel description

| Parameter         | Type               | Description                                       |
|-------------------|--------------------|---|
| vmrInfoList       | List<VmrInfoModel> | List of cloud meeting rooms.                      |
| isEnabledShareVmr | boolean            | Whether shared cloud meeting rooms are available. |

**Table 6-40** VmrInfoModel description

| Parameter         | Type                  | Description   |
|-------------------|-----------------------|---|
| name              | String                | Cloud meeting room name.  |
| vmrConferenceld   | String                | Display ID of the cloud meeting room.   |
| vmrId             | String                | Unique ID of the cloud meeting room.  |
| chairmanPwd       | String                | Host password.  |
| guestPwd          | String                | Guest password.   |
| type              | MeetingIdType         | Meeting ID type.<br><b>RANDOM_MEETING_ID</b> (0, "Random meeting ID"),<br><b>PERSONAL_MEETING_ID</b> (1, "Personal meeting ID"),<br><b>CLOUD_MEETING_ROOM_ID</b> (2, "Cloud meeting room ID");  |
| maxParties        | int                   | Maximum number of participants in the cloud meeting room.   |
| vmrEnable         | boolean               | Whether the cloud meeting room is available.  |
| confAllowJoinUser | ConfAllowJoinUserType | Types of users allowed to join the meeting.<br><b>CONF_ALLOW_JOIN_ANYONE</b> (0, "Anyone: Anyone"),<br><b>CONF_ALLOW_JOIN_LOGINED_USER</b> (1, "logged user: Logged-in users"),<br><b>CONF_ALLOW_JOIN_IN_COMPANY_USER</b> (2, "Company user: Corporate users"),<br><b>CONF_ALLOW_JOIN_INVITED_USER</b> (3, "Invited user: Invited users") |

| Parameter         | Type    | Description                          |
|-------------------|---------|--------------------------------------|
| isOpenWaitingRoom | boolean | Whether the waiting room is enabled. |

### Sample Code

```
HWMBizSdk.getBizOpenApi().getVmrInfoList(new HwmCallback<VmrInfoListModel>() {
    @Override
    public void onSuccess(VmrInfoListModel vmrInfoListModel) {
        Log.i(TAG, "getVmrList: " + vmrInfoListModel.getVmrInfoList().size());
        updateVmrList(vmrInfoListModel.getVmrInfoList());
    }
    @Override
    public void onFailed(int retCode, String desc) {
        HCLog.i(TAG, "getVmrList onFailed" + retCode + " " + desc);
    }
});
```

## 6.4.4.7 Modifying Cloud Meeting Room Information

### API Description

This API is used to modify cloud meeting room information.

### Precautions

None

### Method Definition

```
/**
 * Modifies cloud meeting room information.
 * @param vmrParam: Indicates the cloud meeting room information. guestPwd: Indicates the guest
 password. hostPwd: Indicates the host password. vmrName: Indicates the cloud meeting room name. vmrId:
 Indicates the unique ID of the cloud meeting room.
 * @param hwmCallback Indicates the result callback.
 */
void changeVmrInfo(ModifyVmrParam vmrParam, HwmCallback<Void> hwmCallback);
```

### Parameter Description

**Table 6-41** ModifyVmrParam description

| Parameter | Mandatory | Type   | Description  |
|-----------|-----------|--------|--|
| vmrId     | Yes       | String | Unique cloud meeting room ID.                        |
| guestPwd  | Yes       | String | Guest password.                                      |
| hostPwd   | Yes       | String | Host password.                                       |
| subject   | Yes       | String | Topic of meetings held using the cloud meeting room. |

| Parameter           | Mandatory | Type                  | Description   |
|---------------------|-----------|-----------------------|---|
| allowGuestStartConf | No        | boolean               | Whether to allow guests to join the meeting ahead of the host.  |
| confAllowJoinUser   | No        | ConfAllowJoinUserType | Types of users allowed to join the meeting.<br><b>CONF_ALLOW_JOIN_ANYONE</b> (0, "Anyone: Anyone"),<br><b>CONF_ALLOW_JOIN_LOGINED_USER</b> (1, "logged user: Logged-in users"),<br><b>CONF_ALLOW_JOIN_IN_COMPANY_USER</b> (2, "Company user: Corporate users"),<br><b>CONF_ALLOW_JOIN_INVITED_USER</b> (3, "Invited user: Invited users") |
| isOpenWaitingRoom   | No        | boolean               | Whether the waiting room is enabled.  |

### Sample Code

```
ModifyVmrParam vmrParam = new ModifyVmrParam();
vmrParam.setGuestPwd(item.getGuestPwd());
vmrParam.setHostPwd(item.getChairmanPwd());
vmrParam.setVmrId(item.getVmrId());
vmrParam.setSubject(item.getName());
HwMBizSdk.getBizOpenApi().changeVmrInfo(vmrParam, new HwmCallback<Void>() {
    @Override
    public void onSuccess(Void v) {
        DemoUtil.showToast("Guest password of the cloud meeting room changed.");
    }

    @Override
    public void onFailed(int retCode, String desc) {
        DemoUtil.showToast("Failed to change the guest password of the cloud meeting room: " +
retCode + ", desc: " + desc);
    }
});
```

## 6.4.4.8 Scheduling a Recurring Meeting Series

### API Description

This API is used to schedule a recurring meeting series.

### Precautions

- This API can be called only when you have logged in to Huawei Cloud Meeting.
- The meeting start time must be later than the current time, and the meeting duration must be longer than 15 minutes.

- The **vmrId** parameter must be passed for a personal meeting or cloud meeting room.
- The **attendees** parameter must be passed if participant information needs to be carried.
- The maximum time span of a recurring meeting series is one year. The number of recurring meetings in a series cannot exceed 50. Otherwise, only the first 50 meetings are scheduled.
- The **result** parameter in the callback returns the meeting details. For details, see [Table 6-32](#).

### API Class

NativeSDK

### Method Definition

```
/**
 * Schedules a recurring meeting series.
 * @param bookCycleConfParam Indicates parameters for scheduling a recurring meeting series.
 * @param callback Indicates the result callback.
 */
void bookCycleConf(BookCycleConfParam bookCycleConfParam, HwmCallback<ConfInfo> hwmCallback);
```

### Parameter Description

**Table 6-42** Parameter description

| Parameter          | Mandatory | Type                                 | Description  |
|--------------------|-----------|--------------------------------------|--|
| bookCycleConfParam | Yes       | BookCycleConfParam                   | Parameter body for scheduling a recurring meeting series.  |
| callback           | Yes       | HwmCallback<ConfInfo><br>hwmCallback | Result callback for creating the recurring meeting series. |

**Table 6-43** BookCycleConfParam description

| Parameter      | Mandatory | Type           | Description   |
|----------------|-----------|----------------|---|
| bookConfParam  | Yes       | BookConfParam  | Parameters for scheduling the recurring meeting series. |
| cycleConfParam | Yes       | CycleConfParam | Recurring meeting parameters.                           |

**Table 6-44** CycleConfParam description

| Parameter | Mandatory | Type | Description  |
|-----------|-----------|------|--|
| startDate | Yes       | long | Start date and timestamp, accurate to seconds (GMT). |



| Parameter     | Mandatory | Type      | Description  |
|---------------|-----------|-----------|--|
| endDate       | Yes       | long      | End date and timestamp, accurate to seconds (GMT).   |
| cycleType     | Yes       | CycleType | Period type.   |
| interval      | Yes       | int       | Interval of recurring meetings.<br>1. If <b>cycleType</b> is set to daily, there is a meeting every several days. The value range is [1,15].<br>2. If <b>cycleType</b> is set to weekly, there is a meeting every several weeks. The value range is [1,5].<br>3. If <b>cycleType</b> is set to monthly, there is a meeting every several months. The value range is [1,3].   |
| listPoints    | Yes       | String    | Point for holding recurring meetings. This parameter is valid only when meetings are held weekly or monthly. Values are separated by colons (,), for example, <b>1,3,5</b> .<br>- Weekly: The value range is [0,6]. <b>0</b> indicates Sunday, <b>1</b> indicates Monday, and so on.<br>- Monthly: The value range is [1,31]. If the specified maximum value exceeds the number of days in a given month, the system will interpret it as referring to the last day of that month. |
| preRemindDays | Yes       | int       | Number of days in advance users are notified of a recurring meeting.   |

### Sample Code

```

CycleConfParam cycleConfParam = new CycleConfParam();
cycleConfParam.setCycleType(mSelectedCycleType);
cycleConfParam.setInterval(interval);
cycleConfParam.setListPoints(subDates);
cycleConfParam.setStartDate(startTimeStamp);
cycleConfParam.setEndDate(endTime.getTimeInMillis() / 1000);
cycleConfParam.setPreRemindDays(preMindDays);

BookConfParam bookConfParam = new BookConfParam()
    .setConfSubject(getSubject())
    .setStartTime(1599574798)
    .setTimeZone(56)
    .setDuration(60)
    .setConfType(MeetingType.CONF_VIDEO)
    .setVmridFlag(false)

```

```

.setVmrid("")
.setNeedConfPwd(true)
.setJoinConfRestrictionType(JoinConfPermissionType.PERMIT_EVERYONE)
.setRecordOn(true)
.setMailOn(true)
.setSmsOn(true)
.setEmailCalenderOn(true)

.setAttendees(attendeeInfos);

BookCycleConfParam bookCycleConfParam = new BookCycleConfParam();
bookCycleConfParam.setBookConfParam(bookConfParam);
bookCycleConfParam.setCycleConfParam(cycleConfParam);
HwMBizSdk.getBizOpenApi().bookCycleConf(bookCycleConfParam, completeHandler);

```

### 6.4.4.9 Editing a Recurring Meeting Series

#### API Description

This API is used to edit a recurring meeting series.

#### Precautions

None

#### Method Definition

```

/**
 * Edits a recurring meeting series.
 * @param editConfParam Indicates parameters for editing a recurring meeting series.
 * @param hwmCallback Indicates the result callback.
 */
void editCycleConf(EditCycleConfParam editCycleConfParam, HwmCallback<Integer> hwmCallback);

```

#### Parameter Description

Table 6-45 Parameter description

| Parameter          | Mandatory | Type                 | Description   |
|--------------------|-----------|----------------------|---|
| editCycleConfParam | Yes       | EditCycleConfParam   | Parameter body for editing a recurring meeting series.    |
| callback           | Yes       | HwmCallback<Integer> | Result callback for editing the recurring meeting series. |

Table 6-46 EditCycleConfParam parameter description

| Parameter      | Mandatory | Type           | Description  |
|----------------|-----------|----------------|--|
| editConfParam  | Yes       | EditConfParam  | Parameters for editing the recurring meeting series. |
| cycleConfParam | Yes       | CycleConfParam | Parameters of recurring meetings.                    |

#### Sample Code

```
HWMBizSdk.getBizOpenApi().editCycleConf(editCycleConfParam, new HwmCallback<Integer>() {
    @Override
    public void onSuccess(Integer integer) {
        dismissGlobalLoading();
        DemoUtil.showToast("Recurring meeting series edited: " + integer);
    }

    @Override
    public void onFailed(int retCode, String desc) {
        HCLog.i(TAG, "edit cycle conf " + retCode + " desc " + desc);
        dismissGlobalLoading();
        String err = ErrorMessageFactory.create(retCode);
        if (TextUtils.isEmpty(err)) {
            err = DemoUtil.getResources().getString(R.string.hwmconf_edit_failed);
        }
        DemoUtil.showToast("Edit recurring meeting series failed: " + retCode + ",desc: " + err);
    }
});
```

### 6.4.4.10 Canceling a Recurring Meeting Series

#### API Description

This API is used to cancel a recurring meeting series that has not been started yet.

#### Precautions

Call this API before a recurring meeting series ends. If the recurring meeting series ends, calling this API is invalid.

#### Method Definition

```
/**
 * Cancels a recurring meeting series.
 *
 * @param cycleConfId Indicates the ID of a recurring meeting series.
 * @param hwmCallback Indicates the result callback.
 */
void cancelCycleConf(String cycleConfId, HwmCallback<Integer> hwmCallback);
```

#### Parameter Description

Table 6-47 Parameter description

| Parameter  | Mandatory | Type   | Description                  |
|------------|-----------|--------|------------------------------|
| confConfId | Yes       | String | Recurring meeting series ID. |

#### Sample Code

```
HWMBizSdk.getBizOpenApi().cancelCycleConf(item.getConfId(), new HwmCallback<Integer>() {
    @Override
    public void onSuccess(Integer result) {
        HCLog.i(TAG, "cancelCycleConf onSuccess " + result);
        doDismissDialogAndFragment();
        DemoUtil.showToast("cancel cycle conf success");
    }

    @Override
    public void onFailed(int retCode, String desc) {
        doDismissDialogAndFragment();
        String err = ErrorMessageFactory.create(retCode);
        if (TextUtils.isEmpty(err)) {

```

```
        err = DemoUtil.getResContext().getString(R.string.hwmconf_cancel_fail_tip);
    }
    DemoUtil.showToast("cancel cycle conf failed: " + err);
}
});
```

### 6.4.4.11 Editing a Recurring Meeting

#### API Description

This API is used to edit a meeting.

#### Precautions

- Call this API before a meeting starts. If the meeting is already in progress, calling this API is invalid.
- **All fields are mandatory. Specify the fields to be edited as required, and assign values in the meeting details to remaining fields.**

#### Method Definition

```
/**
 * Edits a recurring meeting.
 * @param modifySubCycleConfParam Indicates parameters for editing a recurring meeting.
 * @param hwmCallback Indicates the result callback.
 */
void editSubCycleConf(ModifySubCycleConfParam modifySubCycleConfParam, SdkCallback<Void>
hwmCallback);
```

#### Parameter Description

**Table 6-48** Parameter description

| Parameter               | Mandatory | Type                    | Description                        |
|-------------------------|-----------|-------------------------|------------------------------------|
| modifySubCycleConfParam | Yes       | ModifySubCycleConfParam | Parameters of a recurring meeting. |

**Table 6-49** ModifySubCycleConfParam parameter description

| Parameter      | Mandatory | Type           | Description                                   |
|----------------|-----------|----------------|---|
| editConfParam  | Yes       | EditConfParam  | Parameters for editing the recurring meeting. |
| cycleConfParam | Yes       | CycleConfParam | Parameters of the recurring meeting.          |

For details on other parameters, see [Table 6-30](#).

#### Sample Code

```
HWMBizSdk.getBizOpenApi().editSubCycleConf(modifySubCycleConfParam, new SdkCallback<Void>() {
    @Override
    public void onSuccess(Void v) {
```

```

        DemoUtil.showToast("Edit sub cycle conf success");
        doDismissDialogAndFragment();
        mListener.onEditSubCycleConfSuccess();
    }

    @Override
    public void onFailed(SDKERR retCode) {
        HCLog.i(TAG, "modifySubCycleConf onFailed" + retCode);
        String err = ErrorMessageFactory.create(retCode);
        if (TextUtils.isEmpty(err)) {
            err = DemoUtil.getResources().getString(R.string.hwmconf_edit_failed);
        }
        DemoUtil.showToast("Edit sub cycle conf failed: " + retCode + ",desc: " + err);
        doDismissDialogAndFragment();
    }
}
});
});

```

### 6.4.4.12 Canceling a Recurring Meeting

#### API Description

This API is used to cancel a recurring meeting that has not been started yet.

#### Precautions

Call this API before a recurring meeting starts. If the recurring meeting is already in progress, calling this API is invalid.

#### Method Definition

```

/**
 * Cancels a recurring meeting.
 *
 * @param cycleConfId Indicates the ID of a recurring meeting series.
 * @param subCycleConfId Indicates the ID of a recurring meeting.
 * @param hwmCallback Indicates the result callback.
 */
void cancelSubCycleConf(String cycleConfId, String subCycleConfId, SdkCallback<Void> hwmCallback);

```

#### Parameter Description

Table 6-50 Parameter description

| Parameter      | Mandatory | Type   | Description                  |
|----------------|-----------|--------|------------------------------|
| cycleConfId    | Yes       | String | Recurring meeting series ID. |
| subCycleConfId | Yes       | String | Recurring meeting ID.        |

#### Sample Code

```

HWMBizSdk.getBizOpenApi().cancelSubCycleConf(cycleConfId, item.getConfId(), new SdkCallback<Void>()
{
    @Override
    public void onFailed(SDKERR retCode) {
        HCLog.i(TAG, "cancel sub cycle conf onFailed " + retCode);
        String err = ErrorMessageFactory.create(retCode);
        if (TextUtils.isEmpty(err)) {
            err = DemoUtil.getResources().getString(R.string.hwmconf_cancel_fail_tip);
        }
        DemoUtil.showToast("cancel sub cycle conf failed: " + err);
    }
}

```

```
        confListAdapter.notifyDataSetChanged();
    }

    @Override
    public void onSuccess(Void aVoid) {
        DemoUtil.showToast("cancel sub cycle conf success");
        updateConfDetail(cycleConfId);
    }
    });
}
```

## 6.4.5 Meeting Control

### 6.4.5.1 Creating a Meeting

```
HWMSdk.getOpenApi.createConf(CreateConfParam, HwmCancelableCallBack)
```

#### API Description

This API is used to create an instant meeting and join the meeting immediately.

#### Precautions

This API applies for the audio and camera permissions of the application.

#### Method Definition

```
/**
 * Creates a meeting.
 * @param createConfParam Indicates the createConfParam object.
 * @param hwmCallback Indicates the result callback.
 */
void createConf(CreateConfParam createConfParam , HwmCancelableCallBack <ConfInfo> hwmCallback);
```

#### Parameter Description

Table 6-51 Parameter description

| Parameter       | Mandatory | Type                  | Description             |
|-----------------|-----------|-----------------------|-------------------------|
| createConfParam | Yes       | CreateConfParam       | createConfParam object. |
| hwmCallback     | Yes       | HwmCancelableCallBack | Callback object.        |

#### Return Values

None

#### Parameter Extension

Table 6-52 CreateConfParam description

| Parameter | Mandatory | Type   | Description    |
|-----------|-----------|--------|----------------|
| subject   | Yes       | String | Meeting topic. |

| Parameter       | Mandatory | Type                | Description   |
|-----------------|-----------|---------------------|---|
| confType        | Yes       | ConfType            | CONF_AUDIO(0, "Voice meeting"),<br>CONF_VIDEO(1, "Video meeting"),  |
| needPassword    | Yes       | boolean             | Whether a password is required.<br><b>NOTE</b><br>This parameter is valid only for meetings with a random ID.   |
| guestPwd        | No        | String              | Guest password. If this parameter is left blank, the guest password is generated by the server.<br><b>NOTE</b><br>This parameter is valid only for meetings with a random ID.   |
| attendeeMembers | No        | List<AttendeeModel> | Participant list.   |
| isCameraOn      | No        | boolean             | Whether to enable the camera.   |
| isMicOn         | No        | boolean             | Whether to enable the microphone.   |
| isRecordOn      | No        | boolean             | Whether to enable meeting recording.<br><b>NOTE</b><br>This parameter is valid only for cloud recording, not for local recording on clients.  |
| isAutoRecord    | No        | boolean             | Whether to automatically start recording after the meeting starts. The default value is <b>false</b> . Meeting recording must be enabled if automatic recording is enabled.<br><b>NOTE</b><br>This parameter is valid only for cloud recording, not for local recording on clients. |
| vmrId           | No        | String              | Cloud meeting room ID.  |

| Parameter                | Mandatory | Type                   | Description  |
|--------------------------|-----------|------------------------|--|
| joinConfRestrictionType  | No        | JoinConfPermissionType | PERMIT_EVERYONE("PERMIT_EVERYONE", 0, "Everyone can join the meeting.")<br>PERMIT_ENTERPRISE_USER(The "PERMIT_ENTERPRISE_USER", 2, "Only corporate users are allowed to join the meeting.")<br>PERMIT_INVITED_USER("PERMIT_INVITED_USER", 3, "Only invited users are allowed to join the meeting."); |
| customInfo               | No        | String                 | User-defined data on the device side. The server is unaware of the data.   |
| isSpeakerOff             | No        | boolean                | Whether to disable the speakers. By default, the speakers are enabled.   |
| concurrentParticipants   | No        | int                    | Maximum number of participants in the meeting. If this parameter is left blank, there is no restriction.   |
| confResType              | No        | ConfResType            | Meeting resource type. This parameter is mandatory only for a shared cloud meeting room (set the value to <b>ConfResType.CONF_RESTYPE_SHARE_VMR</b> ).   |
| autoMuteMode             | No        | AutoMuteType           | Whether to automatically mute personal client users when they join the meeting.  |
| hardTerminalAutoMuteMode | No        | AutoMuteType           | Whether to automatically mute meeting room device users when they join the meeting.  |

### Sample Code

```
List<AttendeeModel> attendeeList = new ArrayList<>();  
// The following three methods are available:  
String name = getName();  
String number = getNumber();  
String thirdAccountId = getThirdAccountId();
```



```
        if (!TextUtils.isEmpty(thirdAccount)) {
            if (LoginStatusCache.getLoginAccountInfo() instanceof AppIdAuthParam) {
                // An app ID is used for login.
                attendeeList.add(AttendeeModel.buildAttendeeByThirdAccountId(thirdAccount,name));
            }
        } else if(number.startsWith("+99")){
            // A SIP number is used to join the meeting.
            attendeeList.add(AttendeeModel.buildAttendeeBySipNumber(number, name));
        } else {
            // A mobile number or a fixed-line phone number is used to join the meeting.
            attendeeList.add(AttendeeModel.buildAttendeeByPhone(number, name));
        }
    }

    CreateConfParam createConfParam = new CreateConfParam()
        .setSubject(getSubject()) // Set the meeting topic.
        .setConfType(ConfType.CONF_AUDIO) // Set the meeting type.
        .setVmrid(getVmrid()) // (Optional) Set the cloud meeting room ID.
        .setJoinConfRestrictionType(JoinConfPermissionType.PERMIT_EVERYONE) // Specify the scope of users
        who are allowed to join the meeting.
        .setNeedPassword(true) // Specify whether to create a password.
        .setCameraOn(true) // Specify whether to enable the camera.
        .setMicOn(true) // Specify whether to enable the microphone.
        .setRecordOn(true) // Specify whether to enable meeting recording.
        .setAttendeeMembers(attendeeList); // Add participant information.

    HWMSdk.getOpenApi(getActivity()).createConf(createConfParam, new
    HwmCancelableCallBack<ConfInfo>() {

        // Callback invoked when a meeting is created.
        @Override
        public void onSuccess(ConfInfo confInfo) {
            Log.i(TAG, "Meeting created: Meeting ID: "+ confInfo.getConfId() +
            ";Meeting password:" + confInfo.getConfPwd());
        }

        // Callback invoked when a meeting fails to be created.
        @Override
        public void onFailed(int retCode, String desc) {
            dismissLoading();
            String err = ErrorMessageFactory.create(Utils.getApp(), retCode);
            if (TextUtils.isEmpty(err)) {
                err =
                Utils.getApp().getString(com.huawei.hwmmobileconfui.R.string.conf_create_error);
            }
            Log.e(TAG, "Create meeting failed.: "+ err);
        }
        @Override
        public void onCancel() {

        }
    });
};
```

### 6.4.5.2 Joining a Meeting

```
HWMSdk.getOpenApi.joinConf(JoinConfParam, HwmCancelableCallBack)
```

#### API Description

This API can be used to join a meeting regardless of whether you have logged in or not. You can join a meeting in either of the following ways:

- Enter the meeting ID and password.
- Use a meeting ID and random code to join the meeting. The meeting link (for example, [https://meeting.huaweicloud.com/#/j/981924330/e\\*\\*\\*\\*\\*9](https://meeting.huaweicloud.com/#/j/981924330/e*****9)) in the notification email contains the meeting ID (981924330 in this example) and random code (e\*\*\*\*\*9 in this example).

### Precautions

- If you call this API without logging in to Huawei Cloud Meeting, the **nickname** parameter must be specified.
- Call the child class **PasswordJoinConfParam** to join a meeting using the ID, and call the child class **RandomJoinConfParam** to join a meeting in random mode.

### Method Definition

```
/**
 * @param joinConfParam Indicates the joinConfParam object.
 * @param hwmCallback Indicates the result callback.
 */
void joinConf(JoinConfParam joinConfParam, HwmCancelableCallBack<Void> hwmCallback);
```

### Parameter Description

**Table 6-53** Parameter description

| Parameter     | Mandatory | Type                  | Description           |
|---------------|-----------|-----------------------|-----------------------|
| joinConfParam | Yes       | JoinConfParam         | JoinConfParam object. |
| hwmCallback   | Yes       | HwmCancelableCallBack | Callback object.      |

### Return Values

None

### Parameter Extension

**Table 6-54** JoinConfParam description

| Parameter   | Mandatory | Type    | Description                       |
|-------------|-----------|---------|-----------------------------------|
| setConfId   | Yes       | String  | Meeting ID.                       |
| setNickname | Yes       | String  | Nickname.                         |
| setCameraOn | No        | boolean | Whether to enable the camera.     |
| setMicOn    | No        | boolean | Whether to enable the microphone. |

**Table 6-55** PasswordJoinConfParam parameter

| Parameter          | Mandatory | Type    | Description   |
|--------------------|-----------|---------|---|
| password           | No        | String  | Password for joining the meeting. This parameter is left blank if the meeting does not have a password. |
| isStopConflictConf | No        | boolean | Whether to forcibly end the meeting that conflicts with the cloud meeting room.                         |

**Table 6-56** RandomJoinConfParam parameter

| Parameter | Mandatory | Type   | Description  |
|-----------|-----------|--------|--|
| random    | Yes       | String | Random number for joining the meeting, which is generated based on the meeting password. |
| domain    | No        | String | Domain name, which is used when you join the meeting offline.                            |

### Sample Code

```

JoinConfParam joinConfParam;
if (!TextUtils.isEmpty(random)) {
    joinConfParam = new RandomJoinConfParam()
        .setRandom(random)
        .setConfId(getConfId())
        .setNickname(getNickname())
        .setCameraOn(true)
        .setMicOn(true);
} else {
    joinConfParam = new PasswordJoinConfParam()
        .setPassword(password)
        .setConfId(getConfId())
        .setNickname(getNickname())
        .setCameraOn(true)
        .setMicOn(true);
}
HwMSdk.getOpenApi(getActivity()).joinConf(joinConfParam, new HwmCancelableCallBack<Void>() {

    // Callback invoked when joining the meeting is successful.
    @Override
    public void onSuccess(Void ret) {
        Log.i(TAG, "Meeting joined");
    }

    // Callback invoked when joining the meeting fails.
    @Override
    public void onFailed(int retCode, String desc) {
        String err = ErrorMessageFactory.create(Utils.getApp(), retCode);
        if (TextUtils.isEmpty(err)) {
            err = Utils.getApp().getString(com.huawei.hwmmobileconfui.R.string.conf_join_fail_tip);
        }
        Log.e(TAG, "Joining the meeting failed: "+ err);
    }
}

```

```

    }
    @Override
    public void onCancel() {

    }
});

```

### 6.4.5.3 Adding Participants

```

HWMBizSdk.getBizOpenApi().addAttendee(List<AttendeeModel> attendees, HwmCallback<Integer>
hwmCallback);

```

#### API Description

This API is used to invite participants to a meeting.

#### Precautions

1. Only the host can invite participants.

#### Method Definition

```

/**
 * Invites participants to a meeting.
 * @param attendees Indicates the participants to invite.
 * @param hwmCallback Indicates the result callback.
 */
void addAttendee(List<AttendeeModel> attendees, HwmCallback<Integer> hwmCallback);

```

#### Parameter Description

Table 6-57 AttendeeModel description

| Parameter   | Mandatory | Type   | Description  |
|-------------|-----------|--------|--|
| name        | Yes       | String | Participant name.  |
| number      | Yes       | String | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId | Yes       | String | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |

### Sample Code

```
HWMBizSdk.getBizOpenApi().addAttendee(List<AttendeeModel> attendees, new HwmCallback<Integer>() {
    @Override
    public void onSuccess(Integer integer) {
        Log.i(TAG, "Participants added.");
    }

    @Override
    public void onFailed(int retCode, String desc) {
        Log.i(TAG, "Failed to add the participants. code: " + retCode);
    }
});
```

## 6.4.5.4 Scanning a QR Code to Invite a Large Screen to a Meeting

### joinPairConf

#### API Description

This API is used to scan a QR code to invite a large screen to a meeting.

#### Precautions

None

#### Method Definition

```
HWMSdk.getOpenApi(this.getApplication()).joinPairConf(JoinPairConfParam joinPairConfParam,
HwmCallback<Void> callback);
```

**Table 6-58** Parameter description

| Parameter         | Mandatory | Type              | Description  |
|-------------------|-----------|-------------------|--|
| joinPairConfParam | Yes       | JoinPairConfParam | Parameters for inviting a large screen to a meeting by scanning a QR code. |
| callback          | Yes       | HwmCallback       | Callback for inviting a large screen to a meeting by scanning a QR code.   |

#### Return Values

None

#### Parameter Extension

**Table 6-59** JoinPairConfParam description

| Parameter | Mandatory | Type   | Description  |
|-----------|-----------|--------|--------------|
| url       | Yes       | String | QR code URL. |

| Parameter    | Mandatory | Type   | Description       |
|--------------|-----------|--------|-------------------|
| confId       | Yes       | String | Meeting ID.       |
| confPassword | No        | String | Meeting password. |

### Return Values

None

### Sample Code

```
public void joinPairConf() {
    JoinPairConfParam joinPairConfParam = new JoinPairConfParam();
    joinPairConfParam.setConfId(confId);
    joinPairConfParam.setConfPassword(confPassword);
    joinPairConfParam.setUrl(url);
    HWMSdk.getOpenApi(this.getApplication()).joinPairConf(joinPairConfParam, new HwmCallback<Void>()
    {
        @Override
        public void onFailed(int retCode, String desc) {
            showToast(desc);
        }

        @Override
        public void onSuccess(Void unused) {
            if (successLayout != null) {
                successLayout.setVisibility(View.VISIBLE);
            }
        }
    });
}
```

## 6.4.5.5 Setting the Sharing Permission

### setShareScreenPermission

```
HWMBizSdk.getBizOpenApi().setShareScreenPermission(boolean hasPermission)
```

#### API Description

This API is used to set the sharing permission.

#### Precautions

The return value of the API only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
/**
 * Specifies whether the local device has the sharing permission.
 * @param hasPermission
 */
void setShareScreenPermission(boolean hasPermission);
```

#### Parameter Description

**Table 6-60** Parameter description

| Parameter     | Man<br>dato<br>ry | Type    | Description                 |
|---------------|-------------------|---------|-----------------------------|
| hasPermission | Yes               | boolean | Whether sharing is allowed. |

### Return Values

None

### Sample Code

```
HWMBizSdk.getBizOpenApi().setShareScreenPermission(true);
```

## 6.4.5.6 Leaving a Meeting

```
HWMSdk.getOpenApi.leaveConf(HwmCallback<Integer> callback)
```

### API Description

This API is used to leave a meeting.

### Precautions

1. Do not call this API if you are not in a meeting.
2. If this API is called to leave a meeting, the meeting will not end. You can join the meeting again when the meeting is still in progress.

### Method Definition

```
/**
 * Leaves a meeting.
 * @param callback Indicates the result callback.
 */
void leaveConf(HwmCallback<Integer> callback);
```

### Parameter Description

None

### Return Values

None

### Sample Code

```
HWMSdk.getOpenApi(HWMBizSdk.getApplication()).leaveConf(new HwmCallback<Integer>() {
    @Override
    public void onSuccess(Integer integer) {
        Toast.makeText(HWMBizSdk.getApplication(), "You have left the meeting.",
            Toast.LENGTH_SHORT)
            .show();
    }

    @Override
    public void onFailed(int retCode, String desc) {
        Toast.makeText(HWMBizSdk.getApplication(), "Failed to leave the meeting: " + retCode + " " +
            desc, Toast.LENGTH_SHORT)
            .show();
    }
});
```

### 6.4.5.7 Ending a Meeting

```
HWMSdk.getOpenApi.endConf(HwmCallback<Integer> callback)
```

#### API Description

This API is used by the host to end a meeting.

#### Precautions

1. Do not call this API if you are not in a meeting.
2. Only the host can end a meeting.
3. After this API is called, the meeting will end and you cannot join the meeting again.

#### Method Definition

```
/**  
 * Ends a meeting.  
 * @param callback Indicates the result callback.  
 */  
void endConf(HwmCallback<Integer> callback);
```

#### Parameter Description

None

#### Return Values

None

#### Sample Code

```
HWMSdk.getOpenApi(HWMBizSdk.getApplication()).endConf(new HwmCallback<Integer>() {  
    @Override  
    public void onSuccess(Integer integer) {  
        Toast.makeText(HWMBizSdk.getApplication(), "Meeting ended.", Toast.LENGTH_SHORT)  
            .show();  
    }  
  
    @Override  
    public void onFailed(int retCode, String desc) {  
        Toast.makeText(HWMBizSdk.getApplication(), "Failed to end the meeting: " + retCode + " " +  
desc, Toast.LENGTH_SHORT)  
            .show();  
    }  
});
```

### 6.4.5.8 Starting an Instant Meeting

#### startP2PConf

```
HWMSdk.getOpenApi(getActivity().getApplication()).startP2PConf(StartP2PConfParam createConfParam,  
HwmCancelableCallBack<ConfInfo> callback);
```

#### API Description

This API is used to start an instant meeting.

#### Precautions

This API is used only when your enterprise enables the new P2P function.

#### Method Definition



```
/**
 * Creates an instant meeting.
 *
 * @param createConfParam Indicates parameter settings for creating an instant meeting.
 * @param callback Indicates the result callback.
 */
void startP2PConf(StartP2PConfParam createConfParam, HwmCancelableCallBack<ConfInfo> callback);
```

### Parameter Description

**Table 6-61** Parameter description

| Parameter       | Mandatory | Type                  | Description  |
|-----------------|-----------|-----------------------|--|
| createConfParam | Yes       | StartP2PConfParam     | Parameters for creating an instant meeting.              |
| callback        | Yes       | HwmCancelableCallBack | Callback for the result of creating the instant meeting. |

### Return Values

None

### Parameter Extension

**Table 6-62** StartP2PConfParam description

| Parameter   | Mandatory | Type        | Description                     |
|-------------|-----------|-------------|---------------------------------|
| callerInfo  | Yes       | CallerInfo  | Caller information.             |
| calleeInfo  | Yes       | CalleeInfo  | Called participant information. |
| meetingType | Yes       | MeetingType | Meeting type.                   |

**Table 6-63** CallerInfo description

| Parameter | Mandatory | Type   | Description  |
|-----------|-----------|--------|--------------|
| nickName  | Yes       | String | Caller name. |

**Table 6-64** CalleeInfo description

| Parameter | Mandatory | Type   | Description              |
|-----------|-----------|--------|--------------------------|
| nickName  | Yes       | String | Called participant name. |

| Parameter   | Mandatory | Type   | Description   |
|-------------|-----------|--------|---|
| number      | No        | String | Called number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId | No        | String | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.  |

### Sample Code

```
private void startP2PConf() {
    showLoading();
    boolean isVideo = !audioBtn.isChecked();
    StartP2PConfParam startP2PConfParam = new StartP2PConfParam();
    startP2PConfParam.setCallerInfo(genP2PConfCaller());
    startP2PConfParam.setCalleeInfo(genP2PConfCallee());
    startP2PConfParam.setMeetingType(isVideo ? MeetingType.CONF_VIDEO : MeetingType.CONF_AUDIO);
    HWMSdk.getOpenApi(getActivity().getApplication()).startP2PConf(startP2PConfParam, new
    HwmCancelableCallBack<ConfInfo>() {
        @Override
        public void onSuccess(ConfInfo confInfo) {
            Log.i(TAG, "startP2PConf success");
        }
    });
}
```

```
        doDismissDialogAndFragment();
    }

    @Override
    public void onFailed(int retCode, String desc) {
        HLog.i(TAG, "startP2PConf onFailed" + retCode + " " + desc);
        dismissLoading();
        DemoUtil.showToast("Failed to start an instant meeting: " + retCode + ", desc: " + desc);
    }

    @Override
    public void onCancel() {
        HLog.i(TAG, "startP2PConf onCancel");
        dismissLoading();
    }
}
});
}
```

## 6.4.6 Meeting Information

### 6.4.6.1 Obtaining the Participant List

#### getAttendeeList

##### API Description

This API is used to obtain the participant list in a meeting.

##### Precautions

1. This API can be called only during a meeting.

##### Method Definition

```
/**
 * Obtains the participant list.
 * @return Indicates the participant list.
 */
List<AttendeeModel> getAttendeeList();
```

##### Parameter Description

For details, see [AttendeeModel](#).

**Table 6-65** ConfAttendeeState description

| Parameter                   | Description                           |
|-----------------------------|---------------------------------------|
| CONF_ATTENDEE_STATE_IN_CONF | The participant is in the meeting.    |
| CONF_ATTENDEE_STATE_CALLING | The participant is being called.      |
| CONF_ATTENDEE_STATE_LEFT    | The participant has left the meeting. |

##### Sample Code

```
HWMBizSdk.getBizOpenApi().getAttendeeList();
```

## 6.4.6.2 Obtaining the Attendee List

### getAudienceList

#### API Description

This API is used to obtain the attendee list in a meeting.

#### Precautions

1. This API can be called only during a meeting.
2. Attendees cannot call this API, but can obtain the list from the meeting details message.

#### Method Definition

```
/**  
 * Obtains the attendee list.  
 * @return Indicates the attendee list.  
 */  
List<AttendeeModel> getAudienceList();
```

#### Parameter Description

For details, see [AttendeeModel](#).

#### Sample Code

```
HWMBizSdk.getBizOpenApi().getAudienceList();
```

## 6.4.6.3 Obtaining a User Status

```
HWMUserSdk.getOpenApi().getHWMUserState();
```

#### API Description

This API is used to obtain the status of a user (whether the user is in a meeting).

#### Precautions

None

#### Method Definition

```
/**  
 * Obtains the status of a user (whether the user is in a meeting).  
 */  
HWMUserState getHWMUserState();
```

#### Parameter Description

None

#### Return Values

**Table 6-66** Enumerated values of HWMUserState

| Enumerated Value | Description       |
|------------------|-------------------|
| HWM_STATE_IDLE   | The user is idle. |

| Enumerated Value  | Description               |
|-------------------|---------------------------|
| HWM_STATE_IN_CONF | The user is in a meeting. |
| HWM_STATE_IN_CALL | The user is being called. |

### Sample Code

```
public void getHWMUserState() {
    HWMUserState hwmUserState =
    HWMSdk.getOpenApi(HWMBizSdk.getApplication()).getHWMUserState();
    DemoUtil.showToast("user state: " + hwmUserState.getDescription());
}
```

## 6.4.7 Audio and Video Data Streams

### 6.4.7.1 Enabling Third-Party Video Streaming

You can configure third-party collection of video streams in `OpenSDKConfig`. The SDK does not collect video streams.

There are three callback methods:

`onSetLocalVideoMirrorTypeNotify`: callback called when a meeting starts. You can configure video mirroring.

`onStartPushExternalVideoFrameNotify`: callback called when a meeting starts. You must collect data and push streams.

`onEndPushExternalVideoFrameNotify`: callback called when a meeting ends. You can stop data collection.

#### Application Scenarios

Video streams are collected by non-standard mobile phone cameras or video streams need to be processed additionally.

#### Precautions

1. `sdkConfig` takes effect only when this configuration is passed during SDK initialization.

### Sample Code

```
public class CustomPushExternalVideoFrameStrategy implements IPushExternalVideoFrameStrategy {
    private static CopyOnWriteArrayList<IPushVideoFrameNotification> pushVideoFrameNotifications = new
    CopyOnWriteArrayList<>();

    public static void registerPushVideoFrameListener(IPushVideoFrameNotification confResultNotification) {
        pushVideoFrameNotifications.add(confResultNotification);
    }

    public static void removePushVideoFrameListener(IPushVideoFrameNotification confResultNotification) {
        pushVideoFrameNotifications.remove(confResultNotification);
    }

    @Override
    public void onSetLocalVideoMirrorTypeNotify() {
```

```
// Set the mirroring mode of the local video (called in the UI main thread). For details, see
// Configuring Video Mirroring of Third-Party Streaming.
}

@Override
public void onStartPushExternalVideoFrameNotify() {
    // Start third-party stream collection and push.
}

@Override
public void onEndPushExternalVideoFrameNotify() {
    // Stop third-party stream collection and push.
}
}

sdkConfig.setPushExternalVideoFrameStrategy(new CustomPushExternalVideoFrameStrategy());
```

## 6.4.7.2 Configuring Video Mirroring of Third-Party Streaming

### API Description

This API is used to set the mirroring mode of the front camera in the local video window during third-party stream push.

### Precautions

This API must be called in the UI main thread. Set the mirroring type of the front camera to left and right. Mirroring is unavailable for the rear camera.

### Method Definition

```
/**
 * Sets the mirroring mode of the local video window.
 * @param mirrorType Indicates the mirroring mode. The value 0 means no mirroring, 1 means up and
 * down mirroring, and 2 means left and right mirroring. The default value is 0, and up and down mirroring is
 * not supported currently.
 */
void setLocalVideoMirrorType(MirrorType mirrorType);
```

### Parameter Description

Table 6-67 Parameters

| Parameter  | Mandatory | Type       | Description   |
|------------|-----------|------------|---|
| mirrorType | Yes       | MirrorType | Mirroring mode.<br>MIRROR_NONE(0, "No mirroring")<br>MIRROR_UP_DOWN(1, "Up and down mirroring") (not supported currently)<br>MIRROR_LEFT_RIGHT(2, "Left and right mirroring") |

### Sample Code

```
HWMBizSdk.getBizOpenApi().setLocalVideoMirrorType(MirrorType.MIRROR_LEFT_RIGHT));
```

## 6.4.7.3 Pushing Video Streams Using a Third Party

### API Description

In the custom video stream collection scenario, after data streams are collected, you can call this API to push streams using a third party.

### Precautions

Call this API during a meeting or call.

### Method Definition

```
/**
 * Pushes streams collected by a third party.
 * @param videoFrameParam Indicates the videoFrameParam object.
 * @param callback Indicates the result callback.
 */
void pushExternalVideoFrame(VideoFrameParam videoFrameParam, HwmCallback<Void> callback);
```

### Parameter Description

**Table 6-68** Parameters

| Parameter       | Mandatory | Type            | Description             |
|-----------------|-----------|-----------------|-------------------------|
| videoFrameParam | No        | VideoFrameParam | videoFrameParam object. |
| callback        | No        | HwmCallback     | Result callback.        |

### Return Values

None

### Parameter Extension

**Table 6-69** VideoFrameParam parameters

| Parameter   | Mandatory | Type   | Description  |
|-------------|-----------|--------|--|
| frameDate   | Yes       | byte[] | Video data.  |
| frameWidth  | Yes       | int    | Image width. When it is used as an input parameter, the value must be an integral multiple of 4, ranging from 90 to 1920.  |
| frameHeight | Yes       | int    | Image height. When it is used as an input parameter, the value must be an integral multiple of 2, ranging from 90 to 1200. |

| Parameter        | Mandatory | Type             | Description  |
|------------------|-----------|------------------|--|
| videoFrameFormat | Yes       | VideoFrameFormat | Image format. The format used by the current demo is <b>VIDEO_FRAME_FORMAT_NV21</b> . After conversion, the image format must be set to <b>105</b> .<br>VIDEO_FRAME_FORMAT_I420(100, "I420")<br>VIDEO_FRAME_FORMAT_YV12(101, "YV12")<br>VIDEO_FRAME_FORMAT_NV21(105, "NV21")<br>VIDEO_FRAME_FORMAT_UNKNOWN(999, "UNKNOWN") |
| displayRotation  | Yes       | DisplayRotation  | Video display angle.<br>ROTATION_0(0, "0 degree clockwise rotation")<br>ROTATION_90(1, "90 degree clockwise rotation")<br>ROTATION_180(2, "180 degree clockwise rotation")<br>ROTATION_270(3, "270 degree clockwise rotation")   |

### Sample Code

```
ExternalVideoFrameParam videoFrameParam = new ExternalVideoFrameParam();
videoFrameParam.setFrameDate(mData);
videoFrameParam.setFrameWidth(1920);
videoFrameParam.setFrameHeight(1080);
videoFrameParam.setDisplayRotation(DisplayRotation.ROTATION_0);
videoFrameParam.setVideoFrameFormat(VideoFrameFormat.VIDEO_FRAME_FORMAT_NV21);
HWMBizSdk.getBizOpenApi().pushExternalVideoFrame(videoFrameParam, new HwmCallback<Void>() {
    @Override
    public void onSuccess(Void aVoid) {
    }

    @Override
    public void onFailed(int retCode, String desc) {
        Log.i(TAG, "code: " + retCode);
    }
});
```

## 6.5 Notification Reference



## 6.5.1 Account Status Change Notification

You can configure listeners for account-related notification callbacks to monitor scenarios such as account expiration.

### Application Scenarios

Account kicked out: `onKickedOut`

Token expired: `onTokenInvalid`

Account locked: `onAccountLocked`

Account or password error: `onAccountOrPasswordError`

CA certificate verification failed: `onCaInvalid`

### Precautions

`sdkConfig` takes effect only when this configuration is passed during SDK initialization.

### Sample Code

```
sdkConfig.setAccountEventHandle(new IAccountEventHandle() {  
    @Override  
    public void onKickedOut(@Nullable KickOutState kickOutState) {  
        Log.i(TAG, "Your account has logged in on another device.");  
    }  
    @Override  
    public void onAccountOrPasswordError(@Nullable AccountOrPasswordErrorState  
accountOrPasswordErrorState) {  
        Log.i(TAG, "onAccountOrPasswordError");  
    }  
    @Override public void onTokenInvalid(@Nullable TokenInvalidState tokenInvalidState) {  
        // After the token expires, you need to log out and log in again. Otherwise, basic functions such as  
meeting creation and scheduling will be affected.  
        Log.i(TAG, "onTokenInvalid");  
    }  
    @Override  
    public void onAccountLocked(@Nullable AccountLockedState accountLockedState) {  
        Log.i(TAG, "onAccountLocked");  
    }  
    @Override  
    public void onCaInvalid(@Nullable CaInvalidState caInvalidState) {  
        // When the CA certificate verification fails, you will be logged out.  
        Log.i(TAG, "onCaInvalid");  
    }  
});
```

## 6.5.2 Meeting Status Change Notification

You can configure listeners for notifications related to meeting UI changes.

The UI is created when you join a meeting and destroyed when you leave the meeting.

### Application Scenarios

Joining a meeting: `onConfDetailNotify`

Ending or leaving a meeting: `onConfEnded` or `onLeaveConf`

Poor network connection: `onPoorNetworkQualityInfoNotify`

Call records of instant meetings: onP2PConfRecord

### Precautions

sdkConfig takes effect only when this configuration is passed during SDK initialization.

### Sample Code

```
public class CustomNotifyHandler implements CLMNotifyHandler {  
  
    @Override  
    public void onConfDetailNotify(ConfInfo confInfo) {  
        Log.i(TAG, "confInfo: confId" + confInfo.getConfId() + ", Subject:" + confInfo.getConfSubject());  
    }  
  
    @Override  
    public void onPoorNetworkQualityInfoNotify(PoorNetworkQualityInfo poorNetworkInfo) {  
        Log.i(TAG, " poorNetworkInfo : " + poorNetworkInfo.getUserId() + " , "  
            + " , " + poorNetworkInfo.getIsLocal() + " , " + poorNetworkInfo.getVideoStatus() + " , "  
            + poorNetworkInfo.getAudioStatus() + " , " + poorNetworkInfo.getShareStatus());  
        DemoUtil.showToast("CLMNotifyHandler event: onPoorNetworkQualityInfoNotify ");  
    }  
  
    /**  
     * Notifies you when a meeting ended.  
     * @param result Indicates the error code returned after the meeting ended.  
     */  
    @Override  
    public void onConfEnded(ConfEndedReason result) {  
        Log.i(TAG, "The meeting has ended.");  
    }  
  
    @Override  
    public void onLeaveConf(int result) {  
        Log.i(TAG, "You've left the meeting.");  
    }  
}  
sdkConfig.setNotifyHandler(new CustomNotifyHandler());
```

## 6.5.2.1 Meeting End Notification

### API Description

A notification is sent when a meeting ended.

### Method Definition

```
/**  
 * Notifies you when a meeting ended.  
 *  
 * @param retCode Indicates the error code returned after the meeting ended.  
 * @param desc Indicates the error message returned after the meeting ended.  
 */  
void onConfEnded(int retCode, String desc);
```

### Parameter Description

Table 6-70 Parameter description

| Parameter | Mandatory | Type | Description                                  |
|-----------|-----------|------|--|
| retCode   | Yes       | int  | Error code returned after the meeting ended. |

| Parameter | Mandatory | Type   | Description                                     |
|-----------|-----------|--------|---|
| desc      | Yes       | String | Error message returned after the meeting ended. |

### Return Values

None

## 6.5.2.2 Meeting Details Notification

### API Description

A notification is sent when the meeting details changed.

### Method Definition

```
/**
 * Notifies you of meeting details.
 *
 * @param meetingInfo
 */
void onMeetingInfoChanged(MeetingInfo meetingInfo);
```

### Parameter Description

**Table 6-71** Parameter description

| Parameter   | Type        | Description      |
|-------------|-------------|------------------|
| meetingInfo | MeetingInfo | Meeting details. |

### Return Values

None

### Parameter Extension

**Table 6-72** MeetingInfo description

| Parameter    | Type     | Description  |
|--------------|----------|--|
| confSubject  | String   | Meeting topic.   |
| confId       | String   | Meeting ID.  |
| vmrConfId    | String   | Personal meeting ID.   |
| selfConfRole | ConfRole | Role in the meeting. For details, see <a href="#">Table 6-73</a> . |
| hostPwd      | String   | Host password.   |

| Parameter           | Type           | Description  |
|---------------------|----------------|--|
| guestPwd            | String         | Guest password.  |
| audiencePwd         | String         | Attendee password.   |
| accessNumber        | String         | Meeting access number.   |
| hostJoinUri         | String         | Link for the host to join the meeting.   |
| guestJoinUri        | String         | Link for guests to join the meeting.   |
| audienceJoinUri     | String         | Link for attendees to join the webinar.  |
| timeZone            | String         | Time zone.   |
| startTimeStamp      | long           | Meeting start time. The value is a UTC timestamp, accurate to seconds.                           |
| endTimeStamp        | long           | Meeting end time. The value is a UTC timestamp, accurate to seconds.                             |
| serverCurrentTime   | long           | Current server time.   |
| scheduserUuid       | String         | Scheduler UUID.  |
| scheduserName       | String         | Scheduler name.  |
| orgId               | String         | Enterprise ID, which can be used to determine whether a user does not belong to this enterprise. |
| isWebinar           | boolean        | Whether the meeting is a webinar.  |
| isCreator           | boolean        | Whether the meeting was scheduled by you.  |
| conferenceType      | ConferenceType | Meeting type. For details, see <a href="#">Table 6-74</a> .                                      |
| confUuid            | String         | Meeting UUID.  |
| openCustomPara      | String         | Custom extension information.  |
| liveRoomAddress     | String         | Live broadcast address.  |
| isHighResolution    | boolean        | Whether the meeting resolution is ultra-HD (1080p).  |
| isP2PConf           | boolean        | Whether the meeting is an instant meeting.   |
| supportSummary      | boolean        | Whether meeting minutes are supported.   |
| defaultSummaryState | SummaryState   | Meeting minutes status. For details, see <a href="#">Table 6-75</a> .                            |
| recordMode          | ConfRecordMode | Media recording mode.  |

| Parameter                  | Type    | Description   |
|----------------------------|---------|---|
| supportBreakout-Conf       | boolean | Whether breakout rooms are supported.   |
| isBreakoutSubConf          | boolean | Whether the session is a breakout room. For details, see <a href="#">Table 6-76</a> . |
| supportGuestInviteAttendee | boolean | Whether a guest can invite others to the meeting.                                     |

**Table 6-73** Enumerated values of ConfRole

| Enumerated Value | Description          |
|------------------|----------------------|
| ROLE_ATTENDEE    | Guest.               |
| ROLE_HOST        | Host.                |
| ROLE_AUDIENCE    | Attendee.            |
| ROLE_COHOST      | Co-host.             |
| ROLE_WAITING     | Waiting room member. |

**Table 6-74** Enumerated values of ConferenceType

| Enumerated Value | Description        |
|------------------|--------------------|
| CONF_TYPE_COMMON | Common meeting.    |
| CONF_TYPE_CYCLE  | Recurring meeting. |

**Table 6-75** Enumerated values of SummaryState

| Enumerated Value    | Description |
|---------------------|-------------|
| SUMMARY_STATE_CLOSE | Disabled.   |
| SUMMARY_STATE_OPEN  | Enabled.    |

**Table 6-76** Enumerated values of ConfRecordMode

| Enumerated Value    | Description     |
|---------------------|-----------------|
| CONF_RECORD_DISABLE | Disabled.       |
| CONF_RECORD_LIVE    | Live broadcast. |

| Enumerated Value            | Description                   |
|-----------------------------|-------------------------------|
| CONF_RECORD_RECORD          | Recording.                    |
| CONF_RECORD_LIVE_AND_RECORD | Live broadcast and recording. |

### 6.5.2.3 Poor Connection Notification

#### API Description

A notification is sent when the network connection was poor.

#### Method Definition

```
/**
 * Reports information about poor network connection.
 *
 * @param poorNetworkInfo
 */
void onPoorNetworkQualityInfoNotify(PoorNetworkQualityInfo poorNetworkInfo);
```

#### Parameter Description

**Table 6-77** Parameter description

| Parameter       | Mandatory | Type                   | Description                                |
|-----------------|-----------|------------------------|--|
| poorNetworkInfo | Yes       | PoorNetworkQualityInfo | Information about poor network connection. |

#### Return Values

None

#### Parameter Extension

**Table 6-78** PoorNetworkQualityInfo description

| Parameter   | Mandatory | Type   | Description                  |
|-------------|-----------|--------|------------------------------|
| userId      | Yes       | int    | User ID.                     |
| nickName    | Yes       | String | Display name in the meeting. |
| thirdUserId | Yes       | String | Third-party account.         |
| accountId   | Yes       | String | Account information.         |
| number      | No        | String | SIP number.                  |

| Parameter   | Mandatory | Type                 | Description                                       |
|-------------|-----------|----------------------|---|
| isLocal     | Yes       | boolean              | Whether the participant is the local client user. |
| audioStatus | No        | LowNetWorkStatusInfo | Network status of audio.                          |
| videoStatus | No        | LowNetWorkStatusInfo | Network status of video.                          |
| shareStatus | No        | LowNetWorkStatusInfo | Network status of sharing.                        |

**Table 6-79** LowNetWorkStatusInfo description

| Parameter  | Mandatory | Type                 | Description       |
|------------|-----------|----------------------|-------------------|
| packetLoss | Yes       | int                  | Packet loss rate. |
| delay      | Yes       | int                  | Delay.            |
| jitter     | Yes       | int                  | Jitter.           |
| status     | No        | LowNetWorkStatusInfo | Status.           |

**Table 6-80** Enumerated values of LowNetWorkStatus

| Value                        | Description |
|------------------------------|-------------|
| LOW_NET_WORK_STATUS_NORMAL   | Normal.     |
| LOW_NET_WORK_STATUS_BAD      | Poor.       |
| LOW_NET_WORK_STATUS_VERY_BAD | Very poor.  |

## 6.5.2.4 Notification of Instant Meeting Records

### API Description

A notification of instant meeting records is sent.

### Method Definition

```
/**
 * Notifies you of call records of a new instant meeting when you left that meeting.
 * @param p2pConfRecordInfo
 */
void onP2PConfRecord(HWMP2PConfRecordInfo p2pConfRecordInfo);
```

### Parameter Description

**Table 6-81** Parameter description

| Parameter         | Mandatory | Type                 | Description              |
|-------------------|-----------|----------------------|--------------------------|
| p2pConfRecordInfo | Yes       | HWMP2PConfRecordInfo | Call record information. |

**Return Values**

None

**Parameter Extension**

**Table 6-82** HWMP2PConfRecordInfo description

| Parameter         | Mandatory | Type              | Description   |
|-------------------|-----------|-------------------|---|
| callerInfo        | Yes       | HWMCallMemberInfo | Caller information.   |
| calleeInfo        | Yes       | HWMCallMemberInfo | Called participant information.                                     |
| startTimeStamp    | Yes       | long              | Call start time. The value is a UTC timestamp, accurate to seconds. |
| endTimeStamp      | Yes       | long              | Call end time. The value is a UTC timestamp, accurate to seconds.   |
| isCallEstablished | Yes       | boolean           | Whether the call is connected.                                      |
| isCallOut         | Yes       | boolean           | Whether the call is an outgoing call.                               |
| meetingType       | Yes       | MeetingType       | Meeting type.   |
| resultCode        | Yes       | int               | Meeting end reason (error code).                                    |
| resultMsg         | No        | String            | Meeting end reason (error message).                                 |

**Table 6-83** HWMCallMemberInfo description

| Parameter | Mandatory | Type   | Description               |
|-----------|-----------|--------|---------------------------|
| nickName  | Yes       | String | (Mandatory) Display name. |



| Parameter   | Mandatory | Type   | Description   |
|-------------|-----------|--------|---|
| number      | No        | String | Called number. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set ( <b>number</b> is prior to <b>thirdUserId</b> ).              |
| thirdUserId | No        | String | Third-party account of the called participant. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set ( <b>number</b> is prior to <b>thirdUserId</b> ). |

### 6.5.2.5 Notification of Participant Addition Results

#### API Description

A notification is sent when the participant addition results are returned.

#### Method Definition

```
public void onAddAttendeeNotify(AddAttendeeResultList resultList)
```

#### Parameter Description

Table 6-84 Parameter description

| Parameter  | Mandatory | Type                  | Description                   |
|------------|-----------|-----------------------|-------------------------------|
| resultList | Yes       | AddAttendeeResultList | Participant addition results. |

#### Return Values

None

#### Parameter Extension

Table 6-85 AddAttendeeResultList description

| Parameter    | Mandatory | Type | Description                   |
|--------------|-----------|------|-------------------------------|
| attendeeSize | Yes       | int  | Number of participants added. |

| Parameter        | Mandatory | Type                  | Description                     |
|------------------|-----------|-----------------------|---------------------------------|
| addAttendeeInfos | Yes       | List<AddAttendeeInfo> | Results of adding participants. |

**Table 6-86** AddAttendeeInfo description

| Parameter   | Mandatory | Type   | Description          |
|-------------|-----------|--------|----------------------|
| number      | Yes       | String | Number.              |
| thirdUserId | Yes       | String | Third-party account. |
| resultCode  | Yes       | SDKERR | Error code.          |

### 6.5.3 Service Message Notification

You can configure the API for processing service notification messages in OpenSDKConfig to listen to meeting details changes.

#### Application Scenarios

Listening to meeting list changes

Listening to your host role change in a meeting

Listening to your recording permission change in a meeting

Listening to changes of the permission to send SMS messages in a meeting scheduled by you

#### Precautions

sdkConfig takes effect only when this configuration is passed during SDK initialization.

#### Sample Code

```
public class CustomBizNotificationHandle implements BizNotificationHandler {  
  
    private static CopyOnWriteArrayList<IConfListUpdate> confListUpdates = new CopyOnWriteArrayList<>();  
  
    public static void registerConfListUpdateListener(IConfListUpdate confListUpdate){  
        confListUpdates.add(confListUpdate);  
    }  
  
    public static void removeConfListUpdateListener(IConfListUpdate confListUpdate){  
        confListUpdates.remove(confListUpdate);  
    }  
  
    // Callback invoked upon a meeting list update  
    @Override  
    public void onConfListChanged(List<ConfBaseInfo> list) {  
        for (IConfListUpdate listener : confListUpdates) {  
            try {  
                listener.onConfListUpdateNotify(list);  
            } catch (RuntimeException e) {  
                Log.e("onConfListChanged", e.toString());  
            }  
        }  
    }  
}
```

```
    }  
    }  
  
    // Callback invoked upon the change of the host role  
    @Override  
    public void onIsSelfChairManChanged(boolean isChairman) {  
  
    }  
  
    // Callback invoked upon the change of the meeting recording permissions  
    @Override  
    public void onRecordPermissionChanged(boolean hasPermission) {  
  
    }  
  
    // Callback invoked upon the change of the permissions of sending SMS messages for scheduled  
    meetings  
    @Override  
    public void onBookConfSmsPermissionChanged(boolean hasPermission) {  
  
    }  
  
    // Whether AI recording is supported  
    @Override  
    public void onAIConfRecordStateChanged(int state) {  
  
    }  
  
    // Whether you have the cloud recording permission  
    @Override  
    public void onRecordTypeChanged(int type) {  
  
    }  
  
    // Incoming meeting call information  
    @Override  
    public void onConfIncomingNotify(ConfIncomingInfo confIncomingInfo) {  
  
    }  
}  
sdkConfig.setBizNotificationHandler(new CustomBizNotificationHandle());
```

### 6.5.3.1 Notification of Individual Role Changes

#### API Description

A notification is sent when the host role was changed.

#### Method Definition

```
/**  
 * Notifies you when the host role was changed.  
 * @param isSelfChairMan  
 */  
void onIsSelfChairManChanged(boolean isSelfChairMan);
```

#### Parameter Description

Table 6-87 Parameter description

| Parameter      | Type    | Description               |
|----------------|---------|---------------------------|
| isSelfChairMan | boolean | Whether you are the host. |

#### Return Values

None

### 6.5.3.2 Notification of Meeting List Changes

#### API Description

A notification is sent when the meeting list changed.

#### Method Definition

```
/**
 * Notifies you when the meeting list changed.
 *
 * @param hwmConfList
 */
void onConfListChanged(List<ConfBaseInfo> hwmConfList);
```

#### Parameter Description

See [meeting list parameters](#).

### 6.5.3.3 Notification of Changes on the Meeting Recording Permission

#### API Description

A notification is sent when the meeting recording permission was changed.

#### Method Definition

```
/**
 * Notifies you when the meeting recording permission was changed.
 *
 * @param hasPermission
 */
void onRecordPermissionChanged(boolean hasPermission);
```

#### Parameter Description

**Table 6-88** Parameter description

| Parameter     | Type    | Description  |
|---------------|---------|--|
| hasPermission | boolean | Whether you have the permission to record the meeting. |

#### Return Values

None

### 6.5.3.4 Notification of Changes of the Permission of Sending SMS Messages for a Scheduled Meeting

#### API Description

A notification is sent when the permission of sending SMS messages for a scheduled meeting was changed.

### Method Definition

```
/**
 * Notifies you when the permission of sending SMS messages for a scheduled meeting was changed.
 *
 * @param hasPermission
 */
void onBookConfSmsPermissionChanged(boolean hasPermission);
```

### Parameter Description

**Table 6-89** Parameter description

| Parameter     | Type    | Description   |
|---------------|---------|---|
| hasPermission | boolean | Whether you have the permission to send SMS messages for a scheduled meeting. |

### Return Values

None

## 6.5.3.5 Notification of Changes of Information About Shared Cloud Meeting Rooms

### API Description

This API is used to notify you when information about shared cloud meeting rooms was changed.

### Method Definition

```
/**
 * Notifies you of updates of shared cloud meeting rooms.
 *
 * @param shareVmrInfo Indicates information about shared cloud meeting rooms.
 */
void onShareVmrInfoNotify(ShareVmrInfo shareVmrInfo);
```

### Parameter Description

**Table 6-90** Parameter description

| Parameter    | Type         | Description                                   |
|--------------|--------------|---|
| shareVmrInfo | ShareVmrInfo | Information about shared cloud meeting rooms. |

**Table 6-91** ShareVmInfo description

| Parameter        | Type    | Description                                       |
|------------------|---------|---|
| isEnabledShareVm | boolean | Whether shared cloud meeting rooms are available. |

**Return Values**

None

## 6.5.4 Answering Policy Configuration of Incoming Calls

### Notification Description

You can customize the mode of automatically processing an incoming meeting call in **OpenSDKConfig**. By default, the answering screen is displayed for manual processing.

**Application Scenarios**

Answering a call directly when receiving a meeting invitation:

answerTypeOnConfIncoming.

HWMIncomingAnswerType.HWM\_INCOMING\_AUTO\_ANSWER is returned.

Rejecting a call when receiving a meeting invitation: answerTypeOnConfIncoming.

HWMIncomingAnswerType.HWM\_IMCOMING\_AUTO\_DECLINE is returned.

**Precautions**

sdkConfig takes effect only when this configuration is passed during SDK initialization.

**Sample Code**

```
sdkConfig.setIncomingHandle(new IncomingHandle() {  
    @Override  
    public HWMIncomingAnswerType answerTypeOnConfIncoming() {  
        // Customize the incoming call processing mode for meeting invitations.  
        return HWMIncomingAnswerType.HWM_IMCOMING_NORMAL;  
    }  
});
```

**Reference Returned Values**

```
public enum HWMIncomingAnswerType {  
    HWM_IMCOMING_NORMAL(0, "HWM_IMCOMING_NORMAL"), // The default processing mode is  
    used.  
    HWM_IMCOMING_AUTO_DECLINE(1, "HWM_IMCOMING_AUTO_DECLINE"), // The call is automatically  
    rejected.  
    HWM_INCOMING_AUTO_ANSWER(2, "HWM_INCOMING_AUTO_ANSWER"); // The call is automatically  
    answered.  
}
```

## 6.5.5 UI-related Notification

### 6.5.5.1 Notification Indicating that the Audio and Video Floating Window Appeared

#### API Description

This API is used to notify you when the audio and video floating window appeared.

#### Method Definition

```
/**  
 * The audio and video floating window appeared.  
 */  
void onFloatingWindowDidAppear();
```

#### Return Values

None

### 6.5.5.2 Notification Indicating that the Audio and Video Floating Window Disappeared

#### API Description

This API is used to notify you when the audio and video floating window disappeared.

#### Method Definition

```
/**  
 * The audio and video floating window disappeared.  
 */  
void onFloatingWindowDidDisappear();
```

#### Return Values

None

## 6.6 Error Code Reference

### 6.6.1 Common Error Codes

Table 1 Common error codes

| Code | Description  |
|------|--|
| 68   | Initiating or joining a meeting times out due to poor network conditions.          |
| 91   | The meeting does not exist or you do not have the permissions to join the meeting. |
| 95   | You are not allowed to join the meeting ahead of the host. Contact the host.       |

| Code      | Description   |
|-----------|---|
| 103       | You are not allowed to join the meeting ahead of the host. Contact the host.  |
| 112       | The meeting has ended.  |
| 836       | The call is disconnected due to network interruption.   |
| 837       | The call is disconnected because no stream exists.  |
| 838       | You have been removed from the meeting by the host. (The host disconnected you.)                                      |
| 839       | The meeting has ended.  |
| 11070005  | The meeting does not exist.   |
| 11070009  | Failed to verify the meeting authentication information.  |
| 11071005  | The current meeting conflicts with a scheduled meeting. Contact the cloud meeting room administrator.                 |
| 11071014  | The start time exceeds the allowed range.   |
| 11071025  | Check whether the mobile numbers of participants are correct.   |
| 11071067  | The meeting is in progress and cannot be canceled.  |
| 11071073  | Anonymous users are not allowed to join the meeting. Contact the meeting scheduler.                                   |
| 11071074  | Only corporate users can join the meeting. Contact the meeting scheduler.   |
| 11071075  | Only invited users can join the meeting. Contact the meeting scheduler.   |
| 11072031  | Check whether the mobile numbers of participants are specified.   |
| 11072033  | Check whether the mobile numbers of participants are correct.   |
| 11072050  | The meeting has been locked.  |
| 11076003  | The number of users in the cloud meeting room has reached the upper limit. Contact the meeting host or administrator. |
| 11081006  | Incorrect password. Try again.  |
| 115022001 | Concurrent resources of the enterprise are insufficient.  |



## 6.6.2 Error Codes

**Table 6-92** Error codes

| Error Code | Error Description                              |
|------------|--|
| -1         | Unknown error.                                 |
| 0          | Success.                                       |
| 111070001  | Request error.                                 |
| 111070002  | Insufficient permissions.                      |
| 111070003  | System processing failure.                     |
| 111070004  | Meeting authentication failed.                 |
| 111070005  | Meeting does not exist.                        |
| 111070006  | Personal cloud meeting room does not exist.    |
| 111070007  | Meeting access number does not exist.          |
| 111070008  | Meeting notification could not be sent.        |
| 111070009  | Meeting password cannot be left blank.         |
| 111070010  | Insufficient permissions to view this meeting. |
| 111070100  | Get started meeting exception.                 |
| 111070101  | Start meeting exception.                       |
| 111070102  | Apply IVR resource exception.                  |
| 111070103  | Start IVR meeting exception.                   |
| 111070104  | Apply site resource exception.                 |
| 111070105  | Start sub meeting exception.                   |
| 111070106  | Add channel exception.                         |
| 111070107  | Move and apply site resource exception.        |
| 111070108  | Start meeting exception.                       |
| 111070109  | Get started cloud meeting exception.           |
| 111070110  | Invite site exception.                         |
| 111070111  | Request token is null.                         |
| 111070112  | Rename site exception.                         |
| 111070113  | Hangup site exception.                         |
| 111070114  | Mass hangup site exception.                    |
| 111070115  | Delete attendee exception.                     |

| Error Code | Error Description  |
|------------|--|
| 111070116  | Mass delete attendee exception.  |
| 111070117  | Book cycle meeting exception.  |
| 111070118  | Modify cycle meeting exception.  |
| 111070119  | Create cycle meeting exception.  |
| 111070120  | Region data not found.   |
| 111070121  | Forbidden subscribe.   |
| 111070122  | Cancel subscribe fail.   |
| 111071001  | Sysportal service exception.   |
| 111071002  | Conf service exception.  |
| 111071003  | Failed to create the meeting. Try again later.                                     |
| 111071004  | This cloud meeting room does not allow guests to join before the host.             |
| 111071005  | This cloud meeting room has been scheduled for another meeting during this period. |
| 111071006  | Insufficient cloud meeting time.   |
| 111071007  | Meeting does not exist.  |
| 111071008  | Cannot query meeting list.   |
| 111071009  | Cannot change cloud meeting into immediate meeting.                                |
| 111071010  | Cannot modify cloud meeting flag.  |
| 111071011  | The cloud meeting has not yet started. Please wait.                                |
| 111071012  | Not cloud meeting.   |
| 111071013  | Start time less than current time.   |
| 111071014  | Start time over max schedule time.   |
| 111071015  | Duration over range.   |
| 111071016  | Cycle ID list null exception.  |
| 111071017  | Meeting size over range.   |
| 111071018  | Invalid media type.  |
| 111071019  | Invalid meeting type.  |
| 111071020  | Cycle params null exception.   |
| 111071021  | Duration over range.   |
| 111071022  | Subject length too long.   |

| Error Code | Error Description                           |
|------------|---|
| 111071023  | Group URI length too long.                  |
| 111071024  | Invalid email address format.               |
| 111071025  | Invalid mobile number format.               |
| 111071026  | Department name too long.                   |
| 111071027  | Invalid welcome voice enable value.         |
| 111071028  | Invalid enter voice enable value.           |
| 111071029  | Invalid leave voice enable value.           |
| 111071030  | Invalid reminders value.                    |
| 111071031  | Invalid allow record value.                 |
| 111071032  | Invalid auto record value.                  |
| 111071033  | Invalid user type value.                    |
| 111071034  | Invalid encrypt mode value.                 |
| 111071035  | Invalid language value.                     |
| 111071036  | Invalid auto prolong value.                 |
| 111071037  | VmrID too long.                             |
| 111071038  | Invalid record type value.                  |
| 111071039  | Live address too long.                      |
| 111071040  | Aux address too long.                       |
| 111071041  | Null start date for cycle meeting.          |
| 111071042  | Null end date for cycle meeting.            |
| 111071043  | Invalid cycle type value for cycle meeting. |
| 111071044  | Invalid interval for cycle meeting.         |
| 111071045  | Null point for cycle meeting.               |
| 111071046  | Invalid point value for cycle meeting.      |
| 111071047  | Invalid vmr flag value.                     |
| 111071048  | Invalid record auxStream.                   |
| 111071049  | Invalid multiStream flag.                   |
| 111071050  | Invalid audience flag.                      |
| 111071051  | Invalid liveChannel ID.                     |
| 111071052  | Anonymous login is locked. Try again later. |

| Error Code | Error Description  |
|------------|--|
| 111071053  | Link login is locked. Try again later.   |
| 111071054  | Not enough Meeting ID.   |
| 111071055  | Failed to apply meeting ID.  |
| 111071056  | Failed to release meeting ID.  |
| 111071057  | Live room is used.   |
| 111071058  | The meeting has not yet started. Please wait.  |
| 111071059  | Meeting size over range.   |
| 111071060  | The enterprise cannot create meetings because it has not purchased any concurrent meeting resources. |
| 111071061  | Parameter verify failed.   |
| 111071062  | Json conversion failed.  |
| 111071063  | Not cloud meeting room owner.  |
| 111071064  | This cloud meeting room has been started for another meeting during this period.                     |
| 111071065  | This meeting cannot be modified because it is already started.                                       |
| 111071066  | Attendees amount over range.   |
| 111071067  | This meeting cannot be canceled because it is already started.                                       |
| 111071068  | Meeting password encrypt failed.   |
| 111071069  | No meeting during this period.   |
| 111071070  | Sub cycle meeting cannot modify live room.   |
| 111071071  | Stop online meeting exception.   |
| 111071072  | Meeting is ended.  |
| 111071073  | Not allow anonymous user.  |
| 111071074  | Only allow user in organization.   |
| 111071075  | Only allow invited user.   |
| 111071076  | Batch export task for history meeting list during this period.                                       |
| 111071077  | Only allow invited user and user in organization.  |
| 111071078  | Max current participants amount reached.   |
| 111071079  | Invalid CTD param.   |
| 111071080  | Invalid guest password.  |

| Error Code | Error Description   |
|------------|---|
| 111071081  | Guest password conflict with meeting ID.                      |
| 111071082  | Max meeting amount reached.                                   |
| 111071083  | Invalid meeting random number.                                |
| 111071084  | Max export history meeting list times reached.                |
| 111071085  | Max multi view layouts reached.                               |
| 111071086  | Max multi view invalid manual type.                           |
| 111071087  | Max multi view sub view amount reached.                       |
| 111071088  | Max multi view sub view numbers reached.                      |
| 111071089  | Webinar and common meeting cannot be converted to each other. |
| 111071090  | Not allow add audience.                                       |
| 111071091  | Meeting password authentication failed.                       |
| 111071092  | File export task failed.                                      |
| 111071093  | File export task is downloading.                              |
| 111071094  | Not allow audience to join.                                   |
| 111071095  | Need to get WEBINAR_CONF.DTO object.                          |
| 111071096  | User-defined languages over range.                            |
| 111071097  | Your enterprise does not support simultaneous interpretation. |
| 111071098  | Need to set interpreter groups.                               |
| 111071099  | Invalid interpretation language.                              |
| 111071100  | Max languages in a meeting are reached.                       |
| 111071101  | This interpreter group ID already exists.                     |
| 111071102  | Max interpreters in the interpreter group reached.            |
| 111071103  | This interpreter already exists in an interpreter group.      |
| 111071104  | Invalid interpreter account.                                  |
| 111071105  | Guest password conflict with chairman password.               |
| 111071106  | Meeting is holding.   |
| 111071107  | Invalid audience password.                                    |
| 111071108  | Audience password conflict with meeting id.                   |
| 111071109  | Audience password conflict with chairman password.            |

| Error Code | Error Description   |
|------------|---|
| 111071110  | Only RTC meeting support E2E encrypt.                                       |
| 111071111  | Audience password conflict with guest password.                             |
| 111071112  | Cloud meeting room ID type cannot be modified.                              |
| 111071113  | Cloud meeting room type cannot be modified.                                 |
| 111071114  | Cloud meeting room flag cannot be modified.                                 |
| 111071119  | Sub cycle meeting modify time over range.                                   |
| 111072001  | Application for meeting resources failed.                                   |
| 111072002  | Failed to release meeting resources.  |
| 111072003  | The meeting is ending.  |
| 111072004  | The meeting is starting.  |
| 111072005  | The meeting has not yet started.  |
| 111072006  | The meeting has ended.  |
| 111072007  | Site invitation failed.   |
| 111072008  | Site does not exist.  |
| 111072009  | Failed to disconnect the site.  |
| 111072010  | Coming soon...  |
| 111072011  | Meeting status incorrect.   |
| 111072012  | Site control operation failed.  |
| 111072013  | The cloud meeting room is in use by another meeting.                        |
| 111072014  | The meeting has ended.  |
| 111072015  | The meeting has not yet started.  |
| 111072016  | Meeting does not exist.   |
| 111072017  | Meeting has no attendee.  |
| 111072018  | Application for chairman password exception.                                |
| 111072019  | Not found site which can be moved exception.                                |
| 111072020  | The current meeting is not a recording meeting. Recording is not supported. |
| 111072021  | System processing failure.  |
| 111072022  | Insufficient recording resources in the system.                             |
| 111072023  | There are no participants in this meeting.                                  |

| Error Code | Error Description  |
|------------|--|
| 111072024  | Operation failed. No sites have joined this meeting.   |
| 111072025  | Voice meeting does not support this function.  |
| 111072026  | The voice site does not support this operation.  |
| 111072027  | Voice sites cannot be displayed in custom continuous presence.                                       |
| 111072028  | At least one site must have custom continuous presence configured.                                   |
| 111072029  | At most one presentation pane is allowed in custom continuous presence.                              |
| 111072030  | In the voice-activated continuous presence mode, each pane can only support a single user.           |
| 111072031  | The number used for the site to join the meeting cannot be left blank.                               |
| 111072032  | The number used for the site to join the meeting is too long.  |
| 111072033  | The format of the number used for joining the meeting is incorrect.                                  |
| 111072034  | Length of site name too long.  |
| 111072035  | The site role type is outside the allowed range.   |
| 111072036  | Length of site email address too long.   |
| 111072037  | Length of site mobile number too long.   |
| 111072038  | The value for whether a site is muted after it first joins the meeting is outside the allowed range. |
| 111072039  | The value for whether to automatically invite a site is outside the allowed range.                   |
| 111072040  | The host's site viewing type is outside the allowed range.   |
| 111072041  | The value of the continuous presence setting mode is outside the allowed range.                      |
| 111072042  | The polling time is outside the allowed range.   |
| 111072043  | The pane type cannot be left blank.  |
| 111072044  | Invalid pane type.   |
| 111072045  | The value of the switch is outside the allowed range.  |
| 111072046  | The site name cannot be left blank.  |
| 111072047  | Site name too long.  |

| Error Code | Error Description   |
|------------|---|
| 111072048  | Continuous presence is not supported. Ask the administrator to configure related data on the MCU. |
| 111072049  | Response timed out. Try again later.  |
| 111072050  | Meeting locked.   |
| 111072051  | The meeting display mode is empty.  |
| 111072052  | The meeting display mode is outside the allowed range.  |
| 111072053  | The meeting pane type is outside the allowed range.   |
| 111072054  | The banner or caption type is empty.  |
| 111072055  | The banner or caption content is empty.   |
| 111072056  | The banner or caption content cannot exceed 2,000 bytes.  |
| 111072057  | The request message body is empty.  |
| 111072058  | The pane index is greater than the total number of panes.   |
| 111072059  | Meeting has no host.  |
| 111072060  | Regular participants cannot perform this operation.   |
| 111072061  | You have set host polling and cannot select a specific site to view or set continuous presence.   |
| 111072062  | You cannot select a site to view on the web page. Perform the operation on the terminal.          |
| 111072063  | Applying for recording resources...   |
| 111072064  | Too many failed login attempts. Try again later.  |
| 111072065  | The meeting ID or password is incorrect. Check the ID and password and try again.                 |
| 111072066  | The enterprise has not purchased any recording storage space.                                     |
| 111072067  | Insufficient enterprise recording storage space.  |
| 111072068  | Failed to start live broadcast. Try again later.  |
| 111072069  | Not allow to hand up for host.  |
| 111072070  | The operation is not allowed for guest.   |
| 111072071  | The operation is only allowed for yourself.   |
| 111072072  | Not allow to apply host for attendees who do not have meeting control abilities.                  |
| 111072073  | Notify message is expired.  |



| Error Code | Error Description  |
|------------|--|
| 111072074  | Only participants with a number registered on HUAWEI CLOUD can be set as the host. |
| 111072075  | Hung up site for meeting ended.  |
| 111072076  | Hung up site by host.  |
| 111072077  | Hung up site because host deleted site.  |
| 111072078  | Hung up site because meeting is recreated.   |
| 111072079  | Hung up site for moving site failed.   |
| 111072080  | Hung up site for inviting site cross region failed.                                |
| 111072081  | Hung up site for invitation exception.   |
| 111072082  | Hung up site for joining meeting repeatedly.                                       |
| 111072083  | Lock sharing failed.   |
| 111072084  | This site does not support 1-screen layout.  |
| 111072085  | Not support realtime subtitle.   |
| 111072086  | Realtime subtitle pid is null.   |
| 111072087  | Invalid realtime subtitle pid.   |
| 111072088  | Failed to set realtime subtitle.   |
| 111072089  | Not allow audience to change speaker status.                                       |
| 111072090  | Allow/forbid audience to speak only for audience.                                  |
| 111072091  | This meeting does not support simultaneous interpretation.                         |
| 111072092  | Interpreter group is empty.  |
| 111072093  | This meeting has not enabled simultaneous interpretation.                          |
| 111072094  | This site is not interpreter.  |
| 111072095  | This site has not yet confirmed interpreter identity.                              |
| 111072096  | Invalid site language.   |
| 111072097  | This site is confirmed interpreter.  |
| 111072098  | This site listen channel is different from speak channel.                          |
| 111072099  | Failed to set interpretation languages. Try again.                                 |
| 111072100  | Failed to set interpretation channel. Try again.                                   |
| 111072101  | Max participant amount reached.  |
| 111072102  | Max allowed handup amount reached.   |

| Error Code | Error Description   |
|------------|---|
| 111072103  | Max allowed speaking amount reached.  |
| 111072104  | Failed to set virtual audio CSD site.   |
| 111072105  | This meeting does not support cohost.   |
| 111072106  | This site does not support cohost.  |
| 111072107  | Host cannot be set to cohost.   |
| 111072108  | Audience cannot be set to cohost.   |
| 111072109  | Need to check cohost permission.  |
| 111072110  | Cohost cannot operate host.   |
| 111072111  | This site does not support share invitation.                                    |
| 111072201  | Hung up site because heart beat failed.   |
| 111072202  | Insufficient audience cloud meeting room logic resources.                       |
| 111072203  | Insufficient participant cloud meeting room logic resources.                    |
| 111072204  | Insufficient webinar resources, so started failed.                              |
| 111072205  | Only RTC conf support local record.   |
| 111072206  | Invalid E2E encryption parameter.   |
| 111072207  | Not allow to switch role in webinar.  |
| 111072208  | The client version used by the user is too early. Cannot start local recording. |
| 111072211  | Meeting is under AR assist.   |
| 111072213  | Audience cannot be set to host.   |
| 111072214  | Rename param contains sensitive words.  |
| 111073001  | User does not exist.  |
| 111073002  | Department does not exist.  |
| 111073003  | Invalid username format.  |
| 111073004  | Invalid department name format.   |
| 111073005  | Could not query department.   |
| 111073006  | Application for anonymous user failed.  |
| 111073007  | Invalid cloud meeting room package status.                                      |
| 111073008  | Failed to Release anonymous user.   |
| 111073009  | Not support cycle meeting for welinkC.  |

| Error Code | Error Description   |
|------------|---|
| 111073010  | Not support cloud meeting room for welinkC.                       |
| 111073011  | Failed to get WeLink token.                                       |
| 111073012  | Failed to Get M to M token.                                       |
| 111073013  | Invalid webinar cloud meeting package status.                     |
| 111073014  | Max extend times for cloud meeting trial version reached.         |
| 111073015  | Max extend duration for cloud meeting trial version reached.      |
| 111073016  | Not support auto extend meeting for cloud meeting trial version.  |
| 111074001  | This meeting host already exists.                                 |
| 111074002  | No meeting host permissions.                                      |
| 111074003  | Failed to extend the meeting. Max meeting duration reached.       |
| 111074004  | Failed to extend the meeting. The service processing is abnormal. |
| 111075001  | Failed to start timer.  |
| 111075002  | Failed to end timer.  |
| 111075003  | Json parse failed.  |
| 111076001  | Released by host.   |
| 111076002  | Released by portal host.  |
| 111076003  | Max number of participants reached.                               |
| 111076004  | Insufficient enterprise resources.                                |
| 111076005  | Not answered.   |
| 111076006  | User does not exist.  |
| 111076007  | Offline.  |
| 111076008  | Busy.   |
| 111076009  | Rejected by user.   |
| 111076010  | Released by user.   |
| 111076011  | Insufficient meeting resources in the system.                     |
| 111076012  | Outbound calling disabled.  |
| 111076013  | Application for address token failed.                             |
| 111076014  | Call failed.  |

| Error Code | Error Description   |
|------------|---|
| 111076015  | Max number of participants reached.                         |
| 111076099  | Common error.   |
| 111077001  | RSE server info does not exist.                             |
| 111077101  | Not support AI record.                                      |
| 111077102  | Reapplying for AI record resource.                          |
| 111077103  | Insufficient AI record resource.                            |
| 111077104  | In AI recording, the meeting cannot stop live or recording. |
| 111077201  | Record file does not exist or have no permission.           |
| 111077202  | RSE authentication failed.                                  |
| 111078000  | No available region in multi region.                        |
| 111078001  | No available global in multi region.                        |
| 111078002  | Dispatch region error in multi region.                      |
| 111079000  | Failed to phrase big data param query xml.                  |
| 111079001  | Failed to phrase anonymous assign xml.                      |
| 111080001  | Bad request.  |
| 111080002  | Insufficient permissions.                                   |
| 111080004  | Site data not found or deleted.                             |
| 111081001  | Site is inviting.   |
| 111081002  | Site meeting does not exist or is ended.                    |
| 111081003  | Failed to apply site resource.                              |
| 111081004  | Failed to release site resource.                            |
| 111081005  | Failed to apply site media resource.                        |
| 111081006  | Authentication failed.                                      |
| 111081007  | Meeting is locked.  |
| 111081009  | Login is locked because max authentication times reached.   |
| 111081010  | Waiting user restrictions.                                  |
| 111082001  | Not support this control.                                   |
| 111082002  | No response.  |
| 111082003  | Site not exist.   |
| 111082004  | Site unavailable.   |

| Error Code | Error Description  |
|------------|--|
| 111082005  | Site busy.   |
| 111082006  | Site refused.  |
| 111082007  | Site leave.  |
| 111082008  | PSTN service is closed.  |
| 111082009  | SIP invitation timeout.  |
| 111083001  | RSE does not exist.  |
| 111084001  | Failed to execute DTMF.  |
| 111084002  | Get started meeting exception.   |
| 111084003  | Call MCU side exception.   |
| 111084004  | Join call exception.   |
| 111084005  | Invite exception.  |
| 111084006  | Call terminal side exception.  |
| 111084007  | Answer exception.  |
| 111084008  | Common CTL exception.  |
| 111084009  | Hangup exception.  |
| 111084010  | Notify capability exception.   |
| 111084011  | Update MT exception.   |
| 111084012  | Negotiate exception.   |
| 111084013  | Not support this meeting.  |
| 111084014  | Not allowed join meeting in RTC inviting because guests are not invited. |
| 111089002  | Failed to phrase URI join xml.   |
| 111090001  | Failed to join data meeting.   |
| 111090002  | Join data meeting overtime.  |
| 111100001  | Failed to get slider image.  |
| 111100002  | Slider check failed.   |
| 111100003  | Invalid random number.   |
| 111100004  | Invalid slider token.  |
| 111100005  | Need to check slider.  |
| 111100006  | Invalid SMS phone number.  |

| Error Code | Error Description  |
|------------|--|
| 111100007  | Failed to send verification code.  |
| 111100008  | Verification code expired.   |
| 111100009  | Verification code error.   |
| 111100010  | Max verification code check times reached.   |
| 111100011  | The uuid is invalid, you need to re-verify the phone number.   |
| 111100012  | The meeting is not on this site.   |
| 111100013  | Need to verify the mobile phone number. Mobile number verification is required when an International site user joins a meeting held by a free enterprise on the Chinese mainland site. |
| 111110001  | Failed to add IM group.  |
| 111110002  | Failed to disband IM group.  |
| 111110003  | Failed to add IM member.   |
| 111110004  | Failed to remove IM member.  |
| 111112001  | Failed to enter the waiting room.  |
| 111112002  | Failed to exit the waiting room.   |
| 111112003  | Waiting room cache operation failed.   |
| 111112004  | Co-hosts cannot be moved into the waiting room.  |
| 111112005  | Not allowed to enable waiting room.  |
| 111112008  | Not support this feature according to client capabilities.   |
| 112010001  | Common failure.  |
| 112010002  | Null param.  |
| 112010003  | Participant not found.   |
| 112010004  | Meeting not found.   |
| 112010005  | SIP invite information timeout.  |
| 112010006  | SIP invite information failed.   |
| 112010007  | SIP information timeout.   |
| 112010008  | SIP information failed.  |
| 112010009  | System processing failed.  |
| 112010010  | System processing failed.  |
| 112010011  | Failed to invite MRS.  |

| Error Code | Error Description                              |
|------------|--|
| 112010012  | Failed to invite participant.                  |
| 112010013  | Data meeting join information failed.          |
| 112010014  | Failed to start meeting.                       |
| 112010015  | Media negotiation failed.                      |
| 112010016  | User rejects.                                  |
| 112010017  | User is busy.                                  |
| 112010018  | No call permission.                            |
| 112010019  | Unknown callee.                                |
| 112010020  | No user response.                              |
| 112010021  | Join meeting timed out.                        |
| 112010022  | Session has been released.                     |
| 112010023  | Callee is not registered.                      |
| 112010024  | SIP invite timed out.                          |
| 112010025  | User Session timer times out and hangs up.     |
| 112010026  | The participant bye hangs up on the MRS side.  |
| 112010027  | The participant bye hangs up on terminal side. |
| 112010028  | No RTP stream hang up.                         |
| 112100000  | Sysportal exception.                           |
| 112100001  | Bad request.                                   |
| 112100002  | Illegal request.                               |
| 112100003  | Data not found.                                |
| 112100004  | Data duplication.                              |
| 112100006  | The requested type is not supported.           |
| 112100007  | Failed to save notification template.          |
| 112100008  | Failed to save data.                           |
| 112100009  | Failed to query data.                          |
| 112100010  | Failed to delete data.                         |
| 112100011  | Password reset required.                       |
| 112100012  | Incorrect old password.                        |

| Error Code | Error Description   |
|------------|---|
| 112100013  | The new password cannot be the same as the old password.                      |
| 112100014  | Insufficient password complexity and low security.                            |
| 112100015  | The length does not meet the requirements.                                    |
| 112100016  | RSE is in meeting.  |
| 112100017  | RSE to be deleted.  |
| 112100018  | Failed to query the meeting list.   |
| 112100019  | User has been locked out. Try again later.                                    |
| 112100022  | The live room channel name exists.  |
| 112100023  | Failed to modify system configuration items for duplicated meeting ID prefix. |
| 112100024  | CONFID prefix can only be added, not modified or deleted.                     |
| 112100025  | The live room channel url exists.   |
| 112100026  | The live room has been occupied.  |
| 112100027  | The live room does not exist.   |
| 112100028  | Live room release failed.   |
| 112100029  | The request is missing header or param.                                       |
| 112100030  | The Live main stream URL already exists.                                      |
| 112100031  | The Live auxiliary stream URL already exists.                                 |
| 112100032  | Password is weak.   |
| 112100033  | The live room is occupied.  |
| 112100034  | Save part of attendees since max attendees size reached.                      |
| 112100035  | Failed to export data.  |
| 112100036  | Failed to import data.  |
| 112100037  | Max file size reached.  |
| 112100038  | LVS target address exists.  |
| 112100039  | LVS port existed.   |
| 112100040  | Not allow to modify global standby config.                                    |
| 112100041  | MCU insulation IP address exists.   |
| 112100042  | MCU insulation IP address cannot be modified.                                 |
| 112100043  | SBC address exists.   |



| Error Code | Error Description  |
|------------|--|
| 112100044  | Internal exception.  |
| 112100045  | System config delete exception.  |
| 112100046  | No ISBC access address.  |
| 112100047  | Media type need to be HD because the organization enables full HD capability.  |
| 112100061  | Same interpreter language abbreviation exists.   |
| 112100062  | Same interpreter language name exists.   |
| 112100063  | MCU type is MIXED and insulation config is not configured, or MCU meeting exists when modifying MCU connection settings. |
| 112100064  | MCU type is MIXED and insulation config is not configured when adding mcu connection settings.                           |
| 112100065  | MCU type is MIXED when modifying MCU insulation config or disbanding enterprise.   |
| 112100066  | MCU type is MIXED when deleting MCU insulation config.   |
| 112100067  | This gateway type is incompatible with MCU.  |
| 115021001  | Insufficient media resource.   |
| 115021002  | Meeting does not exist.  |
| 115021003  | Media resource does not exist.   |
| 115021005  | Insufficient media bandwidth resource.   |
| 115021006  | Media device fault.  |
| 115022000  | Insufficient common logic resource.  |
| 115022001  | Insufficient meeting resources in the enterprise.  |
| 115022002  | Insufficient logic port resource.  |
| 115022003  | Live broadcast resources have not been purchased or are insufficient.  |
| 115022004  | Media device does not exist.   |
| 115023001  | Insufficient ID resources.   |
| 115024001  | RMS service exception.   |
| 115025001  | The live room has already been occupied.   |
| 115025002  | The live room does not exist.  |
| 115025003  | Live room release failed.  |

| Error Code | Error Description   |
|------------|---|
| 115026001  | MCU meeting exists.   |
| 115029001  | Invalid common parameter.   |
| 115029002  | Null parameter.   |
| 115029003  | service is not available.   |
| 115029004  | Configuration exception.  |
| 115029005  | Duplicately apply resources.  |
| 115029006  | Waiting for applying resources.   |
| 115029999  | Unknown error.  |
| 118000000  | User authentication failed.   |
| 118000001  | User token authentication failed.   |
| 118000002  | User authentication account lockout.  |
| 200000001  | Server is busy. Please try again later.   |
| 200000002  | Internal error. Please contact SRE.   |
| 200000003  | Invalid parameter. Please check whether the parameters are valid.                                   |
| 200000004  | Illegal request. Please check the value of the request header field X-Auth-Token or X-Access-Token. |
| 200000005  | Forbidden access during the version upgrade.  |
| 201020023  | This user is already the owner of another corporation and cannot create a new corporation for it.   |
| 201040005  | Max number of users reached. Please check the purchased meeting users.                              |
| 201040016  | Password security is low. Please set another password.  |
| 201040031  | Activation code overdue.  |
| 201040042  | Pre-authentication expired.   |
| 201040043  | This user is the owner of another corporation and cannot be invited.                                |
| 201040044  | Invalid invite connection.  |
| 201040045  | User is already in waiting list.  |
| 201040046  | User already exists.  |
| 201040047  | Account modification is not allowed.  |
| 201050012  | Activation code does not exist.   |

| Error Code | Error Description   |
|------------|---|
| 201050015  | Invalid activation code.  |
| 201050021  | Activation failed.  |
| 201050022  | Terminal does not allow unbinding.  |
| 201080000  | VMR resource unavailable.   |
| 201080006  | The host password and the guest password cannot be the same. Please confirm the input parameters. |
| 201080017  | Same as meeting password.   |
| 201510001  | No invite permission to get an invite code.   |
| 201510003  | Invalid application.  |
| 206010000  | User name or password error.  |
| 206010007  | Account is not activated, no permission to log in.  |
| 206010010  | Failed to get verification code. Please contact SRE.  |
| 206010011  | Verification code must be filled.   |
| 206010012  | Verification code check failed.   |
| 206010013  | Jump login failed. Please contact SRE.  |
| 206010022  | SSO login failed. Please contact SRE.   |
| 206010023  | SSO login is not supported.   |
| 206010024  | Invalid authentication type.  |
| 206010025  | APPID verification failed.  |
| 206010027  | Authentication type error.  |
| 206010029  | Network error.  |
| 206010030  | APPID does not allow automatic registration.  |
| 206010031  | APPID auto registration failed.   |
| 206010036  | Normal users cannot log in.   |
| 206010042  | Huawei account authentication failed.   |
| 206010057  | APPID authentication expires.   |
| 206010058  | APPID account is not bound.   |
| 206010064  | Site mismatch.  |
| 206010065  | Phone number conflict.  |
| 206010066  | E-mail conflict.  |

| Error Code | Error Description  |
|------------|--|
| 206010070  | The number of users has reached the maximum.   |
| 206010071  | WeChat authentication failed.  |
| 206010074  | International sites support site changing re-login.  |
| 206010075  | Account has been unbound.  |
| 206020000  | Invalid authentication information. Please check the value of the request header field X-Auth-Token or X-Access-Token. |
| 206020001  | Token is created by disaster recovery site.  |
| 206020002  | Token is invalid due to being kicked.  |
| 206030000  | The user does not exist.   |
| 206030001  | The verification code is incorrect or has expired. Please obtain a new one.  |
| 206030002  | Incorrect verification code.   |
| 206030003  | Failed to send the verification code.  |
| 206030004  | Try to get a new verification code 180s later.   |
| 206030005  | The password cannot be changed.  |
| 206030006  | The old password is incorrect.   |
| 206030007  | The length of the new password does not meet the requirements.   |
| 206030008  | The password complexity does not meet the requirements.  |
| 206030009  | The new password must be different from the previous old passwords.  |
| 206030010  | The password cannot contain three or more of the same characters consecutively.  |
| 206030011  | The password cannot be changed within 5 minutes upon the last password change.   |
| 206030012  | The password cannot contain the account or the reverse order of the account.   |
| 206030013  | At least two characters must be different between the new and old passwords.   |
| 206030014  | Invalid password format.   |
| 206030015  | The user is locked and will be locked in 60s.  |
| 206030016  | Have no right to reset other's password.   |

| Error Code | Error Description  |
|------------|--|
| 206030018  | The number of password retrieval times in a day has reached the maximum (10 times).  |
| 206030019  | The number of incorrect verification code inputs have reached the maximum. Please get it again.                                    |
| 206030023  | Failed to send verification code. Please contact SRE.  |
| 206030028  | The system has enabled SSO login and does not support changing the password. Please retry after the system has disabled SSO login. |
| 206030031  | Forgot password for Huawei account.  |
| 206040000  | No corresponding terminal type.  |
| 206060008  | Sending verification code is locked.   |
| 206060009  | Slider verification required.  |
| 206060010  | Invalid slider token.  |
| 206060011  | Request parameter error.   |
| 206060012  | Sending SMS is not supported.  |
| 206060013  | Repeated sending is not supported.   |
| 206060014  | Invalid verification code.   |
| 206060015  | Max verification code check times reached.   |
| 206060017  | Failed to bind Huawei account.   |
| 211030046  | Not the IdeaHub activation code.   |
| 211030050  | auth fail too many times, locked.  |
| 211030052  | auth fail too many times, permanently locked.  |
| 211060003  | The maximum number of log upload times has been reached.   |
| 411000001  | Common failure.  |
| 411000002  | Parameter error.   |
| 411000003  | Meeting does not exist.  |
| 411000004  | A meeting already exists.  |
| 411000005  | Meeting state error.   |
| 411000006  | Failed to get device.  |
| 411000007  | Failed to set device.  |
| 411000008  | No device available.   |

| Error Code | Error Description  |
|------------|--|
| 411000009  | This operation is only supported on mobile.                          |
| 411000010  | Network access error.  |
| 411000011  | Other supplementary service is running.                              |
| 411000012  | Memory allocation error.   |
| 411000013  | Initialization failed.   |
| 411000014  | User does not exist.   |
| 411000015  | Did not join the data meeting.                                       |
| 411000016  | Neither meeting nor call exists.                                     |
| 411000017  | SVN port detection failed.   |
| 411000018  | Failed to write file.  |
| 411000019  | RTC does not support STG mode.                                       |
| 411000020  | Failed to load RTC library. RTC meeting is not supported.            |
| 411000021  | The meeting is in the audience pause state when changing roles.      |
| 411000022  | Not in call.   |
| 411000023  | Meeting or call does not exist.                                      |
| 411000024  | Pairing state not allowed.   |
| 411000025  | Pairing request failed.  |
| 411000026  | Pairing exceeds limit.   |
| 411000027  | Pairing common error.  |
| 411000028  | Pairing and joining the meeting failed.                              |
| 411000029  | Pairing and joining the meeting is busy.                             |
| 411000030  | Pairing and joining the meeting is invalid.                          |
| 411000031  | Multiple clicks at the same time to pair and join the meeting error. |
| 411000032  | Pairing is not established or is being established.                  |
| 411000033  | The camera is not turned on in the third-party capture mode.         |
| 411000034  | RTC engine creation failed.  |
| 411000035  | Not in a meeting.  |
| 411000036  | mute self failed.  |

| Error Code | Error Description   |
|------------|---|
| 411000100  | End the meeting with no stream due to disconnection of network.   |
| 411000101  | End the meeting with no stream because fail to re-join meeting.   |
| 411000102  | Null pointer exception.   |
| 411000103  | Parameters cannot be empty.   |
| 411000104  | Encrypt and decrypt func not match.   |
| 411000105  | Load user-defined DLLs failed.  |
| 411000106  | Shimo Docs is not supported.  |
| 412100001  | The message processing thread is not initialized.   |
| 412100002  | Parameter error.  |
| 412100003  | Timeout.  |
| 412100004  | Memory allocation error.  |
| 412100005  | XML parsing error.  |
| 412100006  | DNS resolution error.   |
| 412100007  | Request message failed.   |
| 412100008  | Authentication failed.  |
| 412100009  | Server error.   |
| 412100010  | Account is locked.  |
| 412100011  | Create timer error.   |
| 412100012  | Server CA certificate verification failed.  |
| 412100013  | Network error.  |
| 412100014  | Server redirect.  |
| 412100015  | Account is not activated.   |
| 412100016  | JSON parsing error.   |
| 412100017  | The proxy communication times out and the TCP link building fails. Probably because the proxy configuration is incorrect. |
| 412100018  | Disconnected by the proxy. Probably because the server address is misconfigured.  |
| 412100019  | The TCP link establishment timed out. Probably because the proxy domain name or port configuration is incorrect.          |

| Error Code | Error Description   |
|------------|---|
| 412100020  | The authentication process failed. The user does not have proxy permission and needs to apply for proxy permission.   |
| 412100021  | The authentication process failed. The proxy user name or password is incorrect.  |
| 412100022  | The authentication process failed. Incorrect authentication type. User name and password are required. The user needs to be prompted for input.                 |
| 412100023  | The authentication process failed. Other unknown errors. It may be that the authentication method is not supported. The user needs to be prompted to try again. |
| 412100024  | The authentication process failed. Unable to resolve gateway.   |
| 412100025  | The authentication process failed. Unable to resolve host.  |
| 412100026  | The authentication process failed. Unable to connect.   |
| 412100027  | The authentication process failed. Operation times out.   |
| 412100028  | Message length too long.  |
| 412100029  | Base64 encryption failed.   |
| 412100030  | XML parsing error.  |
| 412100031  | Secure function error.  |
| 412100032  | Firewall detection parameter error.   |
| 412100033  | Failed to create STG tunnel.  |
| 412100034  | Failed to update STG service.   |
| 412100035  | Encryption failed.  |
| 412100036  | Do not allow duplicate downloads.   |
| 412100037  | File operation failed.  |
| 412100038  | The request message returns empty.  |
| 412100039  | The number of detection servers is 0 error.   |
| 412100040  | Failed to get local IP address.   |
| 412200001  | Internal error.   |
| 412200002  | Parameter error.  |
| 412200003  | Network timeout.  |
| 412200004  | Network Error.  |
| 412200005  | Need to bind mobile phone.  |



| Error Code | Error Description   |
|------------|---|
| 412200006  | Need to bind email.   |
| 412200007  | Has initialized already.  |
| 412200008  | State machine execution failed.   |
| 412200009  | Failed to start timer.  |
| 412200010  | The user is prompted to change the password when logging in for the first time. |
| 412200011  | Unknown authentication type.  |
| 413000001  | Common error.   |
| 413000002  | Parameter error.  |
| 413000003  | Memory allocation error.  |
| 413000004  | System error.   |
| 413000005  | Message sending error.  |
| 413000006  | Get system configuration error.   |
| 413000007  | Physical network error.   |
| 413000008  | Network access error.   |
| 413000009  | Create timer error.   |
| 413000010  | Call state error.   |
| 413000011  | Other operation in progress error.  |
| 413000012  | Requesting the master to start call error.                                      |
| 413000013  | Requesting audio resource error.  |
| 413000014  | Other supplementary service is running.   |
| 413000015  | Record call error.  |
| 413000016  | Media process error.  |
| 413000017  | Maximum number of calls reached.  |
| 413000018  | SIP account ID does not exist.  |
| 413000019  | Call ID does not exist.   |
| 413000020  | Failed due to registering.  |
| 413000021  | Registration failed.  |
| 413000022  | Deregistration failed.  |
| 413000023  | Setting account information error.  |

| Error Code | Error Description                                      |
|------------|--|
| 413000024  | Setting SIP account error.                             |
| 413000025  | Reporting SIP account information error.               |
| 413000026  | Server information error.                              |
| 413000027  | SIP account information error.                         |
| 413000028  | SIPC execution error.                                  |
| 413000029  | Not registered error.                                  |
| 413000030  | Call Sip interface to subscribe error.                 |
| 413000031  | Canceling subscription error.                          |
| 413000032  | Subscribing error.                                     |
| 413000033  | Only one local meeting is allowed.                     |
| 413000034  | Local meeting is not created.                          |
| 413000035  | The participant line does not match the chair account. |
| 413000036  | Local meeting state error.                             |
| 413000037  | Failed to report the linkage state of the IP Phone.    |
| 413000038  | Meeting ID does not exist.                             |
| 413000039  | Video hold error.                                      |
| 413000040  | Video unhold error.                                    |
| 413000041  | The maximum number of server meetings reached.         |
| 413000042  | Get AA random number error.                            |
| 413000043  | AA login error.  |
| 413000044  | Meeting type mismatch.                                 |
| 413000045  | Failed to start video meeting.                         |
| 413000046  | AA no master server.                                   |
| 413000047  | Password error.  |
| 413000048  | Username error.  |
| 413000049  | User is logged in.                                     |
| 413000050  | Account is locked.                                     |
| 413000051  | Terminal type mismatch.                                |
| 413000052  | Parsing XML error.                                     |
| 413000053  | Connecting to server error.                            |

| Error Code | Error Description  |
|------------|--|
| 413000054  | Get media configuration error.   |
| 413000055  | Get service permission error.  |
| 413000056  | Insufficient service permission.                                       |
| 413000057  | Network environment error.   |
| 413000058  | Service conflict.  |
| 413000059  | Connection timeout.  |
| 413000060  | Unknown error.   |
| 413000061  | Add ringing information error.   |
| 413000062  | Delete ringing information error.                                      |
| 413000063  | Create ringing number error.   |
| 413000064  | VVM parameter error.   |
| 413000065  | Getting registered service error.                                      |
| 413000066  | Getting voicemail error.   |
| 413000067  | Attendee already exists.   |
| 413000068  | Attendee does not exist.   |
| 413000069  | Create server video meeting window error.                              |
| 413000070  | Video window already exists.   |
| 413000071  | Getting meeting list error.  |
| 413000072  | Operating requires host privileges.                                    |
| 413000073  | No video device to operate.  |
| 413000074  | Refresh registration is not turned off.                                |
| 413000075  | Online state report error.   |
| 413000076  | Network address subscription report error.                             |
| 413000077  | Telepresence account was force unregistered. Information report error. |
| 413000078  | TLS root certificate error.  |
| 413000079  | AD authentication error.   |
| 413000080  | Meeting list is getting.   |
| 413000081  | Prohibited calls.  |
| 413000082  | The maximum number of calls has been reached.                          |

| Error Code | Error Description   |
|------------|---|
| 413000083  | The maximum number of encrypted calls has been reached.                             |
| 413000084  | The maximum number of video calls has been reached and needs to downgrade to audio. |
| 413000085  | H323 account ID does not exist.   |
| 413000086  | H323 account information error.   |
| 413000087  | H323 account information report failed.   |
| 413000088  | Insufficient local resources.   |
| 413000089  | The calling protocol is not supported.  |
| 413000090  | Setting H323 account information error.   |
| 413000091  | Mediatrix meeting access number reporting failed.                                   |
| 413000092  | Mediatrix VMR information reporting failed.   |
| 413000093  | IMS meeting list information reporting failed.                                      |
| 413000094  | TUP initialization is not complete.   |
| 413000095  | Message return value error.   |
| 413000096  | Message content too large error.  |
| 413000097  | Secure function error.  |
| 413000098  | message response is empty error.  |
| 413000099  | Account is not enabled.   |
| 413000100  | Create call control implement error.  |
| 413000101  | Already in call.  |
| 413000102  | Call does not exist.  |
| 413000103  | Failed to get media configuration information.                                      |
| 413000104  | Failed to set third-party capture. Calling HME_V_Capture_InputData failed.          |
| 414100001  | Common error.   |
| 414100002  | Parameter error.  |
| 414100003  | Timeout.  |
| 414100004  | Memory allocation error.  |
| 414100005  | DNS resolution error.   |
| 414100006  | Request message failed.   |
| 414100007  | Authentication failed.  |

| Error Code | Error Description   |
|------------|---|
| 414100008  | Server error.   |
| 414100009  | Create timer error.   |
| 414100010  | Start timer error.  |
| 414100011  | The meeting control block is full. Please release the control block that is not in use.   |
| 414100012  | The proxy communication times out and the TCP link building fails. Probably because the proxy configuration is incorrect.                                       |
| 414100013  | Disconnected by the proxy. Probably because the server address is misconfigured.  |
| 414100014  | The TCP link establishment timed out. Probably because the proxy domain name or port configuration is incorrect.  |
| 414100015  | The authentication process failed. The user does not have proxy permission and needs to apply for proxy permission.   |
| 414100016  | The authentication process failed. The proxy user name or password is incorrect.  |
| 414100017  | The authentication process failed. Incorrect authentication type. User name and password are required. The user needs to be prompted for input.                 |
| 414100018  | The authentication process failed. Other unknown errors. It may be that the authentication method is not supported. The user needs to be prompted to try again. |
| 414100019  | Curl proxy exception.   |
| 414100020  | Curl host exception.  |
| 414100021  | Curl connection exception.  |
| 414100022  | Curl operation timed out.   |
| 414100023  | Message length too long.  |
| 414100024  | Failed to create thread.  |
| 414100025  | Secure function error.  |
| 414100026  | JSON parsing failed.  |
| 414100027  | WS token is empty.  |
| 414100028  | Return JSON data error.   |
| 414100029  | Failed to create meeting control block.   |
| 414100030  | Failed to get meeting control block.  |

| Error Code | Error Description  |
|------------|--|
| 414100031  | Failed to get meeting control block by CallId.           |
| 414100032  | Destroying the meeting control block failed.             |
| 414100033  | Temporary creating meeting information not found.        |
| 414100034  | Failed to get participant ID.                            |
| 414100035  | Failed to get MT by participant ID.                      |
| 414100036  | Failed to get self information by participant ID.        |
| 414100037  | Failed to get participant information by MT.             |
| 414100038  | Manual invitation required.                              |
| 414100039  | The major parameters of the meeting have been reported.  |
| 414100040  | Subtitles are not supported.                             |
| 414100041  | Meeting Hang Up - Timeout.                               |
| 414100042  | Meeting Hang Up - No Streaming.                          |
| 414100043  | Meeting hung up - Hung up by the host.                   |
| 414100044  | Meeting Hang Up - Meeting has ended.                     |
| 414100045  | End of meeting due to leave meeting.                     |
| 414100046  | Message queue processing function registration failed.   |
| 414100047  | Message queue processing function deregistration failed. |
| 414100048  | Meeting ended due to reject meeting.                     |
| 414100049  | Meeting ended by self.                                   |
| 414100050  | The meeting control module is not initialized.           |
| 414100051  | The watching special site reaches the maximum.           |
| 414100052  | The watching HD site reaches the maximum.                |
| 414100053  | The watching SD site reaches the maximum.                |
| 414100054  | The watching specification reaches the maximum.          |
| 414100055  | Watching internal errors.                                |
| 414100056  | Duplicated watch render.                                 |
| 414100057  | HTTP request error.                                      |
| 414100058  | WebSocket request timeout.                               |
| 414100059  | Loading failed.  |

| Error Code | Error Description  |
|------------|--|
| 414100061  | The meeting ends due to the timeout of guest waiting before meeting or the timeout of the meeting control heartbeat. |
| 414100062  | The meeting ends due to being canceled.  |
| 414100063  | The meeting ends due to network error when guest waiting before meeting.   |
| 415000001  | DB is not initialized.   |
| 415000002  | Common failure.  |
| 415000003  | Proxy detection has not been completed.  |
| 416000001  | Invalid parameter.   |
| 416000002  | Track module is not initialized.   |
| 416000003  | Track event does not exist.  |
| 416000004  | Not logged in.   |
| 416000005  | Upload is not enabled.   |
| 419100001  | Invalid parameter.   |
| 419100002  | Incorrect URI.   |
| 419100003  | Memory allocation failed.  |
| 419100004  | SDP error.   |
| 419100005  | Connection does not exist.   |
| 419100006  | Connection failure.  |
| 419100007  | Operation forbidden.   |
| 419100008  | State error.   |
| 419100009  | No corresponding line data.  |
| 419100010  | No corresponding registered instance.  |
| 419100011  | No corresponding call instance.  |
| 419100012  | No corresponding subscription instance.  |
| 419100013  | No corresponding Refer instance.   |
| 419100014  | No corresponding DIM instance.   |
| 419100015  | Failed to create header.   |
| 419100016  | Failed to parse header.  |
| 419100017  | Header not found.  |

| Error Code | Error Description                         |
|------------|---|
| 419100018  | No SDP message body.                      |
| 419100019  | Failed to get capability.                 |
| 419100020  | Failed to compare capability.             |
| 419100021  | Failed to open logical channel.           |
| 419100022  | Encoding SDP failed.                      |
| 419100023  | Decoding SDP failed.                      |
| 419100024  | Negotiate to unsupported SDP.             |
| 419100025  | TPTD initialization failed.               |
| 419100026  | TPT initialization failed.                |
| 419100027  | TXN initialization failed.                |
| 419100028  | UA initialization failed.                 |
| 419100029  | GLUE initialization failed.               |
| 419100030  | HLLM initialization failed.               |
| 419100031  | VCOM initialization failed.               |
| 419100032  | SDP initialization failed.                |
| 419100033  | Multiple instance error.                  |
| 419100034  | Insufficient registration control blocks. |
| 419100035  | Insufficient subscription control blocks. |
| 419100036  | Insufficient call control blocks.         |
| 419100037  | Insufficient IM control blocks.           |
| 419100038  | Failed to parse URI xml to string.        |
| 419100039  | Encryption negotiation failed.            |
| 419100040  | Local capabilities are not configured.    |
| 419100041  | BFCP token error.                         |
| 419100042  | DNS resolution error.                     |
| 419100043  | Failed to get subscription state.         |
| 419100044  | IPv4 is not supported.                    |
| 419100045  | IPv6 is not supported.                    |
| 419100046  | Unsupported host type.                    |
| 419100047  | Failed to get timer.                      |



| Error Code | Error Description   |
|------------|---|
| 420000001  | Cannot receive sharing invitations.   |
| 420000002  | ReportDTO parameter verification failed.  |
| 420000003  | Report folder creation failed.  |
| 420000004  | Report folder compression failure.  |
| 420000005  | The path of the ZIP file to be uploaded is empty.                                 |
| 420000006  | The size of the ZIP file to be uploaded reaches the maximum.                      |
| 420000007  | The same person reported more than 100 times within 24 hours.                     |
| 430100001  | Common Error.   |
| 430100002  | Invalid parameters.   |
| 430100003  | SIP connection check failed.  |
| 430100004  | Timeout.  |
| 430100005  | In process.   |
| 430100006  | Not initialized or initialization is not complete.                                |
| 430100007  | Not supported in this release.  |
| 430100008  | Operation interrupt.  |
| 430100009  | Contact not found.  |
| 430100010  | Args length overrun.  |
| 430100011  | APPID info illegal.   |
| 430100012  | E2EEncrypt algorithm error.   |
| 430200001  | unlogin.  |
| 430200002  | Repeated login.   |
| 430200003  | SIP connection timeout.   |
| 430200004  | Invalid login password.   |
| 430200005  | Password or account empty.  |
| 430300001  | The calling number, account number or third-party account number cannot be empty. |
| 430300002  | Call account empty.   |
| 430300003  | Call nickname empty.  |
| 430400001  | Password required to join the meeting.  |

| Error Code | Error Description                                 |
|------------|---|
| 430400002  | Time zone error.                                  |
| 430400003  | The meeting duration is less than 1.              |
| 430400004  | Joining the conference is interrupted.            |
| 430400005  | Password input at least 4 digits.                 |
| 430400006  | User voluntarily cancels.                         |
| 430400007  | The guest password illegal.                       |
| 430400008  | Not in conference or in call.                     |
| 430400009  | Already exist conf or call.                       |
| 430400010  | Confd empty.                                      |
| 430400011  | Subject too long.                                 |
| 430400012  | VMR host password length illegal.                 |
| 430400013  | VMR name empty.                                   |
| 430400014  | Conf starttime early.                             |
| 430400015  | Share is locked.                                  |
| 430400016  | Not in data conference.                           |
| 430400017  | Role not support operation                        |
| 430500001  | HTTP request, server exception.                   |
| 430500002  | HTTP request, Connecting to the server times out. |
| 430500003  | Network unavailable.                              |
| 510000403  | Server forbidden.                                 |
| 510000404  | Not found.  |
| 510000480  | Temporary unavailable.                            |
| 510000486  | Busy here.  |
| 510000487  | Request terminated.                               |
| 510000488  | Request is not acceptable here.                   |
| 510000603  | Decline.  |
| 510000841  | Hangup without toast.                             |
| 510000842  | Conference is locked.                             |
| 910000001  | Server error.                                     |
| 910000002  | SFU service failure.                              |

| Error Code | Error Description                           |
|------------|---|
| 910000003  | Service unavailable 503.                    |
| 910000004  | Internal error.                             |
| 910000005  | Kicked off.                                 |
| 910000006  | Signature expired.                          |
| 910000007  | Reconnect timeout.                          |
| 910000008  | Network detection.                          |
| 910000009  | User is removed.                            |
| 910000010  | The room is dismissed.                      |
| 990000001  | Internal error.                             |
| 990000002  | Message too large.                          |
| 990000003  | Insufficient memory.                        |
| 990000004  | Failed to send message synchronously.       |
| 990000005  | Parameter error.                            |
| 990000006  | Call ID order error.                        |
| 990000007  | Failed to set local screen.                 |
| 990000008  | Failed to open remote screen.               |
| 990000009  | Device configuration failed.                |
| 990000010  | Initializing.                               |
| 990000011  | Deinitializing.                             |
| 990000012  | Uploading log.                              |
| 990000013  | Failed to get media port.                   |
| 990000014  | The maximum number view window reached .    |
| 990000015  | Media negotiation failed.                   |
| 990000016  | Server no response.                         |
| 990000017  | Role switch failed.                         |
| 990000018  | Failed to join room.                        |
| 990000019  | Failed to join room. Status is busy.        |
| 990000020  | Failed to join room. Server error.          |
| 990000021  | Failed to join room. Service unavailable.   |
| 990000022  | Failed to join room. Authentication failed. |

| Error Code | Error Description   |
|------------|---|
| 990000023  | Failed to join room. Authentication retry.                            |
| 990000024  | Failed to join room. Clock synchronization.                           |
| 990000025  | Failed to join room. URL error.                                       |
| 990000026  | Kicked off.   |
| 990000027  | Share failed.   |
| 990000028  | Currently in external media output mode, this operation is forbidden. |
| 990000029  | Reconnection failed.  |
| 990000030  | Server breaks down.   |
| 990000031  | Signature has expired.  |
| 990000032  | Failed to set remote window mode.                                     |
| 990000033  | Failed to subscribe or unsubscribe audio.                             |
| 990000034  | Failed to connect to other room.                                      |
| 990000035  | Failed to disconnect other room.                                      |
| 990000036  | Role switching is not allowed.  |
| 990000037  | Currently in third-party capture mode, this operation is forbidden.   |
| 990000038  | Failed to set third-party audio capture.                              |
| 990000039  | Failed to set third-party video capture.                              |
| 990000040  | Failed to set share sound switch.                                     |
| 990000041  | Failed to start or stop upstream audio stream.                        |
| 990000042  | Failed to start or stop upstream video stream.                        |
| 990000043  | User is removed.  |
| 990000044  | The room is dismissed.  |
| 990000045  | Failed to set remote View.  |

## 6.7 Version Updates

### 6.7.1 100.10.7 Updates

1. Added the **buildWaitingToolBarMenuItems** API for customizing a menu at the bottom of the waiting member list. For details, see [Customizing a Menu on the Participants Screen](#).

2. Added the **buildUnJoinedToolBarMenuItems** API for customizing a menu at the bottom of the absent participant list. For details, see [Customizing a Menu on the Participants Screen](#).
3. You can customize the event of touching **CallAllMenu** (a button to call all absent participants) by using the **ICallAllAttendeesStrategy** class. For details, see [Android Menu Functions](#).
4. Fixed issues and provided more stable experience.

## 6.7.2 100.10.6 Updates

1. Fixed issues and provided more stable experience.

## 6.7.3 100.10.5 Updates

1. Added the **setUiCustomTextHandler** API for customizing the text for a specific scenario. For details, see [Customizing the Text for a Specific Scenario](#).
2. Added the **setUiCustomImageHandler** API for customizing the icon for a specific scenario. For details, see [Customizing the Icon for a Specific Scenario](#).
3. Added the **setVirtualBackgroundHandle** API for customizing the button of adding a virtual background image. For details, see [Customizing the Button of Adding a Virtual Background Image](#).
4. Changed the class name of the button for allowing sharing. If you have customized this button, you need to change its class name from **SwitchMenu** to **TextMenu**. For details, see [Android Menu Functions](#).
5. Fixed issues and provided more stable experience.

## 6.7.4 100.9.7 Updates

1. Fixed issues and provided more stable experience.

## 6.7.5 100.9.5 Updates

1. Added the **OnAddAttendeeNotify** notification to notify you of participant addition results. For details, see [Notification of Participant Addition Results](#).
2. Added the **startTimeStamp** (meeting start time) and **endTimeStamp** (meeting end time) fields and discarded the original **startTime** and **endTime** fields. For details, see [Table 6-37](#), [Table 6-72](#), and [Table 6-82](#).
3. Changed the parameters of the API for customizing the profile picture. For details, see [Customizing the Profile Picture](#).
4. Added the **supportGuestInviteAttendee** field (whether a guest can invite others to the meeting) to **MeetingInfo** (meeting information). For details, see [Table 6-72](#).
5. Added the **onCaInvalid** event (failed CA certificate verification) to the account status change notification. After receiving the notification, you will be logged out of the app. For details, see [Account Status Change Notification](#).
6. Fixed issues and provided more stable experience.

## 6.7.6 100.7.13 Updates

1. Fixed issues and provided more stable experience.

## 6.7.7 100.7.8 Updates

1. Fixed issues and provided more stable experience.

## 6.7.8 100.7.6 Updates

1. Fixed issues and provided more stable experience.

## 6.7.9 100.7.5 Updates

1. The host can set whether to automatically mute specific participants when they join the meeting. For details, see [Creating a Meeting](#), [Scheduling a Meeting](#), [Editing a Meeting](#), and [Obtaining Meeting Details](#).
2. Replaced `onConfDetailNotify` with `OnMeetingInfoChanged` for meeting information change notifications. For details, see [Meeting Details Notification](#).
3. Added the virtual background model folder under the `assets` directory.
4. Fixed issues and provided more stable experience.

## 6.7.10 100.5.5 Updates

1. Added notifications of floating window changes. For details, see [Notification Indicating that the Audio and Video Floating Window Appeared](#) and [Notification Indicating that the Audio and Video Floating Window Disappeared](#).
2. Added the time zone parameter to the API for obtaining meeting details. For details, see [Obtaining Meeting Details](#).
3. Modified the virtual background integration mode. `HWMVirtualBackground-release.aar` can now be removed. The SDK of this version has built-in capabilities related to virtual backgrounds. Therefore, you do not need to add this `.aar` file separately. For details, see [Enabling a Function](#).
4. Fixed issues and provided more stable experience.

## 6.7.11 100.3.6 Updates

1. Removed the restriction that the synchronous initialization API must be implemented in the `onCreate()` method of the application. For details, see [Scenario 1: Initialization](#).
2. Combined eight `.aar` files in `libs` into `HWMSdk-release.aar`. For details, see [Getting Started](#).
3. Added the description of Android menu functions. For details, see [Android Menu Functions](#).

## 6.7.12 90.12.7 Updates

1. Fixed issues and provided more stable experience.

## 6.7.13 90.12.5 Updates

1. Deprecated the **getVmrList** API and added the **getVmrInfoList** API. For details, see [Obtaining the Cloud Meeting Room List](#).
2. Added the **OnShareVmrInfoNotify** notification to notify you when information about shared cloud meeting rooms was changed. For details, see [Notification of Changes of Information About Shared Cloud Meeting Rooms](#).
3. Added the **confResType** parameter to **CreateConfInfo** and **BookConfParam**. For details, see [Scheduling a Meeting](#) and [Creating a Meeting](#).
4. Added the **OnP2PConfRecordNotify** notification to notify you of instant meeting records. For details, see [Meeting Status Change Notification](#).
5. Added the **GetErrorMessage** API for obtaining an error message, which can be used for prompt. For details, see [Obtaining an Error Message](#).
6. Added the **SetGuaranteedIpAddresses** API for setting guaranteed IP addresses for meeting control to keep on-premises data within your enterprise or support network interruption survival. For details, see [Setting Guaranteed IP Addresses for Meeting Control](#).
7. Fixed issues and provided more stable experience.

## 6.7.14 90.10.8 Updates

1. Fixed issues and provided more stable experience.

## 6.7.15 90.9.8 Updates

1. Fixed issues and provided more stable experience.

## 6.7.16 90.9.7 Updates

1. Fixed issues and provided more stable experience.

## 6.7.17 90.9.6 Updates

1. Fixed issues and provided more stable experience.

## 6.7.18 90.9.5 Updates

1. Added the **concurrentParticipants** parameter (maximum number of participants allowed in a meeting) to **CreateConfParam** (creating a meeting), **BookConfParam** (scheduling a meeting), **EditConfParam** (editing a meeting), and **ConfDetailModel** (meeting details). For details, see [Table 6-52](#), [Table 6-30](#), [Table 6-35](#), and [Table 6-38](#).
2. Fixed issues and provided more stable experience.

## 6.7.19 90.7.5 Updates

1. Added the **startP2PConf** API for starting an instant meeting. For details, see [Starting an Instant Meeting](#).
2. Added the **domain** field to the **RandomJoinConfParam** parameter of the API for joining a meeting using a random code. For details, see [Table 6-56](#).

3. Added the **joinPairConf** API for inviting a large screen to a meeting by scanning a QR code. For details, see [Scanning a QR Code to Invite a Large Screen to a Meeting](#).
4. Added the **isSpeakerOff** field to the **HWMCreateConfParam** parameter of the **createConf** API for creating a meeting. For details, see [Table 6-52](#).
5. Fixed issues and provided more stable experience.

## 6.7.20 90.6.5 Updates

1. Added the button for interrupting sharing to meeting settings.
2. Added the **isSupportMultiAppLogin** parameter, which indicates whether login to multiple applications on the same device is supported. For details, see [Table 6-2](#).
3. Added the **onPoorNetworkQualityInfoNotify()** API for reporting information about poor network connection. For details, see [Poor Connection Notification](#).
4. Added the **customInfo** field to the APIs for scheduling, editing, creating, and querying a meeting. For details, see [Table 6-30](#), [Table 6-35](#), [Table 6-52](#), and [Table 6-38](#).
5. Added error code 412100044 indicating that the server is degraded. After receiving this error code, you can continue to call the API to join a meeting offline.
6. Deprecated the **startCall** API.
7. Fixed issues and provided more stable experience.

## 6.7.21 80.15.21 Updates

1. Fixed issues and provided more stable experience.

## 6.7.22 80.15.5 Updates

1. Fixed issues and provided more stable experience.

## 6.7.23 80.13.6 Updates

1. Fixed issues and provided more stable experience.

## 6.7.24 80.13.5 Updates

1. The type and size of profile pictures are limited. For details, see [Uploading a Profile Picture](#).
2. Added the API for setting the language. For details, see [Setting the Language](#).
3. Fixed issues and provided more stable experience.

## 6.7.25 80.12.6 Updates

1. Added the enumerated value **HWM\_FEATURE\_TYPE\_CONFIRM\_RECORD** (whether to display the recording security prompt) to the **enableFeature** API. For details, see [Table 6-12](#).



2. Fixed issues and provided more stable experience.

## 6.7.26 80.12.5 Updates

1. Fixed multiple issues.

## 6.7.27 80.10.6 Updates

1. Added the [asynchronous initialization API](#).

## 6.7.28 80.10.5 Updates

1. Discarded the **cycleCount** parameter in the API for [Scheduling a Recurring Meeting Series](#).
2. Added parameters to the APIs for [Obtaining the Cloud Meeting Room List](#) and [Modifying Cloud Meeting Room Information](#).
3. Added the **setShareScreenPermission** API for [Setting the Sharing Permission](#).
3. Resolved some issues.

## 6.7.29 80.9.5 Updates

1. The **isLiveOn** field is added to edit a meeting and meeting details. For details, see [Editing a Meeting](#) and [Obtaining Meeting Details](#).
2. Resolved some issues.

## 6.7.30 80.8.5 Updates

1. You can set the guest password when creating, scheduling, or editing a meeting. For details, see [Scheduling a Meeting](#), [Creating a Meeting](#), and [Editing a Meeting](#).
2. Resolved some issues.

## 6.7.31 80.7.5 Updates

1. Resolved some issues.

## 6.7.32 80.5.11 Updates

1. Added the **disableVoicePrompts** API for disabling prompt tones. For details, see [Disabling Prompt Tones](#).
2. Resolved some issues.

## 6.7.33 80.5.5 Updates

1. Added the **isOpenWaitingRoom** parameter (waiting room switch) to the APIs for [Scheduling a Meeting](#), [Editing a Meeting](#), and [Obtaining Meeting Details](#).
2. Resolved some issues.

## 6.7.34 70.16.5 Updates

1. Added APIs related to recurring meetings. For details, see [Scheduling a Recurring Meeting Series](#), [Editing a Recurring Meeting Series](#), [Canceling a Recurring Meeting Series](#), [Editing a Recurring Meeting](#), and [Canceling a Recurring Meeting](#).
2. Added `isStopConflictConf` to `PasswordJoinConfParam` to forcibly end a meeting that conflicts with the current cloud meeting room. For details, see [Table 6-55](#).
3. You can configure whether to display notifications in the meeting notification bar when there is an incoming call. For details, see [Table 6-2](#).
4. Adjusted the SSO login API. For details, see [loginBySSO](#).
5. Modified error codes. For details about the new error code description, see [Table 6-92](#).

**Table 6-93** Mapping between error codes of the old and new versions

| Error Codes in 70.14.6 and Earlier Versions | Error Codes After 70.16.5 | New Error Code Description                        |
|---|---------------------------|---|
| -1  | 430100001                 | Common error.                                     |
| 500   | 430200001                 | Not logged in.                                    |
| 12  | 430200002                 | Repeated login.                                   |
| 10001                                       | 412100001                 | The message processing thread is not initialized. |
| 10001                                       | 412100004                 | Memory allocation error.                          |
| 10001                                       | 412100005                 | XML parsing error.                                |
| 10001                                       | 412100009                 | Server error.                                     |
| 10001                                       | 412100014                 | The server returns the redirection address.       |
| 10001                                       | 412100016                 | JSON parsing error.                               |
| 10001                                       | 412200001                 | Internal error.                                   |
| 10002                                       | 412100002                 | Parameter error.                                  |
| 10002                                       | 412200002                 | Parameter error.                                  |
| 10003                                       | 412100003                 | Timed out.  |
| 10004                                       | 412100006                 | DNS resolution error.                             |
| 10004                                       | 412100007                 | The request message is abnormal.                  |
| 10004                                       | 412100013                 | Network error.                                    |

| Error Codes in 70.14.6 and Earlier Versions | Error Codes After 70.16.5 | New Error Code Description                |
|---|---------------------------|---|
| 10004                                       | 412200004                 | Network error.                            |
| 201   | 430200003                 | SIP connection timed out.                 |
| 35  | 430400001                 | Password is required to join the meeting. |
| 2   | 430200004                 | Invalid login password.                   |
| 420010001                                   | 430100003                 | SIP connection check failed.              |
| 10006                                       | 206010000                 | Username or password error.               |
| 10006                                       | 206030000                 | The user does not exist.                  |
| 10006                                       | 206010025                 | App ID verification failed.               |
| 10007                                       | 412100010                 | Account locked.                           |
| 10007                                       | 206030015                 | User locked. Try again after 60 seconds.  |

### 6.7.35 70.14.5 Updates

1. When scheduling or editing a meeting, you can set the time when a guest is allowed to join the meeting ahead of the host. For details, see [Table 6-30](#).
2. When scheduling a meeting in a cloud meeting room, you can select a fixed or random cloud meeting room ID. For details, see [Table 6-33](#).
3. A department ID can be specified for login using an app ID. For details, see [Table 6-24](#).
4. Resolved some issues.

### 6.7.36 70.13.5 Updates

1. Added the **uuid**, **account**, and **thirdAccount** parameters to the login and logout APIs. For details, see [Table 6-22](#) and [Table 6-29](#). If an earlier version is upgraded to 70.13.5, the definition of the callback functions needs to be modified.
2. The third-party video streaming API supports MMR meetings. For details, see [Table 6-68](#).
3. Added the **onConfIncoming** API to the service message notifications to allow you to obtain incoming call information before joining a meeting. For details, see [Notification Reference](#).
4. Resolved some issues.

## 6.7.37 70.12.6 Updates

1. Fixed an issue where the video definition cannot be restored after the network is restored.

## 6.7.38 70.12.4 Updates

1. Upgraded the RxJava version.
2. Resolved some issues.

## 6.7.39 70.11.5 Updates

1. Added the capability of configuring the log storage duration. For details, see [Table 6-2](#).
2. Upgraded HMS Scan Kit to version 2.1.0.300.
3. Resolved some issues.

## 6.7.40 70.10.5 Updates

1. Removed invalid resources.
2. Resolved some issues.

## 6.7.41 70.9.5 Updates

1. Added the SSO login mode. For details, see [SSO Login](#).
2. Removed the tinypinyin library.

## 6.7.42 70.8.6 Updates

Fixed issues and provided more stable experience.

## 6.7.43 70.8.5 Updates

### NOTE

The original Android support library is no longer maintained or evolved by Google. Therefore, Android 28 will be upgraded to Android X.

**Since the 70.8.5 version released in August, Huawei Cloud Meeting will no longer be developed based on the support library. Instead, Android X will be used for iteration.**

If you are still using the original Android support library dependency:

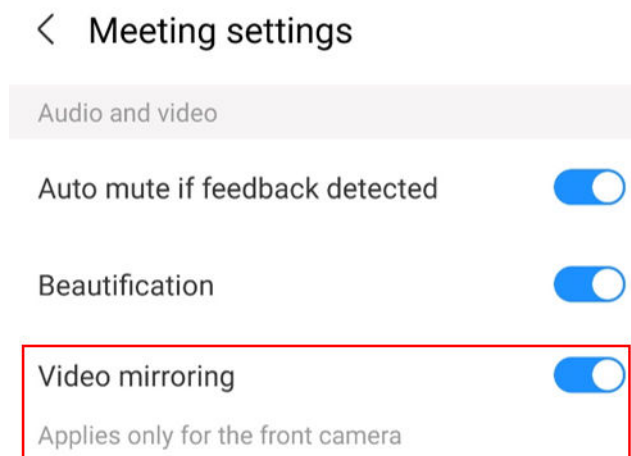
- It is recommended that you change it to the Android X dependency. Otherwise, you may fail to connect to the Android X SDK version in subsequent development. For details, see [Getting Started](#).
- If you cannot upgrade to Android X as soon as possible, we will provide the original SDK developed based on the support library and maintain the SDK for six months. During the maintenance period, you can still integrate our SDK of 70.7.5 and earlier versions for development. Issues found in these versions will be fixed and updated. However, new functions in later iterations will be implemented only on the SDK of Android X.

1. Since this version, the Android SDK is switched to the Android X dependency. For details, see [Getting Started](#).
2. You can obtain the participant list in meetings and webinars. For details, see [Obtaining the Participant List](#).

## 6.7.44 70.7.5 Updates

1. Video mirroring is supported. You can turn off video mirroring (enabled by default) to see yourself as others see you.

**Figure 6-36** Video mirroring



2. API 30 of Android 11 is supported.
3. Upgraded okhttp to 4.9.1.

## 6.7.45 70.6.5 Updates

1. Deleted the dependency of ZXing.
2. Upgraded tinypinyin to 3.0.0.
3. Upgraded aspectjrt to 1.9.6.
4. Upgraded GSON to 2.8.6.

## 6.7.46 70.5.8 Updates

1. Adapted the participants and chats modules to the landscape mode.
2. On-screen comments are supported in chats.

## 6.7.47 70.4.5 Updates

1. Added the description of response parameters to the API for scheduling a meeting. For details, see [Table 6-32](#).
2. The SDK initialization must be performed in the onCreate main thread of Application.

3. Added the API for obtaining the current user status. For details, see [Obtaining a User Status](#).
4. The host can invite others to share content and quickly cancel the sharing.
5. Moved the button for switching between the front and rear cameras on the mobile app to the home screen.
6. Optimized the size of meeting logs.
7. Integrated AAR files in the **libs** folder. Before using the AAR files, you need to clear the files of earlier versions and import them again.

## 6.7.48 70.3.5 Updates

1. Removed the custom sharing link function in meetings. The custom sharing link function can be implemented through the custom sharing panel in meetings. For details, see [Customizing the Panel Used to Share a Meeting](#).
2. Removed the SMS permission requirements. For details, see [Step 6](#).
3. Changed error codes. For details, see [Error Code Reference](#).
4. Overlaid the speaker screen on the shared video screen. You can close the speaker screen by dragging it down.
5. Simultaneous login on mobile phones and tablets is supported.

## 6.7.49 60.15.6 Updates

1. Added the API for customizing automatic processing of incoming calls. For details, see [Answering Policy Configuration of Incoming Calls](#).
2. Added the API for customizing the ringing and vibration for incoming calls. For details, see [Customizing the Ringing and Vibration for Incoming Meetings](#).
3. Changed the AAR dependency of the SDK resource package. For details, see [Getting Started](#).
4. You can customize whether to hide the External label. For details, see [Hiding the External Label](#).

## 6.7.50 60.13.2 Updates

1. Added the API for adding participants. For details, see [Adding Participants](#).
2. Added the API for leaving a meeting. For details, see [Leaving a Meeting](#).
3. Added the API for ending a meeting. For details, see [Ending a Meeting](#).
4. Updated error codes and discarded unused error codes. For details, see [Error Code Reference](#).

## 6.7.51 60.12.5 Updates

1. During meeting creation, the meeting room (**vmrId**) and participant scope (**joinConfRestrictionType**) can be specified. For details, see [Table 6-52](#).
2. Updated error codes. For details, see [Error Code Reference](#).

3. Added the API for uploading a profile picture. For details, see [Uploading a Profile Picture](#).
4. Added the profile picture interception API to display a custom profile picture. For details, see [Customizing the Profile Picture](#).
5. Updated custom menu samples. For details, see [Customizing a Menu for Voice Meetings](#) and [Customizing a Menu for Video Meetings](#).

## 6.7.52 60.11.1 Updates

1. Added the **isAutoRecord** parameter to enable automatic recording for meetings.  
**isAutoRecord** indicates whether to automatically start recording after a meeting starts. The function is disabled by default. Meeting recording must be enabled if automatic recording is enabled.
  - Added the API for creating a meeting. For details, see [Table 6-52](#).
  - Added the API for scheduling and editing a meeting. For details, see [Table 6-30](#).
2. Added the API for customizing buttons of answering meeting calls.

## 6.7.53 60.10.5 Updates

1. Added the configuration that specifies whether third-party data collection is enabled.

For details, see [Enabling Third-Party Video Streaming](#).

2. Added a custom access site.

For details, see [Configuring an Access Site](#).

3. Modified parameters on the sharing panel.

Added **ShareTypeEnum** as an input parameter. For details, see [Customizing the Panel Used to Share a Meeting](#).

4. Modified parameters of the API for joining a meeting.

Changed **JoinConfParam** as an abstract class. Its child classes **PasswordJoinConfParam** and **RandomJoinConfParam** were used instead. For details, see [Scenario 7: Joining a Meeting](#).

## 6.7.54 60.8.1 Updates

1. Added the app ID during initialization. The enterprise app ID can be passed.

An app ID set during initialization can be used for login. The app ID must be applied for from the meeting server.

For details, see [8. Initialize the SDK](#).

## 2. Added the following APIs: app ID login, meeting scheduling, meeting editing, meeting list query, meeting details query, and meeting cancellation.

The following is an example. For details about how to use the APIs, see [APIs](#).

- Added the APIs.

```
/**
 * Log in using an app ID.
 */
void loginByAppId(AppIdAuthParam appIdAuthParam, HwmCallback<LoginResult> callback);

/**
 * Schedule a meeting.
 */
void bookConf(BookConfParam bookConfParam, HwmCallback<ConfInfo> hwmCallback);

/**
 * Edit a meeting.
 */
void editConf(EditConfParam editConfParam, HwmCallback<Integer> hwmCallback);

/**
 * Obtain the meeting list.
 */
List<ConfBaseInfo> getConfList();

/**
 * Obtain meeting details by meeting ID.
 */
void getConfDetail(String confId, HwmCallback<ConfDetailModel> hwmCallback);

/**
 * Cancel a scheduled meeting.
 */
void cancelConf(String confId, HwmCallback<Integer> hwmCallback);

/**
 * Obtain the VMR list. You can schedule a meeting in a VMR.
 */
void getVmrList(HwmCallback<List<VmrInfoModel>> hwmCallback);

/**
 * Modify VMR information.
 */
void changeVmrInfo(HwmChangeVmrInfo hwmChangeVmrInfo, HwmCallback<Integer>
hwmCallback);
```

## 3. Added the APIs for configuring whether to enable HD priority and whether to enable the camera and microphone when answering a call.

For details, see [Enabling or Disabling HD Video First for a Video Meeting](#) and [Enabling or Disabling the Camera and Microphone When Joining a Meeting](#).

## 4. Added the parameter to specify whether to enable recording during meeting creation.

For details, see [Scenario 6: Creating a Meeting](#).

## 6.7.55 60.7.1 Updates

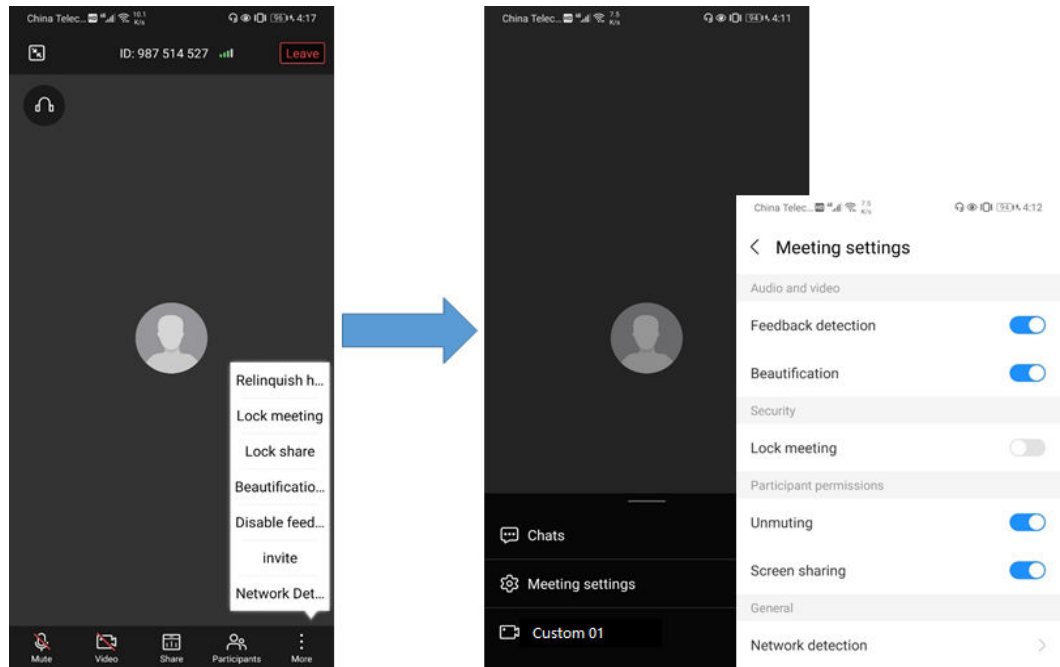
### 1. Optimized the meeting UI, and changed the menu structure and APIs.

- Meeting locking information was added to the meeting information on the top of the meeting page, and the UI was optimized.



- Some functions in the **More** menu of the toolbar were moved to the **Meeting settings** menu under **More**.

Figure 6-37 Meeting menus



2. The chat function in meetings was added. You can customize whether to display the chat function. For details, see [Enabling or Disabling Chat for a Meeting](#).

3. Optimized the APIs for customizing the meeting control menus, and replaced some APIs.

- On the **Participants** page in a meeting, the level-1 toolbar menu at the bottom can be customized.
- The menu bar can be configured for four scenarios: voice calls, video calls, voice meetings, and video meetings.
- Participants were distinguished. You can customize the menu displayed upon a click on the meeting title bar.
- The **IConfMenuHandle** API for configuring menus is discarded.

The following is an example. For details about how to use the APIs, see [APIs](#).

```
/**
 * Specify the configuration policy of the meeting control toolbar at the bottom of the meeting, including
 * the level-1 menu, the More menu after you touch the level-1 menu, and the More > Meeting settings
 * menu.
 */
public interface IToolbarMenuStrategy {

    /**
     * Set the level-1 meeting control menu at the bottom of the meeting.
     * @return Returns the level-1 meeting control menu.
     */
    List<IConfMenu> buildMenuItems();

    /**
     * Set the menu items displayed after you touch More at the bottom of the meeting.
     */
}
```

```
    * @return Returns the More menu items displayed.
    */
    List<IConfMenu> buildMoreMenuItems();

    /**
     * Set the menu items displayed after you touch More and choose Meeting settings. Two-level grouping
    is supported.
     * @return Returns the Meeting settings menu items.
     */
    List<IConfMenu> buildSettingMenuItems();
}
```

```
/**
 * Define a callback on menu touch events.
 */
public interface OnMenuItemClickListener {
    /**
     * Callback invoked when a custom menu is touched.
     * @param confMenu Indicates the menu that is touched.
     * @param confInfo Indicates the meeting information.
     */
    void onCustomMenuItemClick(IConfMenu confMenu, ConfInfo confInfo);
}
```

### Call the API.

```
// Customize a menu.
if(DemoUtil.needCustom(NeedCustomType.CONF_MENU)){
    sdkConfig.setConfMenuHandle(new CustomConfMenu());

    ToolbarMenuProxy toolbarMenuProxy = new ToolbarMenuProxy();
    // Customize the toolbar in a voice call.
    toolbarMenuProxy.setCallAudioToolbarHandle(new CustomCallAudioToolbarHandle());
    // Customize the toolbar in a video call.
    toolbarMenuProxy.setCallVideoToolbarHandle(new CustomCallVideoToolbarHandle());
    // Customize the toolbar in a voice meeting.
    toolbarMenuProxy.setConfAudioToolbarHandle(new CustomConfAudioToolbarHandle());
    // Customize the toolbar in a video meeting.
    toolbarMenuProxy.setConfVideoToolbarHandle(new CustomConfVideoToolbarHandle());
    sdkConfig.setToolbarMenuProxy(toolbarMenuProxy);
    // Customize the Participants menu in the meeting.
    sdkConfig.setParticipantMenuStrategy(new CustomParticipantMenuHandle());
    // Customize the handle click events on the custom menus.
    sdkConfig.setOnMenuItemClickListener(new CustomOnMenuItemClickListener());
}
```

## 6.8 Change History

**Table 6-94** Change history

| Released On | Version  | Change Description  |
|-------------|----------|---|
| 2024-12-07  | 100.10.7 | <ol style="list-style-type: none"> <li>1. Added the <b>buildWaitingToolBarMenuItems</b> API for customizing a menu at the bottom of the waiting member list.</li> <li>2. Added the <b>buildUnJoinedToolBarMenuItems</b> API for customizing a menu at the bottom of the absent participant list.</li> <li>3. Added the <b>ICallAllAttendeesStrategy</b> class to customize the event of touching the button to call all absent participants.</li> <li>4. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">100.10.7 Updates</a>.</p>   |
| 2024-11-27  | 100.10.6 | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">100.10.6 Updates</a>.</p>  |
| 2024-11-13  | 100.10.5 | <ol style="list-style-type: none"> <li>1. Added the <b>setUiCustomTextHandler</b> API for customizing the text for a specific scenario. For details, see <a href="#">Customizing the Text for a Specific Scenario</a>.</li> <li>2. Added the <b>setUiCustomImageHandler</b> API for customizing the icon for a specific scenario. For details, see <a href="#">Customizing the Icon for a Specific Scenario</a>.</li> <li>3. Added the <b>setVirtualBackgroundHandle</b> API for customizing the button of adding a virtual background image. For details, see <a href="#">Customizing the Button of Adding a Virtual Background Image</a>.</li> <li>4. Changed the class name of the button for allowing sharing. If you have customized this button, you need to change its class name from <b>SwitchMenu</b> to <b>TextMenu</b>. For details, see <a href="#">Android Menu Functions</a>.</li> <li>5. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">100.10.5 Updates</a>.</p> |

| Released On | Version  | Change Description   |
|-------------|----------|--|
| 2024-10-31  | 100.9.7  | <p>1. Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">100.9.7 Updates</a>.</p>   |
| 2024-10-12  | 100.9.5  | <p>1. Added the <b>OnAddAttendeeNotify</b> notification to notify you of participant addition results. For details, see <a href="#">Notification of Participant Addition Results</a>.</p> <p>2. Added the <b>startTimeStamp</b> (meeting start time) and <b>endTimeStamp</b> (meeting end time) fields and discarded the original <b>startTime</b> and <b>endTime</b> fields. For details, see <a href="#">Table 6-37</a>, <a href="#">Table 6-72</a>, and <a href="#">Table 6-82</a>.</p> <p>3. Changed the parameters of the API for customizing the profile picture. For details, see <a href="#">Customizing the Profile Picture</a>.</p> <p>4. Added the <b>supportGuestInviteAttendee</b> field (whether a guest can invite others to the meeting) to <b>MeetingInfo</b> (meeting information). For details, see <a href="#">Table 6-72</a>.</p> <p>5. Added the <b>onCaInvalid</b> event (failed CA certificate verification) to the account status change notification. After receiving the notification, you will be logged out of the app. For details, see <a href="#">Account Status Change Notification</a>.</p> <p>6. Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">100.9.5 Updates</a>.</p> |
| 2024-10-12  | 100.7.13 | <p>1. Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">100.7.13 Updates</a>.</p>  |
| 2024-08-23  | 100.7.8  | <p>1. Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">100.7.8 Updates</a>.</p>   |
| 2024-08-16  | 100.7.6  | <p>1. Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">100.7.6 Updates</a>.</p>   |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2024-08-02  | 100.7.5 | <ol style="list-style-type: none"><li>1. The host can set whether to automatically mute specific participants when they join the meeting.</li><li>2. Replaced <b>onConfDetailNotify</b> with <b>OnMeetingInfoChanged</b> for meeting information change notifications.</li><li>3. Added the virtual background model folder under the <b>assets</b> directory.</li></ol> For details, see <a href="#">100.7.5 Updates</a> . |
| 2024-06-13  | 100.5.5 | <ol style="list-style-type: none"><li>1. Added notifications of floating window changes.</li><li>2. Added the time zone parameter to the API for obtaining meeting details.</li><li>3. Modified the virtual background integration mode.</li></ol> For details, see <a href="#">100.5.5 Updates</a> .   |
| 2024-04-23  | 100.3.6 | <ol style="list-style-type: none"><li>1. Removed the restriction that the synchronous initialization API must be implemented in the <b>onCreate()</b> method of the application.</li><li>2. Combined eight .aar files in <b>libs</b> into <b>HWMSdk-release.aar</b>.</li><li>3. Added the description of Android menu functions.</li></ol> For details, see <a href="#">100.3.6 Updates</a> .                               |
| 2024-02-17  | 90.12.7 | Fixed issues and provided more stable experience.   |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2024-01-05  | 90.12.5 | <ol style="list-style-type: none"> <li>1. Deprecated the <b>getVmrList</b> API and added the <b>getVmrInfoList</b> API.</li> <li>2. Added the <b>OnShareVmrInfoNotify</b> notification to notify you when information about shared cloud meeting rooms was changed.</li> <li>3. Added the <b>confResType</b> parameter to <b>CreateConfInfo</b> and <b>BookConfParam</b>.</li> <li>4. Added the <b>OnP2PConfRecordNotify</b> notification to notify you of instant meeting records.</li> <li>5. Added the <b>GetErrorMessage</b> API for obtaining an error message, which can be used for prompt.</li> <li>6. Added the <b>SetGuaranteedIpAddresses</b> API for setting guaranteed IP addresses for meeting control to keep on-premises data within your enterprise or support network interruption survival.</li> <li>7. Fixed issues and provided more stable experience.<br/>For details, see <a href="#">90.12.5 Updates</a>.</li> </ol> |
| 2023-12-13  | 90.10.8 | Fixed issues and provided more stable experience.   |
| 2023-11-15  | 90.9.8  | Fixed issues and provided more stable experience.   |
| 2023-10-27  | 90.9.7  | Fixed issues and provided more stable experience.   |
| 2023-10-20  | 90.9.6  | Fixed issues and provided more stable experience.   |
| 2023-10-07  | 90.9.5  | <ol style="list-style-type: none"> <li>1. Added the <b>concurrentParticipants</b> parameter (maximum number of participants allowed in a meeting) to <b>CreateConfParam</b> (creating a meeting), <b>BookConfParam</b> (scheduling a meeting), <b>EditConfParam</b> (editing a meeting), and <b>ConfDetailModel</b> (meeting details).</li> <li>2. Fixed issues and provided more stable experience.<br/>For details, see <a href="#">90.9.5 Updates</a>.</li> </ol>  |

| Released On | Version  | Change Description   |
|-------------|----------|--|
| 2023-08-11  | 90.7.5   | <ol style="list-style-type: none"> <li>Added the <b>startP2PConf</b> API for starting an instant meeting.</li> <li>Added the <b>domain</b> field to the <b>RandomJoinConfParam</b> parameter of the API for joining a meeting using a random code.</li> <li>Added the <b>joinPairConf</b> API for inviting a large screen to a meeting by scanning a QR code.</li> <li>Added the <b>isSpeakerOff</b> field to the <b>CreateConfParam</b> parameter of the <b>createConf</b> API for creating a meeting.</li> <li>Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">90.7.5 Updates</a>.</p>  |
| 2023-06-02  | 90.6.5   | <ol style="list-style-type: none"> <li>Added the button for interrupting sharing to meeting settings.</li> <li>Added the <b>isSupportMultiAppLogin</b> parameter, which indicates whether login to multiple applications on the same device is supported.</li> <li>Added the <b>onPoorNetworkQualityInfoNotify()</b> API for reporting information about poor network connection.</li> <li>Added the <b>customInfo</b> field to the APIs for scheduling, editing, creating, and querying a meeting.</li> <li>Added error code 412100044 indicating that the server is degraded. After receiving this error code, you can continue to call the API to join a meeting offline.</li> <li>Deprecated the <b>startCall</b> API.</li> <li>Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">90.6.5 Updates</a>.</p> |
| 2023-05-12  | 80.15.21 | <p>Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">80.15.21 Updates</a>.</p>   |
| 2023-03-24  | 80.15.5  | <p>Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">80.15.5 Updates</a>.</p>  |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2023-02-24  | 80.13.6 | <p>1. Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">80.13.6 Updates</a>.</p>  |
| 2023-02-07  | 80.13.5 | <p>1. The format and size of profile pictures are limited. For details, see <a href="#">Uploading a Profile Picture</a>.</p> <p>2. Added the API for setting the language. For details, see <a href="#">Setting the Language</a>.</p> <p>3. Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">80.13.5 Updates</a>.</p>  |
| 2023-01-09  | 80.12.6 | <p>1. Added the enumerated value <b>HWM_FEATURE_TYPE_CONFIRM_RECORD</b> (whether to display the recording security prompt) to the <b>enableFeature</b> API. For details, see <a href="#">Table 6-12</a>.</p> <p>2. Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">80.12.6 Updates</a>.</p>   |
| 2022-12-26  | 80.12.5 | <p>1. Fixed multiple issues.</p>  |
| 2022-11-22  | 80.10.6 | <p>1. Added the <a href="#">asynchronous initialization API</a>.</p> <p>For details, see <a href="#">80.10.6 Updates</a>.</p>   |
| 2022-11-15  | 80.10.5 | <p>1. Discarded the <b>cycleCount</b> parameter in the API for <a href="#">Scheduling a Recurring Meeting Series</a>.</p> <p>2. Added parameters to the APIs for <a href="#">Obtaining the Cloud Meeting Room List</a> and <a href="#">Modifying Cloud Meeting Room Information</a>.</p> <p>3. Added the <b>setShareScreenPermission</b> API for <a href="#">Setting the Sharing Permission</a>.</p> <p>For details, see <a href="#">80.10.5 Updates</a>.</p> |
| 2022-10-10  | 80.9.5  | <p>1. Added the <b>isLiveOn</b> parameter (whether live broadcast is enabled) to the APIs for editing a meeting and querying meeting details.</p> <p>2. Resolved some issues.</p> <p>For details, see <a href="#">80.9.5 Updates</a>.</p>   |



| Released On | Version | Change Description  |
|-------------|---------|---|
| 2022-09-02  | 80.8.5  | <ol style="list-style-type: none"> <li>1. You can set the guest password when creating, scheduling, or editing a meeting.</li> <li>2. Resolved some issues.</li> </ol> For details, see <a href="#">80.8.5 Updates</a> .  |
| 2022-07-30  | 80.7.5  | <ol style="list-style-type: none"> <li>1. Resolved some issues.</li> </ol> For details, see <a href="#">80.7.5 Updates</a> .  |
| 2022-06-15  | 80.5.11 | <ol style="list-style-type: none"> <li>1. Added the API for disabling prompt tones.</li> <li>2. Resolved some issues.</li> </ol> For details, see <a href="#">80.5.11 Updates</a> .   |
| 2022-05-18  | 80.5.5  | <ol style="list-style-type: none"> <li>1. Added the <b>isOpenWaitingRoom</b> parameter (waiting room switch) to the APIs for scheduling a meeting, modifying a meeting, and obtaining meeting details.</li> <li>2. Resolved some issues.</li> </ol> For details, see <a href="#">80.5.5 Updates</a> .   |
| 2022-04-15  | 70.16.5 | <ol style="list-style-type: none"> <li>1. Added APIs related to recurring meetings.</li> <li>2. Added <b>isStopConflictConf</b> to <b>PasswordJoinConfParam</b>, so you can forcibly end a meeting that conflicts with the current cloud meeting room.</li> <li>3. You can configure whether to display notifications when there is an incoming call in the meeting notification bar.</li> <li>4. Adjusted the SSO login API.</li> <li>5. Modified error codes and released the description of new error codes and the mapping between the error codes of the old and new versions.</li> </ol> For details, see <a href="#">70.16.5 Updates</a> . |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2022-02-19  | 70.14.5 | <ol style="list-style-type: none"> <li>1. When scheduling or editing a meeting, you can set the time when a guest is allowed to join the meeting ahead of the host. For details, see <a href="#">Table 6-30</a>.</li> <li>2. When scheduling a meeting in a cloud meeting room, you can select a fixed or random cloud meeting room ID. For details, see <a href="#">Table 6-33</a>.</li> <li>3. A department ID can be specified for login using an app ID. For details, see <a href="#">Table 6-24</a>.</li> <li>4. Resolved some issues.</li> </ol> <p>For details, see <a href="#">70.14.5 Updates</a>.</p>   |
| 2022-01-19  | 70.13.5 | <ol style="list-style-type: none"> <li>1. Added the <b>uuid</b>, <b>account</b>, and <b>thirdAccount</b> parameters to the login and logout APIs. For details, see <a href="#">Table 6-22</a> and <a href="#">Table 6-29</a>. If an earlier version is upgraded to 70.13.5, the definition of the callback functions needs to be modified.</li> <li>2. The third-party video streaming API supports MMR meetings. For details, see <a href="#">Table 6-68</a>.</li> <li>3. Added the <b>onConflncoming</b> API to the service message notifications to allow you to obtain incoming call information before joining a meeting. For details, see <a href="#">Service Message Notification</a>.</li> <li>4. Resolved some issues.</li> </ol> <p>For details, see <a href="#">70.13.5 Updates</a>.</p> |
| 2021-12-23  | 70.12.6 | <ol style="list-style-type: none"> <li>1. Fixed an issue where the definition cannot be restored when the network is weak.</li> </ol> <p>For details, see <a href="#">70.12.6 Updates</a>.</p>  |
| 2021-12-15  | 70.12.4 | <ol style="list-style-type: none"> <li>1. Upgraded RxJava to 3.0.13.</li> <li>2. Resolved some issues.</li> </ol> <p>For details, see <a href="#">70.12.4 Updates</a>.</p>  |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2021-12-03  | 70.11.5 | <ol style="list-style-type: none"> <li>1. Added the configuration of log storage duration.</li> <li>2. Upgraded HMS Scan Kit to version 2.1.0.300.</li> <li>3. Resolved some issues.</li> </ol> For details, see <a href="#">70.11.5 Updates</a> .             |
| 2021-10-22  | 70.10.5 | <ol style="list-style-type: none"> <li>1. Removed invalid resources.</li> <li>2. Resolved some issues.</li> </ol> For details, see <a href="#">70.10.5 Updates</a> .   |
| 2021-09-16  | 70.9.5  | <ol style="list-style-type: none"> <li>1. Added SSO login.</li> <li>2. Removed the tinypinyin library.</li> </ol> For details, see <a href="#">70.9.5 Updates</a> .  |
| 2021-08-28  | 70.8.6  | Fixed issues and provided more stable experience.  |
| 2021-08-18  | 70.8.5  | <ol style="list-style-type: none"> <li>1. Changed Android SDK to the Android X dependency.</li> <li>2. You can obtain the participant list in meetings and webinars.</li> </ol> For details, see <a href="#">70.8.5 Updates</a> .                              |
| 2021-07-16  | 70.7.5  | <ol style="list-style-type: none"> <li>1. You can configure video mirroring for the local site in meetings.</li> <li>2. API 30 of Android 11 is supported.</li> <li>3. Upgraded okhttp to 4.9.1.</li> </ol> For details, see <a href="#">70.7.5 Updates</a> .  |
| 2021-06-10  | 70.6.5  | <ol style="list-style-type: none"> <li>1. Deleted the dependency of ZXing.</li> <li>2. Upgraded tinypinyin to 3.0.0.</li> <li>3. Upgraded aspectjrt to 1.9.6.</li> <li>4. Upgraded GSON to 2.8.6.</li> </ol> For details, see <a href="#">70.6.5 Updates</a> . |
| 2021-05-17  | 70.5.8  | <ol style="list-style-type: none"> <li>1. Adapted the participants and chats modules to the landscape mode.</li> <li>2. On-screen comments are supported in chats.</li> </ol> For details, see <a href="#">70.5.8 Updates</a> .                                |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2021-04-15  | 70.4.5  | <ol style="list-style-type: none"> <li>1. Added the description of response parameters to the API for scheduling a meeting.</li> <li>2. The SDK initialization must be performed in the <b>OnCreate</b> main thread of the application.</li> <li>3. Added the API for obtaining the current user status.</li> <li>4. The host can invite others to share content and quickly cancel the sharing.</li> <li>5. Moved the button for switching between the front and rear cameras on the mobile app to the home screen.</li> <li>6. Optimized the size of meeting logs.</li> <li>7. Integrated AAR files in the <b>libs</b> folder. Before using the AAR files, you need to clear the files of earlier versions and import them again.</li> </ol> <p>For details, see <a href="#">70.4.5 Updates</a>.</p> |
| 2021-03-12  | 70.3.5  | <ol style="list-style-type: none"> <li>1. Removed the custom sharing link function in meetings. The custom sharing link function can be implemented through the custom sharing panel in meetings.</li> <li>2. Removed the SMS permission requirements.</li> <li>3. Changed error codes.</li> <li>4. Overlaid the speaker screen on the shared video screen. You can close the speaker screen by dragging it down.</li> <li>5. Simultaneous login on mobile phones and tablets is supported.</li> </ol> <p>For details, see <a href="#">70.3.5 Updates</a>.</p>   |
| 2021-02-10  | 60.15.6 | <ol style="list-style-type: none"> <li>1. Added the API for customizing automatic processing of incoming calls.</li> <li>2. Added the API for customizing the ringing and vibration for incoming calls.</li> <li>3. Changed the AAR dependency of the SDK resource package.</li> <li>4. You can customize whether to hide the <b>External</b> label.</li> </ol> <p>For details, see <a href="#">60.15.6 Updates</a>.</p>   |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2021-01-08  | 60.13.2 | <ol style="list-style-type: none"><li>1. Added the API for inviting participants.</li><li>2. Added the API for leaving a meeting.</li><li>3. Added the API for ending a meeting.</li><li>4. Updated error codes.</li></ol> For details, see <a href="#">60.13.2 Updates</a> .  |
| 2020-12-07  | 60.12.5 | <ol style="list-style-type: none"><li>1. During meeting creation, the meeting room (<b>vmrId</b>) and participant scope (<b>joinConfRestrictionType</b>) can be specified.</li><li>2. Updated error codes.</li><li>3. Added the API for uploading a profile picture.</li><li>4. Added the profile picture interception API to display a custom profile picture.</li><li>5. Updated custom menu samples.</li></ol> For details, see <a href="#">60.12.5 Updates</a> . |
| 2020-11-07  | 60.11.1 | <ol style="list-style-type: none"><li>1. Added the function of automatic meeting recording.</li><li>2. Added the API for customizing buttons of answering meeting calls.</li><li>3. Added the API for setting a display name in calls.</li></ol> For details, see <a href="#">60.11.1 Updates</a> .  |
| 2020-10-15  | 60.10.5 | <ol style="list-style-type: none"><li>1. Added the configuration that specifies whether third-party data collection is enabled.</li><li>2. Added a custom access site.</li><li>3. Modified parameters on the sharing panel.</li><li>4. Modified parameters of the API for joining a meeting.</li></ol> For details, see <a href="#">60.10.5 Updates</a> .  |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2020-09-04  | 60.8.1  | <p>1. Added the app ID parameter during initialization. The enterprise app ID can be passed.</p> <p>2. Added the following APIs: app ID login, meeting scheduling, meeting editing, meeting list query, meeting details query, and meeting cancellation.</p> <p>3. Added the APIs for configuring whether to enable HD priority and whether to enable the camera and microphone when joining a meeting.</p> <p>4. Added the parameter to specify whether to enable recording during meeting creation.</p> <p>5. Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">60.8.1 Updates</a>.</p> |
| 2020-07-30  | 60.7.1  | <p>1. Optimized the meeting UI, and changed the menu structure and APIs for clearer logic.</p> <p>2. Add the function so participants in a meeting can chat with each other in text. Added the function to show or hide custom configurations.</p> <p>3. Optimized the APIs for customizing the meeting control menus, and replaced some APIs for more flexible usage.</p> <p>For details, see <a href="#">60.7.1 Updates</a>.</p>  |
| 2020-06-29  | 60.6.4  | <p>Added the following content:</p> <ul style="list-style-type: none"> <li>• A callback to specify whether a participant is the host</li> <li>• An API to specify whether the current user is the host</li> </ul> <p>Modified the following contents:</p> <ul style="list-style-type: none"> <li>• Some APIs</li> </ul> <p>For details, see <a href="#">Customizing the Bottom Menu Bar</a>.</p>  |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2020-05-08  | 60.5.3  | Updated the document as follows: <ul style="list-style-type: none"> <li>Deleted the API <b>Creating a Meeting (Carrying Participant Information)</b>, and its function was integrated into the API <b>Creating a Meeting</b>.</li> <li>Optimized the API names and structures.</li> </ul>   |
| 2019-11-12  | 6.1.223 | Solved some known issues.   |
| 2019-08-31  | 6.1.203 | Added the following API: <ul style="list-style-type: none"> <li><b>Logging Out</b></li> </ul> Modified the following APIs: <ul style="list-style-type: none"> <li><b>Login Using an Account and Password</b>. Changed API parameters, and the login address and port are not required.</li> <li><b>Joining a Meeting</b>. Deleted the API <b>Joining a Meeting Anonymously</b>, and its function was integrated into the API <b>Joining a Meeting</b>. Changed some parameters of the API <b>Joining a Meeting</b>.</li> </ul>                                  |
| 2019-07-23  | 6.1.195 | Added the following content: <ul style="list-style-type: none"> <li>Added the API <b>Joining a Meeting Anonymously</b>. This API enables users to join a meeting without logging in.</li> <li>Added the function to allow users to return to the floating panel during a meeting.</li> </ul>  |
| 2019-04-13  | 6.1.27  | Added the following API: <ul style="list-style-type: none"> <li><b>Creating a Meeting (Carrying Participant Information)</b>. This API enables users to add participant information when creating an instant meeting so that these participants can receive a meeting call when the meeting starts.</li> </ul> Supported the following capabilities: <ul style="list-style-type: none"> <li>Joining a meeting by answering a call on the application frontend.</li> <li>Integrating applications. For more information, see Application Integration.</li> </ul> |
| 2019-03-29  | 6.1.23  | This issue is the first official release.   |

# 7 iOS SDK

## 7.1 Introduction

Huawei Cloud Meeting iOS SDK provides a complete set of APIs. Developers can call the SDK APIs to quickly integrate voice and video meetings into their applications, including creating, scheduling, and joining meetings, and sharing screens.

## 7.2 Getting Started

This section uses SDK initialization as an example to describe how to use the iOS SDK for secondary development.

### 7.2.1 Preparations

1. Set the environment and project according to [Environment Requirements](#).
2. **Optional:** Decompress the downloaded **hwmsdk-ios.zip** software package on a MacBook. Download the required SDK software package by referring to [Downloading SDKs](#).
3. Obtain the certificates and files required for project and extension development. For details, see [How Do I Apply for a Certificate for iOS?](#)

### 7.2.2 Quick Integration

- Step 1** Decompress all the downloaded software packages to obtain **libs** for integration and **HWMSDKDemo**.

**Figure 7-1** Decompressed files

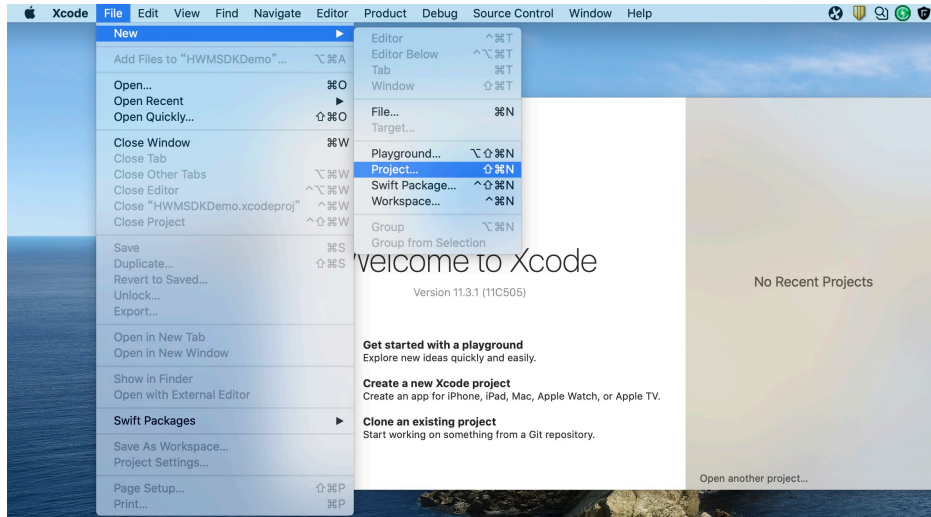
| Name                   | ^ | Date Modified  | Size | Kind      |
|------------------------|---|----------------|------|-----------|
| > HWMSDKDemo ← Demo    |   | Today at 14:59 |      | -- Folder |
| > libs ← SDK resources |   | Today at 14:59 |      | -- Folder |

- Step 2** Start the Xcode.

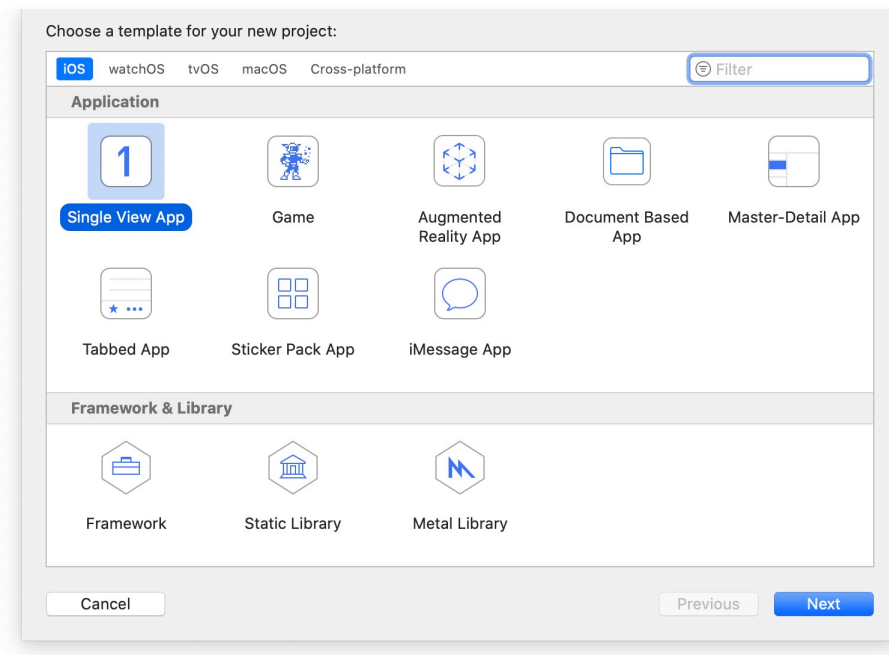


**Step 3** Choose **File > New > Project**. Then, select **Single View App** and click **Next**. On the displayed page, enter the application information and click **Create** to create a project, as shown in the following figures.

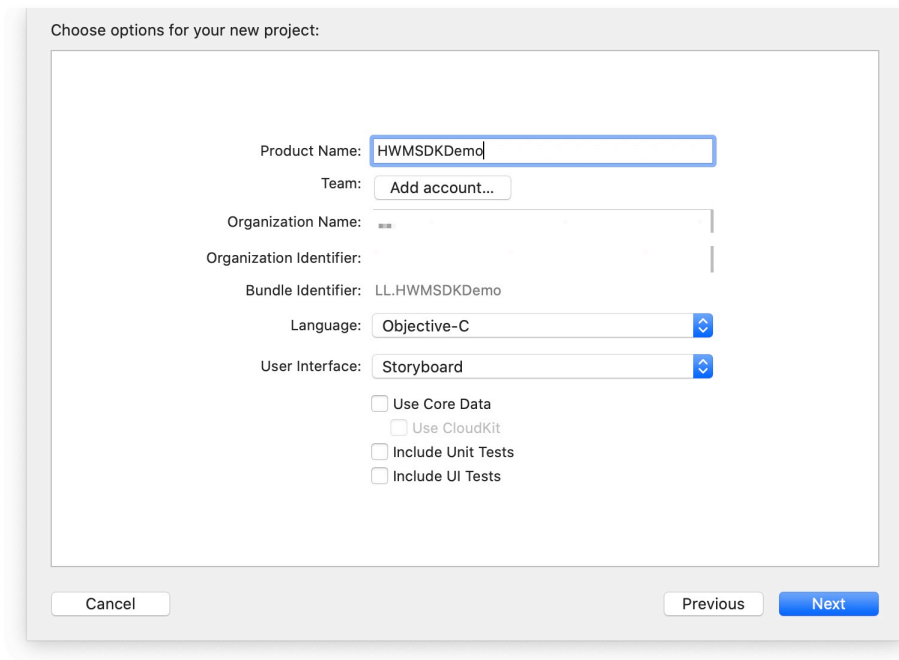
**Figure 7-2** Creating a project



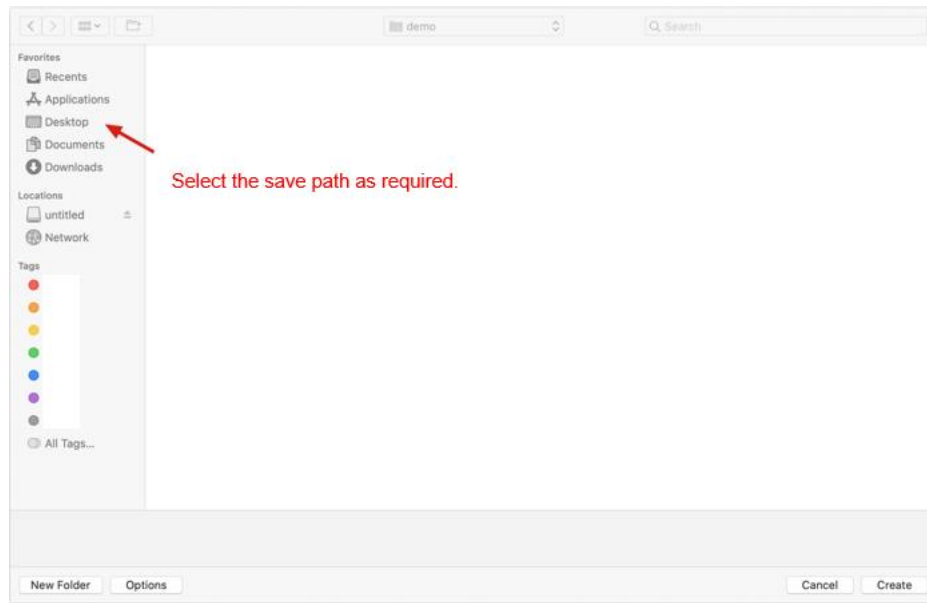
**Figure 7-3** Selecting the Single View App template



**Figure 7-4** Naming the project



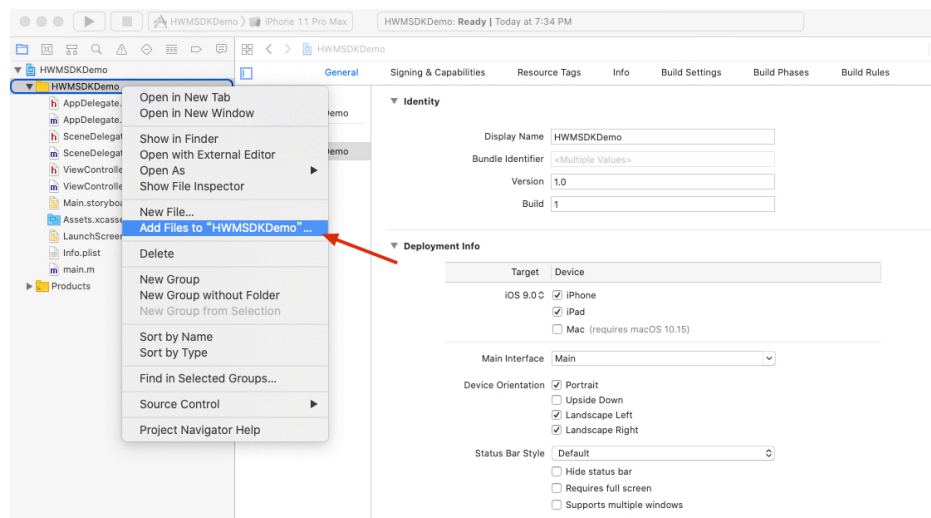
**Figure 7-5** Selecting a save path for the project



**Step 4** Add `HWMUISDK.framework` and `HWMRMedia.framework` obtained in [Step 1](#) to the project.

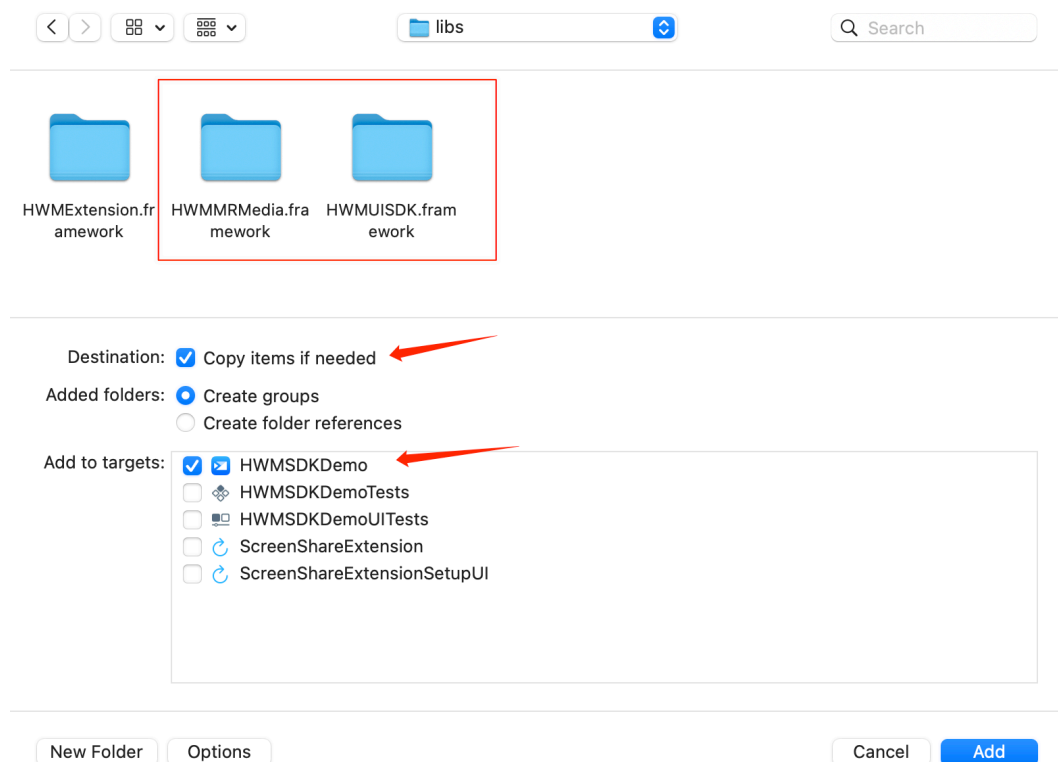
- Adding the decompressed resource

**Figure 7-6** Adding resources



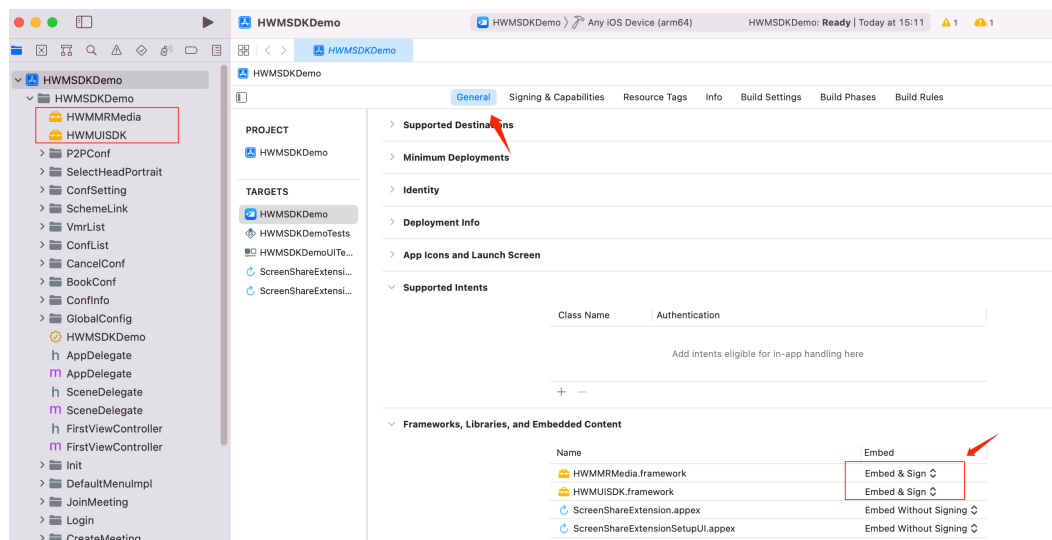
- Adding HWMUISDK.framework and HWMRMedia.framework

**Figure 7-7** Selecting the frameworks



- Choose **TARGETS > General**. Then, change the value in the **Embed** column of HWMUISDK.framework to **Embed & Sign**.

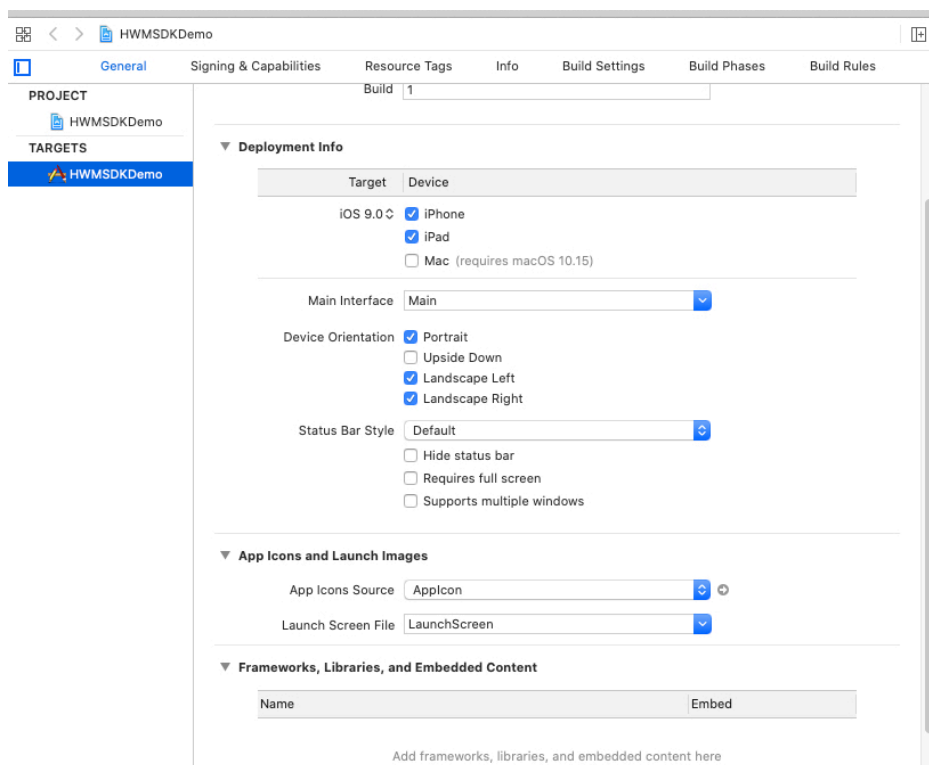
Figure 7-8 Effect after the adding



**Step 5** Configure the project files.

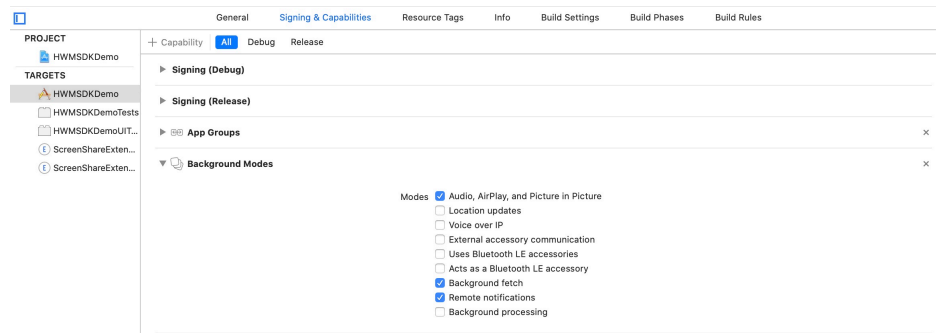
1. In **General** area, set the **Deployment Info** and development certificate as required.

Figure 7-9 Setting **Deployment Info** in the **General** area



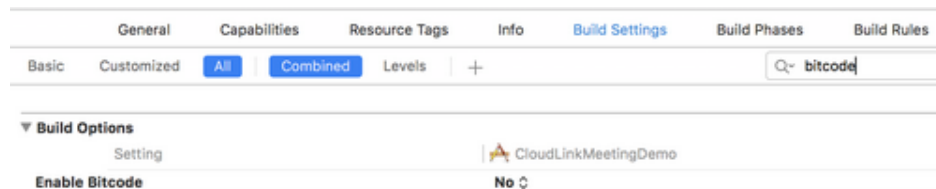
2. In the **Signing & Capabilities** area, set **Background Modes** for the application, so that the meeting can run in the background. When submitting the application for review, provide a test account to Apple and describe the meeting scenario. Otherwise, the application may be rejected.

**Figure 7-10** Setting Background Modes

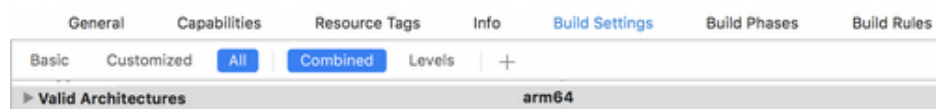


3. In the **Build Settings** area, set **Enable Bitcode** to **NO** (**YES** is not supported by the SDK), **Valid Architectures** to **arm64** (not support simulators), and **Other Linker Flags** to **-ObjC**.

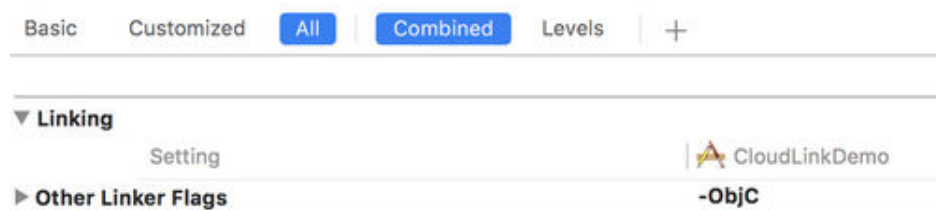
**Figure 7-11** Setting Build Settings



**Figure 7-12** Setting Valid Architectures

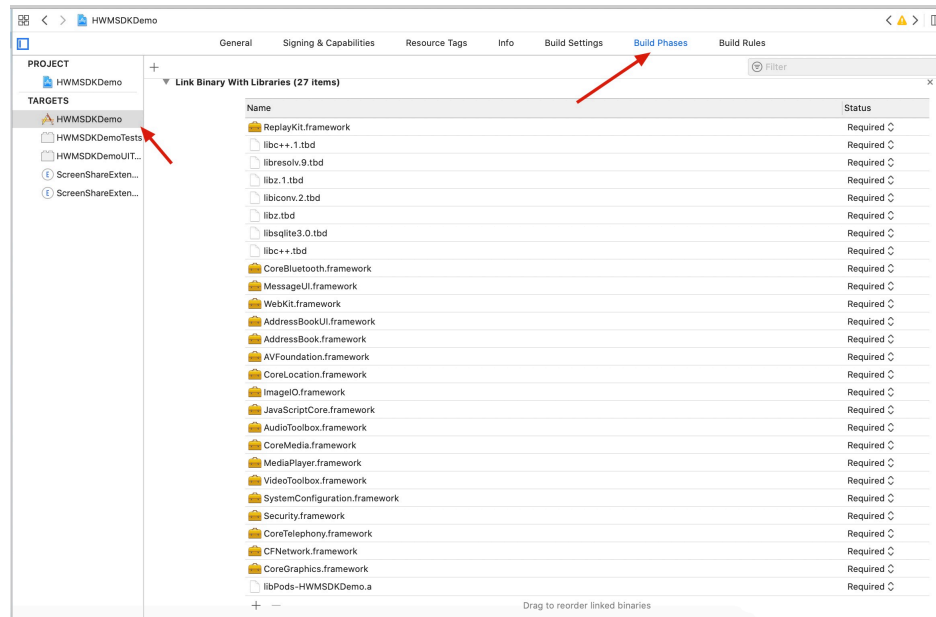


**Figure 7-13** Setting Other Linker Flags to -ObjC



4. In the **Build Phases** area, configure **Link Binary With Libraries**. The following screenshots are for your reference.

**Figure 7-14** Clicking the plus sign (+) under Link Binary With Libraries to add files

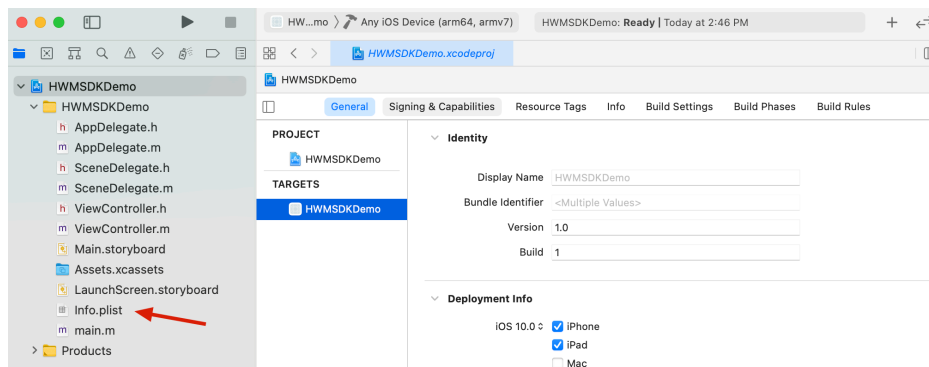


Copy the following names one by one and click the plus sign (+) to add files. Alternatively, manually enter names to add files.

AddressBook.framework  
 AudioToolbox.framework  
 AVFoundation.framework  
 CFNetwork.framework  
 CoreGraphics.framework  
 CoreLocation.framework  
 CoreMedia.framework  
 CoreTelephony.framework  
 MediaPlayer.framework  
 PushKit.framework  
 ReplayKit.framework  
 Security.framework  
 SystemConfiguration.framework  
 VideoToolbox.framework  
 WebKit.framework  
 libresolv.9.tbd  
 libc++.1.tbd  
 libz.1.tbd  
 libconv.tbd  
 libz.tbd  
 libc++.tbd

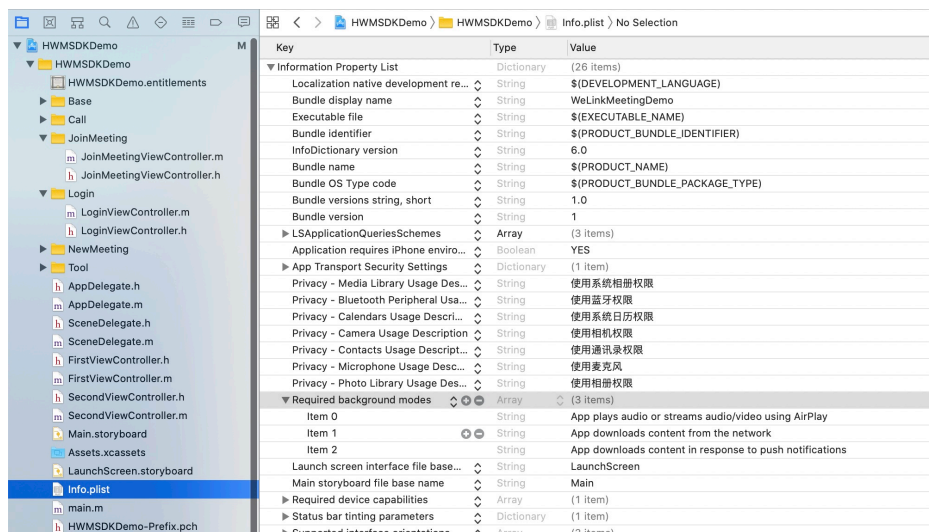
5. For **Info.plist**, configure permission prompts and third-party application startup information. The following fields need to be configured:

Figure 7-15 Info.plist location



- Privacy - Camera Usage Description (Camera usage prompt)
- Privacy - Microphone Usage Description (Microphone usage prompt)
- Privacy - Contacts Usage Description (Contact usage prompt)
- App Transport Security Settings--Allow Arbitrary Loads (The value must be YES.)

Figure 7-16 Info.plist configuration effect



----End

## 7.2.3 Screen Sharing Integration

### NOTE

You can share your mobile phone screen with others to improve communication efficiency.

### About the Sharing Bundle ID

Bundle ID format of the ScreenShareExtension extension:

Main app bundle ID + **ScreenShareExtension**

Bundle ID format of the ScreenShareExtensionSetupUI extension:

### Main app bundle ID + **ScreenShareExtensionSetupUI**

Examples:  
Assume that the bundle ID of the main app is **com.xx.xx**.  
The bundle ID of the ScreenShareExtension extension will be **com.xx.xx.ScreenShareExtension**.  
The bundle ID of the ScreenShareExtensionSetupUI extension will be **com.xx.xx.ScreenShareExtensionSetupUI**.

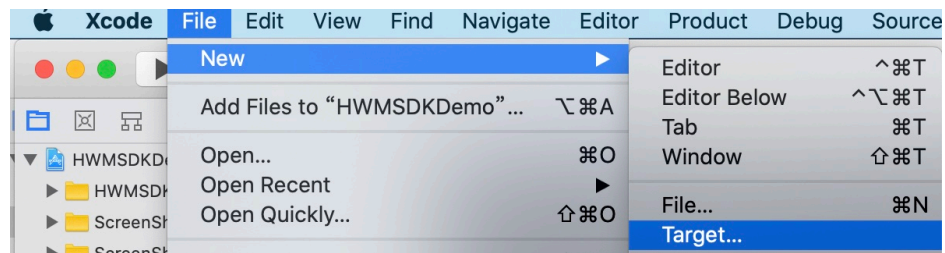
You need to add an iOS extension and configure related code for iOS screen sharing. The following describes how to integrate the SDK to develop the screen sharing extension.

#### NOTE

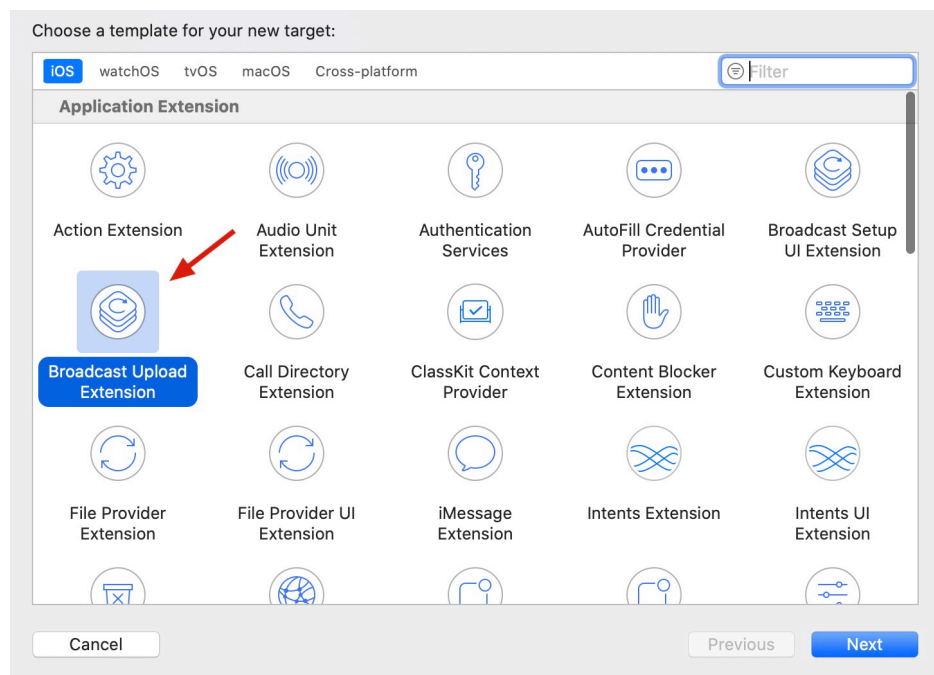
Related features depend on system capabilities. To use the screen sharing function, you need to use iOS 12 or a later version. For more information, see [App Extension Programming Guide](#).

**Step 1** Choose **File > New > Target**. Then, select the **Broadcast Upload Extension** template to create an extension target.

**Figure 7-17** Adding a target

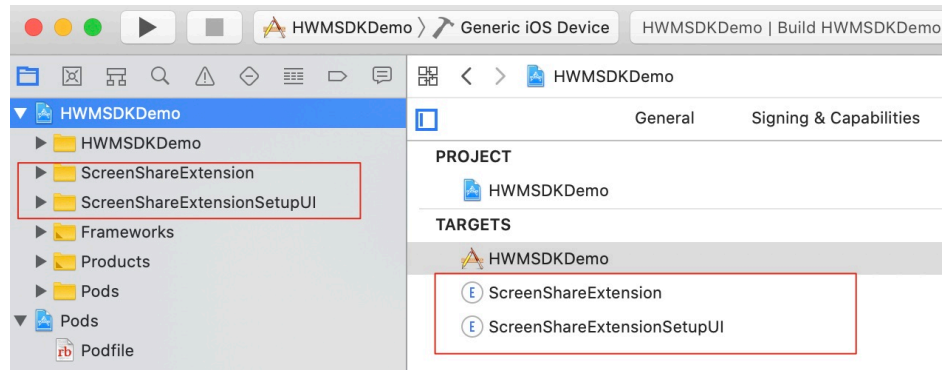


**Figure 7-18** Selecting the Broadcast Upload Extension template and clicking Next



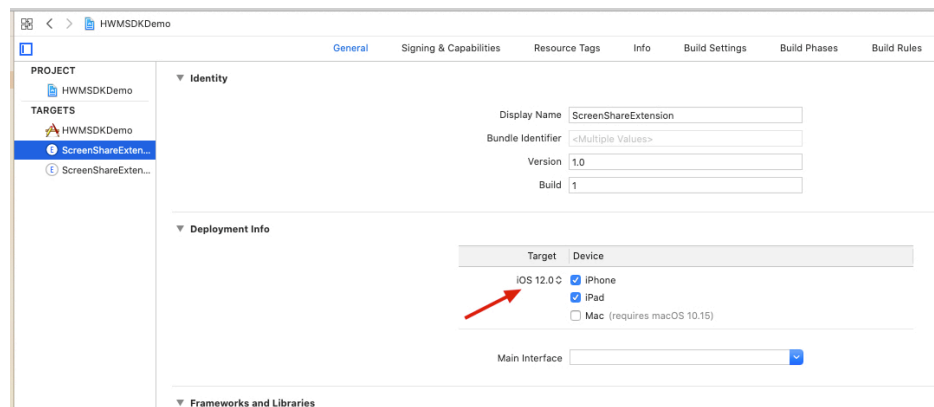


**Figure 7-19** Extension named ScreenShareExtension added

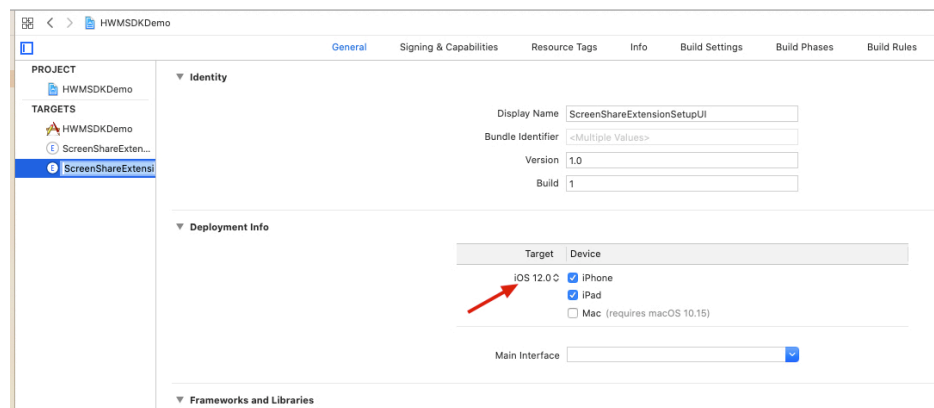


**Step 2** Set the iOS version supported by the extension to **12.0**.

**Figure 7-20** Setting the extension



**Figure 7-21** Setting the extension UI



**Step 3** Add an app group to the main project and current extension, and set the group ID to that obtained in [Preparations](#).

Figure 7-22 Default setting (no app groups)

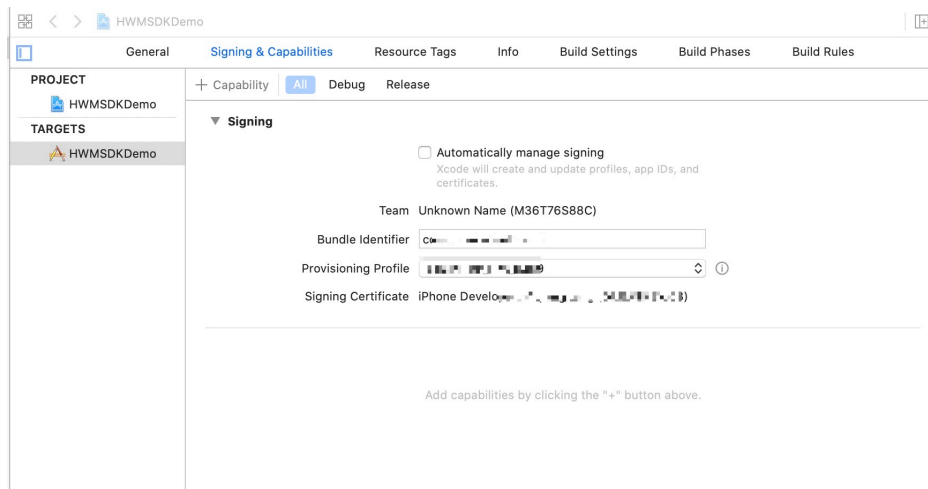
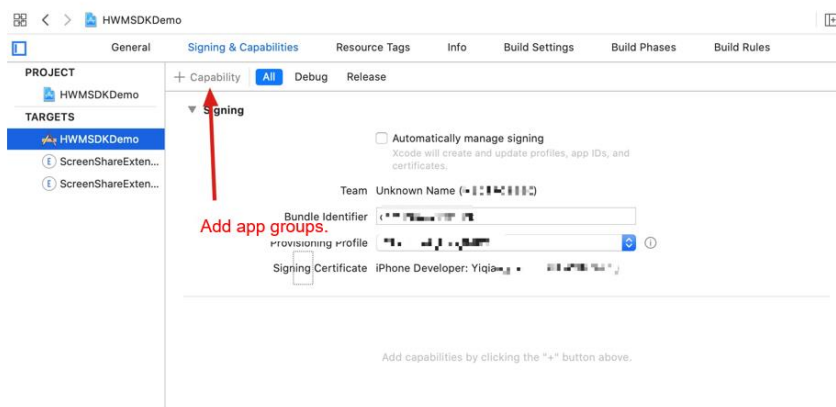
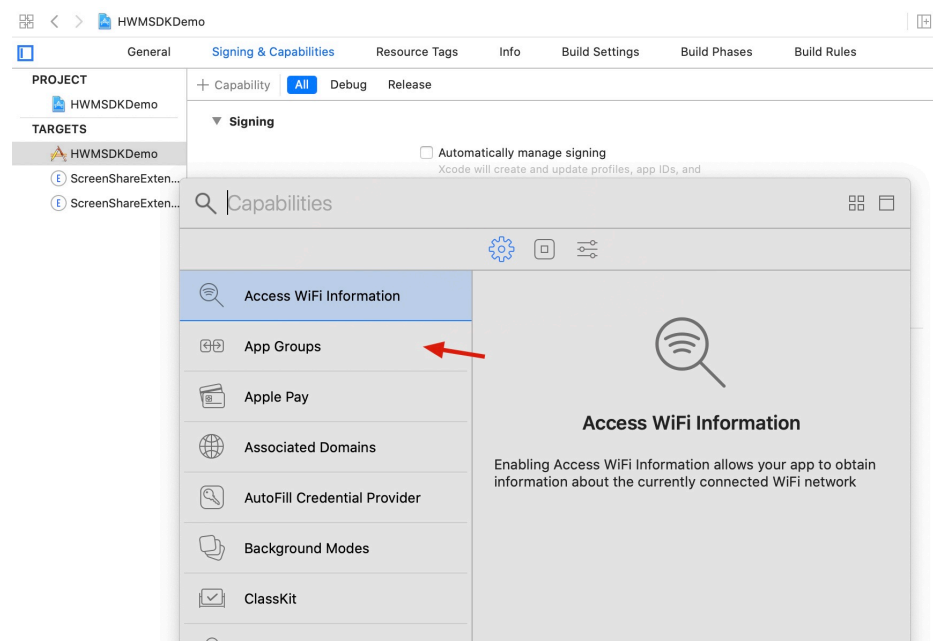


Figure 7-23 Choosing TARGETS > Signing & Capabilities > Capability to add an app group

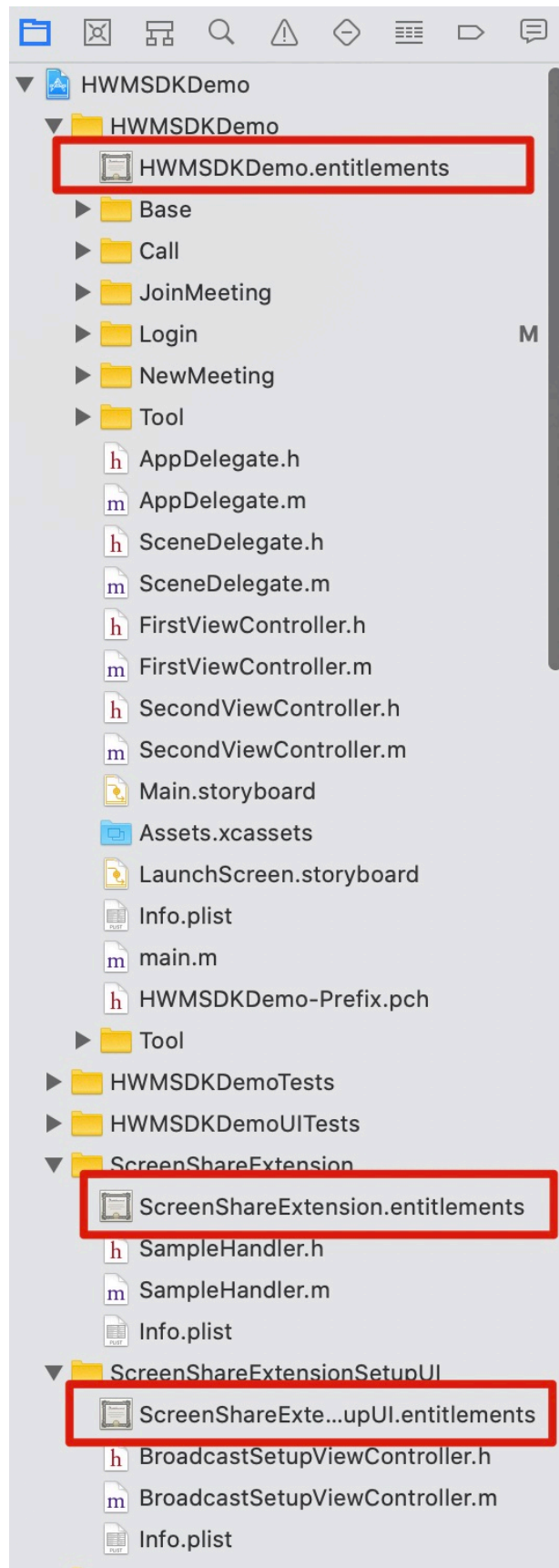


**Figure 7-24** Choosing App Groups



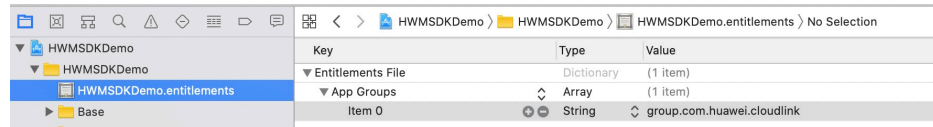
Add app groups for ScreenShareExtension and ScreenShareExtensionSetupUI in the same way.

Figure 7-25 App groups added

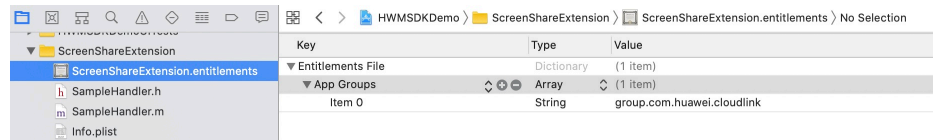


**Step 4** Add app group IDs to the entitlement files. (The group IDs are also used during initialization. You can apply for app group IDs from [Apple's official website](#).)

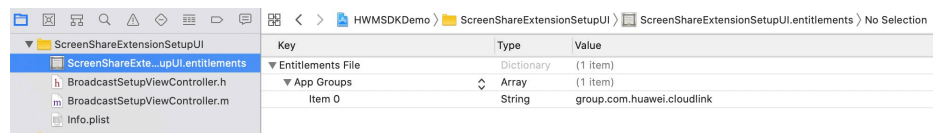
**Figure 7-26** App group ID added to an app



**Figure 7-27** App group ID added to ScreenShareExtension

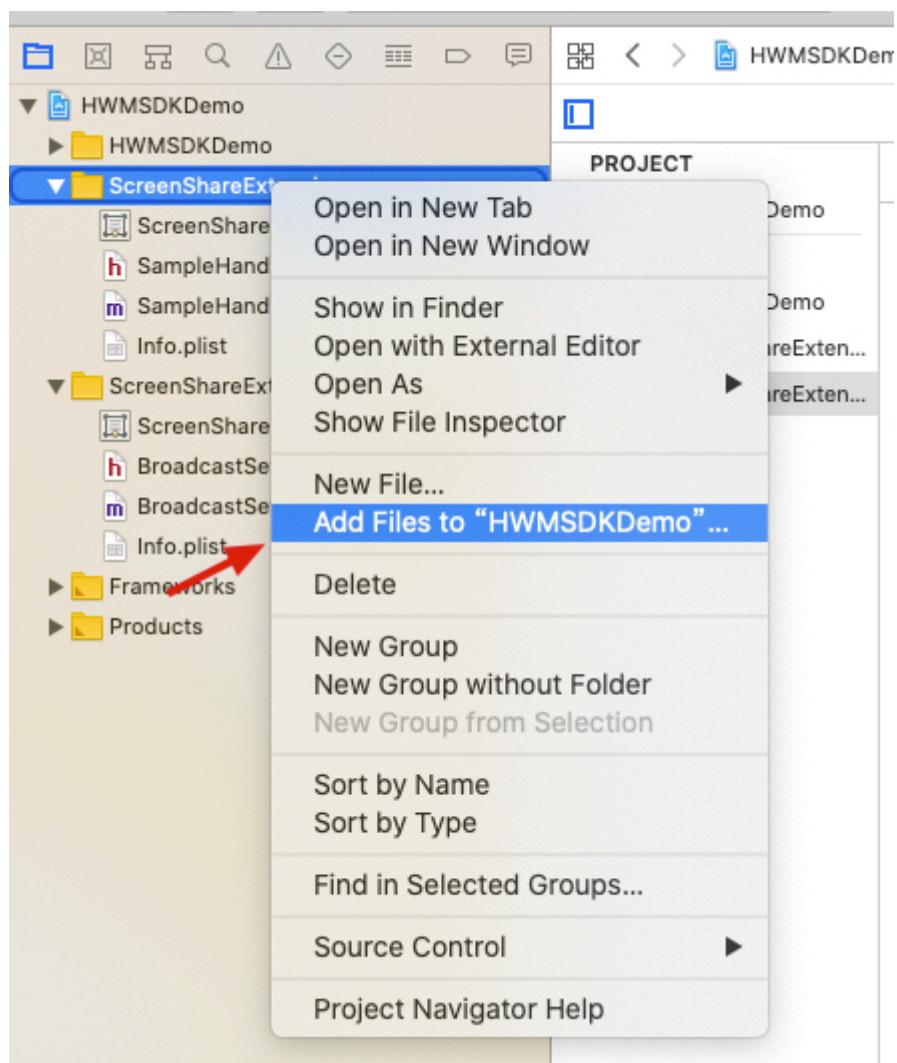


**Figure 7-28** App group ID added to ScreenShareExtensionSetupUI

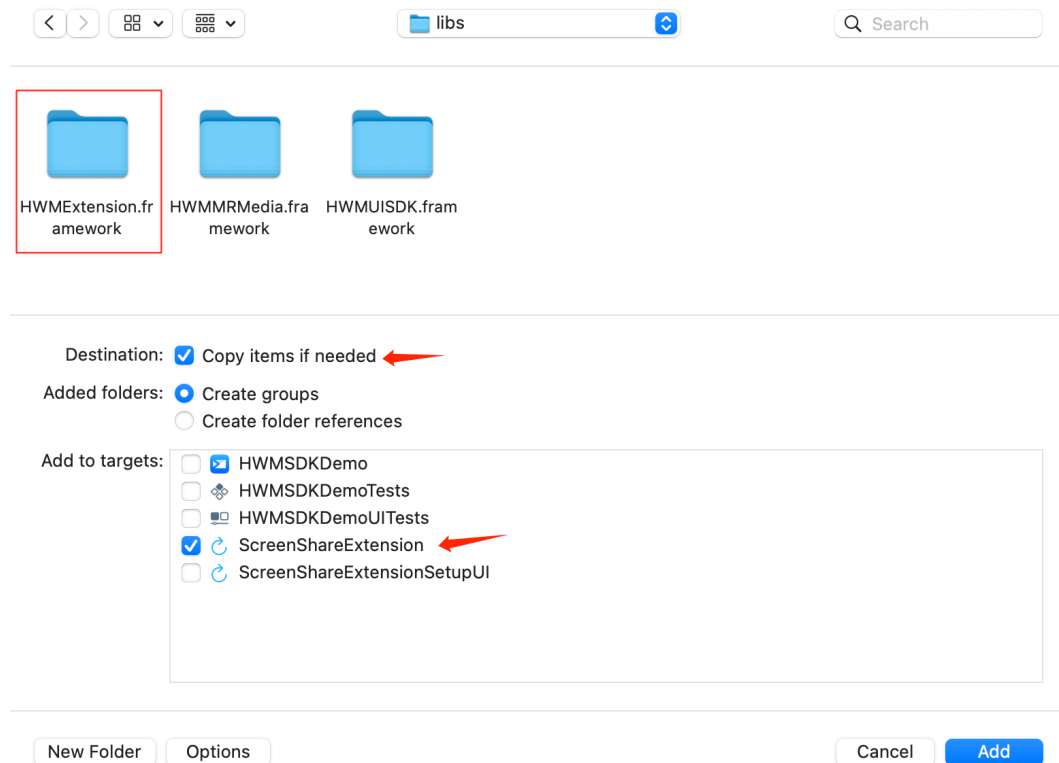


**Step 5** Add `HWMExtension.framework` to `ScreenShareExtension`. Go to **TARGETS > ScreenShareExtension > Build Settings > Other Linker Flags** and add `-lc++`.

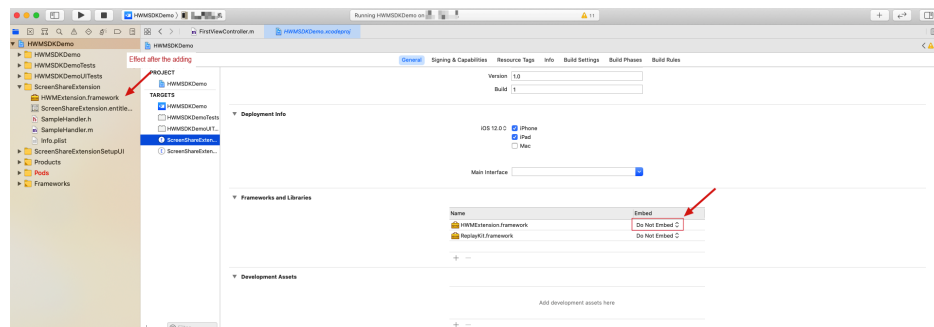
**Figure 7-29** Choosing ScreenShareExtension > Add Files to...



**Figure 7-30** Adding HWMExtension.framework to ScreenShareExtension

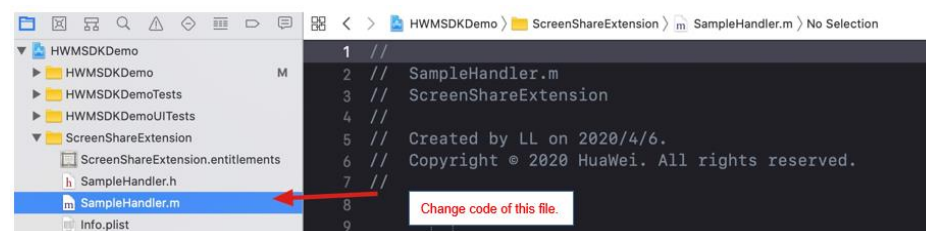


**Figure 7-31** Effect after HWMExtension.framework is added to ScreenShareExtension



**Step 6** Configure the screen sharing code. Specifically, add the following code to the **SampleHandler.m** file of ScreenShareExtension.

**Figure 7-32** SampleHandler location



The file can be directly used after the group ID is modified.

```
#import "SampleHandler.h"
#import <HWMExtension/HWMExtension.h>

@interface SampleHandler()<ScreenShareManagerDelegate>
@property (strong, nonatomic) HWMExtensionDataManager *screenShareManager;
@end

@implementation SampleHandler

- (instancetype)init {
    if (self = [super init]) {
        // [HWMExtensionAppGroup setAppGroup:@"group.com.huawei.xxx"]; // Replace the corresponding
        // value with the app group you obtain.
        self.screenShareManager = [[HWMExtensionDataManager alloc] init];
        self.screenShareManager.delegate = self;
    }
    return self;
}

- (void)dealloc {
    self.screenShareManager = nil;
}

- (void)broadcastStartedWithSetupInfo:(NSDictionary<NSString *,NSObject *> *)setupInfo {
    // User has requested to start the broadcast. Setup info from the UI extension can be supplied but
    // optional.
    [self.screenShareManager broadcastStartedWithSetupInfo:setupInfo];
}

- (void)broadcastPaused {
    // User has requested to pause the broadcast. Samples will stop being delivered.
    [self.screenShareManager broadcastPaused];
}

- (void)broadcastResumed {
    // User has requested to resume the broadcast. Samples delivery will resume.
    [self.screenShareManager broadcastResumed];
}

- (void)broadcastFinished {
    // User has requested to finish the broadcast.
    [self.screenShareManager broadcastFinished];
}

- (void)processSampleBuffer:(CMSampleBufferRef)sampleBuffer withType:
(RPSampleBufferType)sampleBufferType {
    switch (sampleBufferType) {
        case RPSampleBufferTypeVideo:
            // Handle video sample buffer
            [self.screenShareManager processSampleBuffer:sampleBuffer withType:RPSampleBufferTypeVideo];
            break;
        case RPSampleBufferTypeAudioApp:
            // Handle audio sample buffer for app audio
            // Audio sharing-related
            if ([self currentIsAudioShare]) {
                [self.screenShareManager processSampleBuffer:sampleBuffer
withType:RPSampleBufferTypeAudioApp];
            }
            break;
        case RPSampleBufferTypeAudioMic:
            // Handle audio sample buffer for mic audio
            break;

        default:
            break;
    }
}
```



```
- (void)screenShareManagerFinishBroadcastWithError:(NSError *)error {
    [self.screenShareManager broadcastFinished];
    [self finishBroadcastWithError: error];
}
- (BOOL)currentIsAudioShare {
    NSUserDefaults *userDefault = [[NSUserDefaults alloc] initWithSuiteName:[HWMExtensionAppGroup
getAppGroup]];
    NSString *audioShareType = [userDefault objectForKey:kHWMExtensionAudioShareKey];
    if ([audioShareType isEqualToString:kHWMExtensionAudioShareValue]) {
        return YES;
    }
    return NO;
}
@end
```

----End

## 7.2.4 Service Integration

The file for calling the **HWMSDK** API must contain the following content:

```
#import <HWMUISDK/HWMUISDK.h>
```

SDK initialization:

```
- (void)initSDK {
    HWMOpenSDKConfig *config = [[HWMOpenSDKConfig alloc] init];
    config.appld = getAppld();// In app ID login scenario, transfer the applied enterprise app ID. In non-app
ID login scenario, you are advised to transfer the enterprise name.
    config.appGroupIdentifier = getAppGroupIdentifier();// App group of ScreenShareExtension.
    BOOL result = [HWMSdk initWithConfig:config];
    if (result) {
        [UIUtil showMessage:@"Initialization succeeded." vc:self];
    }
}
```

Examples

- Login API  
[[HWMSdk getOpenApi] login:account password:password callback:^(NSError \* \_Nullable error, HWMLoginResult \* \_Nullable result){ }];
- API for creating a meeting  
[[HWMSdk getOpenApi] createConf:param callback:^(NSError \* \_Nullable error, HWMCreateConfResult \* \_Nullable result) { }];
- API for joining a meeting  
[[HWMSdk getOpenApi] joinConf:param callback:^(NSError \* \_Nullable error, id \_Nullable result) { }];
- API for scheduling a meeting  
[[HWMBizSdk getBizOpenApi] bookConf:param callback:^(NSError \* \_Nullable error, id \_Nullable result) { }];
- API for editing a meeting  
[[HWMBizSdk getBizOpenApi] editConf:param callback:^(NSError \* \_Nullable error, id \_Nullable result) { }];
- Logout API  
[[HWMSdk getOpenApi] logout:^(NSError \* \_Nullable error, HWMLogoutResult \_Nullable result) { }];

After the code of the preceding APIs is configured, SDK integration will be completed. For more information, see the **HWMSDKDemo** sample code.

## 7.3 Typical Scenarios

This section describes the API call orders and examples.

## 7.3.1 API Call in Typical Scenarios

### API Description

iOS SDK APIs are classified into **synchronous APIs**, **asynchronous APIs**, and **global callback APIs**.

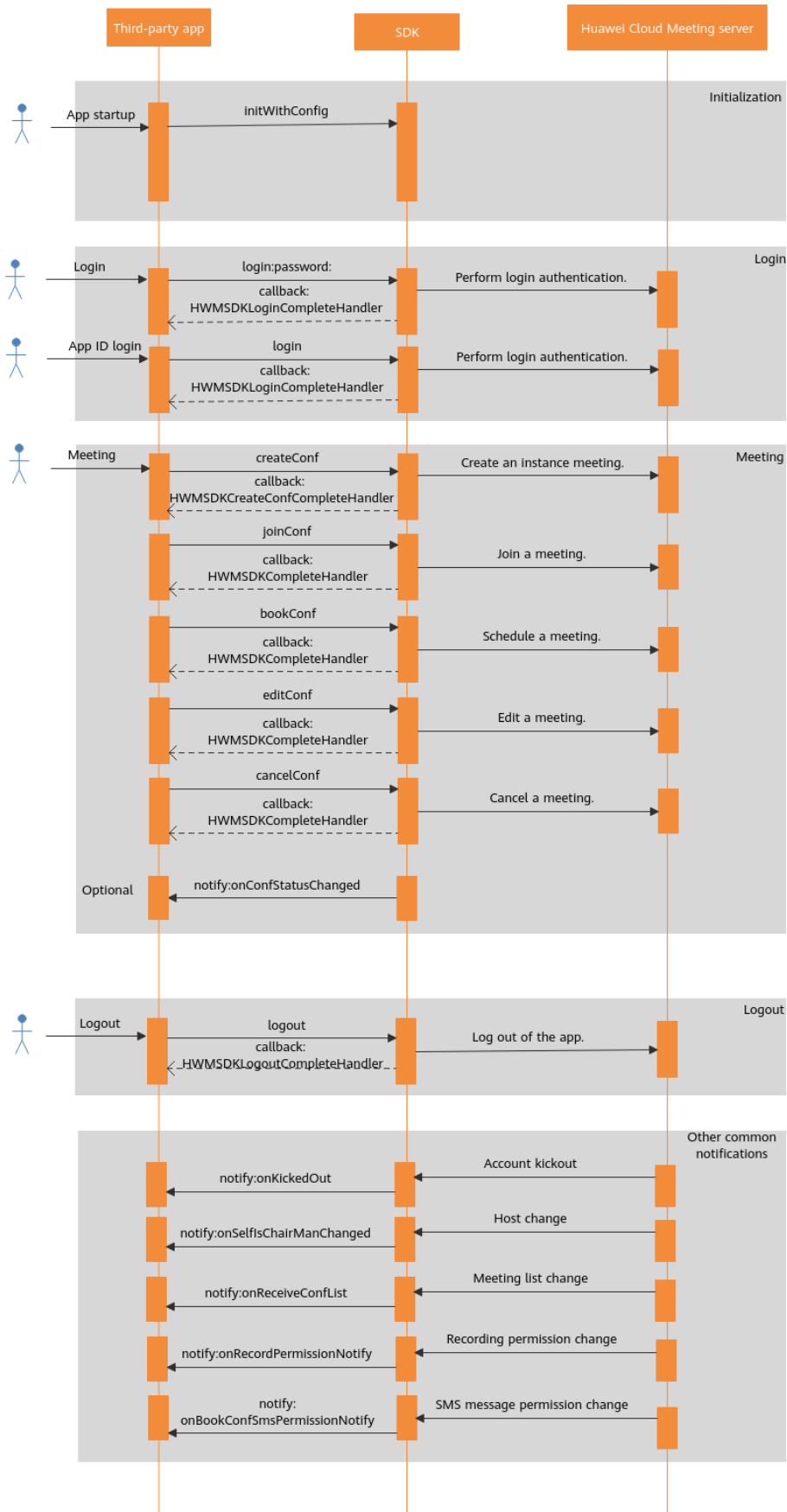
**Synchronous APIs:** Apps proactively call SDK APIs to complete specific tasks. For example, the **initWithConfig** API can be called for initialization.

**Asynchronous APIs:** Every time when an SDK API is called, the result is requested in callback mode.

**Global callback APIs:** When event notifications are triggered by the Huawei Cloud Meeting server or SDK, the SDK notifies apps through notification APIs. For example, the **onConfStatusChanged** API can be called to notify you of meeting calls.

## API Call in Typical Scenarios

Figure 7-33 API call in typical scenarios



 NOTE

1. Before using SDK functions, you need to initialize the SDK.
2. You can join a created meeting by using the meeting ID and password without login. In other scenarios, you need to log in first.
3. You can configure the notification function as required.

## 7.3.2 Scenario 1: Initialization

### Description

The initialization API can be called for SDK initialization. You only need to call this API once. You must call this API before calling other functional APIs.

### Service Process

During SDK initialization, call the **initWithConfig** API and then check whether the API is successfully called based on the returned value.

#### Step 1 Call the API.

1. Build **HWMOpenSDKConfig** model parameters.
2. Call the **initWithConfig** API to initialize the configuration. The data in the preceding step is used as input parameters.

#### Step 2 Check the returned value.

**YES:** The initialization is successful. **NO:** The initialization fails.

----End

### Sample Code

```
/// Initialization.
HWMOpenSDKConfig *config = [[HWMOpenSDKConfig alloc] init];
config.appId = getAppId();// Enter the applied app ID.
config.appGroupIdentifier = getAppGroupIdentifier();// App group of the screen sharing extension. This
parameter is mandatory and used for communication between the sharing process and the main process
during screen sharing. For details, see Apple's extension documentation.
BOOL result = [HWMSdk initWithConfig:config];
if (result) {
    NSLog(@"Initialization succeeded.");
}
```

 NOTE

The sample code in the typical scenario and API reference is pseudo code and cannot be directly used.

## 7.3.3 Scenario 2: Login

### 7.3.3.1 Login Using an Account and Password

#### Description

This API is used to log in to the system using an account. APIs such as **CreateConf** can be called only when you have logged in. To use complete meeting functions, log in to the Huawei Cloud Meeting server first.

#### NOTE

If you have not logged in, you can only join created meetings.

#### Service Process

If you need to log in using the SDK, call the **login** API and then implement the callback.

##### Step 1 Call the API.

1. Obtain the account and password for login.
2. Call the **login** API to log in. The data in the preceding step is used as input parameters.

##### Step 2 Implement the callback.

Implement the callback.

----End

#### Sample Code

```
/// Login
/// It is recommended that accounts and passwords used for authentication be stored in ciphertext in the
/// configuration file or as environment variables and be decrypted during usage.
- (void)login {
    NSString *account = getAccount();
    NSString *password = getPassword();
    [[HWM SDK getOpenApi] login:account password:password callback:^(NSError * _Nullable error,
HWMLoginResult * _Nullable result) {
        if (error == nil) {
            NSLog(@"Login succeeded.");
        }else{
            NSLog(@"Login failed.");
        }
    }
}
};
```

### 7.3.3.2 Login Using an App ID

#### Description

The **login** API can be used for login using an app ID.

#### NOTE

If you have not logged in, you can only join created meetings.

## Service Process

If you need to log in using the SDK, call the **login** API and then implement the callback.

### Step 1 Call the API.

1. Obtain the login account, expiration time, random number, username, and encrypted signature from the server.
2. Call the **login** API to log in. The data in the preceding step is used as input parameters.

### Step 2 Implement the callback.

Implement the callback.

----End

## Sample Code

```
/// App ID login API
- (void)login {
    HWMAppIDLoginParam *appidInfo = [[HWMAppIDLoginParam alloc] init];
    appidInfo.thirdUserId = getThirdUserId();
    appidInfo.expireTime = 1599618620;
    appidInfo.nonce = getNonce();
    appidInfo.userName = getUserName();
    appidInfo.signature = getSignature();
    [[HWM SDK getOpenApi] login:appidInfo callback:^(NSError * _Nullable error, HWMLoginResult *
    _Nullable result) {
        if (error == nil) {
            NSLog(@"Login succeeded.");
        }else{
            NSLog(@"Login failed.");
        }
    }
    }
};
```

## 7.3.4 Scenario 3: Scheduling a Meeting

### Description

The **bookConf** API can be used to schedule a meeting.

### Service Process

If you need to schedule a meeting using the SDK, call the **bookConf** API and then implement the callback.

#### Step 1 Call the API.

1. Call the **bookConf** API to schedule a meeting.

#### Step 2 Implement the callback.

Implement the callback.

----End

## Sample Code

```
/// Schedule a meeting.
- (void)bookConf {
    HWMOrderConfParam * param = [[HWMOrderConfParam alloc] init];
    param.confSubject = @"Meeting topic";
    param.startTime = 1598759580;
    param.duration = 15;
    param.confType = HWMConfTypeVideo;
    param.isNeedConfPwd = YES;
    param.isRecordOn = NO;
    param.timeZone = 56;
    param.vmrId = @"";
    param.callInRestrictionType = HWMJoinConfRestrictionAll;
    [[HWMBizSdk getBizOpenApi] bookConf:param callback:^(NSError * _Nullable error, id _Nullable result) {
        if (error) {
            NSLog(@"Schedule meeting failed: %@", error.localizedDescription);
        } else {
            NSLog(@"Meeting scheduled.");
        }
    }];
}
```

## 7.3.5 Scenario 4: Editing a Meeting

### Description

The **editConf** API can be used to edit a meeting after you log in and call the [Obtaining Meeting Details](#) API or server RESTful API to obtain the meeting details.

### Service Process

If you need to edit a meeting using the SDK, call the **editConf** API and then implement the callback.

#### Step 1 Call the API.

1. Call the **editConf** API to edit a meeting.

#### Step 2 Implement the callback.

Implement the callback.

----End

### Sample Code

```
/// Edit a meeting.
- (void)editConf {
    HWMOrderConfParam * param = [[HWMOrderConfParam alloc] init];
    param.confSubject = @"Meeting topic";
    param.startTime = 1598759580;
    param.duration = 15;
    param.confType = HWMConfTypeVideo;
    param.isNeedConfPwd = YES;
    param.isRecordOn = NO;
    param.timeZone = 56;
    param.vmrId = @""; // Cloud meeting room ID, required for a meeting held in a cloud meeting room.
    param.callInRestrictionType = HWMJoinConfRestrictionAll;
    param.confId = @"986927771";
    [[HWMBizSdk getBizOpenApi] editConf:param callback:^(NSError * _Nullable error, id _Nullable result) {
        if (error) {
            NSLog(@"Edit meeting failed: %@", error.localizedDescription);
        }
    }];
}
```



```
    } else {  
        NSLog(@"Meeting edited.");  
    }  
    }  
    }  
};  
}
```

## 7.3.6 Scenario 5: Creating a Meeting

### Description

The **CreateConf** API can be used to create an instant meeting after your login. Participant information is optional.

#### NOTE

You can create a meeting only after you log in.

### Service Process

If you need to create an instant meeting using the SDK, call the **createConf** API and then implement the callback.

#### Step 1 Call the API.

1. Assemble the **HWMCreateConfParam** model.
2. Assemble the **HWMCreateConfMember** model array (participants are optional).
3. Call the **createConf** API to create a meeting. The data in preceding steps is used as input parameters.

#### Step 2 Implement the callback.

Implement the callback.

----End

### Sample Code

```
/// Create a meeting.  
- (void)creatMeeting {  
    HWMCreateConfParam *param = [[HWMCreateConfParam alloc] init];  
    param.subject = @"Meeting topic";  
    param.confType = HWMConfTypeVideoData;  
    param.needPassword = YES; // Whether a password is required for a meeting. By default, no password is  
    required.  
    param.isCameraOn = YES; // Whether to turn on the camera. By default, the camera is turned off.  
    param.isMicOn = YES; // Whether to turn on the microphone. By default, the microphone is turned on.  
    param.isRecordOn = NO; // Whether to enable the meeting recording function. By default, this function  
    is disabled.  
    param.joinConfRestrictionType = HWMJoinConfRestrictionAll; // Participants who are allowed to join the  
    meeting.  
    // Participant list.  
    if (self.selectedMemebrs) {  
        __block NSMutableArray *members = [[NSMutableArray alloc] init];  
        [self.selectedMemebrs enumerateObjectsUsingBlock:^(HWMContactSelectedModel * _Nonnull obj,  
        NSUInteger idx, BOOL * _Nonnull stop) {  
            HWMCreateConfMember *member = [[HWMCreateConfMember alloc] init];  
            member.accountId = obj.accountId;  
            member.number = obj.number;  
            member.name = obj.name;  
            member.thirdUserId = obj.thirdUserId;  
            [members addObject:member];  
        }];  
    }  
}
```

```
    });  
    param.members = members;  
  }  
  [[HWMSdk getOpenApi] createConf:param callback:^(NSError * _Nullable error, HWMCreateConfResult *  
_Nullable result) {  
    [self hideLoading];  
    if (error) {  
      NSLog(@"Create meeting failed.%@", error.localizedDescription);  
    }else{  
      NSLog(@"Meeting created.");  
    }  
  }  
  }  
  }  
}
```

#### NOTE

The participant list is optional for creating a meeting. If such a list is configured, participants will be called after a meeting is created.

## 7.3.7 Scenario 6: Joining a Meeting

### Description

The **joinConf** API can be used to join a meeting using a meeting ID and password, no matter whether you have logged in or not.

### Service Process

If you need to join an existing meeting using the SDK, call the **joinConf** API and then implement the callback.

#### Step 1 Call the API.

1. Assemble the model.
  - a. **HWMJoinConfParam** is used to join a meeting based on the meeting ID.
  - b. **HWMRandomConfParam** is used to join a meeting in random mode.
2. Call the **joinConf** API to join the meeting. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback.

Implement the callback.

----End

### Sample Code

```
/// Join a meeting.  
- (void)joinMeeting {  
    HWMJoinConfParam *param = [[HWMJoinConfParam alloc] init];  
    param.confId = @"989156631";  
    param.password = getPassword();  
    param.nickname = @"Hangzhou site";  
    param.isCameraOn = NO;  
    param.isMicOn = YES;  
    [[HWMSdk getOpenApi] joinConf:param callback:^(NSError * _Nullable error, id _Nullable result) {  
        if (error) {  
            NSLog(@"Join meeting failed.%@", error.localizedDescription);  
        } else {  
            NSLog(@"Meeting joined.");  
        }  
    }  
}
```

```
    }  
};
```

**NOTE**

If you call this API without logging in to Huawei Cloud Meeting, the **nickname** parameter is mandatory.

## 7.3.8 Scenario 7: Adding Participants

### Description

You can call the API for adding participants during a meeting.

### Service Process

If you need to add participants using the SDK, open the contact list, select the contacts to be added, and add the selected contacts to the meeting. You can also customize the page for adding participants. For details, see [Customizing a Contact Selection UI](#).

**NOTE**

1. If you log in using an app ID, you are advised to customize a contact selection page.
2. If you do not customize such a page, there is no need to add sample code to the project.

### Sample Code

```
/// Customize a contact selection UI.  
- (void)openContactSelectPage:(NSArray<HWMConfContactModel *> *)param  
    scene:(HWMSelectedContactScene)scene  
    completeHandler:(void (^)(NSArray<HWMContactSelectedModel *> *result, NSError  
*error))handler {  
    NSLog(@"enter open contact select page");  
    ContactSelectViewController * contactSelectVc = [[ContactSelectViewController alloc]  
initWithResultHandler:handler];  
    [self pushViewControllerWithVc:contactSelectVc];  
}
```

## 7.3.9 Scenario 8: Logout

### Description

This API is used to log out of a meeting account.

### Service Process

If you need to log out using the SDK, call the **logout** API and then implement the callback.

**Step 1 Call the API.**

1. Call the **logout** API to log out of Huawei Cloud Meeting.

**Step 2 Implement the callback.**

Implement the callback.

----End

## Sample Code

```
/// Logout
- (void)logout {
    [[HWM SDK getOpenApi] logout:^(NSError * _Nullable error, HWMLogoutResult * _Nullable result) {
        if (error == nil) {
            NSLog(@"Logout succeeded.");
        } else {
            NSLog(@"Logout failed.");
        }
    }];
}
```

## 7.4 API Reference

### 7.4.1 Basic Settings

#### 7.4.1.1 Initializing the SDK

##### NOTE

There are main thread initialization and subthread initialization APIs. Call either of them before calling other APIs.

### initWithConfig

#### API Description

This API is used to start and initialize the SDK.

#### Precautions

1. You must call the initialization API before calling other APIs.
2. The initialization method must be called in the main thread.
3. The return value only indicates whether the API is successfully called.

#### Method Definition

```
+ (BOOL)initWithConfig:(HWMOpenSDKConfig *)config;
```

#### Parameter Description

**Table 7-1** Parameter description

| Parameter | Mandatory | Type             | Description                     |
|-----------|-----------|------------------|---------------------------------|
| config    | Yes       | HWMOpenSDKConfig | Initialization information set. |

Table 7-2 HWMOpenSDKConfig description

| Parameter                         | Man<br>dator<br>y | Type           | Description   |
|-----------------------------------|-------------------|----------------|---|
| appld                             | Yes               | NSString *     | App ID. For details about how to request an app ID, see <a href="#">Requesting an App ID</a> in <i>Developer Guide</i> .  |
| appGroupIdentifier                | No                | NSString *     | App group of the screen sharing extension. If this parameter is not transferred, the screen sharing function cannot be used. This parameter is used for communication between the sharing process and the main process during screen sharing. For details, see Apple's extension documentation. |
| siteType                          | No                | HWMSdkSiteType | Login site type. The default value is <b>HWMSdkSiteTypeChina</b> .  |
| serverAddress                     | No                | NSString *     | Server address.   |
| serverPort                        | No                | NSUInteger     | Server port.  |
| hideExternalLabel                 | No                | BOOL           | Whether to hide the <b>External</b> label in the participant list, host role transferring screen or chat screen. By default, the <b>External</b> label is displayed.  |
| logKeepDays                       | No                | NSInteger      | Log storage duration. Valid value range is 3–30. The default value is <b>0</b> . <b>0</b> indicates that logs are not deleted by day.<br>Note: <b>1</b> and <b>2</b> will be converted to <b>3</b> , and the values greater than 30 will be converted to <b>30</b> .                            |
| disableIncomingLocal-Notification | No                | BOOL           | Disables local push for incoming calls.   |
| isSupportMultiAppLogin            | No                | BOOL           | Whether to support login to multiple applications on the same device.   |

 NOTE

For details about how to request an app ID, see [Requesting an App ID](#) in *Developer Guide*.

**Table 7-3** Enumerated values of HWMSdkSiteType

| Enumerated Value    | Description       |
|---------------------|-------------------|
| HWMSdkSiteTypeChina | Chinese mainland. |
| HWMSdkSiteTypeAP    | Asia Pacific.     |

**Return Values****Table 7-4** Return value

| Type | Description   |
|------|---|
| BOOL | If the initialization succeeds, <b>YES</b> is returned. If the initialization fails, <b>NO</b> is returned. |

**Sample Code**

```
/// Initialization.
HWMSdkOpenSDKConfig *config = [[HWMSdkOpenSDKConfig alloc] init];
config.appId = getAppId();// Enter the applied app ID.
config.appGroupIdentifier = getAppGroupIdentifier();// App group of the screen sharing extension. This
parameter is mandatory and used for communication between the sharing process and the main process
during screen sharing. For details, see Apple's extension documentation.
BOOL result = [HWMSdk initWithConfig:config];
if (result) {
    NSLog(@"Initialization succeeded.");
}
```

 NOTE

- The sample code in the typical scenario and API reference is pseudo code and cannot be directly used.

**initWithConfig:callback:****API Description**

This API is used to start and initialize the SDK in a subthread.

**Precautions**

1. You must call the initialization API before calling other APIs.
2. The return value only indicates whether the API is successfully called.

**Method Definition**

```
+ (void)initAsyncWithConfig:(HWMSdkConfig *)config callback:(_Nonnull  
HWMSdkInitCompleteHandler)callback;
```

### Parameter Description

See [Table 7-1](#).

### Return Values

None

### Sample Code

```
/// Initialization.  
HWMSdkConfig *config = [[HWMSdkConfig alloc] init];  
config.appId =getAppId();// Enter the applied app ID.  
config.appGroupIdentifier = getAppGroupIdentifier();// App group of the screen sharing extension. This  
parameter is mandatory and used for communication between the sharing process and the main process  
during screen sharing. For details, see Apple's extension documentation.  
[HWMSdk initAsyncWithConfig:config callback:^(HWMSdkERR errCode, id _Nullable result) {  
    if (errCode == HWMSdkSdkerSuccess) {  
        NSLog(@"Initialization succeeded.");  
    } else {  
        NSLog(@"Initialization failed.");  
    }  
}];
```

#### NOTE

- The sample code in the typical scenario and API reference is pseudo code and cannot be directly used.

## 7.4.1.2 Setting the Language

### setLanguage

#### API Description

This API is used to set the SDK language. The default language is Chinese.

#### Precautions

None

#### Method Definition

```
+ (void)setLanguage:(HWMSdkLanguageType)language;
```

#### Parameter Description

**Table 7-5** Parameter description

| Parameter | Mandatory | Type                               | Description                     |
|-----------|-----------|------------------------------------|---------------------------------|
| language  | Yes       | <a href="#">HWMSdkLanguageType</a> | Enumerated values of languages. |

**Table 7-6** HWMSdkLanguageType parameters

| Enumerated Value              | Description      |
|-------------------------------|------------------|
| HWMSdkLanguageTypeZH          | Chinese.         |
| HWMSdkLanguageTypeEN          | English.         |
| HWMSdkLanguageType-Customized | Custom language. |

### Return Values

None

### Sample Code

```
/// Change the language.
[HWMSdk setLanguage:HWMSdkLanguageType];
```

## setLanguage:languageCode:

### API Description

This API is used to customize the SDK language. The default language is Chinese.

### Precautions

To implement a user-defined language, create the corresponding internationalization file in the directory at the same level as **en.lproj**. For example, to add Arabic, you can create **ar.lproj/Localizable.strings**. The language set through this API must be the same as the system language.

### Method Definition

```
+ (void)setLanguage:(HWMSdkLanguageType)language languageCode:(NSString *)languageCode;
```

### Parameter Description

**Table 7-7** Parameter description

| Parameter    | Mandatory | Type                               | Description   |
|--------------|-----------|------------------------------------|---|
| language     | Yes       | <a href="#">HWMSdkLanguageType</a> | Enumerated values of languages.   |
| languageCode | No        | NSString *                         | If <b>LanguageType</b> is set to Chinese or English, this parameter can be left empty or set to any value.<br>If <b>LanguageType</b> is set to other languages, set this parameter to the language code, for example, <b>ar</b> (Arabic). |



**Return Values**

None

**Sample Code**

```
/// Change the language.  
[HWMSdk setLanguage:HWMSdkLanguageTypeCustomized languageCode:@"ar"];
```

### 7.4.1.3 Setting a Log Path

#### setLogPath

**API Description**

This API is used to set a path for storing HUAWEI CLOUD Meeting logs.

**Precautions**

None

**Method Definition**

```
+ (void)setLogPath:(NSString *)logPath;
```

**Parameter Description****Table 7-8** Parameter description

| Parameter | Mandatory | Type       | Description |
|-----------|-----------|------------|-------------|
| logPath   | Yes       | NSString * | Log path.   |

**Return Values**

None

**Sample Code**

```
/// Use the default path.  
NSString * logPath= [[NSSearchPathForDirectoriesInDomains(NSLibraryDirectory, NSUserDomainMask, YES)  
firstObject] stringByAppendingPathComponent:@"log"];  
[HWMSdk setLogPath:logPath];
```

### 7.4.1.4 Setting the Incoming Call Notification Mode

#### changeIncomingNoticeWithRing:vibrate:

**API Description**

This API is used to modify the incoming meeting notification mode. (By default, the phone rings but does not vibrate.)

**Precautions**

1. Call this API only when you have logged in.

2. To set vibration, you must enable vibration on iOS first (tap **Settings** > **Sounds & Haptics** and enable **Vibrate on Ring** and **Vibrate on Silent** on your phone).
3. If **YES** is returned, the API is called successfully. If the SDK is not initialized or you have not logged in, **NO** is returned.

### Method Definition

```
- (BOOL)changeInComingNoticeWithRing:(BOOL)ring vibrate:(BOOL)vibrate;
```

### Parameter Description

**Table 7-9** Parameter description

| Parameter | Mandatory | Type | Description                  |
|-----------|-----------|------|------------------------------|
| ring      | Yes       | BOOL | Whether to enable ringing.   |
| vibrate   | Yes       | BOOL | Whether to enable vibration. |

### Return Values

None

### Sample Code

```
BOOL result = [[HWMSdk getOpenApi] changeInComingNoticeWithRing:YES vibrate:NO];  
[UIUtil showMessage:result? @"Setting succeeded.": @"Setting failed."];
```

## 7.4.1.5 Enabling or Disabling the Camera and Microphone in a Meeting

### isOpenMicrophoneInComing

#### API Description

This API is used to customize the microphone status when a user is invited to a meeting.

#### Precautions

1. If automatic mute has been set for participants excluding the host, your microphone status customization does not take effect.

#### Method Definition

```
- (BOOL)isOpenMicrophoneInComing;
```

#### Parameter Description

None

#### Sample Code

```
/// Whether to enable the microphone when a user is invited to a meeting.  
- (BOOL)isOpenMicrophoneInComing {  
    return NO;  
}
```

## isOpenCameraIncoming

### API Description

This API is used to customize the camera status when a user is invited to a meeting.

### Precautions

None

### Method Definition

```
- (BOOL)isOpenCameraIncoming;
```

### Parameter Description

None

### Sample Code

```
/// Whether to enable the camera when a user is invited to a meeting.
- (BOOL)isOpenCameraIncoming {
    return NO;
}
```

## 7.4.1.6 Enabling a Function

### enableFeature:isEnabled:

#### API Description

This API is used to enable a function.

#### Precautions

1. By default, the breakout room function is enabled. You can call this API to disable it.
2. Create an initialization object `HWMOpenSDKConfig` before calling this API, and call the initialization API after calling this API.

#### Method Definition

```
- (void)enableFeature:(HWMEnableFeatureType)feature isEnabled:(BOOL)enable;
```

#### Parameter Description

**Table 7-10** Enumerated values of `HWMEnableFeatureType`

| Value   | Description  |
|---|--|
| <code>HWMFeatureTypeBreakout-Conf</code>                  | Breakout room function.  |
| <code>HWMFeatureTypeRecoedAlert</code>                    | Whether to display the recording security prompt. By default, it is not displayed. |
| <code>HWMFeatureTypeSaveNick-NameWhenAnonymousJoin</code> | Saving the display name when you join a meeting anonymously.                       |

| Value                                   | Description          |
|---|----------------------|
| HWMFeatureTypeSupport-VirtualBackground | Virtual backgrounds. |

### Return Values

None

### Sample Code

```
HWMOpenSDKConfig *config = [[HWMOpenSDKConfig alloc] init];
[config enableFeature:HWMFeatureTypeBreakoutConf isEnabled:YES];
```

## 7.4.1.7 Setting the Network Mode

### setNetworkModeWithNetworkInfo:

#### API Description

This API is used to set the network mode to enterprise intranet access if the media nodes of Huawei Cloud Meeting are deployed in an enterprise and management nodes are accessed through the proxy of the enterprise.

#### NOTE

This API needs to be called only when the app cannot directly access the public network (that is, when the media nodes and management nodes are deployed in the enterprise).

#### Precautions

1. This API is optional. If it is not called, the default mode is used.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
-(HWMSDKERR)setNetworkModeWithNetworkInfo:(HWMSDKNetWorkModeInfoModel *)networkInfo;
```

#### Parameter Description

**Table 7-11** HWMSDKNetWorkModeInfoModel description

| Parameter  | Mandatory | Type                 | Description   |
|------------|-----------|----------------------|---------------|
| accessType | Yes       | HWMNetworkAccessType | Network type. |

**Table 7-12** Enumerated values of HWMNetworkAccessType

| Value                 | Description      |
|-----------------------|------------------|
| HWMSDKAccessTypeAuto  | Default value.   |
| HWMSDKAccessTypeInner | Intranet access. |
| HWMSDKAccessTypeOuter | Extranet access. |

### Return Values

None

### Sample Code

```
HWMSDKNetWorkModelInfoModel *networkInfo = [[HWMSDKNetWorkModelInfoModel alloc] init];
networkInfo.accessType = HWMSDKAccessTypeAuto;
HWMSDKERR ret = [[HWMSDKNetworkService sharedInstance]
setNetworkModeWithNetworkInfo:networkInfo];
```

## 7.4.1.8 Disabling Prompt Tones

### disableVoicePrompts:

#### API Description

This API is used to disable meeting prompt tones.

#### Precautions

1. This API is optional. If it is not called, meeting prompt tones are enabled by default.
2. The return value only indicates whether the API is successfully called.

#### Method Definition

```
-(HWMSDKERR)disableVoicePrompts:(HWMSDKVoicePromptsModel *)voicePrompts;
```

#### Parameter Description

**Table 7-13** HWMSDKVoicePromptsModel description

| Parameter         | Mandatory | Type | Description   |
|-------------------|-----------|------|---|
| disableMutePrompt | Yes       | BOOL | Prompt tone played when the host mutes a participant. |

### Return Values

Whether the API is successfully called.

### Sample Code

```
HWMSDKVoicePromptsModel * model = [[HWMSDKVoicePromptsModel alloc] init];
model.disableMutePrompt = YES;
[[HWMBizSdk getBizOpenApi] disableVoicePrompts:model];
```

### 7.4.1.9 Setting Guaranteed IP Addresses for Meeting Control

#### setGuaranteedIpAddresses:

##### API Description

This API is used to set the guaranteed IP addresses for meeting control.

##### Precautions

1. Up to four IP addresses are supported. They are separated by semicolons (;).
2. The return value only indicates whether the API is successfully called.

##### Method Definition

```
- (HWMSDKERR)setGuaranteedIpAddresses:(NSString *)pAddresses;
```

##### Parameter Description

**Table 7-14** Parameter description

| Parameter  | Mandatory | Type       | Description              |
|------------|-----------|------------|--------------------------|
| pAddresses | Yes       | NSString * | Guaranteed IP addresses. |

##### Return Values

Whether the API is successfully called.

##### Sample Code

```
[[HWMBizSdk getBizOpenApi] setGuaranteedIpAddresses:guaranteelpAdrrs];
```

### 7.4.1.10 Setting a Bundle ID of the Screen Sharing Extension

#### setScreenShareExtensionBundleId:

##### API Description

This API is used to set a bundle ID of the screen sharing extension.

##### Precautions

1. This API is optional. If it is not called, the bundle ID used to start the screen sharing extension is **generated in the default format**.

##### Method Definition

```
+ (void)setScreenShareExtensionBundleId:(NSString *)bundleId;
```

##### Parameter Description

**Table 7-15** Parameter description

| Parameter | Mandatory | Type       | Description                                |
|-----------|-----------|------------|--|
| bundleId  | Yes       | NSString * | Bundle ID of the screen sharing extension. |

**Return Values**

None

**Sample Code**

```
[HWMSdk setScreenShareExtensionBundleId:setScreenShareExtensionBundleId];
```

## 7.4.2 Account Operations

### 7.4.2.1 Login

You can log in using an account and password, or using an app ID.

**login:password:****API Description**

This API is used for login using an account and password.

**Precautions**

1. You must log in to Huawei Cloud Meeting before using functions such as creating meetings and being invited into meetings. If you do not log in, you cannot experience complete meeting functions.
2. **Error:** Error information. **nil:** Success.

**Method Definition**

```
-(void)login:(NSString * _Nonnull )account password:( NSString * _Nonnull )password callback:( _Nonnull HWMSDKLoginCompleteHandler)callback;
```

**Parameter Description****Table 7-16** Parameter description

| Parameter | Man<br>dato<br>ry | Type                           | Description   |
|-----------|-------------------|--------------------------------|---|
| account   | Yes               | NSString *                     | Login account.  |
| password  | Yes               | NSString *                     | Login password.                                       |
| callback  | No                | HWMSDKLoginComp<br>leteHandler | <b>Error:</b> Error information. <b>nil:</b> Success. |

## Return Values

**Table 7-17** HWMLoginResult description

| Parameter    | Type       | Description                                    |
|--------------|------------|--|
| userId       | NSString * | Account UUID.                                  |
| account      | NSString * | Login account.                                 |
| thirdAccount | NSString * | Third-party account for login using an app ID. |

## Sample Code

```
/// Login
/// It is recommended that accounts and passwords used for authentication be stored in ciphertext in the
/// configuration file or as environment variables and be decrypted during usage.
- (void)login {
    NSString *account = getAccount();
    NSString *password = getPassword();
    [[HWMSdk getOpenApi] login:account password:password callback:^(NSError * _Nullable error,
HWMLoginResult * _Nullable result) {
        if (error == nil) {
            NSLog(@"Login succeeded.");
        }else{
            NSLog(@"Login failed.");
        }
    }
};
```

## login:

### API Description

This API is used for login using an app ID.

### Precautions

1. You must log in to Huawei Cloud Meeting before using functions such as creating meetings and being invited into meetings. If you do not log in, you cannot experience complete meeting functions.
2. **Error:** Error information. **nil:** Success.

### Method Definition

```
- (void)login:(HWMAppIDLoginParam *)appidInfo callback:(HWMSDKLoginCompleteHandler)callback;
```

### Parameter Description

**Table 7-18** HWMAppIDLoginParam description

| Parameter | Mandato<br>ry | Type       | Description  |
|-----------|---------------|------------|--|
| signature | Yes           | NSString * | Authentication signature obtained from the third-party server. |



| Parameter   | Mandatory | Type       | Description  |
|-------------|-----------|------------|--|
| thirdUserId | Yes       | NSString * | Third-party account.   |
| expireTime  | Yes       | NSInteger  | Signature expiration time. The value is a timestamp in seconds. If the value is 0, the signature will not expire.  |
| nonce       | Yes       | NSString * | Random number.   |
| userName    | No        | NSString * | Username.  |
| userEmail   | No        | NSString * | Email address.   |
| userPhone   | No        | NSString * | Mobile number.   |
| corpId      | No        | NSString * | ID of the enterprise to which the user belongs. This parameter is mandatory only in SP mode. Do not set this parameter in single-enterprise mode. Otherwise, the authentication will fail. |
| deptCode    | No        | NSString * | Department code.   |

### Return Values

For details, see [Table 7-17](#).

### Sample Code

```
/// App ID login API
- (void)login {
    HWMAppIDLoginParam *appidInfo = [[HWMAppIDLoginParam alloc] init];
    appidInfo.thirdUserId = getThirdUserId();
    appidInfo.expireTime = 1599618620;
    appidInfo.nonce = getNonce();
    appidInfo.userName = getUserName();
    appidInfo.signature = getSignature();
    [[HWM SDK getOpenApi] login:appidInfo callback:^(NSError * _Nullable error, HWMLoginResult *
    _Nullable result) {
        if (error == nil) {
            NSLog(@"Login succeeded.");
        }else{
            NSLog(@"Login failed.");
        }
    }
    }
};
```

## loginBySSO:

### API Description

This API is used for login using SSO authentication.

### Precautions

1. You must log in to Huawei Cloud Meeting before using functions such as creating meetings and being invited into meetings. If you do not log in, you cannot experience complete meeting functions.
2. **Error:** Error information. **nil:** Success.

### Method Definition

```
- (void)loginBySSO:(HWMSSOLoginParam)param callback:(Nonnull  
HWMSDKLoginCompleteHandler)callback;
```

### Parameter Description

**Table 7-19** HWMSSOLoginParam description

| Parameter      | Mandatory | Type              | Description                 |
|----------------|-----------|-------------------|-----------------------------|
| domain         | Yes       | NSString *        | Enterprise domain name.     |
| userTicket     | Yes       | NSString *        | code                        |
| authServerType | Yes       | HWMAuthServerType | Authentication server type. |

**Table 7-20** Enumerated value of HWMAuthServerType

| Value                      | Description |
|----------------------------|-------------|
| HWMSDKAuthServerTypeOAuth2 | SSO         |

### Return Values

**Table 7-17**

#### Sample Code

```
/// SSO login API  
[[HWM SDK getOpenApi] loginBySSO:ssoLoginParam callback:^(NSError * _Nullable error, HWMLoginResult  
*_Nullable result) {  
    if (error) {  
        [UIUtil showMessageWithError:error];  
    } else {  
        [UIUtil showMessage:@"SSO login succeeded." error:error];  
    }  
}];
```

## 7.4.2.2 Logout

### logout

#### API Description

This API is used to log out of a meeting account.

#### Precautions

1. Call this API only when you have logged in.
2. **error**: Error information. **nil**: Success.

### Method Definition

```
- (void)logout:(_Nonnull HWMSDKLogoutCompleteHandler)callback;
```

### Parameter Description

None

### Return Values

**Table 7-21** HWMLogoutResult description

| Parameter    | Type       | Description                                    |
|--------------|------------|--|
| userId       | NSString * | Account UUID.                                  |
| account      | NSString * | Login account.                                 |
| thirdAccount | NSString * | Third-party account for login using an app ID. |

### Sample Code

```
/// Logout
- (void)logout {
    [[HWMSdk getOpenApi] logout:^(NSError * _Nullable error, HWMLogoutResult * _Nullable result) {
        if (error == nil) {
            NSLog(@"Logout succeeded.");
        } else {
            NSLog(@"Logout failed.");
        }
    }];
}
```

## 7.4.2.3 Uploading a Profile Picture

### uploadSelfAvatarWithFilePath:callback:

#### API Description

This API is used to upload a profile picture.

#### Precautions

1. The file path is the profile picture path.
2. The maximum size is 200 KB.
3. Only JPG and PNG files are supported.
4. The recommended aspect ratio is 1:1.
5. **error**: Error information. **nil**: Success.

### Method Definition

```
- (void)uploadSelfAvatarWithFilePath:(NSString * _Nullable)filePath callback:(_Nonnull HWMSDKCompleteHandler)callback;
```

### Parameter Description

Table 7-22

| Parameter | Mandatory | Type       | Description                |
|-----------|-----------|------------|----------------------------|
| filePath  | No        | NSString * | Profile picture file path. |

### Return Values

None

### Sample Code

```
/// Upload a profile picture.
- (void)uploadSelfAvatar {
    [[HWMBizSdk getBizOpenApi] uploadSelfAvatarWithFilePath:self.headImgPath callback:^(NSError *
_Nullable error, id _Nullable result) {
        if (error) {
            [UIUtil showMessage:[NSString stringWithFormat:@"Failed to upload %@",
error.localizedDescription]];
        } else {
            [UIUtil showMessage:@"Upload succeeded."];
        }
    }];
}
```

## 7.4.3 UI Customization

You can customize meeting control menus as required.

### NOTE

The sample code listed in this section is the default code of SDK. You can modify the code as required. Note that the value of the **type** parameter cannot be the same as that of [HWMConfCtrlType](#) in the SDK.

### 7.4.3.1 Configuring the UI

Set delegates for the custom pages as required. This operation can be performed when you initialize or use the SDK.

```
[HWMSdk getSdkConfig].socialShareHandler = <#Delegate#>; // (Optional) Customizes the social sharing capability during a meeting.
[HWMSdk getSdkConfig].audioConfToolBarHandler = <#Delegate#>; // (Optional) Customizes the meeting control menu of a voice meeting.
[HWMSdk getSdkConfig].videoConfToolBarHandler = <#Delegate#>; // (Optional) Customizes the meeting control menu of a video meeting.
[HWMSdk getSdkConfig].participantListMenuHandler = <#Delegate#>; // (Optional) Customizes the participant list menu.
[HWMSdk getSdkConfig].confTitleBarMenuHandler = <#Delegate#>; // (Optional) Customizes the title bar on the top of the meeting page.
[HWMSdk getSdkConfig].contactUIHandler = <#Delegate#>; // (Optional) Customizes the contact UI.
[HWMSdk getSdkConfig].headPortraitApiHandler = <#Delegate#>; // (Optional) Customizes the profile picture display.
[HWMSdk getSdkConfig].customUITextHandler = <#Delegate#>; // (Optional) Customizes the text for a specific scenario.
[HWMSdk getSdkConfig].customImageHandler = <#Delegate#>; // (Optional) Customizes the image for a specific scenario.
[HWMSdk getSdkConfig].virtualBackgroundHandler = <#Delegate#>; // (Optional) Customizes a virtual background.
```

### UI Customization Items

**Table 7-23** HWMConfMenuItem description

| Parameter     | Type  | Description  |
|---------------|---|--|
| type          | <a href="#">HWMConfCtrlType</a>             | Meeting control type.                                  |
| text          | NSString *                                  | Normal text.   |
| highlightText | NSString *                                  | Highlighted text.                                      |
| selectedText  | NSString *                                  | Selected text.   |
| isSelected    | BOOL  | Whether to select the item. Default value: <b>NO</b> . |
| clickEvent    | void(^clickEvent)<br>(HWMConfCtrlType type) | Callback triggered when you click an item.             |

**Table 7-24** HWMConfToolBarMenuItem description (inherited from HWMConfMenuItem)

| Parameter              | Type  | Description                                |
|------------------------|---|--|
| image                  | UIImage *   | Common image.                              |
| highlightImage         | UIImage *   | Highlighted image.                         |
| selectedImage          | UIImage *   | Selected image.                            |
| selectedHighlightImage | UIImage *   | Image that is selected and highlighted.    |
| disableImage           | UIImage *   | Image that cannot be clicked.              |
| menuClickEvent         | void(^menuClickEvent)<br>(HWMConfCtrlType type, UIButton *menuItemBtn); | Callback triggered when you click an item. |

**Table 7-25** HWMConfMenuItem description (inherited from HWMConfMenuItem)

| Parameter     | Type                                | Description               |
|---------------|-------------------------------------|---------------------------|
| nemuType      | <a href="#">HWMConfMenuItemType</a> | Enumerated display types. |
| image         | UIImage *                           | Common image.             |
| selectedImage | UIImage *                           | Selected image.           |

**Table 7-26** HWMConfSettingItem description (inherited from HWMConfMenuItem)

| Parameter   | Type  | Description   |
|-------------|---|---|
| viewType    | <a href="#">HWMConfSettingView-Type</a>                                   | Enumerated display types.   |
| switchEvent | void (^ switchEvent)<br>(HWMConfCtrlType type,<br>UISwitch *actionSwitch) | Switch event callback. It is implemented only for <b>HWMConfSettingItem-TypeSwitch</b> . <b>actionSwitch</b> indicates this switch. |

**Table 7-27** HWMConfParticipantActionMenuItem description (inherited from HWMConfMenuItem)

| Parameter        | Type   | Description                                |
|------------------|--|--|
| actionClickEvent | void(^actionClickEvent)<br>(HWMConfCtrlType type,<br><a href="#">HWMConfParticipant</a><br>*participant) | Callback triggered when you click an item. |

**Table 7-28** HWMConfParticipant description

| Parameter     | Type                         | Description                                       |
|---------------|------------------------------|---|
| participantId | NSString *                   | Unique participant identifier.                    |
| name          | NSString *                   | Participant name.                                 |
| number        | NSString *                   | Number.   |
| accountId     | NSString *                   | UUID of an account.                               |
| isMute        | BOOL                         | Whether the microphone is muted.                  |
| isHandup      | BOOL                         | Whether the participant raises hands.             |
| isBroadcast   | BOOL                         | Whether the participant is being broadcast.       |
| isSelf        | BOOL                         | Whether the participant is the local participant. |
| role          | <a href="#">ConfRoleType</a> | Participant role.                                 |

| Parameter        | Type                                       | Description  |
|------------------|--|--|
| state            | <a href="#">ConfParticipantStatus-Type</a> | Participant status.  |
| mediaType        | NSUInteger                                 | Media type.  |
| isAnonymous      | BOOL                                       | Whether the participant is anonymous.  |
| isChairman       | BOOL                                       | Whether the participant is the host.   |
| userId           | NSUInteger                                 | User ID.   |
| clientDeviceType | <a href="#">HWMClientDeviceType</a>        | Client device type.  |
| isMainSpeaker    | BOOL                                       | Whether the participant is the speaker with the top priority.  |
| displayName      | NSString *                                 | By default, the participant name is displayed. If the participant is the local participant, "Me" is added. |
| pinyinName       | NSString *                                 | Chinese name in Pinyin.  |
| isAudioJoined    | BOOL                                       | Whether the call is a voice call.  |
| cameraState      | <a href="#">HWMConfCameraState</a>         | Camera status.   |
| orgId            | NSString *                                 | Enterprise ID.   |

**Table 7-29** Enumerated values of HWMConfCtrlType (Default meeting control types in the SDK. Enumerated values will be added continuously. It is advised to start your custom enumerated values from 1,000.)

| Enumerated Value    | Value | Description                    |
|---------------------|-------|--------------------------------|
| ConfCtrlMute        | 1     | Mute or unmute the microphone. |
| ConfCtrlVideo       | 2     | Enable or disable the camera.  |
| ConfCtrlScreenShare | 3     | Start or stop screen sharing.  |
| ConfCtrlAttendee    | 4     | Participant list.              |
| ConfCtrlMore        | 5     | More.                          |
| ConfCtrlLoudSpeaker | 6     | Speaker or microphone.         |

| Enumerated Value            | Value | Description  |
|-----------------------------|-------|--|
| ConfCtrlTransToVideo        | 7     | Switch a voice call to a video call.               |
| ConfCtrlTransToAudio        | 8     | Switch a video call to a voice call.               |
| ConfCtrlMuteAll             | 9     | Mute all participants.                             |
| ConfCtrlUnmuteAll           | 10    | Unmute all participants.                           |
| ConfCtrlHandup              | 11    | Raise hands.                                       |
| ConfCtrlRequestChairman     | 12    | Apply to be the host.                              |
| ConfCtrlReleaseChairman     | 13    | Relinquish the host role.                          |
| ConfCtrlTransferChairman    | 14    | Transfer the host role.                            |
| ConfCtrlBroadcast           | 15    | Broadcast a participant.                           |
| ConfCtrlCallOtherNumber     | 16    | Call other numbers.                                |
| ConfCtrlChangeNickName      | 17    | Change the display name in the meeting.            |
| ConfCtrlHangup              | 18    | Hang up a participant.                             |
| ConfCtrlRecall              | 19    | Recall a participant.                              |
| ConfCtrlWatch               | 20    | Focus on a participant or cancel focus.            |
| ConfCtrlAllowAttendeeUnmute | 21    | Allow or forbid participants to unmute themselves. |
| ConfCtrlRecord              | 22    | Start or stop recording.                           |
| ConfCtrlAddressBook         | 23    | Contacts.  |
| ConfCtrlShare               | 24    | Social sharing.                                    |
| ConfCtrlSwitchCamera        | 25    | Switch between front and rear cameras.             |
| ConfCtrlHideSmallVideo      | 26    | Hide self view.                                    |
| ConfCtrlLock                | 27    | Lock the meeting.                                  |
| ConfCtrlInvite              | 28    | Invite participants.                               |
| ConfCtrlBeauty              | 29    | Beautification.                                    |
| ConfCtrlHowlDetection       | 30    | Detect feedback.                                   |
| ConfCtrlLockShare           | 31    | Lock sharing.                                      |
| ConfCtrlQRScan              | 32    | Scan a QR code.                                    |



| Enumerated Value                      | Value | Description   |
|---------------------------------------|-------|---|
| ConfCtrlNetworkDetect                 | 33    | Check network quality.                                      |
| ConfCtrlFeedback                      | 34    | Provide feedback.   |
| ConfCtrlRemoveAttendee                | 35    | Remove participants.  |
| ConfCtrlChat                          | 36    | Chat.   |
| ConfCtrlSetting                       | 37    | Configure the meeting.                                      |
| ConfCtrlInterpret                     | 38    | Interpret.  |
| ConfCtrlAllowedSpeak                  | 39    | Allow attendees to speak.                                   |
| ConfCtrlAllowAudience-Watch           | 40    | Enable or disable attendee view.                            |
| ConfCtrlCoHost                        | 41    | Assign or unassign as a co-host.                            |
| ConfCtrlLocalRecordSet-Mode           | 42    | Configure local recording permissions.                      |
| ConfCtrlLocalRecord-GrantAttendee     | 43    | Allow or forbid participant recording.                      |
| ConfCtrlSwitchAudienceAndAttendee     | 44    | Switch roles between attendee and panelist.                 |
| ConfCtrlViewDetails                   | 45    | View details.   |
| ConfCtrlAllowJoinConf                 | 46    | Set users who can join the meeting.                         |
| ConfCtrlWaitingRoom                   | 47    | Waiting room.   |
| ConfCtrlAllowChat                     | 48    | Allow chat.   |
| ConfCtrlMoveToWaiting-Room            | 49    | Move a participant to the waiting room.                     |
| ConfCtrlAdmitWaiting-RoomParticipant  | 50    | Allow a waiting room member to join the meeting.            |
| ConfCtrlRemoveWaiting-RoomParticipant | 51    | Remove a member from the waiting room.                      |
| ConfCtrlInviteScreen-Share            | 52    | Invite a participant to share the screen or cancel sharing. |
| ConfCtrlChatRemind                    | 53    | Configure chat message notification.                        |
| ConfCtrlMirror                        | 54    | Video mirroring.  |
| ConfCtrlAllowAttendeeOpenCamera       | 55    | Allow participants to enable the camera.                    |
| ConfCtrlReport                        | 56    | Report a participant.                                       |

| Enumerated Value                        | Value | Description   |
|---|-------|---|
| ConfCtrlAllowRename                     | 57    | Allow renaming.   |
| ConfCtrlPrivateChat                     | 59    | Direct messaging.   |
| ConfCtrlVirtualBackground               | 60    | Virtual background.   |
| ConfCtrlHideFloatMicro                  | 61    | Hide the floating view.                                     |
| ConfCtrlLiveBroadcast                   | 62    | Live broadcast  |
| ConfCtrlHDPREFERRED                     | 63    | HD preferred.   |
| ConfCtrlPicRatio                        | 64    | Video ratio.  |
| ConfCtrlNoiseReduction                  | 65    | Noise reduction.  |
| ConfCtrlRetrieveChairman                | 66    | Claim the host role.  |
| ConfCtrlEnhanceVideoQuality             | 67    | Adjust lighting.  |
| ConfCtrlPreemptSharePermission          | 68    | Sharing interruption permission.                            |
| ConfCtrlAutoAdmitWaitingRoomParticipant | 69    | Automatically admit the user to the meeting.                |
| ConfCtrlSubtitle                        | 70    | Enable or disable live captions.                            |
| ConfCtrlSubtitleLanguage                | 71    | Select the live caption language.                           |
| ConfCtrlCameraPermission                | 72    | Camera permissions.   |
| ConfCtrlLeaveAndLogout                  | 73    | Leave this meeting and log out.                             |
| ConfCtrlAudioConnect                    | 74    | Automatically connect to audio after joining the meeting.   |
| ConfCtrlAllowAttendeeAnnotate           | 75    | Allow everyone to annotate.                                 |
| ConfCtrlAutoMute                        | 76    | Automatically mute participants when they join the meeting. |
| ConfCtrlAdmitAll                        | 77    | Admit all waiting members to the meeting.                   |
| ConfCtrlRemoveAll                       | 78    | Remove all members from the waiting room.                   |
| ConfCtrlRecallAll                       | 79    | Call all absent participants.                               |
| ConfCtrlShareAtSameTime                 | 80    | Allow simultaneous sharing.                                 |

| Enumerated Value       | Value | Description             |
|------------------------|-------|-------------------------|
| ConfCtrlBroadcastShare | 81    | Broadcast presentation. |

**Table 7-30** Enumerated values of HWMConfMenuItemType

| Enumerated Value              | Description  |
|-------------------------------|--|
| HWMConfMenuItemTypeNormal     | Common image and text.   |
| HWMConfMenuItemTypeEnter      | Text on the left + Enter button with the arrow on the right.     |
| HWMConfMenuItemTypeRightBadge | Text on the left + Badge on the right (not available currently). |

**Table 7-31** Enumerated values of HWMConfSettingViewType

| Enumerated Value             | Description                             |
|------------------------------|---|
| HWMConfSettingViewTypeSwitch | Text on the left + Switch on the right. |
| HWMConfSettingViewTypeEnter  | Text on the left + Arrow on the right.  |

**Table 7-32** Enumerated values of ConfRoleType

| Enumerated Value     | Description |
|----------------------|-------------|
| ConfRoleTypeAttendee | Guest.      |
| ConfRoleTypeChairman | Host.       |
| ConfRoleTypeAudience | Attendee.   |
| ConfRoleTypeCohost   | Co-host.    |

**Table 7-33** Enumerated values of ConfParticipantStatusType

| Enumerated Value             | Description                        |
|------------------------------|------------------------------------|
| ConfParticipantStatusIn-Conf | The participant is in the meeting. |

| Enumerated Value                 | Description                                |
|----------------------------------|--|
| ConfParticipantStatus-Calling    | The participant is being called.           |
| ConfParticipantStatus-Joining    | The participant is joining the meeting.    |
| ConfParticipantStatus-Leaved     | The participant has left the meeting.      |
| ConfParticipantStatus-NoExist    | The user does not exist.                   |
| ConfParticipantStatus-Busy       | The called party is busy.                  |
| ConfParticipantStatus-NoAnswer   | The called party does not answer the call. |
| ConfParticipantStatus-Reject     | The called party rejects the call.         |
| ConfParticipantStatus-CallFailed | Call failed.                               |

**Table 7-34** Enumerated values of HWMClientDeviceType

| Enumerated Value            | Description    |
|-----------------------------|----------------|
| HWMClientDeviceType-Desktop | PC client.     |
| HWMClientDeviceType-Mobile  | Mobile app.    |
| HWMClientDeviceType-Pad     | Tablet client. |
| HWMClientDeviceType-Other   | Others.        |

**Table 7-35** Enumerated values of HWMConfCameraState

| Enumerated Value         | Description |
|--------------------------|-------------|
| HWMConfCameraState-Close | Disabled.   |
| HWMConfCameraState-Open  | Enabled.    |

| Enumerated Value           | Description |
|----------------------------|-------------|
| HWMConfCameraStateUnknown  | Unknown.    |
| HWMConfCameraStateNoCamera | No camera.  |

### 7.4.3.2 Clearing UI Configurations

If you need to clear proxies, set the corresponding values to **nil**.

[HWM SDK getSdkConfig].socialShareHandler = nil; // (Optional) Customizes the social sharing capability during a meeting.

[HWM SDK getSdkConfig].audioConfToolBarHandler = nil; // (Optional) Customizes the meeting control menu of a voice meeting.

[HWM SDK getSdkConfig].videoConfToolBarHandler = nil; // (Optional) Customizes the meeting control menu of a video meeting.

[HWM SDK getSdkConfig].participantListMenuHandler = nil; // (Optional) Customizes the participant list menu.

[HWM SDK getSdkConfig].confTitleBarMenuHandler = nil; // (Optional) Customizes the title bar on the top of the meeting page.

[HWM SDK getSdkConfig].contactUIHandler = nil; // (Optional) Customizes the contact UI.

[HWM SDK getSdkConfig].headPortraitApiHandler = nil; // (Optional) Customizes the profile picture display.

[HWM SDK getSdkConfig].customUITextHandler = nil; // (Optional) Customizes the text for a specific scenario.

[HWM SDK getSdkConfig].customImageHandler = nil; // (Optional) Customizes the image for a specific scenario.

[HWM SDK getSdkConfig].virtualBackgroundHandler = nil; // (Optional) Customizes a virtual background.

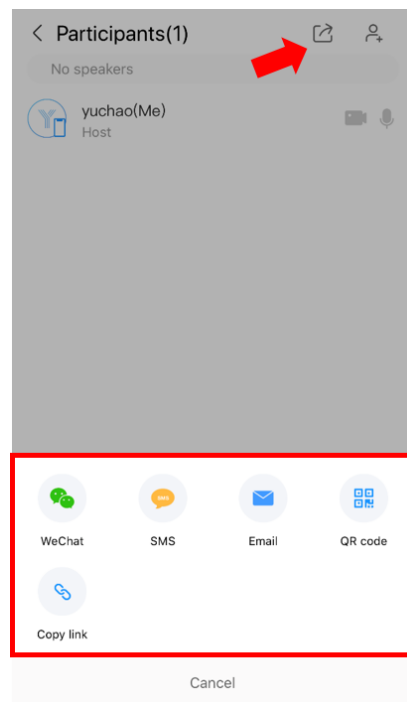
### 7.4.3.3 Customizing Social Sharing

#### shareConf:isAnonymous:inCtrl

##### API Description

This API is used to block meeting sharing. After the setting, the default sharing pop-up window of the SDK (shown in the following figure) will be blocked.

**Figure 7-34** Sharing pop-up window



### Precautions

1. If the **shareConf:isAnonymous:inCtrl** method is implemented, it will be called when you try to use the sharing function in a meeting.
2. In addition, the SDK internal sharing UI and meeting QR code will not be displayed. In this case, **getShareLogolImages** and **getBrandName** settings are invalid.

### Method Definition

```
- (void)shareConf:(HWMConfDetail *)confInfo isAnonymous:(BOOL)isAnonymous inCtrl:(UIViewController *)controller;
```

### Parameter Description

**Table 7-36** Parameter description

| Parameter   | Type                            | Description   |
|-------------|---------------------------------|---|
| confInfo    | <a href="#">HWMConfDetail</a> * | Meeting information.  |
| isAnonymous | BOOL                            | Whether to join the meeting anonymously.  |
| controller  | UIViewController *              | View controller. The custom sharing page can be displayed on the controller for the access party. |

**Table 7-37** HWMConfDetail description

| Parameter    | Type       | Description            |
|--------------|------------|------------------------|
| confId       | NSString * | Meeting ID.            |
| confSubject  | NSString * | Meeting topic.         |
| accessNumber | NSString * | Meeting access number. |
| chairmanPwd  | NSString * | Host password.         |
| generalPwd   | NSString * | Guest password.        |
| startTime    | NSString * | Meeting start time.    |
| endTime      | NSString * | Meeting end time.      |

### Return Values

None

### Sample Code

```

/// After the setting takes effect, the SDK internal sharing pop-up window will be blocked.
- (void)shareConf:(HWMConfDetail *)confInfo isAnonymous:(BOOL)isAnonymous inCtrl:(UIViewController
*)controller {
    NSLog(@"enter share conf");
    ShareView *shareView = [[ShareView alloc] init];
    [shareView showShareView:^(NSInteger index) {
        [UIUtil showMessage:[NSString stringWithFormat:@" Click button {xx}.", index + 1]];
    }];
}

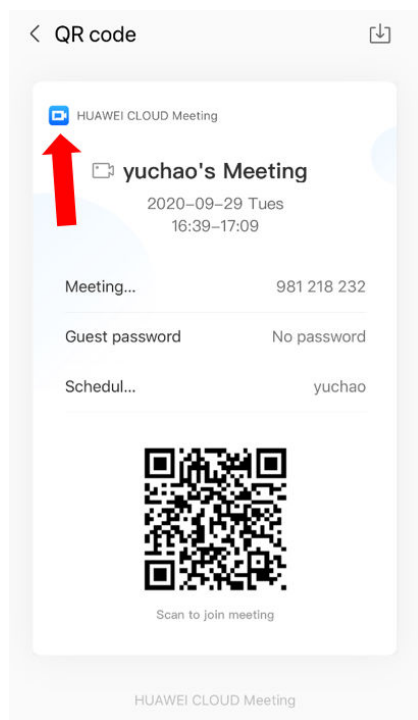
```

## getShareLogoImages

### API Description

This API is used to set a logo on the meeting QR code sharing page.

**Figure 7-35** Customizing a logo on the meeting QR sharing page



### Precautions

1. The logo array contains one logo.
2. The `getShareLogoImages` method cannot coexist with the `shareConf:isAnonymous:inCtrl` method. If they coexist, the `getShareLogoImages` method does not take effect.

### Method Definition

```
-(NSArray <UIImage *>*)getShareLogoImages;
```

### Parameter Description

| Parameter          | Type                 | Description                                     |
|--------------------|----------------------|---|
| getShareLogoImages | NSArray <UIImage *>* | Logo array on the meeting QR code sharing page. |

### Return Values

None

### Sample Code

```
/// Set a logo array (containing one logo) on the meeting QR code sharing page.
-(NSArray<UIImage *> *)getShareLogoImages {
    UIImage * image = [UIImage imageNamed:@""];
    return @[image];
}
```

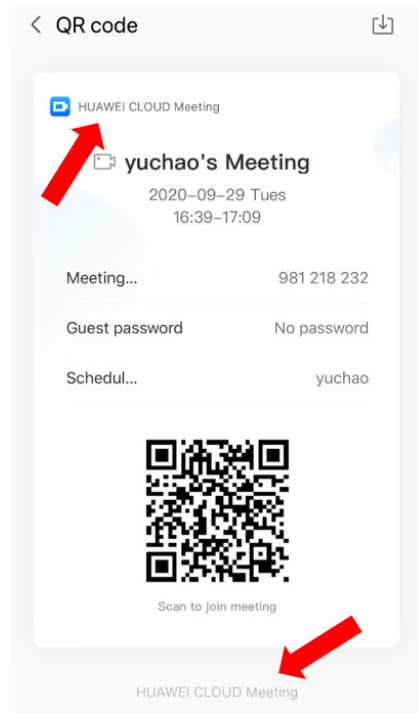


## getBrandName

### API Description

This API is used to set a brand name on the meeting QR code sharing page.

**Figure 7-36** Customizing a brand name on the meeting QR code sharing page



### Precautions

1. The **getBrandName** method cannot coexist with the **shareConf:isAnonymous:inCtrl** method. If they coexist, the **getBrandName** method does not take effect.

### Method Definition

```
- (NSString *)getBrandName;
```

### Parameter Description

| Parameter    | Type       | Description                                     |
|--------------|------------|---|
| getBrandName | NSString * | Brand name on the meeting QR code sharing page. |

### Return Values

None

### Sample Code

```
/// Set a brand name on the meeting QR code sharing page.  
- (NSString *)getBrandName {
```

```
return @"Integrated brand name";  
}
```

### 7.4.3.4 Customizing the Bottom Toolbar

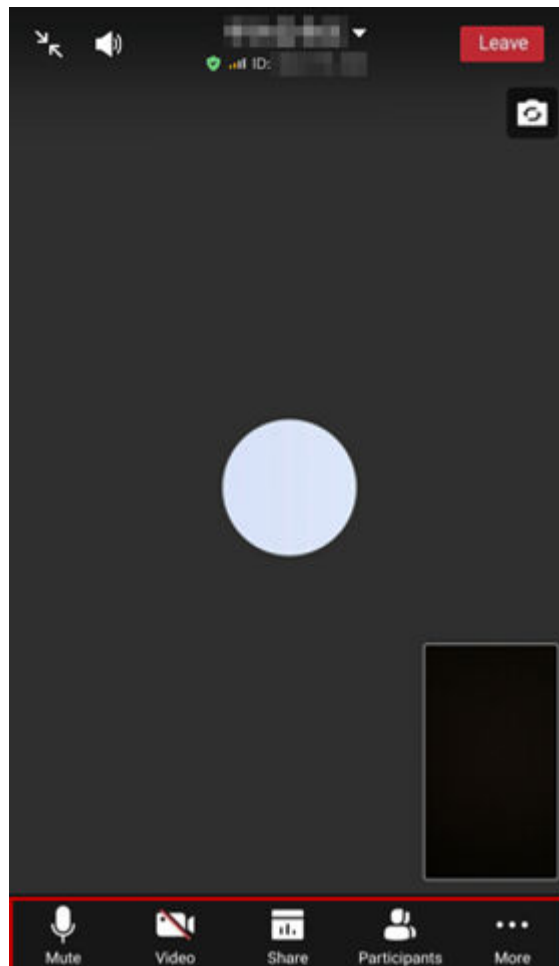
This section uses a video meeting as an example, and is also applicable to voice meetings.

#### buildToolBarMenuItems

##### API Description

This API is used to customize a meeting control menu at the bottom of a video meeting.

**Figure 7-37** Customizing a meeting control menu at the bottom of a video meeting



##### Precautions

1. This method is used to customize a meeting control menu at the bottom of a video meeting.

##### Method Definition

```
-(NSArray <HWConfToolBarMenuItem *> *)buildToolBarMenuItems;
```

### Parameter Description

None

### Return Values

None

### Sample Code

```
/// Customize a meeting control menu at the bottom of a video meeting.
- (NSArray <HWMConfToolBarMenuItem *> *)buildToolBarMenuItems {
    // Mute or unmute the microphone.
    HWMConfToolBarMenuItem *micItem = [HWMConfToolBarMenuItem defaultMicItem];
    // Turn on or off the camera.
    HWMConfToolBarMenuItem *videoItem = [HWMConfToolBarMenuItem defaultVideoItem];
    // Start or stop screen sharing.
    HWMConfToolBarMenuItem *screenShareItem = [HWMConfToolBarMenuItem defaultScreenShareItem];
    // Participant list.
    HWMConfToolBarMenuItem *attendeeltem = [HWMConfToolBarMenuItem defaultAttendeeltem];
    // Customize More.
    HWMConfToolBarMenuItem *moreItem = [HWMConfToolBarMenuItem defaultMoreItem];

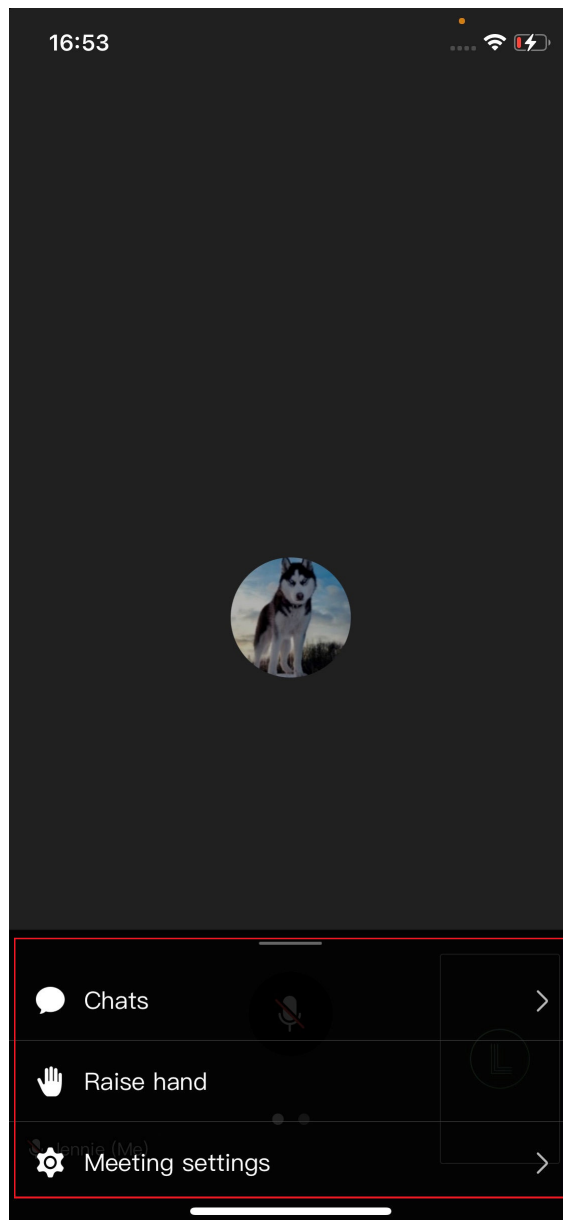
    return @[micItem, videoItem, screenShareItem, attendeeltem, moreItem];
}
```

## buildToolBarMoreMenuItems

### API Description

This API is used to customize the **More** menu at the bottom of a video meeting.

**Figure 7-38** Customizing the **More** menu at the bottom of a video meeting



### Precautions

None

### Method Definition

```
- (NSArray <HWMLConfMenuItem *> *)buildToolBarMoreMenuItems
```

### Parameter Description

None

### Return Values

None

### Sample Code

```
/// Customize the More menu at the bottom of a video meeting.
- (NSArray <HWMConfMenuItem *> *)buildToolBarMoreMenuItems {
    // Chat.
    HWMConfMenuItem *chatItem = [HWMConfMenuItem defaultChatItem];
    // Invite participants.
    HWMConfMenuItem *inviteItem = [HWMConfMenuItem defaultInviteItem];
    // Record the meeting.
    HWMConfMenuItem *recordItem = [HWMConfMenuItem defaultRecordItem];
    // Raise hands.
    HWMConfMenuItem *raiseHandsItem = [HWMConfMenuItem defaultRaiseHandsItem];
    // Switch cameras.
    HWMConfMenuItem *switchCameraItem = [HWMConfMenuItem defaultSwitchCameraItem];
    // Customize meeting settings.
    HWMConfMenuItem *settingItem = [HWMConfMenuItem defaultSettingItem];

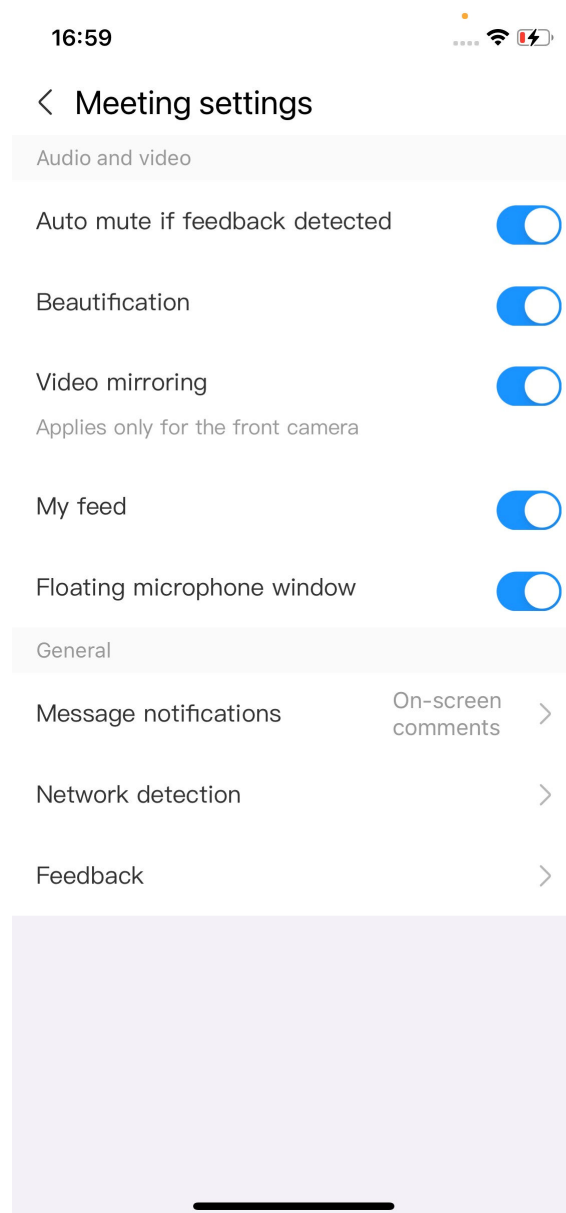
    return @[chatItem, inviteItem, recordItem, raiseHandsItem, switchCameraItem, settingItem];
}
```

## buildSettingItems

### API Description

This API is used to customize the meeting settings under **More** of a video meeting.

**Figure 7-39** Customizing the meeting settings under **More** of a video meeting



### Precautions

None

### Method Definition

```
- (NSArray <HWMConfSettingGroup *> *)buildSettingItems;
```

### Parameter Description

None

### Return Values

None

### Sample Code

```
// Customize the meeting settings under More in a video meeting.
- (NSArray <HWMConfSettingGroup *> *)buildSettingItems {
    HWMConfSettingGroup *audioVideoGroup = [[HWMConfSettingGroup alloc] initWithTitle:@"Voice/Video"];
    HWMConfSettingItem *howlItem = [HWMConfSettingItem defaultHowlDetection];
    HWMConfSettingItem *beautyItem = [HWMConfSettingItem defaultBeautyItem];
    HWMConfSettingItem *hideSmallViewItem = [HWMConfSettingItem defaultHideSmallVideoItem];
    audioVideoGroup.items = @[howlItem, beautyItem, hideSmallViewItem];

    HWMConfSettingGroup *securityGroup = [[HWMConfSettingGroup alloc] initWithTitle:@"Security"];
    HWMConfSettingItem *lockItem = [HWMConfSettingItem defaultLockItem];
    securityGroup.items = @[lockItem];

    HWMConfSettingGroup *authorityGroup = [[HWMConfSettingGroup alloc] initWithTitle:@"Permissions"];
    HWMConfSettingItem *allowUnmuteItem = [HWMConfSettingItem defaultAllowAttendeeUnmuteItem];
    HWMConfSettingItem *shareLockItem = [HWMConfSettingItem defaultLockShareItem];
    authorityGroup.items = @[allowUnmuteItem, shareLockItem];

    HWMConfSettingGroup *commonGroup = [[HWMConfSettingGroup alloc] initWithTitle:@"General"];
    HWMConfSettingItem *networkDetectItem = [HWMConfSettingItem defaultNetworkDetectItem];
    HWMConfSettingItem *feedbackItem = [HWMConfSettingItem defaultFeedbackItem];
    commonGroup.items = @[networkDetectItem, feedbackItem];

    return @[audioVideoGroup, securityGroup, authorityGroup, commonGroup];
}
```

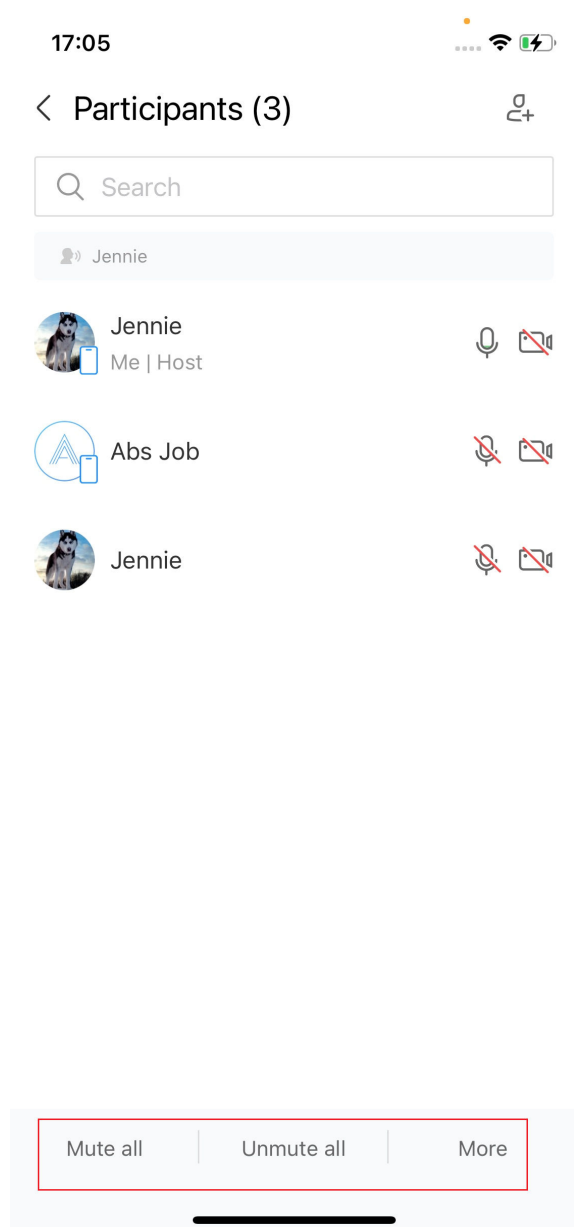
### 7.4.3.5 Customizing a Menu on the Participants Screen

#### buildParticipantToolBarMenuItems

##### API Description

This API is used to customize a menu at the bottom of the **Participants** screen.

**Figure 7-40** Menu position on the Participants screen



### Precautions

None

### Method Definition

```
- (NSArray <HWMConfToolBarMenuItem *> *)buildParticipantToolBarMenuItems;
```

### Parameter Description

None

### Return Values

None

### Sample Code



```
/// Customize a menu at the bottom of the Participants screen.
- (NSArray <HWMConfToolBarMenuItem *> *)buildParticipantToolBarMenuItems{
    // Mute all participants.
    HWMConfToolBarMenuItem *muteAllItem = [HWMConfToolBarMenuItem defaultMuteAllItem];
    // Unmute all participants.
    HWMConfToolBarMenuItem *unmuteAllItem = [HWMConfToolBarMenuItem defaultUnmuteAllItem];
    // Customize More.
    HWMConfToolBarMenuItem *moreItem = [HWMConfToolBarMenuItem defaultMemberListMoreItem];
    // Raise hands.
    HWMConfToolBarMenuItem *handupItem = [HWMConfToolBarMenuItem defaultHandupItem];
    // Apply to be the host.
    HWMConfToolBarMenuItem *requestChairmanItem = [HWMConfToolBarMenuItem
defaultRequestChairmanItem];

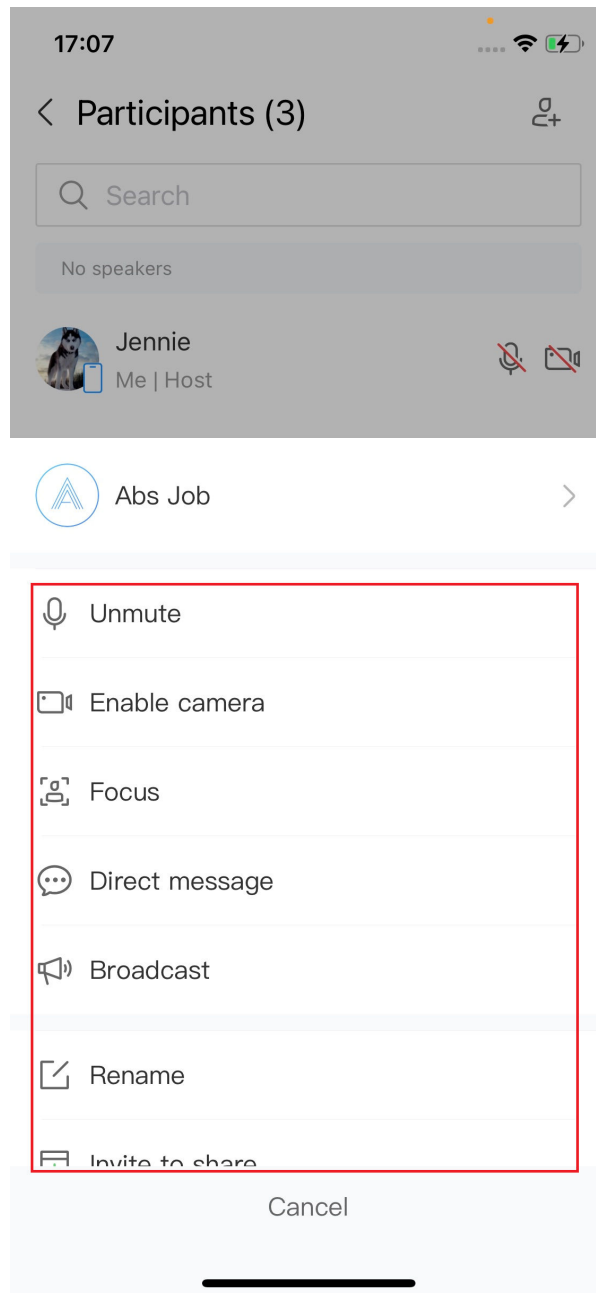
    return @[muteAllItem, unmuteAllItem, moreItem, handupItem, requestChairmanItem];
}
```

## buildParticipantToolBarMoreMenuItems

### API Description

This API is used to customize a **More** menu at the bottom of the **Participants** screen.

**Figure 7-41** More menu position on the Participants screen



**Precautions**

None

**Method Definition**

```
- (NSArray <HWMCConfMenuItem *> *)buildParticipantToolBarMoreMenuItems;
```

**Parameter Description**

None

**Return Values**

None

## Sample Code

```
/// Customize a More menu at the bottom of the Participants screen.
- (NSArray <HWMConfMenuItem *> *)buildParticipantToolBarMoreMenuItems{
    // Relinquish the host role.
    HWMConfMenuItem *releaseChairmanItem = [HWMConfMenuItem defaultReleaseChairmanItem];
    // Lock the meeting.
    HWMConfMenuItem *lockItem = [HWMConfMenuItem defaultLockItem];
    // Allow or forbid participants to unmute themselves.
    HWMConfMenuItem *allowUnmuteItem = [HWMConfMenuItem defaultAllowAttendeeUnmuteItem];

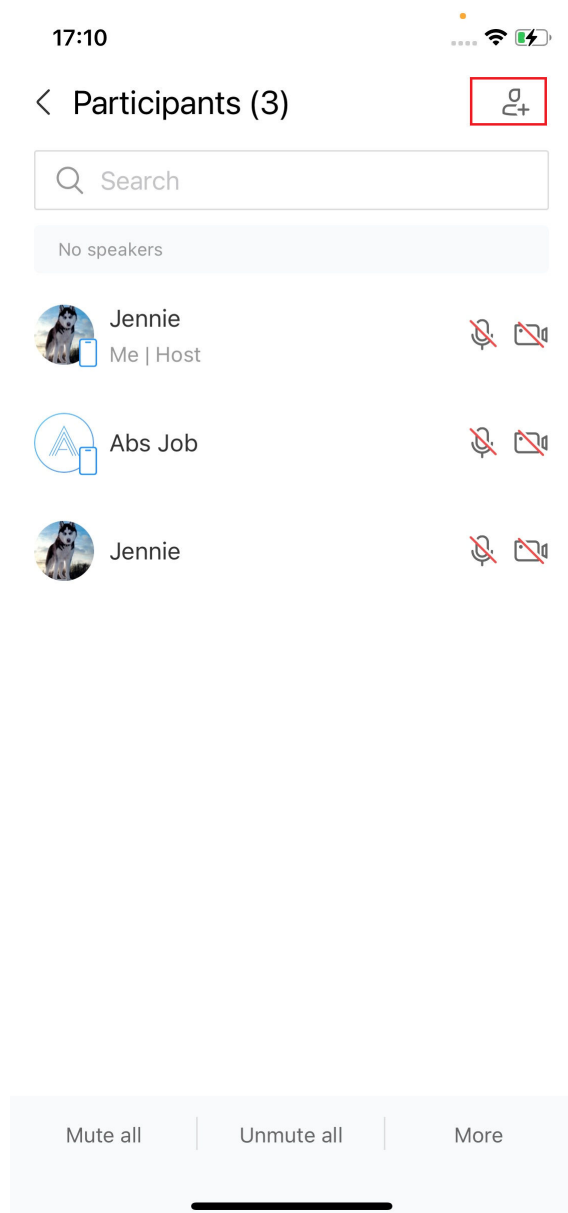
    return @[releaseChairmanItem, lockItem, allowUnmuteItem];
}
```

## buildParticipantTitleBarMenuItems

### API Description

This API is used to customize the menu in the upper right corner of the **Participants** screen.

**Figure 7-42** Menu in the upper right corner of the Participants screen



### Precautions

None

### Method Definition

```
-(NSArray <HWMLConfToolBarMenuItem *> *)buildParticipantTitleBarMenuItems;
```

### Parameter Description

None

### Return Values

None

### Sample Code

```

/// Customize the menu in the upper right corner of the Participants screen.
- (NSArray <HWMConfToolBarMenuItem *> *)buildParticipantTitleBarMenuItems{
    HWMConfToolBarMenuItem *shareItem = [HWMConfToolBarMenuItem defaultShareItem];
    HWMConfToolBarMenuItem *addressBookItem = [HWMConfToolBarMenuItem defaultAddressBookItem];

    return @[shareItem, addressBookItem];
}

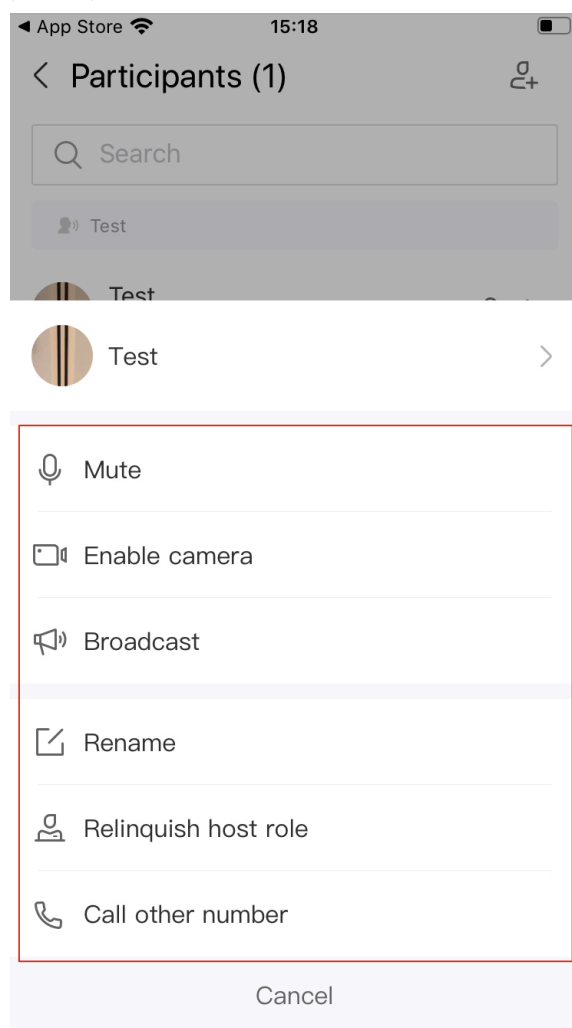
```

## buildParticipantActionSheetItems

### API Description

This API is used to customize an action sheet that appears in response to touching a participant in the participant list.

**Figure 7-43** Action sheet that appears in response to touching a participant in the participant list



### Precautions

None

### Method Definition

```

- (NSArray <HWMConfParticipantActionMenuItem *> *)buildParticipantActionSheetItems;

```

## Parameter Description

None

## Return Values

None

## Sample Code

```
/// Customize an action sheet that appears in response to touches by participants.
- (NSArray <HWMConfParticipantActionMenuItem *> *)buildParticipantActionSheetItems{
    // Apply to be the host.
    HWMConfParticipantActionMenuItem *requestChairmanItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultRequestChairmanItem];
    // Relinquish the host role.
    HWMConfParticipantActionMenuItem *releaseChairmanItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultReleaseChairmanItem];
    // Start or stop broadcasting the participant.
    HWMConfParticipantActionMenuItem *broadcastItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultBroadcastItem];
    // Mute or unmute the microphone.
    HWMConfParticipantActionMenuItem *muteItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultMuteItem];
    // Hang up the call.
    HWMConfParticipantActionMenuItem *hangupItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultHangupItem];
    // Remove the participant.
    HWMConfParticipantActionMenuItem *removeAttendeeItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultRemoveAttendeeItem];
    // Transfer the host role.
    HWMConfParticipantActionMenuItem *transferItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultTransferChairmanItem];
    // Focus on the participant or cancel focus.
    HWMConfParticipantActionMenuItem *watchItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultWatchItem];
    // Raise hands or put hands down.
    HWMConfParticipantActionMenuItem *handup = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultHandupItem];
    // Call other numbers.
    HWMConfParticipantActionMenuItem *callOtherItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultCallOtherNumberItem];
    // Change the display name in the meeting.
    HWMConfParticipantActionMenuItem *changeNameItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultChangeNickNameItem];
    // Recall the participant.
    HWMConfParticipantActionMenuItem *recallItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultRecallItem];

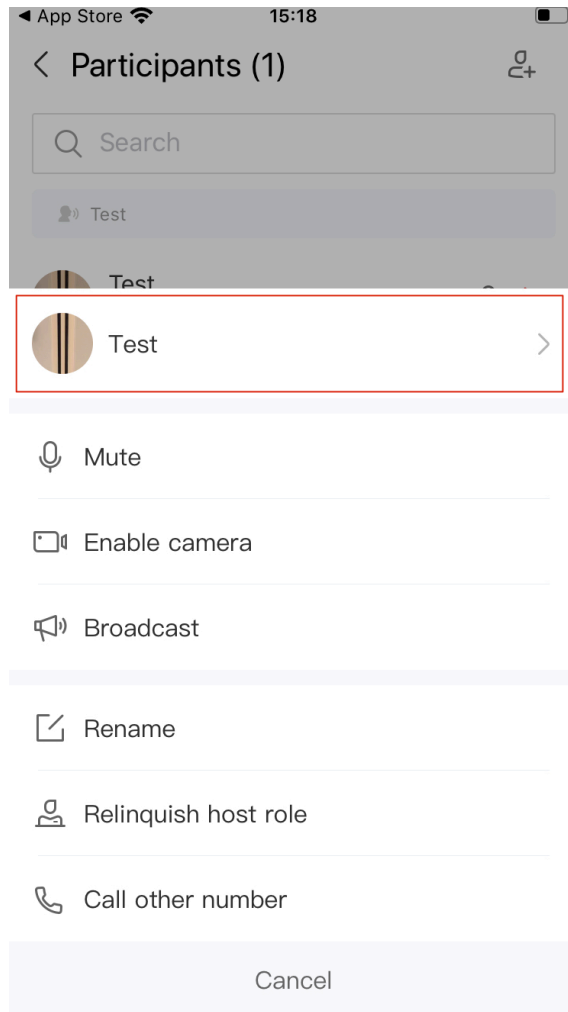
    return @[releaseChairmanItem, requestChairmanItem, broadcastItem, watchItem, muteItem,
transferItem, recallItem, callOtherItem, changeNameItem, handup, hangupItem, removeAttendeeItem];
}
```

## Customizing the Profile Picture Click Event in buildParticipantActionSheetItems

### API Description

This API is used to customize the event when a user touches the profile picture of a participant in the displayed action sheet.

**Figure 7-44** Customizing the touchable area when a user touches the profile picture of a participant in the displayed action sheet



### Precautions

1. Customize **buildParticipantActionSheetItems** and add the **defaultViewDetails** item first.
2. Set the **delegate** object in **defaultViewDetails**.
3. Implement the click event in the **delegate** object.

### Method Definition

None

### Parameter Description

None

### Return Values

None

### Sample Code

```
///  
/// Whether to display the arrow on the right of a profile picture and whether the profile picture area can  
/// be touched.
```

```
- (BOOL)isShowAccessoryView:(HWMConfParticipant *)participant {
    // Return the value as required.
    return YES;
}

/// Customize an action sheet that appears when a user touches a participant in the participant list.
- (NSArray <HWMConfParticipantActionMenuItem *> *)buildParticipantActionSheetItems{
    /// View details.
    HWMConfParticipantActionMenuItem *detailsItem = [HWMConfParticipantActionMenuItem
defaultViewDetails];
    detailsItem.delegate = self;
    detailsItem.actionClickEvent = ^(HWMConfCtrlType type, HWMConfParticipant * _Nonnull participant) {
        NSLog(@"Process the click event");
    };
    /// The preceding information is related to viewing details.

    // Apply to be the host.
    HWMConfParticipantActionMenuItem *requestChairmanItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultRequestChairmanItem];
    // Relinquish the host role.
    HWMConfParticipantActionMenuItem *releaseChairmanItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultReleaseChairmanItem];
    // Start or stop broadcasting the participant.
    HWMConfParticipantActionMenuItem *broadcastItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultBroadcastItem];
    // Mute or unmute the microphone.
    HWMConfParticipantActionMenuItem *muteItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultMuteItem];
    // Hang up the call.
    HWMConfParticipantActionMenuItem *hangupItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultHangupItem];
    // Remove the participant.
    HWMConfParticipantActionMenuItem *removeAttendeeItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultRemoveAttendeeItem];
    // Transfer the host role.
    HWMConfParticipantActionMenuItem *transferItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultTransferChairmanItem];
    // Focus on the participant or cancel focus.
    HWMConfParticipantActionMenuItem *watchItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultWatchItem];
    // Raise hands or put hands down.
    HWMConfParticipantActionMenuItem *handup = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultHandupItem];
    // Call other numbers.
    HWMConfParticipantActionMenuItem *callOtherItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultCallOtherNumberItem];
    // Change the display name in the meeting.
    HWMConfParticipantActionMenuItem *changeNameItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultChangeNickNameItem];
    // Recall the participant.
    HWMConfParticipantActionMenuItem *recallItem = (HWMConfParticipantActionMenuItem *)
[HWMConfParticipantActionMenuItem defaultRecallItem];

    return @[releaseChairmanItem, requestChairmanItem, broadcastItem, watchItem, muteItem,
transferItem, recallItem, callOtherItem, changeNameItem, handup, hangupItem, removeAttendeeItem];
}
```

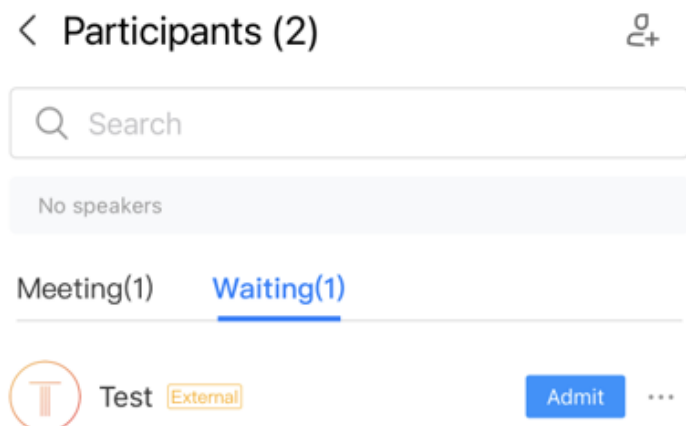
## buildWaitingToolBarMenuItems

### API Description

This API is used to customize a menu at the bottom of the waiting member list.



**Figure 7-45** Menu position in the waiting member list



### Precautions

None

### Method Definition

```
-(NSArray <HWMConfToolBarMenuItem *> *)buildWaitingToolBarMenuItems;
```

### Parameter Description

None

### Return Values

None

### Sample Code

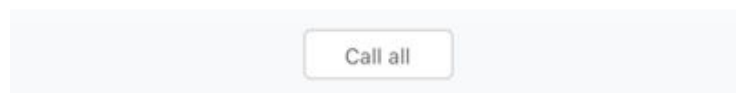
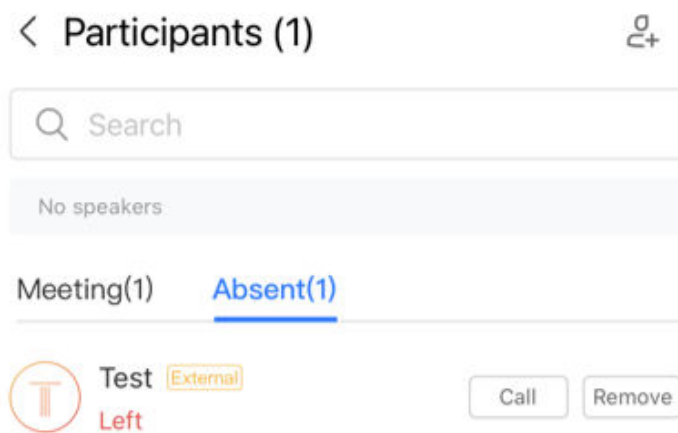
```
/// Customize a menu at the bottom of the waiting member list.  
- (NSArray<HWMConfToolBarMenuItem *> *)buildWaitingToolBarMenuItems {  
    // Admit all members to the meeting.  
    HWMConfToolBarMenuItem *admitAllItem = [HWMConfToolBarMenuItem defaultAdmitAllItem];  
    // Remove all members from the waiting room.  
    HWMConfToolBarMenuItem *removeAllItem = [HWMConfToolBarMenuItem defaultRemoveAllItem];  
    return @[admitAllItem, removeAllItem];  
}
```

## buildOfflineToolBarMenuItems

### API Description

This API is used to customize a menu at the bottom of the absent participant list.

**Figure 7-46** Menu position in the absent participant list



### Precautions

None

### Method Definition

```
- (NSArray <HWMConfToolBarMenuItem *> *)buildOfflineToolBarMenuItems;
```

### Parameter Description

None

### Return Values

None

### Sample Code

```
/// Customize a menu at the bottom of the absent participant list.  
- (NSArray <HWMConfToolBarMenuItem *> *)buildOfflineToolBarMenuItems {  
    // Call all absent participants.  
    HWMConfToolBarMenuItem *recallAllItem = [HWMConfToolBarMenuItem defaultRecallAllItem];  
    return @[recallAllItem];  
}
```

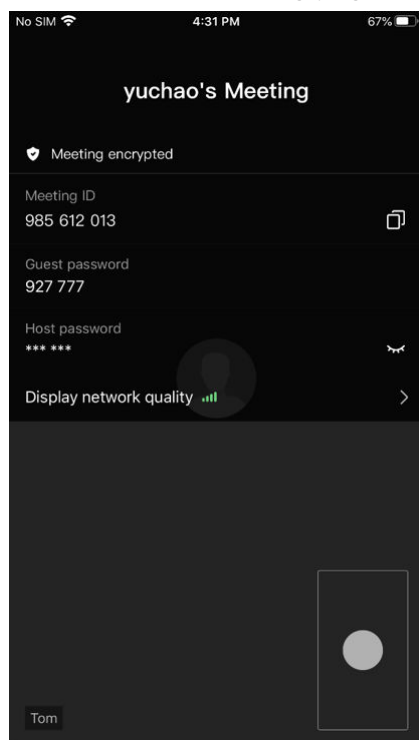
## 7.4.3.6 Customizing the Menu That Appears in Response to Touches on the Title Bar of the Meeting Page

### buildTitleBarPopViewItems

#### API Description

This API is used to customize the menu that appears in response to touches on the title bar of the meeting page.

**Figure 7-47** Customizing the menu that appears in response to touches on the title bar of the meeting page



## Precautions

1. The host password is visible only to the host. Other customized menus are displayed in the same way for all participants.
2. Customized cells need to comply with `HWMInMeetingCellDelegate` unless when you only change the default sequence.

## Method Definition

```
- (NSArray <HWMInMeetingCellModel *> *)buildTitleBarPopViewItems;  
  
// Customize a cell as follows based on HWMInMeetingCellDelegate.  
/// Cell delegate  
/// @param cellType cellType  
- (UITableViewCell *)cellForRowWithCellType:(HWMConfInfoCellType)cellType inTableView:(UITableView *)tableView indexPath:(NSIndexPath *)indexPath;  
/// Cell tapping event delegate  
/// @param cellType cellType  
- (void)cellSelectedWithCellType:(HWMConfInfoCellType)cellType;
```

## Parameter Description

None

## Return Values

None

## Sample Code

```
/// Customize the menu that appears in response to touches on the title bar of the meeting page.  
- (NSArray <HWMInMeetingCellModel *> *)buildTitleBarPopViewItems{  
    HWMInMeetingCellModel *subjectCell = [HWMInMeetingCellModel defaultSubjectCell];  
    HWMInMeetingCellModel *encryptCell = [HWMInMeetingCellModel defaultEncryptedCell];  
    HWMInMeetingCellModel *confidCell = [HWMInMeetingCellModel defaultConfidCell];  
    HWMInMeetingCellModel *generalPasswordCell = [HWMInMeetingCellModel  
    defaultGeneralPasswordCell];  
    HWMInMeetingCellModel *hostPasswordCell = [HWMInMeetingCellModel defaultHostPasswordCell];  
    HWMInMeetingCellModel *lockCell = [HWMInMeetingCellModel defaultConfLockCell];  
    HWMInMeetingCellModel *qosCell = [HWMInMeetingCellModel defaultQosCell];  
  
    return @[subjectCell, encryptCell, confidCell, generalPasswordCell, hostPasswordCell, lockCell, qosCell];  
}  
/// The height of the cell delegate can be adaptive (by adding layout constraints). You can customize the  
cell display. The following code is for reference only.  
/// @param cellType cellType  
- (UITableViewCell *)cellForRowWithCellType:(HWMConfInfoCellType)cellType inTableView:(nonnull  
UITableView *)tableView indexPath:(nonnull NSIndexPath *)indexPath{  
    NSString *reuseIdentifier = [NSString stringWithFormat:@"CustomCell_%ld", cellType];  
    UITableViewCell *cell = [tableView dequeueReusableCellWithIdentifier:reuseIdentifier];  
    if (cell == nil) {  
        cell = [[UITableViewCell alloc] initWithStyle:UITableViewCellStyleDefault  
reuseIdentifier:reuseIdentifier];  
    }  
    cell.contentView.backgroundColor = [UIColor clearColor];  
    cell.backgroundColor = [UIColor clearColor];  
    cell.selectionStyle = UITableViewCellSelectionStyleNone;  
  
    UIImageView *safeImg = [[UIImageView alloc] initWithImage:[UIImage  
imageNamed:@"custom_conf_setting"]];  
    [cell.contentView addSubview:safeImg];  
  
    UILabel *safeLabel = [[UILabel alloc] init];  
    safeLabel.font = [UIFont systemFontOfSize:14];  
    safeLabel.textColor = [UIColor whiteColor];  
    safeLabel.text = reuseIdentifier;  
    [cell.contentView addSubview:safeLabel];  
    [safeImg mas_makeConstraints:^(MASConstraintMaker *make) {
```

```
make.left.mas_equalTo(16);
make.size.mas_equalTo(CGSizeMake(16, 16));
make.centerY.mas_equalTo(safeLabel);
});

[safeLabel mas_makeConstraints:^(MASConstraintMaker *make) {
    make.left.mas_equalTo(safeImg.mas_right).offset(10);
    make.top.mas_equalTo(10);
    make.height.mas_equalTo(34);
    make.bottom.mas_equalTo(-10);
}];
return cell;
}

/// Cell tapping event delegate
/// @param cellType cellType
- (void)cellSelectedWithCellType:(HWMConfInfoCellType)cellType{
    [UIUtil showMessage:[NSString stringWithFormat:@"Menu %lu tapped.", (unsigned long)cellType]];
}
```

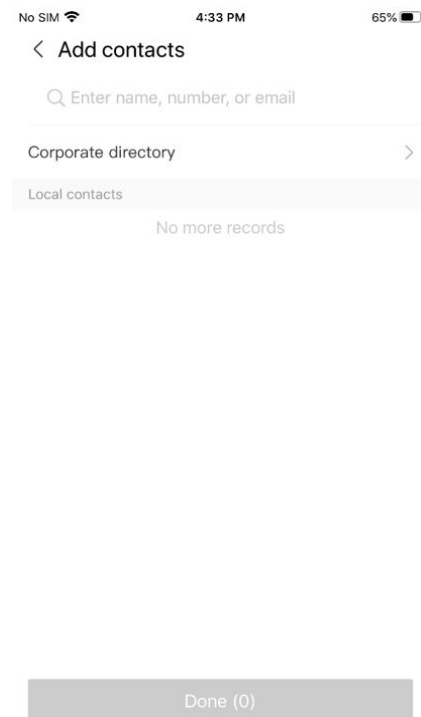
### 7.4.3.7 Customizing a Contact Selection UI

#### openContactSelectPage:scene:completeHandler:

##### API Description

This API is used to customize a contact selection UI.

**Figure 7-48** Customizing a contact selection UI



##### Precautions

1. If you need to customize a contact selection UI, set the array of contacts to be added.

##### Method Definition

```
- (void)openContactSelectPage:(NSArray<HWMConfContactModel *> *)param
    scene:(HWMSelectedContactScene)scene
    completionHandler:(void(^)(NSArray<HWMContactSelectedModel *> *result, NSError
*error))handler;
```

### Parameter Description

None

### Return Values

None

### Sample Code

```
/// Customize a contact selection UI.
- (void)openContactSelectPage:(NSArray<HWMConfContactModel *> *)param
    scene:(HWMSelectedContactScene)scene
    completionHandler:(void(^)(NSArray<HWMContactSelectedModel *> *result, NSError
*error))handler {
    NSLog(@"enter open contact select page");
    ContactSelectViewController *contactSelectVc = [[ContactSelectViewController alloc]
initWithResultHandler:handler];
    [self pushViewControllerWithVc:contactSelectVc];
}

/// Simulate the scenario where a callback function is triggered to add participants.
- (void)initSlectedModels {
    NSMutableArray *slectedModels = [NSMutableArray array];
    HWMContactSelectedModel *model = [[HWMContactSelectedModel alloc] initWithName:@"Test account
01" number:@""" contactType:HWMContactTypeEnterprise];
    [slectedModels addObject:model];
    HWMContactSelectedModel *model2 = [[HWMContactSelectedModel alloc] initWithName:@"Test
account 02" number:@""" contactType:HWMContactTypeEnterprise];
    [slectedModels addObject:model2];
    HWMContactSelectedModel *model3 = [[HWMContactSelectedModel alloc] initWithName:@"Test
account 03" number:@""" contactType:HWMContactTypeEnterprise];
    [slectedModels addObject:model3];
    HWMContactSelectedModel *model4 = [[HWMContactSelectedModel alloc] initWithName:@"Test
account 04" number:@""" contactType:HWMContactTypeEnterprise];
    [slectedModels addObject:model4];

    /// Sample code in the app ID login scenario
    HWMContactSelectedModel *model5 = [[HWMContactSelectedModel alloc] initWithName:@"Test
account 05" number:@""" contactType:HWMContactTypeEnterprise];
    model5.thirdUserId = getThirdUserId();
    [slectedModels addObject:model5];

    self.completeHandler(slectedModels, nil);
}
```

### NOTE

1. You are advised to customize the contacts and UI in the app ID login scenario. **thirdUserId** needs to be passed when you construct the contact data.
2. You can use **completeHandler** to directly call back the participants to be added. If the UI is not required, directly call back related data.
3. Transfer data for **initSlectedModels** based on actual situations.

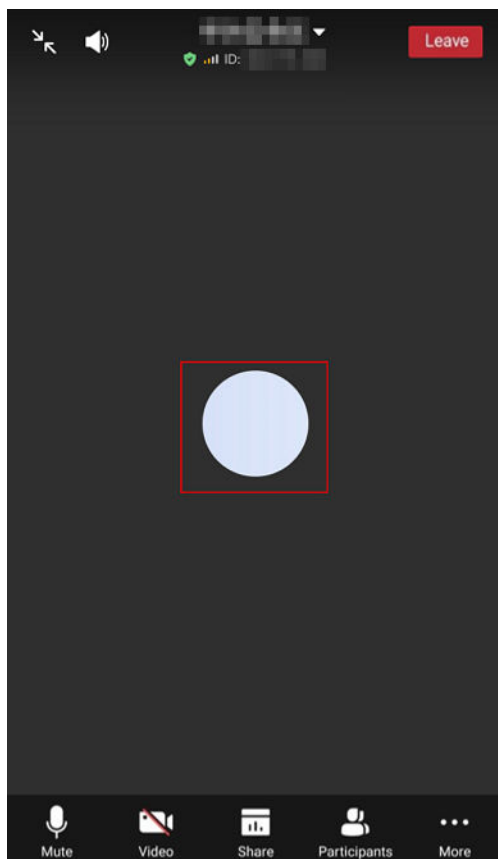
## 7.4.3.8 Customizing the Profile Picture Display

### queryContactAvatarWithAccount:thirdUserId:number:completionBlock:

#### API Description

This API is used to customize the profile picture displayed in a meeting after login.

**Figure 7-49** Effect of blocking the profile picture display



### Precautions

1. The profile picture of a user who has not logged in cannot be customized.

### Method Definition

```
- (void)queryContactAvatarWithAccount:(NSString *)account thirdUserId:(NSString *)thirdUserId number:
(NSString *)number
    completionBlock:(void (^)(NSError * _Nullable error, UIImage * _Nullable
avatarImage))completionBlock;
```

### Parameter Description

**Table 7-38**

| Parameter   | Type       | Description   |
|-------------|------------|---|
| account     | NSString * | This parameter is preferentially used in the account and password login scenario. |
| thirdUserId | NSString * | This parameter is preferentially used in the app ID login scenario.               |
| number      | NSString * | This parameter is preferentially used in the cross-enterprise scenario.           |

### Return Values

None

### Sample Code

```
/// Block the profile picture display.
- (void)queryContactAvatarWithAccount:(NSString *)account thirdUserId:(NSString *)thirdUserId number:
(nonnull NSString *)number
    completionBlock:(void (^)(NSError * _Nullable error, UIImage * _Nullable
avatarImage))completionBlock {
/// Set an image based on account or thirdUserId. The following code is an example.
    UIImage *image = [UIImage imageNamed:@"custom_conf_setting"];
    completionBlock(nil, image);
}
```

## 7.4.3.9 Customizing a Watermark for a Meeting

### screenShareCoverView

#### API Description

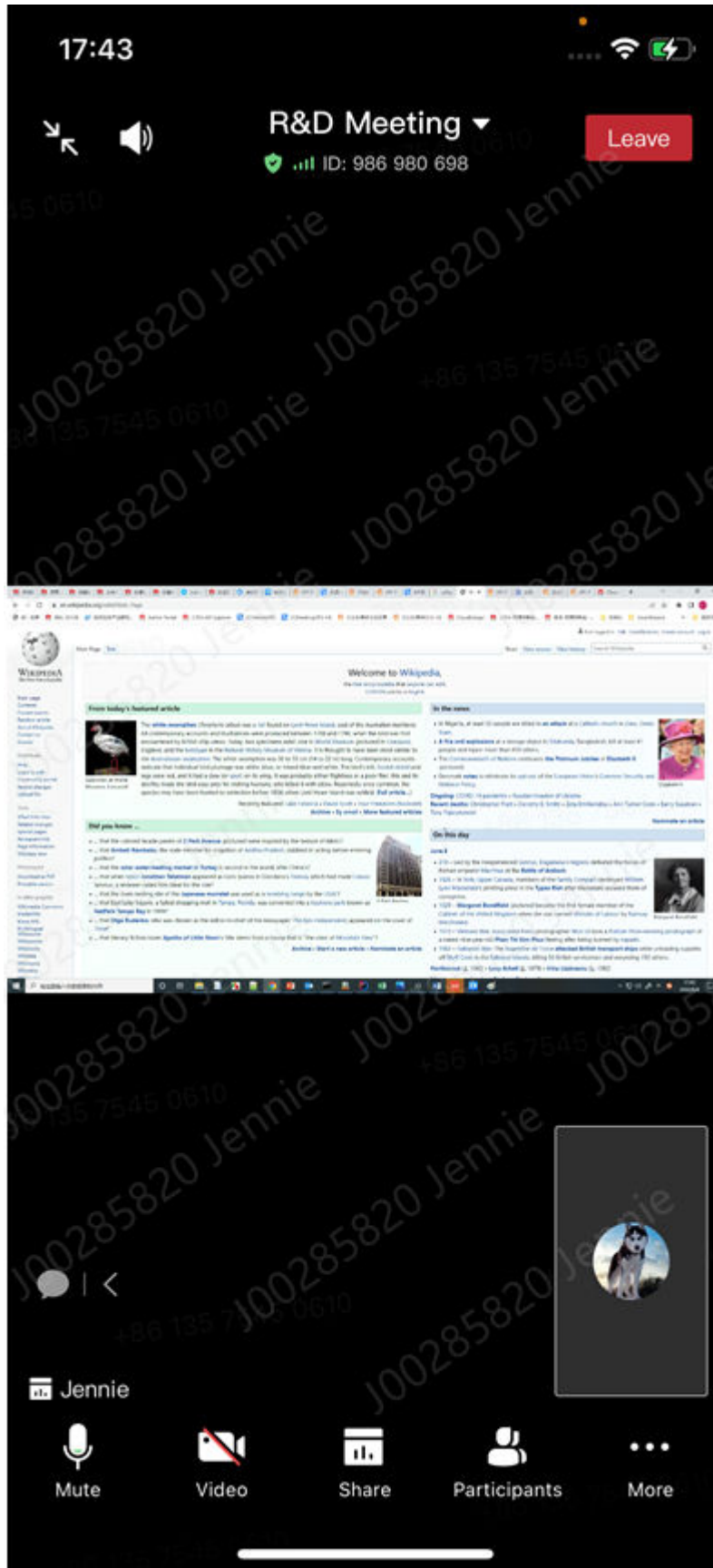
This API is used to set a watermark during screen or whiteboard sharing. The watermark is superimposed on the shared content at the receiving end. The watermark is displayed only after it is configured on the server.

#### NOTE

1. Watermarks can be added to images presented to recipients during desktop, program, and whiteboard sharing. The custom watermarks take effect only when the watermark function is enabled on the server. If you do not customize a watermark, the mobile number, email address, meeting ID, and nickname are displayed in descending order by priority by default. The font transparency is 10%.
2. After you customize a watermark, a pop-up message is displayed when you take a screenshot. If you do not need this function, disable it during initialization.



Figure 7-50 Example of setting a watermark



### Precautions

1. Do not add full-screen gestures.
2. The custom view is a full-screen view above the shared view. Set a proper transparency for the custom view to prevent the shared information from being covered.
3. Set **enablePromptUserScreenshot** during SDK initialization to determine whether to enable the custom pop-up prompt.

### Method Definition

```
- (UIView *)screenShareCoverView;
```

### Parameter Description

None

### Return Values

None

### Sample Code

```
/// Set a watermark for screen or whiteboard sharing. Do not add full-screen gestures.  
- (UIView *)screenShareCoverView {  
    UIImageView *coverImgView = [[UIImageView alloc] init];  
    coverImgView.image = [UIImage imageNamed:@"img"];  
    coverImgView.alpha = 0.2;  
    return coverImgView;  
}
```

## 7.4.3.10 Customizing the Recording Button

### buildRecordMenuItems

#### API Description

This API is used to customize whether the recording status bar can be touched.

Figure 7-51 Customizable location



### Precautions

1. If no item is returned, the bar cannot be touched.

### Method Definition

```
-(NSArray <HWMConfStatusBarMenuItem *> *)buildRecordMenuItems;
```

### Parameter Description

None

### Return Values

None

### Sample Code

```
/// Customize the recording button next to the recording status bar.  
-(NSArray<HWMConfStatusBarMenuItem *> *)buildRecordMenuItems {  
    HWMConfStatusBarMenuItem *recordItem = [HWMConfStatusBarMenuItem defaultRecordItem];  
    // If the recording status bar cannot be touched, return an empty array.  
    return @[recordItem];  
}
```

### 7.4.3.11 Obtaining an Error Message

#### getErrorMessage

##### API Description

This API is used to obtain an error message.

##### Precautions

1. This API is a synchronous API. The return value only indicates whether the API is successfully called.

##### Method Definition

```
- (NSString *)getErrorMessage:(NSInteger)code;
```

##### Parameter Description

**Table 7-39** Parameter description

| Parameter | Mandatory | Type      | Description |
|-----------|-----------|-----------|-------------|
| code      | Yes       | NSInteger | Error code. |

##### Return Values

None

##### Sample Code

```
NSString *msg = [[HWMBizSdk getBizOpenApi] getErrorMessage:errorCode];
```

### 7.4.3.12 Customizing the Text for a Specific Scenario

#### customLanguageInfosForScene:

##### API Description

This API is used to customize the text for a specific scenario.

##### Precautions

None

##### Method Definition

```
- (NSArray<HWMUILanguageInfo *> *)customLanguageInfosForScene:(HWMCustomUITextScene)scene;
```

##### Parameter Description

**Table 7-40** Enumerated values of HWMCustomUITextScene

| Enumerated Value                              | Description   |
|---|---|
| HWMCustomUITextSceneCloudRecord-FinishedAlert | Text in the dialog box displayed when cloud recording ends. |

| Enumerated Value                                       | Description   |
|--|---|
| HWMCustomUITextSceneCloudRecord-FinishedInMeetingAlert | Text in the dialog box displayed when cloud recording ends in an ongoing meeting. |
| HWMCustomUITextSceneLeaveOrEnd-ConfPopupWindow         | Title of the dialog box for leaving or ending a meeting.                          |
| HWMCustomUITextSceneCloudRecord-MenuTitle              | Cloud recording title in the recording pop-up menu.                               |
| HWMCustomUITextSceneMainWin-dowCloudRecordDes          | Cloud recording description in the main window.                                   |

**Table 7-41** HWMUILanguageInfo description

| Parameter     | Type       | Description     |
|---------------|------------|-----------------|
| languageCode  | NSString * | Language code.  |
| customContent | NSString * | Custom content. |

### Return Values

None

### Sample Code

```

/// Customize the text for a scenario.
- (NSArray<HWMUILanguageInfo *> *)customLanguageInfosForScene:(HWMCustomUITextScene)scene {
    HWMUILanguageInfo *cn = [HWMUILanguageInfo infoWithCode:@"cn" content:@"Custom"];
    HWMUILanguageInfo *en = [HWMUILanguageInfo infoWithCode:@"en" content:@"Custom"];
    return @[cn, en];
}

```

## 7.4.3.13 Customizing the Icon for a Specific Scenario

### customImageForScene:

#### API Description

This API is used to customize the icon for a specific scenario.

#### Precautions

None

#### Method Definition

```
- (HWMCustomImageInfo *)customImageForScene:(HWMCustomImageScene)scene;
```

#### Parameter Description

**Table 7-42** Enumerated values of HWMCustomImageScene

| Enumerated Value                             | Description  |
|--|--|
| HWMCustomImageSceneCloudRecordIcon           | Main icon of cloud recording in a meeting (in the recording pop-up menu and participant list). |
| HWMCustomImageSceneMainWindowCloudRecordIcon | Small cloud recording icon in the main window.   |
| HWMCustomImageSceneMainWindowCloudRecordLogo | Large cloud recording logo in the main window.   |

**Table 7-43** HWMCustomImageInfo description

| Parameter | Type      | Description  |
|-----------|-----------|--------------|
| image     | UIImage * | Custom icon. |
| width     | CGFloat   | Icon width.  |
| height    | CGFloat   | Icon height. |

### Return Values

None

### Sample Code

```

/// Customize an image.
- (HWMCustomImageInfo *)customImageForScene:(HWMCustomImageScene)scene {
    return [[HWMCustomImageInfo alloc] initWithImage:[UIImage new] width:10 height:10];
}

```

## 7.4.3.14 Customizing the Button of Adding a Virtual Background Image

### onClickAddVirtualBackgroundItem:

#### API Description

This API is used to customize the button of adding a virtual background image.

#### Precautions

None

#### Method Definition

```
- (void)onClickAddVirtualBackgroundItem:(void (^)(HWMVirtualBackgroundImageModel *))callback;
```

#### Parameter Description

**Table 7-44** HWMVirtualBackgroundImageModel description

| Parameter | Type       | Description  |
|-----------|------------|--|
| imagePath | NSString * | Absolute image path. The PNG, JPG, and JPEG formats are supported. The maximum size is 4,096 x 4,096, and the minimum size is 160 x 160. |

### Return Values

None

### Sample Code

```
/// Configure the callback when the button for customizing a virtual background is touched.
- (void)onClickAddVirtualBackgroundItem:(void (^)(HWMVirtualBackgroundImageModel *
_Nonnull))callback {
    UIImagePickerController *picker = [[UIImagePickerController alloc] init];
    [self presentViewController:picker animated:YES completion:nil];
}
```

## 7.4.4 Meeting Control

### 7.4.4.1 Creating a Meeting

#### createConf

##### API Description

This API is used to create an instant meeting.

##### Precautions

1. By default, this API enables you to join a meeting as a host. During API calling, there is no need to add your information to the participant parameters.
2. If other participants need to be invited, their information needs to be transferred.
3. Meeting recording must be enabled if automatic recording is enabled.
4. The meeting creation result can be obtained by calling the callback API.

##### Method Definition

```
- (void)createConf:(HWMSDKCreateConfParam * _Nonnull)param callback:( _Nonnull
HWMSDKCreateConfCompleteHandler)callback;
```

##### Parameter Description

**Table 7-45** HWMCreateConfParam description

| Parameter    | Mandatory | Type   | Description  |
|--------------|-----------|--|--|
| subject      | Yes       | NSString *   | Meeting topic.   |
| confType     | Yes       | <a href="#">HWMConfType</a>                        | Meeting media type. A voice meeting is created by default. If screen sharing is required, a data meeting needs to be created.                                    |
| needPassword | No        | BOOL   | Whether a password is required for a meeting. By default, no password is required.<br><b>NOTE</b><br>This parameter is valid only for meetings with a random ID. |
| guestPwd     | No        | NSString *   | Guest password.<br><b>NOTE</b><br>This parameter is valid only for meetings with a random ID.  |
| members      | No        | NSArray < <a href="#">HWMCreateConfMember</a> *> * | Member list (optional).  |
| isCameraOn   | No        | BOOL   | Whether to turn on the camera. By default, the camera is turned off.   |
| isMicOn      | No        | BOOL   | Whether to turn on the microphone. By default, the microphone is turned on.  |
| isRecordOn   | No        | BOOL   | Whether to enable recording.<br><b>NOTE</b><br>This parameter is valid only for cloud recording, not for local recording on clients.                             |



| Parameter               | Mandatory | Type                                       | Description  |
|-------------------------|-----------|--|--|
| isAutoRecord            | No        | BOOL                                       | Whether to automatically start recording after the meeting starts. The function is disabled by default. Meeting recording must be enabled if automatic recording is enabled.<br><b>NOTE</b><br>This parameter is valid only for cloud recording, not for local recording on clients. |
| vmrId                   | No        | NSString *                                 | ID of the personal meeting or cloud meeting room. This parameter is required when a personal meeting or a cloud meeting room is created. In other cases, this parameter is left empty.   |
| vmrIdType               | No        | <a href="#">HWMVmrIdType</a>               | Type of the cloud meeting room ID (fixed/random).  |
| joinConfRestrictionType | No        | <a href="#">HWMJoinConfRestrictionType</a> | Users who are allowed to join the meeting.   |
| isOpenWaitingRoom       | No        | BOOL                                       | Waiting room status.<br><b>NOTE</b><br>The function takes effect only after the waiting room function is enabled.  |
| customInfo              | No        | NSString *                                 | User-defined information (meeting details and in-meeting chat messages).   |
| isSpeakerOff            | No        | BOOL                                       | Whether to disable the speakers. By default, the speakers are enabled.   |

| Parameter                | Mandatory | Type                            | Description   |
|--------------------------|-----------|---------------------------------|---|
| concurrentParticipants   | No        | NSUInteger                      | Maximum number of participants in the meeting. The default value is <b>0</b> .      |
| autoMuteMode             | No        | <a href="#">HWMAutoMuteType</a> | Whether to automatically mute personal client users when they join the meeting.     |
| hardTerminalAutoMuteMode | No        | <a href="#">HWMAutoMuteType</a> | Whether to automatically mute meeting room device users when they join the meeting. |

**Table 7-46** Enumerated values of HWMConfType

| Enumerated Value        | Description                                      |
|-------------------------|--|
| HWMConfTypeAudio        | Voice meeting.                                   |
| HWMConfTypeVideo        | Video meeting.                                   |
| HWMConfTypeAudioAndData | Voice data meeting that supports screen sharing. |
| HWMConfTypeVideoData    | Video data meeting that supports screen sharing. |

**Table 7-47** HWMCreateConfMember description

| Parameter   | Mandatory | Type       | Description   |
|-------------|-----------|------------|---|
| name        | Yes       | NSString * | Participant name.   |
| number      | Yes       | NSString * | SIP number or phone number (either <b>number</b> or <b>thirdUserId</b> should be passed).                       |
| thirdUserId | Yes       | NSString * | Third-party account in the app ID login scenario (either <b>number</b> or <b>thirdUserId</b> should be passed). |
| accountId   | No        | NSString * | Account ID.   |

**Table 7-48** Enumerated values of HWMAutoMuteType

| Enumerated Value       | Description |
|------------------------|-------------|
| HWMAutoMuteTypeDefault | Default.    |
| HWMAutoMuteTypeMute    | Mute.       |
| HWMAutoMuteTypeUnmute  | Unmute.     |

### Return Values

None

### Sample Code

```

/// Create a meeting.
- (void)creatMeeting {
    HWMCreateConfParam *param = [[HWMCreateConfParam alloc] init];
    param.subject = @"Meeting topic";
    param.confType = HWMConfTypeVideoData;
    param.needPassword = YES; // Whether a password is required for a meeting. By default, no password is
    required.
    param.isCameraOn = YES; // Whether to turn on the camera. By default, the camera is turned off.
    param.isMicOn = YES; // Whether to turn on the microphone. By default, the microphone is turned on.
    param.isRecordOn = NO; // Whether to enable the meeting recording function. By default, this function
    is disabled.
    param.joinConfRestrictionType = HWMJoinConfRestrictionAll; // Participants who are allowed to join the
    meeting.
    param.joinConfRestrictionType = NO; // Whether to enable the waiting room.
    // Participant list.
    if (self.selectedMemebrs) {
        __block NSMutableArray *members = [[NSMutableArray alloc] init];
        [self.selectedMemebrs enumerateObjectsUsingBlock:^(HWMContactSelectedModel * _Nonnull obj,
        NSUInteger idx, BOOL * _Nonnull stop) {
            HWMCreateConfMember *member = [[HWMCreateConfMember alloc] init];
            member.accountId = obj.accountId;
            member.number = obj.number;
            member.name = obj.name;
            member.thirdUserId = obj.thirdUserId;
            [members addObject:member];
        }];
        param.members = members;
    }
    [[HWMSSdk getOpenApi] createConf:param callback:^(NSError * _Nullable error, HWMCreateConfResult *
    _Nullable result) {
        [self hideLoading];
        if (error) {
            NSLog(@"Create meeting failed.%@", error.localizedDescription);
        }else{
            NSLog(@"Meeting created.");
        }
    }];
}

```

## 7.4.4.2 Joining a Meeting

### joinConf

#### API Description

This API is used to join an existing meeting by using the meeting ID and password. You can join a meeting in either of the following ways:

- Enter the meeting ID and password.
- Use a meeting ID to join a meeting in random mode. The meeting link (for example, <https://bmeeting.huaweicloud.com/#/j/981924330/e11ddec62ee760734fcf2ba55b79937eac2aa68677caf659>) in the notification email contains the meeting ID (981924330) and random code (e11ddec62ee760734fcf2ba55b79937eac2aa68677caf659).

#### Precautions

1. Use the child class **HWMJoinConfParam** to join a meeting using the ID, and use the child class **HWMRandomConfParam** to join a meeting in random mode.
2. This API can be called regardless of whether you have logged in.
3. The actual service processing result can be obtained by calling the corresponding callback API.

#### Method Definition

```
- (void)joinConf:(HWMBaseJoinConfParam * _Nonnull)param callback:(_Nonnull HWMSDKCompleteHandler)callback;
```

#### Parameter Description

**Table 7-49** HWMBaseJoinConfParam

| Parameter  | Mandatory | Type       | Description  |
|------------|-----------|------------|--|
| confId     | Yes       | NSString * | Meeting ID.  |
| nickname   | No        | NSString * | Display name in the meeting. If you have logged in, this parameter can be left blank. In such a case, the login username is used as the display name in the meeting. |
| isCameraOn | Yes       | BOOL       | Whether to turn on the camera. By default, the camera is turned off.   |
| isMicOn    | Yes       | BOOL       | Whether to turn on the microphone. By default, the microphone is turned on.  |

**Table 7-50** HWMJoinConfParam description (inherited from HWMBaseJoinConfParam)

| Parameter          | Mandatory | Type       | Description   |
|--------------------|-----------|------------|---|
| password           | No        | NSString * | Meeting password. To join a meeting as a host, pass the host password. To join a meeting as a guest, pass the guest password unless the meeting is password-free. |
| isStopConflictConf | No        | BOOL       | Used to forcibly end a meeting that conflicts with the current cloud meeting room. (Only the owner of the cloud meeting room resource has the permission.)        |

**Table 7-51** HWMRandomConfParam description (inherited from HWMBaseJoinConfParam)

| Parameter | Mandatory | Type       | Description  |
|-----------|-----------|------------|--|
| random    | Yes       | NSString * | This parameter is transferred when you join a meeting in random mode.  |
| domain    | No        | NSString * | Domain name. This parameter is used when you join the meeting offline. |

### Sample Code

```

/// Join a meeting.
- (void)joinMeeting {
    HWMJoinConfParam *param = [[HWMJoinConfParam alloc] init];
    param.confId = getConfId();
    param.password = getPassword();
    param.nickname = getNickName();
    param.isCameraOn = NO;
    param.isMicOn = YES;
    [[HWMSdk getOpenApi] joinConf:param callback:^(NSError * _Nullable error, id _Nullable result) {
        if (error) {
            NSLog(@"Join meeting failed.%@", error.localizedDescription);
        }else{
            NSLog(@"Meeting joined.");
        }
    }];
}

// Join a meeting in random mode.
- (void)joinMeetingByRandom {
    HWMRandomConfParam *param = [[HWMRandomConfParam alloc] init];
    param.confId = getConfId();
    param.random = getRandom();
    param.nickname = getNickName();
    param.isCameraOn = NO;
}

```

```
param.isMicOn = YES;
[[HWMSdk getOpenApi] joinConf:param callback:^(NSError * _Nullable error, id _Nullable result) {
    [self hideLoading];
    if (error) {
        NSLog(@"Join meeting failed.%@", error.localizedDescription);
    }else{
        NSLog(@"Meeting joined.");
    }
}];
}
```

### 7.4.4.3 Adding Participants

#### addAttendee

##### API Description

This API is used to add a participant to a meeting.

##### Precautions

1. Only the host can invite participants.

##### Method Definition

```
- (void)addAttendee:(NSArray<HWMContactSelectedModel *> *)params completionHandler:
(HWMSDKCompleteHandler)handler;
```

##### Parameter Description

Table 7-52 HWMContactSelectedModel description

| Parameter | Mandatory | Type       | Description       |
|-----------|-----------|------------|-------------------|
| name      | Yes       | NSString * | Participant name. |

| Parameter   | Mandatory | Type       | Description  |
|-------------|-----------|------------|--|
| number      | Yes       | NSString * | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId | Yes       | NSString * | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |

### Sample Code

```
/// Add participants during the meeting.
[[HWMSdk getOpenApi] addAttendee:attendee completionHandler:^(NSError * _Nullable error, id _Nullable result) {
    [UIUtil showMessage:@"Invitation succeeded." error:error];
}];
```

## 7.4.4.4 Scanning a QR Code to Invite a Large Screen to a Meeting

### joinPairConf

#### API Description

This API is used to scan a QR code to invite a large screen to a meeting.

### Precautions

1. The actual service processing result can be obtained by calling the corresponding callback API.

### Method Definition

```
- (void)joinPairConf:(HWMPairCodeJoinConfParam *_Nonnull)param callback:(_Nonnull HWMSDKCompleteHandler)callback;
```

### Parameter Description

| Parameter | Mandatory | Type                       | Description                       |
|-----------|-----------|----------------------------|-----------------------------------|
| param     | Yes       | HWMPairCodeJoinConfParam * | Parameters for joining a meeting. |

**Table 7-53** HWMPairCodeJoinConfParam description

| Parameter    | Mandatory | Type       | Description       |
|--------------|-----------|------------|-------------------|
| url          | Yes       | NSString * | QR code URL.      |
| confId       | Yes       | NSString * | Meeting ID.       |
| confPassword | No        | NSString * | Meeting password. |

### Return Values

None

### Sample Code

```
- (void)joinPairConf {
    // Set parameters for joining a meeting.
    HWMPairCodeJoinConfParam *param = [[HWMPairCodeJoinConfParam alloc] init];
    param.url = @"QR code URL";
    param.confId = @"989156631";
    param.confPassword = getPassword();
    // Call the SDK API.
    [[HWMSdk getOpenApi] joinPairConf:param callback:^(NSError *_Nullable error, id _Nullable result) {
        if (error) {
            [UIUtil showMessageWithError:error];
        } else {
            [UIUtil showMessage:@"Meeting joined."];
        }
    }];
}
```

## 7.4.4.5 Setting the Sharing Permission

### setShareScreenPermission

#### API Description



This API is used to set the sharing permission.

### Precautions

The return value of the API only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

### Method Definition

```
- (BOOL)setShareScreenPermission:(BOOL)isPermission;
```

### Parameter Description

**Table 7-54** Parameter description

| Parameter    | Man<br>dato<br>ry | Type | Description                 |
|--------------|-------------------|------|-----------------------------|
| isPermission | Yes               | bool | Whether sharing is allowed. |

### Return Values

None

### Sample Code

```
/// Set the sharing permission.  
[[HWMSdk getOpenApi] setShareScreenPermission:isPermission];
```

## 7.4.4.6 Leaving a Meeting

### leaveConf

#### API Description

This API is used to leave a meeting.

#### Precautions

1. Do not call this API if you are not in a meeting.
2. If this API is called to leave a meeting, the meeting will not end. You can join the meeting again when the meeting is still in progress.

#### Method Definition

```
- (void)leaveConf:(HWMSDKCompleteHandler)callback;
```

#### Parameter Description

None

#### Return Values

None

#### Sample Code

```
/// Leave a meeting.  
[[HWMSdk getOpenApi] leaveConf:^(NSError * _Nullable error, id _Nullable result) {  
    [UIUtil showMessage:@"Left meeting." error:error];  
}];
```

### 7.4.4.7 Ending a Meeting

#### endConf

##### API Description

This API is used to end a meeting.

##### Precautions

1. Do not call this API if you are not in a meeting.
2. Only the host can end a meeting.
3. After this API is called, the meeting will end and you cannot join the meeting again.

##### Method Definition

```
- (void)endConf:(HWMSDKCompleteHandler)callback;
```

##### Parameter Description

None

##### Return Values

None

##### Sample Code

```
/// End a meeting.  
[[HWMSdk getOpenApi] endConf:^(NSError * _Nullable error, id _Nullable result) {  
    [UIUtil showMessage:@"Meeting ended." error:error];  
}];
```

### 7.4.4.8 Starting an Instant Meeting

#### startP2PConf

##### API Description

This API is used to start an instant meeting.

##### Precautions

1. The actual service processing result can be obtained by calling the corresponding callback API.

##### Method Definition

```
- (void)startP2PConf:(HWMStartP2PConfParam *)param callback:(_Nonnull  
HWMSDKCreateConfCompleteHandler)callback;
```

##### Parameter Description

| Parameter | Mandatory | Type                   | Description              |
|-----------|-----------|------------------------|--------------------------|
| param     | Yes       | HWMStartP2PConfParam * | Instant meeting details. |

**Table 7-55** HWMStartP2PConfParam description

| Parameter  | Mandatory | Type            | Description                     |
|------------|-----------|-----------------|---------------------------------|
| calleeInfo | Yes       | HWMCalleeInfo * | Called participant information. |
| callerInfo | Yes       | HWMCallerInfo * | Caller information.             |
| mediaType  | Yes       | HWMMediaType    | Media type.                     |

**Table 7-56** HWMCallerInfo description

| Parameter | Mandatory | Type       | Description  |
|-----------|-----------|------------|--------------|
| nickName  | No        | NSString * | Caller name. |

**Table 7-57** HWMCalleeInfo description

| Parameter | Mandatory | Type       | Description              |
|-----------|-----------|------------|--------------------------|
| nickName  | No        | NSString * | Called participant name. |

| Parameter   | Mandatory | Type       | Description   |
|-------------|-----------|------------|---|
| number      | Yes       | NSString * | Called number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId | Yes       | NSString * | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.  |

### Return Values

None

### Sample Code

```
- (void)startP2PConf {  
    // Set the information about the called participant.  
    HWMCalleeInfo *calleeInfo = [[HWMCalleeInfo alloc] init];  
    calleeInfo.nickName = @"Called participant name";  
    calleeInfo.number = @"123456";  
    calleeInfo.thirdUserId = @"123456";  
}
```

```
// Set the caller information.
HWMCallerInfo *callerInfo = [[HWMCallerInfo alloc] init];
callerInfo.nickName = @"Caller name";

HWMStartP2PConfParam *param = [[HWMStartP2PConfParam alloc] init];
// Set the media type.
param.mediaType = HWMMediaTypeVideo;
param.calleeInfo = calleeInfo;
param.callerInfo = callerInfo;
// Call the SDK API.
[[HWM SDK getOpenApi] startP2PConf:param callback:^(NSError * _Nullable error,
HWMCreateConfResult * _Nullable result) {
    if (error) {
        [UIUtil showMessageWithError:error];
    } else {
        [UIUtil showMessage:[NSString stringWithFormat:@"Meeting ID:%@", result.confId,
result.isP2PConf?@"YES":@"NO"]];
    }
}];
}
```

## 7.4.5 Meeting Management

### 7.4.5.1 Scheduling a Meeting

#### bookConf

##### API Description

This API is used to schedule a meeting.

##### Precautions

1. The start time of a meeting must be later than the current time.
2. The **vmrId** parameter must be passed for a personal meeting or cloud meeting room.
3. The **attendee** parameter must be passed if participant information needs to be carried.
4. Meeting recording must be enabled if automatic recording is enabled.
5. For details about the meeting details returned in the callback, see [HWMConfDetail](#).

##### Method Definition

```
-(void)bookConf:(HWMOrderConfParam *_Nonnull)param callback:(_Nonnull
HWM SDKCompleteHandler)callback;
```

##### Parameter Description

Table 7-58 HWMOrderConfParam description

| Parameter   | Mandatory | Type       | Description    |
|-------------|-----------|------------|----------------|
| confSubject | Yes       | NSString * | Meeting topic. |

| Parameter     | Mandatory | Type                             | Description  |
|---------------|-----------|----------------------------------|--|
| startTime     | Yes       | NSTimeInterval                   | Meeting start time. The value is a UTC timestamp, accurate to seconds.<br><b>NOTE</b><br>The value is the difference between the UTC time and the UTC offset (converted into seconds). For example, if the time zone is UTC+08:00, the value is the UTC timestamp - (8 x 60 x 60).   |
| duration      | No        | NSUInteger                       | Meeting duration, in minutes. The value ranges from 15 to 1,440.   |
| confType      | Yes       | <a href="#">HWMOrderConfType</a> | Meeting type.  |
| isNeedConfPwd | No        | BOOL                             | Whether a guest can join the meeting without the password.<br><b>NOTE</b><br>This parameter is valid only for meetings with a random ID.   |
| guestPwd      | No        | NSString *                       | Guest password.<br><b>NOTE</b><br>This parameter is valid only for meetings with a random ID.  |
| isRecordOn    | No        | BOOL                             | Whether to enable meeting recording. This parameter will be discarded and is not recommended.<br><b>NOTE</b><br>This parameter is valid only for cloud recording, not for local recording on clients.  |
| isAutoRecord  | No        | BOOL                             | Whether to automatically start recording after the meeting starts. The function is disabled by default. Meeting recording must be enabled if automatic recording is enabled.<br><b>NOTE</b><br>This parameter is valid only for cloud recording, not for local recording on clients. |

| Parameter             | Mandatory | Type  | Description   |
|-----------------------|-----------|---|---|
| timeZone              | No        | NSUInteger                                    | Time zone. The current time zone is used by default. Value range: 1–73. For China, the value is <b>56</b> and GMT+08:00 time is used. For details, see <a href="#">Time Zone Table</a> .  |
| vmrId                 | No        | NSString *                                    | This parameter needs to be transferred for a personal meeting or cloud meeting room.  |
| vmrIdType             | No        | <a href="#">HWMVmrIdType</a>                  | ID type of the meeting if it is held in a cloud meeting room.   |
| callInRestrictionType | No        | <a href="#">HWMJoinConfRestrictionType</a>    | Users who are allowed to join the meeting.  |
| attendee              | No        | NSArray< <a href="#">HWMAttendeeInfo</a> *> * | Participant details.  |
| isSmsOn               | No        | BOOL  | (Optional) Whether to send SMS notifications. This function must be enabled in the enterprise configuration. Otherwise, this function does not take effect.   |
| isMailOn              | No        | BOOL  | (Optional) Whether to send email notifications. This function must be enabled in the enterprise configuration. Otherwise, this function does not take effect.   |
| isEmailCalendarOn     | No        | BOOL  | Whether to send an email calendar.  |
| allowGuestStartConf   | No        | BOOL  | Whether to allow guests to join the meeting ahead of the host.<br><b>NOTE</b> <ul style="list-style-type: none"> <li>This parameter is valid only for meetings with a random ID.</li> <li>For meetings with fixed IDs, use the API for <a href="#">Modifying Cloud Meeting Room Information</a>.</li> </ul> |

| Parameter                | Mandatory | Type                            | Description  |
|--------------------------|-----------|---------------------------------|--|
| allowGuestStartConfTime  | No        | NSInteger                       | Time range allowed for guests to join the meeting in advance, in minutes.<br><b>0:</b> Guests can join the meeting at any time before the scheduled time.<br><b>x:</b> Guest can join the meeting <i>x</i> minutes before the scheduled time.<br><b>NOTE</b> <ul style="list-style-type: none"> <li>This parameter is valid only for meetings with a random ID.</li> <li>For meetings with fixed IDs, the time range cannot be set.</li> </ul> |
| isOpenWaitingRoom        | No        | BOOL                            | Waiting room status.<br><b>NOTE</b><br>The function takes effect only after the waiting room function is enabled.  |
| customInfo               | No        | NSString *                      | User-defined information (meeting details and in-meeting chat messages).   |
| concurrentParticipants   | No        | NSUInteger                      | Maximum number of participants in the meeting. The default value is <b>0</b> .   |
| autoMuteMode             | No        | <a href="#">HWMAutoMuteType</a> | Whether to automatically mute personal client users when they join the meeting.  |
| hardTerminalAutoMuteMode | No        | <a href="#">HWMAutoMuteType</a> | Whether to automatically mute meeting room device users when they join the meeting.  |

**Table 7-59** Enumerated values of HWMOrderConfType

| Parameter          | Description    |
|--------------------|----------------|
| OrderConfTypeAudio | Voice meeting. |
| OrderConfTypeVideo | Video meeting. |



**Table 7-60** Enumerated values of HWMJoinConfRestrictionType

| Parameter                     | Value | Description           |
|-------------------------------|-------|-----------------------|
| HWMJoinConfRestrictionAll     | 0     | Everyone.             |
| HWMJoinConfRestrictionCompany | 2     | Corporate users only. |
| HWMJoinConfRestrictionInvited | 3     | Invited users only.   |

**Table 7-61** HWMAttendeeInfo description

| Parameter   | Mandatory | Type                        | Description  |
|-------------|-----------|-----------------------------|--|
| number      | No        | NSString *                  | Number. (This parameter is optional when <b>thirdUserId</b> is used.)  |
| thirdUserId | No        | NSString *                  | Third-party account in the app ID login scenario.  |
| name        | No        | NSString *                  | Member name.   |
| email       | No        | NSString *                  | Email address.   |
| sms         | No        | NSString *                  | Mobile number.   |
| role        | No        | <b>ConfRoleType</b>         | Participant role.  |
| accountId   | No        | NSString *                  | UUID. (The login account is returned in the meeting details.)  |
| userUuid    | No        | NSString *                  | This parameter can be obtained from the meeting details when you edit a meeting. By default, this parameter is left blank. |
| isAnonymous | No        | BOOL                        | Whether to join the meeting anonymously. (This parameter is used only for obtaining the participant list.)                 |
| state       | No        | <b>HWMConfAttendeeState</b> | Participant status. (This parameter is used only for obtaining the participant list.)                                      |

| Parameter | Mandatory | Type       | Description   |
|-----------|-----------|------------|---|
| orgId     | No        | NSString * | Used to identify whether the participant belongs to the current enterprise. (This parameter is used only for obtaining the participant list.) |

**Table 7-62** Enumerated values of ConfRoleType

| Parameter            | Description |
|----------------------|-------------|
| ConfRoleTypeAttendee | Guest.      |
| ConfRoleTypeChairman | Host.       |
| ConfRoleTypeAudience | Attendee.   |
| ConfRoleTypeCohost   | Co-host.    |

**Table 7-63** Enumerated values of HWMVmrlDType

| Parameter          | Description  |
|--------------------|--------------|
| HWMVmrlDTypeFixed  | Fixed type.  |
| HWMVmrlDTypeRandom | Random type. |

### Sample Code

```

/// Schedule a meeting.
- (void)bookConf {
    HWMOrderConfParam * param = [[HWMOrderConfParam alloc] init];
    param.confSubject = @"Meeting topic";
    param.startTime = 1598759580;
    param.duration = 15;
    param.confType = HWMConfTypeVideo;
    param.isNeedConfPwd = YES;
    param.isRecordOn = NO;
    param.timeZone = 56;
    param.vmrlD = @"";
    param.callInRestrictionType = HWMCallRestrictionAll;
    [[HWMBizSdk getBizOpenApi] bookConf:param callBack:^(NSError * _Nullable error, id _Nullable result) {
        if (error) {
            NSLog(@"Schedule meeting failed:%@", error.localizedDescription);
        } else {
            NSLog(@"Meeting scheduled.");
        }
    }];
}

```

## 7.4.5.2 Editing a Meeting

### editConf

#### API Description

This API is used to edit a meeting that has not been started yet.

#### Precautions

1. This API can be called only when a meeting has not been started and you are the host.
2. **userId** must be transferred when a participant tries to edit a scheduled meeting. (In the meeting details, each participant carries this parameter.)
3. Meeting recording must be enabled if automatic recording is enabled.
4. **All fields are mandatory. Specify the fields that need to be modified as required, and obtain the values of other fields that do not need to be modified from the meeting details.**

#### Method Definition

```
- (void)editConf:(HWMOrderConfParam *_Nonnull)param callback:(_Nonnull  
HWMSDKCompleteHandler)callback;
```

#### Parameter Description

**Table 7-64** HWMOrderConfParam description (For details about other parameters, see "Scheduling a Meeting.")

| Parameter | Mandatory | Type       | Description                        |
|-----------|-----------|------------|------------------------------------|
| confId    | Yes       | NSString * | Meeting ID.                        |
| isLiveOn  | No        | BOOL       | Whether live broadcast is enabled. |

#### Sample Code

```
/// Edit a meeting.  
- (void)editConf {  
    HWMOrderConfParam * param = [[HWMOrderConfParam alloc] init];  
    param.confSubject = @"Meeting topic";  
    param.startTime = 1598759580;  
    param.duration = 15;  
    param.confType = HWMConfTypeVideo;  
    param.isNeedConfPwd = YES;  
    param.isRecordOn = NO;  
    param.timeZone = 56;  
    param.vmrId = @""; // Cloud meeting room ID, required for a meeting held in a cloud meeting room.  
    param.callInRestrictionType = HWMCallRestrictionAll;  
    param.confId = @"986927771";  
    [[HWMBizSdk getBizOpenApi] editConf:param callback:^(NSError *_Nullable error, id _Nullable result) {  
        if (error) {  
            NSLog(@"Edit meeting failed:%@", error.localizedDescription);  
        } else {  
            NSLog(@"Meeting edited.");  
        }  
    }  
};  
}
```

### 7.4.5.3 Obtaining the Meeting List

#### getConfList

##### API Description

This API is used to obtain the meeting list.

##### Precautions

1. This API is valid only after you have logged in to Huawei Cloud Meeting and received the [meeting list notification](#). Otherwise, an empty list is returned.

##### Method Definition

```
-(NSArray<HWMBaseConfDetailParam *> *)getConfList;
```

##### Parameter Description

Table 7-65 HWMBaseConfDetailParam description

| Parameter       | Type                         | Description  |
|-----------------|------------------------------|--|
| confId          | NSString *                   | Meeting ID.  |
| vmrConferenceld | NSString *                   | Cloud meeting room ID, which is used when the cloud meeting room is displayed. |
| confSubject     | NSString *                   | Meeting topic.   |
| chairmanPwd     | NSString *                   | Host password.   |
| generalPwd      | NSString *                   | Guest password.  |
| startTimeStamp  | NSTimeInterval               | Meeting start time. The value is a UTC timestamp, accurate to seconds.         |
| endTimeStamp    | NSTimeInterval               | Meeting end time. The value is a UTC timestamp, accurate to seconds.           |
| mediaType       | ConfMediaType                | Media type. (1 and 17: Voice meeting. Other values: Video meeting.)            |
| scheduserName   | NSString *                   | Scheduler name.  |
| chairJoinUri    | NSString *                   | Link for the host to join the meeting.   |
| guestJoinUri    | NSString *                   | Link for guests to join the meeting.   |
| role            | <a href="#">ConfRoleType</a> | Participant role.  |
| accessNumber    | NSString *                   | Meeting access number.   |
| size            | NSUInteger                   | Number of participants in the meeting.   |
| accessNumber    | NSString *                   | Meeting access number.   |
| isWebinar       | BOOL                         | Whether the meeting is a webinar.  |

| Parameter                | Type              | Description   |
|--------------------------|-------------------|---|
| confStatusType           | ConfStatusType    | Meeting status.   |
| conferenceType           | HWMConferenceType | Meeting type, which can be common or recurring meeting.                             |
| isP2PConf                | BOOL              | Whether the meeting is an instant meeting.  |
| autoMuteMode             | HWMAutoMuteType   | Whether to automatically mute personal client users when they join the meeting.     |
| hardTerminalAutoMuteMode | HWMAutoMuteType   | Whether to automatically mute meeting room device users when they join the meeting. |

**Table 7-66** Enumerated values of ConfStatusType

| Value               | Description                   |
|---------------------|-------------------------------|
| ConfStatusSchedule  | The meeting is scheduled.     |
| ConfStatusCreating  | The meeting is being created. |
| ConfStatusGoing     | The meeting has started.      |
| ConfStatusDestroyed | The meeting has ended.        |

**Table 7-67** Enumerated values of HWMConferenceType

| Value                | Description        |
|----------------------|--------------------|
| HWMSDKConfTypeCommon | Common meeting.    |
| HWMSDKConfTypeCycle  | Recurring meeting. |

**Table 7-68** Enumerated values of HWMAutoMuteType

| Value                     | Description |
|---------------------------|-------------|
| HWMSDKAutoMuteTypeDefault | Default.    |
| HWMSDKAutoMuteTypeMute    | Mute.       |
| HWMSDKAutoMuteTypeUnmute  | Unmute.     |

### Sample Code

```
/// Obtain the meeting list.  
[[HWMBizSdk getBizOpenApi] getConfList];
```

## 7.4.5.4 Obtaining Meeting Details

### getConfDetail

#### API Description

This API is used to obtain meeting details.

#### Precautions

None

#### Method Definition

```
-(void)getConfDetail:(NSString *)confId completeHandler:(HWMSDKConfInfoCompleteHandler)handler;
```

#### Parameter Description

HWMConfDetail is inherited from [HWMBaseConfDetailParam](#).

**Table 7-69** HWMConfDetail description (inherited from HWMBaseConfDetailParam)

| Parameter            | Type       | Description  |
|----------------------|------------|--|
| recordType           | NSUInteger | Whether to record the meeting. <b>2</b> : Record the meeting.  |
| scheduleVmr          | BOOL       | Whether the meeting is a scheduled meeting held in the cloud meeting room. <b>0</b> : Common meeting. <b>1</b> : Scheduled meeting held in the cloud meeting room. |
| isGuestFreePwd       | BOOL       | Whether a guest can join the meeting without the password.   |
| isSendNotify         | BOOL       | Whether to send email notifications.   |
| isSendSms            | BOOL       | Whether to send SMS notifications.   |
| isSendCalendarNotify | BOOL       | Whether to send calendar notifications.  |
| isAutoRecord         | BOOL       | Whether to automatically start recording after the meeting starts.   |
| vmrId                | NSString * | ID of the meeting created using the cloud meeting room ID, which is used for editing a meeting.  |
| inviteHardTerminal   | BOOL       | Whether hard terminals can be invited.   |
| audiencePwd          | NSString * | Guest password.  |
| audienceJoinUri      | NSString * | Link for guests to join the meeting.   |

| Parameter                | Type  | Description   |
|--------------------------|---|---|
| audienceCount            | NSUInteger                                    | Number of guests.   |
| callInRestriction        | <a href="#">HWMCallInRestrictionType</a>      | Incoming call restriction.  |
| vmrFlag                  | BOOL  | Whether the meeting is held in a cloud meeting room.  |
| attendee                 | NSArray< <a href="#">HWMAttendeeInfo</a> *> * | Participant list.   |
| confServerType           | HWMCConfServerType                            | Meeting type.   |
| timeZone                 | NSString *                                    | Time zone.  |
| cycleParam               | <a href="#">HWMSDKCycleConfParamModel</a> *   | Information about the recurring meeting series.   |
| subConf                  | NSArray<HWMSDKSubCycleConfParamModel *> *     | Recurring meeting list.   |
| vmrIdType                | <a href="#">HWMVmrIdType</a>                  | Type of the cloud meeting room ID.  |
| allowGuestStart-Conf     | BOOL  | Whether to allow guests to join the meeting ahead of the host.  |
| allowGuestStart-ConfTime | NSInteger                                     | Time range allowed for guests to join the meeting in advance, in minutes.<br><b>0</b> : Guests can join the meeting at any time before the scheduled time.<br><i>x</i> : Guest can join the meeting <i>x</i> minutes before the scheduled time. |
| isOpenWaitingRoom        | BOOL  | Waiting room status.  |
| customInfo               | NSString *                                    | User-defined information (meeting details and in-meeting chat messages).  |
| concurrentParticipants   | NSUInteger                                    | Maximum number of participants in the meeting. The default value is <b>0</b> .  |

**Table 7-70** Enumerated values of HWMCConfServerType

| Value                 | Description  |
|-----------------------|--------------|
| HWMCConfServerTypeMCU | MCU meeting. |
| HWMCConfServerTypeMMR | MMR meeting. |

| Value                | Description  |
|----------------------|--------------|
| HWMConfServerTypeRTC | RTC meeting. |

**Table 7-71** HWMSDKSubCycleConfParamModel description

| Parameter                    | Type  | Description   |
|------------------------------|---|---|
| subConfID                    | NSString *                                    | Recurring meeting ID.   |
| confMediaType                | HWMConfMediaT<br>ype                          | Meeting media type.   |
| startTime                    | NSUInteger                                    | Meeting start time.   |
| endTime                      | NSUInteger                                    | Meeting end time.   |
| isAutoRecord                 | BOOL  | Whether to automatically start recording after the meeting starts.  |
| callInRestriction            | <a href="#">HWMConfAllowJ<br/>oinUserType</a> | Incoming call restriction.  |
| allowGuestStart-<br>Conf     | BOOL  | Whether to allow guests to join the meeting ahead of the host.  |
| allowGuestStart-<br>ConfTime | NSInteger                                     | Time range allowed for guests to join the meeting in advance, in minutes.<br><b>0</b> : Guests can join the meeting at any time before the scheduled time.<br><i>x</i> : Guest can join the meeting <i>x</i> minutes before the scheduled time. |

**Table 7-72** Enumerated values of HWMConfMediaType

| Value                 | Description    |
|-----------------------|----------------|
| HWMConfMediaTypeAudio | Voice meeting. |
| HWMConfMediaTypeVideo | Video meeting. |

### Sample Code

```

/// Obtain meeting details.
- (void)getConfDetail {
    [[HWMBizSdk getBizOpenApi] getConfDetail:@"986927771" completionHandler:^(NSError * _Nullable
error, HWMConfDetail * _Nullable result) {
        if (error) {
            NSLog(@"%@@", error.localizedDescription);
        } else {
            NSLog(@"Meeting details obtained.");
        }
    }
}

```



```
    }  
};
```

## 7.4.5.5 Canceling a Meeting

### cancelConf

#### API Description

This API is used to cancel a scheduled meeting.

#### Precautions

1. Only the host can cancel a meeting.
2. Calling this API during a meeting will end the meeting.

#### Method Definition

```
- (void)cancelConf:(NSString * _Nonnull)confId callback:( _Nonnull HWMSDKCompleteHandler)callback;
```

#### Parameter Description

**Table 7-73** Parameter description

| Parameter | Mandatory | Type       | Description |
|-----------|-----------|------------|-------------|
| confId    | Yes       | NSString * | Meeting ID. |

#### Sample Code

```
/// Cancel a meeting.  
- (void)cancelConf {  
    [[HWMBizSdk getBizOpenApi] cancelConf:@"986927771" callback:^(NSError * _Nullable error, id  
_Nullable result) {  
        if (error) {  
            NSLog(@"%@",error.localizedDescription);  
        } else {  
            NSLog(@"Meeting canceled.");  
        }  
    }  
};
```

## 7.4.5.6 Obtaining the Cloud Meeting Room List

### getVmrInfoList

#### API Description

This API is used to obtain the cloud meeting room list.

#### Precautions

None

#### Method Definition

```
- (void)getVmrList:( _Nonnull HWMSDKVmrListCompleteHandler)callback  
DEPRECATED_MSG_ATTRIBUTE("Use '- (void)getVmrInfoList:( _Nonnull
```

```
HWMSDKVmrInfoListCompleteHandler)callback' instead''");  
- (void)getVmrInfoList:(Nonnull HWMSDKVmrInfoListCompleteHandler)callback;
```

### Parameter Description

**Table 7-74** HWMVmrInfoListModel description

| Parameter         | Type                         | Description                                       |
|-------------------|------------------------------|---|
| vmrList           | NSArray<HWMVmrInfoModel *> * | List of cloud meeting rooms.                      |
| isEnabledShareVmr | BOOL                         | Whether shared cloud meeting rooms are available. |

**Table 7-75** HWMVmrInfoModel description

| Parameter           | Type                     | Description   |
|---------------------|--------------------------|---|
| name                | NSString *               | Cloud meeting room name.  |
| confId              | NSString *               | Display ID of the cloud meeting room.   |
| vmrId               | NSString *               | Unique cloud meeting room ID.   |
| chairmanPwd         | NSString *               | Host password.  |
| guestPwd            | NSString *               | Guest password.   |
| type                | HWMConfIdType            | Meeting type.   |
| maxParties          | NSUInteger               | Maximum number of participants in the cloud meeting room.   |
| vmrStatus           | BOOL                     | Cloud meeting room status. <b>YES</b> : The cloud meeting room is available. <b>NO</b> : The cloud meeting room is unavailable. |
| confAllowJoinUser   | HWMCallInRestrictionType | Users who are allowed to join the meeting.  |
| isOpenWaitingRoom   | BOOL                     | Whether the waiting room is enabled.  |
| allowGuestStartConf | BOOL                     | Whether to allow guests to join the meeting ahead of the host.  |

**Table 7-76** Enumerated values of HWMConfIdType

| Value             | Description          |
|-------------------|----------------------|
| HWMConfIdPersonal | Personal meeting ID. |

| Value            | Description           |
|------------------|-----------------------|
| HWMConfIdPrivate | Dedicated meeting ID. |
| HWMConfIdRandom  | Random meeting ID.    |

**Table 7-77** Enumerated values of HWMCallInRestrictionType

| Value                           | Description           |
|---------------------------------|-----------------------|
| HWMCallRestrictionAll           | Everyone.             |
| HWMCallRestrictionNotAnonymouse | Non-anonymous users   |
| HWMCallRestrictionCompany       | Corporate users only. |
| HWMCallRestrictionInvited       | Invited users only.   |

### Sample Code

```
// Obtain the cloud meeting room list.
- (void)getVmrList {
    [[HWMBizSdk getBizOpenApi] getVmrInfoList:^(NSError * _Nullable error, NSArray<HWMVmrInfoModel
*> * _Nullable result) {
        if (error) {
            NSLog(@"Cloud meeting room list obtained.");
        } else {
            NSLog(@"Failed to obtain the cloud meeting room list.");
        }
    }
};
}
```

## 7.4.5.7 Modifying Cloud Meeting Room Information

### changeVmrInfo

#### API Description

This API is used to modify cloud meeting room information.

#### Precautions

1. If possible, change guest passwords only.

#### Method Definition

```
- (void)changeVmrInfo:(HWMModifyVMRParam *)info callback:(__nonnull
HWMSDKCompleteHandler)callback;
```

#### Parameter Description

**Table 7-78** HWMMModifyVMRParam description

| Parameter           | Mandatory | Type                                     | Description  |
|---------------------|-----------|--|--|
| vmrId               | Yes       | NSString *                               | Unique cloud meeting room ID.                                  |
| guestPwd            | Yes       | NSString *                               | Guest password.  |
| chairPwd            | Yes       | NSString *                               | Host password.   |
| vmrName             | Yes       | NSString *                               | Cloud meeting room name.                                       |
| allowGuestStartConf | Yes       | BOOL                                     | Whether to allow guests to join the meeting ahead of the host. |
| confAllowJoinUser   | No        | <a href="#">HWMCallInRestrictionType</a> | Users who are allowed to join the meeting.                     |
| isOpenWaitingRoom   | No        | BOOL                                     | Whether the waiting room is enabled.                           |

### Sample Code

```

/// Modify cloud meeting room information.
- (void)changeVmrInfo {
    HWMMModifyVMRParam * vmrInfo = [[HWMMModifyVMRParam alloc] init];
    vmrInfo.guestPwd = getGuestPwd();
    vmrInfo.chairPwd = getChairPwd();
    vmrInfo.vmrName = getVmrName();
    vmrInfo.vmrId = getVmrId();
    [[HWMBizSdk getBizOpenApi] changeVmrInfo:vmrInfo callback:^(NSError * _Nullable error, id _Nullable result) {
        if (error) {
            NSLog(@"%@", error.localizedDescription);
        } else {
            NSLog(@"Cloud meeting room information modified.");
        }
    }];
}

```

## 7.4.5.8 Scheduling a Recurring Meeting Series

### bookCycleConf

#### API Description

This API is used to schedule a recurring meeting series.

#### Precautions

1. This API can be called only when you have logged in to Huawei Cloud Meeting.
2. The meeting start time must be later than the current time, and the meeting duration must be longer than 15 minutes.
3. The **vmrId** parameter must be passed for a personal meeting or cloud meeting room.

4. The **attendees** parameter must be passed if participant information needs to be carried.
5. The maximum time span of a recurring meeting series is one year. The number of recurring meetings in a series cannot exceed 50. Otherwise, only the first 50 meetings are scheduled. For details about the meeting information returned in the callback, see **HWMConfDetail**.

### Method Definition

```
(void)bookCycleConf:(HWMOrderCycleConfParam *_Nonnull)param callback:(_Nonnull HWMSDKCompleteHandler)callback
```

### Parameter Description

**Table 7-79** HWMOrderCycleConfParam parameter description

| Parameter      | Mandatory | Type                                      | Description                          |
|----------------|-----------|---|--------------------------------------|
| orderConfParam | Yes       | <a href="#">HWMOrderConfParam</a>         | Common meeting parameters.           |
| cycleParam     | Yes       | <a href="#">HWMSDKCycleConfParamModel</a> | Recurring meeting series parameters. |

**Table 7-80** HWMSDKCycleConfParamModel parameter description

| Parameter | Mandatory | Type                         | Description                             |
|-----------|-----------|------------------------------|---|
| startDate | Yes       | NSUInteger                   | Start date timestamp, in seconds (GMT). |
| endDate   | Yes       | NSUInteger                   | End date timestamp, in seconds (GMT).   |
| cycleType | Yes       | <a href="#">HWMCycleType</a> | Period type.                            |

| Parameter     | Mandatory | Type       | Description   |
|---------------|-----------|------------|---|
| interval      | Yes       | NSUInteger | <p>Interval of recurring meetings.</p> <ol style="list-style-type: none"> <li>If <b>cycleType</b> is set to <b>Day</b>, the recurring meeting is held at an interval of the specified number of days. The value ranges from 1 to 15.</li> <li>If <b>cycleType</b> is set to <b>Week</b>, the recurring meeting is held at an interval of the specified number of weeks. The value ranges from 1 to 5.</li> <li>If <b>cycleType</b> is set to <b>Month</b>, the recurring meeting is held at an interval of the specified number of months. The value ranges from 1 to 3.</li> </ol> |
| listPoints    | Yes       | NSString * | <p>Point for holding recurring meetings. This parameter is valid only when meetings are held weekly or monthly. The values are separated by commas, for example, 1,3,5,7.</p> <ul style="list-style-type: none"> <li>- Weekly: The value range is [0,6]. <b>0</b> indicates Sunday, <b>1</b> indicates Monday, and so on.</li> <li>- Monthly: The value range is [1,31]. The maximum value is the last day of a month, for example, <b>30</b> when a month only has 30 days.</li> </ul>   |
| preRemindDays | Yes       | NSUInteger | Number of days in advance users are notified of a recurring meeting.  |

**Table 7-81** Enumerated values of Contact

| Value                | Description |
|----------------------|-------------|
| HWMSDKCycleTypeDay   | Daily.      |
| HWMSDKCycleTypeWeek  | Weekly.     |
| HWMSDKCycleTypeMonth | Monthly.    |

### Sample Code

```
/// Schedule a recurring meeting series.
- (void)bookCycleConf{
    HWMOrderCycleConfParam * cycleConfParam = [[HWMOrderCycleConfParam alloc] init];
    cycleConfParam.orderConfParam.confSubject = @"My Scheduled Meeting";
    cycleConfParam.orderConfParam.confType = OrderConfTypeVideo;
    cycleConfParam.orderConfParam.isNeedConfPwd = YES;
    cycleConfParam.orderConfParam.isAutoRecord = YES;
    cycleConfParam.orderConfParam.isRecordOn = YES;
    cycleConfParam.orderConfParam.startTime = 1633017600; // UTC timestamp, in seconds. If the obtained
time is the local time, the time needs to be converted to the UTC time.
    cycleConfParam.orderConfParam.duration = 30; // Meeting duration, in minutes
    cycleConfParam.orderConfParam.timeZone = 56;
    cycleConfParam.orderConfParam.callInRestrictionType = HWMJoinConfRestrictionAll;
    HWMAttendeeInfo * attendeeInfo = [[HWMAttendeeInfo alloc] init];
    attendeeInfo.name = @"Mike";
    attendeeInfo.number = @"+991116003543";
    attendeeInfo.isMute = YES;
    cycleConfParam.orderConfParam.attendee = @[attendeeInfo];

    HWMSDKCycleConfParamModel * cycleConfParamModel = [[HWMSDKCycleConfParamModel alloc] init];
    cycleConfParamModel.startDate = 1633017600; // UTC timestamp, in seconds. If the obtained time is the
local time, the time needs to be converted to the UTC time.
    cycleConfParamModel.endDate = 1636560000;
    cycleConfParamModel.cycleType = HWMSDKCycleTypeWeek;
    cycleConfParamModel.preRemindDays = 1;
    cycleConfParam.cycleParam = cycleConfParamModel;

    [[HWMBizSdk getBizOpenApi] bookCycleConf:cycleConfParam callback:^(NSError * _Nullable error, id
_Nullable result) {
        if (!error) {
            NSLog(@"book cycle conf success");
            [UIUtil showMessage:@"Recurring meeting series scheduled."];
        }else{
            NSLog(@"book cycle conf fail errorCode : %zd",error.code);
            [UIUtil showMessage:[NSString stringWithFormat:@"Schedule recurring meeting series failed:%zd
%@", error.code, error.localizedDescription]];
        }
    }];
}
```

## 7.4.5.9 Editing a Recurring Meeting Series

### editCycleConf

#### API Description

This API is used to edit a recurring meeting series.

## Precautions

1. Call this API after login.
2. **All fields are mandatory. Specify the fields to be edited as required, and assign values in the meeting details to remaining fields.**

## Method Definition

```
- (void)editCycleConf:(HWMOrderCycleConfParam *_Nonnull)param callback:(_Nonnull HWMSDKCompleteHandler)callback
```

## Parameter Description

**Table 7-82** HWMOrderCycleConfParam parameter description

| Parameter      | Mandatory | Type                                      | Description                          |
|----------------|-----------|---|--------------------------------------|
| orderConfParam | Yes       | <a href="#">HWMOrderConfParam</a>         | Common meeting parameters.           |
| cycleParam     | Yes       | <a href="#">HWMSDKCycleConfParamModel</a> | Recurring meeting series parameters. |

## Sample Code

```
/// Edit a recurring meeting series.
- (void)editCycleConf{
    HWMOrderCycleConfParam * cycleConfParam = [[HWMOrderCycleConfParam alloc] init];
    cycleConfParam.orderConfParam.confSubject = @"My Scheduled Meeting";
    cycleConfParam.orderConfParam.confType = OrderConfTypeVideo;
    cycleConfParam.orderConfParam.isNeedConfPwd = YES;
    cycleConfParam.orderConfParam.isAutoRecord = YES;
    cycleConfParam.orderConfParam.isRecordOn = YES;
    cycleConfParam.orderConfParam.startTime = 1633017600; // UTC timestamp, in seconds. If the obtained
time is the local time, the time needs to be converted to the UTC time.
    cycleConfParam.orderConfParam.duration = 30; // Meeting duration, in minutes
    cycleConfParam.orderConfParam.timeZone = 56;
    cycleConfParam.orderConfParam.callInRestrictionType = HWMJoinConfRestrictionAll;
    HWMAttendeeInfo * attendeeInfo = [[HWMAttendeeInfo alloc] init];
    attendeeInfo.name = @"Mike";
    attendeeInfo.number = @"+991116003543";
    attendeeInfo.isMute = YES;
    cycleConfParam.orderConfParam.attendee = @[attendeeInfo];

    HWMSDKCycleConfParamModel * cycleConfParamModel = [[HWMSDKCycleConfParamModel alloc] init];
    cycleConfParamModel.startDate = 1633017600; // UTC timestamp, in seconds. If the obtained time is the
local time, the time needs to be converted to the UTC time.
    cycleConfParamModel.endDate = 1636560000;
    cycleConfParamModel.cycleType = HWMSDKCycleTypeWeek;
    cycleConfParamModel.preRemindDays = 1;
    cycleConfParam.cycleParam = cycleConfParamModel;

    [[HWMBizSdk getBizOpenApi] editCycleConf:cycleConfParam callback:^(NSError * _Nullable error, id
_Nullable result) {
        if (!error) {
            NSLog(@"book cycle conf success");
            [UIUtil showMessage:@"Recurring meeting series edited."];
        }else{
            NSLog(@"book cycle conf fail errorCode : %zd",error.code);
            [UIUtil showMessage:[NSString stringWithFormat:@"Edit recurring meeting series failed:%zd %@",
error.code, error.localizedDescription]];
        }
    }
}
```



```
    }  
};
```

## 7.4.5.10 Canceling a Recurring Meeting Series

### cancelCycleConfWithParam

#### API Description

This API is used to cancel a recurring meeting series that has at least one upcoming meeting.

#### Precautions

1. Call this API after login.
2. Call this API before the last recurring meeting starts. If the last recurring meeting is already in progress, calling this API is invalid.

#### Method Definition

```
- (void)cancelCycleConfWithParam:(HWMSDKCancelCycleConfParamModel *_Nonnull)param callback:  
(_Nonnull HWMSDKCompleteHandler)callback;
```

#### Parameter Description

**Table 7-83** HWMSDKCancelCycleConfParamModel parameter description

| Parameter     | Mandatory | Type       | Description                        |
|---------------|-----------|------------|------------------------------------|
| confId        | Yes       | NSString * | Meeting ID.                        |
| endOnlineConf | Yes       | BOOL       | Whether to end an ongoing meeting. |

#### Sample Code

```
/// Cancel a recurring meeting series.  
- (void)cancelCycleConf {  
    HWMSDKCancelCycleConfParamModel *cancelParam = [[HWMSDKCancelCycleConfParamModel alloc]  
init];  
    cancelParam.confId = "989156631";  
    cancelParam.endOnlineConf = YES;  
    [[HWMBizSdk getBizOpenApi] cancelCycleConfWithParam:cancelParam callback:^(NSError * _Nullable  
error, id _Nullable result) {  
        NSString *tips = !error ? @"Recurring meeting series canceled." : @"Cancel recurring meeting series  
failed.";  
        [UIUtil showMessage:tips error:error];  
    }];  
}
```

## 7.4.5.11 Editing a Recurring Meeting

### editSubCycleConf

#### API Description

This API is used to edit a recurring meeting.

### Precautions

1. Call this API after login.

### Method Definition

```
- (void)editSubCycleConf:(HWMSDKModifySubCycleConfParamModel *_Nonnull)param callback:(_Nonnull HWMSDKCompleteHandler)callback;
```

### Parameter Description

**Table 7-84** HWMSDKModifySubCycleConfParamModel parameter description

| Parameter               | Mandatory | Type                                     | Description  |
|-------------------------|-----------|--|--|
| confId                  | Yes       | NSString *                               | Meeting ID.  |
| subConfID               | Yes       | NSString *                               | UUID of a recurring meeting.   |
| confMediaType           | No        | <a href="#">HWMConfMediaType</a>         | Meeting media type.  |
| startTime               | No        | NSInteger                                | Meeting start time (UTC time), in seconds.<br><b>NOTE</b><br>The value is the difference between the UTC time and the UTC offset (converted into seconds). For example, if the time zone is UTC+08:00, the value is the UTC timestamp - (8 x 60 x 60).                       |
| confLen                 | No        | NSUInteger                               | Meeting duration, in minutes.  |
| isAutoRecord            | No        | BOOL                                     | Whether to automatically start recording after a meeting starts.   |
| recordAuthType          | No        | NSUInteger                               | Recording authentication mode. The options are as follows: <b>0</b> : The recording can be viewed or downloaded through link (no nonce is added). <b>1</b> : Corporate users can view or download the recording. <b>2</b> : Participants can view or download the recording. |
| callInRestriction       | No        | <a href="#">HWMConfAllowJoinUserType</a> | Incoming call restriction.   |
| allowGuestStartConf     | No        | BOOL                                     | Whether to allow guests to start the meeting.  |
| allowGuestStartConfTime | No        | NSInteger                                | Time range for a guest to join a meeting in advance, in minutes. The options are as follows: <b>0</b> : at any time; <b>n</b> : <i>n</i> minutes in advance.   |

**Table 7-85** Enumerated values of HWMConfAllowJoinUserType

| Value                                 | Description           |
|---------------------------------------|-----------------------|
| HWMConfAllowJoinUserTypeAnyone        | Anyone.               |
| HWMConfAllowJoinUserTypeLoggedInUser  | Logged-in users.      |
| HWMConfAllowJoinUserTypeInCompanyUser | Corporate users only. |
| HWMConfAllowJoinUserTypeInvitedUser   | Invited users only.   |

### Sample Code

```
/// Edit a recurring meeting.
- (void)editSubCycleConf{
    HWMSDKModifySubCycleConfParamModel * modifySubCycleConfParamModel =
[[HWMSDKModifySubCycleConfParamModel alloc] init];
    modifySubCycleConfParamModel.confId = confId;
    modifySubCycleConfParamModel.subConfId = subConfId;
    modifySubCycleConfParamModel.confMediaType = HWMConfMediaTypeVideo;
    modifySubCycleConfParamModel.startTime = 1633017600;
    modifySubCycleConfParamModel.confLen = 60;
    modifySubCycleConfParamModel.isAutoRecord = NO;
    modifySubCycleConfParamModel.callInRestriction = HWMConfAllowJoinUserTypeAnyone;
    modifySubCycleConfParamModel.allowGuestStartConf = NO;
    modifySubCycleConfParamModel.allowGuestStartConfTime = 0;
    [[HWMBizSdk getBizOpenApi] editSubCycleConf:modifySubCycleConfParamModel callback:^(NSError *
_Nullable error, id _Nullable result) {
        if (!error) {
            [UIUtil showMessage:@"Recurring meeting edited."];
        }else{
            [UIUtil showMessage:[NSString stringWithFormat:@"Edit recurring meeting failed:%zd %@",
error.code, error.localizedDescription]];
        }
    }];
}
```

## 7.4.5.12 Canceling a Recurring Meeting

### cancelSubCycleWithParam

#### API Description

This API is used to cancel a recurring meeting that has not been started yet.

#### Precautions

1. Call this API after login.
2. Call this API before a recurring meeting starts. If the meeting is already in progress, calling this API is invalid.

#### Method Definition

```
- (void)cancelSubCycleWithParam:(HWMSDKCancelSubCycleConfParamModel *_Nonnull)param callback:
(_Nonnull HWMSDKCompleteHandler)callback
```

#### Parameter Description

**Table 7-86** HWMSDKCancelSubCycleConfParamModel parameter description

| Parameter     | Mandatory | Type       | Description                        |
|---------------|-----------|------------|------------------------------------|
| confId        | Yes       | NSString * | Meeting ID.                        |
| subConfID     | Yes       | NSString * | Recurring meeting ID.              |
| endOnlineConf | Yes       | BOOL       | Whether to end an ongoing meeting. |

### Sample Code

```
/// Cancel a recurring meeting.
- (void)confirmCancelSubConf {
    HWMSDKCancelSubCycleConfParamModel *cancelParma = [[HWMSDKCancelSubCycleConfParamModel
alloc] init];
    cancelParma.confId = confId;
    cancelParma.subConfID = subConfID;
    cancelParma.endOnlineConf = YES;
    [[HWMBizSdk getBizOpenApi] cancelSubCycleWithParam:cancelParma callback:^(NSError * _Nullable
error, id _Nullable result) {
        NSString *tips = !error ? @"Meeting canceled." : @"Cancel meeting failed.";
        [UIUtil showMessage:tips error:error];
    }];
}
```

## 7.4.6 Meeting Information

### 7.4.6.1 Obtaining the Participant List

#### getAttendeeList

##### API Description

This API is used to obtain the participant list in a meeting.

##### Precautions

1. This API can be called only during a meeting.

##### Method Definition

```
-(NSArray <HWMAttendeeInfo *> *)getAttendeeList;
```

##### Parameter Description

See [HWMAttendeeInfo](#).

**Table 7-87** Enumerated values of HWMConfAttendeeState

| Parameter                   | Description                 |
|-----------------------------|-----------------------------|
| HWMConfAttendeeStateInConf  | The user is in the meeting. |
| HWMConfAttendeeStateCalling | The user is being called.   |

| Parameter                    | Description                        |
|------------------------------|------------------------------------|
| HWMConfAttendeeStateJoining  | The user is joining the meeting.   |
| HWMConfAttendeeStateLeaved   | The user has left the meeting.     |
| HWMConfAttendeeStateNoExist  | The user does not exist.           |
| HWMConfAttendeeStateBusy     | The called party is busy.          |
| HWMConfAttendeeStateNoAnswer | The user does not answer the call. |
| HWMConfAttendeeStateReject   | The user rejects the call.         |
| HWMConfAttendeeStateFailed   | Call failed.                       |

### Sample Code

```
/// Obtain the participant list.
[[HWMBizSdk getBizOpenApi] getAttendeeList];
```

## 7.4.6.2 Obtaining the Audience List

### getAudienceList

#### API Description

This API is used to obtain the attendee list in a meeting.

#### Precautions

1. This API can be called only during a meeting.
2. Attendees cannot call this API, but can obtain the list from the meeting details message.

#### Method Definition

```
- (NSArray <HWMAttendeeInfo *> *)getAudienceList;
```

#### Parameter Description

See [HWMAttendeeInfo](#).

#### Sample Code

```
/// Obtain the attendee list.
[[HWMBizSdk getBizOpenApi] getAudienceList];
```

## 7.4.6.3 Determining Whether You Are a Host

### selfIsChairMan

#### API Description

This API is used to determine whether you are a host.

#### Precautions

1. **YES** is returned when you are a host. **NO** is returned when you are not the host or not in a meeting.

#### Method Definition

```
- (BOOL)selfIsChairMan;
```

#### Parameter Description

None

#### Sample Code

```
/// Determine whether you are a host.  
[[HWMBizSdk getBizOpenApi] selfIsChairMan];
```

### 7.4.6.4 Obtaining a User Status

#### getIsInConfOrCall:

##### API Description

This API is used to obtain the status of a user (whether the user is in a meeting).

##### Precautions

None

##### Method Definition

```
- (HWMSDKConfOrCallStatus)getIsInConfOrCall;
```

##### Parameter Description

Table 7-88 Parameter description

| Enumerated Value             | Description                    |
|------------------------------|--------------------------------|
| HWMSDKConfOrCallStatusIdle   | The user is in the idle state. |
| HWMSDKConfOrCallStatusInConf | The user is in a meeting.      |
| HWMSDKConfOrCallStatusInCall | The user is being called.      |

##### Return Values

None

##### Sample Code

```
[[HWMBizSdk getBizOpenApi] getIsInConfOrCall];
```

## 7.5 Notification Reference

## 7.5.1 Precautions

1. You must register a proxy object to use a notification method.  
The following two ways are available:
  - a. Assign a value to the attribute of the **HWMOpenSDKConfig** object during initialization.  

```
HWMOpenSDKConfig *config = [[HWMOpenSDKConfig alloc] init];  
// Example (Use the corresponding proxy as required.)  
config.globalHandler = [NotifyMessageHandler sharedInstance];
```
  - b. Use **[HWMSdk getSdkConfig]** to obtain the initialization object and assign a value to the attribute.  

```
// Example (Use the corresponding proxy as required.)  
[HWMSdk getSdkConfig].globalHandler = [NotifyMessageHandler sharedInstance];
```
2. The proxy method must be written in the proxy object.
3. Ensure that the proxy object exists when using the proxy.

## 7.5.2 Account Status Change Notification

### 7.5.2.1 Forcible Logout Notification

#### Notification Description

A notification is sent when you were kicked out of this account by another device. In this case, you need to log in again.

#### Method Definition

```
-(void)onKickedOut:(NSString *)result;
```

#### Precautions

1. Set the **globalHandler** delegate during SDK initialization or set the delegate on the target page.

#### Parameter Description

Table 7-89 Parameter description

| Parameter | Type       | Description |
|-----------|------------|-------------|
| result    | NSString * | User UUID.  |

## 7.5.3 Meeting Status Change Notification

### 7.5.3.1 Notifications for Meeting Status Changes

#### Notification Description

A notification is sent when the meeting status is changed.

#### Method Definition

- (void)onConfStatusChanged:(HWMSDKConfStatus)status;

#### Precautions

1. Set the **globalHandler** proxy during SDK initialization or set the proxy on the target page.

#### Parameter Description

**Table 7-90** Parameter description

| Parameter | Type                             | Description          |
|-----------|----------------------------------|----------------------|
| status    | <a href="#">HWMSDKConfStatus</a> | Meeting call status. |

**Table 7-91** Enumerated values of HWMSDKConfStatus

| Enumerated Value            | Description                                |
|-----------------------------|--|
| HWMSDKConfStatusIdle        | Idle state. That is, the meeting is ended. |
| HWMSDKConfStatusIn-coming   | Incoming call.                             |
| HWMSDKConfStatusCal-lingOut | Outgoing call.                             |
| HWMSDKConfStatusWait-ing    | Waiting...                                 |
| HWMSDKConfStatusCon-nected  | Connected.                                 |
| HWMSDKConfStatusRecall-ing  | Calling again.                             |

### 7.5.3.2 Notification of Incoming Meeting Calls

#### Notification Description

A notification is sent when you were invited to a meeting.



## Method Definition

```
-(void)onConfIncomingNotify:(HWMSDKConfIncomingInfoModel *)confIncomingInfo;
```

## Precautions

1. Set the **globalHandler** delegate during SDK initialization or set the delegate on the target page.

## Parameter Description

**Table 7-92** Parameter description

| Parameter        | Type  | Description      |
|------------------|---|------------------|
| confIncomingInfo | <a href="#">HWMSDKConfIncomingInfoModel</a> | Meeting details. |

**Table 7-93** HWMSDKConfIncomingInfoModel description

| Parameter     | Type                             | Description                                     |
|---------------|----------------------------------|---|
| subject       | NSString *                       | Meeting topic.                                  |
| confId        | NSString *                       | Meeting ID.                                     |
| confMediaType | <a href="#">HWMConfMediaType</a> | Media type.                                     |
| vmrConfId     | NSString *                       | ID of the meeting held in a cloud meeting room. |
| thirdUserId   | NSString *                       | Third-party user account.                       |

**Table 7-94** Enumerated values of HWMConfMediaType

| Enumerated Value      | Value | Description    |
|-----------------------|-------|----------------|
| HWMConfMediaTypeAudio | 0     | Voice meeting. |
| HWMConfMediaTypeVideo | 1     | Video meeting. |

### 7.5.3.3 Meeting Details Notification

#### Notification Description

A meeting details notification is sent during the meeting. This notification can be used for sharing the meeting.

## Method Definition

```
- (void)onConfDetailNotify:(HWMSDKConfDetail *)confDetail;
```

## Precautions

1. Set the **globalHandler** proxy during SDK initialization or set the proxy on the target page.

## Parameter Description

Table 7-95 Parameter description

| Parameter  | Type                             | Description      |
|------------|----------------------------------|------------------|
| confDetail | <a href="#">HWMSDKConfDetail</a> | Meeting details. |

### 7.5.3.4 Meeting Information Change Notification

## Notification Description

A notification is sent when the meeting details changed.

## Method Definition

```
- (void)onMeetingInfoChanged:(HWMSDKMeetingInfoModel *)meetingInfo;
```

## Precautions

1. Set the **globalHandler** delegate during SDK initialization or set the delegate on the target page.

## Parameter Description

Table 7-96 HWMSDKMeetingInfoModel description

| Parameter           | Type                                      | Description                             |
|---------------------|---|---|
| baseInfo            | <a href="#">HWMSDKConfBaseInfoModel *</a> | Basic meeting details.                  |
| orgId               | NSString *                                | Enterprise ID.                          |
| recordMode          | <a href="#">HWMSDKConfRecordMode</a>      | Media recording mode.                   |
| supportBreakoutConf | BOOL                                      | Whether breakout rooms are supported.   |
| isBreakoutSubConf   | BOOL                                      | Whether the session is a breakout room. |

**Table 7-97** HWMSDKConfBaselInfoModel description

| Parameter       | Type              | Description   |
|-----------------|-------------------|---|
| confId          | NSString *        | Meeting ID, which used to join a meeting. If the meeting is held in a cloud meeting room, this ID is the actual meeting ID. |
| vmrConfId       | NSString *        | ID of the meeting when it is held in a cloud meeting room.  |
| confSubject     | NSString *        | Meeting topic.  |
| startTime       | NSInteger         | Meeting start timestamp, accurate to seconds (GMT).   |
| endTime         | NSInteger         | Meeting end timestamp, accurate to seconds (GMT).   |
| timeZone        | NSString *        | Time zone.  |
| hostPwd         | NSString *        | Host password.  |
| guestPwd        | NSString *        | Guest password.   |
| scheduserUuid   | NSString *        | Scheduler UUID.   |
| scheduserName   | NSString *        | Scheduler name.   |
| hostJoinUri     | NSString *        | Link for the host to join the meeting.  |
| guestJoinUri    | NSString *        | Link for guests to join the meeting.  |
| selfConfRole    | HWMConfRole       | Role in the meeting.  |
| isWebinar       | BOOL              | Whether the meeting is a webinar.   |
| isCreator       | BOOL              | Whether the meeting was scheduled by you.   |
| audienceJoinUri | NSString *        | Link for attendees to join the webinar.   |
| audiencePwd     | NSString *        | Attendee password.  |
| conferenceType  | HWMConferenceType | Meeting type.   |
| confUuid        | NSString *        | Meeting UUID.   |

| Parameter                 | Type                   | Description   |
|---------------------------|------------------------|---|
| openCustomPara            | NSString *             | Custom extension information.   |
| liveRoomAddress           | NSString *             | Live broadcast address.   |
| isHighResolution          | BOOL                   | Whether the meeting resolution is ultra-HD (1080p).                                 |
| isP2PConf                 | BOOL                   | Whether the meeting is an instant meeting.  |
| supportSummary            | BOOL                   | Whether meeting minutes are supported.  |
| defaultSummaryState       | HWMSummaryState        | Meeting minutes status.   |
| autoMuteMode              | <b>HWMAutoMuteType</b> | Whether to automatically mute personal client users when they join the meeting.     |
| hardTerminalAutoMute-Mode | <b>HWMAutoMuteType</b> | Whether to automatically mute meeting room device users when they join the meeting. |

**Table 7-98** Enumerated values of HWMConfRole

| Enumerated Value    | Description          |
|---------------------|----------------------|
| HWMConfRoleAttendee | Guest.               |
| HWMConfRoleHost     | Host.                |
| HWMConfRoleAudience | Attendee.            |
| HWMConfRoleCohost   | Co-host.             |
| HWMConfRoleWaiting  | Waiting room member. |

**Table 7-99** Enumerated values of HWMConferenceType

| Enumerated Value     | Description        |
|----------------------|--------------------|
| HWMSDKConfTypeCommon | Common meeting.    |
| HWMSDKConfTypeCycle  | Recurring meeting. |

**Table 7-100** Enumerated values of HWMSummaryState

| Enumerated Value        | Description |
|-------------------------|-------------|
| HWMSDKSummaryStateClose | Disabled.   |
| HWMSDKSummaryStateOpen  | Enabled.    |

**Table 7-101** Enumerated values of HWMConfRecordMode

| Enumerated Value               | Description                   |
|--------------------------------|-------------------------------|
| HWMConfRecordModeDisable       | Disabled.                     |
| HWMConfRecordModeLive          | Live broadcast.               |
| HWMConfRecordModeRecord        | Recording.                    |
| HWMConfRecordModeLiveAndRecord | Live broadcast and recording. |

### 7.5.3.5 Meeting End Notification

#### Notification Description

A notification is sent when the meeting ends.

#### Method Definition

```
-(void)onConfEndedNotify:(HWMSDKERR)confEndCode;
```

#### Precautions

1. Set the **globalHandler** proxy during SDK initialization or set the proxy on the target page.

#### Parameter Description

**Table 7-102** Parameter description

| Parameter   | Type      | Description  |
|-------------|-----------|--|
| confEndCode | HWMSDKERR | Enumerated SDK error information. For details, see the <b>HWMSDKCommonDefine.h</b> file. |

## 7.5.3.6 Poor Connection Notification

### Notification Description

A notification is sent when the network connection was poor.

### Method Definition

```
- (void)onPoorNetworkQualityInfoNotify:(HWMSDKPoorNetWorkQualityInfoModel *)poorNetWorkInfo;
```

### Precautions

1. Set the **globalHandler** delegate during SDK initialization or set the delegate on the target page.

### Parameter Description

**Table 7-103** HWMSDKPoorNetWorkQualityInfoModel description

| Parameter   | Type   | Description                                       |
|-------------|--|---|
| userId      | NSUInteger   | User ID.  |
| nickName    | NSString *   | Display name in the meeting.                      |
| thirdUserId | NSString *   | Third-party account.                              |
| accountId   | NSString *   | Account information.                              |
| number      | NSString *   | SIP number.                                       |
| isLocal     | BOOL   | Whether the participant is the local client user. |
| audioStatus | <a href="#">HWMSDKLowNetWork-StatusInfoModel *</a> | Audio status.                                     |
| videoStatus | <a href="#">HWMSDKLowNetWork-StatusInfoModel *</a> | Video status.                                     |
| shareStatus | <a href="#">HWMSDKLowNetWork-StatusInfoModel *</a> | Sharing status.                                   |

**Table 7-104** HWMSDKLowNetWorkStatusInfoModel description

| Parameter  | Type       | Description       |
|------------|------------|-------------------|
| packetLoss | NSUInteger | Packet loss rate. |
| delay      | NSUInteger | Delay.            |
| jitter     | NSUInteger | Jitter.           |

| Parameter | Type                                | Description |
|-----------|-------------------------------------|-------------|
| status    | <a href="#">HWMLowNetWorkStatus</a> | Status.     |

**Table 7-105** Enumerated values of HWMLowNetWorkStatus

| Enumerated Value           | Description |
|----------------------------|-------------|
| HWMLowNetWorkStatusNormal  | Normal.     |
| HWMLowNetWorkStatusBad     | Poor.       |
| HWMLowNetWorkStatusVeryBad | Very poor.  |

### 7.5.3.7 Notification of Participant Addition Results

#### Notification Description

A notification is sent when the participant addition results are returned.

#### Method Definition

```
-(void)onAddAttendeeNotify:(HWMSDKAddAttendeeResultListModel *)resultList ;
```

#### Precautions

1. Set the **bizNotifyHandler** delegate during SDK initialization or set the delegate on the target page.

#### Parameter Description

**Table 7-106** HWMSDKAddAttendeeResultListModel description

| Parameter        | Type  | Description                             |
|------------------|---|---|
| addAttendeeInfos | NSArray< <a href="#">HWMSDKAddAttendeeInfoModel</a> > | Information about invited participants. |

**Table 7-107** HWMSDKAddAttendeeInfoModel description

| Parameter | Type     | Description |
|-----------|----------|-------------|
| number    | NSString | Number.     |

| Parameter   | Type      | Description   |
|-------------|-----------|---|
| thirdUserId | NSString  | Third-party account.  |
| result      | HWMSDKERR | Invitation error code. For details, see the <b>HWMSDKCommonDefine.h</b> file. |

## 7.5.4 Service Message Notification

### 7.5.4.1 Notifications for Host Role Changes

#### Notification Description

A notification is sent when the host role is changed.

#### Method Definition

```
-(void)onSelfIsChairManChanged:(BOOL)isChairMan;
```

#### Precautions

1. Set the **bizNotifyHandler** proxy during SDK initialization or set the proxy on the target page.

#### Parameter Description

Table 7-108 Parameter description

| Parameter  | Type | Description                          |
|------------|------|--------------------------------------|
| isChairMan | BOOL | Whether the participant is the host. |

### 7.5.4.2 Notifications for Meeting List Changes

#### Notification Description

A notification is sent when the meeting list is changed.

#### Method Definition

```
-(void)onReceiveConfList:(NSArray<HWMBaseConfDetailParam *> *)confList;
```

#### Precautions

1. Set the **bizNotifyHandler** proxy during SDK initialization or set the proxy on the target page.



## Parameter Description

See [Table 7-65](#).

### 7.5.4.3 Notifications for Changes on Video Meeting Recording Permissions

#### Notification Description

A notification is sent when the video meeting recording permission is changed.

#### Method Definition

```
- (void)onRecordPermissionNotify:(BOOL)isHasPermission;
```

#### Precautions

1. Set the **bizNotifyHandler** proxy during SDK initialization or set the proxy on the target page.

## Parameter Description

**Table 7-109** Parameter description

| Parameter       | Type | Description                   |
|-----------------|------|-------------------------------|
| isHasPermission | BOOL | Whether recording is allowed. |

### 7.5.4.4 Notifications for Changes of Permissions of Sending SMS Messages for Scheduled Meetings

#### Notification Description

A notification is sent when the permissions of sending SMS messages for scheduled meetings are changed.

#### Method Definition

```
- (void)onBookConfSmsPermissionNotify:(BOOL)isHasPermission;
```

#### Precautions

Set the **bizNotifyHandler** proxy during SDK initialization or set the proxy on the target page.

## Parameter Description

Table 7-110 Parameter description

| Parameter       | Type | Description                       |
|-----------------|------|-----------------------------------|
| isHasPermission | BOOL | Whether SMS messages can be sent. |

### 7.5.4.5 Notification of Shared Cloud Meeting Rooms

#### Notification Description

A notification is sent when information about shared cloud meeting rooms was changed.

#### Method Definition

```
-(void)onShareVmrInfoNotify:(HWMSDKShareVmrInfoModel *)shareVmrInfo;
```

#### Precautions

1. Set the **bizNotifyHandler** delegate during SDK initialization or set the delegate on the target page.

## Parameter Description

Table 7-111 Parameter description

| Parameter    | Type                                | Description                                   |
|--------------|-------------------------------------|---|
| shareVmrInfo | <a href="#">HWMCallRecordInfo</a> * | Information about shared cloud meeting rooms. |

Table 7-112 HWMCallRecordInfo description

| Parameter         | Type | Description                                       |
|-------------------|------|---|
| isEnabledShareVmr | BOOL | Whether shared cloud meeting rooms are available. |

## 7.5.5 Incoming Call Answering Policy Configuration

## 7.5.5.1 Configuring the Policy for Answering a Meeting Call

### Notification Description

A notification is sent when a meeting call is received. The called party needs to return the policy for answering the meeting call. If no policy is configured, the default configuration is used, and the dialog box for answering the meeting call is displayed.

### Method Definition

```
-(HWMInComingAnswerType)answerTypeOnConfIncoming;
```

Sample Code

```
-(HWMInComingAnswerType)answerTypeOnConfIncoming {  
    return HWMInComingAnswerNormal;// Default configuration.  
}
```

### Precautions

1. Set the **confSettingHandler** proxy during SDK initialization or set the proxy on the target page.

### Parameter Description

Table 7-113 HWMInComingAnswerType parameters

| Parameter                    | Description                         |
|------------------------------|-------------------------------------|
| HWMInComingAnswerNormal      | Default configuration.              |
| HWMInComingAnswerAutoDecline | The call is automatically rejected. |
| HWMInComingAnswerAutoAnswer  | The call is automatically answered. |

## 7.5.6 UI-related Notification

### 7.5.6.1 Notifications Indicating that the Floating Window Appeared

#### Notification Description

A notification is sent when the floating window appeared.

#### Method Definition

```
-(void)onReceiveConfLonFloatingWindowDidAppear;
```

Sample Code

```
- (void)onReceiveConfLonFloatingWindowDidAppear {  
}
```

## Precautions

1. Set the **confUIHandler** delegate during SDK initialization or set the delegate on the target page.

## Parameter Description

None

## 7.5.6.2 Notifications Indicating that the Floating Window Disappeared

### Notification Description

A notification is sent when the floating window disappeared.

### Method Definition

```
- (void)onReceiveConfLonFloatingWindowDidDisappear;
```

Sample Code

```
- (void)onReceiveConfLonFloatingWindowDidDisappear;  
}
```

## Precautions

1. Set the **confUIHandler** delegate during SDK initialization or set the delegate on the target page.

## Parameter Description

None

## 7.6 Error Code Reference

### 7.6.1 Common Error Codes

#### Precautions

1. You are advised to use enumerations.

**Table 7-114** Enumerated values of HWMUISDKErrorCode

| Parameter                              | Value | Description                 |
|--|-------|-----------------------------|
| HWMUISDKErrorCodeNumberAndAccountEmpty | 40001 | The contact does not exist. |
| HWMUISDKErrorCodeArgsError             | 40002 | Invalid parameter.          |

| Parameter                                | Value | Description   |
|--|-------|---|
| HWMUISDKErrorCodeRepeatRequest           | 40003 | Method call repeated.   |
| HWMUISDKErrorCodeTimeOut                 | 40004 | Method call timed out.  |
| HWMUISDKErrorCodeUnInit                  | 40005 | The SDK has not been initialized.                                 |
| HWMUISDKErrorCodeArgsLengthOverrun       | 40006 | The parameter value is too long.                                  |
| HWMUISDKErrorCodePasswordOrAccountEmpty  | 40007 | The account and password cannot be both empty.                    |
| HWMUISDKErrorCodeConfIdEmpty             | 40008 | The meeting ID cannot be empty.                                   |
| HWMUISDKErrorCodeUnLogin                 | 40009 | You have not logged in yet.                                       |
| HWMUISDKErrorCodeLogging                 | 40010 | Logging in...   |
| HWMUISDKErrorCodeSubjectTooLong          | 40011 | The meeting topic cannot contain up to 50 characters.             |
| HWMUISDKErrorCodeConfIdTooLong           | 40012 | The meeting ID cannot contain up to 20 characters.                |
| HWMUISDKErrorCodeConfOrCallExit          | 40013 | You are in a meeting or call.                                     |
| HWMUISDKErrorCodeAppIdIllegal            | 40014 | The app ID login parameters are incorrect.                        |
| HWMUISDKErrorCodeNetworkUnreachable      | 40015 | Network unavailable. Check the network.                           |
| HWMUISDKErrorCodeFilePathEmpty           | 40016 | The picture path for uploading a profile picture cannot be empty. |
| HWMUISDKErrorCodeNotInMeeting            | 40017 | You are not in the meeting.                                       |
| HWMUISDKErrorCodeNoPermissionAddAttendee | 40018 | You do not have the permission to add participants.               |
| HWMUISDKErrorCodeNoPermissionEndConf     | 40019 | You do not have the permission to end the meeting.                |
| HWMUISDKErrorCodeLeaveConfFail           | 40020 | Failed to leave the meeting.                                      |
| HWMUISDKErrorCodeLoggedIn                | 40021 | You have already logged in.                                       |

**Table 7-115** Enumerated values of HWMConfUIErrorCode

| Parameter                              | Value | Description   |
|--|-------|---|
| HWMErrorCodePermission-<br>Reject      | 50000 | No camera or microphone permissions.  |
| HWMErrorCodeUserCancel                 | 50001 | You have canceled the password input.   |
| HWMErrorCodeMultiDevi-<br>ceOnline     | 50002 | You have logged in to multiple clients.   |
| HWMErrorCodeSipDisable                 | 50003 | The call is unavailable.  |
| HWMErrorCodeConfIdError                | 50004 | The meeting ID cannot be empty.   |
| HWMErrorCodeNickEmpty                  | 50005 | The nickname cannot be empty.   |
| HWMErrorCodeNickTooLong                | 50006 | The nickname cannot exceed 64 characters.                                       |
| HWMErrorCodeConfOrCal-<br>lExist       | 50007 | A meeting or call already exists.   |
| HWMErrorCodeConfNeed-<br>Password      | 50008 | A password is required for an anonymous meeting.                                |
| HWMErrorCodeConfUnLogin                | 50009 | You have not logged in yet.   |
| HWMErrorCodeConfLoginIng               | 50010 | Logging in...   |
| HWMErrorCodeQRCodeNot-<br>Supported    | 50011 | The QR code is not supported. (Only Huawei Cloud Meeting QR code is supported.) |
| HWMErrorCodeNetworkUn-<br>Reachable    | 50012 | Network error.  |
| HWMErrorCodeUserCancel-<br>PhoneVerify | 50013 | A user cancels the mobile phone verification for joining a meeting anonymously. |
| HWMErrorCodeSeesionEx-<br>pired        | 50014 | The session for a user to join a meeting anonymously expires.                   |

**Table 7-116** Enumerated values of HWMConfSdkErrorCode

| Parameter                                | Value | Description   |
|--|-------|---|
| HWMConfSdkErrorCodeOpera-<br>tionTimeout | 68    | Initiating or joining a meeting times out due to poor network conditions. |

| Parameter  | Value    | Description  |
|--|----------|--|
| HWMConfSdkErrorCodeRoleAuthenticationFailed              | 91       | The meeting does not exist or you do not have the permissions to join the meeting.                           |
| HWMConfSdkErrorCodeVMROnlyAllowChairStartConf            | 95       | You are not allowed to join the meeting ahead of the host. Contact the host.                                 |
| HWMConfSdkErrorCodeNotAllowedGuestFirstJoin              | 103      | You are not allowed to join the meeting ahead of the host. Contact the host.                                 |
| HWMConfSdkErrorCodeConfSizeOverCommunalVMRMaxNum         | 104      | The number of participants in the cloud meeting room has reached the upper limit. Contact the administrator. |
| HWMConfSdkErrorCodeConfClosedRecently                    | 112      | The meeting has ended.   |
| HWMConfSdkErrorCodeReasonSessionTimerTimeout             | 836      | The call is disconnected due to network interruption.  |
| HWMConfSdkErrorCodeReasonNostreamHangup                  | 837      | The call is disconnected because no stream exists.   |
| HWMConfSdkErrorCodeReasonChairHangup                     | 838      | You have been removed from the meeting by the host. (The host disconnected you.)                             |
| HWMConfSdkErrorCodeReasonStopConfHangup                  | 839      | The meeting has ended.   |
| HWMConfSdkErrorCodeReasonConfLocked                      | 842      | The meeting has been locked.   |
| HWMConfSdkErrorCodeVMRDataNotFound                       | 11070006 | The cloud meeting room does not exist.   |
| HWMConfSdkErrorCodeVMRConfConflict                       | 11071005 | The current meeting conflicts with a scheduled meeting. Contact the cloud meeting room administrator.        |
| HWMConfSdkErrorCodeConfStartTimeOverMaxScheduleTime      | 11071014 | The start time exceeds the allowed range.  |
| HWMConfSdkErrorCodeConfSMIllegal                         | 11071025 | Check whether the mobile numbers of participants are correct.  |
| HWMConfSdkErrorCodeOrgConcurrentParticipantsNumberIsZero | 11071060 | Failed to create a meeting because the enterprise has not purchased concurrent participant resources.        |

| Parameter  | Value     | Description   |
|--|-----------|---|
| HWMConfSdkErrorCodeConfCancelFailAsConfStarted         | 11071067  | The meeting is in progress and cannot be canceled.  |
| HWMConfSdkErrorCodeConfNotAllowAnonymous               | 11071073  | Anonymous users are not allowed to join the meeting. Contact the meeting scheduler.   |
| HWMConfSdkErrorCodeConfOnlyAllowUserInOrg              | 11071074  | Only corporate users can join the meeting. Contact the meeting scheduler.   |
| HWMConfSdkErrorCodeConfOnlyAllowUserInvited            | 11071075  | Only invited users can join the meeting. Contact the meeting scheduler.   |
| HWMConfSdkErrorCodeSiteCallNumberIsEmpty               | 11072031  | Check whether the mobile numbers of participants are specified.   |
| HWMConfSdkErrorCodeSiteCallNumberIllegalUri            | 11072033  | Check whether the mobile numbers of participants are correct.   |
| HWMConfSdkErrorCodeConfLocked                          | 11072050  | The meeting has been locked.  |
| HWMConfSdkErrorCodeParticipantAuthenticationFailed     | 11081006  | Incorrect password. Try again.  |
| HWMConfSdkErrorCodeCorpConferenceResourceHasBeenRunout | 15022001  | The meeting resources (number of participants) purchased by the enterprise have reached the upper limit. Contact the administrator. |
| HWMConfSdkErrorCodeLowVersionNotSetCohost              | 111072106 | The participant is using an earlier version and cannot be set as a co-host.   |

## 7.6.2 Error Codes

**Table 7-117** Error codes

| Error Code | Error Description         |
|------------|---------------------------|
| -1         | Unknown error.            |
| 0          | Success.                  |
| 111070001  | Request error.            |
| 111070002  | Insufficient permissions. |



| Error Code | Error Description                              |
|------------|--|
| 111070003  | System processing failure.                     |
| 111070004  | Meeting authentication failed.                 |
| 111070005  | Meeting does not exist.                        |
| 111070006  | Personal cloud meeting room does not exist.    |
| 111070007  | Meeting access number does not exist.          |
| 111070008  | Meeting notification could not be sent.        |
| 111070009  | Meeting password cannot be left blank.         |
| 111070010  | Insufficient permissions to view this meeting. |
| 111070100  | Get started meeting exception.                 |
| 111070101  | Start meeting exception.                       |
| 111070102  | Apply IVR resource exception.                  |
| 111070103  | Start IVR meeting exception.                   |
| 111070104  | Apply site resource exception.                 |
| 111070105  | Start sub meeting exception.                   |
| 111070106  | Add channel exception.                         |
| 111070107  | Move and apply site resource exception.        |
| 111070108  | Start meeting exception.                       |
| 111070109  | Get started cloud meeting exception.           |
| 111070110  | Invite site exception.                         |
| 111070111  | Request token is null.                         |
| 111070112  | Rename site exception.                         |
| 111070113  | Hangup site exception.                         |
| 111070114  | Mass hangup site exception.                    |
| 111070115  | Delete attendee exception.                     |
| 111070116  | Mass delete attendee exception.                |
| 111070117  | Book cycle meeting exception.                  |
| 111070118  | Modify cycle meeting exception.                |
| 111070119  | Create cycle meeting exception.                |
| 111070120  | Region data not found.                         |
| 111070121  | Forbidden subscribe.                           |

| Error Code | Error Description  |
|------------|--|
| 111070122  | Cancel subscribe fail.   |
| 111071001  | Sysportal service exception.   |
| 111071002  | Conf service exception.  |
| 111071003  | Failed to create the meeting. Try again later.                                     |
| 111071004  | This cloud meeting room does not allow guests to join before the host.             |
| 111071005  | This cloud meeting room has been scheduled for another meeting during this period. |
| 111071006  | Insufficient cloud meeting time.   |
| 111071007  | Meeting does not exist.  |
| 111071008  | Cannot query meeting list.   |
| 111071009  | Cannot change cloud meeting into immediate meeting.                                |
| 111071010  | Cannot modify cloud meeting flag.  |
| 111071011  | The cloud meeting has not yet started. Please wait.                                |
| 111071012  | Not cloud meeting.   |
| 111071013  | Start time less than current time.   |
| 111071014  | Start time over max schedule time.   |
| 111071015  | Duration over range.   |
| 111071016  | Cycle ID list null exception.  |
| 111071017  | Meeting size over range.   |
| 111071018  | Invalid media type.  |
| 111071019  | Invalid meeting type.  |
| 111071020  | Cycle params null exception.   |
| 111071021  | Duration over range.   |
| 111071022  | Subject length too long.   |
| 111071023  | Group URI length too long.   |
| 111071024  | Invalid email address format.  |
| 111071025  | Invalid mobile number format.  |
| 111071026  | Department name too long.  |
| 111071027  | Invalid welcome voice enable value.  |
| 111071028  | Invalid enter voice enable value.  |

| Error Code | Error Description                             |
|------------|---|
| 111071029  | Invalid leave voice enable value.             |
| 111071030  | Invalid reminders value.                      |
| 111071031  | Invalid allow record value.                   |
| 111071032  | Invalid auto record value.                    |
| 111071033  | Invalid user type value.                      |
| 111071034  | Invalid encrypt mode value.                   |
| 111071035  | Invalid language value.                       |
| 111071036  | Invalid auto prolong value.                   |
| 111071037  | VmriD too long.                               |
| 111071038  | Invalid record type value.                    |
| 111071039  | Live address too long.                        |
| 111071040  | Aux address too long.                         |
| 111071041  | Null start date for cycle meeting.            |
| 111071042  | Null end date for cycle meeting.              |
| 111071043  | Invalid cycle type value for cycle meeting.   |
| 111071044  | Invalid interval for cycle meeting.           |
| 111071045  | Null point for cycle meeting.                 |
| 111071046  | Invalid point value for cycle meeting.        |
| 111071047  | Invalid vmr flag value.                       |
| 111071048  | Invalid record auxStream.                     |
| 111071049  | Invalid multiStream flag.                     |
| 111071050  | Invalid audience flag.                        |
| 111071051  | Invalid liveChannel ID.                       |
| 111071052  | Anonymous login is locked. Try again later.   |
| 111071053  | Link login is locked. Try again later.        |
| 111071054  | Not enough Meeting ID.                        |
| 111071055  | Failed to apply meeting ID.                   |
| 111071056  | Failed to release meeting ID.                 |
| 111071057  | Live room is used.                            |
| 111071058  | The meeting has not yet started. Please wait. |

| Error Code | Error Description  |
|------------|--|
| 111071059  | Meeting size over range.   |
| 111071060  | The enterprise cannot create meetings because it has not purchased any concurrent meeting resources. |
| 111071061  | Parameter verify failed.   |
| 111071062  | Json conversion failed.  |
| 111071063  | Not cloud meeting room owner.  |
| 111071064  | This cloud meeting room has been started for another meeting during this period.                     |
| 111071065  | This meeting cannot be modified because it is already started.                                       |
| 111071066  | Attendees amount over range.   |
| 111071067  | This meeting cannot be canceled because it is already started.                                       |
| 111071068  | Meeting password encrypt failed.   |
| 111071069  | No meeting during this period.   |
| 111071070  | Sub cycle meeting cannot modify live room.   |
| 111071071  | Stop online meeting exception.   |
| 111071072  | Meeting is ended.  |
| 111071073  | Not allow anonymous user.  |
| 111071074  | Only allow user in organization.   |
| 111071075  | Only allow invited user.   |
| 111071076  | Batch export task for history meeting list during this period.                                       |
| 111071077  | Only allow invited user and user in organization.  |
| 111071078  | Max current participants amount reached.   |
| 111071079  | Invalid CTD param.   |
| 111071080  | Invalid guest password.  |
| 111071081  | Guest password conflict with meeting ID.   |
| 111071082  | Max meeting amount reached.  |
| 111071083  | Invalid meeting random number.   |
| 111071084  | Max export history meeting list times reached.   |
| 111071085  | Max multi view layouts reached.  |
| 111071086  | Max multi view invalid manual type.  |

| Error Code | Error Description   |
|------------|---|
| 111071087  | Max multi view sub view amount reached.                       |
| 111071088  | Max multi view sub view numbers reached.                      |
| 111071089  | Webinar and common meeting cannot be converted to each other. |
| 111071090  | Not allow add audience.                                       |
| 111071091  | Meeting password authentication failed.                       |
| 111071092  | File export task failed.                                      |
| 111071093  | File export task is downloading.                              |
| 111071094  | Not allow audience to join.                                   |
| 111071095  | Need to get WEBINAR_CONF.DTO object.                          |
| 111071096  | User-defined languages over range.                            |
| 111071097  | Your enterprise does not support simultaneous interpretation. |
| 111071098  | Need to set interpreter groups.                               |
| 111071099  | Invalid interpretation language.                              |
| 111071100  | Max languages in a meeting are reached.                       |
| 111071101  | This interpreter group ID already exists.                     |
| 111071102  | Max interpreters in the interpreter group reached.            |
| 111071103  | This interpreter already exists in an interpreter group.      |
| 111071104  | Invalid interpreter account.                                  |
| 111071105  | Guest password conflict with chairman password.               |
| 111071106  | Meeting is holding.   |
| 111071107  | Invalid audience password.                                    |
| 111071108  | Audience password conflict with meeting id.                   |
| 111071109  | Audience password conflict with chairman password.            |
| 111071110  | Only RTC meeting support E2E encrypt.                         |
| 111071111  | Audience password conflict with guest password.               |
| 111071112  | Cloud meeting room ID type cannot be modified.                |
| 111071113  | Cloud meeting room type cannot be modified.                   |
| 111071114  | Cloud meeting room flag cannot be modified.                   |
| 111071119  | Sub cycle meeting modify time over range.                     |

| Error Code | Error Description   |
|------------|---|
| 111072001  | Application for meeting resources failed.                                   |
| 111072002  | Failed to release meeting resources.  |
| 111072003  | The meeting is ending.  |
| 111072004  | The meeting is starting.  |
| 111072005  | The meeting has not yet started.  |
| 111072006  | The meeting has ended.  |
| 111072007  | Site invitation failed.   |
| 111072008  | Site does not exist.  |
| 111072009  | Failed to disconnect the site.  |
| 111072010  | Coming soon...  |
| 111072011  | Meeting status incorrect.   |
| 111072012  | Site control operation failed.  |
| 111072013  | The cloud meeting room is in use by another meeting.                        |
| 111072014  | The meeting has ended.  |
| 111072015  | The meeting has not yet started.  |
| 111072016  | Meeting does not exist.   |
| 111072017  | Meeting has no attendee.  |
| 111072018  | Application for chairman password exception.                                |
| 111072019  | Not found site which can be moved exception.                                |
| 111072020  | The current meeting is not a recording meeting. Recording is not supported. |
| 111072021  | System processing failure.  |
| 111072022  | Insufficient recording resources in the system.                             |
| 111072023  | There are no participants in this meeting.                                  |
| 111072024  | Operation failed. No sites have joined this meeting.                        |
| 111072025  | Voice meeting does not support this function.                               |
| 111072026  | The voice site does not support this operation.                             |
| 111072027  | Voice sites cannot be displayed in custom continuous presence.              |
| 111072028  | At least one site must have custom continuous presence configured.          |

| Error Code | Error Description  |
|------------|--|
| 111072029  | At most one presentation pane is allowed in custom continuous presence.                              |
| 111072030  | In the voice-activated continuous presence mode, each pane can only support a single user.           |
| 111072031  | The number used for the site to join the meeting cannot be left blank.                               |
| 111072032  | The number used for the site to join the meeting is too long.  |
| 111072033  | The format of the number used for joining the meeting is incorrect.                                  |
| 111072034  | Length of site name too long.  |
| 111072035  | The site role type is outside the allowed range.   |
| 111072036  | Length of site email address too long.   |
| 111072037  | Length of site mobile number too long.   |
| 111072038  | The value for whether a site is muted after it first joins the meeting is outside the allowed range. |
| 111072039  | The value for whether to automatically invite a site is outside the allowed range.                   |
| 111072040  | The host's site viewing type is outside the allowed range.   |
| 111072041  | The value of the continuous presence setting mode is outside the allowed range.                      |
| 111072042  | The polling time is outside the allowed range.   |
| 111072043  | The pane type cannot be left blank.  |
| 111072044  | Invalid pane type.   |
| 111072045  | The value of the switch is outside the allowed range.  |
| 111072046  | The site name cannot be left blank.  |
| 111072047  | Site name too long.  |
| 111072048  | Continuous presence is not supported. Ask the administrator to configure related data on the MCU.    |
| 111072049  | Response timed out. Try again later.   |
| 111072050  | Meeting locked.  |
| 111072051  | The meeting display mode is empty.   |
| 111072052  | The meeting display mode is outside the allowed range.   |
| 111072053  | The meeting pane type is outside the allowed range.  |

| Error Code | Error Description   |
|------------|---|
| 111072054  | The banner or caption type is empty.  |
| 111072055  | The banner or caption content is empty.   |
| 111072056  | The banner or caption content cannot exceed 2,000 bytes.  |
| 111072057  | The request message body is empty.  |
| 111072058  | The pane index is greater than the total number of panes.                                       |
| 111072059  | Meeting has no host.  |
| 111072060  | Regular participants cannot perform this operation.   |
| 111072061  | You have set host polling and cannot select a specific site to view or set continuous presence. |
| 111072062  | You cannot select a site to view on the web page. Perform the operation on the terminal.        |
| 111072063  | Applying for recording resources...   |
| 111072064  | Too many failed login attempts. Try again later.  |
| 111072065  | The meeting ID or password is incorrect. Check the ID and password and try again.               |
| 111072066  | The enterprise has not purchased any recording storage space.                                   |
| 111072067  | Insufficient enterprise recording storage space.  |
| 111072068  | Failed to start live broadcast. Try again later.  |
| 111072069  | Not allow to hand up for host.  |
| 111072070  | The operation is not allowed for guest.   |
| 111072071  | The operation is only allowed for yourself.   |
| 111072072  | Not allow to apply host for attendees who do not have meeting control abilities.                |
| 111072073  | Notify message is expired.  |
| 111072074  | Only participants with a number registered on HUAWEI CLOUD can be set as the host.              |
| 111072075  | Hung up site for meeting ended.   |
| 111072076  | Hung up site by host.   |
| 111072077  | Hung up site because host deleted site.   |
| 111072078  | Hung up site because meeting is recreated.  |
| 111072079  | Hung up site for moving site failed.  |



| Error Code | Error Description  |
|------------|--|
| 111072080  | Hung up site for inviting site cross region failed.        |
| 111072081  | Hung up site for invitation exception.                     |
| 111072082  | Hung up site for joining meeting repeatedly.               |
| 111072083  | Lock sharing failed.                                       |
| 111072084  | This site does not support 1-screen layout.                |
| 111072085  | Not support realtime subtitle.                             |
| 111072086  | Realtime subtitle pid is null.                             |
| 111072087  | Invalid realtime subtitle pid.                             |
| 111072088  | Failed to set realtime subtitle.                           |
| 111072089  | Not allow audience to change speaker status.               |
| 111072090  | Allow/forbid audience to speak only for audience.          |
| 111072091  | This meeting does not support simultaneous interpretation. |
| 111072092  | Interpreter group is empty.                                |
| 111072093  | This meeting has not enabled simultaneous interpretation.  |
| 111072094  | This site is not interpreter.                              |
| 111072095  | This site has not yet confirmed interpreter identity.      |
| 111072096  | Invalid site language.                                     |
| 111072097  | This site is confirmed interpreter.                        |
| 111072098  | This site listen channel is different from speak channel.  |
| 111072099  | Failed to set interpretation languages. Try again.         |
| 111072100  | Failed to set interpretation channel. Try again.           |
| 111072101  | Max participant amount reached.                            |
| 111072102  | Max allowed handup amount reached.                         |
| 111072103  | Max allowed speaking amount reached.                       |
| 111072104  | Failed to set virtual audio CSD site.                      |
| 111072105  | This meeting does not support cohost.                      |
| 111072106  | This site does not support cohost.                         |
| 111072107  | Host cannot be set to cohost.                              |
| 111072108  | Audience cannot be set to cohost.                          |
| 111072109  | Need to check cohost permission.                           |

| Error Code | Error Description   |
|------------|---|
| 111072110  | Cohost cannot operate host.   |
| 111072111  | This site does not support share invitation.                                    |
| 111072201  | Hung up site because heart beat failed.   |
| 111072202  | Insufficient audience cloud meeting room logic resources.                       |
| 111072203  | Insufficient participant cloud meeting room logic resources.                    |
| 111072204  | Insufficient webinar resources, so started failed.                              |
| 111072205  | Only RTC conf support local record.   |
| 111072206  | Invalid E2E encryption parameter.   |
| 111072207  | Not allow to switch role in webinar.  |
| 111072208  | The client version used by the user is too early. Cannot start local recording. |
| 111072211  | Meeting is under AR assist.   |
| 111072213  | Audience cannot be set to host.   |
| 111072214  | Rename param contains sensitive words.  |
| 111073001  | User does not exist.  |
| 111073002  | Department does not exist.  |
| 111073003  | Invalid username format.  |
| 111073004  | Invalid department name format.   |
| 111073005  | Could not query department.   |
| 111073006  | Application for anonymous user failed.  |
| 111073007  | Invalid cloud meeting room package status.                                      |
| 111073008  | Failed to Release anonymous user.   |
| 111073009  | Not support cycle meeting for welinkC.  |
| 111073010  | Not support cloud meeting room for welinkC.                                     |
| 111073011  | Failed to get WeLink token.   |
| 111073012  | Failed to Get M to M token.   |
| 111073013  | Invalid webinar cloud meeting package status.                                   |
| 111073014  | Max extend times for cloud meeting trial version reached.                       |
| 111073015  | Max extend duration for cloud meeting trial version reached.                    |

| Error Code | Error Description   |
|------------|---|
| 111073016  | Not support auto extend meeting for cloud meeting trial version.  |
| 111074001  | This meeting host already exists.                                 |
| 111074002  | No meeting host permissions.                                      |
| 111074003  | Failed to extend the meeting. Max meeting duration reached.       |
| 111074004  | Failed to extend the meeting. The service processing is abnormal. |
| 111075001  | Failed to start timer.  |
| 111075002  | Failed to end timer.  |
| 111075003  | Json parse failed.  |
| 111076001  | Released by host.   |
| 111076002  | Released by portal host.  |
| 111076003  | Max number of participants reached.                               |
| 111076004  | Insufficient enterprise resources.                                |
| 111076005  | Not answered.   |
| 111076006  | User does not exist.  |
| 111076007  | Offline.  |
| 111076008  | Busy.   |
| 111076009  | Rejected by user.   |
| 111076010  | Released by user.   |
| 111076011  | Insufficient meeting resources in the system.                     |
| 111076012  | Outbound calling disabled.  |
| 111076013  | Application for address token failed.                             |
| 111076014  | Call failed.  |
| 111076015  | Max number of participants reached.                               |
| 111076099  | Common error.   |
| 111077001  | RSE server info does not exist.                                   |
| 111077101  | Not support AI record.  |
| 111077102  | Reapplying for AI record resource.                                |
| 111077103  | Insufficient AI record resource.                                  |

| Error Code | Error Description   |
|------------|---|
| 111077104  | In AI recording, the meeting cannot stop live or recording. |
| 111077201  | Record file does not exist or have no permission.           |
| 111077202  | RSE authentication failed.                                  |
| 111078000  | No available region in multi region.                        |
| 111078001  | No available global in multi region.                        |
| 111078002  | Dispatch region error in multi region.                      |
| 111079000  | Failed to phrase big data param query xml.                  |
| 111079001  | Failed to phrase anonymous assign xml.                      |
| 111080001  | Bad request.  |
| 111080002  | Insufficient permissions.                                   |
| 111080004  | Site data not found or deleted.                             |
| 111081001  | Site is inviting.   |
| 111081002  | Site meeting does not exist or is ended.                    |
| 111081003  | Failed to apply site resource.                              |
| 111081004  | Failed to release site resource.                            |
| 111081005  | Failed to apply site media resource.                        |
| 111081006  | Authentication failed.                                      |
| 111081007  | Meeting is locked.  |
| 111081009  | Login is locked because max authentication times reached.   |
| 111081010  | Waiting user restrictions.                                  |
| 111082001  | Not support this control.                                   |
| 111082002  | No response.  |
| 111082003  | Site not exist.   |
| 111082004  | Site unavailable.   |
| 111082005  | Site busy.  |
| 111082006  | Site refused.   |
| 111082007  | Site leave.   |
| 111082008  | PSTN service is closed.                                     |
| 111082009  | SIP invitation timeout.                                     |
| 111083001  | RSE does not exist.   |

| Error Code | Error Description  |
|------------|--|
| 111084001  | Failed to execute DTMF.  |
| 111084002  | Get started meeting exception.   |
| 111084003  | Call MCU side exception.   |
| 111084004  | Join call exception.   |
| 111084005  | Invite exception.  |
| 111084006  | Call terminal side exception.  |
| 111084007  | Answer exception.  |
| 111084008  | Common CTL exception.  |
| 111084009  | Hangup exception.  |
| 111084010  | Notify capability exception.   |
| 111084011  | Update MT exception.   |
| 111084012  | Negotiate exception.   |
| 111084013  | Not support this meeting.  |
| 111084014  | Not allowed join meeting in RTC inviting because guests are not invited. |
| 111089002  | Failed to phrase URI join xml.   |
| 111090001  | Failed to join data meeting.   |
| 111090002  | Join data meeting overtime.  |
| 111100001  | Failed to get slider image.  |
| 111100002  | Slider check failed.   |
| 111100003  | Invalid random number.   |
| 111100004  | Invalid slider token.  |
| 111100005  | Need to check slider.  |
| 111100006  | Invalid SMS phone number.  |
| 111100007  | Failed to send verification code.  |
| 111100008  | Verification code expired.   |
| 111100009  | Verification code error.   |
| 111100010  | Max verification code check times reached.                               |
| 111100011  | The uuid is invalid, you need to re-verify the phone number.             |
| 111100012  | The meeting is not on this site.   |

| Error Code | Error Description  |
|------------|--|
| 111100013  | Need to verify the mobile phone number. Mobile number verification is required when an International site user joins a meeting held by a free enterprise on the Chinese mainland site. |
| 111110001  | Failed to add IM group.  |
| 111110002  | Failed to disband IM group.  |
| 111110003  | Failed to add IM member.   |
| 111110004  | Failed to remove IM member.  |
| 111112001  | Failed to enter the waiting room.  |
| 111112002  | Failed to exit the waiting room.   |
| 111112003  | Waiting room cache operation failed.   |
| 111112004  | Co-hosts cannot be moved into the waiting room.  |
| 111112005  | Not allowed to enable waiting room.  |
| 111112008  | Not support this feature according to client capabilities.   |
| 112010001  | Common failure.  |
| 112010002  | Null param.  |
| 112010003  | Participant not found.   |
| 112010004  | Meeting not found.   |
| 112010005  | SIP invite information timeout.  |
| 112010006  | SIP invite information failed.   |
| 112010007  | SIP information timeout.   |
| 112010008  | SIP information failed.  |
| 112010009  | System processing failed.  |
| 112010010  | System processing failed.  |
| 112010011  | Failed to invite MRS.  |
| 112010012  | Failed to invite participant.  |
| 112010013  | Data meeting join information failed.  |
| 112010014  | Failed to start meeting.   |
| 112010015  | Media negotiation failed.  |
| 112010016  | User rejects.  |
| 112010017  | User is busy.  |

| Error Code | Error Description  |
|------------|--|
| 112010018  | No call permission.                                      |
| 112010019  | Unknown callee.  |
| 112010020  | No user response.  |
| 112010021  | Join meeting timed out.                                  |
| 112010022  | Session has been released.                               |
| 112010023  | Callee is not registered.                                |
| 112010024  | SIP invite timed out.                                    |
| 112010025  | User Session timer times out and hangs up.               |
| 112010026  | The participant bye hangs up on the MRS side.            |
| 112010027  | The participant bye hangs up on terminal side.           |
| 112010028  | No RTP stream hang up.                                   |
| 112100000  | Sysportal exception.                                     |
| 112100001  | Bad request.   |
| 112100002  | Illegal request.   |
| 112100003  | Data not found.  |
| 112100004  | Data duplication.  |
| 112100006  | The requested type is not supported.                     |
| 112100007  | Failed to save notification template.                    |
| 112100008  | Failed to save data.                                     |
| 112100009  | Failed to query data.                                    |
| 112100010  | Failed to delete data.                                   |
| 112100011  | Password reset required.                                 |
| 112100012  | Incorrect old password.                                  |
| 112100013  | The new password cannot be the same as the old password. |
| 112100014  | Insufficient password complexity and low security.       |
| 112100015  | The length does not meet the requirements.               |
| 112100016  | RSE is in meeting.                                       |
| 112100017  | RSE to be deleted.                                       |
| 112100018  | Failed to query the meeting list.                        |

| Error Code | Error Description   |
|------------|---|
| 112100019  | User has been locked out. Try again later.                                    |
| 112100022  | The live room channel name exists.  |
| 112100023  | Failed to modify system configuration items for duplicated meeting ID prefix. |
| 112100024  | CONFID prefix can only be added, not modified or deleted.                     |
| 112100025  | The live room channel url exists.   |
| 112100026  | The live room has been occupied.  |
| 112100027  | The live room does not exist.   |
| 112100028  | Live room release failed.   |
| 112100029  | The request is missing header or param.                                       |
| 112100030  | The Live main stream URL already exists.                                      |
| 112100031  | The Live auxiliary stream URL already exists.                                 |
| 112100032  | Password is weak.   |
| 112100033  | The live room is occupied.  |
| 112100034  | Save part of attendees since max attendees size reached.                      |
| 112100035  | Failed to export data.  |
| 112100036  | Failed to import data.  |
| 112100037  | Max file size reached.  |
| 112100038  | LVS target address exists.  |
| 112100039  | LVS port existed.   |
| 112100040  | Not allow to modify global standby config.                                    |
| 112100041  | MCU insulation IP address exists.   |
| 112100042  | MCU insulation IP address cannot be modified.                                 |
| 112100043  | SBC address exists.   |
| 112100044  | Internal exception.   |
| 112100045  | System config delete exception.   |
| 112100046  | No ISBC access address.   |
| 112100047  | Media type need to be HD because the organization enables full HD capability. |
| 112100061  | Same interpreter language abbreviation exists.                                |
| 112100062  | Same interpreter language name exists.  |



| Error Code | Error Description  |
|------------|--|
| 112100063  | MCU type is MIXED and insulation config is not configured, or MCU meeting exists when modifying MCU connection settings. |
| 112100064  | MCU type is MIXED and insulation config is not configured when adding mcu connection settings.                           |
| 112100065  | MCU type is MIXED when modifying MCU insulation config or disbanding enterprise.   |
| 112100066  | MCU type is MIXED when deleting MCU insulation config.   |
| 112100067  | This gateway type is incompatible with MCU.  |
| 115021001  | Insufficient media resource.   |
| 115021002  | Meeting does not exist.  |
| 115021003  | Media resource does not exist.   |
| 115021005  | Insufficient media bandwidth resource.   |
| 115021006  | Media device fault.  |
| 115022000  | Insufficient common logic resource.  |
| 115022001  | Insufficient meeting resources in the enterprise.  |
| 115022002  | Insufficient logic port resource.  |
| 115022003  | Live broadcast resources have not been purchased or are insufficient.  |
| 115022004  | Media device does not exist.   |
| 115023001  | Insufficient ID resources.   |
| 115024001  | RMS service exception.   |
| 115025001  | The live room has already been occupied.   |
| 115025002  | The live room does not exist.  |
| 115025003  | Live room release failed.  |
| 115026001  | MCU meeting exists.  |
| 115029001  | Invalid common parameter.  |
| 115029002  | Null parameter.  |
| 115029003  | service is not available.  |
| 115029004  | Configuration exception.   |
| 115029005  | Duplicately apply resources.   |
| 115029006  | Waiting for applying resources.  |

| Error Code | Error Description   |
|------------|---|
| 115029999  | Unknown error.  |
| 118000000  | User authentication failed.   |
| 118000001  | User token authentication failed.   |
| 118000002  | User authentication account lockout.  |
| 200000001  | Server is busy. Please try again later.   |
| 200000002  | Internal error. Please contact SRE.   |
| 200000003  | Invalid parameter. Please check whether the parameters are valid.                                   |
| 200000004  | Illegal request. Please check the value of the request header field X-Auth-Token or X-Access-Token. |
| 200000005  | Forbidden access during the version upgrade.  |
| 201020023  | This user is already the owner of another corporation and cannot create a new corporation for it.   |
| 201040005  | Max number of users reached. Please check the purchased meeting users.                              |
| 201040016  | Password security is low. Please set another password.  |
| 201040031  | Activation code overdue.  |
| 201040042  | Pre-authentication expired.   |
| 201040043  | This user is the owner of another corporation and cannot be invited.                                |
| 201040044  | Invalid invite connection.  |
| 201040045  | User is already in waiting list.  |
| 201040046  | User already exists.  |
| 201040047  | Account modification is not allowed.  |
| 201050012  | Activation code does not exist.   |
| 201050015  | Invalid activation code.  |
| 201050021  | Activation failed.  |
| 201050022  | Terminal does not allow unbinding.  |
| 201080000  | VMR resource unavailable.   |
| 201080006  | The host password and the guest password cannot be the same. Please confirm the input parameters.   |
| 201080017  | Same as meeting password.   |

| Error Code | Error Description  |
|------------|--|
| 201510001  | No invite permission to get an invite code.  |
| 201510003  | Invalid application.   |
| 206010000  | User name or password error.   |
| 206010007  | Account is not activated, no permission to log in.   |
| 206010010  | Failed to get verification code. Please contact SRE.   |
| 206010011  | Verification code must be filled.  |
| 206010012  | Verification code check failed.  |
| 206010013  | Jump login failed. Please contact SRE.   |
| 206010022  | SSO login failed. Please contact SRE.  |
| 206010023  | SSO login is not supported.  |
| 206010024  | Invalid authentication type.   |
| 206010025  | APPID verification failed.   |
| 206010027  | Authentication type error.   |
| 206010029  | Network error.   |
| 206010030  | APPID does not allow automatic registration.   |
| 206010031  | APPID auto registration failed.  |
| 206010036  | Normal users cannot log in.  |
| 206010042  | Huawei account authentication failed.  |
| 206010057  | APPID authentication expires.  |
| 206010058  | APPID account is not bound.  |
| 206010064  | Site mismatch.   |
| 206010065  | Phone number conflict.   |
| 206010066  | E-mail conflict.   |
| 206010070  | The number of users has reached the maximum.   |
| 206010071  | WeChat authentication failed.  |
| 206010074  | International sites support site changing re-login.  |
| 206010075  | Account has been unbound.  |
| 206020000  | Invalid authentication information. Please check the value of the request header field X-Auth-Token or X-Access-Token. |
| 206020001  | Token is created by disaster recovery site.  |

| Error Code | Error Description  |
|------------|--|
| 206020002  | Token is invalid due to being kicked.  |
| 206030000  | The user does not exist.   |
| 206030001  | The verification code is incorrect or has expired. Please obtain a new one.  |
| 206030002  | Incorrect verification code.   |
| 206030003  | Failed to send the verification code.  |
| 206030004  | Try to get a new verification code 180s later.   |
| 206030005  | The password cannot be changed.  |
| 206030006  | The old password is incorrect.   |
| 206030007  | The length of the new password does not meet the requirements.   |
| 206030008  | The password complexity does not meet the requirements.  |
| 206030009  | The new password must be different from the previous old passwords.  |
| 206030010  | The password cannot contain three or more of the same characters consecutively.  |
| 206030011  | The password cannot be changed within 5 minutes upon the last password change.   |
| 206030012  | The password cannot contain the account or the reverse order of the account.   |
| 206030013  | At least two characters must be different between the new and old passwords.   |
| 206030014  | Invalid password format.   |
| 206030015  | The user is locked and will be locked in 60s.  |
| 206030016  | Have no right to reset other's password.   |
| 206030018  | The number of password retrieval times in a day has reached the maximum (10 times).  |
| 206030019  | The number of incorrect verification code inputs have reached the maximum. Please get it again.                                    |
| 206030023  | Failed to send verification code. Please contact SRE.  |
| 206030028  | The system has enabled SSO login and does not support changing the password. Please retry after the system has disabled SSO login. |
| 206030031  | Forgot password for Huawei account.  |

| Error Code | Error Description  |
|------------|--|
| 206040000  | No corresponding terminal type.                          |
| 206060008  | Sending verification code is locked.                     |
| 206060009  | Slider verification required.                            |
| 206060010  | Invalid slider token.                                    |
| 206060011  | Request parameter error.                                 |
| 206060012  | Sending SMS is not supported.                            |
| 206060013  | Repeated sending is not supported.                       |
| 206060014  | Invalid verification code.                               |
| 206060015  | Max verification code check times reached.               |
| 206060017  | Failed to bind Huawei account.                           |
| 211030046  | Not the IdeaHub activation code.                         |
| 211030050  | auth fail too many times, locked.                        |
| 211030052  | auth fail too many times, permanently locked.            |
| 211060003  | The maximum number of log upload times has been reached. |
| 411000001  | Common failure.  |
| 411000002  | Parameter error.   |
| 411000003  | Meeting does not exist.                                  |
| 411000004  | A meeting already exists.                                |
| 411000005  | Meeting state error.                                     |
| 411000006  | Failed to get device.                                    |
| 411000007  | Failed to set device.                                    |
| 411000008  | No device available.                                     |
| 411000009  | This operation is only supported on mobile.              |
| 411000010  | Network access error.                                    |
| 411000011  | Other supplementary service is running.                  |
| 411000012  | Memory allocation error.                                 |
| 411000013  | Initialization failed.                                   |
| 411000014  | User does not exist.                                     |
| 411000015  | Did not join the data meeting.                           |

| Error Code | Error Description  |
|------------|--|
| 411000016  | Neither meeting nor call exists.                                     |
| 411000017  | SVN port detection failed.   |
| 411000018  | Failed to write file.  |
| 411000019  | RTC does not support STG mode.                                       |
| 411000020  | Failed to load RTC library. RTC meeting is not supported.            |
| 411000021  | The meeting is in the audience pause state when changing roles.      |
| 411000022  | Not in call.   |
| 411000023  | Meeting or call does not exist.                                      |
| 411000024  | Pairing state not allowed.   |
| 411000025  | Pairing request failed.  |
| 411000026  | Pairing exceeds limit.   |
| 411000027  | Pairing common error.  |
| 411000028  | Pairing and joining the meeting failed.                              |
| 411000029  | Pairing and joining the meeting is busy.                             |
| 411000030  | Pairing and joining the meeting is invalid.                          |
| 411000031  | Multiple clicks at the same time to pair and join the meeting error. |
| 411000032  | Pairing is not established or is being established.                  |
| 411000033  | The camera is not turned on in the third-party capture mode.         |
| 411000034  | RTC engine creation failed.  |
| 411000035  | Not in a meeting.  |
| 411000036  | mute self failed.  |
| 411000100  | End the meeting with no stream due to disconnection of network.      |
| 411000101  | End the meeting with no stream because fail to re-join meeting.      |
| 411000102  | Null pointer exception.  |
| 411000103  | Parameters cannot be empty.  |
| 411000104  | Encrypt and decrypt func not match.                                  |
| 411000105  | Load user-defined DLLs failed.                                       |

| Error Code | Error Description   |
|------------|---|
| 411000106  | Shimo Docs is not supported.  |
| 412100001  | The message processing thread is not initialized.   |
| 412100002  | Parameter error.  |
| 412100003  | Timeout.  |
| 412100004  | Memory allocation error.  |
| 412100005  | XML parsing error.  |
| 412100006  | DNS resolution error.   |
| 412100007  | Request message failed.   |
| 412100008  | Authentication failed.  |
| 412100009  | Server error.   |
| 412100010  | Account is locked.  |
| 412100011  | Create timer error.   |
| 412100012  | Server CA certificate verification failed.  |
| 412100013  | Network error.  |
| 412100014  | Server redirect.  |
| 412100015  | Account is not activated.   |
| 412100016  | JSON parsing error.   |
| 412100017  | The proxy communication times out and the TCP link building fails. Probably because the proxy configuration is incorrect.                                       |
| 412100018  | Disconnected by the proxy. Probably because the server address is misconfigured.  |
| 412100019  | The TCP link establishment timed out. Probably because the proxy domain name or port configuration is incorrect.  |
| 412100020  | The authentication process failed. The user does not have proxy permission and needs to apply for proxy permission.   |
| 412100021  | The authentication process failed. The proxy user name or password is incorrect.  |
| 412100022  | The authentication process failed. Incorrect authentication type. User name and password are required. The user needs to be prompted for input.                 |
| 412100023  | The authentication process failed. Other unknown errors. It may be that the authentication method is not supported. The user needs to be prompted to try again. |

| Error Code | Error Description   |
|------------|---|
| 412100024  | The authentication process failed. Unable to resolve gateway.                   |
| 412100025  | The authentication process failed. Unable to resolve host.                      |
| 412100026  | The authentication process failed. Unable to connect.                           |
| 412100027  | The authentication process failed. Operation times out.                         |
| 412100028  | Message length too long.  |
| 412100029  | Base64 encryption failed.   |
| 412100030  | XML parsing error.  |
| 412100031  | Secure function error.  |
| 412100032  | Firewall detection parameter error.   |
| 412100033  | Failed to create STG tunnel.  |
| 412100034  | Failed to update STG service.   |
| 412100035  | Encryption failed.  |
| 412100036  | Do not allow duplicate downloads.   |
| 412100037  | File operation failed.  |
| 412100038  | The request message returns empty.  |
| 412100039  | The number of detection servers is 0 error.                                     |
| 412100040  | Failed to get local IP address.   |
| 412200001  | Internal error.   |
| 412200002  | Parameter error.  |
| 412200003  | Network timeout.  |
| 412200004  | Network Error.  |
| 412200005  | Need to bind mobile phone.  |
| 412200006  | Need to bind email.   |
| 412200007  | Has initialized already.  |
| 412200008  | State machine execution failed.   |
| 412200009  | Failed to start timer.  |
| 412200010  | The user is prompted to change the password when logging in for the first time. |
| 412200011  | Unknown authentication type.  |
| 413000001  | Common error.   |



| Error Code | Error Description                          |
|------------|--|
| 413000002  | Parameter error.                           |
| 413000003  | Memory allocation error.                   |
| 413000004  | System error.                              |
| 413000005  | Message sending error.                     |
| 413000006  | Get system configuration error.            |
| 413000007  | Physical network error.                    |
| 413000008  | Network access error.                      |
| 413000009  | Create timer error.                        |
| 413000010  | Call state error.                          |
| 413000011  | Other operation in progress error.         |
| 413000012  | Requesting the master to start call error. |
| 413000013  | Requesting audio resource error.           |
| 413000014  | Other supplementary service is running.    |
| 413000015  | Record call error.                         |
| 413000016  | Media process error.                       |
| 413000017  | Maximum number of calls reached.           |
| 413000018  | SIP account ID does not exist.             |
| 413000019  | Call ID does not exist.                    |
| 413000020  | Failed due to registering.                 |
| 413000021  | Registration failed.                       |
| 413000022  | Deregistration failed.                     |
| 413000023  | Setting account information error.         |
| 413000024  | Setting SIP account error.                 |
| 413000025  | Reporting SIP account information error.   |
| 413000026  | Server information error.                  |
| 413000027  | SIP account information error.             |
| 413000028  | SIPC execution error.                      |
| 413000029  | Not registered error.                      |
| 413000030  | Call Sip interface to subscribe error.     |
| 413000031  | Canceling subscription error.              |

| Error Code | Error Description                                      |
|------------|--|
| 413000032  | Subscribing error.                                     |
| 413000033  | Only one local meeting is allowed.                     |
| 413000034  | Local meeting is not created.                          |
| 413000035  | The participant line does not match the chair account. |
| 413000036  | Local meeting state error.                             |
| 413000037  | Failed to report the linkage state of the IP Phone.    |
| 413000038  | Meeting ID does not exist.                             |
| 413000039  | Video hold error.                                      |
| 413000040  | Video unhold error.                                    |
| 413000041  | The maximum number of server meetings reached.         |
| 413000042  | Get AA random number error.                            |
| 413000043  | AA login error.  |
| 413000044  | Meeting type mismatch.                                 |
| 413000045  | Failed to start video meeting.                         |
| 413000046  | AA no master server.                                   |
| 413000047  | Password error.  |
| 413000048  | Username error.  |
| 413000049  | User is logged in.                                     |
| 413000050  | Account is locked.                                     |
| 413000051  | Terminal type mismatch.                                |
| 413000052  | Parsing XML error.                                     |
| 413000053  | Connecting to server error.                            |
| 413000054  | Get media configuration error.                         |
| 413000055  | Get service permission error.                          |
| 413000056  | Insufficient service permission.                       |
| 413000057  | Network environment error.                             |
| 413000058  | Service conflict.                                      |
| 413000059  | Connection timeout.                                    |
| 413000060  | Unknown error.   |
| 413000061  | Add ringing information error.                         |

| Error Code | Error Description   |
|------------|---|
| 413000062  | Delete ringing information error.   |
| 413000063  | Create ringing number error.  |
| 413000064  | VVM parameter error.  |
| 413000065  | Getting registered service error.   |
| 413000066  | Getting voicemail error.  |
| 413000067  | Attendee already exists.  |
| 413000068  | Attendee does not exist.  |
| 413000069  | Create server video meeting window error.   |
| 413000070  | Video window already exists.  |
| 413000071  | Getting meeting list error.   |
| 413000072  | Operating requires host privileges.   |
| 413000073  | No video device to operate.   |
| 413000074  | Refresh registration is not turned off.   |
| 413000075  | Online state report error.  |
| 413000076  | Network address subscription report error.  |
| 413000077  | Telepresence account was force unregistered. Information report error.              |
| 413000078  | TLS root certificate error.   |
| 413000079  | AD authentication error.  |
| 413000080  | Meeting list is getting.  |
| 413000081  | Prohibited calls.   |
| 413000082  | The maximum number of calls has been reached.                                       |
| 413000083  | The maximum number of encrypted calls has been reached.                             |
| 413000084  | The maximum number of video calls has been reached and needs to downgrade to audio. |
| 413000085  | H323 account ID does not exist.   |
| 413000086  | H323 account information error.   |
| 413000087  | H323 account information report failed.   |
| 413000088  | Insufficient local resources.   |
| 413000089  | The calling protocol is not supported.  |
| 413000090  | Setting H323 account information error.   |

| Error Code | Error Description   |
|------------|---|
| 413000091  | Mediatrix meeting access number reporting failed.   |
| 413000092  | Mediatrix VMR information reporting failed.   |
| 413000093  | IMS meeting list information reporting failed.  |
| 413000094  | TUP initialization is not complete.   |
| 413000095  | Message return value error.   |
| 413000096  | Message content too large error.  |
| 413000097  | Secure function error.  |
| 413000098  | message response is empty error.  |
| 413000099  | Account is not enabled.   |
| 413000100  | Create call control implement error.  |
| 413000101  | Already in call.  |
| 413000102  | Call does not exist.  |
| 413000103  | Failed to get media configuration information.  |
| 413000104  | Failed to set third-party capture. Calling HME_V_Capture_InputData failed.  |
| 414100001  | Common error.   |
| 414100002  | Parameter error.  |
| 414100003  | Timeout.  |
| 414100004  | Memory allocation error.  |
| 414100005  | DNS resolution error.   |
| 414100006  | Request message failed.   |
| 414100007  | Authentication failed.  |
| 414100008  | Server error.   |
| 414100009  | Create timer error.   |
| 414100010  | Start timer error.  |
| 414100011  | The meeting control block is full. Please release the control block that is not in use.                                   |
| 414100012  | The proxy communication times out and the TCP link building fails. Probably because the proxy configuration is incorrect. |
| 414100013  | Disconnected by the proxy. Probably because the server address is misconfigured.  |

| Error Code | Error Description   |
|------------|---|
| 414100014  | The TCP link establishment timed out. Probably because the proxy domain name or port configuration is incorrect.  |
| 414100015  | The authentication process failed. The user does not have proxy permission and needs to apply for proxy permission.   |
| 414100016  | The authentication process failed. The proxy user name or password is incorrect.  |
| 414100017  | The authentication process failed. Incorrect authentication type. User name and password are required. The user needs to be prompted for input.                 |
| 414100018  | The authentication process failed. Other unknown errors. It may be that the authentication method is not supported. The user needs to be prompted to try again. |
| 414100019  | Curl proxy exception.   |
| 414100020  | Curl host exception.  |
| 414100021  | Curl connection exception.  |
| 414100022  | Curl operation timed out.   |
| 414100023  | Message length too long.  |
| 414100024  | Failed to create thread.  |
| 414100025  | Secure function error.  |
| 414100026  | JSON parsing failed.  |
| 414100027  | WS token is empty.  |
| 414100028  | Return JSON data error.   |
| 414100029  | Failed to create meeting control block.   |
| 414100030  | Failed to get meeting control block.  |
| 414100031  | Failed to get meeting control block by CallId.  |
| 414100032  | Destroying the meeting control block failed.  |
| 414100033  | Temporary creating meeting information not found.   |
| 414100034  | Failed to get participant ID.   |
| 414100035  | Failed to get MT by participant ID.   |
| 414100036  | Failed to get self information by participant ID.   |
| 414100037  | Failed to get participant information by MT.  |
| 414100038  | Manual invitation required.   |
| 414100039  | The major parameters of the meeting have been reported.   |

| Error Code | Error Description  |
|------------|--|
| 414100040  | Subtitles are not supported.   |
| 414100041  | Meeting Hang Up - Timeout.   |
| 414100042  | Meeting Hang Up - No Streaming.  |
| 414100043  | Meeting hung up - Hung up by the host.   |
| 414100044  | Meeting Hang Up - Meeting has ended.   |
| 414100045  | End of meeting due to leave meeting.   |
| 414100046  | Message queue processing function registration failed.   |
| 414100047  | Message queue processing function deregistration failed.   |
| 414100048  | Meeting ended due to reject meeting.   |
| 414100049  | Meeting ended by self.   |
| 414100050  | The meeting control module is not initialized.   |
| 414100051  | The watching special site reaches the maximum.   |
| 414100052  | The watching HD site reaches the maximum.  |
| 414100053  | The watching SD site reaches the maximum.  |
| 414100054  | The watching specification reaches the maximum.  |
| 414100055  | Watching internal errors.  |
| 414100056  | Duplicated watch render.   |
| 414100057  | HTTP request error.  |
| 414100058  | WebSocket request timeout.   |
| 414100059  | Loading failed.  |
| 414100061  | The meeting ends due to the timeout of guest waiting before meeting or the timeout of the meeting control heartbeat. |
| 414100062  | The meeting ends due to being canceled.  |
| 414100063  | The meeting ends due to network error when guest waiting before meeting.   |
| 415000001  | DB is not initialized.   |
| 415000002  | Common failure.  |
| 415000003  | Proxy detection has not been completed.  |
| 416000001  | Invalid parameter.   |
| 416000002  | Track module is not initialized.   |

| Error Code | Error Description                       |
|------------|---|
| 416000003  | Track event does not exist.             |
| 416000004  | Not logged in.                          |
| 416000005  | Upload is not enabled.                  |
| 419100001  | Invalid parameter.                      |
| 419100002  | Incorrect URI.                          |
| 419100003  | Memory allocation failed.               |
| 419100004  | SDP error.                              |
| 419100005  | Connection does not exist.              |
| 419100006  | Connection failure.                     |
| 419100007  | Operation forbidden.                    |
| 419100008  | State error.                            |
| 419100009  | No corresponding line data.             |
| 419100010  | No corresponding registered instance.   |
| 419100011  | No corresponding call instance.         |
| 419100012  | No corresponding subscription instance. |
| 419100013  | No corresponding Refer instance.        |
| 419100014  | No corresponding DIM instance.          |
| 419100015  | Failed to create header.                |
| 419100016  | Failed to parse header.                 |
| 419100017  | Header not found.                       |
| 419100018  | No SDP message body.                    |
| 419100019  | Failed to get capability.               |
| 419100020  | Failed to compare capability.           |
| 419100021  | Failed to open logical channel.         |
| 419100022  | Encoding SDP failed.                    |
| 419100023  | Decoding SDP failed.                    |
| 419100024  | Negotiate to unsupported SDP.           |
| 419100025  | TPTD initialization failed.             |
| 419100026  | TPT initialization failed.              |
| 419100027  | TXN initialization failed.              |

| Error Code | Error Description   |
|------------|---|
| 419100028  | UA initialization failed.                                     |
| 419100029  | GLUE initialization failed.                                   |
| 419100030  | HLLM initialization failed.                                   |
| 419100031  | VCOM initialization failed.                                   |
| 419100032  | SDP initialization failed.                                    |
| 419100033  | Multiple instance error.                                      |
| 419100034  | Insufficient registration control blocks.                     |
| 419100035  | Insufficient subscription control blocks.                     |
| 419100036  | Insufficient call control blocks.                             |
| 419100037  | Insufficient IM control blocks.                               |
| 419100038  | Failed to parse URI xml to string.                            |
| 419100039  | Encryption negotiation failed.                                |
| 419100040  | Local capabilities are not configured.                        |
| 419100041  | BFCP token error.   |
| 419100042  | DNS resolution error.   |
| 419100043  | Failed to get subscription state.                             |
| 419100044  | IPv4 is not supported.  |
| 419100045  | IPv6 is not supported.  |
| 419100046  | Unsupported host type.  |
| 419100047  | Failed to get timer.  |
| 420000001  | Cannot receive sharing invitations.                           |
| 420000002  | ReportDTO parameter verification failed.                      |
| 420000003  | Report folder creation failed.                                |
| 420000004  | Report folder compression failure.                            |
| 420000005  | The path of the ZIP file to be uploaded is empty.             |
| 420000006  | The size of the ZIP file to be uploaded reaches the maximum.  |
| 420000007  | The same person reported more than 100 times within 24 hours. |
| 430100001  | Common Error.   |
| 430100002  | Invalid parameters.   |



| Error Code | Error Description   |
|------------|---|
| 430100003  | SIP connection check failed.  |
| 430100004  | Timeout.  |
| 430100005  | In process.   |
| 430100006  | Not initialized or initialization is not complete.                                |
| 430100007  | Not supported in this release.  |
| 430100008  | Operation interrupt.  |
| 430100009  | Contact not found.  |
| 430100010  | Args length overrun.  |
| 430100011  | APPID info illegal.   |
| 430100012  | E2EEncrypt algorithm error.   |
| 430200001  | unlogin.  |
| 430200002  | Repeated login.   |
| 430200003  | SIP connection timeout.   |
| 430200004  | Invalid login password.   |
| 430200005  | Password or account empty.  |
| 430300001  | The calling number, account number or third-party account number cannot be empty. |
| 430300002  | Call account empty.   |
| 430300003  | Call nickname empty.  |
| 430400001  | Password required to join the meeting.  |
| 430400002  | Time zone error.  |
| 430400003  | The meeting duration is less than 1.  |
| 430400004  | Joining the conference is interrupted.  |
| 430400005  | Password input at least 4 digits.   |
| 430400006  | User voluntarily cancels.   |
| 430400007  | The guest password illegal.   |
| 430400008  | Not in conference or in call.   |
| 430400009  | Already exist conf or call.   |
| 430400010  | ConfId empty.   |
| 430400011  | Subject too long.   |

| Error Code | Error Description                                 |
|------------|---|
| 430400012  | VMR host password length illegal.                 |
| 430400013  | VMR name empty.                                   |
| 430400014  | Conf starttime early.                             |
| 430400015  | Share is locked.                                  |
| 430400016  | Not in data conference.                           |
| 430400017  | Role not support operation                        |
| 430500001  | HTTP request, server exception.                   |
| 430500002  | HTTP request, Connecting to the server times out. |
| 430500003  | Network unavailable.                              |
| 510000403  | Server forbidden.                                 |
| 510000404  | Not found.  |
| 510000480  | Temporary unavailable.                            |
| 510000486  | Busy here.  |
| 510000487  | Request terminated.                               |
| 510000488  | Request is not acceptable here.                   |
| 510000603  | Decline.  |
| 510000841  | Hangup without toast.                             |
| 510000842  | Conference is locked.                             |
| 910000001  | Server error.                                     |
| 910000002  | SFU service failure.                              |
| 910000003  | Service unavailable 503.                          |
| 910000004  | Internal error.                                   |
| 910000005  | Kicked off.                                       |
| 910000006  | Signature expired.                                |
| 910000007  | Reconnect timeout.                                |
| 910000008  | Network detection.                                |
| 910000009  | User is removed.                                  |
| 910000010  | The room is dismissed.                            |
| 990000001  | Internal error.                                   |
| 990000002  | Message too large.                                |

| Error Code | Error Description   |
|------------|---|
| 990000003  | Insufficient memory.  |
| 990000004  | Failed to send message synchronously.                                 |
| 990000005  | Parameter error.  |
| 990000006  | Call ID order error.  |
| 990000007  | Failed to set local screen.   |
| 990000008  | Failed to open remote screen.   |
| 990000009  | Device configuration failed.  |
| 990000010  | Initializing.   |
| 990000011  | Deinitializing.   |
| 990000012  | Uploading log.  |
| 990000013  | Failed to get media port.   |
| 990000014  | The maximum number view window reached .                              |
| 990000015  | Media negotiation failed.   |
| 990000016  | Server no response.   |
| 990000017  | Role switch failed.   |
| 990000018  | Failed to join room.  |
| 990000019  | Failed to join room. Status is busy.                                  |
| 990000020  | Failed to join room. Server error.                                    |
| 990000021  | Failed to join room. Service unavailable.                             |
| 990000022  | Failed to join room. Authentication failed.                           |
| 990000023  | Failed to join room. Authentication retry.                            |
| 990000024  | Failed to join room. Clock synchronization.                           |
| 990000025  | Failed to join room. URL error.                                       |
| 990000026  | Kicked off.   |
| 990000027  | Share failed.   |
| 990000028  | Currently in external media output mode, this operation is forbidden. |
| 990000029  | Reconnection failed.  |
| 990000030  | Server breaks down.   |
| 990000031  | Signature has expired.  |

| Error Code | Error Description   |
|------------|---|
| 990000032  | Failed to set remote window mode.                                   |
| 990000033  | Failed to subscribe or unsubscribe audio.                           |
| 990000034  | Failed to connect to other room.                                    |
| 990000035  | Failed to disconnect other room.                                    |
| 990000036  | Role switching is not allowed.                                      |
| 990000037  | Currently in third-party capture mode, this operation is forbidden. |
| 990000038  | Failed to set third-party audio capture.                            |
| 990000039  | Failed to set third-party video capture.                            |
| 990000040  | Failed to set share sound switch.                                   |
| 990000041  | Failed to start or stop upstream audio stream.                      |
| 990000042  | Failed to start or stop upstream video stream.                      |
| 990000043  | User is removed.  |
| 990000044  | The room is dismissed.  |
| 990000045  | Failed to set remote View.  |

## 7.7 Version Updates

### 7.7.1 100.10.7 Updates

1. Fixed issues and provided more stable experience.

### 7.7.2 100.10.6 Updates

1. Fixed issues and provided more stable experience.

### 7.7.3 100.10.5 Updates

1. Added the **customLanguageInfosForScene** API for customizing the text for a specific scenario. For details, see [Customizing the Text for a Specific Scenario](#).
2. Added the **customImageForScene** API for customizing the icon for a specific scenario. For details, see [Customizing the Icon for a Specific Scenario](#).
3. Added the **onClickAddVirtualBackgroundItem** API for customizing the event of touching the button of adding a virtual background image. For details, see [Customizing the Button of Adding a Virtual Background Image](#).

4. Added the **buildWaitingToolBarMenuItems** API for customizing a menu at the bottom of the waiting member list. For details, see [buildWaitingToolBarMenuItems](#).
5. Added the **buildOfflineToolBarMenuItems** API for customizing a menu at the bottom of the absent participant list. For details, see [buildOfflineToolBarMenuItems](#).

## 7.7.4 100.9.7 Updates

1. Fixed issues and provided more stable experience.

## 7.7.5 100.9.5 Updates

1. Added the **startTimeStamp** (meeting start time) and **endTimeStamp** (meeting end time) fields to **HWMBaseConfDetailParam**, and discarded the original **startTime** and **endTime** fields. For details, see [Table 7-65](#).
2. Added the **thirdUserId** field (third-party user account) to **HWMSDKConfIncomingInfoModel**. For details, see [Table 7-93](#).
3. Added the **onAddAttendeeNotify** notification to notify you of participant addition results. For details, see [Notification of Participant Addition Results](#).
4. Added the **onLoginError** notification (login failure notification) to **HWMNotifyHandler**. When receiving the error code 412100012 indicating that the server CA certificate verification failed, you will be logged out.
5. Fixed issues and provided more stable experience.

## 7.7.6 100.7.13 Updates

1. Fixed issues and provided more stable experience.

## 7.7.7 100.7.8 Updates

1. Fixed issues and provided more stable experience.

## 7.7.8 100.7.6 Updates

1. Fixed issues and provided more stable experience.

## 7.7.9 100.7.5 Updates

1. The host can set whether to automatically mute specific participants when they join the meeting. For details, see [Table 7-45](#) and [Table 7-58](#).
2. Added **OnMeetingInfoChanged** to notify you of meeting information changes. For details, see [Meeting Information Change Notification](#).
3. Fixed issues and provided more stable experience.

## 7.7.10 100.5.5 Updates

1. Added notifications of floating window changes. For details, see [Notifications Indicating that the Floating Window Appeared](#) and [Notifications Indicating that the Floating Window Disappeared](#).
2. Fixed issues and provided more stable experience.

## 7.7.11 100.3.6 Updates

1. Added the **setScreenShareExtensionBundleId** API for setting a bundle ID of the screen sharing extension. For details, see [Setting a Bundle ID of the Screen Sharing Extension](#).
2. Fixed issues and provided more stable experience.

## 7.7.12 90.12.7 Updates

1. Fixed issues and provided more stable experience.

## 7.7.13 90.12.5 Updates

1. Deprecated the **getVmrList** API and added the **getVmrInfoList** API. For details, see [Obtaining the Cloud Meeting Room List](#).
2. Added **OnShareVmrInfoNotify** to notify you when information about shared cloud meeting rooms was changed. For details, see [Notification of Shared Cloud Meeting Rooms](#).
3. Added the **getErrorMessage** API for obtaining an error message, which can be used for prompt. For details, see [Obtaining an Error Message](#).
4. Added the **setGuaranteedIpAddresses** API for setting guaranteed IP addresses for meeting control to keep on-premises data within your enterprise or support network interruption survival. For details, see [Setting Guaranteed IP Addresses for Meeting Control](#).
5. Renamed **HWMUISDKErrorDefine.h** to **HWMErrorDefine.h**.
6. Fixed issues and provided more stable experience.

## 7.7.14 90.10.8 Updates

1. Fixed issues and provided more stable experience.

## 7.7.15 90.9.6 Updates

1. Fixed issues and provided more stable experience.

## 7.7.16 90.9.5 Updates

1. Added the **concurrentParticipants** parameter (maximum number of participants allowed in a meeting) to **HWMCreateConfParam** (creating a meeting), **HWMOrderConfParam** (scheduling a meeting), and **HWMConfDetail** (meeting details). For details, see [Table 7-45](#), [Table 7-58](#), and [Table 7-69](#).
2. Added the **vmrConfId** parameter (ID of meetings held in a cloud meeting room) to **HWMSDKConfIncomingInfoModel** (incoming meeting details). For details, see [Table 7-93](#).
3. Fixed issues and provided more stable experience.

## 7.7.17 90.7.5 Updates

1. Added the **StartP2pConf** API for starting an instant meeting. For details, see [Starting an Instant Meeting](#).

2. Added the **domain** field to the **HWMRandomConfParam** parameter of the API for joining a meeting using a random code. For details, see [Table 7-51](#).
3. Added the **joinPairConf:callback**: API for inviting a display to a meeting by scanning a QR code. For details, see [Scanning a QR Code to Invite a Large Screen to a Meeting](#).
4. Added **isP2PConf** (whether the meeting is an instant meeting) to **HWMBaseConfDetailParam** in the meeting details notification **onConfDetail**. For details, see [Table 7-65](#).
5. Added **isSpeakerOff** (whether to disable speakers) to the **HWMCreateConfParam** parameter of the **createConf** API for creating a meeting. For details, see [Table 7-45](#).
6. Fixed issues and provided more stable experience.

## 7.7.18 90.6.5 Updates

Deprecated the **startCall** API.

1. Added the button for interrupting sharing to meeting settings.
2. Added the **isSupportMultiAppLogin** parameter, which indicates whether login to multiple applications on the same device is supported. For details, see [Table 7-2](#).
3. Added the **onPoorNetworkQualityInfoNotify()** API for reporting information about poor network connection. For details, see [Poor Connection Notification](#).
4. Added the **customInfo** field to the APIs for scheduling, editing, creating, and querying a meeting. For details, see [Table 7-45](#), [Table 7-58](#), and [Table 7-69](#).
5. Added error code 412100044. (For details about the adaptation mode of this error code, see the demo.)
6. Fixed issues and provided more stable experience.

## 7.7.19 80.15.21 Updates

1. Fixed issues and provided more stable experience.

## 7.7.20 80.15.6 Updates

1. Fixed issues and provided more stable experience.

## 7.7.21 80.15.5 Updates

1. Added the function of broadcasting continuous presence.
2. Added the screen rotation switch.
3. Added the lighting adjustment function.
4. Fixed issues and provided more stable experience.

## 7.7.22 80.13.8 Updates

1. Fixed issues and provided more stable experience.

## 7.7.23 80.13.6 Updates

1. Upgraded the compilation environment to Xcode 14.
2. Fixed issues and provided more stable experience.

## 7.7.24 80.13.5 Updates

1. Added the API for initializing the SDK in a subthread. For details, see [initAsyncWithConfig:callback:](#).
2. Added the function of viewing details after touching the profile picture of a participant in the action sheet.s For details, see [Customizing the Profile Picture Click Event in buildParticipantActionSheetItems](#).
3. Fixed issues and provided more stable experience.

## 7.7.25 80.12.6 Updates

1. Added the enumerated value **HWMFeatureTypeRecoedAlert** (whether to display the recording security prompt) to the **enableFeature:isEnabled:** API. For details, see [Table 7-10](#).
2. Fixed issues and provided more stable experience.

## 7.7.26 80.12.5 Updates

1. Added the **HWMRMedia.framework** library. For details, see [Getting Started](#). The usage method is similar to that of the **HWMUISDK.framework** library.
2. Changed the conditions for uploading profile pictures (to check the type and size of profile pictures). For details, see [Uploading a Profile Picture](#).
3. Fixed issues and provided more stable experience.

## 7.7.27 80.10.5 Updates

1. Added parameters **confAllowJoinUser** (configuring users who can join the meeting) and **isOpenWaitingRoom** (whether the waiting room is enabled) to APIs for obtaining the cloud meeting room list (**HWMVmrInfoModel**) and modifying cloud meeting room information (**HWMModifycloud meeting roomParam**). For details, see [HWMVmrInfoModel](#) and [HWMModifyVMRParam](#).
2. Added the **setShareScreenPermission** API for setting the sharing permission. For details, see [Setting the Sharing Permission](#).
3. Fixed issues and provided more stable experience.

## 7.7.28 80.9.5 Updates

1. Add the **isLiveOn** parameter to **HWMOrderConfParam.h** of the API for editing a meeting. For details, see [HWMOrderConfParam](#).
2. Added the enumerated value **HWMFeatureTypeBreakoutConf** of breakout rooms to the **enableFeature:isEnabled:** API for enabling a function. For details, see [Enabling a Function](#).



3. Changed the **subConfUUID** parameter to **subConfID** in the **CancelSubCycleConf** API for canceling a recurring meeting. For details, see [HWMSDKCancelSubCycleConfParamModel](#).
4. Fixed issues and provided more stable experience.

## 7.7.29 80.8.5 Updates

1. You can set the guest password when creating, scheduling, or editing a meeting. For details, see [HWMCreateConfParam](#) and [HWMOrderConfParam](#).
2. Fixed issues and provided more stable experience.

## 7.7.30 80.7.5 Updates

1. You can customize the app language.
2. Fixed issues and provided more stable experience.

## 7.7.31 80.5.11 Updates

1. Added the API for disabling prompt tones. For details, see [Disabling Prompt Tones](#).
2. Added the function of customizing the recording button. For details, see [Customizing the Recording Button](#).

## 7.7.32 80.5.5 Updates

1. Added the waiting room switch to the APIs for scheduling a meeting, modifying a meeting, and obtaining meeting details. For details, see [Table 7-45](#) and [Table 7-58](#).
2. Fixed issues and provided more stable experience.

## 7.7.33 70.16.5 Updates

1. Added APIs related to recurring meetings. For details, see [Scheduling a Recurring Meeting Series](#), [Editing a Recurring Meeting Series](#), [Canceling a Recurring Meeting Series](#), [Editing a Recurring Meeting](#), and [Canceling a Recurring Meeting](#).
2. Added the API for setting the network mode. For details, see [Setting the Network Mode](#).
3. Added the function of sharing audio. For details, see [Figure 7-32](#).
4. Added **isStopConflictConf** to **HWMJoinConfParam.h** in the API for joining a meeting using an ID. For details, see [Table 7-50](#).
5. Added **disableIncomingLocalNotification** (disabling notifications of incoming meeting calls) to **HWMOpenSDKConfig** for SDK initialization. For details, see [Initializing the SDK](#).
6. Adjusted the SSO login API. For details, see [loginBySSO](#).
7. Modified error codes. For details about the new error code description, see [Table 7-118](#).

**Table 7-118** Mapping between error codes of the old and new versions

| Error Codes in 70.14.6 and Earlier Versions | Error Codes After 70.16.5 | New Error Code Description           |
|---|---------------------------|--------------------------------------|
| 1002  | 430400007                 | The guest password is incorrect.     |
| 1004  | 430400002                 | Time zone error.                     |
| 1005  | 430400003                 | The meeting duration is less than 1. |
| 1006  | 430400004                 | Meeting joining is interrupted.      |

### 7.7.34 70.14.5 Updates

1. When scheduling or editing a meeting, you can set the time (**allowGuestStartConf** and **allowGuestStartConfTime**) when a guest is allowed to join the meeting ahead of the host. For details, see [Table 7-58](#).
2. When scheduling a meeting in a cloud meeting room, you can select a fixed or random cloud meeting room ID. For details, see [Table 7-63](#).
3. A department ID can be specified for login using an app ID. For details, see [Table 7-18](#).

### 7.7.35 70.13.5 Updates

1. Added **userUuid** (the original **uuid** field), **account**, and **thirdAccount** to the callback of login and logout APIs. For details, see [Table 7-17](#) and [Table 7-21](#). If an earlier version is upgraded to 70.13.5, the definition of the callback functions needs to be modified.
2. Added the **hideExternalLabel** field for specifying whether to display the **External** label in the host role transferring and chat scenarios. For details, see [Initializing the SDK](#).
3. Added notifications for incoming meeting calls. For details, see [Notification of Incoming Meeting Calls](#).

### 7.7.36 70.12.6 Updates

1. Fixed an issue where the video definition cannot be restored after the network is restored.

### 7.7.37 70.12.4 Updates

Fixed issues and provided more stable experience.

### 7.7.38 70.11.5 Updates

1. Added the **logKeepDays** field to the initialization API. For details, see [Initializing the SDK](#).
2. The UI SDK for iPhone supports iOS 10.0 or later.

3. **HWRTCEngine.framework** is renamed **HWMMREngine.framework** (only the package name is changed, and the integration mode remains unchanged). For details, see [Step 4](#).

### 7.7.39 70.10.5 Updates

1. You can switch between large and small windows when viewing a shared desktop.
2. Fixed issues and provided more stable experience.

### 7.7.40 70.9.5 Updates

1. Added the SSO login mode. For details, see [loginBySSO](#).

### 7.7.41 70.8.6 Updates

Fixed issues and provided more stable experience.

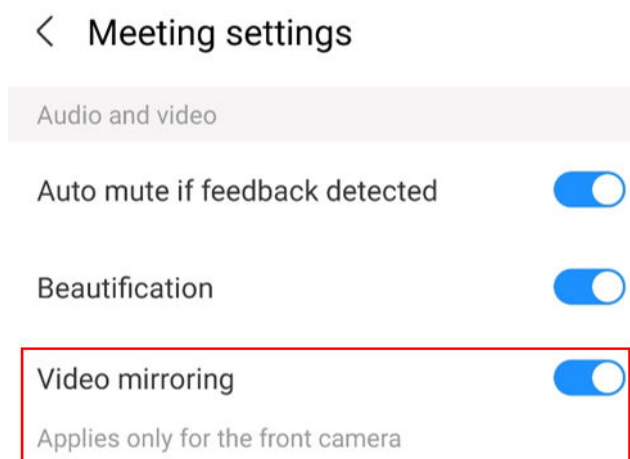
### 7.7.42 70.8.5 Updates

1. You can obtain the participant list in meetings and webinars. For details, see [Obtaining the Participant List](#).

### 7.7.43 70.7.5 Updates

1. Added the video mirroring function. After this function is enabled, you can view your own video image in mirroring mode.

Figure 7-52 Video mirroring



### 7.7.44 70.6.5 Updates

1. Added the meeting ending status notification. For details, see [Meeting End Notification](#).

## 7.7.45 70.5.8 Updates

1. Adapted the participants and chats modules to the landscape mode.
2. On-screen comments are supported in chats.

## 7.7.46 70.4.5 Updates

1. Added the API for obtaining the current user status. For details, see [Obtaining a User Status](#).
2. The host can invite others to share content and quickly cancel the sharing.
3. Moved the button for switching between the front and rear cameras on the mobile app to the home screen.
4. Optimized the in-meeting screen.
5. Optimized the size of meeting logs.

## 7.7.47 70.3.5 Updates

1. Overlaid the speaker screen on the shared video screen. You can close the speaker screen by dragging it down.
2. Simultaneous login on mobile phones and tablets is supported. For details, see [Login](#).

## 7.7.48 60.15.5 Updates

1. Optimized the customized title bar on the top of the meeting page. Cells can be customized. For details, see [Customizing the Menu That Appears in Response to Touches on the Title Bar of the Meeting Page](#).
2. Added the function of hiding the **External** label in the participant list. The **hideExternalLabel** parameter is set during initialization. By default, the **External** label is displayed.
3. Added the API for setting the ringing and vibration for incoming calls. For details, see [Setting the Incoming Call Notification Mode](#).
4. Added the configuration of the call answering policy (automatic answering, automatic rejection, and default) for incoming calls and meeting calls. For details, see [Incoming Call Answering Policy Configuration](#).

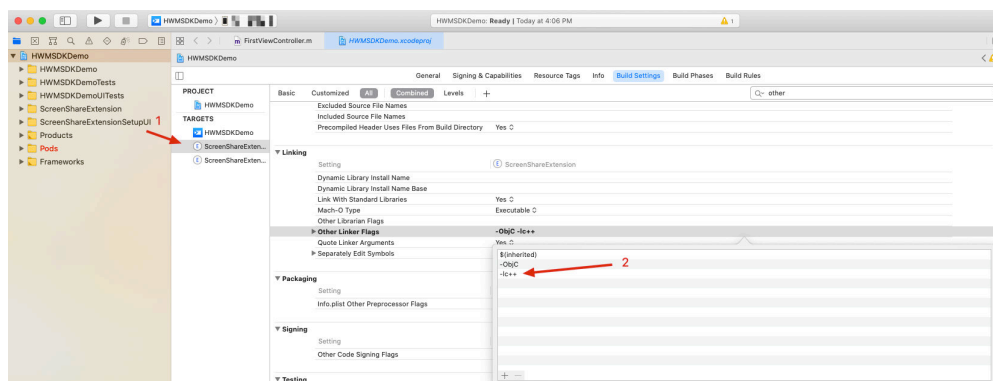
## 7.7.49 60.13.2 Updates

1. Added the API for adding participants. For details, see [Adding Participants](#).
2. Added the API for leaving a meeting. For details, see [Leaving a Meeting](#).
3. Added the API for ending a meeting. For details, see [Ending a Meeting](#).

## 7.7.50 60.12.5 Updates

1. Added the **-lc++** configuration in **TARGETS > ScreenShareExtension > Build Settings > Other Linker Flags**.

Figure 7-53 Adding the configuration



2. During meeting creation, the meeting room (**vmrId**) and participant scope (**joinConfRestrictionType**) can be specified. For details, see [Table 7-45](#).
3. Meeting details can be reported during a meeting. For details, see [Meeting Details Notification](#).
4. Added the API for uploading a profile picture. For details, see [Uploading a Profile Picture](#).
5. Added the profile picture blocking API to display a custom profile picture. For details, see [Customizing the Profile Picture Display](#).
6. The API for scheduling a meeting returns meeting details in the result. For details, see [5](#).

## 7.7.51 60.11.6 Updates

1. Added the **isAutoRecord** parameter to enable automatic recording for meetings.  
**isAutoRecord** indicates whether to automatically start recording after a meeting starts. The function is disabled by default. Meeting recording must be enabled if automatic recording is enabled.
  - Added the API for creating a meeting. For details, see [Table 7-45](#).
  - Added the API for scheduling and editing a meeting. For details, see [Table 7-58](#).
2. Added the API for customizing buttons of answering meeting calls.
3. Added the SDK library **HWRTCEngine.framework**. For details, see [Step 4](#).

## 7.7.52 60.10.5 Updates

1. Added the login site type to the initialization API. For details, see [Initializing the SDK](#).
2. Allowed users to join a meeting in random mode. For details, see [Joining a Meeting](#).
3. Supported SP authentication and login, and added the **corpId** field. For details, see [login](#).
4. Optimized the watermark display. For details, see [screenShareCoverView](#).

## 7.7.53 60.8.1 Updates

1. Added app IDs during initialization and optimized app differentiation.
2. Added the following APIs: app ID login, meeting scheduling, meeting editing, meeting list query, meeting details query, and meeting cancellation.

- Added APIs.

```
/// Obtain the meeting list.
- (NSArray<HWMBaseConfDetailParam *> *)getConfList;
/// Obtain meeting details.
- (void)getConfDetail:(NSString *)confId completeHandler:
(HWMSDKConfInfoCompleteHandler)handler;
/// Schedule a meeting.
- (void)bookConf:(HWMOrderConfParam *_Nonnull)param callback:(_Nonnull
HWMSDKCompleteHandler)callback;
/// Cancel a meeting.
- (void)cancelConf:(NSString *_Nonnull)confId callback:(_Nonnull HWMSDKCompleteHandler)callback;
/// Edit a meeting.
- (void)editConf:(HWMOrderConfParam *_Nonnull)param callback:(_Nonnull
HWMSDKCompleteHandler)callback;
/// Obtain the cloud meeting room ID list. You can use the IDs for scheduling meetings.
- (NSArray<HWMVmrInfoModel *> *)getVmrList;
/// Modify cloud meeting room information.
- (void)changeVmrInfo:(HWMModifyVmrParam *)info callback:(_Nonnull
HWMSDKCompleteHandler)callback;
```

3. Optimized the voice meeting screen.  
The in-meeting screen of a voice meeting was optimized.
4. Integrated IMSDK.framework into UISDK.framework.

## 7.7.54 60.7.1 Updates

1. Optimized UIs and adjusted positions.
  - Meeting locking information was added to the meeting information on the top of the meeting page, and the UI was optimized.
  - Some functions in the **More** menu were moved to the **Meeting settings** menu under **More**.
2. Optimized the APIs for customizing the meeting control menus, and replaced some APIs.

The following is an example. For details about how to use the APIs, see [API Reference](#).

- Added APIs.

```
/// Set a meeting menu.
- (NSArray <HWMConfSettingGroup *> *)buildSettingItems;
/// Customize the menu that appears in response to touches on the title bar of the meeting
page.
- (NSArray <HWMInMeetingCellModel *> *)buildTitleBarPopViewItems;
/// Set the view (for example, add a watermark) for screen or whiteboard sharing. Do not add
full-screen gestures.
- (UIView *)screenShareCoverView;
```

- Replaced APIs.

```
/// Customize a meeting control menu at the bottom of a voice call and meeting.
- (NSArray <HWMConfToolBarMenuItem *> *)buildAudioCallAndConfToolBarMenuItems;
/// Customize a meeting control menu at the bottom of a video call and meeting.
- (NSArray <HWMConfToolBarMenuItem *> *)buildVideoCallAndConfToolBarMenuItems;
/// Customize the More menu at the bottom of a P2P video call.
- (NSArray <HWMConfMenuItem *> *)buildVideoCallToolBarMoreMenuItems;
/// Customize the More menu at the bottom of a video meeting.
- (NSArray <HWMConfMenuItem *> *)buildVideoConfToolBarMoreMenuItems;
```

Combined and replaced APIs.

```
/// Customize a meeting control menu at the bottom.
- (NSArray <HWMConfToolBarMenuItem *> *)buildToolBarMenuItems;
/// Customize the More menu at the bottom.
- (NSArray <HWMConfMenuItem *> *)buildToolBarMoreMenuItems;
```

– Deleted APIs.

```
/// Customize a meeting control menu at the bottom of a voice call and meeting.
- (NSArray <HWMConfToolBarMenuItem *> *)buildAudioCallAndConfToolBarMenuItems;
/// Customize a meeting control menu at the bottom of a video call and meeting.
- (NSArray <HWMConfToolBarMenuItem *> *)buildVideoCallAndConfToolBarMenuItems;
/// Customize the More menu at the bottom of a P2P video call.
- (NSArray <HWMConfMenuItem *> *)buildVideoCallToolBarMoreMenuItems;
/// Customize the More menu at the bottom of a video meeting.
- (NSArray <HWMConfMenuItem *> *)buildVideoConfToolBarMoreMenuItems;
```

## 7.7.55 90.10.8 Updates

1. Fixed issues and provided more stable experience.

## 7.8 Change History

Table 7-119 Change history

| Released On | Version  | Change Description  |
|-------------|----------|---|
| 2024-12-03  | 100.10.7 | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.10.7 Updates</a> .   |
| 2024-11-27  | 100.10.6 | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.10.6 Updates</a> .   |
| 2024-11-12  | 100.10.5 | 1. Added the <b>customLanguageInfosForScene</b> API for customizing the text for a specific scenario.<br>2. Added the <b>customImageForScene</b> API for customizing the icon for a specific scenario.<br>3. Added the <b>onClickAddVirtualBackgroundItem</b> API for customizing the button of adding a virtual background image.<br>4. Added the <b>buildWaitingToolBarMenuItems</b> API for customizing a menu at the bottom of the waiting member list.<br>5. Added the <b>buildOfflineToolBarMenuItems</b> API for customizing a menu at the bottom of the absent participant list.<br>For details, see <a href="#">100.10.5 Updates</a> . |
| 2024-10-31  | 100.9.7  | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.9.7 Updates</a> .  |

| Released On | Version  | Change Description   |
|-------------|----------|--|
| 2024-10-12  | 100.9.5  | <ol style="list-style-type: none"> <li>1. Added the <b>startTimeStamp</b> (meeting start time) and <b>endTimeStamp</b> (meeting end time) fields to <b>HWMBaseConfDetailParam</b> and discarded the <b>startTime</b> and <b>endTime</b> fields.</li> <li>2. Added the <b>thirdUserId</b> field (third-party user account) to <b>HWMSDKConfIncomingInfoModel</b>.</li> <li>3. Added the <b>onAddAttendeeNotify</b> notification to notify you of participant addition results.</li> <li>4. Added the <b>onLoginError</b> notification (login failure notification) to <b>HWMNotifyHandler</b>. When receiving the error code 412100012 indicating that the server CA certificate verification failed, you will be logged out.</li> <li>5. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">100.9.5 Updates</a>.</p> |
| 2024-10-12  | 100.7.13 | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">100.7.13 Updates</a>.</p>   |
| 2024-08-23  | 100.7.8  | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">100.7.8 Updates</a>.</p>  |
| 2024-08-16  | 100.7.6  | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">100.7.6 Updates</a>.</p>  |
| 2024-08-01  | 100.7.5  | <ol style="list-style-type: none"> <li>1. The host can set whether to automatically mute specific participants when they join the meeting.</li> <li>2. Added <b>OnMeetingInfoChanged</b> to notify you of meeting information changes.</li> <li>3. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">100.7.5 Updates</a>.</p>   |
| 2024-06-13  | 100.5.5  | <ol style="list-style-type: none"> <li>1. Added notifications of floating window changes.</li> <li>2. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">100.5.5 Updates</a>.</p>  |
| 2024-04-23  | 100.3.6  | <ol style="list-style-type: none"> <li>1. Added the <b>setScreenShareExtensionBundleId</b> API for setting a bundle ID of the screen sharing extension.</li> <li>2. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">100.3.6 Updates</a>.</p>  |
| 2024-02-17  | 90.12.7  | <p>Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">90.12.7 Updates</a>.</p>  |



| Released On | Version | Change Description  |
|-------------|---------|---|
| 2024-01-03  | 90.12.5 | <ol style="list-style-type: none"> <li>1. Deprecated the <b>getVmrList</b> API and added the <b>getVmrInfoList</b> API.</li> <li>2. Added the <b>OnShareVmrInfoNotify</b> notification to notify you when information about shared cloud meeting rooms was changed.</li> <li>3. Added the <b>getErrorMessage</b> API for obtaining an error message, which can be used for prompt.</li> <li>4. Added the <b>setGuaranteedIpAddresses</b> API for setting guaranteed IP addresses for meeting control to keep on-premises data within your enterprise or support network interruption survival.</li> <li>5. Renamed <b>HWMUISDKErrorDefine.h</b> to <b>HWMErrrorDefine.h</b>.</li> <li>6. Fixed issues and provided more stable experience.<br/>For details, see <a href="#">90.12.5 Updates</a>.</li> </ol> |
| 2023-12-13  | 90.10.8 | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.<br/>For details, see <a href="#">90.10.8 Updates</a>.</li> </ol>  |
| 2023-11-03  | 90.9.6  | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.<br/>For details, see <a href="#">90.9.6 Updates</a>.</li> </ol>   |
| 2023-09-28  | 90.9.5  | <ol style="list-style-type: none"> <li>1. Added the <b>concurrentParticipants</b> parameter (maximum number of participants allowed in a meeting) to <b>HWMCreateConfParam</b> (creating a meeting), <b>HWMOrderConfParam</b> (scheduling a meeting), and <b>HWMConfDetail</b> (meeting details).</li> <li>2. Added the <b>vmrConfId</b> parameter (ID of meetings held in a cloud meeting room) to <b>HWMSDKConfIncomingInfoModel</b> (incoming meeting details).</li> <li>3. Fixed issues and provided more stable experience.<br/>For details, see <a href="#">90.9.5 Updates</a>.</li> </ol>  |

| Released On | Version  | Change Description  |
|-------------|----------|---|
| 2023-08-08  | 90.7.5   | <ol style="list-style-type: none"> <li>1. Added the <b>StartP2pConf</b> API for starting an instant meeting.</li> <li>2. Added the <b>domain</b> field to the <b>HWMRandomConfParam</b> parameter of the API for joining a meeting using a random code.</li> <li>3. Added the <b>joinPairConf:callback:</b> API for inviting a display to a meeting by scanning a QR code.</li> <li>4. Added <b>isP2PConf</b> (whether the meeting is an instant meeting) to <b>HWMBaseConfDetailParam</b> in the meeting details notification <b>onConfDetail</b>.</li> <li>5. Added <b>isSpeakerOff</b> (whether to disable speakers) to the <b>HWMCreateConfParam</b> parameter of the <b>createConf</b> API for creating a meeting.</li> <li>6. Fixed issues and provided more stable experience.<br/>For details, see <a href="#">90.7.5 Updates</a>.</li> </ol> |
| 2023-06-01  | 90.6.5   | <ol style="list-style-type: none"> <li>1. Deprecated the <b>startCall</b> API.</li> <li>2. Added the button for interrupting sharing to meeting settings.</li> <li>3. Added the <b>isSupportMultiAppLogin</b> parameter, which indicates whether login to multiple applications on the same device is supported.</li> <li>4. Added the <b>onPoorNetworkQualityInfoNotify()</b> API for reporting information about poor network connection.</li> <li>5. Added the <b>customInfo</b> field to the APIs for scheduling, editing, creating, and querying a meeting.</li> <li>6. Added error code 412100044. (For details about the adaptation mode of this error code, see the demo.)</li> <li>7. Fixed issues and provided more stable experience.<br/>For details, see <a href="#">90.6.5 Updates</a>.</li> </ol>                                      |
| 2023-05-12  | 80.15.21 | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.<br/>For details, see <a href="#">80.15.21 Updates</a>.</li> </ol>   |
| 2023-03-28  | 80.15.6  | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.<br/>For details, see <a href="#">80.15.6 Updates</a>.</li> </ol>  |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2023-03-24  | 80.15.5 | <ol style="list-style-type: none"> <li>1. Added the function of broadcasting continuous presence.</li> <li>2. Added the screen rotation switch.</li> <li>3. Added the lighting adjustment function.</li> <li>4. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">80.15.5 Updates</a> .   |
| 2023-04-14  | 80.13.8 | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">80.13.8 Updates</a> .   |
| 2023-02-22  | 80.13.6 | <ol style="list-style-type: none"> <li>1. Upgraded the compilation environment to Xcode 14.</li> <li>2. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">80.13.6 Updates</a> .   |
| 2023-02-06  | 80.13.5 | <ol style="list-style-type: none"> <li>1. Added the API for initializing the SDK in a subthread.</li> <li>2. Added the function of viewing details after a user touches the profile picture of a participant in the displayed action sheet.</li> <li>3. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">80.13.5 Updates</a> . |
| 2023-01-05  | 80.12.6 | <ol style="list-style-type: none"> <li>1. Added the enumerated value <b>HWMFeatureTypeRecoedAlert</b> of breakout rooms to the <b>enableFeature:isEnabled:</b> API for enabling a function.</li> <li>2. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">80.12.6 Updates</a> .   |
| 2022-12-23  | 80.12.5 | <ol style="list-style-type: none"> <li>1. Added the <b>HWMRMedia.framework</b> library.</li> <li>2. Changed the conditions for uploading profile pictures (to check the type and size of profile pictures).</li> <li>3. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">80.12.5 Updates</a> .                                 |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2022-11-15  | 80.10.5 | <ol style="list-style-type: none"> <li>Added parameters <b>confAllowJoinUser</b> (configuring users who can join the meeting) and <b>isOpenWaitingRoom</b> (whether the waiting room is enabled) to APIs for obtaining the cloud meeting room list (<b>HWMVmrInfoModel</b>) and modifying cloud meeting room information (<b>HWMModifyVMRParam</b>).</li> <li>Added the <b>setShareScreenPermission</b> API for setting the sharing permission.</li> <li>Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">80.10.5 Updates</a>.</p>   |
| 2022-10-09  | 80.9.5  | <ol style="list-style-type: none"> <li>Add the <b>isLiveOn</b> parameter to <b>HWMOrderConfParam.h</b> of the API for editing a meeting.</li> <li>Added the enumerated value <b>HWMFeatureTypeBreakoutConf</b> of breakout rooms to the <b>enableFeature:isEnabled:</b> API for enabling a function.</li> <li>Changed the <b>subConfUUID</b> parameter to <b>subConfID</b> in the <b>CancelSubCycleConf</b> API for canceling a recurring meeting.</li> <li>Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">80.9.5 Updates</a>.</p> |
| 2022-09-02  | 80.8.5  | <ol style="list-style-type: none"> <li>You can set the guest password when creating, scheduling, or editing a meeting.</li> <li>Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">80.8.5 Updates</a>.</p>   |
| 2022-07-30  | 80.7.5  | <ol style="list-style-type: none"> <li>You can customize the app language.</li> <li>Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">80.7.5 Updates</a>.</p>   |
| 2022-06-06  | 80.5.11 | <ol style="list-style-type: none"> <li>Added the API for disabling prompt tones.</li> <li>Added the function of customizing the recording button.</li> </ol> <p>For details, see <a href="#">80.5.11 Updates</a>.</p>  |
| 2022-05-18  | 80.5.5  | <ol style="list-style-type: none"> <li>Added the waiting room switch to the APIs for scheduling a meeting, modifying a meeting, and obtaining meeting details.</li> <li>Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">80.5.5 Updates</a>.</p>   |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2022-04-15  | 70.16.5 | <ol style="list-style-type: none"> <li>1. Added APIs related to recurring meetings.</li> <li>2. Added the API for configuring the network mode.</li> <li>3. Added audio sharing</li> <li>4. Added <b>isStopConflictConf</b> to <b>HWMJoinConfParam</b> for joining a meeting using its ID.</li> <li>5. Added a field to SDK initialization to disable local push for incoming meeting calls.</li> <li>6. Adjusted the SSO login API.</li> <li>7. Modified error codes and released the description of new error codes and the mapping between the error codes of the old and new versions.</li> </ol> <p>For details, see <a href="#">70.16.5 Updates</a>.</p> |
| 2022-02-19  | 70.14.5 | <ol style="list-style-type: none"> <li>1. When scheduling or editing a meeting, you can allow guests to join the meeting at the time you specify before the start time. For details, see <a href="#">Table 7-58</a>.</li> <li>2. Supported fixed or random cloud meeting room IDs for scheduling a meeting in a cloud meeting room.<br/>For details, see <a href="#">Table 7-63</a>.</li> <li>3. Supported department IDs specified for login using an app ID. For details, see <a href="#">Table 7-18</a>.</li> </ol> <p>For details, see <a href="#">70.14.5 Updates</a>.</p>  |
| 2022-01-19  | 70.13.5 | <ol style="list-style-type: none"> <li>1. Added <b>userUuid</b> (the original <b>uuid</b> field), <b>account</b>, and <b>thirdAccount</b> to the callback of login and logout APIs.</li> <li>2. Added the host role transferring and chat scenarios to the <b>hideExternalLabel</b> field for specifying whether to display the <b>External</b> label.</li> <li>3. Added notifications for incoming meeting calls.</li> </ol> <p>For details, see <a href="#">70.13.5 Updates</a>.</p>   |
| 2021-12-23  | 70.12.6 | <ol style="list-style-type: none"> <li>1. Fixed an issue where the definition cannot be restored when the network is weak.</li> </ol> <p>For details, see <a href="#">70.12.6 Updates</a>.</p>   |
| 2021-12-13  | 70.12.4 | <p>Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">70.12.4 Updates</a>.</p>  |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2021-12-03  | 70.11.5 | <ol style="list-style-type: none"> <li>1. Added <b>logKeepDays</b> (log storage duration) to the initialization API.</li> <li>2. The UI SDK for iPhone supports iOS 10.0 or later.</li> <li>3. <b>HWRTCEngine.framework</b> is renamed <b>HWMMREngine.framework</b>.</li> </ol> <p>For details, see <a href="#">70.11.5 Updates</a>.</p>   |
| 2021-10-22  | 70.10.5 | <ol style="list-style-type: none"> <li>1. You can switch between large and small windows when viewing a shared desktop.</li> <li>2. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">70.10.5 Updates</a>.</p>  |
| 2021-09-16  | 70.9.5  | <ol style="list-style-type: none"> <li>1. Added SSO login.</li> </ol> <p>For details, see <a href="#">70.9.5 Updates</a>.</p>  |
| 2021-08-28  | 70.8.6  | <p>Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">70.8.6 Updates</a>.</p>   |
| 2021-08-18  | 70.8.5  | <ol style="list-style-type: none"> <li>1. You can obtain the participant list in meetings and webinars.</li> </ol> <p>For details, see <a href="#">70.8.5 Updates</a>.</p>   |
| 2021-07-16  | 70.7.5  | <ol style="list-style-type: none"> <li>1. You can configure video mirroring for the local site in meetings.</li> </ol> <p>For details, see <a href="#">70.7.5 Updates</a>.</p>   |
| 2021-06-10  | 70.6.5  | <ol style="list-style-type: none"> <li>1. Added the meeting ending status notification.</li> </ol> <p>For details, see <a href="#">70.6.5 Updates</a>.</p>   |
| 2021-05-17  | 70.5.8  | <ol style="list-style-type: none"> <li>1. Adapted the participants and chats modules to the landscape mode.</li> <li>2. On-screen comments are supported in chats.</li> </ol> <p>For details, see <a href="#">70.5.8 Updates</a>.</p>  |
| 2021-04-15  | 70.4.5  | <ol style="list-style-type: none"> <li>1. Added the API for obtaining the current user status.</li> <li>2. The host can invite others to share content and quickly cancel the sharing.</li> <li>3. Moved the button for switching between the front and rear cameras on the mobile app to the home screen.</li> <li>4. Optimized the in-meeting screen.</li> <li>5. Optimized the size of meeting logs.</li> </ol> <p>For details, see <a href="#">70.4.5 Updates</a>.</p> |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2021-03-12  | 70.3.5  | <ol style="list-style-type: none"> <li>1. Overlaid the speaker screen on the shared video screen. You can close the speaker screen by dragging it down.</li> <li>2. Simultaneous login on mobile phones and tablets is supported.</li> </ol> <p>For details, see <a href="#">70.3.5 Updates</a>.</p>  |
| 2021-02-10  | 60.15.5 | <ol style="list-style-type: none"> <li>1. Optimized the customized title bar on the top of the meeting page. Cells can be customized.</li> <li>2. Added the function of hiding the <b>External</b> label in the participant list.</li> <li>3. Added the API for setting the ringing and vibration for incoming calls.</li> <li>4. Added the configuration of the call answering policy (automatic answering, automatic rejection, and default) for incoming calls and meeting calls.</li> </ol> <p>For details, see <a href="#">60.15.5 Updates</a>.</p>  |
| 2021-01-08  | 60.13.2 | <ol style="list-style-type: none"> <li>1. Added the API for adding participants to a meeting.</li> <li>2. Added the API for leaving a meeting.</li> <li>3. Added the API for ending a meeting.</li> </ol> <p>For details, see <a href="#">60.13.2 Updates</a>.</p>  |
| 2020-12-07  | 60.12.5 | <ol style="list-style-type: none"> <li>1. Added the <b>-lc++</b> configuration in <b>TARGETS &gt; ScreenShareExtension &gt; Build Settings &gt; Other Linker Flags</b>.</li> <li>2. During meeting creation, the meeting room and participant scope can be specified.</li> <li>3. Added the function of reporting meeting details during a meeting.</li> <li>4. Added the API for uploading a profile picture.</li> <li>5. Added the API for blocking the profile picture.</li> <li>6. Meeting details can be returned by the API for scheduling a meeting.</li> </ol> <p>For details, see <a href="#">60.12.5 Updates</a>.</p> |
| 2020-11-07  | 60.11.6 | <ol style="list-style-type: none"> <li>1. Added the function of automatic meeting recording.</li> <li>2. Added the API for customizing buttons of answering meeting calls.</li> <li>3. Added the API for setting a display name in calls.</li> <li>4. Added the SDK library <b>HWRTCEngine.framework</b>.</li> </ol> <p>For details, see <a href="#">60.11.6 Updates</a>.</p>   |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2020-10-15  | 60.10.5 | <ol style="list-style-type: none"> <li>1. Added login site types during initialization.</li> <li>2. Allowed users to join a meeting in random mode.</li> <li>3. Supported SP authentication and login.</li> <li>4. Optimized the watermark display.</li> </ol> <p>For details, see <a href="#">60.10.5 Updates</a>.</p>  |
| 2020-09-04  | 60.8.1  | <ol style="list-style-type: none"> <li>1. Added the app ID parameter during initialization and allowed users to transfer enterprise app IDs.</li> <li>2. Added the following APIs: app ID login, meeting scheduling, meeting editing, meeting list query, meeting details query, and meeting cancellation.</li> <li>3. Optimized the voice meeting window.</li> <li>4. Integrated <b>IMSDK.framework</b> into <b>UISDK.framework</b>.</li> <li>5. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">60.8.1 Updates</a>.</p> |
| 2020-07-30  | 60.7.1  | <ol style="list-style-type: none"> <li>1. Adjusted UIs of the meeting details and <b>More</b> screens.</li> <li>2. Added the chat function and allowed users to choose whether to display this function.</li> <li>3. Optimized the APIs for voice/video calls and meetings, meeting control (at the bottom), and menu customization, and deleted the original APIs.</li> <li>4. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">60.7.1 Updates</a>.</p>   |
| 2020-06-29  | 60.6.1  | <ol style="list-style-type: none"> <li>1. Optimized the API for social sharing.</li> <li>2. Fixed issues and provided more stable experience.</li> </ol>   |
| 2020-06-14  | 60.5.1  | <ol style="list-style-type: none"> <li>1. Supported customization of the meeting control UI.</li> <li>2. Fixed issues and provided more stable experience.</li> </ol>  |
| 2020-05-28  | 60.4.0  | <ol style="list-style-type: none"> <li>1. Eliminated the dependency on Cordova, optimized performance, and improved the initialization and meeting joining speed.</li> <li>2. Re-designed APIs to facilitate access.</li> <li>3. Developed new demos to simplify access.</li> <li>4. Optimized the architecture and switched web-based development to native development for some pages, bringing smooth user experience.</li> </ol>   |



| Released On | Version | Change Description   |
|-------------|---------|--|
| 2019-09-02  | 6.1.203 | Added the following API:<br>Logout<br>Changed some API parameters, and added the <b>groupId</b> parameter for screen sharing.  |
| 2019-07-23  | 6.1.195 | Added the following API:<br>API for joining a meeting anonymously (that is, joining a meeting without login)   |
| 2019-06-21  | 6.1.187 | Added the following API:<br>Starting a P2P call  |
| 2019-05-20  | 6.1.177 | Added the following API:<br>API for sharing a screen during a meeting  |
| 2019-04-13  | 6.1.27  | Added the following API: <ul style="list-style-type: none"><li>API for creating a meeting (with participant information carried). Participants will receive a call to join a meeting when it is initiated.</li></ul> Supported the following capabilities: <ul style="list-style-type: none"><li>Joining a meeting by answering a call on the application frontend.</li><li>Integrating applications. For more information, see Application Integration.</li></ul> |
| 2019-03-29  | 6.1.23  | This issue is the first official release.  |

# 8 Windows SDK

## 8.1 Introduction

The Windows SDK provides of HUAWEI CLOUD Meeting provides a complete set of APIs. You can call these APIs to quickly integrate audio and video meeting capabilities into their applications, including creating, scheduling, and joining meetings, sharing screens and programs, annotating whiteboards, and muting or unmuting all participants.

## 8.2 Getting Started

This section uses SDK initialization as an example to describe how to use the Windows SDK for secondary development.

### Preparations

During the development, ensure that the following environment requirements are met:

**Table 8-1** Environment requirements

| Environment and Tool | Version                    | Description  |
|----------------------|----------------------------|--|
| OS                   | Windows 10/11 Professional | Hardware requirements <ul style="list-style-type: none"><li>• CPU: i5-2400 quad-core, 3.1 GHz or above</li><li>• Memory: 4 GB or above</li></ul> |

| Environment and Tool                  | Version            | Description  |
|---------------------------------------|--------------------|--|
| Microsoft Visual Studio               | Visual Studio 2017 | During the installation, select <b>Desktop development with C++, Visual C++ MFC for x86 and x64</b> , and <b>Windows 10 SDK (10.0.15063.0)</b> . |
| Requesting test resources and app IDs | -                  | For details, see <a href="#">Preparations</a> .  |

## SDK Integration

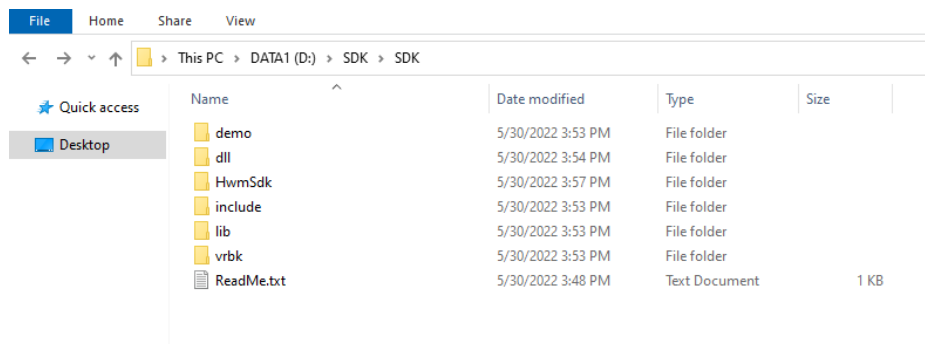
### NOTE

The high DPI awareness function of each monitor must be enabled for the exe program that integrates the SDK on a computer with a high DPI (zoom ratio greater than 100%). Otherwise, the image will be displayed abnormally. For example, the image is blurry, or the image is incomplete or tilted on the receiver during sharing.

For details, see [Figure 8-12](#).

### Step 1 Decompress the SDK package to the local host.

**Figure 8-1** Decompressing the SDK package to the local host



**Table 8-2** Introduction to SDK directories

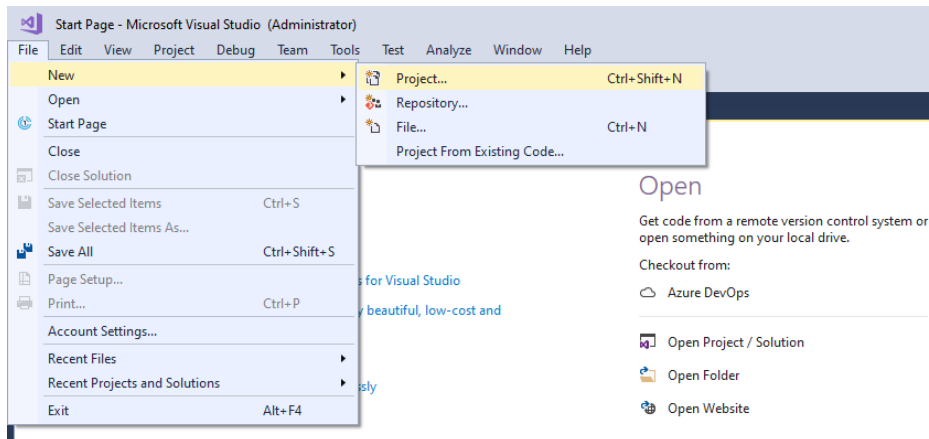
| Folder  | Description   |
|---------|---|
| include | Stores the header files required for compilation.   |
| lib     | Contains two subfolders, <b>win32</b> and <b>x64</b> . The two subfolders store the .lib files that the compilation of the corresponding platform depends on.                               |
| dll     | Contains two subfolders, <b>win32</b> and <b>x64</b> . The two subfolders store the .dll files and the executable SDK .exe files that the running of the corresponding platform depends on. |
| HwmSdk  | Stores the common dependency libraries used by Win32 and x64.   |

| Folder | Description                                |
|--------|--|
| demo   | Stores demo code files and resource files. |

**Step 2** Create a project.

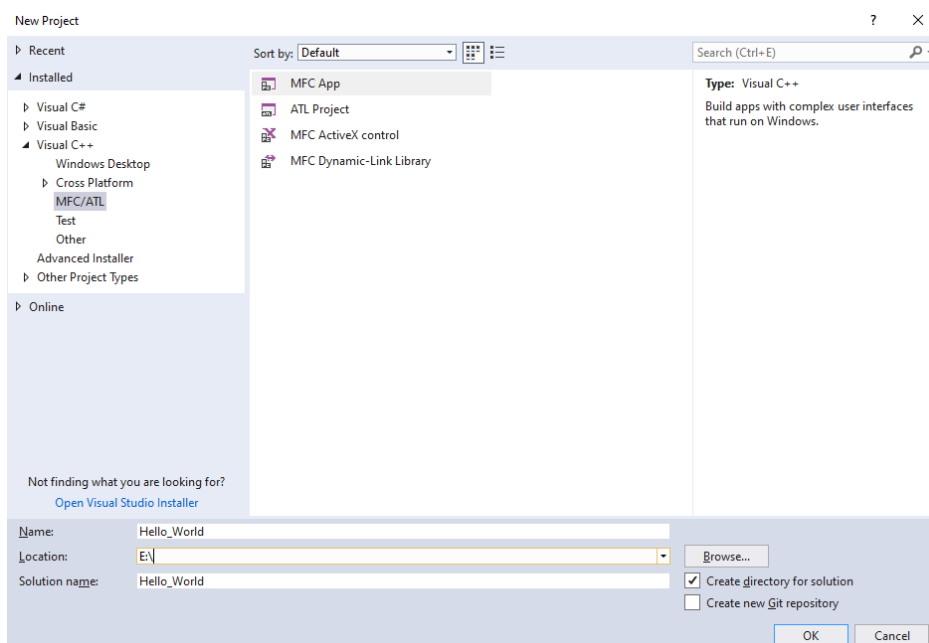
1. Open Visual Studio 2017 and choose **File > New > Project** from the main menu.

**Figure 8-2** Opening a new project



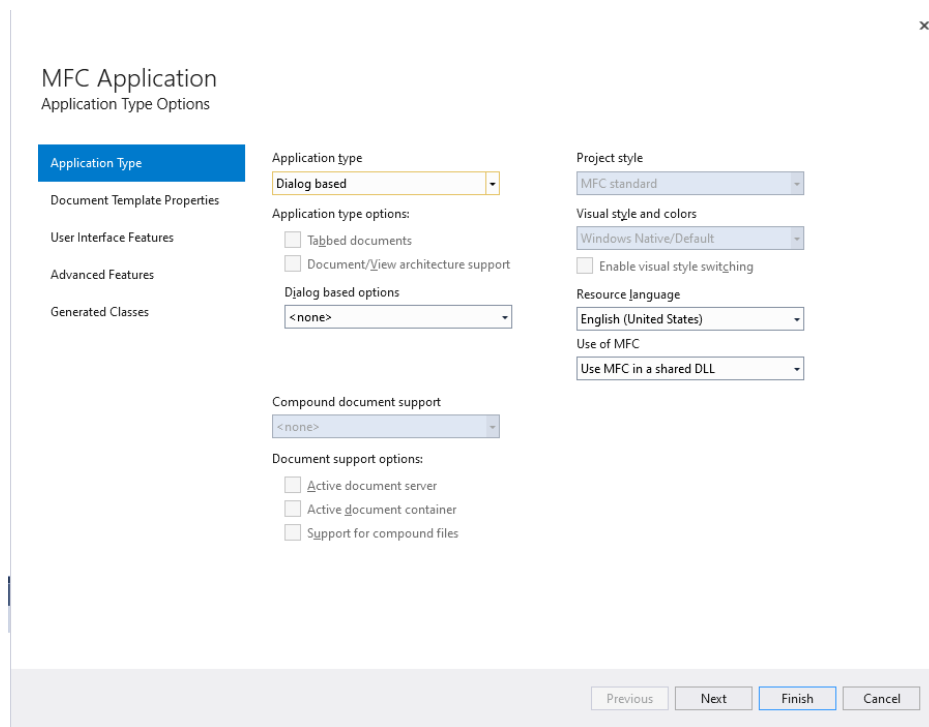
2. On the **Create a new project** page, choose **Installed > Visual C++** from the navigation tree. Select **MFC Application** in the template list, set the project name to **Hello\_World**, select **E:\** from the **Location** drop-down list, and click **OK**.

**Figure 8-3** Creating a project



3. On the **Application Type** page, set **Application type** to **Dialog based**, retain the default values for other parameters, and click **Finish**.

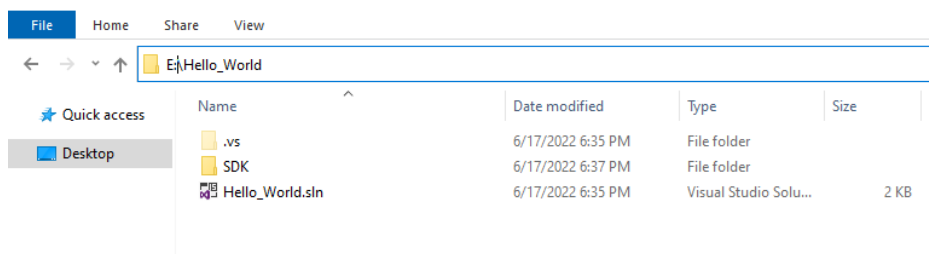
**Figure 8-4** Application type options



**Step 3** Copy the static library files and header files to the project.

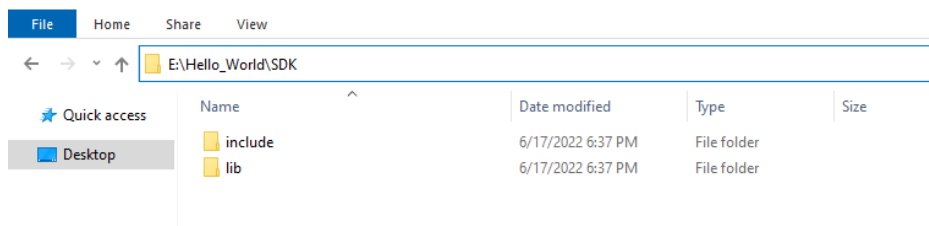
1. Create a directory named **SDK** at the same level as the **Hello\_World.sln** file in the **Hello\_World** project directory.

**Figure 8-5** Creating the SDK directory



2. Copy the **lib** and **include** directories in the **SDK** directory of the demo installation package to the **Hello\_World\SDK** directory.

**Figure 8-6** Copying files



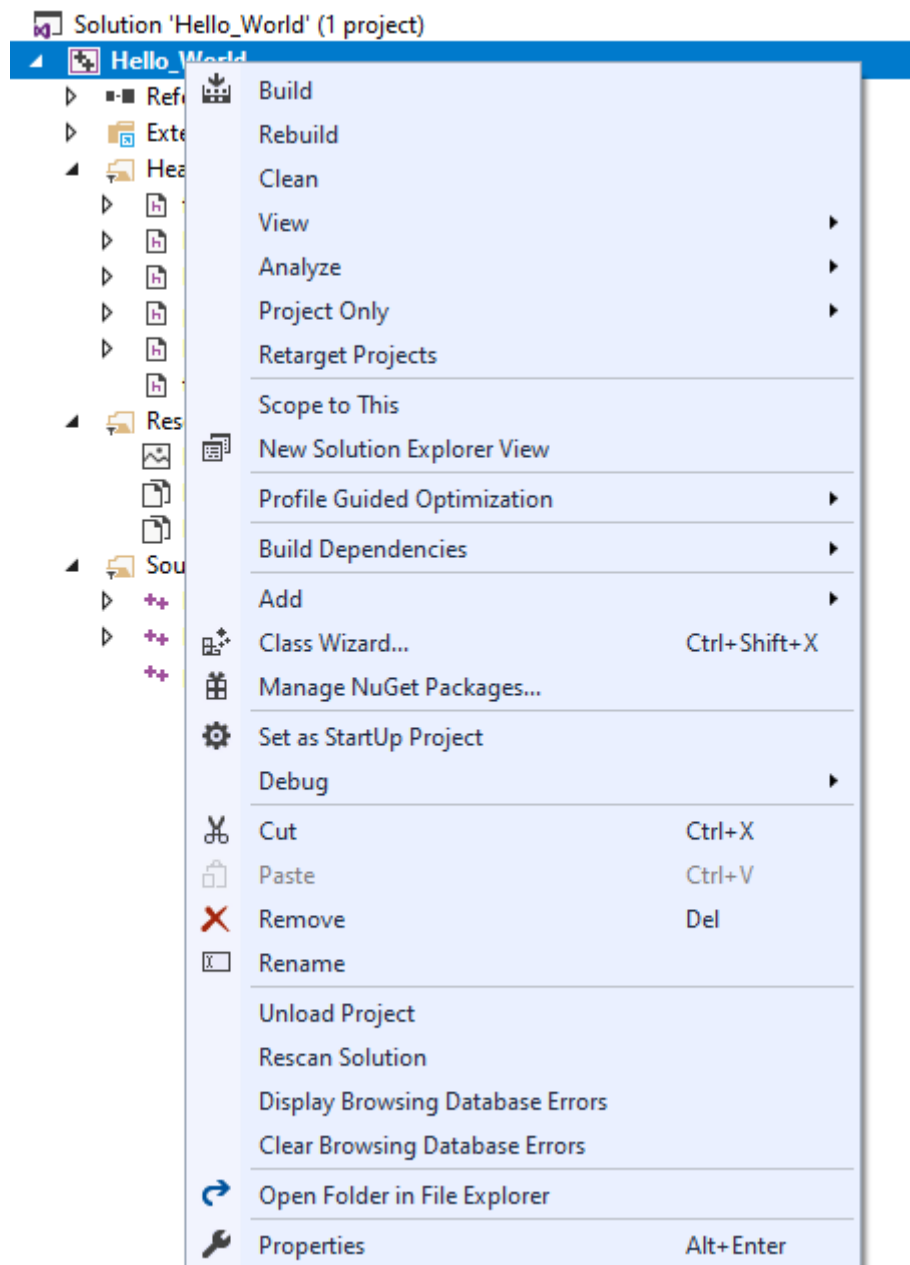
**Step 4** Modify configuration properties of the project.

 **NOTE**

The following operations are performed based on the **Debug** configuration and **Win32** platform. When modifying the configuration and platform, add additional include directories and dependent libraries again.

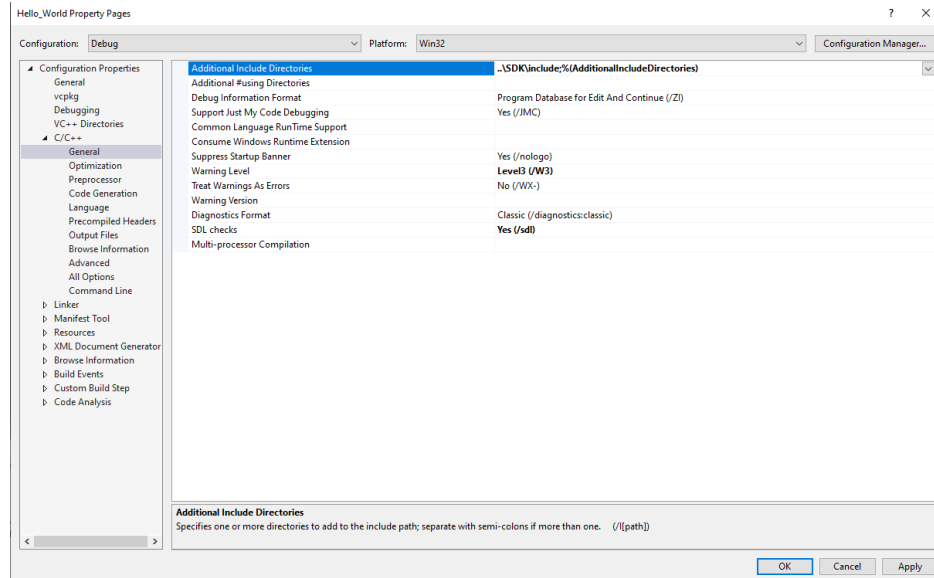
1. Right-click the **Hello\_World** project and choose **Properties** from the shortcut menu.

**Figure 8-7** Project properties



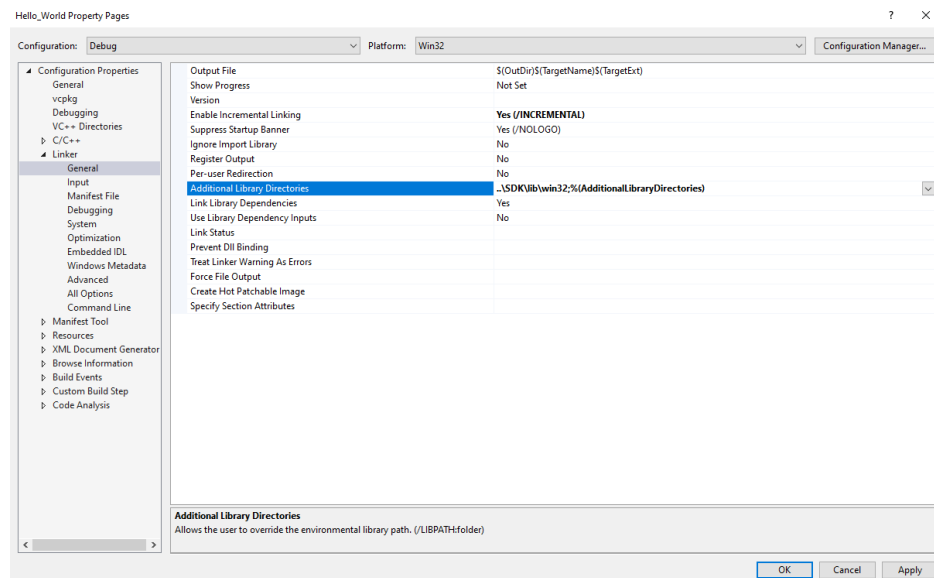
2. Choose **Configuration Properties > C/C++ > General**, change the value of **Additional Include Directories** to `..\SDK\include`, and click **Apply**.

**Figure 8-8** Configuring Additional Include Directories



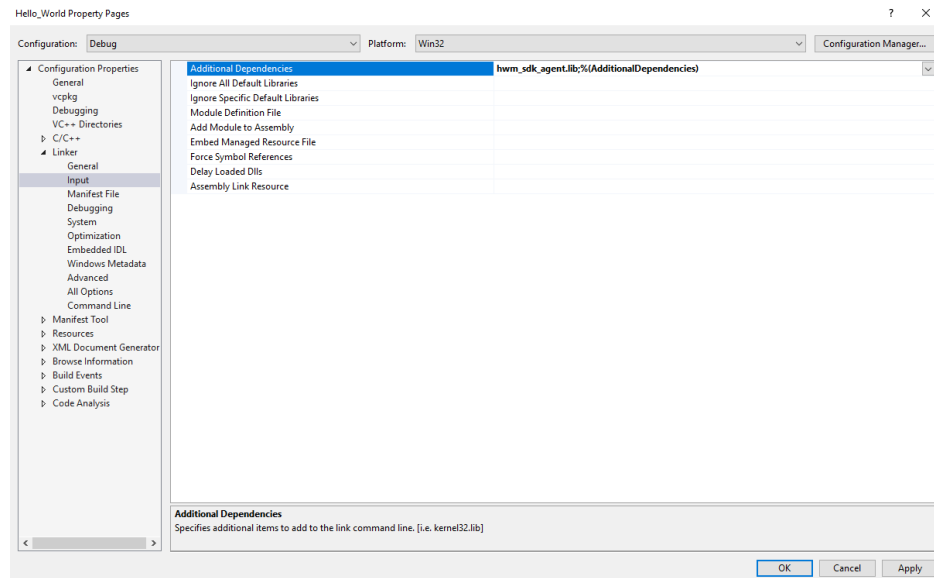
3. Choose **Configuration Properties > Linker > General**, change the value of **Additional Library Directories** to `..\SDK\lib\win32`, and click **Apply**.

**Figure 8-9** Configuring Additional Library Directories



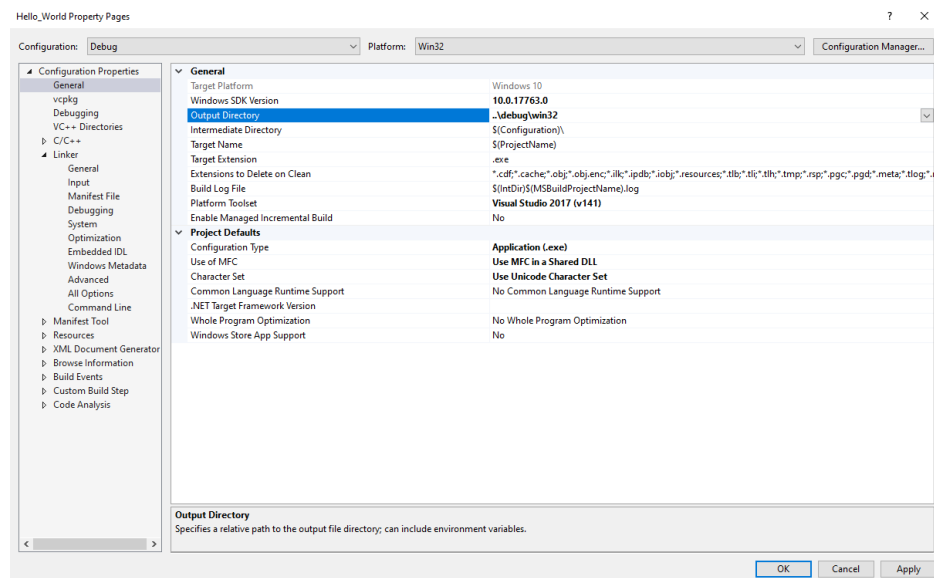
4. Choose **Configuration Properties > Linker > Input**, change the value of **Additional Dependencies** to `hwm_sdk_agent.lib`, and click **Apply**.

**Figure 8-10** Configuring Additional Dependencies



5. Choose **Configuration Properties > General**, change the value of **Output Directory** to `..\debug\win32`, and click **OK**.

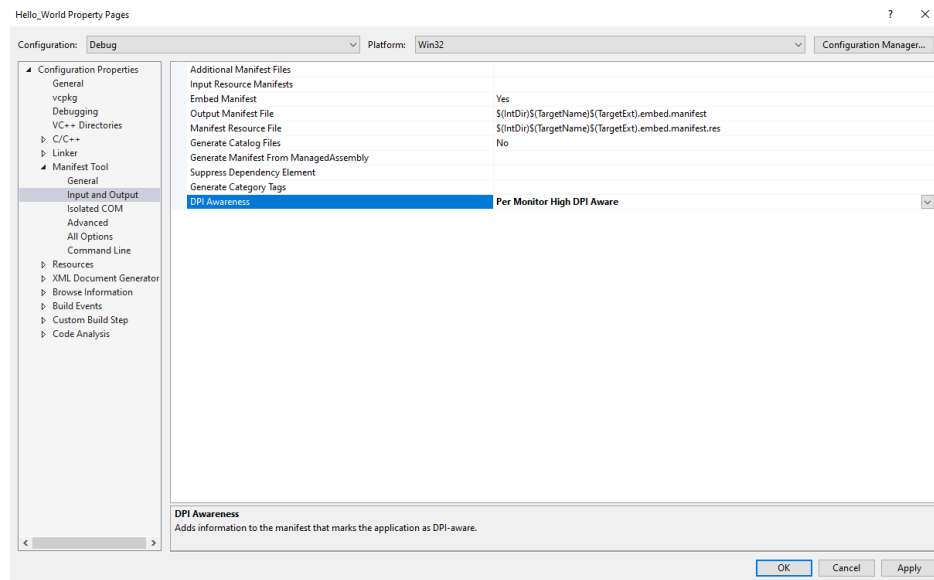
**Figure 8-11** Configuring Output Directory



6. In the left pane of the property page, choose **Configuration Properties > Manifest Tools > Input and Output**, change the value of **DPI Awareness** to **Per Monitor High DPI Aware**, and click **OK**.



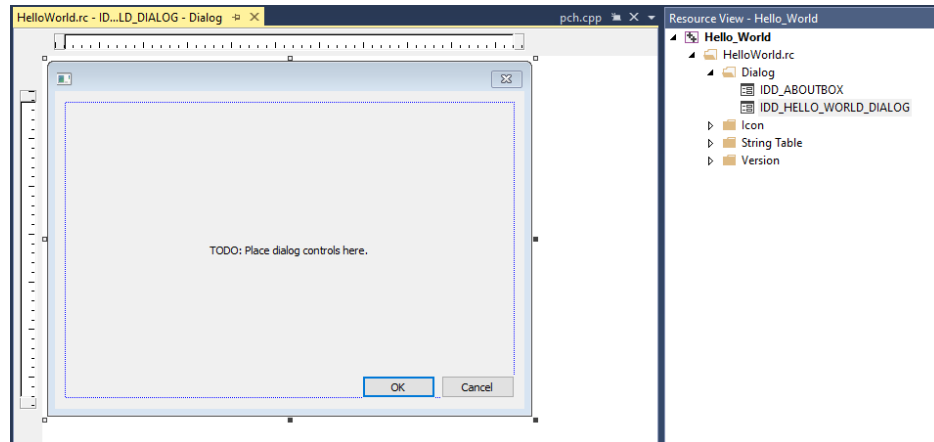
**Figure 8-12** Configuring the DPI awareness function



**Step 5** Add a UI resource control.

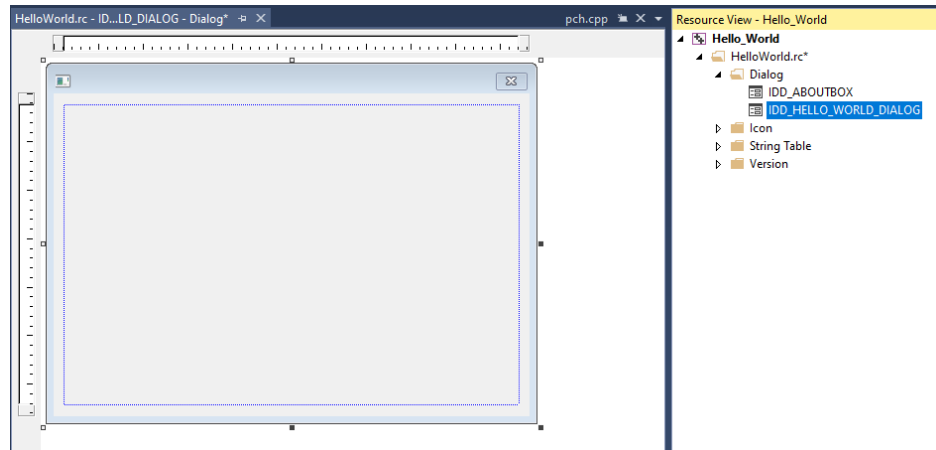
1. In the resource view, open the **Dialog** page corresponding to the project.

**Figure 8-13** Dialog page of the project



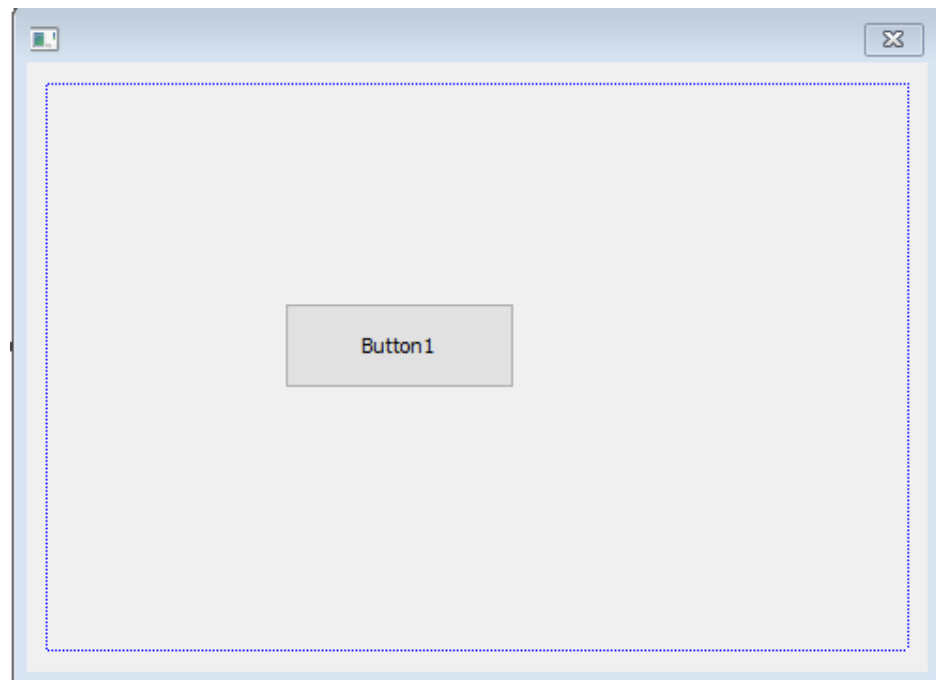
2. Select all controls on the page and press **Delete**.

**Figure 8-14** Deleting existing controls



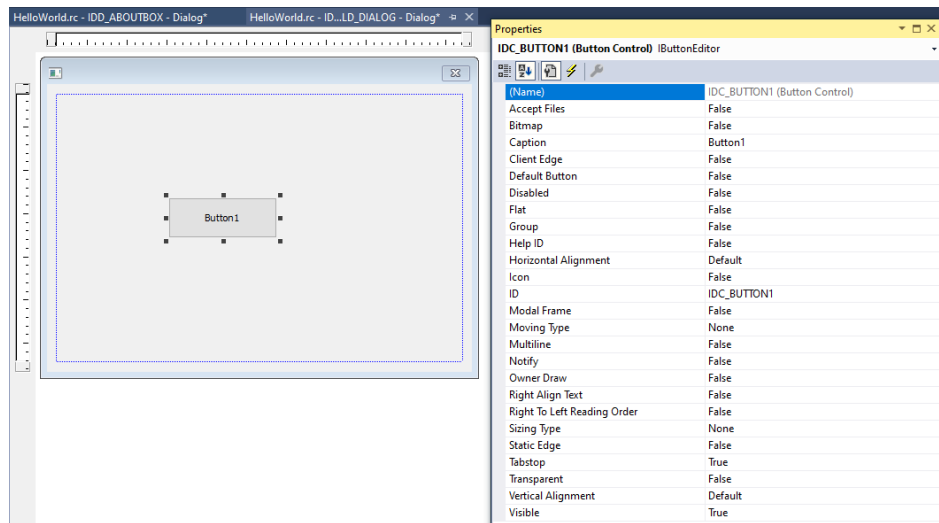
3. Add the initialization button.
  - a. Add the initialization button control. Open the toolbox page, select the button control, drag it to the dialog box, and adjust the width and height of the button.

**Figure 8-15** Adding the initialization button



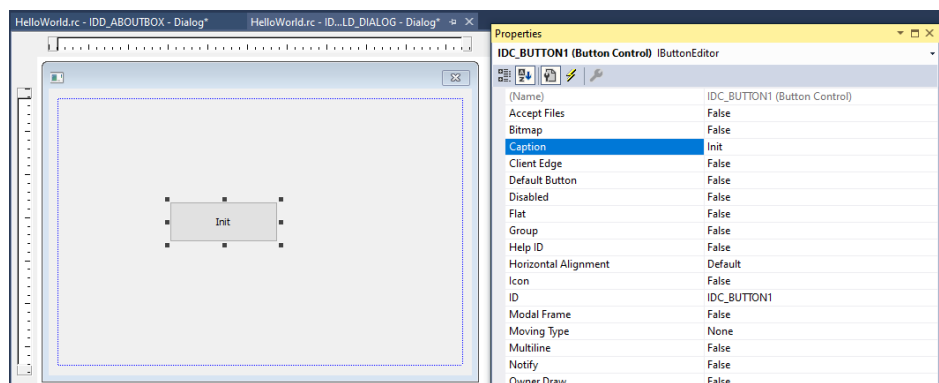
- b. To modify the text on the button, right-click the button and choose **Properties** from the shortcut menu.

Figure 8-16 Button properties



- c. Change the value of **Caption** to **Init**.

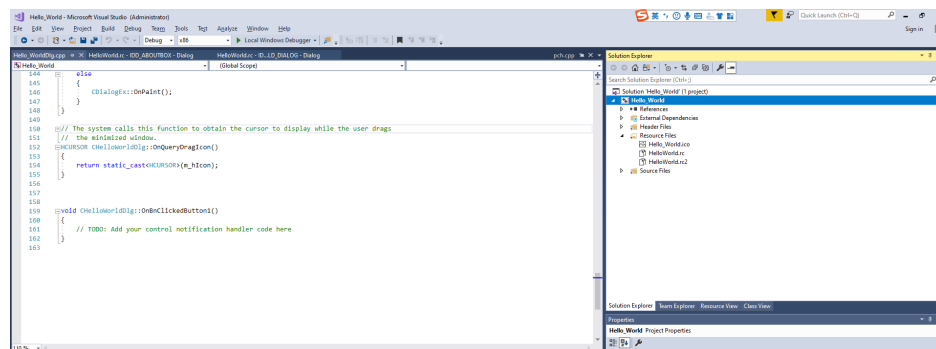
Figure 8-17 Modifying button properties



**Step 6** Add a button click event.

1. Double-click the **Init** control. The system automatically adds the **OnBnClickedButton1()** method to **Hello\_WorldDlg.cpp** for the **Init** button.

Figure 8-18 Creating an event method for the Init button

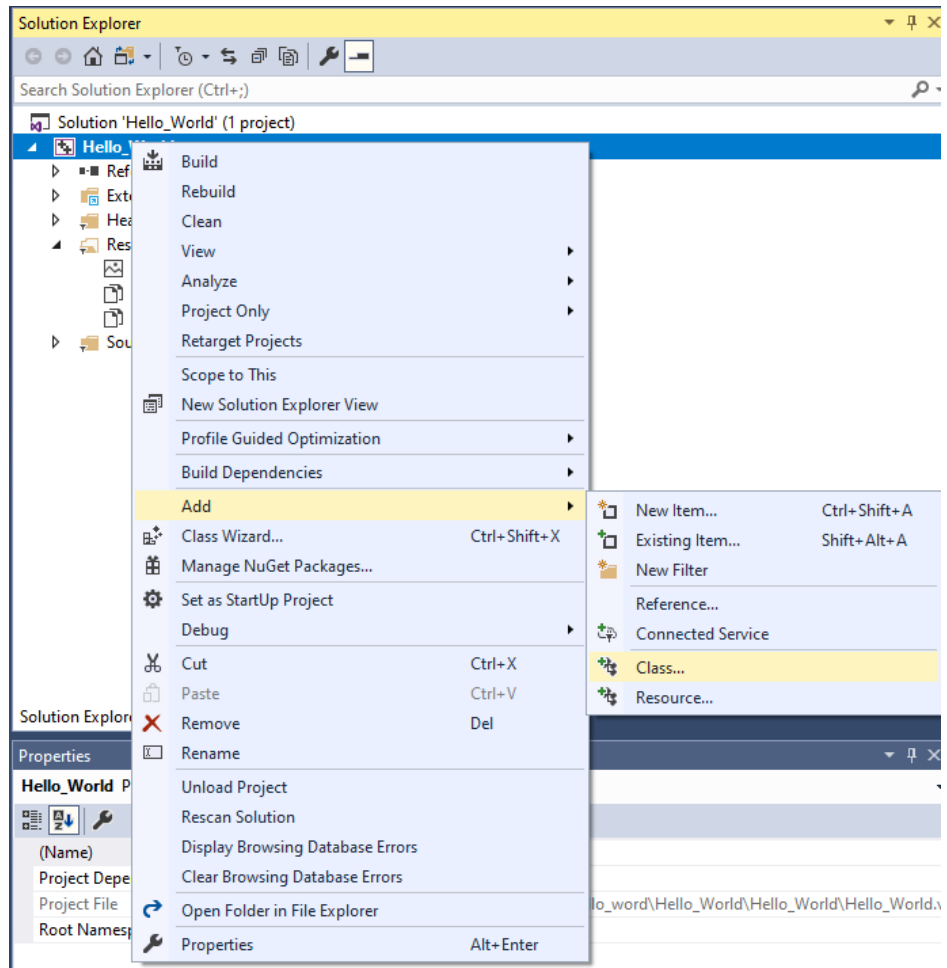


**Step 7** Add a code file.

1. Add a callback processing class.

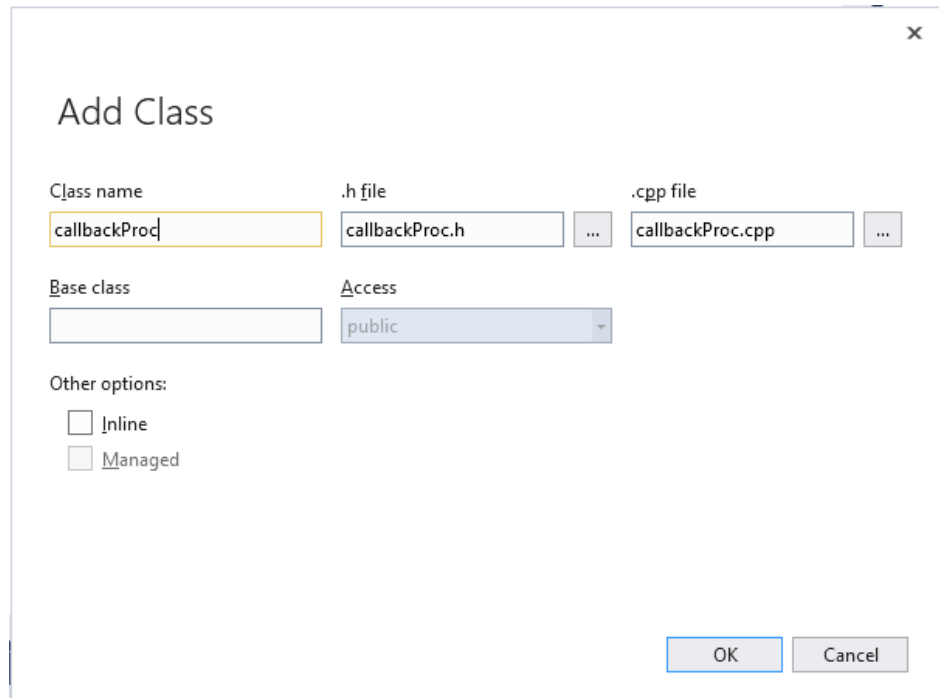
- a. Right-click the project and choose **Add > Class** from the shortcut menu.

**Figure 8-19** Adding a class



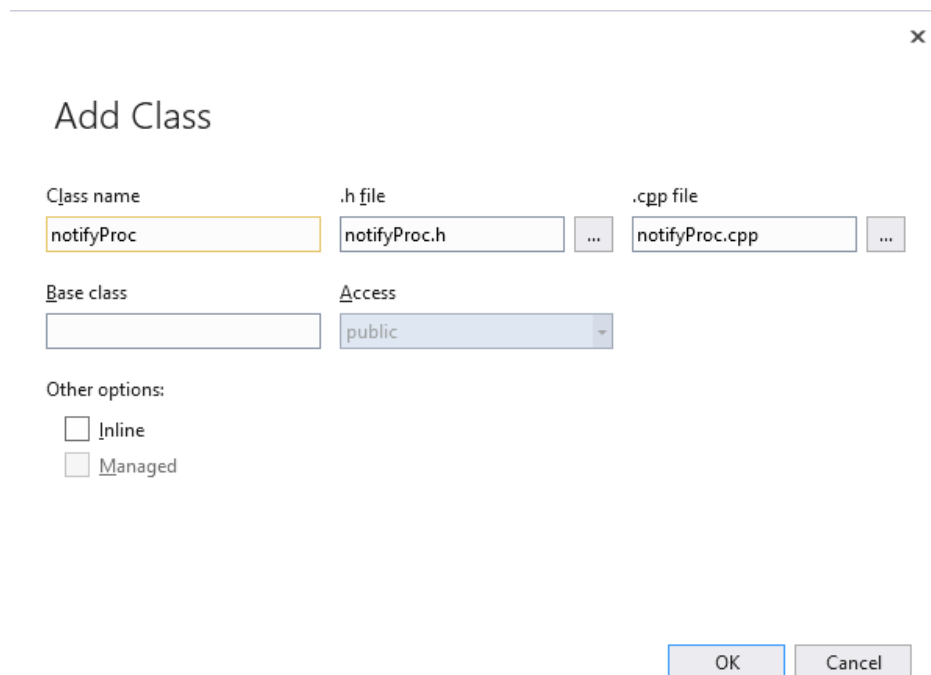
- b. In the **Generic C++ class wizard** dialog box, set the class name to **callbackProc**, retain the default values for other parameters, and click **Finish**.

Figure 8-20 Adding the callbackProc class



2. Add a notification processing class and set the class name to **notifyProc**.

Figure 8-21 Adding the notifyProc class



**Step 8** Add the logic code.

1. Add the SDK callback class header file **HwmAgentCallback.h** to the **callbackProc.h** file, so the callbackProc class inherits the base class HwmAgentCallback. You can copy only API calling callback functions that need to be focused on in the **HwmAgentCallback.h** file.

```
#pragma once
#include "HwmAgentCallback.h"

class callbackProc : public hwmsdkagent::HwmAgentCallback
{
public:
    callbackProc();
    ~callbackProc();
    /**
     * @brief [en] Callback of Init interface.
     *
     * @param [in] hwmsdk::HwmErrCode ret [en] Return code
     * @param [in] const char* reason [en] Fail reason
     * @attention [en] NA
     **/
    void OnInitResult(hwmsdk::HwmErrCode ret, const char* reason, HwmSdkInfo *sdkInfo);

    /**
     * @brief [en] Callback of Exit interface.
     *
     * @param [in] hwmsdk::HwmErrCode ret [en] Return code
     * @param [in] const char* reason [en] Fail reason
     * @attention [en] NA
     **/
    void OnExitResult(hwmsdk::HwmErrCode ret, const char* reason);

    // To save space, other callback APIs are omitted here. Copy them completely during actual
    operations.
}
}
```

#### NOTE

To save space, some of the preceding code is omitted. You need to implement the complete code based on the SDK header file.

## 2. Define APIs in the **callbackProc.cpp** file.

```
#include "stdafx.h"
#include "callbackProc.h"

callbackProc::callbackProc()
{
}

callbackProc::~callbackProc()
{
}

/**
 * Initialization callback
 */
void callbackProc::OnInitResult(hwmsdk::HwmErrCode ret, const char* reason, HwmSdkInfo *sdkInfo)
{
    CString retStr;
    retStr.Format(_T("%d"), ret);
    CString tips = _T("OnInitResult code:") + retStr;
    AfxMessageBox(tips);
}

/**
 * Exit callback */
void callbackProc::OnExitResult(hwmsdk::HwmErrCode ret, const char* reason)
{
    CString retStr;
    retStr.Format(_T("%d"), ret);
    CString tips = _T("OnExitResult code:") + retStr;
    AfxMessageBox(tips);
}
```

```
// To save space, some code is omitted here. In actual operations, define callback function APIs that you need to pay attention to.
```

#### NOTE

To save space, some of the preceding code is omitted. You need to implement the complete code based on the SDK header file. The header files (**stdafx.h** or **pch.h**) used for precompilation in different versions may be different. If a compilation error occurs, use the local default header file.

3. Add the SDK callback class header file **HwmAgentNotify.h** to the **notifyProc.h** file, so the callbackProc class inherits the base class HwmAgentNotify. You can copy only API calling functions that need to be focused on in the **HwmAgentNotify.h** file.

```
#pragma once
#include "HwmAgentNotify.h"

class notifyProc : public hwmsdkagent::HwmAgentNotify
{
public:
    notifyProc();
    ~notifyProc();

    /**
     * @brief [en] Notify of sdk disconnected.
     *
     * @attention [en] NA
     */
    void OnSdkDisconnected();

    // To save space, other callback APIs are omitted here. Copy them completely during actual operations.
}
```

#### NOTE

To save space, some of the preceding code is omitted. You need to implement the complete code based on the SDK header file.

4. Define APIs in the **notifyProc.cpp** file.

```
#include "stdafx.h"
#include "notifyProc.h"

notifyProc::notifyProc()
{
}

notifyProc::~notifyProc()
{
}

// SDK disconnection notification
void notifyProc::OnSdkDisconnected()
{
    CString tips = _T("OnSdkDisconnected");
    AfxMessageBox(tips);
}

// To save space, other callback APIs are omitted here. Copy them completely during actual operations.
```

#### NOTE

To save space, some of the preceding code is omitted. You need to implement the complete code based on the SDK header file. The header files (**stdafx.h** or **pch.h**) used for precompilation in different versions may be different. If a compilation error occurs, use the local default header file.

5. Include the required header files in the **Hello\_WorldDlg.h** file.

```
#include "HwmErrorCodeDef.h"
```

6. Declare functions to be used in the **Hello\_WorldDlg.h** file.

```
public:  
    // Initialization API  
    hwmsdk::HwmErrCode Init();  
    // Exit API  
    static hwmsdk::HwmErrCode Exit();
```

7. Include the required header files in the **Hello\_WorldDlg.cpp** file.

```
#include "notifyProc.h"  
#include "callBackProc.h"  
#include "HwmSdkAgent.h"  
#include <string>
```

8. Define the callback and notification objects in the **Hello\_WorldDlg.cpp** file.

```
static notifyProc *notifyObj = new notifyProc();  
static callbackProc *callbackObj = new callbackProc();
```

9. Define the initialization API in the **Hello\_WorldDlg.cpp** file.

```
/**  
 * Initialization API  
 */  
hwmsdk::HwmErrCode CHello_WorldDlg::Init()  
{  
    // Assemble the input parameter structure.  
    hwmsdkagent::HwmlnitInfo initParam;  
    memset(&initParam, 0, sizeof(hwmsdkagent::HwmlnitInfo));  
  
    // (Not required for Win32) Configure the SDK path, that is, the .exe file path, for the x64 platform  
    // after renaming the .exe file.  
    // Convert the path into the UTF-8 format and copy it to initParam. The conversion code is  
    // omitted here.  
    strcpy_s(initParam.exePath, HWM_MAX_FILE_PATH_LEN, GetHwmSdkExePath().c_str());  
    // Specify the log path, convert the path into the UTF-8 format, and copy the converted path to  
    // initParam. The conversion code is omitted here.  
    strcpy_s(initParam.logPath, HWM_MAX_FILE_PATH_LEN, GetLogPath().c_str());  
    // Specify the data path, convert the path into the UTF-8 format, and copy the converted path to  
    // initParam. The conversion code is omitted here.  
    strcpy_s(initParam.userDataPath, HWM_MAX_FILE_PATH_LEN, GetUserDataPath().c_str());  
    strncpy_s(initParam.appId, GetAppId.c_str(), HWM_MAX_APPID_LEN);  
  
    initParam.notify = notifyObj;  
    initParam.callback = callbackObj;  
    hwmsdk::HwmErrCode ret = hwmsdkagent::Init(&initParam);  
  
    return ret;  
}
```

10. In the **Hello\_WorldDlg.cpp** file, implement the processing of the event of clicking the **Init** button.

```
void CHello_WorldDlg::OnBnClickedButton1()  
{  
    // TODO: Add a control to notify code processing.  
    hwmsdk::HwmErrCode ret = Init();  
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)  
    {  
        AfxMessageBox(_T("Init error"));  
    }  
}
```

#### NOTE

The preceding code is the same as the project code. Do not add the code repeatedly.

11. Define the exit API in **Hello\_WorldDlg.cpp** file.

```
/**  
 * Exit API  
 */  
hwmsdk::HwmErrCode CHello_WorldDlg::Exit()
```



```
{
    hwmsdk::HwmErrCode ret = hwmsdkagent::Exit();
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("Exit error"));
    }
    return ret;
}
```

12. Find the `InitInstance` API in the **Hello\_World.cpp** file and call the exit API when the window exits.

```
// Initialize CHello_WorldApp.
```

```
BOOL CHello_WorldApp::InitInstance()
{
    // If an application running on Windows XP specifies to
    // enable the visualization mode using ComCtl32.dll version 6 or later,
    // InitCommonControlsEx() is required. Otherwise, the window cannot be created.
    INITCOMMONCONTROLSEX InitCtrls;
    InitCtrls.dwSize = sizeof(InitCtrls);
    // Set it to include all the common control classes
    // to be used in the application.
    InitCtrls.dwICC = ICC_WIN95_CLASSES;
    InitCommonControlsEx(&InitCtrls);

    CWinApp::InitInstance();

    AfxEnableControlContainer();

    // Create a shell manager to prevent the dialog box from containing
    // any shell tree view control or shell list view control.
    CShellManager *pShellManager = new CShellManager;

    // Activate the Windows Native visual manager to enable the theme in the MFC control.
    CMFCVisualManager::SetDefaultManager(RUNTIME_CLASS(CMFCVisualManagerWindows));

    // Standard initialization
    // If these functions are not used,
    // and you want to reduce the size of the final executable file,
    // remove the following specific initialization routines that are not required,
    // and change the registry key for storing settings.
    // TODO: Modify the character string as required.
    // For example, change the value to the company or organization name.
    SetRegistryKey(_T("Local applications generated by the application wizard"));

    CHello_WorldDlg dlg;
    m_pMainWnd = &dlg;
    INT_PTR nResponse = dlg.DoModal();
    if (nResponse == IDOK)
    {
        // TODO: Place code here
        // to handle when to use OK to close the dialog box.
        CHello_WorldDlg::Exit();
    }
    else if (nResponse == IDCANCEL)
    {
        // TODO: Place code here
        // to handle when to use Cancel to close the dialog box.
        CHello_WorldDlg::Exit();
    }
    else if (nResponse == -1)
    {
        TRACE(traceAppMsg, 0, "Warning: Creating the dialog box failed. The application will terminate unexpectedly.\n");
        TRACE(traceAppMsg, 0, "Warning: If you use the MFC control in the dialog box, you cannot #define _AFX_NO_MFC_CONTROLS_IN_DIALOGS.\n");
    }
}
```

```
// Delete the created shell manager.
if (pShellManager != nullptr)
{
    delete pShellManager;
}

#ifdef _AFXDLL && !defined(_AFX_NO_MFC_CONTROLS_IN_DIALOGS)
    ControlBarCleanUp();
#endif

// Because the dialog box is closed, FALSE is returned to exit the application,
// instead of starting the message pump of the application.
return FALSE;
}
```

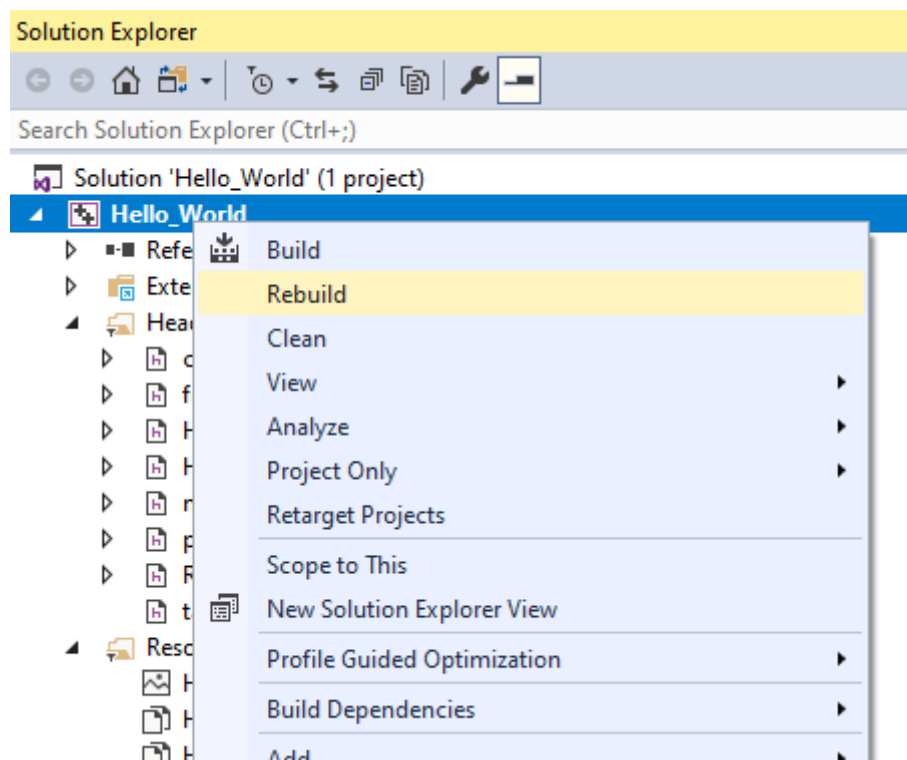
 **NOTE**

The preceding code is the same as the project code. Do not add the code repeatedly.

**Step 9** Compile and debug the project.

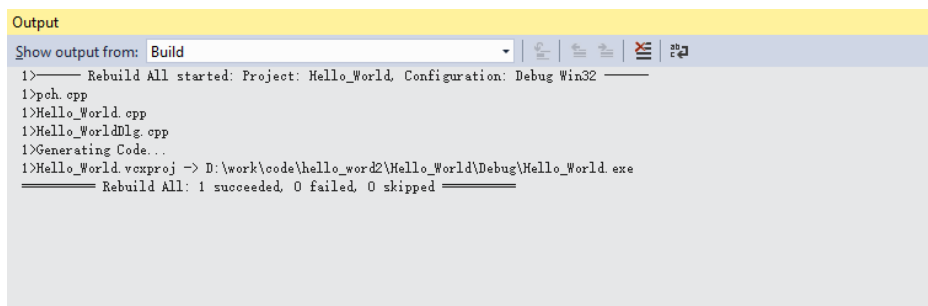
1. Right-click the project and choose **Rebuild** from the shortcut menu to compile the project.

**Figure 8-22** Rebuilding files



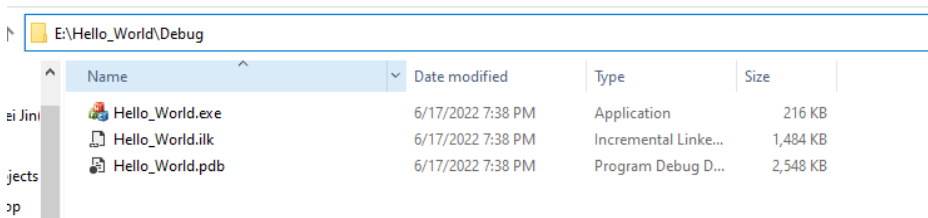
2. Observe the **Output** window. If the message "Rebuild All: 1 succeeded, 0 failed, 0 skipped" is displayed, the compilation is successful.

Figure 8-23 Result



- After the compilation is successful, the generated executable program **Hello\_World.exe** is stored in the output directory. The current output directory is `$(path)\Hello_World\debug\win32`.

Figure 8-24 .exe file



- Copy the corresponding files in **SDK\dll** and **SDK\HwmSdk** to the output directory. If the Win32 platform is used, copy DLL files in **SDK\dll\win32** to the output directory, and copy all the files in **SDK\HwmSdk** to the output directory.

Figure 8-25 Copying DLL files in SDK\dll\win32 to the output directory

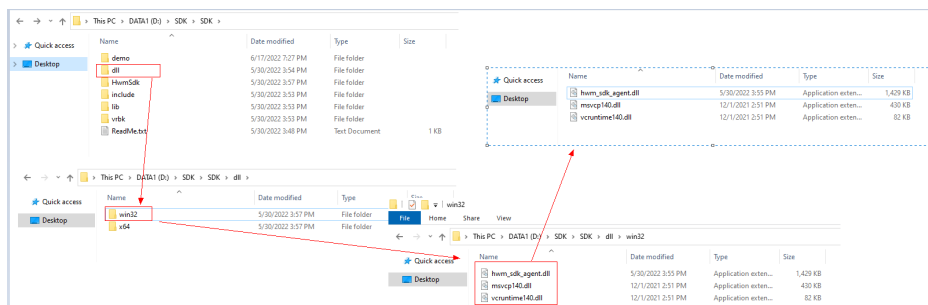
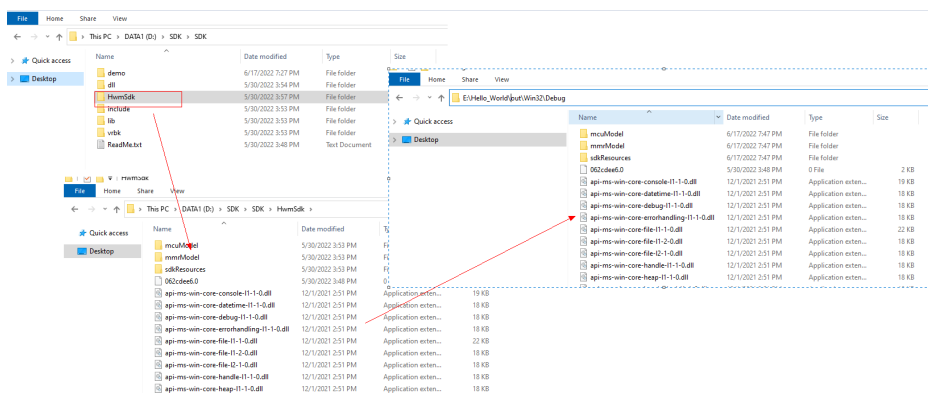
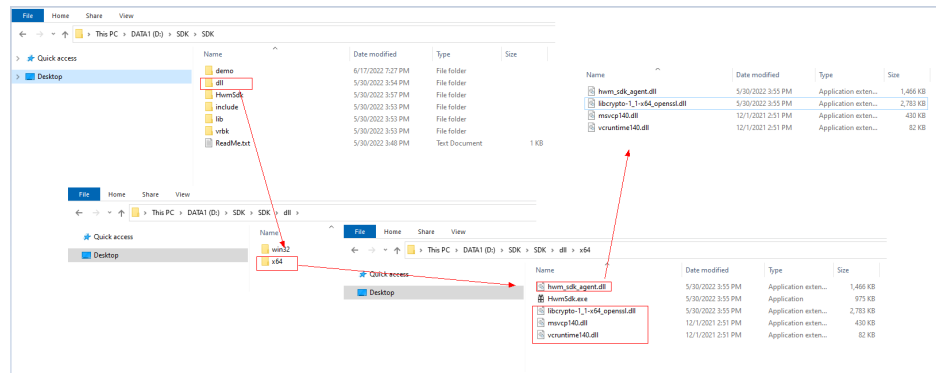


Figure 8-26 Copying all files in SDK\HwmSdk to the output directory

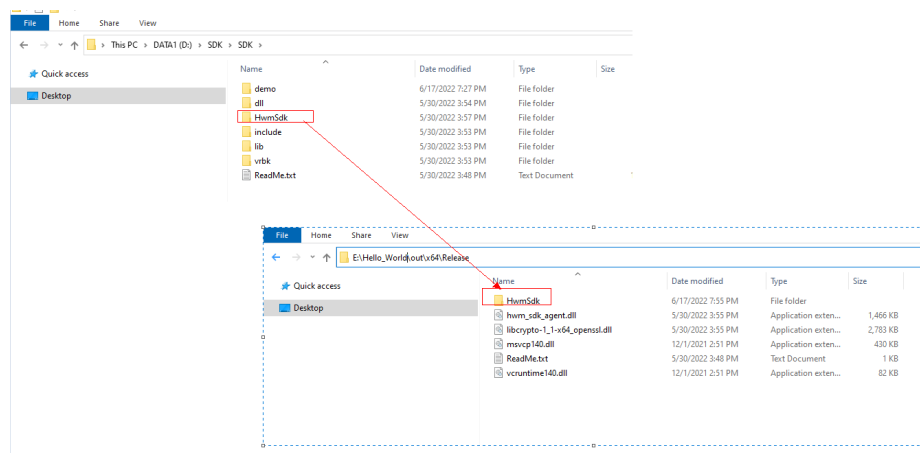


If the x64 platform is used, copy DLL files in **SDK\dll\x64** to the output directory and the entire **SDK\HwmSdk** folder to the output directory, copy **HwmSdk.exe** in **SDK\dll\x64** to the **HwmSdk** folder in the output directory.

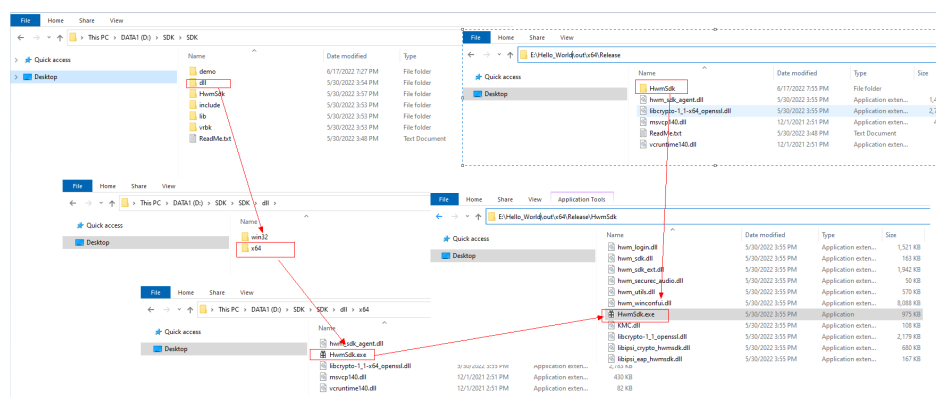
**Figure 8-27** Copying DLL files in **SDK\dll\x64** to the output directory



**Figure 8-28** Copying the entire **SDK\HwmSdk** folder to the output directory



**Figure 8-29** Copying **HwmSdk.exe** in **SDK\dll\x64** to the **HwmSdk** folder in the output directory

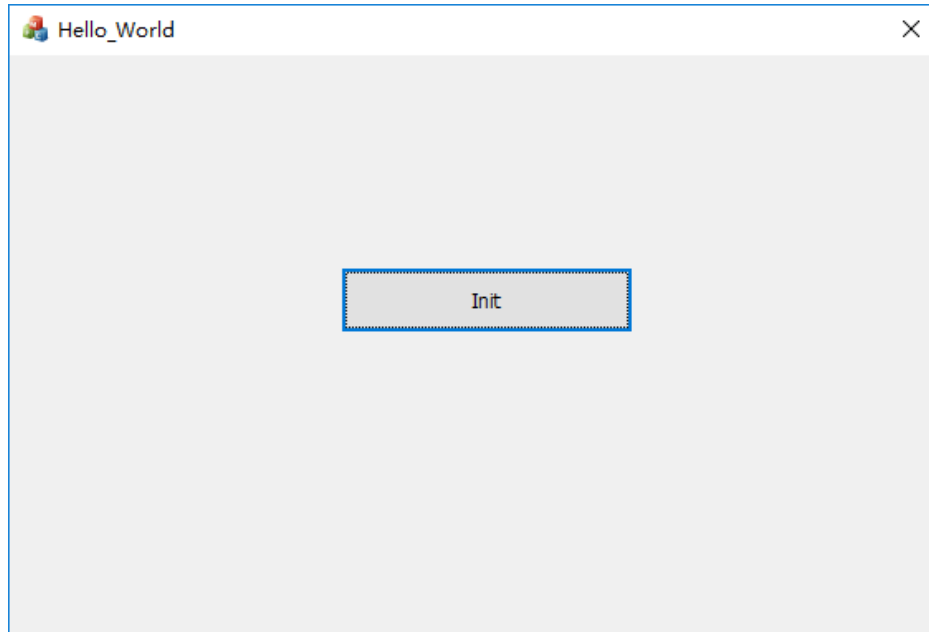


 **NOTE**

When the Win32 platform is used, the directory is **SDK\dll\win32**. When the x64 platform is used, the directory is **SDK\dll\x64**. HwmSdk contains common dependency library files.

5. Double-click **Hello\_World.exe**.

**Figure 8-30** Startup screen



6. Click **Init**. A dialog box is displayed indicating the initialization result. The value **0** indicates that the initialization is successful, and other values indicate that the initialization fails. After the initialization is successful, a notification dialog box is displayed.

**Figure 8-31** Result prompt

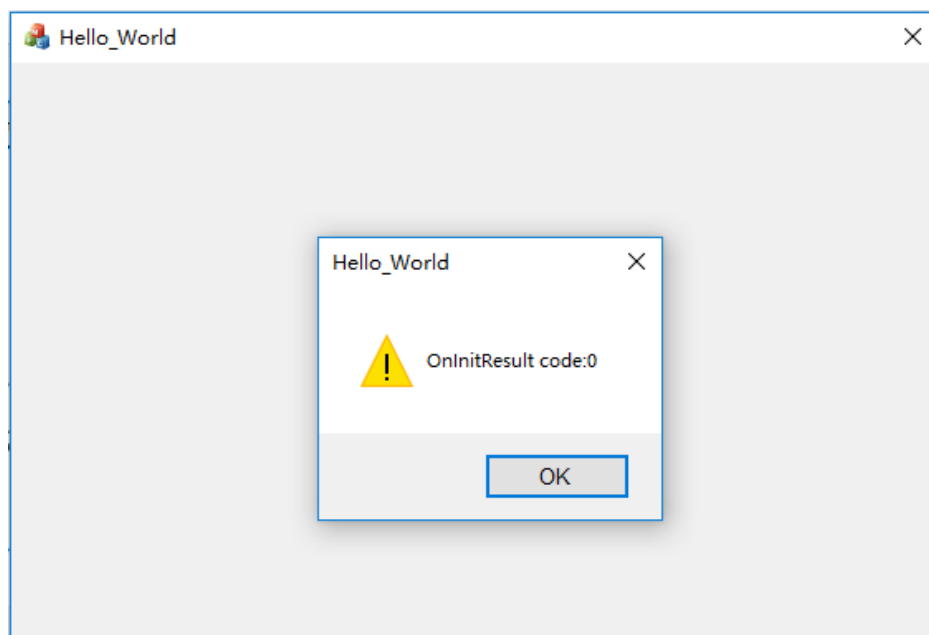
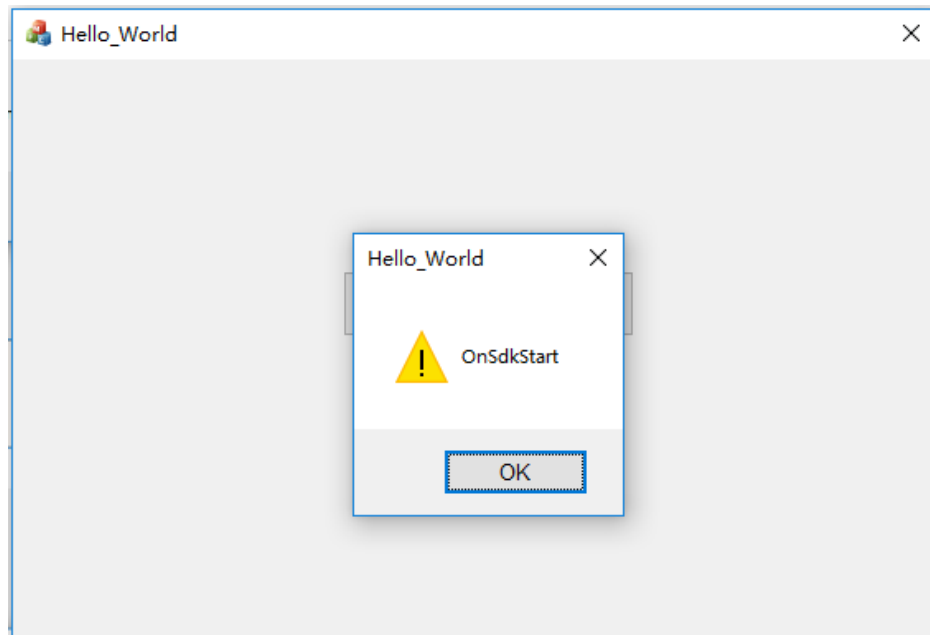


Figure 8-32 Startup notification



----End

## 8.3 Typical Scenarios

This section describes the API call orders and examples of HUAWEI CLOUD Meeting.

### 8.3.1 API Call in Typical Scenarios

#### API Description

Windows SDK APIs are classified into active calling APIs, callback APIs, and message notification APIs.

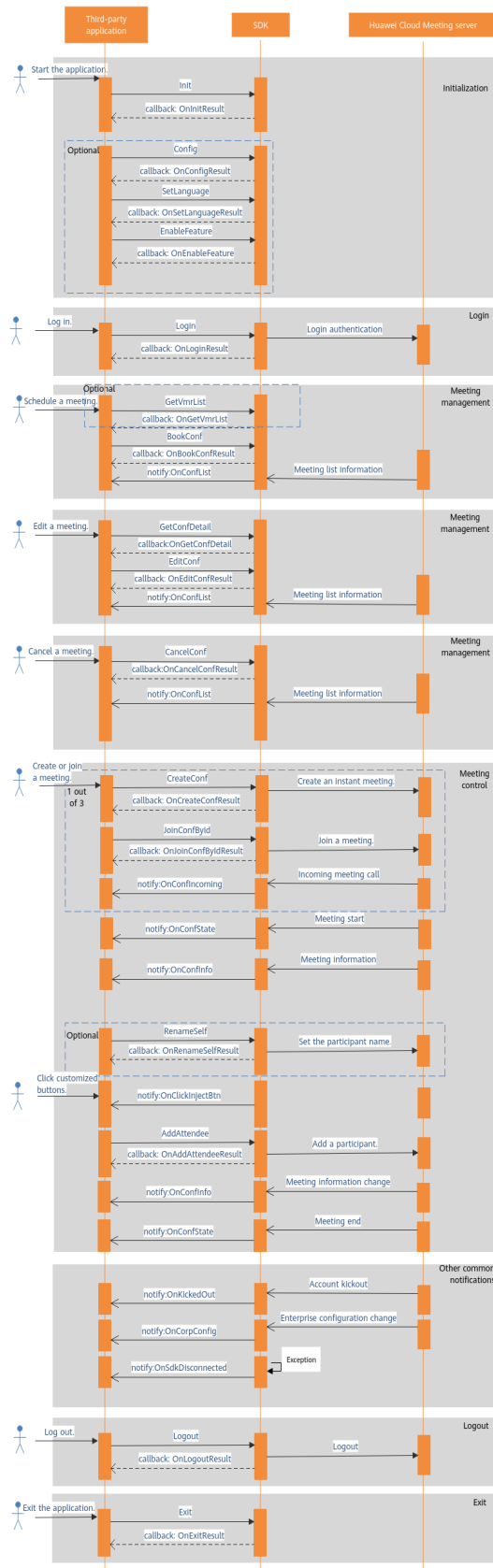
**Active calling APIs:** The application actively calls these APIs to complete tasks. For example, the **Init** API is called for initialization.

**Callback APIs:** Active API calling and SDK internal task processing are asynchronous. After a task in the SDK is completed, callback APIs are called to notify the application. For example, the **OnInitResult** API is called to notify the application of the initialization result.

**Message notification APIs:** These APIs are called by the SDK to notify the application of events triggered by the Huawei Cloud Meeting server or the SDK. For example, the **OnConfIncoming** API is called to notify the application of meeting calls.

## API Call in Typical Scenarios

Figure 8-33 API call in typical scenarios





 NOTE

1. Generally, the application process needs to be stopped before application upgrade. To facilitate upgrade management, you can customize the name of the **HwmSdk.exe** file in the **HwmSdk** folder before initialization.
2. Login is not mandatory. You can use the meeting ID and password to join a created meeting without login.
  - APIs for starting sharing, ending sharing, leaving a meeting, and ending a meeting have been provided on the UI of the SDK. If a third-party application does not need these functions, it does not need to call the corresponding APIs.
  - The **RenameSelf** API can be called before and during a meeting.
  - After a meeting starts, **OnConfInfo** is reported for multiple times.

## 8.3.2 Scenario 1: Initialization

### Description

The initialization API can be called for SDK initialization after a third-party application starts. You only need to call this API once. You must call this API before calling other functional APIs.

### Service Process

During SDK initialization, change the name of the **HwmSdk.exe** file in the **HwmSdk** folder, call the **Init** API, and then process the callback function **OnInitResult**.

#### Step 1 Change the name of the .exe file.

Change the name of the **HwmSdk.exe** file in the **HwmSdk** folder to **MySdk.exe**.

#### Step 2 Call the API.

1. Construct the **HwmInitInfo** data structure.
  - a. Define the derived class **demoNotifyProc** that it inherits from the base class **HwmAgentNotify**, and create a derived class object.  
`static demoNotifyProc *notifyObj = new demoNotifyProc();`
  - b. Define the derived class **demoCallbackProc** that it inherits from the base class **HwmAgentCallback**, and create a derived class object.  
`static demoCallbackProc *callbackObj = new demoCallbackProc();`
  - c. Construct other variables.
2. Call the **Init** API to initialize the configuration. The data in the preceding step is used as input parameters.

#### Step 3 Implement the callback function.

Implement the **OnInitResult** function.

----End

### Sample Code

```
/**  
 * Call the initialization API and start the application.  
 */
```

```
int CdemoBeforeLoginDlg::Init()
{
    // Assemble the input parameter structure.
    hwmsdkagent::HwmInitInfo initParam;
    memset(&initParam, 0, sizeof(HwmInitInfo));

    // (Not required for Win32) Configure the SDK path, that is, the .exe file path, for the x64 platform after
    // renaming the .exe file.
    // Convert the SDK path into the UTF-8 format and copy it to initParam. The conversion code is omitted
    // here.
    strcpy_s(initParam.exePath, HWM_MAX_FILE_PATH_LEN, GetHwmSdkExePath().c_str());
    // Specify the log path, convert the path into the UTF-8 format, and copy the converted path to
    // initParam. The conversion code is omitted here.
    strcpy_s(initParam.logPath, HWM_MAX_FILE_PATH_LEN, GetLogPath().c_str());
    // Specify the data path, convert the path into the UTF-8 format, and copy the converted path to
    // initParam. The conversion code is omitted here.
    strcpy_s(initParam.userDataPath, HWM_MAX_FILE_PATH_LEN, GetUserDataPath().c_str());
    strncpy_s(initParam.appId, GetAppId.c_str(), HWM_MAX_APPID_LEN);

    initParam.notify = notifyObj;
    initParam.callback = callbackObj;
    initParam.authType = hwmsdkagent::HWM_AUTH_TYPE_APPID;
    int ret = hwmsdkagent::Init(&initParam);

    return ret;
}
```

#### NOTE

The value of **exePath** is the parent directory of the **HwmSdk** directory. For example, if the **HwmSdk** directory is **E:\Hello\_World\debug\win32\HwmSdk**, the value of **exePath** is **E:\Hello\_World\debug\win32\**.

```
/**
 * Initialization callback
 */
void demoCallbackProc::OnInitResult(hwmsdk::HwmErrCode ret, const char* msg, HwmSdkInfo *sdkInfo)
{
    CString codeStr;
    codeStr.Format(_T("%d"), ret);
    string msgStr = CTools::UTF82MultiByte(msg);
    string verStr = "";
    if (sdkInfo != NULL) {
        verStr = CTools::UTF82MultiByte(sdkInfo->version);
    }
    CString tips = _T("OnInitResult code:") + codeStr + _T(", msg:") + CString(msgStr.c_str()) + _T(" version:")
+ CString(verStr.c_str());
    AfxMessageBox(tips);
}
```

#### NOTE

The sample code in the typical scenario and API reference is pseudo code and cannot be directly used.

## 8.3.3 Scenario 2: Login

### Description

You can log in to the Huawei Cloud Meeting server using your Huawei Cloud Meeting account or app ID. The API for creating a meeting can be called only when you have logged in. To use complete meeting functions, log in to Huawei Cloud Meeting.

 NOTE

If you have not logged in, you can only join created meetings.

## Service Process

When using the SDK for login, call the **Login** API, and then implement the **OnLoginResult** function.

### Step 1 Call the API.

1. Assemble the **HwmLoginInfo** data structure.
  - a. Select a proper login type.
  - b. Assign a value to the corresponding variable based on the login type.
2. Call the **Login** API to log in. The data in the preceding step is used as input parameters.

### Step 2 Implement the callback function.

Implement the **OnLoginResult** function.

----End

## Sample Code

```
/**
 * Login
 */
int demoLoginDlg::Login()
{
    int ret;
    // Set app ID login parameters.
    /**
     * The data conversion performed by the third-party server is omitted here. The nonce and signature are
     obtained.
     */
    strncpy_s(loginParam.appldAuthInfo.thirdUserId, GetUserId.c_str(), HWM_MAX_USER_ID_LEN);
    strncpy_s(loginParam.appldAuthInfo.userName, GetUserName.c_str(), HWM_MAX_USER_NAME_LEN);
    strncpy_s(loginParam.appldAuthInfo.signature, GetSignature().c_str(), HWM_MAX_SIGNATURE_LEN);
    strncpy_s(loginParam.appldAuthInfo.nonce, GetNonce().c_str(), HWM_APPID_NONCE_LEN);
    strncpy_s(loginParam.appldAuthInfo.email, GetEmail.c_str(), HWM_MAX_EMAIL_LEN);
    strncpy_s(loginParam.appldAuthInfo.phoneNumber, GetPhoneNumber.c_str(),
HWM_MAX_PHONE_NUM_LEN);
    loginParam.appldAuthInfo.expireTime = 1598398920; // UTC time, in seconds

    loginParam.authType = hwmsdkagent::HWM_AUTH_TYPE_APPID;
    // Call the login API.
    ret = hwmsdkagent::Login(&loginParam);

    return ret;
}

/**
 * Login API callback
 */
void demoCallbackProc::OnLoginResult(hwmsdk::HwmErrCode ret, const char* msg)
{
    CString codeStr;
    codeStr.Format(_T("%d"), ret);
    string msgStr = CTools::UTF82MultiByte(msg);
    CString tips = _T("OnLoginResult code:") + codeStr + _T(", msg:") + CString(msgStr.c_str());
    AfxMessageBox(tips);
}
```

## 8.3.4 Scenario 3: Scheduling a Meeting

### Description

After logging in to Huawei Cloud Meeting using an account, you can schedule a meeting. When scheduling the meeting, you can add participants in addition to setting mandatory meeting parameters.

### Service Process

Call the **BookConf** API to schedule a meeting and then implement the **OnBookConfResult** and **OnConfList** functions.

To schedule a meeting using a personal meeting ID or a cloud meeting room, call the **GetVmrList** API to query the personal meeting ID and cloud meeting room information, and then process the data returned by the **OnGetVmrList** function. The data can be used to schedule the meeting.

#### Step 1 Call the API.

1. Assemble the **HwmBookConfParam** data structure (including **HwmAttendeelInfo**).
2. Call the **BookConf** API to schedule a meeting. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback function.

Implement the **OnBookConfResult** function.

#### Step 3 Implement the notification function.

Implement the **OnConfList** function.

----End

### Sample Code

```
/**
 * Schedule a meeting.
 */
int CdemoBookConfDlg::OnBnClickedBookConf()
{
    hwmsdkagent::HwmBookConfParam data = {0};

    string confSubject = u8"My scheduled meeting"; // The value must be a UTF-8 character string.
    strncpy_s(data.subject, confSubject.c_str(), HWM_MAX_SUBJECT_LEN);
    data.confType = hwmsdkagent::HwmConfMediaType::HWM_VIDEO_AND_DATA;
    data.isNeedConfPwd = true;
    data.isRecordOn = false; // Recording is disabled by default.
    data.isAutoRecordOn = false; // By default, automatic recording is disabled.
    data.startTime = 1598398920; // UTC timestamp, in seconds. If the obtained time is the local time, the
time needs to be converted to the UTC time.
    data.duration = 30; // Meeting duration, in minutes
    data.timeZone = 56; // Time zone. The value 56 indicates GMT+08:00.
    data.joinConfRestrictionType = hwmsdkagent::HwmJoinConfPermissionType::RESTRICTION_CALL_IN_ALL;

    std::vector<hwmsdkagent::HwmAttendeelInfo> attendeeList;
    // Participants to invite
    hwmsdkagent::HwmAttendeelInfo attendeeInfo = { 0 };
    strncpy_s(attendeeInfo.name, GetAttName().c_str(), HWM_MAX_USER_NAME_LEN);
    strncpy_s(attendeeInfo.number, GetAttNumber().c_str(), HWM_MAX_NUMBER_LEN);
}
```

```
strncpy_s(attendeeInfo.email, GetAttEmail().c_str(), HWM_MAX_EMAIL_LEN);
strncpy_s(attendeeInfo.sms, GetAttSms().c_str(), HWM_MAX_PHONE_NUM_LEN);
strncpy_s(attendeeInfo.thirdUserId, GetAttUserId().c_str(), HWM_MAX_USER_ID_LEN);
attendeeInfo.isMute = true;
attendeeInfo.isAutoInvite = true;
attendeeList.push_back(attendeeInfo);

data.attendees = attendeeList.data();
data.attendeeLen = attendeeList.size();
data.isSmsOn = true;
data.isMailOn = true;
data.isEmailCalendarOn = true;
return hwmsdkagent::BookConf(&data);
}
```

```
/**
 * Callback of the API for scheduling a meeting
 */
void demoCallbackProc::OnBookConfResult(hwmsdk::HwmErrCode ret, const char* msg)
{
    CString codeStr;
    codeStr.Format(_T("%d"), ret);
    string msgStr = CTools::UTF82MultiByte(msg);
    CString tips = _T("OnBookConfResult code:") + codeStr + _T(", msg:") + CString(msgStr.c_str());
    AfxMessageBox(tips);
}
```

```
/**
 * Meeting list notification
 */
void demoNotifyProc::OnConfList(HwmConflistUpdateType updateType, const HwmConfListInfo*
conflInfoList, unsigned int conflInfoLen)
{
    if (conflInfoLen <= 0 || conflInfoList == nullptr)
    {
        return;
    }
    // Return the meeting list after successful login.
    if (updateType == CONFLIST_UPDTAE_ALL)
    {
        // Process the meeting list.
    }
    else
    {
        if (updateType == CONFLIST_UPDATE_ADD)
        {
            // Process the new meeting or the edited meeting.
        }
        else if (updateType == CONFLIST_UPDATE_DELETE)
        {
            // Process the canceled meeting.
        }
    }

    CString tips = _T("OnConfList");
    for (int i = 0; i < conflInfoLen; i++)
    {
        CString strConfId = CTools::UTF2UNICODE(conflInfoList->confId);
        CString strConfSubject = CTools::UTF2UNICODE(conflInfoList->confSubject);
        CString tip = _T(", confId:") + CString(strConfId)
            + _T(", subject:") + CString(strConfSubject);
        tips += tip;
        conflInfoList++;
    }
    AfxMessageBox(tips);
}
```

## 8.3.5 Scenario 4: Editing a Meeting

### Description

After a meeting is scheduled, you can use the meeting modification API to edit the meeting details and add participants.

### Service Process

To edit a meeting after obtaining the meeting list, call the **GetConfDetail** API to query the meeting details, implement the **OnGetConfDetail** callback function, call the **EditConf** API to modify the meeting details, and implement the **OnEditConfResult** and **OnConfList** functions.

#### Step 1 Obtain meeting details.

1. Call the **GetConfDetail** API.

#### Step 2 Implement the callback function.

Implement the **OnGetConfDetail** function to obtain the meeting details.

#### Step 3 Call the API for editing the meeting.

1. Use the data obtained in [Step 2](#) to assemble the **HwmEditConfParam** data structure (including **HwmAttendeeInfo**).
2. Call the **EditConf** API. The data in [Step 1](#) is used as input parameters.

#### Step 4 Implement the callback function.

Implement the **OnEditConfResult** function.

#### Step 5 Implement the notification function.

Implement the **OnConfList** function.

----End

### Sample Code

```
/**
 * Obtain meeting details.
 */
int demoEditConfDlg::GetConfDetail()
{
    int ret =hwmsdkagent::GetConfDetail(GetConfID()); // Use the meeting ID to query meeting details.
    return ret;
}
```

```
/**
 * Implement the meeting details callback function.
 */
void demoCallbackProc::OnGetConfDetail(hwmsdk::HwmErrCode ret, const char* reason, const
HwmConfDetail* confDetail)
{
    if (confDetail == nullptr)
    {
        return;
    }
    // The code for caching meeting details is omitted here.
    CString codeStr;
```

```
codeStr.Format(_T("%d"), ret);
string msgStr = CTools::UTF82MultiByte(msg);
CString tips = _T("OnGetConfDetail code:") + codeStr + _T(", msg:") + CString(msgStr.c_str());
AfxMessageBox(tips);
}

/**
 * Edit a meeting.
 */
int demoEditConfDlg::EditConf()
{
    hwmsdkagent::HwmConfDetail confDetail{0}; // Obtain meeting details from the cache and assign them
    to confDetail.
    hwmsdkagent::HwmEditConfParam editConfParam{ 0 };
    // Copy the confDetail data as required.
    strncpy_s(editConfParam.confId, confDetail.confListInfo.confId, HWM_MAX_CONF_ID_LEN);
    editConfParam.vmrFlag = confDetail.vmrFlag;
    strncpy_s(editConfParam.vmrId, confInfo.vmrId, HWM_MAX_VMR_CONF_ID_LEN);
    // Part of the value assignment code is omitted here.
    editConfParam.timeZone = 56; // Local time zone. The value 56 indicates GMT+08:00.
    editConfParam.isRecordOn = false; // Recording is disabled by default.
    editConfParam.isAutoRecordOn = false; // Automatic recording is disabled by default.
    editConfParam.startTime = 1598398920; // UTC timestamp
    editConfParam.duration = 0 * 60 + 30; // Meeting duration
    editConfParam.joinConfRestrictionType =
    hwmsdkagent::HwmJoinConfPermissionType::RESTRICTION_CALL_IN_ALL; // Obtain types of users who are
    allowed to join the meeting.
    return hwmsdkagent::EditConf(&editConfParam);
}

/**
 * Callback of the API for editing meeting details
 */
void demoCallbackProc::OnEditConfResult()
{
    CString codeStr;
    codeStr.Format(_T("%d"), ret);
    string msgStr = CTools::UTF82MultiByte(msg);
    CString tips = _T("OnEditConfResult code:") + codeStr + _T(", msg:") + CString(msgStr.c_str());
    AfxMessageBox(tips);
}
```

#### NOTE

The **OnConfList** event notification scenario is the same as the meeting scheduling scenario. For details, see [Sample Code](#).

## 8.3.6 Scenario 5: Canceling a Meeting

### Description

After a meeting is scheduled, you can call the API of canceling a meeting to cancel the meeting.

### Service Process

To cancel a meeting, call the **CancelConf** API and implement the **OnCancelConfResult** and **OnConfList** functions.

#### Step 1 Call the API.

Call the **CancelConf** API.

**Step 2 Implement the callback function.**

Implement the **OnCancelConfResult** function.

**Step 3 Implement the notification function.**

Implement the **OnConfList** function.

----End

**Sample Code**

```
/**
 * API for canceling a meeting
 */
int demoConfListDlg::OnBnCancelConf(hwmsdk::HwmErrCode ret, const char* msg)
{
    return hwmsdkagent::CancelConf(GetConfId());
}
```

```
/**
 * Callback of the API for canceling the meeting
 */
void demoCallbackProc::OnCancelConfResult(hwmsdk::HwmErrCode ret, const char* msg)
{
    CString codeStr;
    codeStr.Format(_T("%d"), ret);
    string msgStr = CTools::UTF82MultiByte(msg);
    CString tips = _T("OnCancelConfResult code:") + codeStr + _T(", msg:") + CString(msgStr.c_str());
    AfxMessageBox(tips);
}
```

 **NOTE**

The **OnConfList** event notification scenario is the same as the meeting scheduling scenario. For details, see [Sample Code](#).

## 8.3.7 Scenario 6: Creating a Meeting

### Description

After logging in to Huawei Cloud Meeting using an account, you can call the API for starting an instant meeting. Participant information is optional.

### Service Process

To schedule a meeting using a personal meeting ID or a cloud meeting room, call the **GetVmrList** API to query the personal meeting ID and cloud meeting room information, and then process the data returned by the **OnGetVmrList** function. The data can be used to schedule the meeting.

When using the SDK to create an instant meeting, call the **CreateConf** API, and then implement the **OnCreateConfResult**, **OnConfState**, and **OnConfInfo** functions.

**Step 1 Call the API.**

1. Assemble the **HwmCreateConfInfo** data structure.
2. Assemble the **HwmConfAttendee** data structure.



3. Call the **CreateConf** API to create a meeting. The data in preceding steps is used as input parameters.

### Step 2 Implement the callback function.

Implement the **OnCreateConfResult** function.

### Step 3 Implement the notification function.

Implement the **OnConfState** function.

### Step 4 Implement the notification function.

Implement the **OnConfInfo** function.

### Step 5 Implement the notification function.

Implement the **OnConfList** function.

----End

## Sample Code

```
/**
 * Create a meeting.
 */
int demoCreateConfWithAttendeeDlg::clickCreatConfWithAttendee()
{
    int ret;
    hwmsdkagent::HwmCreateConfInfo data;
    memset(&data, 0, sizeof(hwmsdkagent::HwmCreateConfInfo));

    // Set the meeting topic.
    strncpy_s(data.subject, GetMeetingSubjectStr().c_str(), HWM_MAX_SUBJECT_LEN);
    // Set the meeting type.
    data.mediaType = hwmsdkagent::HWM_VIDEO_AND_DATA
    // Set whether the guest password is required for the meeting.
    data.needPassword = true;
    data.callInRestriction = hwmsdkagent::RESTRICTION_CALL_IN_ALL;
    // Configure vmrId. To create a meeting with a random ID, leave vmrId empty. Here,
    m_confIdTypeCombo indicates that a meeting with a random ID is preferentially created.
    // Therefore, vmrIdSelect > 0 indicates the personal meeting ID or a cloud meeting room ID is used.
    const auto vmrIdSelect = m_confIdTypeCombo.GetCurSel();
    if (vmrIdSelect > 0 && vmrIdSelect - 1 < vmrList.size())
    {
        strncpy_s(data.vmrId, HWM_MAX_VMR_CONF_ID_LEN, vmrList[vmrIdSelect - 1].vmrId);
    }

    // Set participants.
    // Obtain participant details based on site requirements.
    CString tempCString;
    m_attendeesEdit.GetWindowText(tempCString);
    string tempString = CTools::UNICODE2UTF(tempCString);
    vector<string> list = CTools::split(tempString, ',');
    vector<string> temp;
    int count = list.size();
    int realCount = 0;
    if (count > 0)
    {
        // Apply for the structure memory.
        hwmsdkagent::HwmConfAttendee* participants;
        participants = (hwmsdkagent::HwmConfAttendee*)malloc(sizeof(hwmsdkagent::HwmConfAttendee) *
count);
        if (participants == NULL)
        {
            return -1;
        }
    }
}
```

```
    }
    memset(participants, 0, sizeof(hwmsdkagent::HwmConfAttendee)*count);

    hwmsdkagent::HwmConfAttendee* participantsTemp = participants;
    for (int i = 0; i < count; i++)
    {
        temp = CTools::split(list[i], '-');
        if (temp.size() == 2)
        {
            // Assign a value to name.
            strncpy_s(participantsTemp->name, (char *)temp[0].c_str(), HWM_MAX_DISPLAY_NAME_LEN);
            // Assign a value to number.
            strncpy_s(participantsTemp->number, (char *)temp[1].c_str(), HWM_MAX_NUMBER_LEN);
            // Increase the number of pointers by 1.
            realCount++;
            participantsTemp++;
        }
    }
    // Call the SDK API to create the meeting.
    ret = hwmsdkagent::CreateConf(&data, participants, realCount);

    // Release memory space.
    free(participants);
    participants = NULL;
}
else
{
    // Create a meeting without specifying participants.
    ret = hwmsdkagent::CreateConf(&data, NULL, 0);
}
return ret;
}
```

#### NOTE

String parameters, such as the meeting topic and participant name, in Windows SDK APIs. These parameters must be encoded in UTF-8. Otherwise, an error will be reported.

```
/**
 * Callback of the API for creating a meeting
 */
void demoCallbackProc::OnCreateConfResult(hwmsdk::HwmErrCode ret, const char* msg)
{
    CString codeStr;
    codeStr.Format(_T("%d"), ret);
    string msgStr = CTools::UTF82MultiByte(msg);
    CString tips = _T("OnCreateConfResult code:") + codeStr + _T(", msg:") + CString(msgStr.c_str());
    AfxMessageBox(tips);
}
```

```
/**
 * Meeting status notification
 */
void demoNotifyProc::OnConfState(HwmConfStateInfo *confStateInfo)
{
    CString str;
    str.Format(_T("%d"), confStateInfo->state);
    CString reason;
    reason.Format(_T("%d"), confStateInfo->reason);
    CString tips = _T("OnConfState state:") + str + _T(", reason:") + reason;
    AfxMessageBox(tips);
}
```

```
/**
 * Meeting details notification
 */
void demoNotifyProc::OnConfInfo(HwmConfInfo *confInfo)
{

```

```
string urlStr = CTools::UTF82MultiByte(confInfo->url);
string confIdStr = CTools::UTF82MultiByte(confInfo->confId);
string chairmanPwdStr = CTools::UTF82MultiByte(confInfo->chairmanPwd);
string generalPwdStr = CTools::UTF82MultiByte(confInfo->generalPwd);
string subjectStr = CTools::UTF82MultiByte(confInfo->subject);

CString role;
role.Format(_T("%d"), confInfo->role);

CString tips = _T("OnConfInfo confUrl:") + CString(urlStr.c_str())
+ _T(", confId:") + CString(confIdStr.c_str()) + _T(", confRole:") + CString(role)
+ _T(", chairmanPwd:") + CString(chairmanPwdStr.c_str())
+ _T(", generalPwd:") + CString(generalPwdStr.c_str())
+ _T(", subject:") + CString(subjectStr.c_str());
AfxMessageBox(tips);
}
```

#### NOTE

The **OnConfList** event notification scenario is the same as the meeting scheduling scenario. For details, see [Sample Code](#).

Character strings in Windows SDK functions are encoded in UTF-8.

## 8.3.8 Scenario 7: Joining a Meeting

### Description

You can call this API to join a meeting using a meeting ID and password regardless of whether you have logged in to Huawei Cloud Meeting or not.

### Service Process

When using the SDK to join a meeting, call the **JoinConfById** API, and implement the **OnJoinConfByIdResult**, **OnConfState**, and **OnConfInfo** functions.

#### Step 1 Call the API.

1. Assemble the **HwmJoinConfByIdInfo** data structure.
2. Call the **JoinConfById** API to join a meeting. The data in preceding steps is used as input parameters.

#### Step 2 Implement the callback function.

Implement the **OnJoinConfByIdResult** function.

#### Step 3 Implement the notification function.

Implement the **OnConfState** function.

#### Step 4 Implement the notification function.

Implement the **OnConfInfo** function.

----End

### Sample Code

```
// Join a meeting using the meeting ID.
int demoJoinConfByIdDlg::clickJoinConfById()
{
    // Enter the meeting ID and meeting password. You can specify your display name in the meeting
    regardless of whether you have logged in or not.
```

```
hwmsdkagent::HwmJoinConfByIdInfo data;
memset(&data, 0, sizeof(hwmsdkagent::HwmJoinConfByIdInfo));

strncpy_s(data.confld, GetMeetingID().c_str(), HWM_MAX_CONF_ID_LEN);
strncpy_s(data.password, GetAccessCode().c_str(), HWM_MAX_PASSWORD_LEN);
strncpy_s(data.name, GetParticipantName().c_str(), HWM_MAX_DISPLAY_NAME_LEN);

int ret = hwmsdkagent::JoinConfById(&data);
return ret;
}

/**
 * Callback of the API for joining a meeting using the meeting ID
 */
void demoCallbackProc::OnJoinConfByIdResult(hwmsdk::HwmErrCode ret, const char* msg)
{
    CString codeStr;
    codeStr.Format(_T("%d"), ret);
    string msgStr = CTools::UTF82MultiByte(msg);
    CString tips = _T("OnJoinConfByIdResult code:") + codeStr + _T(", msg:") + CString(msgStr.c_str());
    AfxMessageBox(tips);
}
```

#### NOTE

The **OnConfState** and **OnConfInfo** event notification scenarios are the same as the meeting creation scenario. For details, see [Scenario 6: Creating a Meeting](#).

## 8.3.9 Scenario 8: Joining a Meeting by Clicking a Link in an Email

### Description

You can use a meeting link (for example, <https://bmeeting.huaweicloud.com/#/j/981924330/e11ddec62ee760734fcf2ba55b79937eac2aa68677caf659>) in the notification email to join a meeting. The link contains the meeting ID (981924330) and random code (e11ddec62ee760734fcf2ba55b79937eac2aa68677caf659).

You can call this API to join a meeting using the meeting ID and 48-digit value (random code) mapping to the password in the meeting link before or after logging in to Huawei Cloud Meeting.

### Service Process

When using the SDK to join a meeting, call the **JoinConfByRandom** API, and implement the **OnJoinConfByRandom**, **OnConfState**, and **OnConfInfo** functions.

#### Step 1 Call the API.

1. Create a **HwmJoinConfByRandomInfo** object.
2. Call the **JoinConfByRandom** API to join a meeting. The data in the [preceding step](#) is used as input parameters.

#### Step 2 Implement the callback function.

Implement the **OnJoinConfByRandomResult** function.

#### Step 3 Implement the notification function.

Implement the **OnConfState** function.

#### Step 4 Implement the notification function.

Implement the **OnConfInfo** function.

----End

### Sample Code

```
// Join a meeting using the meeting ID and random code.
int demoJoinConfByRandomDlg::clickJoinConfByRandom()
{
    // Enter the meeting ID and password mapping value. If you join the meeting using the random code,
    you can configure the display name.
    hwmsdkagent::HwmJoinConfByRandomInfo data;
    memset(&data, 0, sizeof(hwmsdkagent::HwmJoinConfByRandomInfo));

    strncpy_s(data.confId, GetMeetingID().c_str(), HWM_MAX_CONF_ID_LEN);
    strncpy_s(data.random, GetAccessCode().c_str(), HWM_MAX_RANDOM_LEN);
    strncpy_s(data.name, GetParticipantName().c_str(), HWM_MAX_DISPLAY_NAME_LEN);

    int ret = hwmsdkagent::JoinConfByRandom(&data);
    return ret;
}

/**
 * Callback of the meeting ID and random code for joining a meeting
 */
void demoCallbackProc::OnJoinConfByRandomResult(hwmsdk::HwmErrCode ret, const char* reason)
{
    CString codeStr;
    codeStr.Format(_T("%d"), ret);
    string msgStr = CTools::UTF82MultiByte(msg);
    CString tips = _T("OnJoinConfByRandomResult code:") + codeStr + _T(", msg:") + CString(msgStr.c_str());
    AfxMessageBox(tips);
}
```

#### NOTE

The **OnConfState** and **OnConfInfo** event notification scenarios are the same as the meeting creation scenario. For details, see [Scenario 6: Creating a Meeting](#).

The 48-digit value mapping to the password is a part of the character string carried in the link for sharing a meeting.

<https://bmeeting.huaweicloud.com/#/j/987297025/227b2d708b7e5a24ce8de2159772239b1672c0a85ba70d85>

## 8.3.10 Scenario 9: Adding Participants

### Description

You can call the API for adding participants during a meeting.

### Service Process

When using the SDK to add participants, call the **AddAttendee** API, and implement the **OnAddAttendeeResult** function.

#### Step 1 Call the API.

1. Assemble the **HwmConfAttendee** data structure.
2. Call the **AddAttendee** API to add participants. The data in preceding steps is used as input parameters.

## Step 2 Implement the callback function.

Implement the **OnAddAttendeeResult** function.

----End

### Sample Code

```
/**
 * Add participants.
 */
int demoAddAttendeeDlg::clickAddAttendee()
{
    int ret;
    CString tempCString;

    // Obtain participant details based on site requirements.
    m_numbersEdit.GetWindowText(tempCString);
    string tempString = CTools::UNICODE2UTF(tempCString);
    vector<string> list = CTools::split(tempString, ',');
    vector<string> temp;
    int count = list.size();

    int realCount = 0;
    if (count > 0)
    {
        // Apply for the structure memory.
        hwmsdkagent::HwmConfAttendee* participants;
        participants = (hwmsdkagent::HwmConfAttendee*)malloc(sizeof(hwmsdkagent::HwmConfAttendee) *
count);
        if (participants == NULL)
        {
            return -1;
        }
        memset(participants, 0, sizeof(hwmsdkagent::HwmConfAttendee)*count);

        hwmsdkagent::HwmConfAttendee* participantsTemp = participants;
        for (int i = 0; i < count; i++)
        {
            temp = CTools::split(list[i], '-');
            if (temp.size() == 2)
            {
                // Assign a value to name.
                strncpy_s(participantsTemp->name, (char *)temp[0].c_str(), HWM_MAX_DISPLAY_NAME_LEN);
                // Assign a value to number.
                strncpy_s(participantsTemp->number, (char *)temp[1].c_str(), HWM_MAX_NUMBER_LEN);
                // Increase the number of pointers by 1.
                realCount++;
                participantsTemp++;
            }
        }

        ret = hwmsdkagent::AddAttendee(participants, realCount);

        // Release memory space.
        free(participants);
        participants = NULL;
    }

    return ret;
}

/**
 * Callback of the API for adding participants
 */
void demoCallbackProc::OnAddAttendeeResult(hwmsdk::HwmErrCode ret, const char* msg)
{
    CString codeStr;
```

```
codeStr.Format(_T("%d"), ret);
string msgStr = CTools::UTF82MultiByte(msg);
CString tips = _T("OnAddAttendeeResult code:") + codeStr + _T(", msg:") + CString(msgStr.c_str());
AfxMessageBox(tips);
}
```

## 8.3.11 Scenario 10: Customizing the Invite Button in a Meeting

### Description

In most scenarios where the SDK is used for secondary development, third-party applications do not use the corporate directory provided by Huawei Cloud Meeting. Therefore, the page for inviting participants only provides a button and does not provide the complete function of inviting participants. You must implement the function by yourself.

### Service Process

When using the SDK to implement the participant invitation function, call the **Config** API, implement the **OnConfigResult** function, and then implement the **OnClickInjectBtn** function after the **Invite** button is clicked in the meeting.

#### Step 1 Call the API.

After the SDK is initialized, call the **Config** API to customize the **Invite** button.

#### Step 2 Implement the callback function.

Implement the **OnConfigResult** function.

#### Step 3 Implement the notification function.

After the **Invite** button is clicked, implement the **OnClickInjectBtn** function.

----End

### Sample Code

```
/**
 * Configure the Invite button.
 */
int hwmSDKConfigUI::hwmSDKStartUIConfig()
{
    // Configure the Invite button.
    CString inviteBtn = ("{"frame":{"confMenu" : {"toolBar":{"button":{"id":"invite","showAsAction" : {"ifRoom","isCustomizedClick" : true}}}}});
    string uiConfig CTools::UNICODE2UTF(inviteBtn);
    ret = hwmsdkagent::Config(uiConfig);
    return ret;
}
```

```
/**
 * Configure the callback function.
 */
void demoCallbackProc::OnConfigResult(hwmsdk::HwmErrCode ret, const char* msg)
{
    CString codeStr;
    codeStr.Format(_T("%d"), ret);
    string msgStr = CTools::UTF82MultiByte(msg);
    CString tips = _T("OnConfigResult code:") + codeStr + _T(", msg:") + CString(msgStr.c_str());
}
```

```
AfxMessageBox(tips);
}

/**
 * Message notification upon button clicking
 */
void notifyProc::OnClickInjectBtn(hwmsdkagent::HwmClickInjectBtn injectBtn, void* data, const char* id)
{
    INT_PTR nRes;
    switch (injectBtn)
    {
        // Send a notification after the Invite button is clicked.
        case hwmsdkagent::HWM_CLICK_INJECT_BTN_INVITE:
        {
            // Display the page for inviting participants with a corporate directory.
            hwm_ui_demo_inviteDlg inviteDlg;
            nRes = inviteDlg.DoModal();
            break;
        }
    }
}
```

## 8.3.12 Scenario 11: Logout

### Description

You can call this API to log out of Huawei Cloud Meeting.

### Service Process

When using the SDK for logout, call the **Logout** API and then implement the **OnLogoutResult** function.

#### Step 1 Call the API.

Call the **Logout** API to log out of Huawei Cloud Meeting.

#### Step 2 Implement the callback function.

Implement the **OnLogoutResult** function.

----End

### Sample Code

```
/**
 * Log out.
 */
void demoMainMenuDlg::OnBnClickedLogout()
{
    // Call the logout API.
    int ret = hwmsdkagent::Logout();
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("Logout error"));
    }
}

/**
 * Logout API callback
 */
void demoCallbackProc::OnLogoutResult(hwmsdk::HwmErrCode ret, const char* msg)
{
    CString codeStr;
    codeStr.Format(_T("%d"), ret);
}
```



```
string msgStr = CTools::UTF82MultiByte(msg);
CString tips = _T("OnLogoutResult code:") + codeStr + _T(", msg:") + CString(msgStr.c_str());
AfxMessageBox(tips);
}
```

## 8.3.13 Scenario 12: Exit

### Description

When a third-party application exits, the SDK needs to be deinitialized. Otherwise, the **HwmSdk.exe** process (main process of the Windows SDK) keeps running in the background.

### Service Process

To exit the SDK, call the **Exit** API and then implement the **OnExitResult** function.

#### Step 1 Call the API.

Call the **Exit** API to exit the SDK.

#### Step 2 Implement the callback function.

Implement the **OnExitResult** function.

----End

### Sample Code

```
/**
 * Exit the SDK.
 */
void CdemoBeforeLoginDlg::OnBnClickedButtonExit()
{
    int ret = hwmsdkagent::Exit();
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("Exit error"));
    }
}
```

```
/**
 * Exit callback
 */
void demoCallbackProc::OnExitResult(hwmsdk::HwmErrCode ret, const char* msg)
{
    CString codeStr;
    codeStr.Format(_T("%d"), ret);
    string msgStr = CTools::UTF82MultiByte(msg);
    CString tips = _T("OnExitResult code:") + codeStr + _T(", msg:") + CString(msgStr.c_str());
    AfxMessageBox(tips);
}
```

## 8.4 API Reference

### NOTE

Character arrays (**char[]**) in Windows SDK APIs must be encoded in UTF-8. Exceptions are described in the parameter description.

## 8.4.1 Basic Settings

### 8.4.1.1 Initializing the SDK

#### Init

##### API Description

This API is used to start and initialize the SDK.

##### Precautions

1. Before calling this API, change the name of the **HwmSdk.exe** file in the **HwmSdk** folder to your desired name.
2. You must call this API successfully and receive the callback result before calling other APIs.
3. Each time the initialization API is called, the SDK is restarted, and all the previous settings and operations are cleared.
4. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

##### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode Init(HwmlInitInfo *initInfo);
```

##### Callback Function

```
virtual void OnInitResult(hwmsdk::HwmErrCode ret, const char* reason, HwmSdkInfo *sdkInfo) {};
```

##### Parameter Description

Table 8-3 HwmlInitInfo description

| Parameter | Mandatory                      | Type   | Description  |
|-----------|--------------------------------|--------|--|
| exePath   | Mandatory for the x64 platform | char[] | SDK startup path, that is, the absolute path of the .exe file in the <b>HwmSdk</b> folder of the SDK package. Before calling this API, change the name of the <b>HwmSdk.exe</b> file in the <b>HwmSdk</b> folder of the SDK package to your desired name. Assume that the path of the <b>HwmSdk</b> folder is <b>D:\MyApp\SDK\HwmSdk\</b> and the name of the .exe file is <b>MySdk.exe</b> . Then set this parameter to <b>D:\MyApp\SDK\HwmSdk\MySdk.exe</b> .<br>UTF-8 encoding is required. |

| Parameter              | Mandatory | Type             | Description  |
|------------------------|-----------|------------------|--|
| logPath                | Yes       | char[]           | SDK log path. If this parameter is not set, the default path is used. UTF-8 encoding is required.  |
| userDataPath           | Yes       | char[]           | SDK user data path. If this parameter is not set, the default path is used. UTF-8 encoding is required.  |
| appld                  | Yes       | char[]           | App ID. For details about how to request an app ID, see <a href="#">Requesting an App ID</a> in <i>Developer Guide</i> .   |
| notify                 | Yes       | HwmAgentNotify   | Notification object, which is the object of the class inherited from the base class <b>HwmAgentNotify</b> .  |
| callback               | Yes       | HwmAgentCallback | API callback object, which is the object of the class inherited from the base class <b>HwmAgentCallback</b> .  |
| authType               | Yes       | HwmAuthType      | Authentication mode.   |
| siteType               | No        | HwmSiteType      | Site type. The default value is <b>0</b> , indicating that Chinese mainland site is used.  |
| logKeepDays            | No        | unsigned int     | Log storage duration. Valid value range is 3–30. The default value is <b>0</b> . <b>0</b> indicates that logs are not deleted by day.<br><br>Note: <b>1</b> and <b>2</b> will be converted to <b>3</b> , and the values greater than 30 will be converted to <b>30</b> .                 |
| preferredCamera        | No        | char[]           | Preferred camera list. After this parameter is set, the first available camera is selected based on the sequence in the list when the camera is opened for the first time. This parameter can be left empty. If it is left empty, available cameras are enabled in the default sequence. |
| isSupportMultiAppLogin | No        | bool             | Whether to support login to multiple applications on the same device. This function is disabled by default.  |

**Table 8-4** Enumerated values of HwmAuthType

| Enumerated Value                   | Description                          |
|------------------------------------|--------------------------------------|
| HWM_AUTH_TYPE_ACCOUNT_AND_PASSWORD | Account and password authentication. |
| HWM_AUTH_TYPE_APPID                | App ID authentication.               |

**Table 8-5** Enumerated values of HwmSiteType

| Enumerated Value | Description       |
|------------------|-------------------|
| SITE_TYPE_CHINA  | Chinese mainland. |
| SITE_TYPE_AP     | Asia Pacific.     |

**Table 8-6** HwmSdkInfo description

| Parameter | Type   | Description         |
|-----------|--------|---------------------|
| version   | char[] | SDK version number. |

 **NOTE**

App ID authentication mode is recommended. For details about how to request an app ID, see section "Requesting an App ID" in [Developer Guide](#).

**Return Values**

**Table 8-7** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

**Sample Code**

```
// Create a notification processing object.
static demoNotifyProc *notifyObj = new demoNotifyProc();
// Create a callback function processing object.
static demoCallbackProc *callbackObj = new demoCallbackProc();

/**
 * Call the initialization API and start the application.
```

```
*/
int CdemoBeforeLoginDlg::Init()
{
    // Assemble the input parameter structure.
    hwmsdkagent::HwmlnInitInfo initParam;
    memset(&initParam, 0, sizeof(HwmlnInitInfo));

    // (Not required for Win32) Configure the SDK path, that is, the .exe file path, for the x64 platform after
    // renaming the .exe file.
    // Convert the SDK path into the UTF-8 format and copy it to initParam. The conversion code is omitted
    // here.
    strcpy_s(initParam.exePath, HWM_MAX_FILE_PATH_LEN, GetHwmSdkExePath().c_str());
    // Specify the log path, convert the path into the UTF-8 format, and copy the converted path to
    // initParam. The conversion code is omitted here.
    strcpy_s(initParam.logPath, HWM_MAX_FILE_PATH_LEN, GetLogPath().c_str());
    // Specify the data path, convert the path into the UTF-8 format, and copy the converted path to
    // initParam. The conversion code is omitted here.
    strcpy_s(initParam.userDataPath, HWM_MAX_FILE_PATH_LEN, GetUserDataPath().c_str());

    // Pass the requested enterprise app ID.
    strncpy_s(initParam.appId, GetAppId.c_str(), HWM_MAX_APPID_LEN);
    initParam.notify = notifyObj;
    initParam.callback = callbackObj;
    initParam.authType = hwmsdkagent::HWM_AUTH_TYPE_APPID;
    int ret = hwmsdkagent::Init(&initParam);

    return ret;
}
```

#### NOTE

- The sample code in the typical scenario and API reference is pseudo code and cannot be directly used.
- For details about the definitions of the message notification processing class **demoNotifyProc** and callback function processing class **demoCallbackProc**, see the demo code in the SDK package.

## 8.4.1.2 Exiting the SDK

### Exit

#### API Description

This API is used to exit the SDK.

#### Precautions

1. After this API is called, the SDK cannot be used.
2. Call this API before exiting the application. If this API is not called, the SDK cannot exit and the SDK process still runs in the background after the application exits.
3. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode Exit();
```

#### Callback Function

```
virtual void OnExitResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

**Parameter Description**

None

**Return Values****Table 8-8** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

**Sample Code**

```
/**
 * Exit the SDK.
 */
void CdemoBeforeLoginDlg::OnBnClickedButtonExit()
{
    int ret = hwmsdkagent::Exit();
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("Exit error"));
    }
}
```

### 8.4.1.3 Setting the Language

#### SetLanguage

**API Description**

This API is used to set the GUI language. The default language is Chinese.

**Precautions**

This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

**Method Definition**

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetLanguage(HwmLanguage language);
```

**Callback Function**

```
virtual void OnSetLanguageResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

**Parameter Description**

**Table 8-9** Parameter description

| Parameter | Man<br>dato<br>ry | Type            | Description   |
|-----------|-------------------|-----------------|---------------|
| language  | Yes               | HwmLanguag<br>e | GUI language. |

**Table 8-10** Enumerated values of HwmLanguage

| Enumerated Value            | Description      |
|-----------------------------|------------------|
| HWM_LANGUAGE_ZH_CN          | Chinese.         |
| HWM_LANGUAGE_EN_GB          | English.         |
| HWM_LANGUAGE_CUSTO<br>MIZED | Custom language. |

## Return Values

**Table 8-11** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

## Sample Code

```
/**
 * Change the language.
 */
void demoSettingDlg::OnBnClickedButtonSetLanCode()
{
    // Set the language to Chinese.
    hwmsdkagent::HwmLanguage languageCode = hwmsdkagent::HWM_LANGUAGE_ZH_CN;

    int ret = hwmsdkagent::SetLanguage((hwmsdkagent::HwmLanguage)languageCode);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("SetLanguage error"));
    }
}
```

## SetLanguageWithCode

### API Description

This API is used to customize the SDK language. The default language is Chinese.

## Precautions

1. To customize a language, create the corresponding internationalization files in `\HwmSdk\sdkResources\language\`. For example, create `\ar\temp.js` when you set the SDK language to Arabic. The language set using this API must be the same as the system language.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

## Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetLanguageWithCode(HwmLanguage language, const char* languageCode);
```

## Callback Function

```
virtual void OnSetLanguageResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

## Parameter Description

Table 8-12 Parameter description

| Parameter    | Man<br>dato<br>ry | Type            | Description   |
|--------------|-------------------|-----------------|---|
| language     | Yes               | HwmLanguag<br>e | GUI language.   |
| languageCode | No                | char[]          | Language code. If the language is Chinese or English, this parameter can be left empty. |

## Return Values

Table 8-13 Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

## Sample Code

```
/**  
 * Change the language.  
 */  
void demoSettingDlg::OnBnClickedButtonSetLanCode()  
{  
    // Set the language to a custom language. Arabic is used as an example.  
    hwmsdkagent::HwmLanguage languageCode = hwmsdkagent::HWM_LANGUAGE_CUSTOMIZED;  
    CString code = "ar";  
}
```



```
int ret = hwmsdkagent::SetLanguageWithCode((hwmsdkagent::HwmLanguage)languageCode,
CTools::UNICODE2UTF(code).c_str());
if (hwmsdk::HWM_COMMON_SUCCESS != ret)
{
    AfxMessageBox(_T("SetLanguageWithCode error"));
}
}
```

### 8.4.1.4 Enabling a Function

#### EnableFeature

##### API Description

This API is used to enable or disable a function in the Windows SDK.

##### Precautions

1. Functions have default statuses. Call this API only if you need to change the function status.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

##### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode EnableFeature(HwmEnableFeatureType type, bool isEnabled);
```

##### Callback Function

```
virtual void OnEnableFeature(hwmsdk::HwmErrCode ret, const char* msg) {};
```

##### Parameter Description

**Table 8-14** Parameter description

| Parameter | Man<br>dato<br>ry | Type                     | Description             |
|-----------|-------------------|--------------------------|-------------------------|
| type      | Yes               | HwmEnableFe<br>atureType | Function switch.        |
| isEnabled | Yes               | bool                     | Function switch status. |

**Table 8-15** Enumerated values of HwmEnableFeatureType

| Enumerated Value                          | Description  |
|---|--|
| HWM_ENABLE_FEATURE_T<br>YPE_MULTI_MONITOR | Whether to enable the multi-monitor mode. In the multi-monitor scenario, when one monitor screen is shared, the video screen is displayed on the other monitor. In single-monitor mode, the video window is hidden after sharing is enabled. This function is disabled by default. |

| Enumerated Value                                 | Description   |
|--|---|
| HWM_ENABLE_FEATURE_TYPE_SHOW_HANGUP_ATTENDEE     | Whether to display the status of the participant who leaves the meeting in the participant list. This function is enabled by default.   |
| HWM_ENABLE_FEATURE_TYPE_HOWLING_DETECTION        | Whether to enable feedback suppression. This function is enabled by default.  |
| HWM_ENABLE_FEATURE_TYPE_HIGH_RESOLUTION          | Whether to enable 1080p HD display in a meeting. This function is enabled by default.   |
| HWM_ENABLE_FEATURE_TYPE_MIC_SWITCH               | Initial status of the microphone in a meeting. The microphone is enabled by default.  |
| HWM_ENABLE_FEATURE_TYPE_CAM_SWITCH               | Initial status of the camera in a meeting. The camera is disabled by default.   |
| HWM_ENABLE_FEATURE_TYPE_HIDE_EXTERNAL_LABEL      | Whether an external label is displayed or hidden in a meeting. By default, the external label is displayed.   |
| HWM_ENABLE_FEATURE_AUTO_MIC_VOLUME               | Whether to enable automatic microphone volume adjustment. This function is enabled by default. If the external microphone has automatic gain control (AGC), you are advised to disable this function. |
| HWM_ENABLE_FEATURE_BREAKOUT_CONF                 | Status of the breakout room function. This function is enabled by default.  |
| HWM_ENABLE_FEATURE_CONFIRM_RECORD                | Whether to display the recording confirmation prompt. This function is disabled by default.   |
| HWM_ENABLE_FEATURE_DEFAULT_SHARE_AUDIO           | Audio sharing. This function is disabled by default.  |
| HWM_ENABLE_FEATURE_SUPPORT_DISCONNECT_AUDIO      | Disconnecting audio. This function is disabled by default.  |
| HWM_ENABLE_FEATURE_DISCONNECT_AUDIO_TO_JOIN_CONF | Joining a meeting without audio. This function is disabled by default.  |
| HWM_ENABLE_FEATURE_CPU_REDUCTION_DETECT          | Detecting CPU frequency reduction. This function is disabled by default.  |
| HWM_ENABLE_FEATURE_SUPPORT_GUEST_INVITE          | Inviting participants. This function is disabled by default.  |

### Return Values

**Table 8-16** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Configure multi-monitor mode status.
 */
void demoEnableFeatureDlg::OnBnClickedButtonMultiMonitor()
{
    bool isCheck = true;
    int ret = hwmsdkagent::EnableFeature(hwmsdkagent::HWM_ENABLE_FEATURE_TYPE_MULTI_MONITOR,
isCheck);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("Enable multi monitor failed"));
    }
}
```

## 8.4.1.5 Setting the Path for Saving User Files

### SetUserSavePath

#### API Description

This API is used to set the path for saving user files (including local recordings).

#### Precautions

1. This API is optional. If not specified, the default path is used.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetUserSavePath(HWMSavePathType type, const char* path);
```

#### Callback Function

```
virtual void OnSetUserSavePath(hwmsdk::HwmErrCode ret, const char* msg) {};
```

#### Parameter Description

**Table 8-17** Parameter description

| Parameter | Man<br>dato<br>ry | Type             | Description                                   |
|-----------|-------------------|------------------|---|
| type      | Yes               | HWM_SavePathType | Enumerated path types.                        |
| path      | Yes               | const char*      | Absolute path.<br>UTF-8 encoding is required. |

**Table 8-18** Description of HWM\_SavePathType

| Enumerated Value           | Description                             |
|----------------------------|---|
| HWM_SAVE_PATH_LOCAL_RECORD | Path for storing local recording files. |

### Return Values

**Table 8-19** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Setting the user save path
 */
void demoSetUserSavePathDlg::OnBnClickedSetUserSavePath()
{
    std::string path = "E:\\";
    int ret = hwmsdkagent::SetUserSavePath(hwmsdkagent::HWM_SAVE_PATH_LOCAL_RECORD,
    path.c_str());
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("Set save path failed"));
    }
}
```

## 8.4.1.6 Obtaining the Path for Saving User Files

### GetUserSavePath

#### API Description

This API is used to obtain the path for saving user files (including local recording files).

### Precautions

1. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode GetUserSavePath(HWMSavePathType type);
```

### Callback Function

```
virtual void OnGetUserSavePath(hwmsdk::HwmErrCode ret, const char* msg, const HwmUserSavePathInfo* pathInfo) {};
```

### Parameter Description

**Table 8-20** Parameter description

| Parameter | Man<br>dato<br>ry | Type                                 | Description            |
|-----------|-------------------|--------------------------------------|------------------------|
| type      | Yes               | <a href="#">HWMSavePat<br/>hType</a> | Enumerated path types. |

**Table 8-21** HwmUserSavePathInfo description

| Parameter | Type                                 | Description  |
|-----------|--------------------------------------|--|
| pathType  | <a href="#">HWMSavePathT<br/>ype</a> | Enumerated path types.   |
| path      | char[]                               | Save path. The value is an absolute path and must be encoded in UTF-8. |

### Return Values

**Table 8-22** Return value

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Obtain the path for saving user files.
 */
void demoSetUserSavePathDlg::OnBnClickedGetUserSavePath()
{
    int ret = hwmsdkagent::GetUserSavePath(hwmsdkagent::HWM_SAVE_PATH_LOCAL_RECORD);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("Set get path failed"));
    }
}
```

## 8.4.1.7 Setting the Network Mode

### SetNetworkMode

#### API Description

This API is used to set the network mode to enterprise intranet access if the media nodes of Huawei Cloud Meeting are deployed in an enterprise and management nodes are accessed through the proxy of the enterprise.

#### NOTE

This API needs to be called only when the app cannot directly access the public network (that is, when the media nodes and management nodes are deployed in the enterprise).

#### Precautions

1. This API is optional. If it is not called, the default mode is used.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetNetworkMode(const HwmNetWorkModelInfo* networkInfo);
```

#### Callback Function

```
virtual void OnSetNetworkModeResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

**Table 8-23** Parameter description

| Parameter   | Man<br>dato<br>ry | Type                    | Description               |
|-------------|-------------------|-------------------------|---------------------------|
| networkInfo | Yes               | HwmNetWork<br>ModelInfo | Network mode information. |

**Table 8-24** HwmNetWorkModelInfo description

| Parameter      | Man<br>dato<br>ry | Type                     | Description              |
|----------------|-------------------|--------------------------|--------------------------|
| accessType     | Yes               | HwmNetwork<br>AccessType | Network access type.     |
| netConnectType | Yes               | HwmNetConn<br>ectType    | Network connection type. |

**Table 8-25** HwmNetworkAccessType description

| Enumerated Value  | Description   |
|-------------------|---|
| ACCESS_TYPE_AUTO  | Default value. Currently, the value is the same as the extranet access mode.  |
| ACCESS_TYPE_INNER | Intranet access, which is used when the media and signaling nodes are deployed in the enterprise. The app uses the intranet for access. Signaling and media messages access the Huawei Cloud Meeting server through the proxy server.             |
| ACCESS_TYPE_OUTER | External network access, which is used when the media and signaling nodes are not deployed in the enterprise. The app uses the Internet for access. Signaling and media messages access the Huawei Cloud Meeting server through the proxy server. |

**Table 8-26** Enumerated values of HwmNetConnectType

| Enumerated Value             | Description                    |
|------------------------------|--------------------------------|
| NET_CONNECT_AUTO             | Automatic mode. Default value. |
| NET_CONNECT_FORCE_V<br>PN    | Forcible VPN.                  |
| NET_CONNECT_FORCE_DI<br>RECT | Forcible direct connection.    |

### Return Values

**Table 8-27** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Set the network mode.
 */
void demoSetNetworkModeDlg::SetNetworkMode()
{
    hwmsdkagent::HwmNetWorkModeInfo networkMode{};
    networkMode.accessType = hwmsdkagent::HwmNetworkAccessType::ACCESS_TYPE_AUTO;
    int ret = hwmsdkagent::SetNetworkMode(&networkMode);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("Set network mode failed"));
    }
}
```

## 8.4.1.8 Disabling Prompt Tones

### DisableVoicePrompts

#### API Description

This API is used to disable prompt tones.

#### Precautions

1. This API is optional. If it is not called, prompt tones are played by default.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode DisableVoicePrompts(const HwmVoicePromptsInfo* voicePromptsInfo);
```

#### Callback Function

```
virtual void OnDisableVoicePromptsResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description



**Table 8-28** Parameter description

| Parameter        | Man<br>dato<br>ry | Type                    | Description              |
|------------------|-------------------|-------------------------|--------------------------|
| voicePromptsInfo | Yes               | HwmVoicePro<br>mptsInfo | Prompt tone information. |

**Table 8-29** HwmVoicePromptsInfo parameter

| Parameter               | Man<br>dato<br>ry | Type | Description                                 |
|-------------------------|-------------------|------|---|
| isDisableMutePro<br>mpt | Yes               | bool | Whether to disable the mute<br>prompt tone. |

### Return Values

**Table 8-30** Return value

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Disable prompt tones.
 */
void demoDisableVoicePromptsDlg::DisableVoicePrompts()
{
    hwmsdkagent::HwmVoicePromptsInfo info{};
    info.isDisableMutePrompt = true;

    int ret = hwmsdkagent::DisableVoicePrompts(&info);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("disable voice prompts error"));
        return;
    }
    CDialogEx::OnOK();
}
```

## 8.4.1.9 Setting the Path for Saving Logs

### SetLogPath

#### API Description

This API is used to set the path for saving logs.

#### Precautions

1. This API is optional. If it is not called, the default path is used.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetLogPath(const HwmLogPathInfo* logPathInfo);
```

#### Callback Function

```
virtual void OnSetLogPathResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

**Table 8-31** HwmLogPathInfo description

| Parameter | Mandato<br>ry | Type   | Description                               |
|-----------|---------------|--------|---|
| path      | Yes           | char[] | Save path.<br>UTF-8 encoding is required. |

**Table 8-32** Return value

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

```
/**
 * Set the path for saving logs.
 */
void demoSetLogPathDlg::SetLogPath()
{
    HwmLogPathInfo logPathInfo{};
    std::string path = "E:\\";
    strcpy_s(logPathInfo.path, sizeof(logPathInfo.path), path.c_str());
    int ret = hwmsdkagent::SetLogPath(&logPathInfo);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("set log path error"));
        return;
    }
}
```

```
}  
    CDialogEx::OnOK();  
}
```

### 8.4.1.10 Setting Guaranteed IP Addresses for Meeting Control

#### SetGuaranteedIpAddresses

##### API Description

This API is used to set the guaranteed IP addresses for meeting control. Up to four IP addresses are supported. They are separated by semicolons (;).

##### Precautions

1. This API is optional. If it is not called, the default IP address is used.
2. This API is a synchronous API. The return value only indicates whether the API is successfully called.

##### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetGuaranteedIpAddresses(const char*  
guaranteedIpAddresses);
```

##### Parameter Description

Table 8-33 Parameter description

| Parameter                | Man<br>dato<br>ry | Type   | Description              |
|--------------------------|-------------------|--------|--------------------------|
| guaranteedIpAd<br>resses | Yes               | char[] | Guaranteed IP addresses. |

```
/**  
 * Set guaranteed IP addresses for meeting control.  
 */  
void demoSetGuaranteedIpAddressesDlg::SetGuaranteedIpAddresses()  
{  
    std::string address = GetIpAddress();  
    int ret = hwmsdkagent::SetGuaranteedIpAddresses(address.c_str());  
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)  
    {  
        AfxMessageBox(_T("set guaranteed Ip addresses error"));  
        return;  
    }  
    CDialogEx::OnOK();  
}
```

### 8.4.1.11 Setting Login Server Information

#### SetServerAddress

##### API Description

This API is used to set login server information.

### Precautions

1. This API is optional. By default, the default login server address and port are used.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetServerAddress(const HwmServerInfo* serverInfo);
```

### Callback Function

```
virtual void OnSetServerAddressResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Parameter Description

**Table 8-34** HwmServerInfo description

| Parameter  | Man<br>dato<br>ry | Type           | Description   |
|------------|-------------------|----------------|---|
| serverAddr | No                | char[]         | Server address. The default value is <b>meeting.huaweicloud.com</b> . |
| serverPort | No                | unsigned short | Server port. The default value is <b>443</b> .                        |

```
/**
 * Set the login server information.
 */
void demoSetServerAddressDlg::SetServerAddress()
{
    CString serverCString;
    CString portCString;
    m_serverEdit.GetWindowText(serverCString);
    m_portEdit.GetWindowText(portCString);

    hwmsdkagent::HwmServerInfo serverInfo{};
    string server = CTools::UNICODE2UTF(serverCString.GetString());
    strncpy_s(serverInfo.serverAddr, server.c_str(), HWM_MAX_URL_LEN);
    serverInfo.serverPort = _ttoi(portCString);
    int ret = hwmsdkagent::SetServerAddress(&serverInfo);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("set server address error"));
        return;
    }
    CDialogEx::OnOK();
}
```

## 8.4.1.12 Setting Proxy Information

### SetProxyInfo

#### API Description

This API is used to set proxy information.

### Precautions

1. This API is optional. By default, no proxy is used.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetProxyInfo(const HwmProxyInfo* proxyInfo);
```

### Callback Function

```
virtual void OnSetProxyInfoResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Parameter Description

**Table 8-35** HwmProxyInfo description

| Parameter         | Man<br>dato<br>ry | Type                                      | Description                 |
|-------------------|-------------------|---|-----------------------------|
| proxyConfigPolicy | Yes               | <a href="#">HwmProxyCo<br/>nfigPolicy</a> | Proxy configuration policy. |
| server            | No                | char[]                                    | Proxy server address.       |
| serverPort        | No                | unsigned<br>short                         | Proxy server port.          |
| account           | No                | char[]                                    | Proxy server account.       |
| password          | No                | char[]                                    | Proxy server password.      |

**Table 8-36** Enumerated values of HwmProxyConfigPolicy

| Enumerated Value                   | Description                             |
|------------------------------------|---|
| HWM_PROXY_CONFIG_P<br>OLICY_CUSTOM | Use a proxy with custom configurations. |
| HWM_PROXY_CONFIG_P<br>OLICY_OFF    | Do not use a proxy.                     |
| HWM_PROXY_CONFIG_P<br>OLICY_AUTO   | Use the system proxy.                   |

```
/**
 * Set proxy information.
 */
void demoSetProxyInfoDlg::SetProxyInfo()
{
```

```
CString serverCString;  
CString portCString;  
CString accountCString;  
CString pwdCString;  
m_proxyServerEdit.GetWindowText(serverCString);  
m_proxyPortEdit.GetWindowText(portCString);  
m_proxyUserNameEdit.GetWindowText(accountCString);  
m_proxyPswEdit.GetWindowText(pwdCString);  
  
hwmsdkagent::HwmProxyInfo proxyInfo{};  
proxyInfo.proxyConfigPolicy = hwmsdkagent::HWM_PROXY_CONFIG_POLICY_CUSTOM;  
string server = CTools::UNICODE2UTF(serverCString.GetString());  
strncpy_s(proxyInfo.server, server.c_str(), HWM_MAX_URL_LEN);  
// Set the username and password required for a custom proxy.  
int port = _ttoi(portCString);  
if (port > 65535 || port < 0)  
{  
    MessageBox(L"The port number ranges from 0 to 65535.");  
    return;  
}  
proxyInfo.port = port;  
string account = CTools::UNICODE2UTF(accountCString.GetString());  
strncpy_s(proxyInfo.account, account.c_str(), HWM_MAX_ACCOUNT_LEN);  
  
string pwd = CTools::UNICODE2UTF(pwdCString.GetString());  
strncpy_s(proxyInfo.password, pwd.c_str(), HWM_MAX_PASSWORD_LEN);  
pwd.assign(pwd.length(), '\\0');  
int ret = hwmsdkagent::SetProxyInfo(&proxyInfo);  
memset(&proxyInfo, 0, sizeof(proxyInfo));  
if (hwmsdk::HWM_COMMON_SUCCESS != ret)  
{  
    AfxMessageBox(_T("set proxy info error"));  
    return;  
}  
CDialogEx::OnOK();  
}
```

### 8.4.1.13 Setting Certificate Verification Information

#### SetCAVerifyInfo

##### API Description

This API is used to set certificate verification information.

##### Precautions

1. This API is optional. By default, certificate verification is disabled.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

##### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetCAVerifyInfo(const HwmCAVerifyInfo* CAVerifyInfo);
```

##### Callback Function

```
virtual void OnSetCAVerifyInfoResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

##### Parameter Description

**Table 8-37** HwmCAVerifyInfo description

| Parameter  | Man<br>dato<br>ry | Type              | Description  |
|------------|-------------------|-------------------|--|
| verifyMode | Yes               | HwmVerifyMo<br>de | Verification mode.   |
| certPath   | No                | char[]            | User-defined path for storing the certificate. If this parameter is left empty, the built-in certificate is used for verification. |

**Table 8-38** Enumerated values of HwmVerifyMode

| Enumerated Value   | Description                    |
|--------------------|--------------------------------|
| VERIFY_MODE_NONE   | No verification.               |
| VERIFY_MODE_SERVER | Verify the server certificate. |

```

/**
 * Set certificate verification information.
 */
void demoSetCAVerifyInfoDlg::SetCAVerifyInfo()
{
    hwmsdkagent::HwmCAVerifyInfo info{};
    info.verifyMode = hwmsdkagent::HwmVerifyMode::;
    CString certPathCString;
    m_certPathEdit.GetWindowText(certPathCString);
    std::string certPath = CTools::UNICODE2UTF(certPathCString.GetString());
    errno_t res = strcpy_s(info.certPath, sizeof(info.certPath), certPath.c_str());
    if (res != 0)
    {
        AfxMessageBox(_T("certPath copy error"));
    }

    int ret = hwmsdkagent::SetCAVerifyInfo(&info);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("set CAVerifyInfo error"));
        return;
    }
    CDialogEx::OnOK();
}

```

## 8.4.2 Account Operations

### 8.4.2.1 Login

#### Login

##### API Description

This API is used to log in to Huawei Cloud Meeting. You can log in to the system using a Huawei Cloud Meeting account or an app ID, which is determined by the **authType** parameter.

### Precautions

1. You must log in to Huawei Cloud Meeting before using functions such as creating meetings and being invited into meetings. If you do not log in, you cannot experience complete meeting functions.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode Login(HwmLoginInfo *loginInfo);
```

### Callback Function

```
virtual void OnLoginResult(hwmsdk::HwmErrCode ret, const char* reason, const HwmLoginResult* loginResult) {};
```

### Parameter Description

**Table 8-39** HwmLoginInfo description

| Parameter                  | Mandatory | Type                          | Description  |
|----------------------------|-----------|-------------------------------|--|
| authType                   | Yes       | HwmAuthType                   | Login type. For details, see <a href="#">Table 8-4</a> .   |
| accountAndPasswordAuthInfo | No        | HwmAccountAndPasswordAuthInfo | Account and password login details. Required when account and password authentication is selected. |
| appIdAuthInfo              | No        | HwmAppIdAuthInfo              | App ID login details. Required when <b>app ID authentication</b> is selected.                      |

**Table 8-40** HwmAccountAndPasswordAuthInfo description

| Parameter | Mandatory | Type   | Description     |
|-----------|-----------|--------|-----------------|
| account   | Yes       | char[] | Login account.  |
| password  | Yes       | char[] | Login password. |



**Table 8-41** HwmAppldAuthInfo description

| Parameter   | Mandatory | Type      | Description  |
|-------------|-----------|-----------|--|
| thirdUserId | Yes       | char[]    | Third-party user ID.   |
| corpId      | No        | char[]    | ID of the enterprise to which the user belongs. This parameter is mandatory only in SP mode. Do not set this parameter in single-enterprise mode. Otherwise, the authentication will fail. |
| userName    | No        | char[]    | Username. If this parameter is left blank, the value of this parameter is the same as that of <b>thirdUserId</b> by default.   |
| signature   | Yes       | char[]    | Authentication signature obtained from the third-party server.   |
| nonce       | Yes       | char[]    | Nonce value obtained from the third-party server, which is used by the Huawei Cloud server to verify the validity of the authentication signature.   |
| expireTime  | Yes       | long long | Timestamp of the validity period of the authentication signature obtained from the third-party server. The value <b>0</b> indicates that authentication signature never expires.           |
| email       | No        | char[]    | Email address of the user.   |
| phoneNumber | No        | char[]    | Mobile number of the user.   |
| deptCode    | No        | char[]    | Department ID.   |

**Return Values**

**Table 8-42** Return values

| Type           | Description  |
|----------------|--|
| HwmErrCode     | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |
| HwmLoginResult | Login result.  |

**Table 8-43** HwmLoginResult description

| Parameter    | Type   | Description  |
|--------------|--------|--|
| userId       | char[] | UUID, which is the unique user ID allocated by the system. |
| account      | char[] | Account.   |
| thirdAccount | char[] | Third-party account.                                       |

### Sample Code

```
/**
 * Login
 */
int demoLoginDlg::Login()
{
    int ret;
    // Set app ID login parameters.
    /**
     * The data conversion performed by the third-party server is omitted here. The nonce and signature are
     * obtained.
     */
    strncpy_s(loginParam.appldAuthInfo.thirdUserId, GetUserId().c_str(), HWM_MAX_USER_ID_LEN);
    strncpy_s(loginParam.appldAuthInfo.userName, GetUserName().c_str(), HWM_MAX_USER_NAME_LEN);
    strncpy_s(loginParam.appldAuthInfo.signature, GetSignature().c_str(), HWM_MAX_SIGNATURE_LEN);
    strncpy_s(loginParam.appldAuthInfo.nonce, GetNonce().c_str(), HWM_APPID_NONCE_LEN);
    strncpy_s(loginParam.appldAuthInfo.email, GetEmail().c_str(), HWM_MAX_EMAIL_LEN);
    strncpy_s(loginParam.appldAuthInfo.phoneNumber, GetPhoneNumber().c_str(),
HWM_MAX_PHONE_NUM_LEN);
    loginParam.appldAuthInfo.expireTime = 1598398920; // UTC time, in seconds

    loginParam.authType = hwmsdkagent::HWM_AUTH_TYPE_APPID;
    // Call the login API.
    ret = hwmsdkagent::Login(&loginParam);
    return ret;
}
```

## 8.4.2.2 SSO

### LoginBySSO

#### API Description

This API is used for single sign-on (SSO). You need to obtain the authentication code through the **GetSSOAuthorizeUrl** API. GetSSOAuthorizeUrl obtains the

authentication website by transferring the domain name. A user enters the account and password on the website or scans the QR code for authentication to obtain a temporary code (used for login).

### Precautions

1. You must log in to Huawei Cloud Meeting before using functions such as creating meetings and being invited into meetings. If you do not log in, you cannot experience complete meeting functions.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode LoginBySSO(HwmSSOAuthInfo *ssoAuthInfo);
```

### Callback Function

```
virtual void OnLoginBySSOResult(hwmsdk::HwmErrCode ret, const char* reason, const HwmLoginResult* loginResult) {};
```

### Parameter Description

**Table 8-44** HwmSSOAuthInfo description

| Parameter      | Man<br>dato<br>ry | Type           | Description                 |
|----------------|-------------------|----------------|-----------------------------|
| code           | Yes               | char[]         | Authorization code          |
| domain         | Yes               | char[]         | Enterprise domain name      |
| authServerType | Yes               | AuthServerType | Authentication service type |

**Table 8-45** AuthServerType description

| Parameter               | Description |
|-------------------------|-------------|
| AUTH_SERVER_TYPE_OAUTH2 | SSO         |

### Return Values

**Table 8-46** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

| Type           | Description   |
|----------------|---|
| HwmLoginResult | Login result. For details, see <a href="#">Table 8-43</a> . |

### Sample Code

```
/**
 * Login
 */
int demoLoginBySSODlg::LoginBySSO()
{
    int ret;
    //Enter login parameters.
    hwmsdkagent::HwmSSOAuthInfo ssoAuthInfo{};
    strncpy_s(ssoAuthInfo.domain, GetDomain().c_str(), HWM_MAX_SSO_DOMAIN_LEN);
    strncpy_s(ssoAuthInfo.code, GetCode().c_str(), HWM_MAX_SSO_CODE_LEN);
    ssoAuthInfo.authServerType = hwmsdkagent::AUTH_SERVER_TYPE_OAUTH2;

    // Call the login API.
    ret = hwmsdkagent::LoginBySSO(&ssoAuthInfo);
    return ret;
}
```

## 8.4.2.3 Logout

### Logout

#### API Description

This API is used to log out of Huawei Cloud Meeting.

#### Precautions

1. Call this API only when you have logged in.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode Logout();
```

#### Callback Function

```
virtual void OnLogoutResult(hwmsdk::HwmErrCode ret, const char* reason, const HwmLogoutResult* logoutResult) {};
```

#### Parameter Description

None

#### Return Values

**Table 8-47** Return values

| Type            | Description  |
|-----------------|--|
| HwmErrCode      | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |
| HwmLogoutResult | Logout result  |

**Table 8-48** HwmLogoutResult description

| Parameter    | Type   | Description  |
|--------------|--------|--|
| userUuid     | char[] | UUID, which is the unique user ID allocated by the system. |
| account      | char[] | Account.   |
| thirdAccount | char[] | Third-party account.                                       |

### Sample Code

```
/**
 * Log out.
 */
void demoMainMenuDlg::OnBnClickedLogout()
{
    // Call the logout API.
    int ret = hwmsdkagent::Logout();
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("Logout error"));
    }
}
```

## 8.4.2.4 Uploading a Profile Picture

### UploadSelfAvatar

#### API Description

This API is used to upload a profile picture to the address book on the meeting server.

#### Precautions

1. Call this API only when you have logged in.
2. Upload a JPG or PNG image no more than 200 KB.
3. The recommended aspect ratio is 1:1.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode UploadSelfAvatar(const HwmSelfAvatarInfo *selfAvatarInfo);
```

### Callback Function

```
virtual void OnUploadSelfAvatarResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Parameter Description

**Table 8-49** HwmSelfAvatarInfo parameter

| Parameter | Man<br>dato<br>ry | Type   | Description             |
|-----------|-------------------|--------|-------------------------|
| path      | Yes               | char[] | Full path of the image. |

```
/**
 * Upload a profile picture.
 */
int demoUploadSelfAvatarDlg::UploadSelfAvatar()
{
    int ret;
    // Enter the profile picture parameters.
    string path= "to/path/image.png";
    hwmsdkagent::HwmSelfAvatarInfo selfAvatarInfo{};
    strncpy_s(selfAvatarInfo.path, path.c_str(), HWM_MAX_FILE_PATH_LEN);

    // Call the API for uploading a profile picture.
    ret = hwmsdkagent::UploadSelfAvatar(&selfAvatarInfo);
    return ret;
}
```

## 8.4.2.5 Deleting a Profile Picture

### DeleteSelfAvatar

#### API Description

This API is used to delete a customized profile picture.

#### Precautions

1. Call this API only when you have logged in.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode DeleteSelfAvatar();
```

### Callback Function

```
virtual void OnDeleteSelfAvatarResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

```
/**
 * Delete a profile picture.
 */
int demoUploadSelfAvatarDlg::DeleteSelfAvatar()
{
    // Call the API for deleting a profile picture.
    int ret = hwmsdkagent::DeleteSelfAvatar();
    return ret;
}
```

## 8.4.3 UI Customization

### 8.4.3.1 Configuring the UI

#### Config

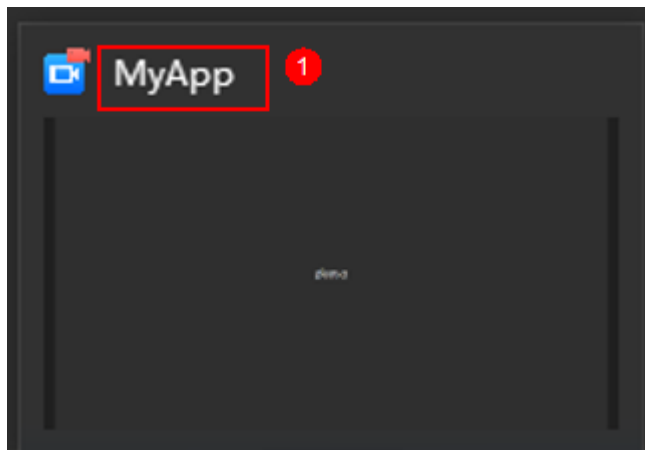
##### API Description

The Windows SDK provides the UI for meetings. Some elements on the UI can be customized. UI elements that can be customized are as follows:

- **Meeting window name**

After a meeting starts, a meeting icon is generated on the task bar of the Windows. When you point to the icon, a thumbnail window is displayed. You can customize the name of the window.

**Figure 8-34** Meeting window name



##### NOTE

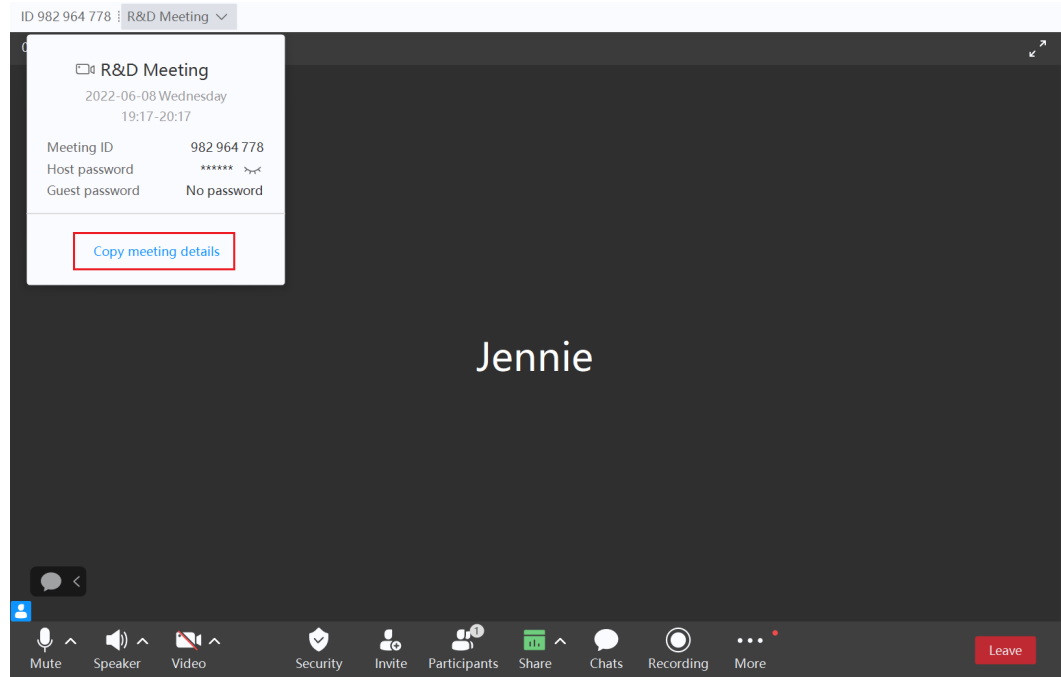
You can change the icon of the meeting window by replacing the **video.ico** file in the **HwmSdk\sdkResources\nativeimg** directory.

- **Meeting details and meeting link prefix**

By default, the domain name prefix of the meeting link (for example, <https://bmeeting.huaweicloud.com/#/j/982989574>) is **https://bmeeting.huaweicloud.com/**. If you have developed your own meeting portal, you need to customize the prefix.

You can customize whether to display or hide meeting details.

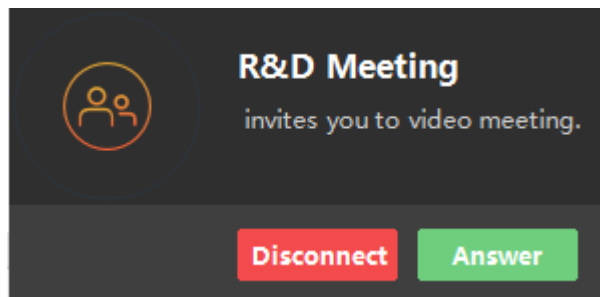
**Figure 8-35** Meeting details



- **Incoming meeting window**

By default, the incoming meeting window is displayed when an incoming meeting is received. You can hide the window. When an incoming meeting notification is received, the API for answering the meeting is called.

**Figure 8-36** Incoming meeting window



- **Meeting control buttons**

1. Delete or modify meeting control buttons provided by the SDK. For details about buttons that can be deleted and modified, see [Table 8-58](#).
2. Add custom buttons. For details, see [Customizing Meeting Control Buttons](#).



Figure 8-37 Bottom toolbar and More menu

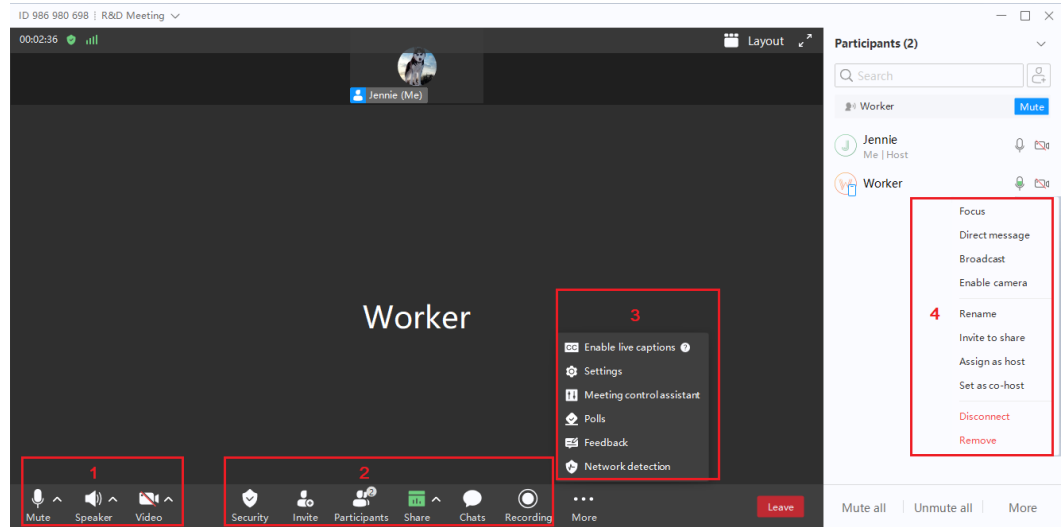


Figure 8-38 Sharing toolbar and More menu

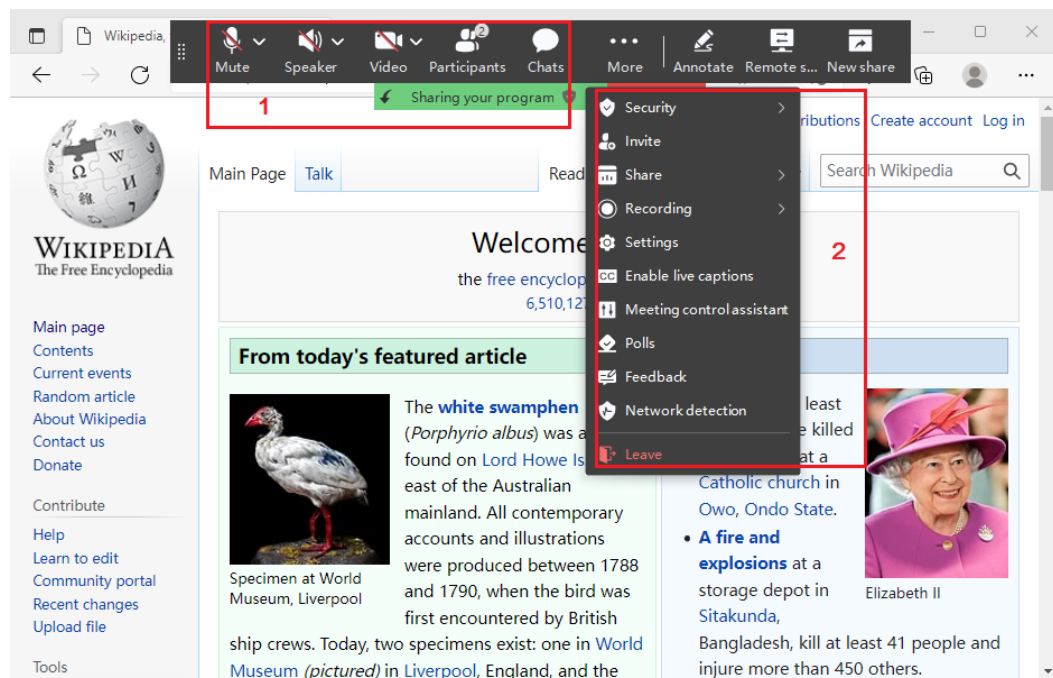
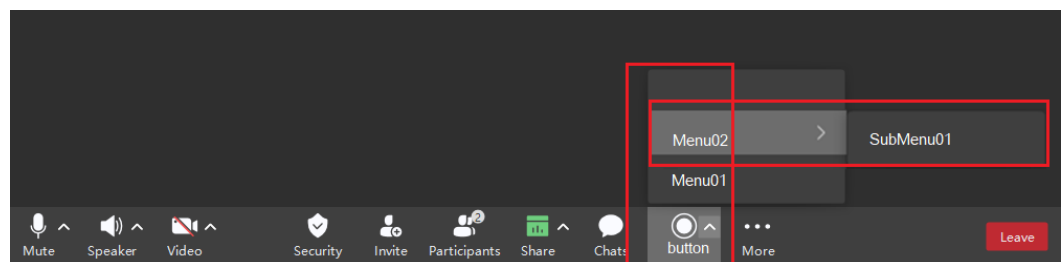
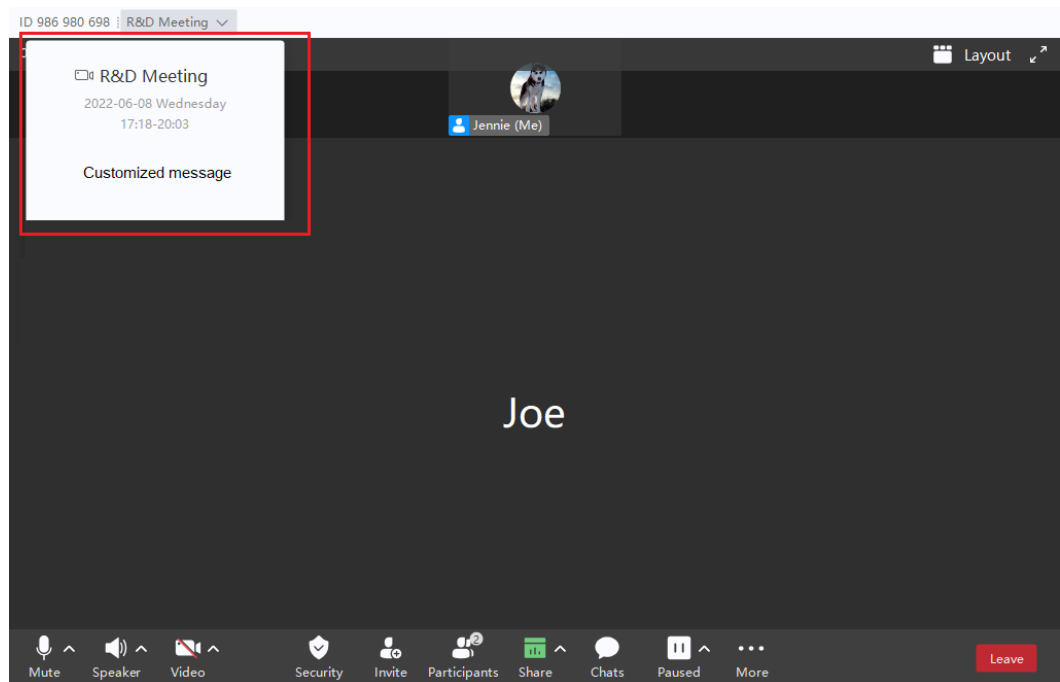


Figure 8-39 Custom submenu items

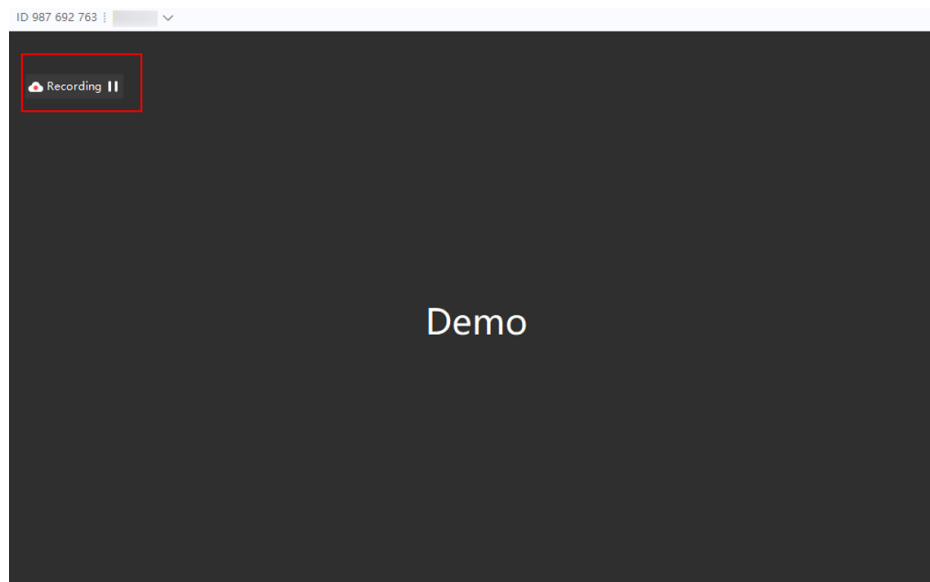


- Custom meeting details window

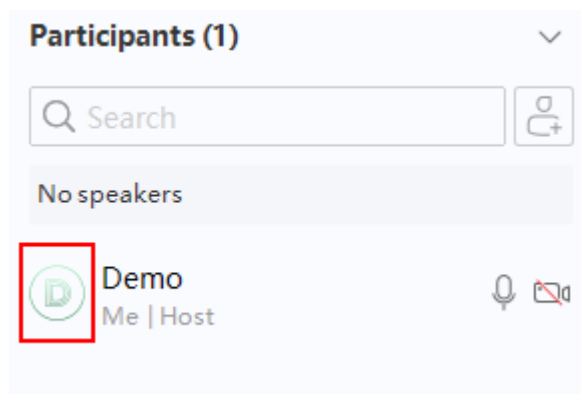
**Figure 8-40** Custom meeting details window



**Figure 8-41** Status bar



**Figure 8-42** Profile picture of a participant in the participant list



**NOTE**

For details about how to customize the meeting details window, see [Displaying Meeting Information Box Notification](#) and [Destroying a Meeting Information Box](#).

**Precautions**

1. Call this API only if you need to change the default style of the meeting screen.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

**Method Definition**

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode Config(char uiConfig[HWM_MAX_CONFIG_LEN]);
```

**NOTE**

The **Config** API cannot be called consecutively. It can be called for the second time only after the **OnConfigResult** function of the result of the first **Config** API calling is processed.

**Callback Function**

```
virtual void OnConfigResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

**Parameter Description**

**Table 8-50** Parameter description

| Parameter | Mandatory | Type   | Description  |
|-----------|-----------|--------|--|
| uiConfig  | Yes       | char[] | JSON object character string <code>"{" frame":object}"</code> . The object has format requirements. If the format does not meet the requirements, the configuration does not take effect. For details, see the following tables. |

**Table 8-51** frame object description

| Key                            | Type   | Description  |
|--------------------------------|--------|--|
| name                           | string | Meeting window name, for example, <b>MyApp</b> shown in <a href="#">Figure 8-34</a> .  |
| linkPrefix                     | string | Prefix of the meeting link copied from the meeting window, for example, from the meeting window shown in <a href="#">Figure 8-35</a> .   |
| confMenu                       | object | Button objects in the meeting window, such as the four types of buttons shown in <a href="#">Figure 8-37</a> and <a href="#">Figure 8-38</a> .   |
| isUseExternalConfIn-foWnd      | bool   | Whether to customize the meeting details window displayed in the meeting window, such as the window shown in <a href="#">Figure 8-40</a> . <b>true</b> : enabled; <b>false</b> : disabled. The default value is <b>false</b> . |
| isUseExternalAddress-Book      | bool   | Whether to use profile pictures in an external address book in the meeting window. <b>true</b> : yes; <b>false</b> : no. The default value is <b>false</b> .   |
| isHideConfIncoming-Window      | bool   | Whether to hide the incoming meeting pop-up window. <b>true</b> : yes. <b>false</b> : no. The default value is <b>false</b> .  |
| defaultWindowMode              | int    | Meeting window mode. <b>0</b> : normal; <b>1</b> : maximized; <b>2</b> : full screen. The default value is <b>0</b> .  |
| isCloseSideWindow              | bool   | Whether to close the side window. <b>false</b> : no; <b>true</b> : yes. The default value is <b>false</b> .  |
| flowControllInitShow-Pos       | int    | Initial position of the sharing toolbar. <b>0</b> : top; <b>1</b> : bottom. By default, the tool bar is displayed on the top.  |
| defaultWindowMoni-tor          | int    | Display on which a meeting window is created by default when a participant joins a meeting. <b>0</b> : primary display; <b>1</b> : secondary display. By default, it is displayed on the primary display.                      |
| isHideTransferHostBe-foreLeave | bool   | Whether to hide the button for specifying a new host when the original host leaves a meeting. <b>false</b> : no; <b>true</b> : yes. The default value is <b>false</b> .  |
| isUploadKeyLog                 | bool   | Whether to automatically collect logs. <b>true</b> : yes; <b>false</b> : no. The default value is <b>true</b> .  |

**Table 8-52** confMenu object description

| Key       | Type   | Description  |
|-----------|--------|--|
| toolBar   | object | Button objects in the meeting window, such as the four types of buttons shown in <a href="#">Figure 8-37</a> and <a href="#">Figure 8-38</a> . |
| titleBar  | object | Configuration object of the title bar in the meeting window, for example, the meeting details shown in <a href="#">Figure 8-35</a> .           |
| statusBar | object | Configuration object of the status bar in the upper left corner of the meeting window, as shown in <a href="#">Figure 8-41</a> .               |

**Table 8-53** toolBar object description

| Key          | Type     | Description   |
|--------------|----------|---|
| button       | object[] | Button objects in the meeting window, such as the four types of buttons and menus shown in <a href="#">Figure 8-37</a> and <a href="#">Figure 8-38</a> .                              |
| customButton | object[] | Configuration object of the third-party custom buttons in the meeting window, such as 3 and 4 shown in <a href="#">Figure 8-37</a> and 1 and 2 shown in <a href="#">Figure 8-38</a> . |

**Table 8-54** statusBar object description

| key    | Type     | Description   |
|--------|----------|---|
| button | object[] | Button configuration object of the status bar in the upper left corner of the meeting window, as shown in <a href="#">Figure 8-41</a> . |

**Table 8-55** button object description

| Key          | Type   | Description  |
|--------------|--------|--|
| id           | string | Unique ID of a button. For details about the mapping between IDs and buttons, see <a href="#">Table 8-58</a> . |
| showAsAction | string | Whether to display the button. The value can be <b>never</b> (not displayed) or <b>ifRoom</b> (displayed).     |

| Key               | Type | Description   |
|-------------------|------|---|
| isCustomizedClick | bool | Whether to inject content if the button is clicked.<br><b>true</b> : yes. When a user clicks the button, a notification is sent, and the SDK does not process the click response. |

**Table 8-56** customButton object description

| Key       | Type     | Description   |
|-----------|----------|---|
| id        | string   | Custom button ID, for example, <b>customMenu</b> .  |
| title     | string   | Custom button name, for example, <b>Custom button</b> .   |
| buttonImg | string   | Icon path of the custom button. Use an absolute path. For example, <b>to/path/image.svg</b> . SVG and PNG formats are supported.<br>UTF-8 encoding is required. |
| buttonPos | int      | Position of the custom button. <b>0: More</b> menu on the toolbar; <b>1: bottom toolbar</b> ; <b>2: sharing toolbar</b> .                                       |
| subMenu   | object[] | Submenu items of the custom button. Up to three levels of submenu items can be configured.  |

**Table 8-57** subMenu object description

| Key       | Type     | Description   |
|-----------|----------|---|
| id        | string   | Custom button ID, for example, <b>customMenu</b> .  |
| title     | string   | Custom button name, for example, <b>Custom button</b> .   |
| buttonImg | string   | Icon path of the custom button. Use an absolute path. For example, <b>to/path/image.svg</b> . SVG and PNG formats are supported.<br>UTF-8 encoding is required. |
| subMenu   | object[] | Submenu items of the custom button.   |

**Table 8-58** Button IDs

| Button Name  | Button ID                 | Description                 |
|--|---------------------------|-----------------------------|
| Microphone   | "microphone"              | Can be hidden.              |
| Speaker  | "speaker"                 | Can be hidden.              |
| Camera   | "camera"                  | Can be hidden.              |
| Invite   | "invite"                  | Can be hidden and injected. |
| Leave  | "leave"                   | Can be hidden and injected. |
| Share  | "share"                   | Can be hidden and injected. |
| Participants   | "attendee"                | Can be hidden and injected. |
| Call other number  | "call_other_number"       | Can be hidden and injected. |
| Feedback   | "feedback"                | Can be hidden and injected. |
| Raise up/Lower hand  | "hands_up"                | Can be hidden.              |
| Apply to be host/Release host role                             | "change_chairman_auth"    | Can be hidden.              |
| Rename   | "rename"                  | Can be hidden.              |
| Lock meeting   | "lock_conf"               | Can be hidden.              |
| Annotate   | "annotation"              | Can be hidden.              |
| Give control   | "remote_control"          | Can be hidden.              |
| Stop sharing   | "stop_share"              | Can be hidden.              |
| Chat   | "chat"                    | Can be hidden and injected. |
| Export participants  | "export_participants"     | Can be hidden.              |
| Open to  | "attendee_access_control" | Can be hidden.              |
| Allow sharing  | "lock_Share"              | Can be hidden.              |
| Live captions (enabling live captions and caption translation) | "subtitle"                | Can be hidden.              |
| Security   | "security"                | Can be hidden.              |

| Button Name  | Button ID                 | Description   |
|--|---------------------------|---|
| Invite to share/Cancel sharing                                       | "invite_or_cancel_share"  | Can be hidden.  |
| Hide non-video participants  | "hide_no_video_view"      | Can be hidden.  |
| Intelligent video sorting  | "video_smart_sorting"     | Can be hidden.  |
| Virtual background   | "virtual_background"      | Can be hidden.  |
| Network detection  | "network_detection"       | Can be hidden.  |
| Mute all/Unmute all  | "mute_all"                | Can be hidden.  |
| Allow unmute   | "allow_unmute"            | Can be hidden.  |
| Dual screen  | "dual_screen"             | Can be hidden.  |
| Recording  | "record"                  | Can be hidden.  |
| Sharing image quality policy: Definition preferred/Fluency preferred | "share_strategy"          | Can be hidden.  |
| Hide video window during sharing                                     | "share_hide_video"        | Can be hidden.  |
| Include computer sound during sharing                                | "share_audio"             | Can be hidden.  |
| Copy meeting info  | "copy_conf_info"          | Can be injected.  |
| Move all to waiting room   | "moveall_to_waitingroom"  | Can be hidden.  |
| Participant details  | "participant_detail"      | Can be injected. For details, see <a href="#">Figure 8-42</a> . |
| Copy attendee link   | "copy_audience_conf_info" | Can be injected.  |
| Call all   | "call_all"                | Can be hidden and injected.                                     |

**Table 8-59** titleBar object description

| Key        | Type     | Description   |
|------------|----------|---|
| confDetail | object[] | Meeting details, as shown in <a href="#">Figure 8-35</a> . If <b>showAsAction</b> is set to <b>never</b> , meeting details are not displayed. |



**Table 8-60** confDetail object description

| Key          | Type     | Description   |
|--------------|----------|---|
| showAsAction | string   | Whether to display meeting details. The value can be <b>never</b> (not displayed) or <b>ifRoom</b> (displayed). |
| button       | object[] | Button objects in the meeting details window.   |

According to the preceding definition, the complete configuration items in JSON format of the customizable UI elements are as follows:

```
{
  "frame":{
    "name":"MyApp",
    "linkPrefix":"https://www.demo.com/",
    "isUseExternalConfInfoWnd":false,
    "isUseExternalAddressBook":false,
    "confMenu":{
      "titleBar":{
        "confDetail":{
          "showAsAction":"never",
          "button":[
            {
              "id":"copy_conf_info",
              "isCustomizedClick":false
            }
          ]
        }
      },
      "statusBar": {
        "button": [
          {
            "id": "record",
            "showAsAction": "never"
          }
        ]
      },
      "toolBar":{
        "customButton": [
          {
            "id": "customMenu",
            "title": "Custom button",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 1
          }
        ]
      },
      "button":[
        {
          "id":"microphone",
          "showAsAction":"ifRoom"
        },
        {
          "id":"speaker",
          "showAsAction":"ifRoom"
        },
        {
          "id":"camera",
          "showAsAction":"ifRoom"
        },
        {
          "id":"invite",
          "showAsAction":"ifRoom",
          "isCustomizedClick":true
        }
      ]
    }
  }
}
```

```
        "id": "leave",
        "showAsAction": "ifRoom",
        "isCustomizedClick": true
    },
    {
        "id": "share",
        "showAsAction": "never",
        "isCustomizedClick": true
    },
    {
        "id": "attendee",
        "showAsAction": "ifRoom",
        "isCustomizedClick": true
    },
    {
        "id": "call_other_number",
        "showAsAction": "ifRoom",
        "isCustomizedClick": true
    },
    {
        "id": "feedback",
        "showAsAction": "never"
    },
    {
        "id": "hands_up",
        "showAsAction": "never"
    },
    {
        "id": "change_chairman_auth",
        "showAsAction": "never",
        "isCustomizedClick": false
    },
    {
        "id": "rename",
        "showAsAction": "never"
    },
    {
        "id": "lock_conf",
        "showAsAction": "never"
    },
    {
        "id": "annotation",
        "showAsAction": "never"
    },
    {
        "id": "remote_control",
        "showAsAction": "never"
    },
    {
        "id": "stop_share",
        "showAsAction": "never"
    },
    {
        "id": "chat",
        "showAsAction": "ifRoom",
        "isCustomizedClick": true
    },
    {
        "id": "export_participants",
        "showAsAction": "never"
    },
    {
        "id": "attendee_access_control",
        "showAsAction": "never"
    },
    {
        "id": "network_detection",
        "showAsAction": "never"
    },
    },
```

```
{
  {
    "id":"mute_all",
    "showAsAction":"never"
  },
  {
    "id":"allow_unmute",
    "showAsAction":"never"
  },
  {
    "id":"dual_screen",
    "showAsAction":"never"
  },
  {
    "id":"record",
    "showAsAction":"never"
  },
  {
    "id":"vote",
    "showAsAction":"never"
  }
}
}
```

#### NOTE

The **uiConfig** of the **Config** function is an array. Therefore, you need to convert the preceding JSON string into a string. For details, see the following sample code.

#### Sample Code

```
/**
 * UI configurations
 */
int hwmSDKConfigUI::hwmSDKStartUIConfigTotal()
{
  CString start = "{ \"frame\":{";

  // Meeting window name
  CString name = "\"name\": \"MyApp\"";

  // Meeting link prefix
  CString linkPrefix = "\"linkPrefix\": \"https://www.demo.com/\"";
  // Whether to custom the external meeting details window
  CString isUseExternalConfInfoWnd = "\"isUseExternalConfInfoWnd\": \"false\"";
  // Whether to use an external address book.
  CString isUseExternalAddressBook = "\"isUseExternalAddressBook\": \"false\"";
  CString menuStart = "\"confMenu\":{";
  // Meeting details
  CString titleBar = "\"titleBar\":{ \"confDetail\":{ \"showAsAction\": \"ifRoom\" } }";
  CString toolBarStart = "\"toolBar\":{";
  // Customize buttons.
  CString customMenuStart = "\"customButton\":[";
  CString customMenu1 = "{ \"id\": \"customMenu1\", \"title\": \"Custom button 1\" }";
  CString customMenu2 = "{ \"id\": \"customMenu2\", \"title\": \"Custom button 2\" }";
  CString customMenuEnd = "];";

  // Meeting control buttons
  CString buttonStart = "\"button\":[";
  CString inviateButton = "{ \"id\": \"invite\", \"showAsAction\": \"ifRoom\", \"isCustomizedClick\": true }";
  CString leaveButton = "{ \"id\": \"leave\", \"showAsAction\": \"ifRoom\", \"isCustomizedClick\": true }";
  CString callButton = "{ \"id\": \"call_other_number\", \"showAsAction\": \"ifRoom\", \"isCustomizedClick\": true }";
  CString attendeeButton = "{ \"id\": \"attendee\", \"showAsAction\": \"ifRoom\", \"isCustomizedClick\": true }";
  CString shareButton = "{ \"id\": \"share\", \"showAsAction\": \"ifRoom\", \"isCustomizedClick\": true }";
  CString annotationButton = "{ \"id\": \"annotation\", \"showAsAction\": \"never\" }";
  CString stopshareButton = "{ \"id\": \"stop_share\", \"showAsAction\": \"never\" }";
```

```
CString feedbackButton = "{ \"id\": \"feedback\", \"showAsAction\": \"never\" }";
CString remotecontrolButton = "{ \"id\": \"remote_control\", \"showAsAction\": \"never\" }";
CString handsupButton = "{ \"id\": \"hands_up\", \"showAsAction\": \"never\" }";
CString changechairmanButton = "{ \"id\": \"change_chairman_auth\", \"showAsAction\": \"never\" }";
CString renameButton = "{ \"id\": \"rename\", \"showAsAction\": \"never\" }";
CString lockconfButton = "{ \"id\": \"lock_conf\", \"showAsAction\": \"never\" }";
CString chatButton = "{ \"id\": \"chat\", \"showAsAction\": \"never\" }";
CString exportButton = "{ \"id\": \"export_participants\", \"showAsAction\": \"never\" }";
CString accessButton = "{ \"id\": \"attendee_access_control\", \"showAsAction\": \"never\" }";

CString buttonEnd = "]";
CString toolBarEnd = "}";
CString menuEnd = "}";
CString end = "}}";

CString customMenu = customMenuStart + customMenu1 + "," + customMenu2 + customMenuEnd;
CString button = buttonStart + inviateButton + "," + leaveButton + "," + \
    + callButton + "," + attendeeButton + "," + shareButton + "," + annotationButton + "," + \
stopshareButton + "," + \
    + feedbackButton + "," + remotecontrolButton + "," + handsupButton + "," + changechairmanButton + \
"," + renameButton + "," + \
    + lockconfButton + "," + chatButton + "," + exportButton + "," + accessButton + buttonEnd;

CString menu = menuStart + "," + titleBar + toolBarStart + customMenu + "," + button + toolBarEnd + \
menuEnd;
CString config = start + name + "," + linkPrefix + "," + isUseExternalConfInfoWnd + "," + \
isUseExternalAddressBook + "," + menu + end;

// Convert to the UTF-8 format.
string uiConfig = CTools::UNICODE2UTF(config);
int ret = hwmsdkagent::Config(uiConfig);
return ret;
}
```

### 8.4.3.2 Customizing Meeting Control Buttons

1. Add custom buttons. You can add buttons on the bottom toolbar, sharing toolbar, and **More** menus. Currently, you can customize one button on the bottom or sharing toolbar and the button is displayed before the **More** menu. More custom buttons are displayed in the **More** menu. Custom buttons in the **More** menu take effect on the bottom and sharing toolbars. Custom buttons in the **More** menu on the bottom toolbar are displayed at the end of the **More** menu. Custom buttons in the **More** menu on the sharing toolbar are displayed before the **Leave** button.
2. Delete custom buttons. Call the **Config** API to delete the button configuration in **customButton**. If **customButton:[]** is passed, all custom buttons are cleared. If a position is specified under **customButton** but no specific custom button is specified, all custom buttons in the position are cleared.
3. Functions of submenus under a button are as follows:
  - When **subMenu** is empty and the button is clicked, a notification is sent, indicating that the button that matches the ID is clicked.
  - When **subMenu** is not empty and the button is clicked, the level-2 menu specified by **subMenu** is displayed. No notification is sent.

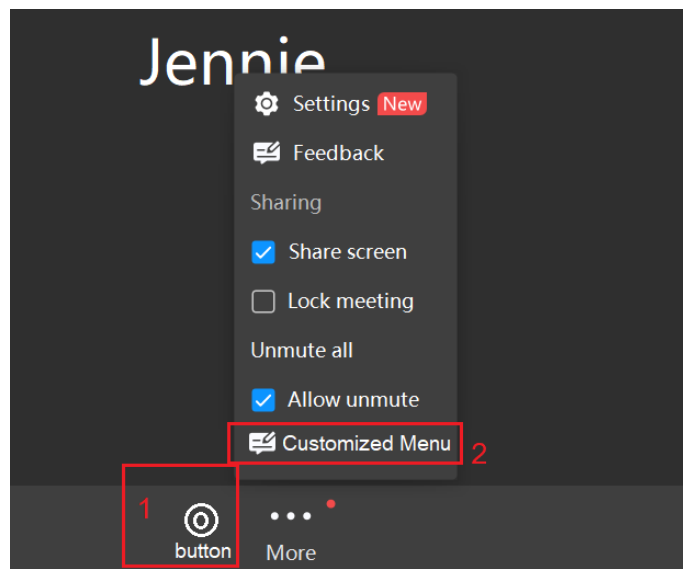
#### NOTE

When calling the **Config** API to add, delete, or modify custom buttons, pass all custom buttons in the corresponding position. The bottom and sharing toolbars can be dynamically refreshed. **More** menus can only be refreshed when they are regenerated. For details about how to refresh a custom button, see [Updating Custom Button Configurations](#).

- **Add custom buttons.**

The following describes how to add a custom button with submenus on the bottom toolbar, sharing toolbar, and **More** menus.

```
{
  "frame":{
    "confMenu":{
      "toolBar":{
        "customButton": [
          {
            "id": "customMenu",
            "title": "Custom button",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 1,
            "subMenu":[
              {
                "id": "customSecondMenu",
                "title": "Submenu",
                "buttonImg": "D:/demoResource/icon-whiteboard.svg"
              }
            ]
          },
          {
            "id": "customMore",
            "title": "Custom more",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 0
          },
          {
            "id": "customShare",
            "title": "Custom sharing",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 2
          }
        ]
      }
    }
  }
}
```



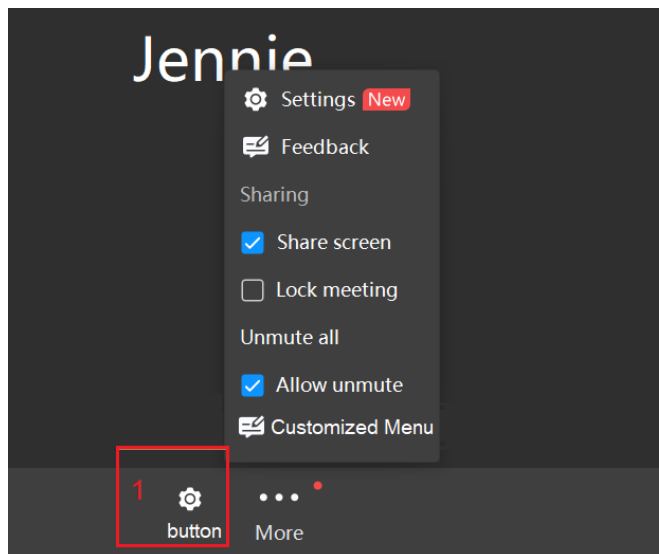
- **Update custom buttons.**

Ensure that the values of **id** and **buttonPos** are correct and modify other information about the button. The following describes how to rename a button on the bottom toolbar.

```

{
  "frame": {
    "confMenu": {
      "toolBar": {
        "customButton": [
          {
            "id": "customMenu",
            "title": "Renamed button",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 1,
            "subMenu": [
              {
                "id": "customSecondMenu",
                "title": "Submenu",
                "buttonImg": "D:/demoResource/icon-whiteboard.svg"
              }
            ]
          },
          {
            "id": "customMore",
            "title": "Custom more",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 0
          },
          {
            "id": "customShare",
            "title": "Custom sharing",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 2
          }
        ]
      }
    }
  }
}

```



- **Delete some custom buttons.**

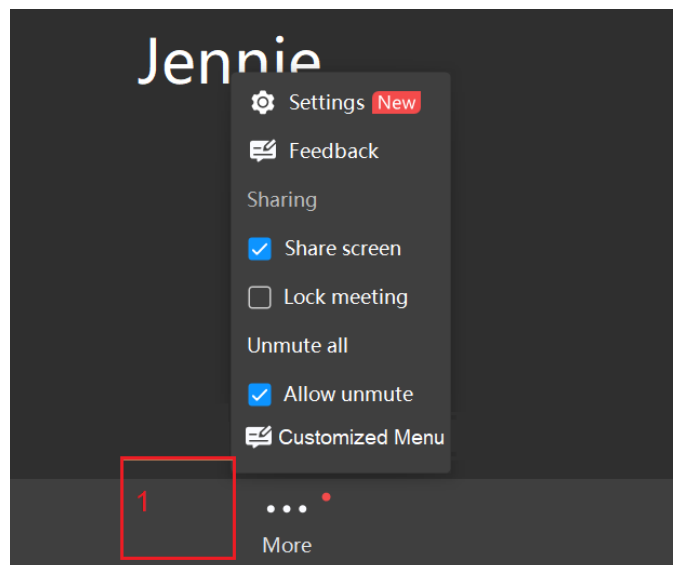
Buttons defined in **customButton** are deleted and other custom buttons are retained. The following describes how to delete custom buttons on the bottom toolbar.

```

{
  "frame": {
    "confMenu": {
      "toolBar": {
        "customButton": [
          {

```

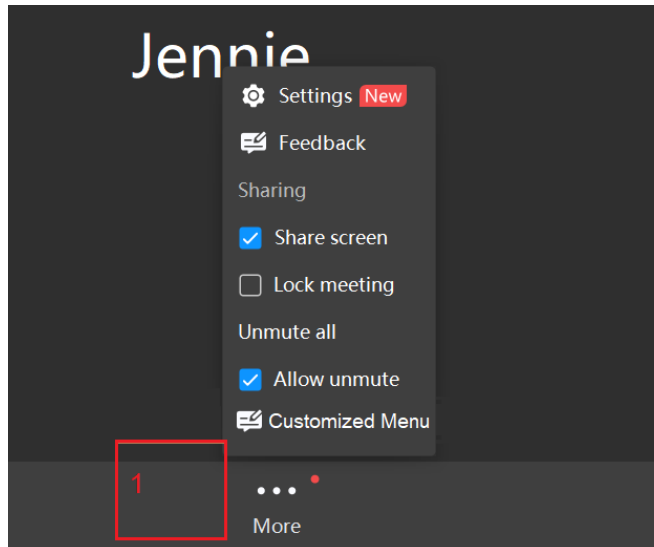
```
    "id": "customMore",
    "title": "Custom more",
    "buttonImg": "D:/demoResource/icon-whiteboard.svg",
    "buttonPos": 0
  },
  {
    "id": "customShare",
    "title": "Custom sharing",
    "buttonImg": "D:/demoResource/icon-whiteboard.svg",
    "buttonPos": 2
  }
]
}
}
```



- **Clear custom buttons in a position.**

Define custom buttons to be deleted in **customButton**. If no custom button of a position is defined in **customButton**, all custom buttons in the position are cleared. The following describes how to clear custom buttons on the bottom toolbar.

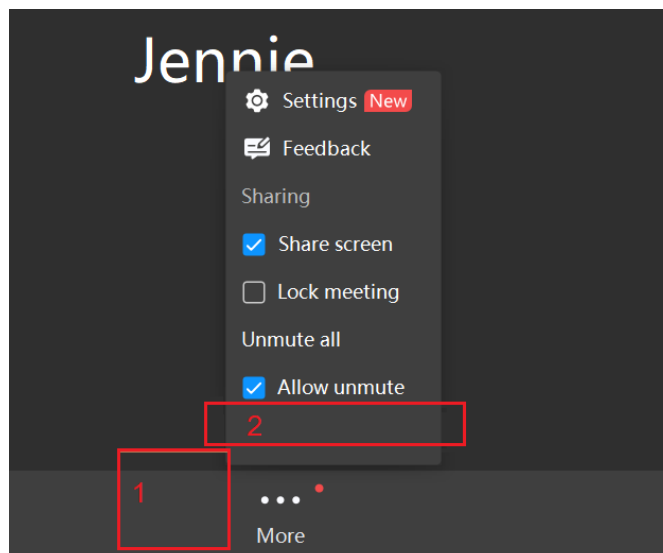
```
{
  "frame":{
    "confMenu":{
      "toolBar":{
        "customButton": [
          {
            "id": "customMore",
            "title": "Custom more",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 0
          },
          {
            "id": "customShare",
            "title": "Custom sharing",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 2
          }
        ],
      }
    }
  }
}
```



- **Clear all custom buttons.**

If an empty array is passed for **customButton**, custom buttons in all positions are cleared. The following is an example:

```
{  
  "frame":{  
    "confMenu":{  
      "toolBar":{  
        "customButton": [  
          ]  
        }  
      }  
    }  
  }  
}
```



### 8.4.3.3 Clearing UI Configurations

#### CleanConfig

##### API Description



This API is used to clear all configurations related to the meeting UI and restore the default status.

### Precautions

1. You can only call this API if you have called the **Config** API and want to clear configurations performed by the **Config API**.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode CleanConfig();
```

### Callback Function

```
virtual void OnCleanConfigResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Parameter Description

None

### Return Values

**Table 8-61** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**  
 * Clear UI configurations.  
 */  
int hwmSDKConfigUI::hwmSDKConfigUI()  
{  
    // Clear configurations.  
    int ret = hwmsdkagent::CleanConfig();  
    LOG_INFO("Call hwmsdkagent::CleanConfig ret is " << ret);  
}
```

## 8.4.3.4 Updating Custom Button Configurations

### UpdateCustomButtonInfo

#### API Description

This API is used to update the configurations related to customized buttons. The bottom toolbar and shared toolbar are supported.

#### Precautions

1. Used to update the customized button configuration during a meeting.
2. Valid only for customized buttons that have been configured in **Config**.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode UpdateCustomButtonInfo(const HwmCustomButtonInfo *btnInfo);
```

### Callback Function

```
virtual void OnUpdateCustomButtonInfoResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Parameter Description

**Table 8-62** Parameter description

| Parameter | Mandatory | Type                | Description                |
|-----------|-----------|---------------------|----------------------------|
| btnInfo   | Yes       | HwmCustomButtonInfo | Custom button information. |

**Table 8-63** HwmCustomButtonInfo parameters

| Parameter          | Mandatory | Type               | Description   |
|--------------------|-----------|--------------------|---|
| HwmCustomButtonPos | Yes       | HwmCustomButtonPos | Position of a customized button   |
| buttonKey          | Yes       | char[]             | Customized button ID, which must be the same as that configured in the config file. |
| buttonTitle        | Yes       | char[]             | Customized button name  |
| buttonImg          | Yes       | char[]             | Icon path of a customized button. Use an absolute path.                             |

**Table 8-64** HwmCustomButtonPos parameters

| Parameter                        | Description     |
|----------------------------------|-----------------|
| CUSTOM_BUTTON_POS_TOOL_BAR       | Bottom toolbar  |
| CUSTOM_BUTTON_POS_SHARE_TOOL_BAR | Sharing toolbar |

### Return Values

**Table 8-65** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Update customized button configurations.
 */
int hwmSDKConfigUI::hwmSDKConfigUI()
{
    hwmSDKagent::HwmCustomButtonInfo btnInfo{};
    btnInfo.buttonPos = hwmSDKagent::CUSTOM_BUTTON_POS_TOOL_BAR;
    string buttonKey = CTools::UNICODE2UTF(CString("customMenu"));
    strcpy_s(btnInfo.buttonKey, sizeof(btnInfo.buttonKey), buttonKey.c_str());
    string buttonTitle = CTools::UNICODE2UTF(CString("update"));
    strcpy_s(btnInfo.buttonTitle, sizeof(btnInfo.buttonTitle), buttonTitle.c_str());
    string buttonIconPath = CTools::UNICODE2UTF(CString("path/to/image"));
    strcpy_s(btnInfo.buttonImg, sizeof(btnInfo.buttonImg), buttonIconPath.c_str());
    //Update the customized button configurations.
    int ret = hwmSDKagent::UpdateCustomButtonInfo(&btnInfo);
    LOG_INFO("Call hwmSDKagent::UpdateCustomButtonInfo ret is " << ret);
}
```

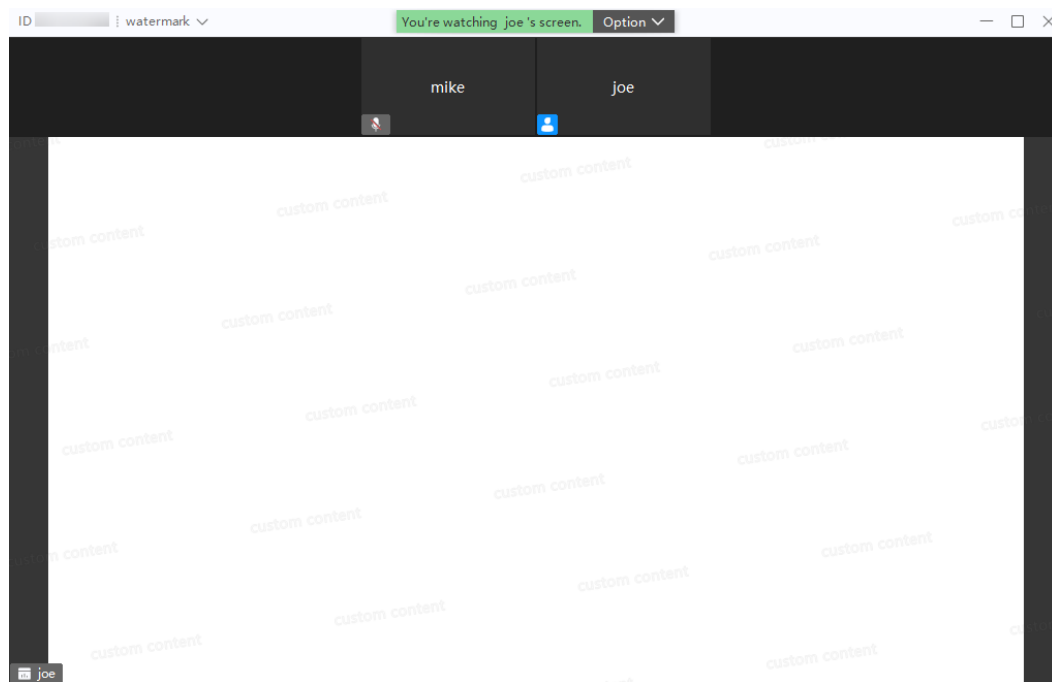
## 8.4.3.5 Customizing a Watermark for a Meeting

### SetWaterMark

#### API Description

This API is used to customize a watermark. If not specified, the internal priorities are used to display the watermark.

**Figure 8-43** Sample of a custom watermark



**Precautions**

1. This API must be called before a meeting. Calling it during a meeting does not take effect immediately.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.
3. If the enterprise-level watermark function is disabled, the customized watermark injection does not take effect.

**Method Definition**

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetWaterMark(const HwmWaterMarkInfo * wtInfo);
```

**Callback Function**

```
virtual void OnSetWaterMarkInjectInfoResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

**Parameter Description**

**Table 8-66** Parameter description

| Parameter | Man<br>dato<br>ry | Type                 | Description                    |
|-----------|-------------------|----------------------|--------------------------------|
| wtInfo    | Yes               | HwmWaterM<br>arkInfo | Set the watermark information. |

**Table 8-67** HwmWaterMarkInfo description

| Parameter | Type                   | Description                              |
|-----------|------------------------|--|
| content   | char[]                 | Set the custom watermark to be injected. |
| color     | HwmWaterMarkColor-Type | Set the watermark font color.            |

**Table 8-68** Enumerated values of HwmWaterMarkColorType

| Enumerated Value                  | Description      |
|-----------------------------------|------------------|
| HWM_WATERMARK_COLOR_TYPE_LIGHT    | Light #CCCCCC    |
| HWM_WATERMARK_COLOR_TYPE_STANDARD | Standard #999999 |
| HWM_WATERMARK_COLOR_TYPE_DARKER   | Dark #666666     |

### Return Values

**Table 8-69** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Set watermarks
 */
void demoWaterMarkInfoDlg::OnBnClickedSetWaterMarkInjectInfo()
{
    unsigned int color = hwmsdkagent::HWM_WATERMARK_COLOR_TYPE_LIGHT;
    hwmsdkagent::HwmWaterMarkInfo injectInfo = {0};

    strncpy_s(injectInfo.content, GetContent().c_str(), HWM_MAX_WATERMARK_CONTENT_LEN);
    injectInfo.color = (hwmsdkagent::HwmWaterMarkColorType)color;
    int ret = hwmsdkagent::SetWaterMark(&injectInfo);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("SetWaterMark inject info failed"));
    }
}
```

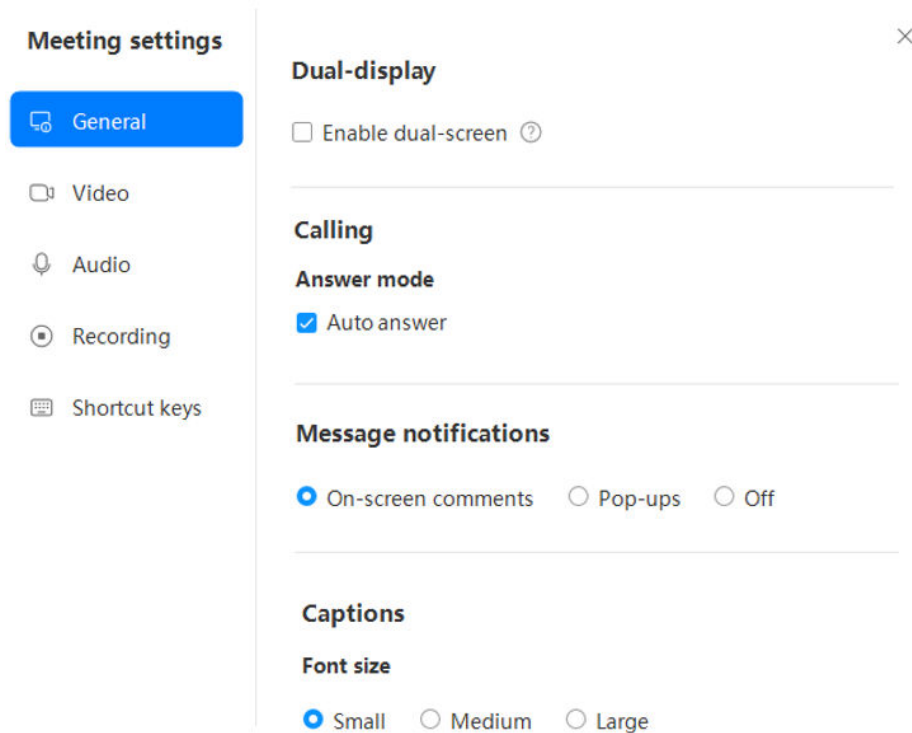
## 8.4.3.6 Customizing the Settings Screen

### ConfigSettingWindow

#### API Description

This API is used to customize the display of tab pages and function areas of the settings screen. If not customized, all tab pages and function areas are displayed by default.

Figure 8-44 Settings screen



#### Precautions

1. This API must be called before the setting screen is opened. Calling this API when the setting screen is opened does not take effect immediately.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode ConfigSettingWindow(const HwmSettingWindowConfig * configInfo);
```

#### Callback Function

```
virtual void OnConfigSettingWindowResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

**Table 8-70** Parameter description

| Parameter  | Mandatory | Type                   | Description                                |
|------------|-----------|------------------------|--|
| configInfo | Yes       | HwmSettingWindowConfig | Settings screen customization information. |

**Table 8-71** HwmSettingWindowConfig description

| Parameter            | Type                           | Description   |
|----------------------|--------------------------------|---|
| normalTab            | HwmNormalSettingTab            | Customization information about the basic settings screen.              |
| videoTab             | HwmVideoSettingTab             | Customization information about the video settings screen.              |
| audioTab             | HwmAudioSettingTab             | Customization information about the audio settings screen.              |
| screenTab            | HwmScreenSettingTab            | Customization information about the screen settings screen.             |
| recordTab            | HwmRecordSettingTab            | Customization information about the recording settings screen.          |
| virtualBackgroundTab | HwmVirtualBackgroundSettingTab | Customization information about the virtual background settings screen. |
| hotkeyTab            | HwmHotKeySettingTab            | Customization information about the shortcut key settings screen.       |

**Table 8-72** HwmNormalSettingTab description

| Parameter      | Type           | Description  |
|----------------|----------------|--|
| isHide         | bool           | Whether to hide.   |
| callOrConfArea | HwmSettingArea | Calling settings area customization information.               |
| chatNotifyArea | HwmSettingArea | Message notifications settings area customization information. |
| subtitleArea   | HwmSettingArea | Captions settings area customization information.              |
| shareArea      | HwmSettingArea | Screen sharing settings area customization information.        |

**Table 8-73** HwmVideoSettingTab description

| Parameter     | Type           | Description                                     |
|---------------|----------------|---|
| isHide        | bool           | Whether to hide.                                |
| cameraArea    | HwmSettingArea | Camera settings area customization information. |
| videoViewArea | HwmSettingArea | Video settings area customization information.  |

**Table 8-74** HwmAudioSettingTab description

| Parameter    | Type           | Description   |
|--------------|----------------|---|
| isHide       | bool           | Whether to hide.                                    |
| micArea      | HwmSettingArea | Microphone settings area customization information. |
| spkArea      | HwmSettingArea | Speaker settings area customization information.    |
| advancedArea | HwmSettingArea | Advanced settings area customization information.   |

**Table 8-75** HwmScreenSettingTab description

| Parameter           | Type           | Description  |
|---------------------|----------------|--|
| isHide              | bool           | Whether to hide.   |
| dualScreenArea      | HwmSettingArea | Customization information about the dual screen setting area.              |
| displayTopologyArea | HwmSettingArea | Customization information about the display mode setting area.             |
| swapContentArea     | HwmSettingArea | Customization information about the area of switching the display content. |

**Table 8-76** HwmRecordSettingTab description

| Parameter       | Type           | Description  |
|-----------------|----------------|--|
| isHide          | bool           | Whether to hide.   |
| localRecordArea | HwmSettingArea | Local recording settings area customization information. |



**Table 8-77** HwmVirtualBackgroundSettingTab description

| Parameter             | Type           | Description   |
|-----------------------|----------------|---|
| isHide                | bool           | Whether to hide.  |
| virtualBackgroundArea | HwmSettingArea | Virtual background settings area customization information. |

**Table 8-78** HwmHotKeySettingTab description

| Parameter  | Type           | Description   |
|------------|----------------|---|
| isHide     | bool           | Whether to hide.                                      |
| hotkeyArea | HwmSettingArea | Shortcut key settings area customization information. |

**Table 8-79** HwmSettingArea description

| Parameter | Type | Description      |
|-----------|------|------------------|
| isHide    | bool | Whether to hide. |

### Return Values

**Table 8-80** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Customize the settings screen.
 */
void demoConfigSettingWindowDlg::OnBnClickedOk()
{
    hwmsdkagent::HwmSettingWindowConfig data{ 0 };

    data.normalTab.isHide = true;
    data.videoTab.videoViewArea.isHide = true;

    int ret = hwmsdkagent::ConfigSettingWindow(&data);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("config setting window error"));
    }
}
```

```

return;
}
}

```

### 8.4.3.7 Displaying the Settings Window

#### ShowSettingWindow

##### API Description

This API is used to display the settings window and can be called before and during a meeting.

##### Precautions

1. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

##### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode ShowSettingWindow(const HwmShowSettingWindowInfo* showInfo);
```

##### Callback Function

```
virtual void OnShowSettingWindowResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

##### Parameter Description

**Table 8-81** Parameter description

| Parameter | Man<br>dato<br>ry | Type                             | Description                                       |
|-----------|-------------------|----------------------------------|---|
| showInfo  | Yes               | HwmShowSet<br>tingWindowIn<br>fo | Information about displaying the settings window. |

**Table 8-82** HwmShowSettingWindowInfo parameters

| Parameter   | Type           | Description                      |
|-------------|----------------|----------------------------------|
| isShow      | bool           | Whether the window is displayed. |
| defaultPage | HwmSettingPage | Tab displayed by default.        |

**Table 8-83** Enumerated values of HwmSettingPage

| Enumerated Value    | Description |
|---------------------|-------------|
| SETTING_PAGE_NORMAL | General     |

| Enumerated Value    | Description                |
|---------------------|----------------------------|
| SETTING_PAGE_VIDEO  | Video                      |
| SETTING_PAGE_AUDIO  | Audio                      |
| SETTING_PAGE_RECORD | Recording                  |
| SETTING_PAGE_HOTKEY | Shortcut keys              |
| SETTING_PAGE_SCREEN | Screen                     |
| SETTING_PAGE_COUNT  | Number of setting screens. |

### Sample Code

```
/**
 * Displays the settings window.
 */
void demoShowSettingWindowDlg::OnBnClickedOk()
{
    hwmsdkagent::HwmShowSettingWindowInfo showInfo{ 0 };

    showInfo.isShow = true;
    showInfo.defaultPage = hwmsdkagent::HwmSettingPage::SETTING_PAGE_NORMAL;

    int ret = hwmsdkagent::ShowSettingWindow(&showInfo);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("show setting window error"));
        return;
    }
}
```

## 8.4.3.8 Displaying a Toast Message

### ShowToast

#### API Description

This API is used to display a toast.

#### Precautions

1. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode ShowToast(const HwmToastInfo* toastInfo);
```

#### Callback Function

```
virtual void OnShowToastResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

**Table 8-84** Parameter description

| Parameter | Man<br>dato<br>ry | Type         | Description    |
|-----------|-------------------|--------------|----------------|
| toastInfo | Yes               | HwmToastInfo | Toast message. |

**Table 8-85** HwmToastInfo description

| Parameter | Type   | Description                   |
|-----------|--------|-------------------------------|
| content   | char[] | Toast message.                |
| duration  | int    | Display duration, in seconds. |

**Table 8-86** Return value

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Display a toast message.
 */
void demoShowToastDlg::OnBnClickedOk()
{
    hwmsdkagent::HwmToastInfo toastInfo{ 0 };
    std::string toastContent = "toastContent";
    strcpy_s(toastInfo.content, HWM_MAX_TOAST_CONTENT_LEN, toastContent.c_str());
    toastInfo.duration = 5;

    int ret = hwmsdkagent::ShowToast(&toastInfo);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("show toast error"));
        return;
    }
}
```

## 8.4.3.9 Obtaining Information About the Main Window

### GetMainWindowInfo

#### API Description

This API is used to obtain information about the main window.

### Precautions

1. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode GetMainWindowInfo();
```

### Callback Function

```
virtual void OnGetMainWindowInfoResult(hwmsdk::HwmErrCode ret, const char* reason, const HwmMainWindowInfo *mainWindowInfo) {};
```

### Parameter Description

**Table 8-87** HwmMainWindowInfo description

| Parameter | Type | Description   |
|-----------|------|---|
| x         | int  | Offset of the window relative to the left side of the screen. |
| y         | int  | Offset of the window relative to the top of the screen.       |
| width     | int  | Width of the window.  |
| height    | int  | Height of the window.   |
| handle    | HWND | Window handle.  |

**Table 8-88** Return values

| Type                              | Description  |
|-----------------------------------|--|
| HwmErrCode                        | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |
| <a href="#">HwmMainWindowInfo</a> | Main window information.   |

### Sample Code

```
/**
 * Obtain information about the main window.
 */
void demoGetMainWindowInfoDlg::OnBnClickedOk()
{
    int ret = hwmsdkagent::GetMainWindowInfo();
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("get mainwindow info error"));
        return;
    }
}
```

```
}  
}
```

### 8.4.3.10 Obtaining an Error Message

#### GetErrorMessage

##### API Description

This API is used to obtain an error message.

##### Precautions

1. This API is a synchronous API. The return value only indicates whether the API is successfully called.

##### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode GetErrorMessage(int errorCode, OUT HwmErrorMessageInfo *errorMessageInfo);
```

##### Parameter Description

**Table 8-89** Parameter description

| Parameter | Type | Description |
|-----------|------|-------------|
| errorCode | int  | Error code. |

**Table 8-90** HwmErrorMessageInfo description

| Parameter    | Type   | Description                                |
|--------------|--------|--|
| errorMessage | char[] | Error message. UTF-8 encoding is required. |

**Table 8-91** Return values

| Type                | Description  |
|---------------------|--|
| HwmErrCode          | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |
| HwmErrorMessageInfo | Error message.   |

##### Sample Code

```
/**  
* Obtain an error message.
```

```
*/  
void demoGetErrorMessageDlg::OnBnClickedOk()  
{  
    hwmsdkagent::HwmErrorMessageInfo info{};  
    int ret = hwmsdkagent::GetErrorMessage(hwmsdk::HWM_AGENT_ERR_IN_PROCESS, &info);  
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)  
    {  
        AfxMessageBox(_T("get error message error"));  
        return;  
    }  
}
```

### 8.4.3.11 Making Windows Transparent During Screen Sharing

#### SetTransparentWnd

##### API Description

This API is used to make windows transparent during screen sharing.

##### Precautions

1. Up to four window handles are supported.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

##### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetTransparentWnd(HWND handle[], unsigned int count);
```

##### Callback Function

```
virtual void OnSetTransparentWndResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

##### Parameter Description

Table 8-92 Parameter description

| Parameter | Type         | Description               |
|-----------|--------------|---------------------------|
| handle    | HWND[]       | Window handles.           |
| count     | unsigned int | Number of window handles. |

Table 8-93 Return value

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

##### Sample Code

```
/**
 * Make windows transparent during screen sharing.
 */
void demoSetTransparentWndDlg::OnBnClickedOk()
{
    CString tempCString;
    m_wndsEdit.GetWindowText(tempCString);
    std::string tempString = CTools::UNICODE2UTF(tempCString.GetString());
    vector<std::string> list = CTools::split(tempString, ',');
    std::string temp;
    int count = list.size();

    int realCount = 0;
    if (count > 0)
    {
        // Apply for the structure memory.
        HWND* handles;
        handles = (HWND*)malloc(sizeof(HWND) * count);
        if (handles == NULL)
        {
            return -1;
        }
        memset(handles, 0, sizeof(HWND)*count);

        HWND* handlesTemp = handles;
        for (int i = 0; i < count; i++)
        {
            temp = list[i];
            *handlesTemp = CTools::str2hwnd(temp);
            handlesTemp++;
            realCount++;
        }
        int ret = hwmsdkagent::SetTransparentWnd(handles, realCount);

        // Release memory space.
        free(handles);
        handles = NULL;
        if (hwmsdk::HWM_COMMON_SUCCESS != ret)
        {
            AfxMessageBox(_T("get error message error"));
            return;
        }
    }
}
```

### 8.4.3.12 Setting Whether to Automatically Hide the Meeting Control Bar

#### SetAutoHideToolBar

##### API Description

This API is used to set whether to automatically hide the meeting control bar.

##### Precautions

1. By default, the meeting control bar is automatically hidden after a period of inactivity with the mouse. This setting is only applicable during a meeting session and will revert to its default state once you leave the meeting.

##### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetAutoHideToolBar(const HwmAutoHideToolBarParam* autoHideToolBarParam);
```

##### Parameter Description



**Table 8-94** HwmAutoHideToolBarParam description

| Parameter  | Type | Description  |
|------------|------|--|
| isAutoHide | bool | Whether to automatically hide the meeting control bar. |

### Sample Code

```
/**
 * Set whether to automatically hide the meeting control bar.
 */
void demoSetAutoHideToolBarDlg::OnBnClickedOk()
{
    hwmsdkagent::HwmAutoHideToolBarParam param{};
    param.isAutoHide = m_isAutoHide.GetCheck();
    int ret = hwmsdkagent::SetAutoHideToolBar(handles, realCount);

    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("SetAutoHideToolBar error"));
        return;
    }
}
```

## 8.4.3.13 Customizing the Text for a Specific Scenario

### SetCustomUIText

#### API Description

This API is used to customize the text for a specific scenario.

#### Precautions

1. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetCustomUIText(const HwmCustomSceneTextInfoList*
customSceneTextInfoList);
```

#### Callback Function

```
virtual void OnSetCustomUITextResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

**Table 8-95** HwmCustomSceneTextInfoList description

| Parameter                   | Type                    | Description                                       |
|-----------------------------|-------------------------|---|
| customSceneTextInfoListSize | unsigned int            | Number of scenarios requiring text customization. |
| customSceneTextInfoList     | HwmCustomSceneTextInfo* | Custom text details.                              |

**Table 8-96** HwmCustomSceneTextInfo description

| Parameter         | Type                 | Description                            |
|-------------------|----------------------|--|
| scene             | HwmUICustomTextScene | Scenario requiring text customization. |
| sceneTextListSize | unsigned int         | Number of custom text strings.         |
| sceneTextInfoList | HwmUICustomTextInfo* | List of custom text strings.           |

**Table 8-97** Enumerated values of HwmUICustomTextScene

| Enumerated Value                                   | Description   |
|--|---|
| CLOUD_RECORD_FINISHED_ALERT_SCENE                  | Cloud recording end notification.                         |
| CLOUD_RECORD_MENU_TITLE_TEXT_SCENE                 | Cloud recording title in the recording pop-up menu.       |
| CLOUD_RECORD_MENU_DESCRIPTION_TEXT_SCENE           | Cloud recording description in the recording pop-up menu. |
| MAIN_WINDOW_CLOUD_RECORDING_DESCRIPTION_TEXT_SCENE | Cloud recording description in the main window.           |

**Table 8-98** HwmUICustomTextInfo description

| Parameter    | Type        | Description           |
|--------------|-------------|-----------------------|
| languageType | HwmLanguage | Language type.        |
| languageCode | char[]      | Custom language code. |
| customText   | char[]      | Custom text.          |

**Table 8-99** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Customize the text for a specific scenario.
 */
void demoCustomSceneContentDlg::OnBnClickedOk()
{
    hwmsdkagent::HwmCustomSceneTextInfo textInfo;
    AssembleCustomSceneTextInfo(textInfo);

    hwmsdkagent::HwmCustomSceneTextInfoList data{};
    if (textInfo.sceneTextListSize == 0)
    {
        data.customSceneTextInfoListSize = 0;
        data.customSceneTextInfoList = nullptr;
    }
    else
    {
        data.customSceneTextInfoListSize = 1;
        // Apply for the struct memory.
        data.customSceneTextInfoList = new
(std::nothrow)hwmsdkagent::HwmCustomSceneTextInfo[data.customSceneTextInfoListSize];
        if (data.customSceneTextInfoList == nullptr)
        {
            return;
        }
        data.customSceneTextInfoList[0] = std::move(textInfo);
    }

    hwmsdk::HwmErrCode ret = hwmsdkagent::SetCustomUIText(&data);
    if (ret != hwmsdk::HWM_COMMON_SUCCESS)
    {
        CTools::OutputRetStr("Custom scene content error");
    }
    // Release the struct memory.
    for (int i = 0; i < data.customSceneTextInfoListSize; i++)
    {
        if (data.customSceneTextInfoList[i].sceneTextList != nullptr)
        {
            delete data.customSceneTextInfoList[i].sceneTextList;
            data.customSceneTextInfoList[i].sceneTextList = nullptr;
        }
    }

    if (data.customSceneTextInfoList != nullptr)
    {
        delete data.customSceneTextInfoList;
        data.customSceneTextInfoList = nullptr;
    }
}
```

### 8.4.3.14 Customizing the Icon for a Specific Scenario

#### SetCustomUIImage

##### API Description

This API is used to customize the icon for a specific scenario.

##### Precautions

1. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

##### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetCustomUIImage(const HwmCustomSceneImageInfoList*
customSceneImageInfoList);
```

### Callback Function

```
virtual void OnSetCustomUIImageResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Parameter Description

**Table 8-100** HwmCustomSceneImageInfoList description

| Parameter                    | Type                     | Description                                       |
|------------------------------|--------------------------|---|
| customSceneImageInfoListSize | unsigned int             | Number of scenarios requiring icon customization. |
| customSceneImageInfoList     | HwmCustomSceneImageInfo* | Custom icon details.                              |

**Table 8-101** HwmCustomSceneImageInfo description

| Parameter | Type                  | Description  |
|-----------|-----------------------|--|
| scene     | HwmUICustomImageScene | Scenario requiring icon customization.   |
| imagePath | char[]                | Absolute path of the custom icon. For example, <b>to/path/image.svg</b> . SVG and PNG formats are supported. UTF-8 encoding is required. |
| width     | unsigned int          | Custom icon width.   |
| height    | unsigned int          | Custom icon height.  |

**Table 8-102** Enumerated values of HwmUICustomImageScene

| Enumerated Value                    | Description  |
|-------------------------------------|--|
| CLOUD_RECORD_ICON_IMAGE_SCENE       | Main icon of cloud recording in a meeting (in the recording pop-up menu, participant list, and sharing toolbar). |
| MAIN_WINDOW_CLOUD_RECORD_ICON_SCENE | Small cloud recording icon in the main window.   |
| MAIN_WINDOW_CLOUD_RECORD_LOGO_SCENE | Large cloud recording logo in the main window.   |

### Sample Code

```
/**
 * Customize the icon for a specific scenario.
 */
void demoCustomSceneContentDlg::OnBnClickedOk()
```

```
{
    // Obtain the icon information.
    hwmsdkagent::HwmCustomSceneImageInfo imageInfo;
    int comboBoxIndex = m_comboBoxScene.GetCurSel();
    imageInfo.scene = static_cast<hwmsdkagent::HwmUIScene>(comboBoxIndex);
    CString tempCString;
    m_imagePath.GetWindowText(tempCString);
    strncpy_s(imageInfo.imagePath, CTools::UNICODE2UTF(tempCString.GetString()).c_str(),
        HWM_MAX_FILE_PATH_LEN);
    m_width.GetWindowText(tempCString);
    imageInfo.width = static_cast<unsigned int>(_ttoi(tempCString));
    m_height.GetWindowText(tempCString);
    imageInfo.height = static_cast<unsigned int>(_ttoi(tempCString));

    hwmsdkagent::HwmCustomSceneImageInfoList data{};
    data.customSceneImageInfoListSize = 1;
    data.customSceneImageInfoList = new
        (std::nothrow)hwmsdkagent::HwmCustomSceneImageInfo[data.customSceneImageInfoListSize];
    data.customSceneImageInfoList[0] = std::move(imageInfo);
    hwmsdk::HwmErrCode ret = hwmsdkagent::SetCustomUIImage(&data);
    if (ret != hwmsdk::HWM_COMMON_SUCCESS)
    {
        CTools::OutputRetStr("Custom scene content error");
    }
    // Release the struct memory.
    if (data.customSceneImageInfoList != nullptr)
    {
        delete data.customSceneImageInfoList;
        data.customSceneImageInfoList = nullptr;
    }
}
```

## 8.4.4 Meeting Control

### 8.4.4.1 Creating a Meeting

#### CreateConf

##### API Description

This API is used to create an instant meeting.

##### Precautions

1. By default, this API enables you to join a meeting as a host. During API calling, there is no need to add your information to the participant parameters.
2. If other participants need to be invited, their information needs to be transferred. If other participants are not required to join the meeting, participant details and the number of participants can be empty.
3. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

##### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode CreateConf(HwmCreateConfInfo *createConfInfo,
HwmConfAttendee *attendees, unsigned int count);
```

##### Callback Function

```
virtual void OnCreateConfResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

**Parameter Description**

| Parameter      | Mandatory | Type              | Description  |
|----------------|-----------|-------------------|--|
| createConfInfo | Yes       | HwmCreateConfInfo | Meeting details.   |
| attendees      | No        | HwmConfAttendee   | Participant details. If participants are not required, set this parameter to <b>NULL</b> . |
| count          | No        | unsigned int      | Number of participants. If participants are not required, set this parameter to <b>0</b> . |

**Table 8-103** HwmCreateConfInfo description

| Parameter    | Mandatory | Type             | Description  |
|--------------|-----------|------------------|--|
| subject      | Yes       | char[]           | Meeting topic.   |
| mediaType    | Yes       | HwmConfMediaType | Meeting type.  |
| needPassword | No        | bool             | Whether a meeting password is required.<br><b>NOTE</b><br>This parameter is valid only for meetings with a random ID.  |
| isAutoRecord | No        | bool             | Whether to enable automatic meeting recording. If automatic meeting recording is enabled, the meeting can be recorded by default even meeting recording is disabled.<br><b>NOTE</b><br>This parameter is valid only for cloud recording, not for local recording on clients. |
| allowRecord  | No        | bool             | Whether meeting recording is supported.<br><b>NOTE</b><br>This parameter is valid only for cloud recording, not for local recording on clients.  |

| Parameter              | Mandatory | Type                      | Description   |
|------------------------|-----------|---------------------------|---|
| callInRestriction      | No        | HwmJoinConfPermissionType | Users who are allowed to join the meeting. By default, everyone is allowed.   |
| vmrId                  | No        | char[]                    | Unique cloud meeting room ID. To schedule a meeting with a random meeting ID, set this parameter to an empty string.  |
| vmrConfIdType          | No        | HwmVmrConfIdType          | ID type of the cloud meeting room.  |
| guestPwd               | No        | char[]                    | Password of a common participant. If this parameter is left empty, the server randomly generates a value.<br><b>NOTE</b><br>This parameter is valid only for meetings with a random ID. |
| isOpenWaitingRoom      | No        | bool                      | Waiting room status.<br><b>NOTE</b><br>The function takes effect only after the waiting room function is enabled.   |
| duration               | No        | int                       | Meeting duration, in minutes. The value ranges from 15 to 1,440.<br>Note: If this parameter is left blank, the server uses the default meeting duration.                                |
| concurrentParticipants | No        | unsigned int              | Maximum number of participants in the meeting. If this parameter is left blank, there is no restriction.  |
| customInfo             | No        | char[]                    | Custom extension information.   |
| confResType            | No        | HwmConfResType            | Meeting resource type.  |
| defaultSummaryState    | No        | HwmSummaryState           | Initial state of whether the cloud recording contains minutes.  |

| Parameter                | Mandatory | Type            | Description  |
|--------------------------|-----------|-----------------|--|
| autoMuteMode             | No        | HwmAutoMuteType | Whether soft client guests are automatically muted when they join the meeting.   |
| hardTerminalAutoMuteMode | No        | HwmAutoMuteType | Whether hard terminal guests are automatically muted when they join the meeting. |

**Table 8-104** Enumerated values of HwmConfMediaType

| Enumerated Value   | Description             |
|--------------------|-------------------------|
| HWM_AUDIO_AND_DATA | Voice and data meeting. |
| HWM_VIDEO_AND_DATA | Video and data meeting. |

**Table 8-105** Enumerated values of HwmJoinConfPermissionType

| Enumerated Value            | Description           |
|-----------------------------|-----------------------|
| RESTRICTION_CALL_IN_ALL     | Everyone.             |
| RESTRICTION_CALL_IN_COMPANY | Corporate users only. |
| RESTRICTION_CALL_IN_INVITED | Invited users only.   |

**Table 8-106** HwmConfAttendee description

| Parameter | Mandatory | Type   | Description       |
|-----------|-----------|--------|-------------------|
| name      | Yes       | char[] | Participant name. |



| Parameter   | Mandatory | Type   | Description  |
|-------------|-----------|--------|--|
| number      | Yes       | char[] | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId | Yes       | char[] | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |

**Table 8-107** Enumerated values of HwmVmrConfIdType

| Enumerated Value            | Description                          |
|-----------------------------|--------------------------------------|
| HWM_VMR_CONF_ID_TYPE_FIXED  | Fixed ID of the cloud meeting room.  |
| HWM_VMR_CONF_ID_TYPE_RANDOM | Random ID of the cloud meeting room. |

**Table 8-108** Enumerated values of HwmConfResType

| Enumerated Value            | Description                |
|-----------------------------|----------------------------|
| HWM_CONF_RESTYPE_DEFAULT    | Default.                   |
| HWM_CONF_RESTYPE_SHARED_VMR | Shared cloud meeting room. |

**Table 8-109** Enumerated values of HwmSummaryState

| Enumerated Value    | Description                |
|---------------------|----------------------------|
| SUMMARY_STATE_CLOSE | Minutes are not contained. |
| SUMMARY_STATE_OPEN  | Minutes are contained.     |

**Table 8-110** Enumerated values of HwmAutoMuteType

| Enumerated Value       | Description                        |
|------------------------|------------------------------------|
| AUTO_MUTE_TYPE_DEFAULT | Same as the default configuration. |
| AUTO_MUTE_TYPE_MUTE    | Muted.                             |
| AUTO_MUTE_TYPE_UNMUTE  | Unmuted.                           |

### Return Values

**Table 8-111** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Create a meeting.
 */
int demoCreateConfWithAttendeeDlg::clickCreatConfWithAttendee()
{
    int ret;
    hwmsdkagent::HwmCreateConfInfo data;
    memset(&data, 0, sizeof(hwmsdkagent::HwmCreateConfInfo));

    // Set the meeting topic.
    strncpy_s(data.subject, GetMeetingSubjectStr().c_str(), HWM_MAX_SUBJECT_LEN);
    // Set the meeting type.
    data.mediaType = hwmsdkagent::HWM_VIDEO_AND_DATA
    // Set whether the guest password is required for the meeting.
    data.needPassword = true;
    // Set the meeting incoming call restriction.
    data.callInRestriction = hwmsdkagent::RESTRICTION_CALL_IN_ALL;
    // Configure vmrId. To create a meeting with a random ID, leave vmrId empty. Here,
    // m_confIdTypeCombo indicates that a meeting with a random ID is preferentially created.
    // Therefore, vmrIdSelect > 0 indicates the personal meeting ID or a cloud meeting room ID is used.
    const auto vmrIdSelect = m_confIdTypeCombo.GetCurSel();
    if (vmrIdSelect > 0 && vmrIdSelect - 1 < vmrList.size())
```

```
{
    strcpy_s(data.vmrId, HWM_MAX_VMR_CONF_ID_LEN, vmrList[vmrIdSelect - 1].vmrId);
}

// Set participants.
// Obtain participant details based on site requirements.
CString tempCString;
m_attendeesEdit.GetWindowText(tempCString);
string tempString = CTools::UNICODE2UTF(tempCString);
vector<string> list = CTools::split(tempString, ',');
vector<string> temp;
int count = list.size();
int realCount = 0;
if (count > 0)
{
    // Apply for the structure memory.
    hwmsdkagent::HwmConfAttendee* participants;
    participants = (hwmsdkagent::HwmConfAttendee*)malloc(sizeof(hwmsdkagent::HwmConfAttendee) *
count);
    if (participants == NULL)
    {
        return -1;
    }
    memset(participants, 0, sizeof(hwmsdkagent::HwmConfAttendee)*count);

    hwmsdkagent::HwmConfAttendee* participantsTemp = participants;
    for (int i = 0; i < count; i++)
    {
        temp = CTools::split(list[i], '-');
        if (temp.size() == 2)
        {
            // Assign a value to name.
            strncpy_s(participantsTemp->name, (char *)temp[0].c_str(), HWM_MAX_DISPLAY_NAME_LEN);
            // Assign a value to number.
            strncpy_s(participantsTemp->number, (char *)temp[1].c_str(), HWM_MAX_NUMBER_LEN);
            // Increase the number of pointers by 1.
            realCount++;
            participantsTemp++;
        }
    }
    // Call the SDK API to create the meeting.
    ret = hwmsdkagent::CreateConf(&data, participants, realCount);

    // Release memory space.
    free(participants);
    participants = NULL;
}
else
{
    // Create a meeting without specifying participants.
    ret = hwmsdkagent::CreateConf(&data, NULL, 0);
}
return ret;
}
```

## 8.4.4.2 Joining a Meeting

### JoinConfById

#### API Description

This API is used to join an existing meeting by using the meeting ID and password.

#### Precautions

1. This API can be called regardless of whether you have logged in.

- This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode JoinConfById(HwmJoinConfByIdInfo *joinConfByIdInfo);
```

### Callback Function

```
virtual void OnJoinConfByIdResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Parameter Description

**Table 8-112** HwmJoinConfByIdInfo description

| Parameter          | Mandatory | Type   | Description  |
|--------------------|-----------|--------|--|
| confId             | Yes       | char[] | Meeting ID.  |
| password           | No        | char[] | Meeting password. To join a meeting as a host, pass the host password. To join a meeting as a guest, pass the guest password or leave it empty if the meeting is password-free.  |
| name               | No        | char[] | Display name in the meeting. If you have logged in, this parameter can be left blank. In such a case, the login username is used as the display name in the meeting. To join a meeting anonymously, you must enter this name or set the participant name in advance. |
| isCloseSpk         | No        | bool   | Whether to disable the speaker. Enter <b>true</b> to disable the speaker or <b>false</b> to enable it.   |
| isStopConflictConf | No        | bool   | Used to forcibly end a meeting that conflicts with the current cloud meeting room. (Only the owner of the cloud meeting room resource has the permission.)   |

### Return Values

**Table 8-113** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
// Join a meeting using the meeting ID.
int demoJoinConfByDlId::clickJoinConfByDlId()
{
    // Enter the meeting ID and meeting password. You can specify your display name in the meeting
    regardless of whether you have logged in or not.
    hwmsdkagent::HwmJoinConfByDlIdInfo data;
    memset(&data, 0, sizeof(hwmsdkagent::HwmJoinConfByDlIdInfo));

    strncpy_s(data.confId, GetMeetingID().c_str(), HWM_MAX_CONF_ID_LEN);
    strncpy_s(data.password, GetAccessCode().c_str(), HWM_MAX_PASSWORD_LEN);
    strncpy_s(data.name, GetParticipantName().c_str(), HWM_MAX_DISPLAY_NAME_LEN);
    data.isCloseSpk = false;

    // Enable or disable the microphone and camera.
    int ret = EnableFeature(hwmsdkagent::HWM_ENABLE_FEATURE_TYPE_MIC_SWITCH, true);
    ret = EnableFeature(hwmsdkagent::HWM_ENABLE_FEATURE_TYPE_CAM_SWITCH, false);
    ret = hwmsdkagent::JoinConfByDlId(&data);
    return ret;
}
```

#### NOTE

Before joining a meeting, you can call **EnableFeature** to change the microphone and camera status.

## 8.4.4.3 Joining a Meeting Using a Random Code

### JoinConfByRandom

#### API Description

The meeting link (for example, <https://bmeeting.huaweicloud.com/#/j/981924330/e11ddec62ee760734fcf2ba55b79937eac2aa68677caf659>) in the notification email contains the meeting ID (981924330) and random code (e11ddec62ee760734fcf2ba55b79937eac2aa68677caf659). A third-party app calls this API to join a meeting.

#### NOTE

If you do not specify a guest password when scheduling a meeting, the meeting link contains only the meeting ID but not the random code.

#### Precautions

1. This API can be called regardless of whether you have logged in.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode JoinConfByRandom(HwmJoinConfByRandomInfo *joinConfByRandomInfo);
```

### Callback Function

```
virtual void OnJoinConfByRandomResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Parameter Description

**Table 8-114** HwmJoinConfByRandomInfo description

| Parameter  | Mandatory | Type   | Description  |
|------------|-----------|--------|--|
| confId     | Yes       | char[] | Meeting ID.  |
| random     | No        | char[] | Mapping value of a 48-digit meeting password. The value comes from the end of the meeting link in the shared meeting details. If a meeting does not require a guest password, this parameter can be left blank.                                      |
| name       | No        | char[] | Display name in the meeting. If you have logged in, this parameter can be left blank. In such a case, the login username is used as the display name in the meeting. To join a meeting anonymously, enter this name or set the site name in advance. |
| domain     | No        | char[] | Domain name. This parameter is used when you join the meeting offline.   |
| isCloseSpk | No        | bool   | Whether to disable the speaker. Enter <b>true</b> to disable the speaker or <b>false</b> to enable it.   |

### Return Values

**Table 8-115** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
// Join a meeting using the meeting ID and random code.
int demoJoinConfByRandomDlg::clickJoinConfByRandom()
{
    // Enter the meeting ID and password mapping value. If you join the meeting using the random code,
    you can configure the display name.
    hwmsdkagent::HwmJoinConfByRandomInfo data;
    memset(&data, 0, sizeof(hwmsdkagent::HwmJoinConfByRandomInfo));

    strncpy_s(data.confId, GetMeetingID().c_str(), HWM_MAX_CONF_ID_LEN);
    strncpy_s(data.random, GetAccessCode().c_str(), HWM_MAX_RANDOM_LEN);
    strncpy_s(data.name, GetParticipantName().c_str(), HWM_MAX_DISPLAY_NAME_LEN);
    data.isCloseSpk = false;

    // Enable or disable the microphone and camera.
    int ret = EnableFeature(hwmsdkagent::HWM_ENABLE_FEATURE_TYPE_MIC_SWITCH, true);
    ret = EnableFeature(hwmsdkagent::HWM_ENABLE_FEATURE_TYPE_CAM_SWITCH, false);
    ret = hwmsdkagent::JoinConfByRandom(&data);
    return ret;
}
```

#### NOTE

Before joining a meeting, you can call **EnableFeature** to change the microphone and camera status.

## 8.4.4.4 Setting the Participant Name

### RenameSelf

#### API Description

This API is used to set the participant name.

#### Precautions

This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode RenameSelf(const char
name[HWM_MAX_DISPLAY_NAME_LEN]);
```

#### Callback Function

```
virtual void OnRenameSelfResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

**Table 8-116** Parameter description

| Parameter | Man<br>dato<br>ry | Type   | Description       |
|-----------|-------------------|--------|-------------------|
| name      | Yes               | char[] | Participant name. |

### Return Values

**Table 8-117** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
void demoRenameSelfDlg::OnBnClickedOk()
{
    // Set the participant name.
    int ret = hwmsdkagent::RenameSelf(GetNameString().c_str());
    if(ret != hwmsdk::HWM_COMMON_SUCCESS)
    {
        AfxMessageBox(_T("Renamel self error"));
        return;
    }
}
```

## 8.4.4.5 Inviting a Participant

### AddAttendee

#### API Description

This API is used to add participants to a meeting.

#### Precautions

1. If this API is called when you are not in a meeting, a failure message is returned.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode AddAttendee(HwmConfAttendee *attendees, unsigned int count);
```

#### Callback Function



```
virtual void OnAddAttendeeResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Parameter Description

**Table 8-118** HwmConfAttendee description

| Parameter   | Mandatory | Type   | Description  |
|-------------|-----------|--------|--|
| name        | Yes       | char[] | Participant name.  |
| number      | Yes       | char[] | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId | Yes       | char[] | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |
| accountId   | No        | char[] | Huawei Cloud Meeting account.  |

### Return Values

**Table 8-119** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**  
* Add a participant.
```

```
*/
int demoAddAttendeeDlg::clickAddAttendee()
{
    int ret;
    CString tempCString;

    // Obtain participant details based on site requirements.
    m_numbersEdit.GetWindowText(tempCString);
    string tempString = CTools::UNICODE2UTF(tempCString);
    vector<string> list = CTools::split(tempString, ',');
    vector<string> temp;
    int count = list.size();

    int realCount = 0;
    if (count > 0)
    {
        // Apply for the structure memory.
        hwmsdkagent::HwmConfAttendee* participants;
        participants = (hwmsdkagent::HwmConfAttendee*)malloc(sizeof(hwmsdkagent::HwmConfAttendee) *
count);
        if (participants == NULL)
        {
            return -1;
        }
        memset(participants, 0, sizeof(hwmsdkagent::HwmConfAttendee)*count);

        hwmsdkagent::HwmConfAttendee* participantsTemp = participants;
        for (int i = 0; i < count; i++)
        {
            temp = CTools::split(list[i], '-');
            if (temp.size() == 2)
            {
                // Assign a value to name.
                strncpy_s(participantsTemp->name, (char *)temp[0].c_str(), HWM_MAX_DISPLAY_NAME_LEN);
                // Assign a value to number.
                strncpy_s(participantsTemp->number, (char *)temp[1].c_str(), HWM_MAX_NUMBER_LEN);
                // Increase the number of pointers by 1.
                realCount++;
                participantsTemp++;
            }
        }

        ret = hwmsdkagent::AddAttendee(participants, realCount);

        // Release memory space.
        free(participants);
        participants = NULL;
    }

    return ret;
}
```

### 8.4.4.6 Starting Sharing

#### StartShare

##### API Description

This API is used to enable meeting sharing. The UI of the SDK has implemented the sharing function. You can call this API to initiate sharing on a third-party application.

##### Precautions

1. If this API is called when you are not in a meeting, a failure message is returned.

- This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode StartShare(HwmStartShareInfo *startShareInfo);
```

### Callback Function

```
virtual void OnStartShareResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Parameter Description

**Table 8-120** HwmStartShareInfo description

| Parameter           | Mandatory | Type                | Description  |
|---------------------|-----------|---------------------|--|
| shareType           | Yes       | enum                | Sharing type.  |
| monitorShareInfo    | No        | HwmMonitorShareInfo | Desktop sharing details. This parameter is mandatory if the sharing type is desktop sharing.   |
| appShareInfo        | No        | HwmAppShareInfo     | Program sharing details. This parameter is mandatory if the sharing type is program sharing.   |
| operatableUiMonitor | Yes       | HwmMonitorShareInfo | Monitor where the toolbar is located during sharing. If <b>monitorMode</b> is set to the primary/secondary monitor mode and the value of <b>monitor</b> is set to <b>0</b> , you do not need to specify a monitor. |

**Table 8-121** Enumerated values of HwmShareType

| Enumerated Value       | Description      |
|------------------------|------------------|
| HWM_SHARE_TYPE_MONITOR | Desktop sharing. |
| HWM_SHARE_TYPE_APP     | Program sharing. |

**Table 8-122** HwmMonitorShareInfo description

| Parameter    | Mandatory | Type           | Description  |
|--------------|-----------|----------------|--|
| monitor      | Yes       | HwmMonitor     | Monitor type. This parameter is valid only when <b>monitorMode</b> is set to the primary/secondary monitor mode. |
| monitorMode  | Yes       | HwmMonitorMode | Monitor mode.  |
| monitorIndex | Yes       | unsigned int   | Monitor index. This parameter is valid only when <b>monitorMode</b> is set to the multi-screen mode.             |

**Table 8-123** Enumerated values of HwmMonitor

| Enumerated Value      | Description        |
|-----------------------|--------------------|
| HWM_MONITOR_MAIN      | Primary monitor.   |
| HWM_MONITOR_SECONDARY | Secondary monitor. |

**Table 8-124** Enumerated values of HwmMonitorMode

| Enumerated Value                   | Description                |
|------------------------------------|----------------------------|
| HWM_MONITOR_MODE_PRIMARY_SECONDARY | Primary/Secondary monitor. |
| HWM_MONITOR_MODE_MULTI_MONITOR     | Multi-monitor.             |

**Table 8-125** HwmAppShareInfo description

| Parameter | Mandatory | Type | Description     |
|-----------|-----------|------|-----------------|
| appHandle | Yes       | HWND | Program handle. |

### Return Values

**Table 8-126** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Starts sharing.
 */
int demoStartShareDlg::clickStartShare()
{
    hwmsdkagent::HwmStartShareInfo data;
    memset(&data, 0, sizeof(hwmsdkagent::HwmStartShareInfo));
    // Set the sharing type.
    data.shareType = hwmsdkagent::HwmShareType::HWM_SHARE_TYPE_MONITOR;
    // Set the monitor to share.
    data.monitorShareInfo.monitor = hwmsdkagent::HWM_MONITOR_MAIN;
    // Set the monitor where the toolbar is located.
    data.operableUiMonitor = hwmsdkagent::HWM_MONITOR_MAIN;

    int ret = hwmsdkagent::StartShare(&data);
    return ret;
}
```

## 8.4.4.7 Ending Sharing

### StopShare

#### API Description

This API is used to end sharing in a meeting. The UI of the SDK has implemented the function of stopping sharing. You can call this API to stop sharing on a third-party application.

#### Precautions

1. Do not call this API if no participant is sharing content.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode StopShare();
```

#### Callback Function

```
virtual void OnStopShareResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

None

#### Return Values

**Table 8-127** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * End sharing.
 */
void demoConfCtrlDlg::OnBnClickedButtonStopShare()
{
    // End sharing.
    int ret = hwmsdkagent::StopShare();
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("StopShare error"));
    }
}
```

## 8.4.4.8 Configuring Automatic Answering for Incoming Calls

### SetConfIncomingAnswerResult

#### API Description

This API is used to configure whether to automatically reject or answer incoming calls.

#### Precautions

1. This API can be called (in the [OnConfIncoming](#) API) only when a meeting call is received.
2. This API is used to set the answer type, including dialog box selection, rejection, and answer.
3. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### NOTE

If the incoming call is automatically rejected, the [Config](#) API needs to be called to set **isHideConfIncomingWindow** to **TRUE** after the initialization.

When the call needs to be rejected, **SetCallIncomingAnswerResult** is set to **HWM\_INCOMING\_ANSWER\_DECLINE**. When the call needs to be answered in a pop-up window, **SetCallIncomingAnswerResult** is set to **HWM\_INCOMING\_ANSWER\_NORMAL**.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode type(HWMIncomingAnswerType type);
```

#### Callback Function

```
virtual void OnSetConflncomingAnswerResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Parameter Description

**Table 8-128** Enumerated values of HWMInComingAnswerType

| Enumerated Value            | Description   |
|-----------------------------|---|
| HWM_INCOMING_ANSWER_NORMAL  | Use the default dialog box to select an answering mode. |
| HWM_INCOMING_ANSWER_DECLINE | Reject an incoming call.                                |
| HWM_INCOMING_ANSWER_ANSWER  | Answer an incoming call.                                |

### Return Values

**Table 8-129** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Reject a meeting call.
 */
void demoConfCtrlDlg::OnBnClickedSetConflncomingAnswerResult()
{
    hwmsdkagent::HWMInComingAnswerType type = HWM_INCOMING_ANSWER_DECLINE;
    int ret = hwmsdkagent::SetConflncomingAnswerResult(type);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("SetConflncomingAnswerResult error"));
    }
}
```

## 8.4.4.9 Displaying the Main Meeting Window

### showMeetingWindow

#### API Description

This API is used to place the main meeting window at the top when it is minimized or covered by other windows. An ongoing meeting will be selected from the meeting list to show its window.

#### Precautions

None

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode ShowMeetingWindow();
```

### Parameter Description

None

### Return Values

**Table 8-130** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**  
 * Display the main window of a meeting.  
 */  
void demoSettingDlg::OnBnClickedButtonShowMeetingWindow()  
{  
    int ret = hwmsdkagent::ShowMeetingWindow();  
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)  
    {  
        AfxMessageBox("ShowMeetingWindow error" );  
    }  
}
```

## 8.4.4.10 Setting a Sharing Policy

### SetShareStrategy

#### API Description

This API is called to set a screen sharing policy to clarity preferred or fluency preferred.

#### Precautions

This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetShareStrategy(HwmShareStrategyType  
shareStrategyType);
```

#### Callback Function

```
virtual void OnSetShareStrategyResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```



## Parameter Description

**Table 8-131** Parameters

| Parameter         | Man<br>dato<br>ry | Type                     | Description                 |
|-------------------|-------------------|--------------------------|-----------------------------|
| shareStrategyType | Yes               | HwmShareStrateg<br>yType | Screen sharing policy types |

**Table 8-132** Enumerated values of HwmShareStrategyType

| Enumerated Value                        | Description       |
|---|-------------------|
| HWM_SHARE_STRATEGY_DEFINITI<br>ON_FIRST | Clarity preferred |
| HWM_SHARE_STRATEGY_FLUENC<br>Y_FIRST    | Fluency preferred |

## Return Values

**Table 8-133** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

## Sample Code

```
/**
 * Set a sharing policy.
 */
void demoSetShareStrategyDlg::OnBnClickedButtonSetShareStrategy()
{
    hwmsdkagent::HwmShareStrategyType type = HWM_SHARE_STRATEGY_DEFINITION_FIRST;
    int ret = hwmsdkagent::SetShareStrategy(type);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("Set Share Strategy Result failed"));
    }
}
```

## 8.4.4.11 Setting Audio Sharing

### SetShareAudio

#### API Description

This API is used to set whether to share the computer sound during screen sharing.

#### Precautions

This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetShareAudio(bool isEnabled);
```

#### Callback Function

```
virtual void OnSetShareAudioResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

**Table 8-134** Parameter description

| Parameter | Man<br>dato<br>ry | Type | Description                     |
|-----------|-------------------|------|---------------------------------|
| isEnabled | Yes               | bool | Whether to enable the function. |

#### Return Values

**Table 8-135** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

#### Sample Code

```
/**
 * Set audio sharing.
 */
void demoSetShareAudioDlg::OnBnClickedButtonSetShareAudio()
{
    bool isEnabled = true;
    int ret = hwmsdkagent::SetShareAudio(isEnabled);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
```

```
AfxMessageBox(_T("Set Share Audio Result failed"));
}
}
```

## 8.4.4.12 Controlling Audio and Video Devices

### AVDeviceCtrl

#### API Description

This API is used to control local microphones, speakers, and cameras.

#### Precautions

This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode AVDeviceCtrl(HwmDeviceType deviceType, bool isOpen);
```

#### Callback Function

```
virtual void OnAVDeviceCtrlResult(hwmsdk::HwmErrCode ret, const char* reason, HwmDeviceType deviceType) {};
```

#### Parameter Description

**Table 8-136** Parameter description

| Parameter     | Man<br>dato<br>ry | Type              | Description                   |
|---------------|-------------------|-------------------|-------------------------------|
| HwmDeviceType | Yes               | HwmDeviceTy<br>pe | Device type enumeration.      |
| isOpen        | Yes               | bool              | Whether to enable the device. |

**Table 8-137** Enumerated values of value HwmDeviceType

| Enumerated Value        | Description |
|-------------------------|-------------|
| HWM_DEVICE_TYPE_MIC     | Microphone  |
| HWM_DEVICE_TYPE_SPEAKER | Speaker     |
| HWM_DEVICE_TYPE_CAMERA  | Camera      |

#### Return Values

**Table 8-138** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Control audio and video devices.
 */
int demoAVDeviceCtrlDlg::ClickAVDeviceCtrl()
{
    hwmsdkagent::HwmDeviceType deviceType = hwmsdkagent::HwmDeviceType::HWM_DEVICE_TYPE_MIC;
    bool isOpen = true;
    int ret = hwmsdkagent::AVDeviceCtrl(deviceType, isOpen);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("AVDeviceCtrl error"));
    }
}
```

## 8.4.4.13 Setting the Sharing Permission

### SetShareScreenPermission

#### API Description

This API is used to set the sharing permission.

#### Precautions

This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetShareScreenPermission(bool isAllowed);
```

#### Callback Function

```
virtual void OnSetShareScreenPermissionResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

**Table 8-139** Parameter description

| Parameter | Man<br>dato<br>ry | Type | Description                 |
|-----------|-------------------|------|-----------------------------|
| isAllowed | Yes               | bool | Whether sharing is allowed. |

## Return Values

**Table 8-140** Return value

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

## Sample Code

```
/**
 * Sets the sharing permission.
 */
int demoSetShareScreenPermissionDlg::ClickSetShareScreenPermission()
{
    bool isOpen = true;
    int ret = hwmsdkagent::SetShareScreenPermission(isOpen);
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("SetShareScreenPermission error"));
    }
}
```

## 8.4.4.14 Leaving a Meeting

### LeaveConf

#### API Description

This API is used to leave a meeting.

#### Precautions

1. Do not call this API if you are not in a meeting.
2. If this API is called to leave a meeting, the meeting will not end. You can join the meeting again when the meeting is still in progress.
3. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode LeaveConf();
```

#### Callback Function

```
virtual void OnLeaveConfResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

None

#### Return Values

**Table 8-141** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Leave a meeting.
 */
void demoConfCtrlDlg::OnBnClickedButtonLeaveConf()
{
    int ret = hwmsdkagent::LeaveConf();
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("LeaveConf error"));
    }
}
```

## 8.4.4.15 Ending a Meeting

### EndConf

#### API Description

This API is used to end a meeting.

#### Precautions

1. Do not call this API if you are not in a meeting.
2. After this API is called, the meeting will end and you cannot join the meeting again.
3. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode EndConf();
```

#### Callback Function

```
virtual void OnEndConfResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

None

#### Return Values

**Table 8-142** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * End a meeting.
 */
void demoConfCtrlDlg::OnBnClickedButtonStopConf()
{
    int ret = hwmsdkagent::EndConf();
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("EndConf error"));
    }
}
```

## 8.4.4.16 Starting an Instant Meeting

### StartP2pConf

#### API Description

This API is used to start an instant meeting.

#### Precautions

1. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode StartP2pConf(const HwmP2PStartCallInfo *startCallInfo);
```

#### Callback Function

```
virtual void OnStartP2pConfResult(hwmsdk::HwmErrCode ret, const char* reason, HwmConfInfo *confInfo) {};
```

#### Parameter Description

| Parameter     | Mandatory | Type                | Description              |
|---------------|-----------|---------------------|--------------------------|
| startCallInfo | Yes       | HwmP2PStartCallInfo | Instant meeting details. |

**Table 8-143** HwmP2PStartCallInfo description

| Parameter  | Mandatory | Type                         | Description                     |
|------------|-----------|------------------------------|---------------------------------|
| callerInfo | Yes       | HwmCallerInfo                | Caller information.             |
| calleeInfo | Yes       | HwmCalleeInfo                | Called participant information. |
| mediaType  | Yes       | <a href="#">HwmMediaType</a> | Media type.                     |

**Table 8-144** HwmCallerInfo description

| Parameter | Mandatory | Type   | Description  |
|-----------|-----------|--------|--------------|
| nickName  | No        | char[] | Caller name. |

**Table 8-145** HwmCalleeInfo description

| Parameter   | Mandatory | Type   | Description  |
|-------------|-----------|--------|--|
| nickName    | No        | char[] | Name of the called party.  |
| number      | Yes       | char[] | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId | Yes       | char[] | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |
| userUuid    | No        | char[] | Participant UUID.  |



## Return Values

**Table 8-146** Return values

| Type                        | Description  |
|-----------------------------|--|
| HwmErrCode                  | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |
| <a href="#">HwmConfInfo</a> | Meeting details.   |

## Sample Code

```
/**
 * Start an instant meeting.
 */
int demoStartP2pConfDlg::clickStartP2pConf()
{
    hwmsdkagent::HwmP2PStartCallInfo data{};

    // Set the caller information.
    string callerNickName = CTools::UNICODE2UTF(CString("Caller name"));
    strncpy_s(data.callerInfo.nickName, callerNickName.c_str(), HWM_MAX_DISPLAY_NAME_LEN);
    // Set the information about the called participant.
    string calleeNickName = CTools::UNICODE2UTF(CString("Called participant name"));
    strncpy_s(data.calleeInfo.nickName, calleeNickName.c_str(), HWM_MAX_DISPLAY_NAME_LEN);
    string calleeNumber = CTools::UNICODE2UTF(CString("123456"));
    strncpy_s(data.calleeInfo.number, calleeNumber.c_str(), HWM_MAX_NUMBER_LEN);
    string calleeThirdUserId = CTools::UNICODE2UTF(CString("123456"));
    strncpy_s(data.calleeInfo.calleeThirdUserId, calleeThirdUserId.c_str(), HWM_MAX_USER_ID_LEN);
    // Set the media type.
    data.mediaType = hwmsdkagent::HWM_MEDIA_TYPE_VIDEO

    // Call the SDK API.
    int ret = hwmsdkagent::StartP2pConf(&data);
    return ret;
}
```

### 8.4.4.17 Starting Projection

#### StartProjection

##### API Description

This API is used to start projection.

##### Precautions

1. Call this API after login.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

##### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode StartProjection(const HwmStartProjectionParam
*startProjectionParam);
```

### Callback Function

```
virtual void OnStartProjectionResult(hwmsdk::HwmErrCode ret, const char* reason, const HwmStartProjectionResult *startProjectionResult) {};
```

### Parameter Description

| Parameter            | Mandatory | Type                    | Description                         |
|----------------------|-----------|-------------------------|-------------------------------------|
| startProjectionParam | Yes       | HwmStartProjectionParam | Parameters for starting projection. |

**Table 8-147** HwmStartProjectionParam description

| Parameter    | Mandatory | Type   | Description   |
|--------------|-----------|--------|---|
| pairCode     | Yes       | char[] | Pairing code.   |
| randomNumber | No        | char[] | Random number, which needs to be carried for cross-enterprise projection. To obtain the value, call this API with <b>pairCode</b> carried. The call fails and error code <b>222020012</b> is returned. Then obtain the <b>randomNumber</b> value in <b>startProjectionResult</b> and use the value to call this API again for secondary projection. |
| verifyCode   | No        | char[] | Verification code, which needs to be carried for cross-enterprise projection. To obtain the value, call this API with <b>pairCode</b> carried. The call fails and error code <b>222020012</b> is returned. Then obtain the verification code in the returned result and use the code to call this API again for secondary projection.               |

### Return Values

**Table 8-148** Return values

| Type                                      | Description  |
|---|--|
| HwmErrCode                                | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |
| <a href="#">HwmStartProjection-Result</a> | Projection result.   |

**Table 8-149** HwmStartProjectionResult description

| Parameter    | Type   | Description  |
|--------------|--------|--|
| randomNumber | char[] | Random number. It is returned in the cross-enterprise projection scenario and used for secondary projection. |

### Sample Code

```
/**
 * Start projection.
 */
int demoStartProjectionDlg::clickStartProjection()
{
    m_pairCodeEdit.GetWindowText(m_pairCode);
    m_randomNumberEdit.GetWindowText(m_randomNumber);
    m_verifyCodeEdit.GetWindowText(m_verifyCode);

    std::string pairCode = CTools::UNICODE2UTF(m_pairCode.GetString());
    std::string randomNumber = CTools::UNICODE2UTF(m_randomNumber.GetString());
    std::string verifyCode = CTools::UNICODE2UTF(m_verifyCode.GetString());

    hwmsdkagent::HwmStartProjectionParam data{};
    strncpy_s(data.pairCode, pairCode.c_str(), sizeof(data.pairCode));
    strncpy_s(data.randomNumber, randomNumber.c_str(), sizeof(data.randomNumber));
    strncpy_s(data.verifyCode, verifyCode.c_str(), sizeof(data.verifyCode));
    hwmsdk::HwmErrCode ret = hwmsdkagent::StartProjection(&data);
    if (ret != hwmsdk::HWM_COMMON_SUCCESS)
    {
        CTools::OutputRetStr("Start projection error");
        return;
    }
    return ret;
}
```

## 8.4.5 Meeting Management

### 8.4.5.1 Obtaining the Cloud Meeting Room List

#### GetVmrList

##### API Description

This API is used to obtain the cloud meeting room list.

### Precautions

1. Call this API after login.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode GetVmrList();
```

### Callback Function

This API has been deprecated. Use the new callback **OnGetVmrInfoListResult**.

```
virtual void OnGetVmrListResult(hwmsdk::HwmErrCode ret, const char* reason, const HwmVmrInfo* vmrInfoList, unsigned int listLen) {};
```

New callback

```
virtual void OnGetVmrInfoListResult(hwmsdk::HwmErrCode ret, const char* reason, const HwmVmrListInfo* vmrListInfo) {};
```

### Parameter Description

None

### Return Values

**Table 8-150** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

**Table 8-151** HwmVmrInfo description

| Parameter       | Type         | Description                                 |
|-----------------|--------------|---|
| vmrConferenceId | char[]       | Fixed meeting ID of the cloud meeting room. |
| vmrId           | char[]       | Unique cloud meeting room ID.               |
| chairmanPwd     | char[]       | Host password of the cloud meeting room.    |
| guestPwd        | char[]       | Guest password of the cloud meeting room.   |
| type            | HwmVmrIdType | Cloud meeting room type.                    |

| Parameter               | Type                      | Description  |
|-------------------------|---------------------------|--|
| maxParties              | int                       | Maximum number of participants in the cloud meeting room.      |
| name                    | char[]                    | Cloud meeting room name.                                       |
| allowGuestStart-Conf    | bool                      | Whether to allow guests to join the meeting ahead of the host. |
| joinConfRestrictionType | HwmJoinConfPermissionType | Users who are allowed to join the meeting.                     |
| isOpenWaitingRoom       | bool                      | Waiting room status.   |

**Table 8-152** Enumerated values of HwmVmrIdType

| Enumerated Value      | Description            |
|-----------------------|------------------------|
| PERSONAL_MEETING_ID   | Personal meeting ID.   |
| CLOUD_MEETING_ROOM_ID | Cloud meeting room ID. |

**Table 8-153** HwmVmrListInfo description

| Parameter         | Type                       | Description                                       |
|-------------------|----------------------------|---|
| numOfVmrs         | unsigned int               | Number of cloud meeting rooms.                    |
| vmrs              | <a href="#">HwmVmrInfo</a> | Cloud meeting room information.                   |
| isEnabledShareVmr | bool                       | Whether shared cloud meeting rooms are available. |

### Sample Code

```
/**
 * Obtain the cloud meeting room list.
 */
void demoBookConfDlg::GetVmrList()
{
    int ret = hwmsdkagent::GetVmrList();
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)
    {
        AfxMessageBox(_T("GetVmrList error"));
    }
}
```

## 8.4.5.2 Scheduling a Meeting

### BookConf

#### API Description

This API is used to schedule a meeting.

#### Precautions

1. Call this API after login.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.
3. When calling this API, add yourself to the participant list and set yourself as the host.
4. The callback function returns details about scheduled meetings. For details, see [HwmConfDetail](#). If only meeting IDs are returned, meeting details fail to be obtained.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode BookConf(const HwmBookConfParam *param);
```

#### Callback Function

```
virtual void OnBookConfResult(hwmsdk::HwmErrCode ret, const char* reason, const HwmConfDetail* confDetail) {};
```

#### Parameter Description

**Table 8-154** HwmBookConfParam description

| Parameter | Mandatory | Type                             | Description   |
|-----------|-----------|----------------------------------|---|
| subject   | Yes       | char[]                           | Meeting topic.  |
| startTime | Yes       | long long                        | UTC timestamp when the meeting starts, in seconds.<br><b>NOTE</b><br>The value is the difference between the UTC time and the UTC offset (converted into seconds). For example, if the time zone is UTC +08:00, the value is the UTC timestamp - (8 x 60 x 60). |
| duration  | Yes       | int                              | Meeting duration, in minutes. The value ranges from 15 to 1,440.  |
| confType  | No        | <a href="#">HwmConfMediaType</a> | Meeting type. The default meeting type is video meeting.  |

| Parameter               | Mandatory | Type                                      | Description  |
|-------------------------|-----------|---|--|
| isNeedConfPwd           | No        | bool                                      | Whether a password is required. By default, no password is required.<br><b>NOTE</b><br>This parameter is valid only for meetings with a random ID.   |
| isRecordOn              | No        | bool                                      | Whether to enable recording.<br><b>NOTE</b><br>This parameter is valid only for cloud recording, not for local recording on clients.   |
| isAutoRecordOn          | No        | bool                                      | Whether to enable automatic meeting recording. Disabled by default.<br>If automatic meeting recording is enabled, the meeting can be recorded by default even meeting recording is disabled.<br><b>NOTE</b><br>This parameter is valid only for cloud recording, not for local recording on clients. |
| timeZone                | Yes       | int                                       | Time zone code. For details, see <a href="#">Time Zone Table</a> . This parameter is used for sending meeting notifications.   |
| vmrFlag                 | No        | bool                                      | Whether to use the virtual meeting room. To schedule a meeting with a concurrent meeting ID, set this parameter to <b>false</b> . (This parameter is deprecated.)  |
| vmrId                   | No        | char[]                                    | Unique cloud meeting room ID. To schedule a meeting with a concurrent meeting ID, set this parameter to an empty string.   |
| joinConfRestrictionType | No        | <a href="#">HwmJoinConfPermissionType</a> | Users who are allowed to join the meeting. By default, everyone is allowed.  |
| isSmsOn                 | No        | bool                                      | Whether to send an SMS notification. To use this function, enable it in the enterprise configuration. Otherwise, this parameter does not take effect.  |

| Parameter               | Mandatory | Type                             | Description  |
|-------------------------|-----------|----------------------------------|--|
| isMailOn                | No        | bool                             | Whether to send an email notification.   |
| isEmailCalendarOn       | No        | bool                             | Whether to send an email calendar.   |
| attendees               | Yes       | <a href="#">HwmAttendeeInfo*</a> | Participant list.  |
| attendeeLen             | Yes       | unsigned int                     | Number of participants.  |
| vmrConfIdType           | No        | <a href="#">HwmVmrConfIdType</a> | ID type of the cloud meeting room.   |
| guestPwd                | No        | char[]                           | Guest password. If this parameter is left blank, the guest password is generated by the server.<br><b>NOTE</b><br>This parameter is valid only for meetings with a random ID.  |
| isOpenWaitingRoom       | No        | bool                             | Waiting room status.<br><b>NOTE</b><br>The function takes effect only after the waiting room function is enabled.  |
| allowGuestStartConf     | No        | bool                             | Whether to allow guests to join the meeting ahead of the host.<br><b>NOTE</b> <ul style="list-style-type: none"> <li>This parameter is valid only for meetings with a random ID.</li> <li>For meetings with fixed IDs, use the API for <a href="#">Modifying Cloud Meeting Room Information</a>.</li> </ul>  |
| allowGuestStartConfTime | No        | unsigned int                     | Time range allowed for guests to join the meeting in advance, in minutes.<br><b>0</b> : Guests can join the meeting at any time before the scheduled time.<br><b>x</b> : Guest can join the meeting <i>x</i> minutes before the scheduled time.<br><b>NOTE</b> <ul style="list-style-type: none"> <li>This parameter is valid only for meetings with a random ID.</li> <li>For meetings with fixed IDs, the time range cannot be set.</li> </ul> |



| Parameter                | Mandatory | Type                            | Description   |
|--------------------------|-----------|---------------------------------|---|
| concurrentParticipants   | No        | unsigned int                    | Maximum number of participants in the meeting.<br>If this parameter is left blank, there is no restriction. |
| customInfo               | No        | char[]                          | Custom extension information.   |
| confResType              | No        | <a href="#">HwmConfResType</a>  | Meeting resource type.  |
| defaultSummaryState      | No        | <a href="#">HwmSummaryState</a> | Initial state of whether the cloud recording contains minutes.  |
| autoMuteMode             | No        | <a href="#">HwmAutoMuteType</a> | Whether soft client guests are automatically muted when they join the meeting.                              |
| hardTerminalAutoMuteMode | No        | <a href="#">HwmAutoMuteType</a> | Whether hard terminal guests are automatically muted when they join the meeting.                            |

**Table 8-155** Enumerated values of HwmConfMediaType

| Enumerated Value   | Description             |
|--------------------|-------------------------|
| HWM_AUDIO_AND_DATA | Voice and data meeting. |
| HWM_VIDEO_AND_DATA | Video and data meeting. |

**Table 8-156** Enumerated values of HwmJoinConfPermissionType

| Enumerated Value            | Description           |
|-----------------------------|-----------------------|
| RESTRICTION_CALL_IN_ALL     | Everyone.             |
| RESTRICTION_CALL_IN_COMPANY | Corporate users only. |
| RESTRICTION_CALL_IN_INVITED | Invited users only.   |

**Table 8-157** HwmAttendeeInfo description

| Parameter    | Mandatory | Type                     | Description  |
|--------------|-----------|--------------------------|--|
| number       | Yes       | char[]                   | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId  | Yes       | char[]                   | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |
| name         | Yes       | char[]                   | Participant name.  |
| email        | No        | char[]                   | Email address used for receiving email notifications.  |
| sms          | No        | char[]                   | Mobile number used for receiving SMS notifications.  |
| isMute       | No        | bool                     | Whether to mute the microphone.  |
| isAutoInvite | No        | bool                     | Whether to automatically invite participants.  |
| role         | Yes       | <b>HwmConf Role</b>      | Participant role in the meeting.   |
| isAnonymous  | No        | BOOL                     | Whether to join the meeting anonymously. (This parameter is used only for obtaining the participant list.)   |
| callStatus   | No        | <b>ConfAttendeeState</b> | Participant status. (This parameter is used only for obtaining the participant list.)  |
| orgId        | No        | char[]                   | Used to identify whether the participant belongs to the current enterprise. (This parameter is used only for obtaining the participant list.)  |

**Table 8-158** Enumerated values of HwmConfRole

| Enumerated Value       | Description |
|------------------------|-------------|
| HWM_CONF_ROLE_ATTENDEE | Guest.      |
| HWM_CONF_ROLE_CHAIRMAN | Host.       |

**Table 8-159** Enumerated values of HwmVmrConfIdType

| Enumerated Value            | Description                          |
|-----------------------------|--------------------------------------|
| HWM_VMR_CONF_ID_TYPE_FIXED  | Fixed ID of the cloud meeting room.  |
| HWM_VMR_CONF_ID_TYPE_RANDOM | Random ID of the cloud meeting room. |

**Table 8-160** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

**Table 8-161** HwmConfDetail description

| Parameter      | Type            | Description   |
|----------------|-----------------|---|
| confListInfo   | HwmConfListInfo | Meeting details. For details, see <a href="#">Table 8-210</a> . |
| vmrFlag        | bool            | Whether the meeting is held in a cloud meeting room.            |
| vmrId          | char[]          | Unique cloud meeting room ID.                                   |
| isRecordOn     | bool            | Whether recording is supported.                                 |
| isAutoRecord   | bool            | Whether to enable automatic meeting recording.                  |
| isGuestFreePwd | bool            | Whether a guest can join the meeting without the password.      |
| isMailOn       | bool            | Whether to send email notifications.                            |
| isSmsOn        | bool            | Whether to send SMS notifications.                              |

| Parameter               | Type                      | Description  |
|-------------------------|---------------------------|--|
| isEmailCalendarOn       | bool                      | Whether to send calendar notifications.  |
| joinConfRestrictionType | HwmJoinConfPermissionType | Participants who are allowed to join the meeting. For details, see <a href="#">Table 8-156</a> . |
| attendees               | HwmAttendeeInfo*          | Participant list. For details about the fields, see <a href="#">Scheduling a Meeting</a> .       |
| attendeeLen             | unsigned int              | Number of participants.  |
| confServerType          | HwmConfServerType         | Meeting server type. <b>1</b> : RTC. <b>0</b> : MCU.   |
| isOpenWaitingRoom       | bool                      | Whether to enable the waiting room.  |

### Sample Code

```
/**
 * Schedule a meeting.
 */
int CdemoBookConfDlg::OnBnClickedBookConf()
{
    hwmsdkagent::HwmBookConfParam data = {0};
    strncpy_s(data.subject, GetConfSubject().c_str(), HWM_MAX_SUBJECT_LEN); // UTF-8 string
    data.confType = hwmsdkagent::HwmConfMediaType::HWM_VIDEO_AND_DATA;
    data.isNeedConfPwd = true;
    data.isAutoRecordOn = true;
    data.isRecordOn = true;
    data.startTime = 1598398920; // UTC timestamp, in seconds. If the obtained time is the local time, the
    time needs to be converted to the UTC time.
    data.duration = 30; // Meeting duration, in minutes
    data.timeZone = 56; // Time zone. The value 56 indicates GMT+08:00.
    data.joinConfRestrictionType = hwmsdkagent::HwmJoinConfPermissionType::RESTRICTION_CALL_IN_ALL;

    std::vector<hwmsdkagent::HwmAttendeeInfo> attendeeList;
    // Participants to invite
    hwmsdkagent::HwmAttendeeInfo attendeeInfo = { 0 };
    strncpy_s(attendeeInfo.name, GetAttName().c_str(), HWM_MAX_USER_NAME_LEN);
    strncpy_s(attendeeInfo.number, GetAttNumber().c_str(), HWM_MAX_NUMBER_LEN);
    strncpy_s(attendeeInfo.email, GetAttEmail().c_str(), HWM_MAX_EMAIL_LEN);
    strncpy_s(attendeeInfo.sms, GetAttSms().c_str(), HWM_MAX_PHONE_NUM_LEN);
    strncpy_s(attendeeInfo.thirdUserId, GetAttUserId().c_str(), HWM_MAX_USER_ID_LEN);
    attendeeInfo.isMute = true;
    attendeeInfo.isAutoInvite = true;
    attendeeList.push_back(attendeeInfo);

    data.attendees = attendeeList.data();
    data.attendeeLen = attendeeList.size();
    data.isSmsOn = true;
    data.isMailOn = true;
    data.isEmailCalendarOn = true;
    return hwmsdkagent::BookConf(&data);
}
```

### 8.4.5.3 Editing a Meeting

#### EditConf

##### API Description

This API is used to edit a scheduled meeting.

##### Precautions

1. Call this API after login.
2. This API can only be used to edit meetings that have not started. If this API is called to edit a meeting that has been started, a failure message is returned.
3. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.
4. **All parameters are mandatory. Before editing a meeting, you need to query meeting details. For parameters that do not need to be changed, use the values returned by the meeting details query API.**

##### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode EditConf(const HwmEditConfParam *confParam);
```

##### Callback Function

```
virtual void OnEditConfResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

##### Parameter Description

**Table 8-162** HwmEditConfParam description

| Parameter     | Man<br>dato<br>ry | Type                             | Description  |
|---------------|-------------------|----------------------------------|--|
| confId        | Yes               | char[]                           | Meeting ID.  |
| subject       | Yes               | char[]                           | Meeting topic.   |
| startTime     | Yes               | long long                        | UTC timestamp when the meeting starts, in seconds.<br><b>NOTE</b><br>The value is the difference between the UTC time and the UTC offset (converted into seconds). For example, if the time zone is UTC+08:00, the value is the UTC timestamp - (8 x 60 x 60). |
| duration      | Yes               | int                              | Meeting duration, in minutes.  |
| confType      | Yes               | <a href="#">HwmConfMediaType</a> | Meeting type. The default meeting type is video meeting.   |
| isNeedConfPwd | Yes               | bool                             | Whether a password is required. By default, no password is required.   |

| Parameter               | Mandatory | Type                                      | Description  |
|-------------------------|-----------|---|--|
| isRecordOn              | Yes       | bool                                      | Whether to enable recording. (This field will be discarded and is not recommended.)  |
| isLiveOn                | No        | bool                                      | Reserved field. This parameter is transparently transmitted during meeting modification.   |
| isAutoRecordOn          | Yes       | bool                                      | Whether to enable automatic meeting recording.   |
| timeZone                | Yes       | int                                       | Time zone code. For details, see <a href="#">Time Zone Table</a> .   |
| vmrFlag                 | Yes       | bool                                      | Whether the meeting is held in a cloud meeting room. The value cannot be changed. Enter the value returned by the meeting details query API. (This parameter is deprecated.) |
| vmrId                   | No        | char[]                                    | Unique cloud meeting room ID. The value cannot be changed. Enter the value returned by the meeting details query API.  |
| joinConfRestrictionType | Yes       | <a href="#">HwmJoinConfPermissionType</a> | Users who are allowed to join the meeting. By default, everyone is allowed.  |
| isSmsOn                 | Yes       | bool                                      | Whether to send SMS notifications. To use this function, enable it in the enterprise configuration. Otherwise, this parameter does not take effect.                          |
| isMailOn                | Yes       | bool                                      | Whether to send an email notification.   |
| isEmailCalendarOn       | Yes       | bool                                      | Whether to send an email calendar.   |
| attendees               | Yes       | <a href="#">HwmAttendeeInfo*</a>          | Participant list.  |
| attendeeLen             | Yes       | unsigned int                              | Number of participants.  |

| Parameter                | Mandatory | Type                             | Description   |
|--------------------------|-----------|----------------------------------|---|
| vmrConfIdType            | Yes       | <a href="#">HwmVmrConfIdType</a> | ID type of the cloud meeting room. This parameter cannot be modified. If <b>vmrConferenceId</b> is not empty, this parameter is set to <b>HWM_VMR_CONF_ID_TYPE_FIXED</b> . Otherwise, it is set to <b>HWM_VMR_CONF_ID_TYPE_RANDOM</b> .   |
| isOpenWaitingRoom        | No        | bool                             | Waiting room status.<br><b>NOTE</b><br>The function takes effect only after the waiting room function is enabled.   |
| allowGuestStartConf      | No        | bool                             | Whether to allow guests to join the meeting ahead of the host.<br><b>NOTE</b> <ul style="list-style-type: none"> <li>This parameter is valid only for meetings with a random ID.</li> <li>For meetings with fixed IDs, use the API for <a href="#">Modifying Cloud Meeting Room Information</a>.</li> </ul> |
| allowGuestStartConfTime  | No        | unsigned int                     | Time range for guests to join the meeting in advance, in minutes. <b>0</b> : anytime before the scheduled time. <i>n</i> : <i>n</i> minutes before the scheduled time.  |
| concurrentParticipants   | No        | unsigned int                     | Maximum number of participants in the meeting.<br>If this parameter is left blank, there is no restriction.   |
| customInfo               | No        | char[]                           | Custom extension information.   |
| defaultSummaryState      | No        | <a href="#">HwmSummaryState</a>  | Initial state of whether the cloud recording contains minutes.  |
| autoMuteMode             | No        | <a href="#">HwmAutoMuteType</a>  | Whether soft client guests are automatically muted when they join the meeting.  |
| hardTerminalAutoMuteMode | No        | <a href="#">HwmAutoMuteType</a>  | Whether hard terminal guests are automatically muted when they join the meeting.  |

### Return Values

**Table 8-163** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Edit a meeting.
 */
int demoEditConfDlg::EditConf()
{
    hwmsdkagent::HwmConfDetail confDetail{0}; // Obtain meeting details from the cache and assign them
    to confDetail.
    hwmsdkagent::HwmEditConfParam editConfParam{ 0 };
    // Copy the confDetail data as required.
    strncpy_s(editConfParam.confId, confDetail.confListInfo.confId, HWM_MAX_CONF_ID_LEN);
    editConfParam.vmrFlag = confDetail.vmrFlag;
    strncpy_s(editConfParam.vmrId, confInfo.vmrId, HWM_MAX_VMR_CONF_ID_LEN);
    // Part of the value assignment code is omitted here.
    editConfParam.timeZone = 56; // Local time zone. The value 56 indicates GMT+08:00.
    editConfParam.isRecordOn = false;
    editConfParam.isAutoRecordOn = false;
    editConfParam.startTimeStamp = 1598398920; // UTC timestamp
    editConfParam.duration = 0 * 60 + 30; // Meeting duration
    editConfParam.joinConfRestrictionType =
    hwmsdkagent::HwmJoinConfPermissionType::RESTRICTION_CALL_IN_ALL; // Obtain types of users who are
    allowed to join the meeting.
    // If vmrConferenceld is not empty, the value is a fixed ID. Otherwise, the value is a random ID.
    editConfParam.vmrConfIdType = (strlen(confInfo.confListInfo.vmrConferenceld) != 0) ?
        hwmsdkagent::HwmVmrConfIdType::HWM_VMR_CONF_ID_TYPE_FIXED :
    hwmsdkagent::HwmVmrConfIdType::HWM_VMR_CONF_ID_TYPE_RANDOM;
    return hwmsdkagent::EditConf(&editConfParam);
}
```

## 8.4.5.4 Canceling a Meeting

### CancelConf

#### API Description

This API is used to cancel a scheduled meeting.

#### Precautions

1. Call this API after login.
2. This API can only be used to cancel meetings that have not started. If this API is called to cancel a meeting that has been started, a failure message is returned.
3. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode CancelConf(const char confId[HWM_MAX_CONF_ID_LEN]);
```



### Callback Function

```
virtual void OnCancelConfResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Parameter Description

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| confId    | Yes       | char[] | Meeting ID. |

### Return Values

**Table 8-164** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**  
 * API for canceling a meeting  
 */  
int demoConfListDlg::OnBnCancelConf(hwmsdk::HwmErrCode ret, const char* msg)  
{  
    return hwmsdkagent::CancelConf(GetConfId().c_str());  
}
```

## 8.4.5.5 Obtaining Meeting Details

### GetConfDetail

#### API Description

This API is used to obtain meeting details.

#### Precautions

1. Call this API after login.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode GetConfDetail(const char  
confId[HWM_MAX_CONF_ID_LEN]);
```

#### Callback Function

```
virtual void OnGetConfDetail(hwmsdk::HwmErrCode ret, const char* reason, const HwmConfDetail*  
vmlInfoList) {};
```

## Parameter Description

**Table 8-165** Request parameters

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| confId    | Yes       | char[] | Meeting ID. |

**Table 8-166** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

**Table 8-167** HwmConfDetail description

| Parameter               | Type                      | Description  |
|-------------------------|---------------------------|--|
| confListInfo            | HwmConfListInfo           | Meeting details. For details, see <a href="#">Table 8-210</a> .                                  |
| vmrFlag                 | bool                      | Whether the meeting is held in a cloud meeting room.   |
| vmrId                   | char[]                    | Unique cloud meeting room ID.  |
| isRecordOn              | bool                      | Whether recording is supported.  |
| isLiveOn                | bool                      | Reserved field. This parameter is transparently transmitted during meeting modification.         |
| isAutoRecord            | bool                      | Whether to enable automatic meeting recording.   |
| isGuestFreePwd          | bool                      | Whether a guest can join the meeting without the password.                                       |
| isMailOn                | bool                      | Whether to send email notifications.   |
| isSmsOn                 | bool                      | Whether to send SMS notifications.   |
| isEmailCalendarOn       | bool                      | Whether to send calendar notifications.  |
| joinConfRestrictionType | HwmJoinConfPermissionType | Participants who are allowed to join the meeting. For details, see <a href="#">Table 8-156</a> . |

| Parameter                | Type                            | Description   |
|--------------------------|---------------------------------|---|
| attendees                | HwmAttendeeInfo*                | Participant list. For details about the fields, see <a href="#">Scheduling a Meeting</a> . You can query only the participants added during meeting scheduling and the participants invited by the host during the meeting. If a participant proactively joins the meeting, this interface cannot be queried. |
| attendeeLen              | unsigned int                    | Number of participants.   |
| confServerType           | HwmConfServerType               | Meeting server type. <b>1</b> : RTC. <b>0</b> : MCU.  |
| isOpenWaitingRoom        | bool                            | Whether to enable the waiting room.   |
| vmrConfIdType            | HwmVmrConfIdType                | Meeting ID type of the cloud meeting room. For details, see <a href="#">HwmVmrConfIdType</a> .  |
| allowGuestStartConf      | bool                            | Whether to allow guests to join the meeting ahead of the host.  |
| allowGuestStartConfTime  | unsigned int                    | Time range for guests to join the meeting in advance, in minutes. <b>0</b> : anytime before the scheduled time. <i>n</i> : <i>n</i> minutes before the scheduled time.  |
| concurrentParticipants   | unsigned int                    | Maximum number of participants in the meeting. The value <b>0</b> indicates that the number of participants is not limited.   |
| defaultSummaryState      | <a href="#">HwmSummaryState</a> | Initial state of whether the cloud recording contains minutes.  |
| autoMuteMode             | <a href="#">HwmAutoMuteType</a> | Whether soft client guests are automatically muted when they join the meeting.  |
| hardTerminalAutoMuteMode | <a href="#">HwmAutoMuteType</a> | Whether hard terminal guests are automatically muted when they join the meeting.  |

### Sample Code

```
/**
 * Obtain meeting details.
 */
int demoEditConfDlg::GetConfDetail()
{
    int ret =hwmsdkagent::GetConfDetail(GetConfID().c_str()); // Use the meeting ID to query meeting details.
    return ret;
}
```

## 8.4.5.6 Modifying Cloud Meeting Room Information

### ChangeVmrInfo

#### API Description

This API is used to modify cloud meeting room information.

#### Precautions

1. Call this API after login.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.
3. **All parameters are mandatory. Before calling this API, you need to obtain the cloud meeting room list. For parameters that do not need to be changed, use the values returned by the API for obtaining the cloud meeting room list.**

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode ChangeVmrInfo(const ChangeVmrInfoParam *param);
```

#### Callback Function

```
virtual void OnChangeVmrInfo(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

| Parameter               | Mandatory | Type                      | Description  |
|-------------------------|-----------|---------------------------|--|
| vmrId                   | Yes       | char[]                    | Unique cloud meeting room ID.                                  |
| vmrName                 | Yes       | char[]                    | Cloud meeting room name.                                       |
| chairPwd                | Yes       | char[]                    | Host password of the cloud meeting room.                       |
| guestPwd                | Yes       | char[]                    | Guest password of the cloud meeting room.                      |
| allowGuestStartConf     | No        | bool                      | Whether to allow guests to join the meeting ahead of the host. |
| joinConfRestrictionType | No        | HwmJoinConfPermissionType | Users who are allowed to join the meeting.                     |
| isOpenWaitingRoom       | No        | bool                      | Waiting room status.   |

**Table 8-168** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**
 * Modify cloud meeting room information.
 */
int demoCreateConfWithAttendeeDlg::onClickEditVmrSubmit()
{
    hwmsdkagent::ChangeVmrInfoParam infoParam = {0};
    strcpy_s(infoParam.vmrName, sizeof(infoParam.vmrName), GetName().c_str());
    strcpy_s(infoParam.chairPwd, sizeof(infoParam.chairPwd), GetChairPwd().c_str());
    strcpy_s(infoParam.guestPwd, sizeof(infoParam.guestPwd), GetGuestPwd().c_str());
    return hwmsdkagent::ChangeVmrInfo(&infoParam);
}
```

## 8.4.5.7 Scheduling a Recurring Meeting Series

### BookCycleConf

#### API Description

This API is used to schedule a recurring meeting series.

#### Precautions

1. Call this API after login.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.
3. The meeting start time must be later than the current time, and the meeting duration must be longer than 15 minutes.
4. The **attendees** parameter must be passed if participant information needs to be carried.
5. The maximum time span of a recurring meeting series is one year. The number of recurring meetings in a series cannot exceed 50. Otherwise, only the first 50 meetings are scheduled.
6. The callback function returns details about scheduled meetings. For details, see [HwmConfDetail](#). If only meeting IDs are returned, meeting details fail to be obtained.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode BookCycleConf(const HwmBookCycleConfParam
*bookCycleConfParam);
```

#### Callback Function

```
virtual void OnBookCycleConfResult(hwmsdk::HwmErrCode ret, const char* reason, const HwmConfDetail* confDetail) {};
```

### Parameter Description

**Table 8-169** HwmBookCycleConfParam description

| Parameter          | Mandatory | Type                              | Description   |
|--------------------|-----------|-----------------------------------|---|
| bookCycleConfParam | Yes       | <a href="#">HwmBookConfParam</a>  | Parameters for scheduling the recurring meeting series. |
| cycleParam         | Yes       | <a href="#">HwmCycleConfParam</a> | Recurring meeting series parameters.                    |

**Table 8-170** HwmCycleConfParam description

| Parameter | Mandatory | Type                         | Description  |
|-----------|-----------|------------------------------|--|
| startDate | Yes       | long long                    | Start date and timestamp, accurate to seconds (GMT).   |
| endDate   | Yes       | long long                    | End date and timestamp, accurate to seconds (GMT).   |
| cycleType | Yes       | <a href="#">HwmCycleType</a> | Period type.   |
| interval  | Yes       | unsigned int                 | Interval of recurring meetings.<br>1. If <b>cycleType</b> is set to daily, there is a meeting every several days. The value range is [1,15].<br>2. If <b>cycleType</b> is set to weekly, there is a meeting every several weeks. The value range is [1,5].<br>3. If <b>cycleType</b> is set to monthly, there is a meeting every several months. The value range is [1,3]. |

| Parameter     | Mandatory | Type         | Description  |
|---------------|-----------|--------------|--|
| listPoints    | Yes       | char[]       | Point for holding recurring meetings. This parameter is valid only when meetings are held weekly or monthly. Values are separated by colons (,), for example, <b>1,3,5,7</b> .<br>- Weekly: The value range is [0,6]. <b>0</b> indicates Sunday, <b>1</b> indicates Monday, and so on.<br>- Monthly: The value range is [1,31]. If the specified maximum value exceeds the number of days in a given month, the system will interpret it as referring to the last day of that month. |
| preRemindDays | Yes       | unsigned int | Number of days in advance users are notified of a recurring meeting.   |

**Table 8-171** Enumerated values of HwmCycleType

| Enumerated Value | Description |
|------------------|-------------|
| CYCLE_TYPE_DAY   | Daily.      |
| CYCLE_TYPE_WEEK  | Weekly.     |
| CYCLE_TYPE_MONTH | Monthly.    |

### Sample Code

```
/**
 * Schedule a meeting.
 */
int CdemoBookConfDlg::OnBnClickedBookCycleConf()
{
    hwmsdkagent::HwmBookConfParam data{};
    strncpy_s(data.subject, GetConfSubject().c_str(), HWM_MAX_SUBJECT_LEN); // UTF-8 string
    data.confType = hwmsdkagent::HwmConfMediaType::HWM_VIDEO_AND_DATA;
    data.isNeedConfPwd = true;
    data.isAutoRecordOn = true;
    data.isRecordOn = true;
    data.startTime = 1633017600; // UTC timestamp, in seconds. If the obtained time is the local time, the
time needs to be converted to the UTC time.
    data.duration = 30; // Meeting duration, in minutes
    data.timeZone = 56; // Time zone. The value 56 indicates GMT+08:00.
    data.joinConfRestrictionType = hwmsdkagent::HwmJoinConfPermissionType::RESTRICTION_CALL_IN_ALL;

    std::vector<hwmsdkagent::HwmAttendeelInfo> attendeeList;
    // Participants to invite
    hwmsdkagent::HwmAttendeelInfo attendeeInfo{};
    strncpy_s(attendeeInfo.name, GetAttName().c_str(), HWM_MAX_USER_NAME_LEN);
    strncpy_s(attendeeInfo.number, GetAttNumber().c_str(), HWM_MAX_NUMBER_LEN);
    strncpy_s(attendeeInfo.email, GetAttEmail().c_str(), HWM_MAX_EMAIL_LEN);
    strncpy_s(attendeeInfo.sms, GetAttSms().c_str(), HWM_MAX_PHONE_NUM_LEN);
}
```

```
strncpy_s(attendeeInfo.thirdUserId, GetAttUserId().c_str(), HWM_MAX_USER_ID_LEN);
attendeeInfo.isMute = true;
attendeeInfo.isAutoInvite = true;
attendeeList.push_back(attendeeInfo);

data.attendees = attendeeList.data();
data.attendeeLen = attendeeList.size();
data.isSmsOn = true;
data.isMailOn = true;
data.isEmailCalendarOn = true;

hwmsdkagent::HwmCycleConfParam cycleConfParam{};
cycleConfParam.startDate = 1633017600; // UTC timestamp, in seconds. If the obtained time is the local
time, the time needs to be converted to the UTC time.
cycleConfParam.endDate = 1636560000; // UTC timestamp, in seconds. If the local time is obtained,
convert it to the UTC time.
cycleConfParam.cycleType = hwmsdkagent::CYCLE_TYPE_WEEK;
strcpy_s(cycleConfParam.listPoints, sizeof(cycleConfParam.listPoints), "1,5"); // Every Monday and Friday
cycleConfParam.preRemindDays = 1;

hwmsdkagent::HwmBookCycleConfParam bookCycleConfParam{};
bookCycleConfParam.bookConfParam = data;
bookCycleConfParam.cycleParam = cycleConfParam;
return hwmsdkagent::BookCycleConf(&bookCycleConfParam);
}
```

## 8.4.5.8 Editing a Recurring Meeting Series

### ModifyCycleConf

#### API Description

This API is used to edit a recurring meeting series.

#### Precautions

1. Call this API after login.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.
3. **All fields are mandatory. Specify the fields to be edited as required, and assign values in the meeting details to remaining fields.**

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode ModifyCycleConf(const HwmModifyCycleConfParam
*modifyParam);
```

#### Callback Function

```
virtual void OnModifyCycleConfResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

**Table 8-172** HwmModifyCycleConfParam parameters

| Parameter     | Mandatory | Type                                  | Description                                   |
|---------------|-----------|---------------------------------------|---|
| editConfParam | Yes       | <a href="#">HwmEditCycleConfParam</a> | Parameters for editing the recurring meeting. |



| Parameter  | Mandatory | Type                              | Description                          |
|------------|-----------|-----------------------------------|--------------------------------------|
| cycleParam | Yes       | <a href="#">HwmCycleConfParam</a> | Recurring meeting series parameters. |

### Sample Code

```
/**
 * Edit a recurring meeting series.
 */
int demoEditConfDlg::ModifyCycleConf()
{
    hwmsdkagent::HwmConfDetail confDetail{}; // Obtain meeting details from the cache and assign them
    to confDetail.
    hwmsdkagent::HwmEditConfParam editConfParam{};
    // Copy the confDetail data as required.
    strncpy_s(editConfParam.confId, confDetail.confListInfo.confId, HWM_MAX_CONF_ID_LEN);
    editConfParam.vmrFlag = confDetail.vmrFlag;
    strncpy_s(editConfParam.vmrId, confInfo.vmrId, HWM_MAX_VMR_CONF_ID_LEN);
    // Part of the value assignment code is omitted here.
    editConfParam.timeZone = 56; // Local time zone. The value 56 indicates GMT+08:00.
    editConfParam.isRecordOn = false;
    editConfParam.isAutoRecordOn = false;
    editConfParam.startTime = 1633017600; // UTC timestamp
    editConfParam.duration = 0 * 60 + 30; // Meeting duration
    editConfParam.joinConfRestrictionType =
    hwmsdkagent::HwmJoinConfPermissionType::RESTRICTION_CALL_IN_ALL; // Obtain types of users who are
    allowed to join the meeting.
    // If vmrConfId is not empty, the value is a fixed ID. If vmrConfId is empty, the value is a
    random ID.
    editConfParam.vmrConfIdType = (strlen(confInfo.confListInfo.vmrConfId) != 0)
        ? hwmsdkagent::HwmVmrConfIdType::HWM_VMR_CONF_ID_TYPE_FIXED
        : hwmsdkagent::HwmVmrConfIdType::HWM_VMR_CONF_ID_TYPE_RANDOM;
    editConfParam.allowGuestStartConf = false;
    editConfParam.allowGuestStartConfTime = 0;

    hwmsdkagent::HwmCycleConfParam cycleConfParam{};
    cycleConfParam.startDate = 1633017600; // UTC timestamp, in seconds. If the obtained time is the local
    time, the time needs to be converted to the UTC time.
    cycleConfParam.endDate = 1636560000; // UTC timestamp, in seconds. If the local time is obtained,
    convert it to the UTC time.
    cycleConfParam.cycleType = 1;
    strcpy_s(cycleConfParam.listPoints, sizeof(cycleConfParam.listPoints), "5"); // Friday
    cycleConfParam.preRemindDays = 1;
    cycleConfParam.interval = 1;

    hwmsdkagent::HwmModifyCycleConfParam editCycleConfParam{};
    editCycleConfParam.editConfParam = editConfParam;
    editCycleConfParam.cycleParam = cycleConfParam;

    return hwmsdkagent::ModifyCycleConf(&editCycleConfParam);
}
```

## 8.4.5.9 Canceling a Recurring Meeting Series

### CancelCycleConf

#### API Description

This API is used to cancel a recurring meeting series that has at least one upcoming meeting.

### Precautions

1. Call this API after login.
2. Call this API before the last recurring meeting starts. If the last recurring meeting is already in progress, calling this API is invalid.
3. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode CancelCycleConf(const HwmCancelCycleConfParam *cancelCycleConfParam);
```

### Callback Function

```
virtual void OnCancelCycleConfResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Parameter Description

**Table 8-173** HwmCancelCycleConfParam description

| Parameter     | Mandatory | Type   | Description                        |
|---------------|-----------|--------|------------------------------------|
| confId        | Yes       | char[] | Meeting ID.                        |
| endOnlineConf | Yes       | bool   | Whether to end an ongoing meeting. |

### Sample Code

```
/**
 * Cancel a recurring meeting series.
 */
int demoConfListDlg::OnBnCancelCycleConf()
{
    hwmsdkagent::HwmCancelCycleConfParam cancelCycleConfParam{};
    strcpy_s(cancelCycleConfParam.confId, sizeof(cancelCycleConfParam.confId), GetConfId().c_str());
    cancelCycleConfParam.endOnlineConf = true;
    return hwmsdkagent::CancelCycleConf(cancelCycleConfParam);
}
```

## 8.4.5.10 Editing a Recurring Meeting

### ModifySubCycleConf

#### API Description

This API is used to edit a recurring meeting.

#### Precautions

1. Call this API after login.
2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

## Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode ModifySubCycleConf(const HwmModifySubCycleConfParam *modifySubCycleConfParam);
```

## Callback Function

```
virtual void OnModifySubCycleConfResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

## Parameter Description

**Table 8-174** HwmModifySubCycleConfParam parameters

| Parameter               | Mandatory | Type                                      | Description  |
|-------------------------|-----------|---|--|
| confId                  | Yes       | char[]                                    | Meeting ID.  |
| subConfID               | Yes       | char[]                                    | UUID of a recurring meeting.   |
| confMediaType           | No        | <a href="#">HwmConfMediaType</a>          | Meeting media type.  |
| startTime               | No        | long long                                 | Meeting start time (UTC time), in seconds.<br><b>NOTE</b><br>The value is the difference between the UTC time and the UTC offset (converted into seconds). For example, if the time zone is UTC+08:00, the value is the UTC timestamp - (8 x 60 x 60).                       |
| confLen                 | No        | unsigned int                              | Meeting duration, in minutes.  |
| isAutoRecord            | No        | bool                                      | Whether to automatically start recording after a meeting starts.   |
| recordAuthType          | No        | unsigned int                              | Recording authentication mode. The options are as follows: <b>0</b> : The recording can be viewed or downloaded through link (no nonce is added). <b>1</b> : Corporate users can view or download the recording. <b>2</b> : Participants can view or download the recording. |
| callInRestriction       | No        | <a href="#">HwmJoinConfPermissionType</a> | Incoming call restriction.   |
| allowGuestStartConf     | No        | bool                                      | Whether to allow guests to start the meeting.  |
| allowGuestStartConfTime | No        | unsigned int                              | Time range for a guest to join a meeting in advance, in minutes. The options are as follows: <b>0</b> : at any time; <b>n</b> : <i>n</i> minutes in advance.   |

### Sample Code

```
/**
 * Edit a recurring meeting.
 */
int demoConfListDlg::ModifySubCycleConf()
{
    hwmsdkagent::HwmModifySubCycleConfParam SubCycleConfParam{};
    strcpy_s(SubCycleConfParam.confId, sizeof(SubCycleConfParam.confId), confId.c_str());
    strcpy_s(SubCycleConfParam.subConfID, sizeof(SubCycleConfParam.subConfID), subConfUuid.c_str());

    SubCycleConfParam.confMediaType = 1;
    SubCycleConfParam.startTime = 1633017600;
    SubCycleConfParam.confLen = 60;
    SubCycleConfParam.isAutoRecord = false;
    SubCycleConfParam.callInRestriction = 0;
    SubCycleConfParam.allowGuestStartConf = false;
    SubCycleConfParam.allowGuestStartConfTime = 0;

    return hwmsdkagent::ModifySubCycleConf(&SubCycleConfParam);
}
```

## 8.4.5.11 Canceling a Recurring Meeting

### CancelSubCycleConf

#### API Description

This API is used to cancel a recurring meeting that has not been started yet.

#### Precautions

1. Call this API after login.
2. Call this API before a recurring meeting starts. If the meeting is already in progress, calling this API is invalid.
3. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode CancelSubCycleConf(const HwmCancelSubCycleConfParam *cancelSubCycleConfParam);
```

#### Callback Function

```
virtual void OnCancelSubCycleConfResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

#### Parameter Description

Table 8-175 HwmCancelCycleConfParam parameters

| Parameter     | Mandatory | Type   | Description                        |
|---------------|-----------|--------|------------------------------------|
| confId        | Yes       | char[] | Meeting ID.                        |
| subConfID     | Yes       | char[] | UUID of a recurring meeting.       |
| endOnlineConf | Yes       | bool   | Whether to end an ongoing meeting. |

### Sample Code

```
/**
 * Cancel a recurring meeting.
 */
int demoSubCycleConfList::CancelSubCycleConf()
{
    hwmsdkagent::HwmCancelSubCycleConfParam subCycleConfParam{};
    strcpy_s(subCycleConfParam.confId, sizeof(subCycleConfParam.confId), m_confInfo.confListInfo.confId);
    strcpy_s(subCycleConfParam.subConfId, sizeof(subCycleConfParam.subConfId),
m_subCycleConfId.c_str());
    subCycleConfParam.endOnlineConf = true;
    hwmsdkagent::CancelSubCycleConf(&subCycleConfParam);
}
```

## 8.4.6 Obtaining Meeting Information

### 8.4.6.1 Obtaining the Participant List

#### GetAttendeeList

##### API Description

This API is used to obtain the participant list in a meeting.

##### Precautions

1. This API can be called only during a meeting.

##### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode GetAttendeeList();
```

##### Callback Function

```
virtual void OnGetAttendeeListResult(const HwmAttendeeInfo* attendeeList, unsigned int length) override{};
```

##### Parameter Description

[HWMAttendeeInfo](#) parameters

**Table 8-176** ConfAttendeeState description

| Parameter                   | Description                           |
|-----------------------------|---------------------------------------|
| CONF_ATTENDEE_STATE_IN_CONF | The participant is in the meeting.    |
| CONF_ATTENDEE_STATE_CALLING | The participant is being called.      |
| CONF_ATTENDEE_STATE_LEAVED  | The participant has left the meeting. |

### Sample Code

```
/**
 * Obtaining the Participant List
 */
void demoSettingDlg::OnBnClickedButtonGetAttendeeList()
```

```
{
    hwmsdkagent::GetAttendeeList();
}

/**
 * Callback for obtaining the participant list.
 */

void demoCallbackProc::OnGetAttendeeListResult(const HwmAttendeeInfo* attendeeList, unsigned int length)
{
    std::vector< HwmAttendeeInfo> attendeeListInfo(attendeeList, attendeeList + length);
}
```

## 8.4.6.2 Obtaining the Attendee List

### GetAudienceList

#### API Description

This API is used to obtain the attendee list in a meeting.

#### Precautions

1. This API can be called only during a meeting.
2. Attendees cannot call this API, but can obtain the list from the meeting details message.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode GetAudienceList();
```

#### Callback Function

```
virtual void OnGetAudienceListResult(const HwmAttendeeInfo* audienceList, unsigned int length)override {};
```

#### Parameter Description

[HWMAttendeeInfo](#) parameters

## 8.4.6.3 Obtaining a User Status

### GetUserState

#### API Description

This API is used to obtain the status of the current user terminal.

#### Precautions

1. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode GetUserState();
```

#### Callback Function

```
virtual void OnGetUserStateResult(hwmsdk::HwmErrCode ret, const char* reason, HwmUserState userState) {};
```

### Parameter Description

**Table 8-177** Enumerated values of HwmUserState

| Enumerated Value  | Description                 |
|-------------------|-----------------------------|
| HWM_STATE_IDLE    | The user is idle.           |
| HWM_STATE_IN_CONF | The user is in the meeting. |
| HWM_STATE_IN_CALL | The user is being called.   |

### Return Values

**Table 8-178** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

### Sample Code

```
/**  
 * Obtaining user status  
 */  
void demoSetUserSavePathDlg::OnBnClickedGetUserState()  
{  
    int ret = hwmsdkagent::GetUserState();  
    if (hwmsdk::HWM_COMMON_SUCCESS != ret)  
    {  
        AfxMessageBox(_T("Get user state failed"));  
    }  
}
```

## 8.4.7 Audio and Video Data Streams

### 8.4.7.1 Obtaining Audio Data Streams

#### API Description

This API is used to obtain the audio data streams after audio mixing of each venue in a meeting. Only 32-bit libraries are supported.

#### Precautions

This API is an asynchronous API. The return value of the callback function only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding notification function.

This API can be called before joining a meeting. After a meeting is created or joined, a notification is sent.

### Method Definition

```
HWM_SDK_AGENT_API hwmsdk::HwmErrCode SetAudioRawDataOutputConfig(bool isOpen);
```

### Callback Function

```
virtual void OnSetAudioRawDataOutputConfigResult(hwmsdk::HwmErrCode ret, const char* reason) {};
```

### Notification Function

```
virtual void OnAudioFrameNotify(const AudioFrameData* pFrame) {};
```

### Parameter Description

**Table 8-179** Parameter description

| Parameter | Mandatory | Type | Description                     |
|-----------|-----------|------|---------------------------------|
| isOpen    | Yes       | bool | Whether to enable the function. |

**Table 8-180** Return values

| Type       | Description  |
|------------|--|
| HwmErrCode | If <b>0</b> is returned, the operation is successful. If other values are returned, the operation fails. For details about values returned upon failures, see <a href="#">Common Error Codes</a> . |

**Table 8-181** AudioFrameData description

| Parameter       | Type                            | Description   |
|-----------------|---------------------------------|---|
| eFrameType      | <a href="#">AudioFrame Type</a> | Audio frame type.   |
| iSamples        | signed int                      | Number of sampling points for each channel.                                       |
| iSamplesPerSec  | signed int                      | Sampling ratio.   |
| iBytesPerSample | signed int                      | Number of bytes of each sampling point. Generally, the PCM audio is 16 bits.      |
| iChannels       | signed int                      | Number of audio channels.   |
| pBuffer         | char *                          | Data buffer. Length = <b>iSamples</b> x <b>iBytesPerSample</b> x <b>iChannels</b> |



| Parameter   | Type       | Description   |
|-------------|------------|---|
| uiDataLen   | signed int | Data length, which is used after encoding or before decoding. The value of this parameter needs to be updated after encryption or decryption. |
| uiBufferLen | signed int | Buffer length. The encoded data is encrypted by a third party. The data length increases to prevent overflow.                                 |

**Table 8-182** Enumerated values of AudioFrameType

| Enumerated Value       | Description          |
|------------------------|----------------------|
| AUDIO_FRAME_TYPE_PCM16 | 16-bit precision PCM |

### Sample Code

```
/**
 * The notification of reporting audio stream frame data
 */
void demoNotifyProc::OnAudioFrameNotify(const AudioFrameData* pFrame)
{
    if(nullptr != pFrame)
    {
        FILE* recordFile = nullptr;
        std::string Path ("D:\\AudioFrame.pcm");
        auto error = fopen_s(&recordFile,Path.c_str(), "ab+");
        if (error != 0)
        {
            CTools::OutputRetStr("open file error = " + std::to_string(error));
        }

        if (nullptr != recordFile)
        {
            fwrite(pFrame->pBuffer, sizeof(char), pFrame->iSamples * pFrame->iBytesPerSample * pFrame->iChannels, recordFile);
            fclose(recordFile);
        }
    }
}
```

## 8.5 Notification Reference

### 8.5.1 Basic Configuration Change Notification

#### 8.5.1.1 Disconnection Notification

##### Notification Description

A notification is sent when the SDK is disconnected.

## Method Definition

```
virtual void OnSdkDisconnected() {};
```

## Precautions

If this notification is received, the SDK is disconnected abnormally. In this case, call the initialization API again. Otherwise, the SDK cannot be used.

## Parameter Description

None

### 8.5.1.2 Enterprise Configuration Change Notification

## Notification Description

A notification is sent when the enterprise configuration is changed.

## Method Definition

```
virtual void OnCorpConfig(HwmCorpConfigInfo* data) {};
```

## Precautions

None

## Parameter Description

**Table 8-183** HwmCorpConfigInfo parameters

| Parameter                      | Type         | Description  |
|--------------------------------|--------------|--|
| enablePstn                     | bool         | Whether to support mobile phone calls.   |
| enableSms                      | bool         | Whether to support SMS notifications.  |
| enableRecord                   | bool         | Whether to support recording.  |
| allowGuestStartConf            | bool         | Whether to allow guests to join the meeting ahead of the host.   |
| allowGuestStartConfTime        | unsigned int | Time range for guests to join the meeting in advance, in minutes. <b>0</b> : anytime before the scheduled time. <i>n</i> : <i>n</i> minutes before the scheduled time. |
| enableShowAddressBookStructure | bool         | Whether to display the corporate directory.  |

| Parameter                      | Type | Description                              |
|--------------------------------|------|--|
| corpEnableSummary              | bool | Whether meeting minutes are supported.   |
| corpEnableForbiddenScreenshots | bool | Whether screenshot capture is forbidden. |

### 8.5.1.3 Changing Enterprise Information

#### Notification Description

A notification is sent when the enterprise information is changed.

#### Method Definition

```
virtual void OnUserCorpInfo(HwmUserCorpInfoNotifyType* type) = 0;
```

#### Precautions

None

#### Parameter Description

**Table 8-184** HwmUserCorpInfoNotifyType parameters

| Parameter  | Description  |
|--|--|
| HWM_USER_CORP_INFO_NOTIFY_TYPE_USER_DELETE             | The user has been deregistered.  |
| HWM_USER_CORP_INFO_NOTIFY_TYPE_USER_JOIN_NEW_CORP      | The user has joined a new enterprise (after accepting the invitation and creating an enterprise).  |
| HWM_USER_CORP_INFO_NOTIFY_TYPE_USER_LEAVE_CURRENT_CORP | The user has been removed from the current enterprise. (The user becomes a registered user after the enterprise administrator deletes or dismisses the enterprise, or the user leaves the enterprise.) |
| HWM_USER_CORP_INFO_NOTIFY_TYPE_USER_RESET              | The user is reset (after the activation code of the SmartRooms account is reset or the account is deleted).  |
| HWM_USER_CORP_INFO_NOTIFY_TYPE_USER_VMR_CHANGE         | The cloud meeting room of the user has changed.  |
| HWM_USER_CORP_INFO_NOTIFY_TYPE_USER_NAME_CHANGE        | The username has changed.  |

| Parameter   | Description                                   |
|---|---|
| HWM_USER_CORP_INFO_NOTIFY_TYPE_USER_STATUS_CHANGE | The status of the access account has changed. |

### 8.5.1.4 Notification of Shared Cloud Meeting Rooms

#### Notification Description

A notification is sent when information about shared cloud meeting rooms was changed.

#### Method Definition

```
virtual void OnShareVmrInfoNotify(HwmShareVmrInfo* shareVmrInfo) = 0;
```

#### Precautions

None

#### Parameter Description

Table 8-185 HwmShareVmrInfo description

| Parameter         | Type | Description                                       |
|-------------------|------|---|
| isEnabledShareVmr | bool | Whether shared cloud meeting rooms are available. |

### 8.5.1.5 Notification of User Data Path Changes

#### Notification Description

A notification is sent when the user data path is changed.

#### Method Definition

```
virtual void OnUserSavePathChanged(HwmUserSavePathInfo* userSavePathInfo) {};
```

#### Precautions

None

## Parameter Description

**Table 8-186** Parameter description

| Parameter        | Type                | Description            |
|------------------|---------------------|------------------------|
| userSavePathInfo | HwmUserSavePathInfo | Save path information. |

## 8.5.2 Account Status Change Notification

### 8.5.2.1 Forcible Logout Notification

#### Notification Description

A notification is sent when you were kicked out of this account by another device. In this case, you need to log in again.

#### Method Definition

```
virtual void OnKickedOut() {};
```

#### Precautions

None

#### Parameter Description

None

## 8.5.3 Customized UI Event Notification

### 8.5.3.1 Click Injection Notification

#### Notification Description

A notification is sent when a user clicks a button configured with click injection.

#### Method Definition

```
virtual void OnClickInjectBtn(HwmClickInjectBtn injectBtn, void* data, const char* id) {};
```

#### Precautions

None

## Parameter Description

**Table 8-187** Parameter description

| Parameter | Type              | Description  |
|-----------|-------------------|--|
| injectBtn | HwmClickInjectBtn | Button type.   |
| data      | void*             | <p>Button parameter, which may be empty.</p> <ul style="list-style-type: none"> <li>If the button type is <b>HWM_CLICK_INJECT_BTN_CALL_OTHER_NUM</b>, the value of this parameter is the information about the participant to be called.</li> <li>If the button type is <b>HWM_CLICK_INJECT_BTN_INVITE</b>, this parameter is left blank.</li> <li>If the button type is <b>HWM_CLICK_INJECT_BTN_CALL_ALL</b>, the value of this parameter is <b>HwmCallAllInfo</b>, indicating the information about all absent participants to be called.</li> </ul> |
| id        | const char*       | <p>ID of a customized button.</p> <ul style="list-style-type: none"> <li>When the button type is <b>HWM_TOOLS_INJECT_BTN_CUSTOM</b>, the value of this parameter is the ID of the customized button.</li> <li>When the button type is <b>HWM_CLICK_INJECT_BTN_PARTICIPANT_DETAIL</b>, the value of this parameter is that of <b>HwmConfAttendee</b>.</li> <li>When the button type is set to other values, this parameter is left blank.</li> </ul>  |

**Table 8-188** Enumerated values of HwmClickInjectBtn

| Enumerated Value                    | Description                      |
|-------------------------------------|----------------------------------|
| HWM_CLICK_INJECT_BTN_INVITE         | <b>Invite</b> button.            |
| HWM_CLICK_INJECT_BTN_CALL_OTHER_NUM | <b>Call other number</b> button. |
| HWM_CLICK_INJECT_BTN_ATTENDEE       | <b>Participants</b> button.      |

| Enumerated Value                        | Description                             |
|---|---|
| HWM_CLICK_INJECT_BTN_SHARE              | <b>Share</b> button.                    |
| HWM_CLICK_INJECT_BTN_LEAVE              | <b>Leave</b> button.                    |
| HWM_TOOLS_INJECT_BTN_CUSTOM             | User-defined button.                    |
| HWM_CLICK_INJECT_BTN_COPY_CONF_INFO     | Button for copying meeting information. |
| HWM_CLICK_INJECT_BTN_PARTICIPANT_DETAIL | Participant details button.             |
| HWM_CLICK_INJECT_BTN_CALL_ALL           | <b>Call all</b> button.                 |

**Table 8-189** HwmCallAllInfo description

| Parameter | Type             | Description                          |
|-----------|------------------|--------------------------------------|
| list      | HwmConfAttendee* | List of participants to be called.   |
| count     | unsigned int     | Number of participants to be called. |

**Table 8-190** HwmCustomBtnInjectInfo description

| Parameter | Type          | Description                  |
|-----------|---------------|------------------------------|
| posInfo   | HwmBtnPosInfo | Button position information. |

**Table 8-191** HwmBtnPosInfo description

| Parameter | Type         | Description                        |
|-----------|--------------|------------------------------------|
| left      | int          | Horizontal position from the left. |
| top       | int          | Vertical position from the top.    |
| width     | unsigned int | Width                              |
| height    | unsigned int | Height.                            |

## 8.5.3.2 Displaying Meeting Information Box Notification

### Notification Description

A notification is sent when the user hovers over the meeting ID in the upper left corner of the meeting page.

### Method Definition

```
virtual void OnShowExternalConfInfoWnd(int left,int top) {};
```

### Precautions

1. Set **isUseExternalConfInfoWnd** in [Table 8-51](#) to **true**.
2. Add thread switching to the **OnShowExternalConfInfoWnd** API, switch to the user thread, and then the user-defined meeting information box is displayed.

(The meeting information box needs to be pinned to the top.)

3. Add timer detection (2s) the API for displaying the user-defined meeting information box.

If you do not hover over the customized meeting information area, the meeting information is deleted when the timer expires.

If you hover over the customized meeting information area, the meeting information is deleted when the cursor is moved out of the customized meeting information area.

(If timer detection is not added, the meeting information box cannot be destroyed in all scenarios.)

### Parameter Description

Table 8-192

| Parameter | Type | Description   |
|-----------|------|---|
| left      | int  | X coordinate in the upper left corner of the meeting information box. |
| top       | int  | Y coordinate in the upper left corner of the meeting information box. |

### Sample Code

```
/**  
 * The external meeting information box.  
 */  
LRESULT demoMainMenuDlg::OnShowExternalConfInfoWnd(WPARAM wParam, LPARAM lParam)  
{  
    CPoint* pt = (CPoint*)wParam;  
    demoConfInfoDlg* dlg = demoData::GetInstance().GetConfInfoDlgObj();  
    // If the dialog box object does not exist, create one.  
    if (dlg == NULL)
```



```
{
    dlg = new demoConfInfoDlg;
    dlg->Create(IDD_CONF_INFO_DIALOG, NULL);
    demoData::GetInstance().SetConfInfoDlgObj(dlg);
}
// If the dialog box exists, set a timer to check whether the dialog box is destroyed.
if (IsWindow(dlg->GetSafeHwnd()))
{
    SetTimer(1, 2000, NULL);
}
// Displaying the dialog box and pin it on top.
CRect rectDlg(0, 0, 0, 0);
dlg->GetClientRect(rectDlg);
CRect rt(pt->x, pt->y, pt->x + rectDlg.Width(), pt->y + rectDlg.Height());
dlg->MoveWindow(rt);
dlg->SetWindowPos(&CWnd::wndTopMost, pt->x, pt->y, rectDlg.Width(), rectDlg.Height(),
SWP_NOMOVE | SWP_NOSIZE | SWP_NOACTIVATE);
dlg->ShowWindow(SW_SHOW);

delete pt;
pt = NULL;
return 0;
}
/**
 * The timer detects whether the meeting information box is destroyed.
 */
void demoMainMenuDlg::OnTimer(UINT_PTR nIDEvent)
{
    if (nIDEvent == 1)
    {
        demoConfInfoDlg* dlg = demoData::GetInstance().GetConfInfoDlgObj();
        if (dlg == NULL)
        {
            return;
        }

        if (IsWindow(dlg->m_hWnd))
        {
            CPoint ptMouse(0, 0);
            GetCursorPos(&ptMouse);

            CRect rtConfInfo(0,0,0,0);
            dlg->GetWindowRect(&rtConfInfo);
            // Destroying a meeting information dialog box if the cursor is not in the box.
            if (!rtConfInfo.PtInRect(ptMouse))
            {
                dlg->CloseWindow();
                demoData::GetInstance().SetConfInfoDlgObj(NULL);
                delete dlg;
                dlg = NULL;
                KillTimer(nIDEvent);
            }
        }
    }
}
CDialogEx::OnTimer(nIDEvent);
}
/**
 * Adding the function that the meeting information box is destroyed upon the cursor is moved out of the
 box.
 */
void demoConfInfoDlg::OnMouseMove(UINT nFlags, CPoint point)
{
    if (!m_bTracking)
    {
        TRACKMOUSEEVENT t_MouseEvent;
        t_MouseEvent.cbSize = sizeof(TRACKMOUSEEVENT);
        t_MouseEvent.dwFlags = TME_HOVER | TME_LEAVE;
        t_MouseEvent.hwndTrack = m_hWnd;
        t_MouseEvent.dwHoverTime = 30;
    }
}
```

```
// Triggering the OnMouseLeave or OnMouseHover event. m_bTracking prevents frequent event triggering.
    if (::TrackMouseEvent(&t_MouseEvent))
    {
        m_bTracking = true;
    }
}
CDialogEx::OnMouseMove(nFlags, point);
}

void demoConflInfoDlg::OnMouseLeave()
{
    m_bTracking = false;
    CDialogEx::OnMouseLeave();
    demoData::GetInstance().SetConflInfoDlgObj(NULL);
    OnCancel();
}
```

### 8.5.3.3 Destroying a Meeting Information Box

#### Notification Description

A notification is sent in the scenarios such as clicking the in-meeting sharing button, clicking the in-meeting leave button, leaving a meeting, ending a meeting, clicking the title bar, and sharing the meeting control mode.

#### Method Definition

```
virtual void OnDestroyExternalConflInfoWnd() {};
```

#### Precautions

Check whether the meeting information box object exists. If yes, the box is destroyed.

#### Parameter Description

None

#### Sample Code

```
/**
 * Destroying the external meeting information box.
 */
LRESULT demoMainMenuDlg::OnDestroyExternalConflInfoWnd(WPARAM wParam, LPARAM lParam)
{
    demoConflInfoDlg* dlg = demoData::GetInstance().GetConflInfoDlgObj();
    if (dlg == NULL)
    {
        return 1;
    }

    dlg->CloseWindow();
    demoData::GetInstance().SetConflInfoDlgObj(NULL);
    delete dlg;
    dlg = NULL;
    return 0;
}
```

### 8.5.3.4 Querying Profile Pictures in the External Address Book

#### Notification Description

This API is used to display the customized profile picture when the camera is disabled in the video window. To use this API, set **isUseExternalAddressBook** to **true** in the [Configuring the UI](#) API, and return the image to be displayed to the SDK through the notification API.

#### Method Definition

```
virtual void OnQueryContactAvatar(const char account[HWM_MAX_ACCOUNT_LEN], const char thirdUserId[HWM_MAX_ACCOUNT_LEN], const char sipNumber[HWM_MAX_NUMBER_LEN], char* avatarPath,int pathLen) {};
```

#### Precautions

In the **OnQueryContactAvatar** notification method, the user needs to query the personal address book based on the account, thirdUserId, and sipNumber to obtain the avatarPath and assign the value to avatarPath. pathLen indicates the maximum length of the path.

#### Parameter Description

Table 8-193

| Parameter   | Type   | Description  |
|-------------|--------|--|
| account     | char[] | Account for logging in to Huawei Cloud Meeting.                        |
| thirdUserId | char[] | Third-party user ID for logging in to Huawei Cloud Meeting.            |
| sipNumber   | char[] | SIP number corresponding to the account.                               |
| avatarPath  | char*  | Path of the profile picture returned when the address book is queried. |
| pathLen     | int    | Maximum path length  |

#### Sample Code

```
/**  
 * Querying profile pictures in the external address book  
 */  
void demoNotifyProc::OnQueryContactAvatar(const char* account, const char* thirdUserId, const char* sipNumber, char* avatarPath, int pathLen)  
{  
    Cdemo* app = (Cdemo*)AfxGetApp();  
    if (!app || (strlen(account) == 0 && strlen(thirdUserId) == 0 && strlen(sipNumber) == 0))  
    {  
        // The window is closed or the data is empty.  
        return;  
    }  
}
```

```

string sAccount = account;
string sThirdUserId = thirdUserId;
string sSipNumber = sipNumber;

/* Obtain the profile picture path based on the logic of the user layer, account, thirdUserId, sipNumber
and copy the path to the avatarPath char array.*/
// During the test, place an image in D:\\picture\\ and name it test.png.
strcpy_s(avatarPath, pathLen, "D:\\picture\\test.png");
}

```

## 8.5.4 Meeting Status Change Notification

### 8.5.4.1 Incoming Call Notification

#### Notification Description

A notification is sent when you received an incoming meeting call.

#### Method Definition

```
virtual void OnConfIncoming(HwmConfIncomingInfo* data) {};
```

#### Precautions

None

#### Parameter Description

**Table 8-194** HwmConfIncomingInfo description

| Parameter   | Type               | Description   |
|-------------|--------------------|---|
| state       | HwmConfComingState | Incoming call status.   |
| mediaType   | HwmMediaType       | Meeting media type.   |
| confId      | char[]             | Meeting ID.   |
| vmrId       | char[]             | ID of the meeting held in a cloud meeting room.                               |
| isP2PConf   | bool               | Whether the meeting is an instant meeting.                                    |
| thirdUserId | char[]             | Third-party account of the participant, which is used for login using app ID. |

**Table 8-195** Enumerated values of HwmConfComingState

| Enumerated Value              | Description  |
|-------------------------------|--|
| HWM_CONF_COMING_STATE_START   | Initial state. The phone of the called party is ringing.                                 |
| HWM_CONF_COMING_STATE_ACCEPT  | The call is answered.  |
| HWM_CONF_COMING_STATE_REJECT  | The call is rejected.  |
| HWM_CONF_COMING_STATE_TIMEOUT | The called party does not respond, the call times out, or the calling party has hung up. |

**Table 8-196** Enumerated values of HwmMediaType

| Enumerated Value     | Description |
|----------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | Video.      |

## 8.5.4.2 Meeting Status Notification

### Notification Description

A notification is sent when the meeting status was changed.

### Method Definition

```
virtual void OnConfState(HwmConfStateInfo *confStateInfo) {};
```

### Precautions

None

### Parameter Description

**Table 8-197** HwmConfStateInfo description

| Parameter | Type             | Description                                |
|-----------|------------------|--|
| state     | HwmState         | Meeting status.                            |
| reason    | HwmConfEndReason | Reason for leaving the meeting.            |
| isP2PConf | bool             | Whether the meeting is an instant meeting. |

**Table 8-198** Enumerated values of HwmState

| Enumerated Value | Description   |
|------------------|---|
| HWM_STATE_OFF    | The meeting has not started or the user has left the meeting. |
| HWM_STATE_ON     | The meeting has started.                                      |

**Table 8-199** Enumerated values of HwmConfEndReason

| Enumerated Value  | Description   |
|---|---|
| HWM_CONF_END_REASON_LEAVE_CONF_HANGUP                         | The user leaves the meeting.                                      |
| HWM_CONF_END_REASON_STOP_CONF_HANGUP                          | The meeting has ended.  |
| HWM_CONF_END_REASON_CHAIR_HANGUP                              | The user is removed by the host.                                  |
| HWM_CONF_END_REASON_SESSION_TIMER_TIMEOUT                     | Network interrupted.  |
| HWM_CONF_END_REASON_NOSTREAM_HANGUP                           | Network error.  |
| HWM_CONF_END_REASON_CORP_CONFERENCE_RESOURCE_HAS_BEEN_RUN_OUT | Enterprise resources have been used up.                           |
| HWM_CONF_END_REASON_CONF_ONLY_SAME_ENTERPRISE                 | Only enterprise users can join the meeting.                       |
| HWM_CONF_END_REASON_CONF_ONLY_INVITED                         | Only invited users can join the meeting.                          |
| HWM_CONF_END_REASON_CONF_IS_LOCKED                            | The meeting is locked.  |
| HWM_CONF_END_ERR_VMR_NOT_BEEN_HOLD                            | Guests are not allowed to activate the meeting.                   |
| HWM_CONF_END_REASON_VMR_CONF_CONFLICT                         | Meetings conflict in this cloud meeting room.                     |
| HWM_CONF_END_REASON_SERVER_ERROR                              | Server exception.   |
| HWM_CONF_END_REASON_NUM_OF_PART_EXCEEDS_UPPER_LIMIT           | More participants than allowed by the cloud meeting room package. |
| HWM_CONF_END_REASON_CONF_NUM_OVER_MAX_ALLOWED = 111071116     | The maximum number of ongoing meetings has been reached.          |

| Enumerated Value  | Description  |
|---|--|
| HWM_CONF_END_MANAGER_SHARE_VMR_NOT_ENOUGH = 111071151       | No shared cloud meeting rooms are available.               |
| HWM_CONF_END_REASON_OVER_MAX_PARTICIPANT_NUMBER = 111072101 | More participants than allowed.                            |
| HWM_CONF_END_REASON_PARTICIPANT_REACH_MAX_NUM = 111072504   | Max. participants in a single meeting reached.             |
| HWM_CONF_END_REASON_PARTICIPANT_CONF_NOT_EXIST = 111081002  | The meeting does not exist or has ended.                   |
| HWM_CONF_END_MANAGER_NO_UP_SCALE_VMR = 112030001            | There are no cloud meeting rooms of higher specifications. |
| HWM_CONF_END_REASON_END_EXPIRATION = 414100069              | Invalid user, enterprise, or SP.                           |
| HWM_CONF_END_REASON_SDK_CHAIR_END_CONF = 414100074          | The host ends the meeting.                                 |
| HWM_CONF_END_REASON_SDK_TIME_OVER_END_CONF = 414100075      | The meeting ends when the scheduled time arrives.          |
| HWM_CONF_END_REASON_CALLEE_REFUSED_END_CONF = 414100076     | The called participant rejects the call.                   |
| HWM_CONF_END_REASON_CALLEE_TIMEOUT_END_CONF = 414100077     | The call times out.  |
| HWM_CONF_END_FORCE_OPEN_CAMERA_HANGUP = 414100078           | The video meeting is forcibly ended.                       |
| HWM_CONF_END_REASON_RTC_SDK_NETWORK_FAILED = 990000053      | Network exception.   |

### 8.5.4.3 Meeting Details Notification

#### Notification Description

A notification is sent when the meeting details changed.

#### Method Definition

```
virtual void OnConfInfo(HwmConfInfo *confInfo) {};
```

#### Precautions

After a meeting starts, the meeting information (**HwmConfInfo**) is reported multiple times.

## Parameter Description

**Table 8-200** HwmConfInfo description

| Parameter           | Type        | Description   |
|---------------------|-------------|---|
| url                 | char[]      | Meeting link. Participants can open the link in a browser to join the meeting.  |
| confId              | char[]      | Meeting ID.   |
| role                | HwmConfRole | Participant role in the meeting. Host or common participant.  |
| chairmanPwd         | char[]      | Host password.  |
| generalPwd          | char[]      | Guest password.   |
| subject             | char[]      | Meeting topic.  |
| isOtherCorpConf     | bool        | Whether a meeting belongs to an external enterprise. If you join the meeting of an external enterprise or join the meeting anonymously, the value is <b>true</b> . Otherwise, the value is <b>false</b> . |
| isCreator           | bool        | Whether the meeting was scheduled by you.   |
| isInBreakoutSubConf | bool        | Whether you are in a breakout room.   |
| customInfo          | char[]      | Custom extension information.   |

**Table 8-201** Enumerated values of HwmConfRole

| Enumerated Value       | Description      |
|------------------------|------------------|
| HWM_CONF_ROLE_ATTENDEE | Guest.           |
| HWM_CONF_ROLE_CHAIRMAN | Host.            |
| HWM_CONF_ROLE_AUDIENCE | Attendee.        |
| HWM_CONF_ROLE_COHOST   | Co-host.         |
| HWM_CONF_ROLE_WAITING  | Waiting members. |



## 8.5.4.4 Meeting Information Change Notification

### Notification Description

A notification is sent when the meeting details changed.

### Method Definition

```
virtual void OnMeetingInfoChanged(const HwmMeetingInfo *meetingInfo) {};
```

### Precautions

After a meeting starts, the meeting information (**HwmMeetingInfo**) is reported multiple times.

### Parameter Description

**Table 8-202** HwmMeetingInfo description

| Parameter                  | Type              | Description                                       |
|----------------------------|-------------------|---|
| baseInfo                   | HwmConfBaseInfo   | Basic meeting details.                            |
| orgId                      | char[]            | Enterprise ID.                                    |
| recordMode                 | HwmConfRecordMode | Media recording mode.                             |
| supportBreakoutConf        | bool              | Whether breakout rooms are supported.             |
| isBreakoutSubConf          | bool              | Whether the session is a breakout room.           |
| supportGuestInviteAttendee | bool              | Whether a guest can invite others to the meeting. |

**Table 8-203** HwmConfBaseInfo description

| Parameter      | Type      | Description   |
|----------------|-----------|---|
| confId         | char[]    | Meeting ID, which used to join a meeting. If the meeting is held in a cloud meeting room, this ID is the actual meeting ID. |
| vmrConfId      | char[]    | ID of the meeting when it is held in a cloud meeting room.  |
| confSubject    | char[]    | Meeting topic.  |
| startTimeStamp | long long | Meeting start time. The value is a UTC timestamp, accurate to seconds.  |

| Parameter        | Type              | Description  |
|------------------|-------------------|--|
| endTimeStamp     | long long         | Meeting end time. The value is a UTC timestamp, accurate to seconds. |
| timeZone         | char[]            | Time zone.   |
| hostPwd          | char[]            | Host password.   |
| guestPwd         | char[]            | Guest password.  |
| scheduserUuid    | char[]            | Scheduler UUID.  |
| scheduserName    | char[]            | Scheduler name.  |
| hostJoinUri      | char[]            | Link for the host to join the meeting.                               |
| guestJoinUri     | char[]            | Link for guests to join the meeting.                                 |
| selfConfRole     | HwmConfRole       | Role in the meeting.   |
| isWebinar        | bool              | Whether the meeting is a webinar.                                    |
| isCreator        | bool              | Whether the meeting was scheduled by you.                            |
| audienceJoinUri  | char[]            | Link for attendees to join the webinar.                              |
| audiencePwd      | char[]            | Attendee password.   |
| conferenceType   | HwmConferenceType | Meeting type.  |
| confUuid         | char[]            | Meeting UUID.  |
| openCustomPara   | char[]            | Custom extension information.  |
| liveRoomAddress  | char[]            | Live broadcast address.  |
| isHighResolution | bool              | Whether the meeting resolution is ultra-HD (1080p).                  |
| isP2PConf        | bool              | Whether the meeting is an instant meeting.                           |
| supportSummary   | bool              | Whether meeting minutes are supported.                               |

| Parameter           | Type            | Description             |
|---------------------|-----------------|-------------------------|
| defaultSummaryState | HwmSummaryState | Meeting minutes status. |

**Table 8-204** Enumerated values of HwmConfRole

| Enumerated Value       | Description          |
|------------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | Guest.               |
| HWM_CONF_ROLE_CHAIRMAN | Host.                |
| HWM_CONF_ROLE_AUDIENCE | Attendee.            |
| HWM_CONF_ROLE_COHOST   | Co-host.             |
| HWM_CONF_ROLE_WAITING  | Waiting room member. |

**Table 8-205** Enumerated values of HwmConferenceType

| Enumerated Value     | Description        |
|----------------------|--------------------|
| HWM_CONF_TYPE_COMMON | Common meeting.    |
| HWM_CONF_TYPE_CYCLE  | Recurring meeting. |

**Table 8-206** Enumerated values of HwmSummaryState

| Enumerated Value    | Description |
|---------------------|-------------|
| SUMMARY_STATE_CLOSE | Disabled.   |
| SUMMARY_STATE_OPEN  | Enabled.    |

**Table 8-207** Enumerated values of HwmConfRecordMode

| Enumerated Value    | Description     |
|---------------------|-----------------|
| CONF_RECORD_DISABLE | Disabled.       |
| CONF_RECORD_LIVE    | Live broadcast. |

| Enumerated Value            | Description                   |
|-----------------------------|-------------------------------|
| CONF_RECORD_RECORD          | Recording.                    |
| CONF_RECORD_LIVE_AND_RECORD | Live broadcast and recording. |

### 8.5.4.5 Meeting List Notification

#### Notification Description

A notification is sent when the meeting list changed.

#### Method Definition

```
virtual void OnConflist(HwmConflistUpdateType updateType, const HwmConflistInfo *conflistInfo,
    unsigned int conflistInfoLen) {};
```

#### Precautions

After the login is successful, the notification is reported once. When the meeting list changes, the notification is reported again.

This notification is triggered when a meeting is scheduled, modified, or canceled. The update type of the notification triggered by meeting details modification is **CONFLIST\_UPDATE\_ADD**.

When **updateType** is set to **CONFLIST\_UPDTAE\_ALL** and **conflistInfoLen** is set to **0**, the meeting list needs to be cleared.

#### Parameter Description

**Table 8-208** Parameter description

| Parameter       | Type                  | Description              |
|-----------------|-----------------------|--------------------------|
| updateType      | HwmConflistUpdateType | Update type.             |
| conflistInfo    | HwmConflistInfo*      | Meeting list parameters. |
| conflistInfoLen | unsigned int          | Number of meetings.      |

**Table 8-209** Enumerated values of HwmConflistUpdateType

| Enumerated Value    | Description                                   |
|---------------------|---|
| CONFLIST_UPDTAE_ALL | All meetings in the meeting list are updated. |

| Enumerated Value       | Description   |
|------------------------|---|
| CONFLIST_UPDATE_ADD    | One or more meetings are added or modified in the meeting list. This value is reported when the meeting list changes due to meeting details modification. |
| CONFLIST_UPDATE_DELETE | A meeting is deleted from the meeting list.   |

**Table 8-210** HwmConfListInfo description

| Parameter       | Type         | Description  |
|-----------------|--------------|--|
| confId          | char[]       | Meeting ID.  |
| confSubject     | char[]       | Meeting topic.   |
| chairmanPwd     | char[]       | Host password.   |
| guestPwd        | char[]       | Guest password.  |
| audiencePwd     | char[]       | Attendee password.   |
| startTimeStamp  | long long    | Meeting start time. The value is a UTC timestamp, accurate to seconds. |
| endTimeStamp    | long long    | Meeting end time. The value is a UTC timestamp, accurate to seconds.   |
| timeZone        | char[]       | Time zone code.  |
| mediaType       | HwmMediaType | Media type. For details, see <a href="#">Table 8-104</a> .             |
| scheduserName   | char[]       | Name of the user who schedules the meeting.                            |
| vmrConferenced  | char[]       | Display ID of the cloud meeting.                                       |
| chairJoinUri    | char[]       | Link for the host to join the meeting.                                 |
| guestJoinUri    | char[]       | Link for guests to join the meeting.                                   |
| audienceJoinUri | char[]       | Link for an audience to join the meeting.                              |
| confStateType   | HwmConfState | Meeting status.  |
| isWebinar       | bool         | Whether the meeting is a webinar.                                      |

| Parameter    | Type        | Description   |
|--------------|-------------|---|
| selfConfRole | HwmConfRole | Role in the meeting. For details, see <a href="#">Table 8-158</a> . |
| customInfo   | char[]      | Custom extension information.                                       |

**Table 8-211** Enumerated values of **HwmConfState**

| Enumerated Value         | Description                   |
|--------------------------|-------------------------------|
| HWM_CONF_STATE_SCHEDULE  | The meeting is scheduled.     |
| HWM_CONF_STATE_CREATING  | The meeting is being created. |
| HWM_CONF_STATE_GOING     | The meeting has started.      |
| HWM_CONF_STATE_DESTROYED | The meeting has ended.        |

## 8.5.4.6 Notifications for Changes on the Status of Sharing Data

### Notification Description

A notification is sent when the status of sharing data is changed.

### Method Definition

```
virtual void OnShareState(HwmShareStateInfo *shareStateInfo) {};
```

### Precautions

None

### Parameter Description

**Table 8-212** HwmShareStateInfo parameters

| Parameter | Type     | Description   |
|-----------|----------|---|
| state     | HwmState | Sharing status.   |
| name      | char[]   | Sharer name. This parameter is valid only when <b>state</b> is set to <b>HWM_STATE_ON</b> . |

| Parameter       | Type               | Description  |
|-----------------|--------------------|--|
| number          | char[]             | Number of the sharer. This parameter is valid only when <b>state</b> is set to <b>HWM_STATE_ON</b> . |
| shareType       | HwmShareType       | Sharing type.  |
| monitor         | HwmMonitor         | Type of the shared monitor (primary or secondary monitor).   |
| appHandle       | HWND               | Program handle.  |
| stopShareReason | HwmStopShareReason | Reason for stopping sharing.   |

**Table 8-213** Enumerated values of HwmState

| Enumerated Value | Description       |
|------------------|-------------------|
| HWM_STATE_OFF    | Sharing disabled. |
| HWM_STATE_ON     | Sharing enabled.  |

**Table 8-214** Enumerated values of HwmShareType

| Enumerated Value          | Description         |
|---------------------------|---------------------|
| HWM_SHARE_TYPE_MONITOR    | Desktop sharing.    |
| HWM_SHARE_TYPE_APP        | Program sharing.    |
| HWM_SHARE_TYPE_WHITEBOARD | Whiteboard sharing. |

**Table 8-215** Enumerated values of HwmMonitor

| Enumerated Value      | Description        |
|-----------------------|--------------------|
| HWM_MONITOR_MAIN      | Primary monitor.   |
| HWM_MONITOR_SECONDARY | Secondary monitor. |

**Table 8-216** Enumerated values of HwmStopShareReason

| Enumerated Value                   | Description                                  |
|------------------------------------|--|
| HWM_STOP_SHARE_BY_NORMAL           | The sharing is stopped normally.             |
| HWM_STOP_SHARE_BY_REMOTE_JOIN_CONF | The sharing is stopped due to MMR migration. |

## 8.5.4.7 Notifications for Changes on the Status of Receiving Shared Data

### Notification Description

A notification is sent when the status of receiving shared data is changed.

### Method Definition

```
virtual void OnRecvShareState(HwmRecvShareStateInfo *shareStateInfo) {};
```

### Precautions

None

### Parameter Description

**Table 8-217** HwmRecvShareStateInfo parameters

| Parameter | Type     | Description  |
|-----------|----------|--|
| state     | HwmState | Sharing status.  |
| name      | char[]   | Sharer name. This parameter is valid only when <b>state</b> is set to <b>HWM_STATE_ON</b> .          |
| number    | char[]   | Number of the sharer. This parameter is valid only when <b>state</b> is set to <b>HWM_STATE_ON</b> . |

**Table 8-218** Enumerated values of HwmState

| Enumerated Value | Description  |
|------------------|--|
| HWM_STATE_OFF    | The sharing has been stopped.                                  |
| HWM_STATE_ON     | The third-party application starts to receive the shared data. |



## 8.5.4.8 Obtaining Remote Control Permission Notification

### Notification Description

A notification is sent when the status of the current remote control permission changes. When the value of state is **1**, the remote control permission is obtained from **name**. When the value of state is **0**, the remote control permission of **name** is released or revoked.

### Method Definition

```
virtual void OnRemoteControlState(HwmRemoteControlStateInfo *remoteControlStateInfo) {};
```

### Precautions

None

### Parameter Description

Table 8-219 HwmRemoteControlStateInfo parameters

| Parameter | Type     | Description                     |
|-----------|----------|---------------------------------|
| state     | HwmState | Status.                         |
| name      | char[]   | Name of the permission owner.   |
| number    | char[]   | Number of the permission owner. |

Table 8-220 Enumerated values of HwmState

| Enumerated Value | Description                              |
|------------------|--|
| HWM_STATE_OFF    | Revoking the remote control permission.  |
| HWM_STATE_ON     | Obtaining the remote control permission. |

## 8.5.4.9 Granting the Remote Control Permission to Others

### Notification Description

A notification is sent when the status of the current remote control right changes. When the value of state is **1**, the remote control right is granted to **name**. When the value of state is **0**, the remote control right of **name** is released or revoked.

### Method Definition

```
virtual void OnBeRemoteControlledState(HwmRemoteControlStateInfo *remoteControlStateInfo) {};
```

## Precautions

None

## Parameter Description

**Table 8-221** HwmRecvShareStateInfo parameters

| Parameter | Type     | Description                     |
|-----------|----------|---------------------------------|
| state     | HwmState | Status.                         |
| name      | char[]   | Name of the permission owner.   |
| number    | char[]   | Number of the permission owner. |

**Table 8-222** Enumerated values of HwmState

| Enumerated Value | Description                                       |
|------------------|---|
| HWM_STATE_OFF    | Revoking the remote control permission.           |
| HWM_STATE_ON     | Granting the remote control permission to others. |

### 8.5.4.10 Notifications for Sharing Lock Status Changes

#### Notification Description

A notification is sent when the sharing lock status changes.

#### Method Definition

```
virtual void OnConfisShareLockedChanged(bool isShareLocked) {};
```

## Precautions

None

## Parameter Description

**Table 8-223** Parameter description

| Parameter     | Type | Description                |
|---------------|------|----------------------------|
| isShareLocked | bool | Whether sharing is locked. |

## 8.5.4.11 Meeting End Notification

### Notification Description

A notification is sent when a meeting ended.

### Method Definition

```
virtual void OnConfEndedNotify(const HwmConfEndInfo *confEndInfo) {};
```

### Precautions

None

### Parameter Description

Table 8-224 HwmConfEndInfo description

| Parameter | Type                             | Description                                |
|-----------|----------------------------------|--|
| reason    | <a href="#">HwmConfEndReason</a> | Reason for leaving the meeting.            |
| isP2PConf | bool                             | Whether the meeting is an instant meeting. |

## 8.5.4.12 Poor Connection Notification

### Notification Description

A notification is sent when the network connection was poor.

### Method Definition

```
virtual void OnPoorNetworkQualityInfoNotify(const HwmPoorNetWorkQualityInfo *poorNetWorkInfo) {};
```

### Precautions

None

### Parameter Description

Table 8-225 HwmConfEndInfo description

| Parameter | Type   | Description       |
|-----------|--------|-------------------|
| nickName  | char[] | Participant name. |

| Parameter   | Type                                    | Description  |
|-------------|---|--|
| number      | char[]                                  | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId | char[]                                  | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |
| accountId   | char[]                                  | Huawei Cloud Meeting account.  |
| isLocal     | bool                                    | Whether the participant is the local client user.  |
| audioStatus | <a href="#">HwmLowNetworkStatusInfo</a> | Network status of audio.   |
| videoStatus | <a href="#">HwmLowNetworkStatusInfo</a> | Network status of video.   |
| shareStatus | <a href="#">HwmLowNetworkStatusInfo</a> | Network status of sharing.   |

**Table 8-226** HwmLowNetworkStatusInfo description

| Parameter  | Type                                | Description       |
|------------|-------------------------------------|-------------------|
| packetLoss | unsigned int                        | Packet loss rate. |
| delay      | unsigned int                        | Delay.            |
| jitter     | unsigned int                        | Jitter.           |
| status     | <a href="#">HwmLowNetworkStatus</a> | Status.           |

**Table 8-227** Enumerated values of HwmLowNetWorkStatus

| Enumerated Value                 | Description |
|----------------------------------|-------------|
| LOW_NET_WORK_STATU<br>S_NORMAL   | Normal.     |
| LOW_NET_WORK_STATU<br>S_BAD      | Poor.       |
| LOW_NET_WORK_STATU<br>S_VERY_BAD | Very poor.  |

### 8.5.4.13 Notification of Instant Meeting Records

#### Notification Description

A notification of instant meeting records is sent.

#### Method Definition

```
virtual void OnP2PConfRecordNotify(const HwmP2PConfRecordInfo *recordInfo) {};
```

#### Precautions

None

#### Parameter Description

**Table 8-228** HwmP2PConfRecordInfo description

| Parameter      | Type                              | Description  |
|----------------|-----------------------------------|--|
| callerInfo     | <a href="#">HwmCallMemberInfo</a> | Caller information.  |
| calleeInfo     | HwmCallMemberInfo                 | Called participant information.  |
| startTimeStamp | int                               | Meeting start time. The value is a UTC timestamp, accurate to seconds. |
| endTimeStamp   | int                               | Meeting end time. The value is a UTC timestamp, accurate to seconds.   |
| isCallOut      | bool                              | Whether the call is an outgoing call.                                  |
| mediaType      | <a href="#">HwmMediaType</a>      | Media type.  |
| resultCode     | HwmErrCode                        | Error code.  |
| resultMsg      | char[]                            | Error message.   |

| Parameter         | Type | Description                    |
|-------------------|------|--------------------------------|
| isCallEstablished | bool | Whether the call is connected. |

**Table 8-229** HwmCallMemberInfo description

| Parameter   | Type   | Description          |
|-------------|--------|----------------------|
| number      | char[] | Number.              |
| nickName    | char[] | Member name.         |
| thirdUserId | char[] | Third-party account. |

## 8.5.4.14 Notification of Participant Addition Results

### Notification Description

A notification is sent when the participant addition results are returned.

### Method Definition

```
virtual void OnAddAttendeeNotify(const HwmAddAttendeeResultList *addAttendeeResultList) {};
```

### Precautions

1. When multiple participants are added, there may be multiple notifications.

### Parameter Description

**Table 8-230** HwmAddAttendeeResultList description

| Parameter             | Type                  | Description                     |
|-----------------------|-----------------------|---------------------------------|
| addAttendeeResultSize | unsigned int          | Number of participants added.   |
| addAttendeeResults    | HwmAddAttendeeResult* | Results of adding participants. |

**Table 8-231** HwmAddAttendeeResult description

| Parameter   | Type   | Description          |
|-------------|--------|----------------------|
| number      | char[] | Number.              |
| thirdUserId | char[] | Third-party account. |

| Parameter  | Type       | Description |
|------------|------------|-------------|
| resultCode | HwmErrCode | Error code. |

## 8.5.5 Audio and Video Device Status Notification

### Notification Description

A notification is sent when the status of the microphone, speaker, or camera in the meeting changes.

### Method Definition

```
virtual void OnAVDeviceCtrlStateChanged(HwmDeviceType deviceType, bool isOpen) {};
```

### Precautions

None

### Parameter Description

Table 8-232 Parameter description

| Parameter     | Man<br>dato<br>ry | Type              | Description                    |
|---------------|-------------------|-------------------|--------------------------------|
| HwmDeviceType | Yes               | HwmDeviceTy<br>pe | Device type enumeration.       |
| isOpen        | Yes               | bool              | Whether the device is enabled. |

## 8.6 Error Code Reference

### 8.6.1 Common Error Codes

Table 8-233 Enumerated values of HwmErrCode

| Variable                                    | Value | Description                       |
|---|-------|-----------------------------------|
| HWM_COMMON_ERR_FAILED                       | 1     | Common error.                     |
| HWM_COMMON_ERR_PARAM_ERROR                  | 2     | Invalid parameter.                |
| HWM_LOGIN_ERR_ACCOUNT_OR_PASS<br>WORD_ERROR | 10006 | Incorrect account or<br>password. |
| HWM_LOGIN_ERR_ACCOUNT_LOCKED                | 10007 | The account is locked.            |

| Variable                                       | Value | Description  |
|--|-------|--|
| HWM_LOGIN_ERR_IP_OR_DEVICE_FORBIDDEN           | 10008 | The IP address or device is not allowed to access the system.  |
| HWM_LOGIN_ERR_ACCOUNT_OR_ENTERPRISE_NOT_ACTIVE | 10009 | The account or enterprise is not activated.  |
| HWM_LOGIN_ERR_AUTH_INFO_TIMEOUT                | 10011 | The authentication information has expired. Check whether the UTC time is used and whether the time has been calibrated. |
| HWM_LOGIN_ERR_ACCOUNT_STOPED                   | 10013 | The account has been suspended.  |
| HWM_CONF_ERR_CONF_ID_OR_PASSWORD_ERROR         | 20001 | Incorrect meeting ID or password.  |
| HWM_CONF_ERR_CONF_LOCKED                       | 20002 | The meeting is locked.   |
| HWM_CONF_ERR_NOT_IN_CONF                       | 20003 | The API calling is invalid because you are not in a meeting.   |
| HWM_CONF_ERR_VMR_NOT_BEEN_HOLD                 | 20004 | Guests are not allowed to activate the meeting.  |
| HWM_CONF_ERR_SHARE_LOCKED                      | 20005 | The sharing is locked.   |
| HWM_CONF_ERR_NOT_IN_DATA_CONF                  | 20006 | You are not in a data meeting.   |
| HWM_CONF_ERR_CONF_ONLY_SAME_ENTERPRISE         | 20007 | Only enterprise users can join the meeting.  |
| HWM_CONF_ERR_CONF_ONLY_INVITED                 | 20008 | Only invited users can join the meeting.   |
| HWM_CALL_ERR_THIRD_USER_ID_NO_EXIST            | 20009 | The third-party account that initiates the call does not exist.  |
| HWM_ERR_NOT_IN_CONF_OR_CALL                    | 20010 | You are not in a meeting or call.  |
| HWM_ERR_ALREADY_EXIST_CONF_OR_CALL             | 20011 | A meeting or call already exists.  |



| Variable   | Value     | Description  |
|--|-----------|--|
| HWM_CONF_ERR_PASSWORD_ERROR_LOCKED                     | 20012     | The meeting is temporarily locked because the number of incorrect password attempts reaches the maximum.   |
| HWM_CONF_ERR_CONF_ENDED                                | 20013     | The meeting has ended.   |
| HWM_CONF_ERR_SAME_PWD_WITH_CHAIR                       | 20014     | The guest password is the same as the host password.   |
| HWM_CONF_ERR_NUM_OF_PARTICIPANTS_EXCEEDS_UPPER_LIMIT   | 20015     | More participants than allowed by the cloud meeting room package.  |
| HWM_CONF_ERR_CONF_NOT_ON_LOCAL_STATION                 | 20016     | The meeting is not held at this site.  |
| HWM_CONF_ERR_ENTERPRISE_CONCURRENT_RESOURCE_NOT_ENOUGH | 115022001 | Concurrent participants in the enterprise are insufficient.  |
| HWM_CONF_ERR_CONF_DATA_NOT_FOUND                       | 111070005 | The meeting does not exist.  |
| HWM_CONF_ERR_VMR_DATA_NOT_FOUND                        | 111070006 | The personal cloud meeting room does not exist.  |
| HWM_CONF_ERR_CONF_ROLE_AUTHENTICATION_FAILED           | 111070010 | You do not have the permissions required to view the meeting.  |
| HWM_CONF_ERR_VMR_CONF_CONFLICT                         | 111071106 | Meetings conflict in this cloud meeting room.  |
| HWM_CONF_ERR_MODIFY_FAIL_AS_CONF_ALREADY_STARTED       | 111071065 | The meeting is in progress and cannot be edited.   |
| HWM_ORG_CONCURRENT_PARTICIPANTS_NUMBER_IS_ZERO         | 111071060 | The enterprise has no concurrent participant resources configured and cannot use the personal meeting ID or random meeting ID to initiate a meeting. |
| HWM_CONF_USER_NOT_VMR_OWNER                            | 111071063 | The user is not the owner of the cloud meeting room.   |

| Variable   | Value     | Description   |
|--|-----------|---|
| HWM_CONF_ERR_CANCEL_FAIL_AS_CONF_STARTED               | 111071067 | The meeting is in progress and cannot be canceled.  |
| HWM_CONF_ERR_START_TIME_LESS_THAN_CURRENT_TIME         | 111071013 | The start time is earlier than the current time.  |
| HWM_CONF_ERR_START_TIME_OVER_MAX_SCHEDULE_TIME         | 111071014 | The start time exceeds the allowed range.   |
| HWM_CONF_ERR_VMR_PWM_SAME_AS_MEETING_ID                | 201080017 | The guest password cannot be the same as the meeting ID.  |
| HWM_CONF_ERR_PARTICIPANT_CONF_NOT_SUPPORT              | 111084013 | The meeting is not supported.   |
| HWM_CONF_ERR_ATTENDEES_NUMBER_EXCEED_LIMIT             | 111071066 | The number of participants exceeds the upper limit.   |
| HWM_CONF_ERR_VMR_DATA_STATUS_ILLEGAL                   | 111073007 | Invalid status of the cloud meeting room package.   |
| HWM_CONF_ERR_WAIT_APPLY_RESOURCE                       | 115029006 | Resources are being requested.  |
| HWM_CONF_ERR_SDK_SVN_DETECT_FAILED                     | 411000017 | SVN port detection failed.  |
| HWM_CONF_ERR_RTC_NOT_SUPPORT_STG                       | 411000019 | RTC does not support the STG mode.  |
| HWM_CONF_ERR_OVER_MAX_PARTICIPANT_NUMBER               | 111072101 | More participants than allowed.   |
| HWM_CONF_ERR_AUDIENCE_VMR_LOGIC_RESOURCE_NOT_ENOUGH    | 111072202 | The number of attendees exceeds the maximum number of concurrent participants in the cloud meeting room package.              |
| HWM_CONF_ERR_PARTICIPANT_VMR_LOGIC_RESOURCE_NOT_ENOUGH | 111072203 | The number of the host and panelists exceeds the maximum number of concurrent participants in the cloud meeting room package. |
| HWM_CONF_ERR_PARTICIPANT_CONF_NOT_EXIST                | 111081002 | The meeting does not exist or has ended.  |
| HWM_VMR_RESOURCE_UNAVAILABLE                           | 201080000 | Cloud meeting resources are unavailable.  |

| Variable                                   | Value     | Description  |
|--|-----------|--|
| HWM_LOGIN_ERR_ACCOUNT_IS_UNBOUNDED         | 206010075 | The account has been unbound.  |
| HWM_CONF_ERR_SERVER_ERROR                  | 990000018 | Failed to connect to the server.   |
| HWM_CONF_ERR_JOIN_ROOM_FAIL                | 990000019 | Failed to join the meeting.  |
| HWM_CONF_ERR_SERVER_BUSY                   | 990000020 | The server is busy.  |
| HWM_CONF_ERR_RTC_JOIN_ROOM_AUTH_FAIL       | 990000022 | Failed to verify the meeting authentication information.   |
| HWM_CONF_ERR_SERVER_CONNECTION_ERROR       | 990000025 | The server connection is abnormal.   |
| HWM_LOGIN_ERR_CA_VERIFY_FAILED             | 412100012 | Failed to verify the server CA certificate.  |
| HWM_LOGIN_ERR_CURLE_EXTERN_CONNECT_TIMEOUT | 412100017 | The proxy communication times out, and the TCP connection fails to be set up. There is a high probability that the proxy configuration is incorrect. |
| HWM_LOGIN_ERR_CURLE_EXTERN_CLOSED_BY_PROXY | 412100018 | The link is disconnected by the proxy. There is a high probability that the configured server address is incorrect.                                  |
| HWM_LOGIN_ERR_CURLE_COULDNT_RESOLVE_PROXY  | 412100024 | The proxy domain name resolution failed.   |
| HWM_LOGIN_ERR_CURLE_COULDNT_RESOLVE_HOST   | 412100025 | The server domain name resolution failed.  |
| HWM_LOGIN_ERR_MNG_FAILED                   | 412100044 | Management plane exception.  |
| HWM_AGENT_ERR_CALLBACK_TIMEOUT             | 90001     | Waiting for callback timed out.  |
| HWM_AGENT_ERR_IN_PROCESS                   | 90002     | The API is being processed.  |
| HWM_AGENT_ERR_NOT_LOGIN                    | 90003     | The API calling is invalid because you have not logged in.   |

| Variable                          | Value | Description   |
|-----------------------------------|-------|---|
| HWM_AGENT_ERR_NOT_INITED_END      | 90004 | The initialization is not started or not completed. |
| HWM_AGENT_ERR_NOT_SUPPORT_END     | 90005 | This version is not supported.                      |
| HWM_AGENT_ERR_OPERATION_INTERRUPT | 90012 | The operation is interrupted.                       |

## 8.6.2 Error Codes

Table 8-234 Error codes

| Error Code | Error Description                              |
|------------|--|
| -1         | Unknown error.                                 |
| 0          | Success.                                       |
| 111070001  | Request error.                                 |
| 111070002  | Insufficient permissions.                      |
| 111070003  | System processing failure.                     |
| 111070004  | Meeting authentication failed.                 |
| 111070005  | Meeting does not exist.                        |
| 111070006  | Personal cloud meeting room does not exist.    |
| 111070007  | Meeting access number does not exist.          |
| 111070008  | Meeting notification could not be sent.        |
| 111070009  | Meeting password cannot be left blank.         |
| 111070010  | Insufficient permissions to view this meeting. |
| 111070100  | Get started meeting exception.                 |
| 111070101  | Start meeting exception.                       |
| 111070102  | Apply IVR resource exception.                  |
| 111070103  | Start IVR meeting exception.                   |
| 111070104  | Apply site resource exception.                 |
| 111070105  | Start sub meeting exception.                   |
| 111070106  | Add channel exception.                         |
| 111070107  | Move and apply site resource exception.        |

| Error Code | Error Description  |
|------------|--|
| 111070108  | Start meeting exception.   |
| 111070109  | Get started cloud meeting exception.   |
| 111070110  | Invite site exception.   |
| 111070111  | Request token is null.   |
| 111070112  | Rename site exception.   |
| 111070113  | Hangup site exception.   |
| 111070114  | Mass hangup site exception.  |
| 111070115  | Delete attendee exception.   |
| 111070116  | Mass delete attendee exception.  |
| 111070117  | Book cycle meeting exception.  |
| 111070118  | Modify cycle meeting exception.  |
| 111070119  | Create cycle meeting exception.  |
| 111070120  | Region data not found.   |
| 111070121  | Forbidden subscribe.   |
| 111070122  | Cancel subscribe fail.   |
| 111071001  | Sysportal service exception.   |
| 111071002  | Conf service exception.  |
| 111071003  | Failed to create the meeting. Try again later.                                     |
| 111071004  | This cloud meeting room does not allow guests to join before the host.             |
| 111071005  | This cloud meeting room has been scheduled for another meeting during this period. |
| 111071006  | Insufficient cloud meeting time.   |
| 111071007  | Meeting does not exist.  |
| 111071008  | Cannot query meeting list.   |
| 111071009  | Cannot change cloud meeting into immediate meeting.                                |
| 111071010  | Cannot modify cloud meeting flag.  |
| 111071011  | The cloud meeting has not yet started. Please wait.                                |
| 111071012  | Not cloud meeting.   |
| 111071013  | Start time less than current time.   |
| 111071014  | Start time over max schedule time.   |

| Error Code | Error Description                           |
|------------|---|
| 111071015  | Duration over range.                        |
| 111071016  | Cycle ID list null exception.               |
| 111071017  | Meeting size over range.                    |
| 111071018  | Invalid media type.                         |
| 111071019  | Invalid meeting type.                       |
| 111071020  | Cycle params null exception.                |
| 111071021  | Duration over range.                        |
| 111071022  | Subject length too long.                    |
| 111071023  | Group URI length too long.                  |
| 111071024  | Invalid email address format.               |
| 111071025  | Invalid mobile number format.               |
| 111071026  | Department name too long.                   |
| 111071027  | Invalid welcome voice enable value.         |
| 111071028  | Invalid enter voice enable value.           |
| 111071029  | Invalid leave voice enable value.           |
| 111071030  | Invalid reminders value.                    |
| 111071031  | Invalid allow record value.                 |
| 111071032  | Invalid auto record value.                  |
| 111071033  | Invalid user type value.                    |
| 111071034  | Invalid encrypt mode value.                 |
| 111071035  | Invalid language value.                     |
| 111071036  | Invalid auto prolong value.                 |
| 111071037  | VmriD too long.                             |
| 111071038  | Invalid record type value.                  |
| 111071039  | Live address too long.                      |
| 111071040  | Aux address too long.                       |
| 111071041  | Null start date for cycle meeting.          |
| 111071042  | Null end date for cycle meeting.            |
| 111071043  | Invalid cycle type value for cycle meeting. |
| 111071044  | Invalid interval for cycle meeting.         |

| Error Code | Error Description  |
|------------|--|
| 111071045  | Null point for cycle meeting.  |
| 111071046  | Invalid point value for cycle meeting.   |
| 111071047  | Invalid vmr flag value.  |
| 111071048  | Invalid record auxStream.  |
| 111071049  | Invalid multiStream flag.  |
| 111071050  | Invalid audience flag.   |
| 111071051  | Invalid liveChannel ID.  |
| 111071052  | Anonymous login is locked. Try again later.  |
| 111071053  | Link login is locked. Try again later.   |
| 111071054  | Not enough Meeting ID.   |
| 111071055  | Failed to apply meeting ID.  |
| 111071056  | Failed to release meeting ID.  |
| 111071057  | Live room is used.   |
| 111071058  | The meeting has not yet started. Please wait.  |
| 111071059  | Meeting size over range.   |
| 111071060  | The enterprise cannot create meetings because it has not purchased any concurrent meeting resources. |
| 111071061  | Parameter verify failed.   |
| 111071062  | Json conversion failed.  |
| 111071063  | Not cloud meeting room owner.  |
| 111071064  | This cloud meeting room has been started for another meeting during this period.                     |
| 111071065  | This meeting cannot be modified because it is already started.                                       |
| 111071066  | Attendees amount over range.   |
| 111071067  | This meeting cannot be canceled because it is already started.                                       |
| 111071068  | Meeting password encrypt failed.   |
| 111071069  | No meeting during this period.   |
| 111071070  | Sub cycle meeting cannot modify live room.   |
| 111071071  | Stop online meeting exception.   |
| 111071072  | Meeting is ended.  |

| Error Code | Error Description  |
|------------|--|
| 111071073  | Not allow anonymous user.                                      |
| 111071074  | Only allow user in organization.                               |
| 111071075  | Only allow invited user.                                       |
| 111071076  | Batch export task for history meeting list during this period. |
| 111071077  | Only allow invited user and user in organization.              |
| 111071078  | Max current participants amount reached.                       |
| 111071079  | Invalid CTD param.   |
| 111071080  | Invalid guest password.  |
| 111071081  | Guest password conflict with meeting ID.                       |
| 111071082  | Max meeting amount reached.                                    |
| 111071083  | Invalid meeting random number.                                 |
| 111071084  | Max export history meeting list times reached.                 |
| 111071085  | Max multi view layouts reached.                                |
| 111071086  | Max multi view invalid manual type.                            |
| 111071087  | Max multi view sub view amount reached.                        |
| 111071088  | Max multi view sub view numbers reached.                       |
| 111071089  | Webinar and common meeting cannot be converted to each other.  |
| 111071090  | Not allow add audience.  |
| 111071091  | Meeting password authentication failed.                        |
| 111071092  | File export task failed.                                       |
| 111071093  | File export task is downloading.                               |
| 111071094  | Not allow audience to join.                                    |
| 111071095  | Need to get WEBINAR_CONF.DTO object.                           |
| 111071096  | User-defined languages over range.                             |
| 111071097  | Your enterprise does not support simultaneous interpretation.  |
| 111071098  | Need to set interpreter groups.                                |
| 111071099  | Invalid interpretation language.                               |
| 111071100  | Max languages in a meeting are reached.                        |
| 111071101  | This interpreter group ID already exists.                      |



| Error Code | Error Description  |
|------------|--|
| 111071102  | Max interpreters in the interpreter group reached.       |
| 111071103  | This interpreter already exists in an interpreter group. |
| 111071104  | Invalid interpreter account.                             |
| 111071105  | Guest password conflict with chairman password.          |
| 111071106  | Meeting is holding.                                      |
| 111071107  | Invalid audience password.                               |
| 111071108  | Audience password conflict with meeting id.              |
| 111071109  | Audience password conflict with chairman password.       |
| 111071110  | Only RTC meeting support E2E encrypt.                    |
| 111071111  | Audience password conflict with guest password.          |
| 111071112  | Cloud meeting room ID type cannot be modified.           |
| 111071113  | Cloud meeting room type cannot be modified.              |
| 111071114  | Cloud meeting room flag cannot be modified.              |
| 111071119  | Sub cycle meeting modify time over range.                |
| 111072001  | Application for meeting resources failed.                |
| 111072002  | Failed to release meeting resources.                     |
| 111072003  | The meeting is ending.                                   |
| 111072004  | The meeting is starting.                                 |
| 111072005  | The meeting has not yet started.                         |
| 111072006  | The meeting has ended.                                   |
| 111072007  | Site invitation failed.                                  |
| 111072008  | Site does not exist.                                     |
| 111072009  | Failed to disconnect the site.                           |
| 111072010  | Coming soon...   |
| 111072011  | Meeting status incorrect.                                |
| 111072012  | Site control operation failed.                           |
| 111072013  | The cloud meeting room is in use by another meeting.     |
| 111072014  | The meeting has ended.                                   |
| 111072015  | The meeting has not yet started.                         |
| 111072016  | Meeting does not exist.                                  |

| Error Code | Error Description  |
|------------|--|
| 111072017  | Meeting has no attendee.   |
| 111072018  | Application for chairman password exception.   |
| 111072019  | Not found site which can be moved exception.   |
| 111072020  | The current meeting is not a recording meeting. Recording is not supported.                          |
| 111072021  | System processing failure.   |
| 111072022  | Insufficient recording resources in the system.  |
| 111072023  | There are no participants in this meeting.   |
| 111072024  | Operation failed. No sites have joined this meeting.   |
| 111072025  | Voice meeting does not support this function.  |
| 111072026  | The voice site does not support this operation.  |
| 111072027  | Voice sites cannot be displayed in custom continuous presence.                                       |
| 111072028  | At least one site must have custom continuous presence configured.                                   |
| 111072029  | At most one presentation pane is allowed in custom continuous presence.                              |
| 111072030  | In the voice-activated continuous presence mode, each pane can only support a single user.           |
| 111072031  | The number used for the site to join the meeting cannot be left blank.                               |
| 111072032  | The number used for the site to join the meeting is too long.  |
| 111072033  | The format of the number used for joining the meeting is incorrect.                                  |
| 111072034  | Length of site name too long.  |
| 111072035  | The site role type is outside the allowed range.   |
| 111072036  | Length of site email address too long.   |
| 111072037  | Length of site mobile number too long.   |
| 111072038  | The value for whether a site is muted after it first joins the meeting is outside the allowed range. |
| 111072039  | The value for whether to automatically invite a site is outside the allowed range.                   |
| 111072040  | The host's site viewing type is outside the allowed range.   |

| Error Code | Error Description   |
|------------|---|
| 111072041  | The value of the continuous presence setting mode is outside the allowed range.                   |
| 111072042  | The polling time is outside the allowed range.  |
| 111072043  | The pane type cannot be left blank.   |
| 111072044  | Invalid pane type.  |
| 111072045  | The value of the switch is outside the allowed range.   |
| 111072046  | The site name cannot be left blank.   |
| 111072047  | Site name too long.   |
| 111072048  | Continuous presence is not supported. Ask the administrator to configure related data on the MCU. |
| 111072049  | Response timed out. Try again later.  |
| 111072050  | Meeting locked.   |
| 111072051  | The meeting display mode is empty.  |
| 111072052  | The meeting display mode is outside the allowed range.  |
| 111072053  | The meeting pane type is outside the allowed range.   |
| 111072054  | The banner or caption type is empty.  |
| 111072055  | The banner or caption content is empty.   |
| 111072056  | The banner or caption content cannot exceed 2,000 bytes.  |
| 111072057  | The request message body is empty.  |
| 111072058  | The pane index is greater than the total number of panes.   |
| 111072059  | Meeting has no host.  |
| 111072060  | Regular participants cannot perform this operation.   |
| 111072061  | You have set host polling and cannot select a specific site to view or set continuous presence.   |
| 111072062  | You cannot select a site to view on the web page. Perform the operation on the terminal.          |
| 111072063  | Applying for recording resources...   |
| 111072064  | Too many failed login attempts. Try again later.  |
| 111072065  | The meeting ID or password is incorrect. Check the ID and password and try again.                 |
| 111072066  | The enterprise has not purchased any recording storage space.                                     |

| Error Code | Error Description  |
|------------|--|
| 111072067  | Insufficient enterprise recording storage space.                                   |
| 111072068  | Failed to start live broadcast. Try again later.                                   |
| 111072069  | Not allow to hand up for host.   |
| 111072070  | The operation is not allowed for guest.  |
| 111072071  | The operation is only allowed for yourself.  |
| 111072072  | Not allow to apply host for attendees who do not have meeting control abilities.   |
| 111072073  | Notify message is expired.   |
| 111072074  | Only participants with a number registered on HUAWEI CLOUD can be set as the host. |
| 111072075  | Hung up site for meeting ended.  |
| 111072076  | Hung up site by host.  |
| 111072077  | Hung up site because host deleted site.  |
| 111072078  | Hung up site because meeting is recreated.   |
| 111072079  | Hung up site for moving site failed.   |
| 111072080  | Hung up site for inviting site cross region failed.                                |
| 111072081  | Hung up site for invitation exception.   |
| 111072082  | Hung up site for joining meeting repeatedly.                                       |
| 111072083  | Lock sharing failed.   |
| 111072084  | This site does not support 1-screen layout.  |
| 111072085  | Not support realtime subtitle.   |
| 111072086  | Realtime subtitle pid is null.   |
| 111072087  | Invalid realtime subtitle pid.   |
| 111072088  | Failed to set realtime subtitle.   |
| 111072089  | Not allow audience to change speaker status.                                       |
| 111072090  | Allow/forbid audience to speak only for audience.                                  |
| 111072091  | This meeting does not support simultaneous interpretation.                         |
| 111072092  | Interpreter group is empty.  |
| 111072093  | This meeting has not enabled simultaneous interpretation.                          |
| 111072094  | This site is not interpreter.  |
| 111072095  | This site has not yet confirmed interpreter identity.                              |

| Error Code | Error Description   |
|------------|---|
| 111072096  | Invalid site language.  |
| 111072097  | This site is confirmed interpreter.   |
| 111072098  | This site listen channel is different from speak channel.                       |
| 111072099  | Failed to set interpretation languages. Try again.                              |
| 111072100  | Failed to set interpretation channel. Try again.                                |
| 111072101  | Max participant amount reached.   |
| 111072102  | Max allowed handup amount reached.  |
| 111072103  | Max allowed speaking amount reached.  |
| 111072104  | Failed to set virtual audio CSD site.   |
| 111072105  | This meeting does not support cohost.   |
| 111072106  | This site does not support cohost.  |
| 111072107  | Host cannot be set to cohost.   |
| 111072108  | Audience cannot be set to cohost.   |
| 111072109  | Need to check cohost permission.  |
| 111072110  | Cohost cannot operate host.   |
| 111072111  | This site does not support share invitation.                                    |
| 111072201  | Hung up site because heart beat failed.   |
| 111072202  | Insufficient audience cloud meeting room logic resources.                       |
| 111072203  | Insufficient participant cloud meeting room logic resources.                    |
| 111072204  | Insufficient webinar resources, so started failed.                              |
| 111072205  | Only RTC conf support local record.   |
| 111072206  | Invalid E2E encryption parameter.   |
| 111072207  | Not allow to switch role in webinar.  |
| 111072208  | The client version used by the user is too early. Cannot start local recording. |
| 111072211  | Meeting is under AR assist.   |
| 111072213  | Audience cannot be set to host.   |
| 111072214  | Rename param contains sensitive words.  |
| 111073001  | User does not exist.  |
| 111073002  | Department does not exist.  |

| Error Code | Error Description   |
|------------|---|
| 111073003  | Invalid username format.  |
| 111073004  | Invalid department name format.                                   |
| 111073005  | Could not query department.                                       |
| 111073006  | Application for anonymous user failed.                            |
| 111073007  | Invalid cloud meeting room package status.                        |
| 111073008  | Failed to Release anonymous user.                                 |
| 111073009  | Not support cycle meeting for welinkC.                            |
| 111073010  | Not support cloud meeting room for welinkC.                       |
| 111073011  | Failed to get WeLink token.                                       |
| 111073012  | Failed to Get M to M token.                                       |
| 111073013  | Invalid webinar cloud meeting package status.                     |
| 111073014  | Max extend times for cloud meeting trial version reached.         |
| 111073015  | Max extend duration for cloud meeting trial version reached.      |
| 111073016  | Not support auto extend meeting for cloud meeting trial version.  |
| 111074001  | This meeting host already exists.                                 |
| 111074002  | No meeting host permissions.                                      |
| 111074003  | Failed to extend the meeting. Max meeting duration reached.       |
| 111074004  | Failed to extend the meeting. The service processing is abnormal. |
| 111075001  | Failed to start timer.  |
| 111075002  | Failed to end timer.  |
| 111075003  | Json parse failed.  |
| 111076001  | Released by host.   |
| 111076002  | Released by portal host.  |
| 111076003  | Max number of participants reached.                               |
| 111076004  | Insufficient enterprise resources.                                |
| 111076005  | Not answered.   |
| 111076006  | User does not exist.  |
| 111076007  | Offline.  |

| Error Code | Error Description   |
|------------|---|
| 111076008  | Busy.   |
| 111076009  | Rejected by user.   |
| 111076010  | Released by user.   |
| 111076011  | Insufficient meeting resources in the system.               |
| 111076012  | Outbound calling disabled.                                  |
| 111076013  | Application for address token failed.                       |
| 111076014  | Call failed.  |
| 111076015  | Max number of participants reached.                         |
| 111076099  | Common error.   |
| 111077001  | RSE server info does not exist.                             |
| 111077101  | Not support AI record.                                      |
| 111077102  | Reapplying for AI record resource.                          |
| 111077103  | Insufficient AI record resource.                            |
| 111077104  | In AI recording, the meeting cannot stop live or recording. |
| 111077201  | Record file does not exist or have no permission.           |
| 111077202  | RSE authentication failed.                                  |
| 111078000  | No available region in multi region.                        |
| 111078001  | No available global in multi region.                        |
| 111078002  | Dispatch region error in multi region.                      |
| 111079000  | Failed to phrase big data param query xml.                  |
| 111079001  | Failed to phrase anonymous assign xml.                      |
| 111080001  | Bad request.  |
| 111080002  | Insufficient permissions.                                   |
| 111080004  | Site data not found or deleted.                             |
| 111081001  | Site is inviting.   |
| 111081002  | Site meeting does not exist or is ended.                    |
| 111081003  | Failed to apply site resource.                              |
| 111081004  | Failed to release site resource.                            |
| 111081005  | Failed to apply site media resource.                        |
| 111081006  | Authentication failed.                                      |

| Error Code | Error Description  |
|------------|--|
| 111081007  | Meeting is locked.   |
| 111081009  | Login is locked because max authentication times reached.                |
| 111081010  | Waiting user restrictions.   |
| 111082001  | Not support this control.  |
| 111082002  | No response.   |
| 111082003  | Site not exist.  |
| 111082004  | Site unavailable.  |
| 111082005  | Site busy.   |
| 111082006  | Site refused.  |
| 111082007  | Site leave.  |
| 111082008  | PSTN service is closed.  |
| 111082009  | SIP invitation timeout.  |
| 111083001  | RSE does not exist.  |
| 111084001  | Failed to execute DTMF.  |
| 111084002  | Get started meeting exception.   |
| 111084003  | Call MCU side exception.   |
| 111084004  | Join call exception.   |
| 111084005  | Invite exception.  |
| 111084006  | Call terminal side exception.  |
| 111084007  | Answer exception.  |
| 111084008  | Common CTL exception.  |
| 111084009  | Hangup exception.  |
| 111084010  | Notify capability exception.   |
| 111084011  | Update MT exception.   |
| 111084012  | Negotiate exception.   |
| 111084013  | Not support this meeting.  |
| 111084014  | Not allowed join meeting in RTC inviting because guests are not invited. |
| 111089002  | Failed to phrase URI join xml.   |
| 111090001  | Failed to join data meeting.   |



| Error Code | Error Description  |
|------------|--|
| 111090002  | Join data meeting overtime.  |
| 111100001  | Failed to get slider image.  |
| 111100002  | Slider check failed.   |
| 111100003  | Invalid random number.   |
| 111100004  | Invalid slider token.  |
| 111100005  | Need to check slider.  |
| 111100006  | Invalid SMS phone number.  |
| 111100007  | Failed to send verification code.  |
| 111100008  | Verification code expired.   |
| 111100009  | Verification code error.   |
| 111100010  | Max verification code check times reached.   |
| 111100011  | The uuid is invalid, you need to re-verify the phone number.   |
| 111100012  | The meeting is not on this site.   |
| 111100013  | Need to verify the mobile phone number. Mobile number verification is required when an International site user joins a meeting held by a free enterprise on the Chinese mainland site. |
| 111110001  | Failed to add IM group.  |
| 111110002  | Failed to disband IM group.  |
| 111110003  | Failed to add IM member.   |
| 111110004  | Failed to remove IM member.  |
| 111112001  | Failed to enter the waiting room.  |
| 111112002  | Failed to exit the waiting room.   |
| 111112003  | Waiting room cache operation failed.   |
| 111112004  | Co-hosts cannot be moved into the waiting room.  |
| 111112005  | Not allowed to enable waiting room.  |
| 111112008  | Not support this feature according to client capabilities.   |
| 112010001  | Common failure.  |
| 112010002  | Null param.  |
| 112010003  | Participant not found.   |
| 112010004  | Meeting not found.   |

| Error Code | Error Description                              |
|------------|--|
| 112010005  | SIP invite information timeout.                |
| 112010006  | SIP invite information failed.                 |
| 112010007  | SIP information timeout.                       |
| 112010008  | SIP information failed.                        |
| 112010009  | System processing failed.                      |
| 112010010  | System processing failed.                      |
| 112010011  | Failed to invite MRS.                          |
| 112010012  | Failed to invite participant.                  |
| 112010013  | Data meeting join information failed.          |
| 112010014  | Failed to start meeting.                       |
| 112010015  | Media negotiation failed.                      |
| 112010016  | User rejects.                                  |
| 112010017  | User is busy.                                  |
| 112010018  | No call permission.                            |
| 112010019  | Unknown callee.                                |
| 112010020  | No user response.                              |
| 112010021  | Join meeting timed out.                        |
| 112010022  | Session has been released.                     |
| 112010023  | Callee is not registered.                      |
| 112010024  | SIP invite timed out.                          |
| 112010025  | User Session timer times out and hangs up.     |
| 112010026  | The participant bye hangs up on the MRS side.  |
| 112010027  | The participant bye hangs up on terminal side. |
| 112010028  | No RTP stream hang up.                         |
| 112100000  | Sysportal exception.                           |
| 112100001  | Bad request.                                   |
| 112100002  | Illegal request.                               |
| 112100003  | Data not found.                                |
| 112100004  | Data duplication.                              |
| 112100006  | The requested type is not supported.           |

| Error Code | Error Description   |
|------------|---|
| 112100007  | Failed to save notification template.   |
| 112100008  | Failed to save data.  |
| 112100009  | Failed to query data.   |
| 112100010  | Failed to delete data.  |
| 112100011  | Password reset required.  |
| 112100012  | Incorrect old password.   |
| 112100013  | The new password cannot be the same as the old password.                      |
| 112100014  | Insufficient password complexity and low security.                            |
| 112100015  | The length does not meet the requirements.                                    |
| 112100016  | RSE is in meeting.  |
| 112100017  | RSE to be deleted.  |
| 112100018  | Failed to query the meeting list.   |
| 112100019  | User has been locked out. Try again later.                                    |
| 112100022  | The live room channel name exists.  |
| 112100023  | Failed to modify system configuration items for duplicated meeting ID prefix. |
| 112100024  | CONFID prefix can only be added, not modified or deleted.                     |
| 112100025  | The live room channel url exists.   |
| 112100026  | The live room has been occupied.  |
| 112100027  | The live room does not exist.   |
| 112100028  | Live room release failed.   |
| 112100029  | The request is missing header or param.                                       |
| 112100030  | The Live main stream URL already exists.                                      |
| 112100031  | The Live auxiliary stream URL already exists.                                 |
| 112100032  | Password is weak.   |
| 112100033  | The live room is occupied.  |
| 112100034  | Save part of attendees since max attendees size reached.                      |
| 112100035  | Failed to export data.  |
| 112100036  | Failed to import data.  |
| 112100037  | Max file size reached.  |

| Error Code | Error Description  |
|------------|--|
| 112100038  | LVS target address exists.   |
| 112100039  | LVS port existed.  |
| 112100040  | Not allow to modify global standby config.   |
| 112100041  | MCU insulation IP address exists.  |
| 112100042  | MCU insulation IP address cannot be modified.  |
| 112100043  | SBC address exists.  |
| 112100044  | Internal exception.  |
| 112100045  | System config delete exception.  |
| 112100046  | No ISBC access address.  |
| 112100047  | Media type need to be HD because the organization enables full HD capability.  |
| 112100061  | Same interpreter language abbreviation exists.   |
| 112100062  | Same interpreter language name exists.   |
| 112100063  | MCU type is MIXED and insulation config is not configured, or MCU meeting exists when modifying MCU connection settings. |
| 112100064  | MCU type is MIXED and insulation config is not configured when adding mcu connection settings.                           |
| 112100065  | MCU type is MIXED when modifying MCU insulation config or disbanding enterprise.   |
| 112100066  | MCU type is MIXED when deleting MCU insulation config.   |
| 112100067  | This gateway type is incompatible with MCU.  |
| 115021001  | Insufficient media resource.   |
| 115021002  | Meeting does not exist.  |
| 115021003  | Media resource does not exist.   |
| 115021005  | Insufficient media bandwidth resource.   |
| 115021006  | Media device fault.  |
| 115022000  | Insufficient common logic resource.  |
| 115022001  | Insufficient meeting resources in the enterprise.  |
| 115022002  | Insufficient logic port resource.  |
| 115022003  | Live broadcast resources have not been purchased or are insufficient.  |

| Error Code | Error Description   |
|------------|---|
| 115022004  | Media device does not exist.  |
| 115023001  | Insufficient ID resources.  |
| 115024001  | RMS service exception.  |
| 115025001  | The live room has already been occupied.  |
| 115025002  | The live room does not exist.   |
| 115025003  | Live room release failed.   |
| 115026001  | MCU meeting exists.   |
| 115029001  | Invalid common parameter.   |
| 115029002  | Null parameter.   |
| 115029003  | service is not available.   |
| 115029004  | Configuration exception.  |
| 115029005  | Duplicately apply resources.  |
| 115029006  | Waiting for applying resources.   |
| 115029999  | Unknown error.  |
| 118000000  | User authentication failed.   |
| 118000001  | User token authentication failed.   |
| 118000002  | User authentication account lockout.  |
| 200000001  | Server is busy. Please try again later.   |
| 200000002  | Internal error. Please contact SRE.   |
| 200000003  | Invalid parameter. Please check whether the parameters are valid.                                   |
| 200000004  | Illegal request. Please check the value of the request header field X-Auth-Token or X-Access-Token. |
| 200000005  | Forbidden access during the version upgrade.  |
| 201020023  | This user is already the owner of another corporation and cannot create a new corporation for it.   |
| 201040005  | Max number of users reached. Please check the purchased meeting users.                              |
| 201040016  | Password security is low. Please set another password.  |
| 201040031  | Activation code overdue.  |
| 201040042  | Pre-authentication expired.   |

| Error Code | Error Description   |
|------------|---|
| 201040043  | This user is the owner of another corporation and cannot be invited.                              |
| 201040044  | Invalid invite connection.  |
| 201040045  | User is already in waiting list.  |
| 201040046  | User already exists.  |
| 201040047  | Account modification is not allowed.  |
| 201050012  | Activation code does not exist.   |
| 201050015  | Invalid activation code.  |
| 201050021  | Activation failed.  |
| 201050022  | Terminal does not allow unbinding.  |
| 201080000  | VMR resource unavailable.   |
| 201080006  | The host password and the guest password cannot be the same. Please confirm the input parameters. |
| 201080017  | Same as meeting password.   |
| 201510001  | No invite permission to get an invite code.   |
| 201510003  | Invalid application.  |
| 206010000  | User name or password error.  |
| 206010007  | Account is not activated, no permission to log in.  |
| 206010010  | Failed to get verification code. Please contact SRE.  |
| 206010011  | Verification code must be filled.   |
| 206010012  | Verification code check failed.   |
| 206010013  | Jump login failed. Please contact SRE.  |
| 206010022  | SSO login failed. Please contact SRE.   |
| 206010023  | SSO login is not supported.   |
| 206010024  | Invalid authentication type.  |
| 206010025  | APPID verification failed.  |
| 206010027  | Authentication type error.  |
| 206010029  | Network error.  |
| 206010030  | APPID does not allow automatic registration.  |
| 206010031  | APPID auto registration failed.   |
| 206010036  | Normal users cannot log in.   |

| Error Code | Error Description  |
|------------|--|
| 206010042  | Huawei account authentication failed.  |
| 206010057  | APPID authentication expires.  |
| 206010058  | APPID account is not bound.  |
| 206010064  | Site mismatch.   |
| 206010065  | Phone number conflict.   |
| 206010066  | E-mail conflict.   |
| 206010070  | The number of users has reached the maximum.   |
| 206010071  | WeChat authentication failed.  |
| 206010074  | International sites support site changing re-login.  |
| 206010075  | Account has been unbound.  |
| 206020000  | Invalid authentication information. Please check the value of the request header field X-Auth-Token or X-Access-Token. |
| 206020001  | Token is created by disaster recovery site.  |
| 206020002  | Token is invalid due to being kicked.  |
| 206030000  | The user does not exist.   |
| 206030001  | The verification code is incorrect or has expired. Please obtain a new one.  |
| 206030002  | Incorrect verification code.   |
| 206030003  | Failed to send the verification code.  |
| 206030004  | Try to get a new verification code 180s later.   |
| 206030005  | The password cannot be changed.  |
| 206030006  | The old password is incorrect.   |
| 206030007  | The length of the new password does not meet the requirements.   |
| 206030008  | The password complexity does not meet the requirements.  |
| 206030009  | The new password must be different from the previous old passwords.  |
| 206030010  | The password cannot contain three or more of the same characters consecutively.  |
| 206030011  | The password cannot be changed within 5 minutes upon the last password change.   |

| Error Code | Error Description  |
|------------|--|
| 206030012  | The password cannot contain the account or the reverse order of the account.   |
| 206030013  | At least two characters must be different between the new and old passwords.   |
| 206030014  | Invalid password format.   |
| 206030015  | The user is locked and will be locked in 60s.  |
| 206030016  | Have no right to reset other's password.   |
| 206030018  | The number of password retrieval times in a day has reached the maximum (10 times).  |
| 206030019  | The number of incorrect verification code inputs have reached the maximum. Please get it again.                                    |
| 206030023  | Failed to send verification code. Please contact SRE.  |
| 206030028  | The system has enabled SSO login and does not support changing the password. Please retry after the system has disabled SSO login. |
| 206030031  | Forgot password for Huawei account.  |
| 206040000  | No corresponding terminal type.  |
| 206060008  | Sending verification code is locked.   |
| 206060009  | Slider verification required.  |
| 206060010  | Invalid slider token.  |
| 206060011  | Request parameter error.   |
| 206060012  | Sending SMS is not supported.  |
| 206060013  | Repeated sending is not supported.   |
| 206060014  | Invalid verification code.   |
| 206060015  | Max verification code check times reached.   |
| 206060017  | Failed to bind Huawei account.   |
| 211030046  | Not the IdeaHub activation code.   |
| 211030050  | auth fail too many times, locked.  |
| 211030052  | auth fail too many times, permanently locked.  |
| 211060003  | The maximum number of log upload times has been reached.   |
| 411000001  | Common failure.  |
| 411000002  | Parameter error.   |



| Error Code | Error Description  |
|------------|--|
| 411000003  | Meeting does not exist.  |
| 411000004  | A meeting already exists.  |
| 411000005  | Meeting state error.   |
| 411000006  | Failed to get device.  |
| 411000007  | Failed to set device.  |
| 411000008  | No device available.   |
| 411000009  | This operation is only supported on mobile.                          |
| 411000010  | Network access error.  |
| 411000011  | Other supplementary service is running.                              |
| 411000012  | Memory allocation error.   |
| 411000013  | Initialization failed.   |
| 411000014  | User does not exist.   |
| 411000015  | Did not join the data meeting.                                       |
| 411000016  | Neither meeting nor call exists.                                     |
| 411000017  | SVN port detection failed.   |
| 411000018  | Failed to write file.  |
| 411000019  | RTC does not support STG mode.                                       |
| 411000020  | Failed to load RTC library. RTC meeting is not supported.            |
| 411000021  | The meeting is in the audience pause state when changing roles.      |
| 411000022  | Not in call.   |
| 411000023  | Meeting or call does not exist.                                      |
| 411000024  | Pairing state not allowed.   |
| 411000025  | Pairing request failed.  |
| 411000026  | Pairing exceeds limit.   |
| 411000027  | Pairing common error.  |
| 411000028  | Pairing and joining the meeting failed.                              |
| 411000029  | Pairing and joining the meeting is busy.                             |
| 411000030  | Pairing and joining the meeting is invalid.                          |
| 411000031  | Multiple clicks at the same time to pair and join the meeting error. |

| Error Code | Error Description   |
|------------|---|
| 411000032  | Pairing is not established or is being established.             |
| 411000033  | The camera is not turned on in the third-party capture mode.    |
| 411000034  | RTC engine creation failed.                                     |
| 411000035  | Not in a meeting.   |
| 411000036  | mute self failed.   |
| 411000100  | End the meeting with no stream due to disconnection of network. |
| 411000101  | End the meeting with no stream because fail to re-join meeting. |
| 411000102  | Null pointer exception.   |
| 411000103  | Parameters cannot be empty.                                     |
| 411000104  | Encrypt and decrypt func not match.                             |
| 411000105  | Load user-defined DLLs failed.                                  |
| 411000106  | Shimo Docs is not supported.                                    |
| 412100001  | The message processing thread is not initialized.               |
| 412100002  | Parameter error.  |
| 412100003  | Timeout.  |
| 412100004  | Memory allocation error.  |
| 412100005  | XML parsing error.  |
| 412100006  | DNS resolution error.   |
| 412100007  | Request message failed.   |
| 412100008  | Authentication failed.  |
| 412100009  | Server error.   |
| 412100010  | Account is locked.  |
| 412100011  | Create timer error.   |
| 412100012  | Server CA certificate verification failed.                      |
| 412100013  | Network error.  |
| 412100014  | Server redirect.  |
| 412100015  | Account is not activated.                                       |
| 412100016  | JSON parsing error.   |

| Error Code | Error Description   |
|------------|---|
| 412100017  | The proxy communication times out and the TCP link building fails. Probably because the proxy configuration is incorrect.                                       |
| 412100018  | Disconnected by the proxy. Probably because the server address is misconfigured.  |
| 412100019  | The TCP link establishment timed out. Probably because the proxy domain name or port configuration is incorrect.  |
| 412100020  | The authentication process failed. The user does not have proxy permission and needs to apply for proxy permission.   |
| 412100021  | The authentication process failed. The proxy user name or password is incorrect.  |
| 412100022  | The authentication process failed. Incorrect authentication type. User name and password are required. The user needs to be prompted for input.                 |
| 412100023  | The authentication process failed. Other unknown errors. It may be that the authentication method is not supported. The user needs to be prompted to try again. |
| 412100024  | The authentication process failed. Unable to resolve gateway.   |
| 412100025  | The authentication process failed. Unable to resolve host.  |
| 412100026  | The authentication process failed. Unable to connect.   |
| 412100027  | The authentication process failed. Operation times out.   |
| 412100028  | Message length too long.  |
| 412100029  | Base64 encryption failed.   |
| 412100030  | XML parsing error.  |
| 412100031  | Secure function error.  |
| 412100032  | Firewall detection parameter error.   |
| 412100033  | Failed to create STG tunnel.  |
| 412100034  | Failed to update STG service.   |
| 412100035  | Encryption failed.  |
| 412100036  | Do not allow duplicate downloads.   |
| 412100037  | File operation failed.  |
| 412100038  | The request message returns empty.  |
| 412100039  | The number of detection servers is 0 error.   |

| Error Code | Error Description   |
|------------|---|
| 412100040  | Failed to get local IP address.   |
| 412200001  | Internal error.   |
| 412200002  | Parameter error.  |
| 412200003  | Network timeout.  |
| 412200004  | Network Error.  |
| 412200005  | Need to bind mobile phone.  |
| 412200006  | Need to bind email.   |
| 412200007  | Has initialized already.  |
| 412200008  | State machine execution failed.   |
| 412200009  | Failed to start timer.  |
| 412200010  | The user is prompted to change the password when logging in for the first time. |
| 412200011  | Unknown authentication type.  |
| 413000001  | Common error.   |
| 413000002  | Parameter error.  |
| 413000003  | Memory allocation error.  |
| 413000004  | System error.   |
| 413000005  | Message sending error.  |
| 413000006  | Get system configuration error.   |
| 413000007  | Physical network error.   |
| 413000008  | Network access error.   |
| 413000009  | Create timer error.   |
| 413000010  | Call state error.   |
| 413000011  | Other operation in progress error.  |
| 413000012  | Requesting the master to start call error.                                      |
| 413000013  | Requesting audio resource error.  |
| 413000014  | Other supplementary service is running.   |
| 413000015  | Record call error.  |
| 413000016  | Media process error.  |
| 413000017  | Maximum number of calls reached.  |

| Error Code | Error Description                                      |
|------------|--|
| 413000018  | SIP account ID does not exist.                         |
| 413000019  | Call ID does not exist.                                |
| 413000020  | Failed due to registering.                             |
| 413000021  | Registration failed.                                   |
| 413000022  | Deregistration failed.                                 |
| 413000023  | Setting account information error.                     |
| 413000024  | Setting SIP account error.                             |
| 413000025  | Reporting SIP account information error.               |
| 413000026  | Server information error.                              |
| 413000027  | SIP account information error.                         |
| 413000028  | SIPC execution error.                                  |
| 413000029  | Not registered error.                                  |
| 413000030  | Call Sip interface to subscribe error.                 |
| 413000031  | Canceling subscription error.                          |
| 413000032  | Subscribing error.                                     |
| 413000033  | Only one local meeting is allowed.                     |
| 413000034  | Local meeting is not created.                          |
| 413000035  | The participant line does not match the chair account. |
| 413000036  | Local meeting state error.                             |
| 413000037  | Failed to report the linkage state of the IP Phone.    |
| 413000038  | Meeting ID does not exist.                             |
| 413000039  | Video hold error.                                      |
| 413000040  | Video unhold error.                                    |
| 413000041  | The maximum number of server meetings reached.         |
| 413000042  | Get AA random number error.                            |
| 413000043  | AA login error.  |
| 413000044  | Meeting type mismatch.                                 |
| 413000045  | Failed to start video meeting.                         |
| 413000046  | AA no master server.                                   |
| 413000047  | Password error.  |

| Error Code | Error Description                          |
|------------|--|
| 413000048  | Username error.                            |
| 413000049  | User is logged in.                         |
| 413000050  | Account is locked.                         |
| 413000051  | Terminal type mismatch.                    |
| 413000052  | Parsing XML error.                         |
| 413000053  | Connecting to server error.                |
| 413000054  | Get media configuration error.             |
| 413000055  | Get service permission error.              |
| 413000056  | Insufficient service permission.           |
| 413000057  | Network environment error.                 |
| 413000058  | Service conflict.                          |
| 413000059  | Connection timeout.                        |
| 413000060  | Unknown error.                             |
| 413000061  | Add ringing information error.             |
| 413000062  | Delete ringing information error.          |
| 413000063  | Create ringing number error.               |
| 413000064  | VVM parameter error.                       |
| 413000065  | Getting registered service error.          |
| 413000066  | Getting voicemail error.                   |
| 413000067  | Attendee already exists.                   |
| 413000068  | Attendee does not exist.                   |
| 413000069  | Create server video meeting window error.  |
| 413000070  | Video window already exists.               |
| 413000071  | Getting meeting list error.                |
| 413000072  | Operating requires host privileges.        |
| 413000073  | No video device to operate.                |
| 413000074  | Refresh registration is not turned off.    |
| 413000075  | Online state report error.                 |
| 413000076  | Network address subscription report error. |

| Error Code | Error Description   |
|------------|---|
| 413000077  | Telepresence account was force unregistered. Information report error.              |
| 413000078  | TLS root certificate error.   |
| 413000079  | AD authentication error.  |
| 413000080  | Meeting list is getting.  |
| 413000081  | Prohibited calls.   |
| 413000082  | The maximum number of calls has been reached.                                       |
| 413000083  | The maximum number of encrypted calls has been reached.                             |
| 413000084  | The maximum number of video calls has been reached and needs to downgrade to audio. |
| 413000085  | H323 account ID does not exist.   |
| 413000086  | H323 account information error.   |
| 413000087  | H323 account information report failed.   |
| 413000088  | Insufficient local resources.   |
| 413000089  | The calling protocol is not supported.  |
| 413000090  | Setting H323 account information error.   |
| 413000091  | Mediatrix meeting access number reporting failed.                                   |
| 413000092  | Mediatrix VMR information reporting failed.   |
| 413000093  | IMS meeting list information reporting failed.                                      |
| 413000094  | TUP initialization is not complete.   |
| 413000095  | Message return value error.   |
| 413000096  | Message content too large error.  |
| 413000097  | Secure function error.  |
| 413000098  | message response is empty error.  |
| 413000099  | Account is not enabled.   |
| 413000100  | Create call control implement error.  |
| 413000101  | Already in call.  |
| 413000102  | Call does not exist.  |
| 413000103  | Failed to get media configuration information.                                      |
| 413000104  | Failed to set third-party capture. Calling HME_V_Capture_InputData failed.          |

| Error Code | Error Description   |
|------------|---|
| 414100001  | Common error.   |
| 414100002  | Parameter error.  |
| 414100003  | Timeout.  |
| 414100004  | Memory allocation error.  |
| 414100005  | DNS resolution error.   |
| 414100006  | Request message failed.   |
| 414100007  | Authentication failed.  |
| 414100008  | Server error.   |
| 414100009  | Create timer error.   |
| 414100010  | Start timer error.  |
| 414100011  | The meeting control block is full. Please release the control block that is not in use.   |
| 414100012  | The proxy communication times out and the TCP link building fails. Probably because the proxy configuration is incorrect.                                       |
| 414100013  | Disconnected by the proxy. Probably because the server address is misconfigured.  |
| 414100014  | The TCP link establishment timed out. Probably because the proxy domain name or port configuration is incorrect.  |
| 414100015  | The authentication process failed. The user does not have proxy permission and needs to apply for proxy permission.   |
| 414100016  | The authentication process failed. The proxy user name or password is incorrect.  |
| 414100017  | The authentication process failed. Incorrect authentication type. User name and password are required. The user needs to be prompted for input.                 |
| 414100018  | The authentication process failed. Other unknown errors. It may be that the authentication method is not supported. The user needs to be prompted to try again. |
| 414100019  | Curl proxy exception.   |
| 414100020  | Curl host exception.  |
| 414100021  | Curl connection exception.  |
| 414100022  | Curl operation timed out.   |
| 414100023  | Message length too long.  |



| Error Code | Error Description  |
|------------|--|
| 414100024  | Failed to create thread.                                 |
| 414100025  | Secure function error.                                   |
| 414100026  | JSON parsing failed.                                     |
| 414100027  | WS token is empty.                                       |
| 414100028  | Return JSON data error.                                  |
| 414100029  | Failed to create meeting control block.                  |
| 414100030  | Failed to get meeting control block.                     |
| 414100031  | Failed to get meeting control block by CallId.           |
| 414100032  | Destroying the meeting control block failed.             |
| 414100033  | Temporary creating meeting information not found.        |
| 414100034  | Failed to get participant ID.                            |
| 414100035  | Failed to get MT by participant ID.                      |
| 414100036  | Failed to get self information by participant ID.        |
| 414100037  | Failed to get participant information by MT.             |
| 414100038  | Manual invitation required.                              |
| 414100039  | The major parameters of the meeting have been reported.  |
| 414100040  | Subtitles are not supported.                             |
| 414100041  | Meeting Hang Up - Timeout.                               |
| 414100042  | Meeting Hang Up - No Streaming.                          |
| 414100043  | Meeting hung up - Hung up by the host.                   |
| 414100044  | Meeting Hang Up - Meeting has ended.                     |
| 414100045  | End of meeting due to leave meeting.                     |
| 414100046  | Message queue processing function registration failed.   |
| 414100047  | Message queue processing function deregistration failed. |
| 414100048  | Meeting ended due to reject meeting.                     |
| 414100049  | Meeting ended by self.                                   |
| 414100050  | The meeting control module is not initialized.           |
| 414100051  | The watching special site reaches the maximum.           |
| 414100052  | The watching HD site reaches the maximum.                |
| 414100053  | The watching SD site reaches the maximum.                |

| Error Code | Error Description  |
|------------|--|
| 414100054  | The watching specification reaches the maximum.  |
| 414100055  | Watching internal errors.  |
| 414100056  | Duplicated watch render.   |
| 414100057  | HTTP request error.  |
| 414100058  | WebSocket request timeout.   |
| 414100059  | Loading failed.  |
| 414100061  | The meeting ends due to the timeout of guest waiting before meeting or the timeout of the meeting control heartbeat. |
| 414100062  | The meeting ends due to being canceled.  |
| 414100063  | The meeting ends due to network error when guest waiting before meeting.   |
| 415000001  | DB is not initialized.   |
| 415000002  | Common failure.  |
| 415000003  | Proxy detection has not been completed.  |
| 416000001  | Invalid parameter.   |
| 416000002  | Track module is not initialized.   |
| 416000003  | Track event does not exist.  |
| 416000004  | Not logged in.   |
| 416000005  | Upload is not enabled.   |
| 419100001  | Invalid parameter.   |
| 419100002  | Incorrect URI.   |
| 419100003  | Memory allocation failed.  |
| 419100004  | SDP error.   |
| 419100005  | Connection does not exist.   |
| 419100006  | Connection failure.  |
| 419100007  | Operation forbidden.   |
| 419100008  | State error.   |
| 419100009  | No corresponding line data.  |
| 419100010  | No corresponding registered instance.  |
| 419100011  | No corresponding call instance.  |

| Error Code | Error Description                         |
|------------|---|
| 419100012  | No corresponding subscription instance.   |
| 419100013  | No corresponding Refer instance.          |
| 419100014  | No corresponding DIM instance.            |
| 419100015  | Failed to create header.                  |
| 419100016  | Failed to parse header.                   |
| 419100017  | Header not found.                         |
| 419100018  | No SDP message body.                      |
| 419100019  | Failed to get capability.                 |
| 419100020  | Failed to compare capability.             |
| 419100021  | Failed to open logical channel.           |
| 419100022  | Encoding SDP failed.                      |
| 419100023  | Decoding SDP failed.                      |
| 419100024  | Negotiate to unsupported SDP.             |
| 419100025  | TPTD initialization failed.               |
| 419100026  | TPT initialization failed.                |
| 419100027  | TXN initialization failed.                |
| 419100028  | UA initialization failed.                 |
| 419100029  | GLUE initialization failed.               |
| 419100030  | HLLM initialization failed.               |
| 419100031  | VCOM initialization failed.               |
| 419100032  | SDP initialization failed.                |
| 419100033  | Multiple instance error.                  |
| 419100034  | Insufficient registration control blocks. |
| 419100035  | Insufficient subscription control blocks. |
| 419100036  | Insufficient call control blocks.         |
| 419100037  | Insufficient IM control blocks.           |
| 419100038  | Failed to parse URI xml to string.        |
| 419100039  | Encryption negotiation failed.            |
| 419100040  | Local capabilities are not configured.    |
| 419100041  | BFCP token error.                         |

| Error Code | Error Description   |
|------------|---|
| 419100042  | DNS resolution error.   |
| 419100043  | Failed to get subscription state.                             |
| 419100044  | IPv4 is not supported.  |
| 419100045  | IPv6 is not supported.  |
| 419100046  | Unsupported host type.  |
| 419100047  | Failed to get timer.  |
| 420000001  | Cannot receive sharing invitations.                           |
| 420000002  | ReportDTO parameter verification failed.                      |
| 420000003  | Report folder creation failed.                                |
| 420000004  | Report folder compression failure.                            |
| 420000005  | The path of the ZIP file to be uploaded is empty.             |
| 420000006  | The size of the ZIP file to be uploaded reaches the maximum.  |
| 420000007  | The same person reported more than 100 times within 24 hours. |
| 430100001  | Common Error.   |
| 430100002  | Invalid parameters.   |
| 430100003  | SIP connection check failed.                                  |
| 430100004  | Timeout.  |
| 430100005  | In process.   |
| 430100006  | Not initialized or initialization is not complete.            |
| 430100007  | Not supported in this release.                                |
| 430100008  | Operation interrupt.  |
| 430100009  | Contact not found.  |
| 430100010  | Args length overrun.  |
| 430100011  | APPID info illegal.   |
| 430100012  | E2EEncrypt algorithm error.                                   |
| 430200001  | unlogin.  |
| 430200002  | Repeated login.   |
| 430200003  | SIP connection timeout.                                       |
| 430200004  | Invalid login password.                                       |

| Error Code | Error Description   |
|------------|---|
| 430200005  | Password or account empty.  |
| 430300001  | The calling number, account number or third-party account number cannot be empty. |
| 430300002  | Call account empty.   |
| 430300003  | Call nickname empty.  |
| 430400001  | Password required to join the meeting.  |
| 430400002  | Time zone error.  |
| 430400003  | The meeting duration is less than 1.  |
| 430400004  | Joining the conference is interrupted.  |
| 430400005  | Password input at least 4 digits.   |
| 430400006  | User voluntarily cancels.   |
| 430400007  | The guest password illegal.   |
| 430400008  | Not in conference or in call.   |
| 430400009  | Already exist conf or call.   |
| 430400010  | Confld empty.   |
| 430400011  | Subject too long.   |
| 430400012  | VMR host password length illegal.   |
| 430400013  | VMR name empty.   |
| 430400014  | Conf starttime early.   |
| 430400015  | Share is locked.  |
| 430400016  | Not in data conference.   |
| 430400017  | Role not support operation  |
| 430500001  | HTTP request, server exception.   |
| 430500002  | HTTP request, Connecting to the server times out.                                 |
| 430500003  | Network unavailable.  |
| 510000403  | Server forbidden.   |
| 510000404  | Not found.  |
| 510000480  | Temporary unavailable.  |
| 510000486  | Busy here.  |
| 510000487  | Request terminated.   |

| Error Code | Error Description                        |
|------------|--|
| 510000488  | Request is not acceptable here.          |
| 510000603  | Decline.                                 |
| 510000841  | Hangup without toast.                    |
| 510000842  | Conference is locked.                    |
| 910000001  | Server error.                            |
| 910000002  | SFU service failure.                     |
| 910000003  | Service unavailable 503.                 |
| 910000004  | Internal error.                          |
| 910000005  | Kicked off.                              |
| 910000006  | Signature expired.                       |
| 910000007  | Reconnect timeout.                       |
| 910000008  | Network detection.                       |
| 910000009  | User is removed.                         |
| 910000010  | The room is dismissed.                   |
| 990000001  | Internal error.                          |
| 990000002  | Message too large.                       |
| 990000003  | Insufficient memory.                     |
| 990000004  | Failed to send message synchronously.    |
| 990000005  | Parameter error.                         |
| 990000006  | Call ID order error.                     |
| 990000007  | Failed to set local screen.              |
| 990000008  | Failed to open remote screen.            |
| 990000009  | Device configuration failed.             |
| 990000010  | Initializing.                            |
| 990000011  | Deinitializing.                          |
| 990000012  | Uploading log.                           |
| 990000013  | Failed to get media port.                |
| 990000014  | The maximum number view window reached . |
| 990000015  | Media negotiation failed.                |
| 990000016  | Server no response.                      |

| Error Code | Error Description   |
|------------|---|
| 990000017  | Role switch failed.   |
| 990000018  | Failed to join room.  |
| 990000019  | Failed to join room. Status is busy.                                  |
| 990000020  | Failed to join room. Server error.                                    |
| 990000021  | Failed to join room. Service unavailable.                             |
| 990000022  | Failed to join room. Authentication failed.                           |
| 990000023  | Failed to join room. Authentication retry.                            |
| 990000024  | Failed to join room. Clock synchronization.                           |
| 990000025  | Failed to join room. URL error.                                       |
| 990000026  | Kicked off.   |
| 990000027  | Share failed.   |
| 990000028  | Currently in external media output mode, this operation is forbidden. |
| 990000029  | Reconnection failed.  |
| 990000030  | Server breaks down.   |
| 990000031  | Signature has expired.  |
| 990000032  | Failed to set remote window mode.                                     |
| 990000033  | Failed to subscribe or unsubscribe audio.                             |
| 990000034  | Failed to connect to other room.                                      |
| 990000035  | Failed to disconnect other room.                                      |
| 990000036  | Role switching is not allowed.  |
| 990000037  | Currently in third-party capture mode, this operation is forbidden.   |
| 990000038  | Failed to set third-party audio capture.                              |
| 990000039  | Failed to set third-party video capture.                              |
| 990000040  | Failed to set share sound switch.                                     |
| 990000041  | Failed to start or stop upstream audio stream.                        |
| 990000042  | Failed to start or stop upstream video stream.                        |
| 990000043  | User is removed.  |
| 990000044  | The room is dismissed.  |
| 990000045  | Failed to set remote View.  |

## 8.7 Version Updates

### 8.7.1 100.10.7 Updates

Fixed issues and provided more stable experience.

### 8.7.2 100.10.6 Updates

Fixed issues and provided more stable experience.

### 8.7.3 100.10.5 Updates

1. Added the **SetAutoHideToolBar** API for setting whether to automatically hide the meeting control bar. For details, see [Setting Whether to Automatically Hide the Meeting Control Bar](#).
2. Added the **SetCustomUIText** API for customizing the text for a specific scenario. For details, see [Customizing the Text for a Specific Scenario](#).
3. Added the **SetCustomUIImage** API for customizing the icon for a specific scenario. For details, see [Customizing the Icon for a Specific Scenario](#).
4. Added the **corpEnableForbidScreenShots** Bool (whether screenshot capture is forbidden) to the **HwmCorpConfigInfo** struct (enterprise configuration). For details, see [Table 8-183](#).

### 8.7.4 100.9.7 Updates

Fixed issues and provided more stable experience.

### 8.7.5 100.9.5 Updates

1. Discarded the **vmrFlag** field in the **HwmBookConfParam** parameter for scheduling a meeting and the **HwmEditConfParam** parameter for editing a meeting. For details, see [Table 8-154](#) and [Table 8-162](#).
2. Added the **call\_all** field to the **Config** API. This field can be hidden or injected. For details, see [Table 8-58](#). Added the **HWM\_CLICK\_INJECT\_BTN\_CALL\_ALL** button (calling all absent participants) to the **OnClickInjectBtn** notification. The data information of this button is **HwmCallAllInfo**. For details, see [Table 8-189](#).
3. Added the **OnUserSavePathChanged** notification to notify you of user data path changes. For details, see [Notification of User Data Path Changes](#).
4. Added the **OnAddAttendeeNotify** notification to notify you of participant addition results. For details, see [Notification of Participant Addition Results](#).
5. Added the **thirdUserId** field (third-party account) to **HwmConfIncomingInfo** (incoming meeting information). For details, see [Table 8-194](#).
6. Added the **startTimeStamp** (meeting start time) and **endTimeStamp** (meeting end time) fields and discarded the **startTime** and **endTime** fields. For details, see [Table 8-203](#), [Table 8-210](#), and [Table 8-228](#).



7. Added the **supportGuestInviteAttendee** field (whether a guest can invite others to the meeting) to **HwmMeetingInfo** (meeting information). For details, see [Table 8-202](#).

8. Added the **stopShareReason** field (reason for stopping sharing) to **HwmShareStateInfo** (sharing status of the transmitter). For details, see [Table 8-212](#).

## 8.7.6 100.7.13 Updates

Fixed issues and provided more stable experience.

## 8.7.7 100.7.8 Updates

Fixed issues and provided more stable experience.

## 8.7.8 100.7.6 Updates

Fixed issues and provided more stable experience.

## 8.7.9 100.7.5 Updates

1. Added the **SetServerAddress** API for setting login server information. For details, see [Setting Login Server Information](#).

2. Added the **SetProxyInfo** API for setting proxy information. For details, see [Setting Proxy Information](#).

3. Added the **SetCAVerifyInfo** API for setting certificate verification information. For details, see [Setting Certificate Verification Information](#).

4. Added the **SetTransparentWnd** API for making windows transparent during screen sharing. For details, see [Making Windows Transparent During Screen Sharing](#).

5. Added the **StartProjection** API for starting projection. For details, see [Starting Projection](#).

6. Added the **handle** parameter of the HWND type to the **HwmMainWindowInfo** struct. For details, see [Table 8-87](#).

7. Added **OnMeetingInfoChanged** to notify you of meeting information changes. For details, see [Meeting Information Change Notification](#).

8. Added the **defaultSummaryState** field (whether cloud recording contains minutes) to **HwmCreateConfInfo** (creating a meeting), **HwmBookConfParam** (scheduling a meeting), **HwmEditConfParam** (editing a meeting), and **HwmConfDetail** (meeting information). For details, see [Table 8-103](#), [Table 8-154](#), [Table 8-162](#), and [Table 8-167](#).

9. Added the **corpEnableSummary** Bool (whether minutes are supported) to the **HwmCorpConfigInfo** struct (enterprise configuration). For details, see [Table 8-183](#).

10. Added the **autoMuteMode** field (whether to automatically mute soft client guests when they join the meeting) and the **hardTerminalAutoMuteMode** field (whether to automatically mute hard terminal guests when they join the meeting)

to **HwmCreateConfInfo** (creating a meeting), **HwmBookConfParam** (scheduling a meeting), **HwmEditConfParam** (editing a meeting), and **HwmConfDetail** (meeting information). For details, see [Table 8-103](#), [Table 8-154](#), [Table 8-162](#), and [Table 8-167](#).

11. Added the **isP2PConf** parameter (whether the meeting is an instant meeting) to the **HwmConfIncomingInfo** struct (incoming meeting call information). For details, see [Table 8-194](#).

12. Deprecated the **vmrFlag** field (whether the meeting is held in a cloud meeting room) in **HwmBookConfParam** (scheduling a meeting) and **HwmEditConfPara** (editing a meeting). For details, see [Table 8-154](#) and [Table 8-162](#).

## 8.7.10 100.5.5 Updates

1. Changed the **isForcedVpn** parameter in the **HwmNetWorkModelInfo** struct to the **HwmNetConnectType** enum. For details, see [Table 8-24](#).

2. Changed the type of the **operatableUiMonitor** parameter in the **HwmStartShareInfo** struct from enum to struct, and changed the value assignment to **operatableUiMonitor.monitor**. For details, see [Table 8-120](#).

## 8.7.11 100.3.7 Updates

Fixed issues and provided more stable experience.

## 8.7.12 100.3.6 Updates

Added the enumerated value **HWM\_ENABLE\_FEATURE\_SUPPORT\_GUEST\_INVITE** for the **EnableFeature** API used to configure meeting functions. For details, see [Enabling a Function](#).

## 8.7.13 90.12.7 Updates

Fixed issues and provided more stable experience.

## 8.7.14 90.12.5 Updates

1. Added the **ShowToast** API for displaying a toast message. For details, see [Displaying a Toast Message](#).

2. Added the **GetMainWindowInfo** API for obtaining the main window information. For details, see [Obtaining Information About the Main Window](#).

3. Deprecated the **OnGetVmrListResult** notification and added the **OnGetVmrInfoListResult** notification to notify you of the cloud meeting room list. For details, see [Obtaining the Cloud Meeting Room List](#).

4. Added the **confResType** parameter to **HwmCreateConfInfo** (creating a meeting) and **HwmBookConfParam** (scheduling a meeting). For details, see [Table 8-103](#) and [Table 8-154](#).

5. Added the **OnShareVmrInfoNotify** notification to notify you of information about shared cloud meeting rooms. For details, see [Notification of Shared Cloud Meeting Rooms](#).

6. Added the participant UUID parameter to **HwmCalleeInfo**. For details, see [Table 8-145](#).
7. Added the **GetErrorMessage** API for obtaining an error message, which can be used for prompt. For details, see [Obtaining an Error Message](#).
8. Added the **SetGuaranteedIpAddresses** API for setting guaranteed IP addresses for meeting control to keep on-premises data within your enterprise or support network interruption survival. For details, see [Setting Guaranteed IP Addresses for Meeting Control](#).
9. Added the following meeting end error codes to **HwmConfEndReason**:  
**HWM\_CONF\_END\_REASON\_OVER\_MAX\_PARTICIPANT\_NUMBER**,  
**HWM\_CONF\_END\_MANAGER\_SHARE\_VMR\_NOT\_ENOUGH**, and  
**HWM\_CONF\_END\_MANAGER\_NO\_UPSCALE\_VMR**. For details, see [Table 8-199](#).
10. Added the **OnP2PConfRecordNotify** notification to notify you of instant meeting records. For details, see [Notification of Instant Meeting Records](#).
11. Added the **copy\_audience\_conf\_info** parameter to the **config** API to support the injection of the button used to copy the link to a webinar for attendees. For details, see [Table 8-145](#).

## 8.7.15 90.9.5 Updates

1. Added the **concurrentParticipants** parameter (maximum number of participants allowed in a meeting) to **HwmCreateConfInfo** (creating a meeting), **HwmBookConfParam** (scheduling a meeting), **HwmEditConfParam** (editing a meeting), and **HwmConfDetail** (meeting details). For details, see [Table 8-103](#), [Table 8-154](#), [Table 8-162](#), and [Table 8-167](#).
2. Added the **vmrId** parameter (ID of meetings held in a cloud meeting room) to **HwmConfIncomingInfo** (incoming meeting information). For details, see [Table 8-194](#).
3. Added the **SetLogPath** API for setting the log storage path. For details, see [Setting the Path for Saving Logs](#).

## 8.7.16 90.7.6 Updates

1. Fixed issues and provided more stable experience.

## 8.7.17 90.7.5 Updates

1. Added the **StartP2pConf** API for starting an instant meeting. For details, see [Starting an Instant Meeting](#).
2. Added **isP2PConf** (whether the meeting is an instant meeting) to the **HwmConfStateInfo** parameter in the meeting status notification **OnConfState** and the **HwmConfEndInfo** parameter in the meeting end notification **OnConfEndedNotify**. For details, see [Table 8-197](#) and [Table 8-224](#).
3. Added the **DeleteSelfAvatar** API for deleting a user-defined profile picture. For details, see [Deleting a Profile Picture](#).
4. Added the **GetUserSavePath** API for obtaining the save path of a user. For details, see [Obtaining the Path for Saving User Files](#).

5. Added the enumerated values **HWM\_ENABLE\_FEATURE\_SUPPORT\_DISCONNECT\_AUDIO** (disconnecting audio), **HWM\_ENABLE\_FEATURE\_DISCONNECT\_AUDIO\_TO\_JOIN\_CONF** (whether to join a meeting without audio), and **HWM\_ENABLE\_FEATURE\_CPU\_REDUCTION\_DETECT** (whether to detect CPU frequency reduction) to the **EnableFeature** parameter of the API for configuring meeting functions. For details, see [Table 8-15](#).

6. Added the error codes **HWM\_CONF\_END\_REASON\_CONF\_NUM\_OVER\_MAX\_ALLOWED**, **HWM\_CONF\_END\_REASON\_CALLEE\_REFUSED\_END\_CONF**, **HWM\_CONF\_END\_REASON\_CALLEE\_TIMEOUT\_END\_CONF**, and **HWM\_CONF\_END\_FORCE\_OPEN\_CAMERA\_HANGUP** to **HwmConfEndReason** (meeting end reason). For details, see [Table 8-199](#).

7. Added the domain field to the **HwmJoinConfByRandomInfo** parameter of the API for joining a meeting using a random code. For details, see [Table 8-114](#).

## 8.7.18 90.6.5 Updates

1. Deprecated the **StartCall** API.
2. Added the **customInfo** field (user-defined information) to **HwmBookConfParam** (scheduling a meeting), **HwmEditConfParam** (editing a meeting), **HwmCreateConfInfo** (creating a meeting), **HwmConfInfo** (meeting information), and **HwmConfListInfo** (meeting list). For details, see [Table 8-103](#), [Table 8-154](#), [Table 8-162](#), [Table 8-200](#), and [Table 8-210](#).
3. Added the **isSupportMultiAppLogin** field (whether to support login to multiple applications on the same device) to **HwmlnitInfo** in the **Init** API. For details, see [Table 8-3](#).
4. Added the enumerated values **HWM\_ENABLE\_FEATURE\_DEFAULT\_SHARE\_AUDIO** (disconnecting audio), **HWM\_ENABLE\_FEATURE\_VOICEPRINT\_NOISE\_REDUCE** (voice shield) to the **EnableFeature** parameter of the API for setting meeting functions. For details, see [Enabling a Function](#).
5. Added **OnPoorNetworkQualityInfoNotify** for notifications about poor network connection. For details, see [Poor Connection Notification](#).
6. Added the error codes **HWM\_CONF\_END\_REASON\_PARTICIPANT\_CONF\_NOT\_EXIST**, **HWM\_CONF\_END\_REASON\_END\_EXPIRATION**, **HWM\_CONF\_END\_REASON\_SDK\_CHAIR\_END\_CONF**, **HWM\_CONF\_END\_REASON\_SDK\_TIMEOVER\_END\_CONF**, and **HWM\_CONF\_END\_REASON\_RTC\_SDK\_NETWORK\_FAILED**. For details, see [Table 8-199](#).
7. Added the audio and video decoupling plug-in to the **Meeting-Workspace-Plugin** folder. For details, see [SDK Integration](#).
8. Added error code 412100044 indicating that the server is degraded. After receiving this error code, you can continue to call the API to join a meeting offline. (For details about the adaptation mode of this error code, see the demo.)

## 8.7.19 80.15.21 Updates

1. Fixed issues and provided more stable experience.

## 8.7.20 80.15.5 Updates

1. Added **OnConfEndedNotify** for meeting end notifications. For details, see [Meeting End Notification](#).
2. Added the **isForcedVpn** field (whether to forcibly use a VPN) to the **HwmNetWorkModeInfo** parameter in the API for setting the network mode. For details, see [Table 8-24](#).

## 8.7.21 80.13.6 Updates

1. Fixed issues and provided more stable experience.

## 8.7.22 80.13.5 Updates

1. Added the **SetLanguageWithCode** API for setting the SDK language. For details, see [Table 8-15](#).

## 8.7.23 80.12.7 Updates

1. Fixed issues and provided more stable experience.

## 8.7.24 80.12.6 Updates

1. Added the enumerated value **HWM\_ENABLE\_FEATURE\_CONFIRM\_RECORD** (whether to display the recording confirmation prompt) to the **EnableFeature** parameter. For details, see [Table 8-15](#).

## 8.7.25 80.12.5 Updates

1. Added the **UploadSelfAvatar** API for uploading a profile picture. For details, see [UploadSelfAvatar](#).
2. Added the **OnConfIsShareLockedChanged** notification to notify whether sharing is locked. For details, see [Notifications for Sharing Lock Status Changes](#).
3. Added the **enableShowAddressBookStructure** parameter (whether the corporate directory is displayed) to **HwmCorpConfigInfo** in the enterprise configuration change notification **OnCorpConfig**. For details, see [Table 8-183](#).
4. Added the error code **111072504** **HWM\_CONF\_END\_REASON\_PARTICIPANT\_REACH\_MAX\_NUM** (The meeting is ended because max. participants in a single meeting reached). For details, see [Table 8-199](#).

## 8.7.26 80.10.5 Updates

1. Added the **joinConfRestrictionType** and **isOpenWaitingRoom** parameters to **ChangeVmrInfoParam** and **HwmVmrInfo**.  
For details, see [Table 8-151](#) and [ChangeVmrInfo](#).

2. Added the **SetShareScreenPermission** API for setting the sharing permission. For details, see [SetShareScreenPermission](#).

## 8.7.27 80.9.5 Updates

1. Changed the **subConfUUID** parameter to **subConfID** in the **CancelSubCycleConf** API for canceling a recurring meeting. For details, see [Table 8-175](#).
2. Discarded the **cycleCount** parameter in the recurring meeting details of the **BookCycleConf** API for scheduling a recurring meeting series and the **ModifyCycleConf** API for editing a recurring meeting series. For details, see [Table 8-170](#).
3. Added the enumerated value **HWM\_ENABLE\_FEATURE\_BREAKOUT\_CONF** to the **EnableFeature** API for enabling a function. For details, see [Table 8-15](#).
4. Added the **isInBreakoutSubConf** parameter to **HwmConfInfo** of meeting information. For details, see [Table 8-200](#).

## 8.7.28 80.8.5 Updates

1. Detailed error codes and added error code 10011 indicating that the authentication information has expired. For details, see [Common Error Codes](#).
2. Added the **isCreator** parameter indicating whether the user is the meeting scheduler to the **HwmConfInfo** parameter of the **OnConfInfo** API. For details, see [Meeting Details Notification](#).
3. Added the **isLiveOn** parameter to **HwmConfDetail** and **HwmEditConfParam**. For details, see [Obtaining Meeting Details](#) and [Editing a Meeting](#).

**Table 8-235** Mapping between error codes of the old and new versions

| Error Code in 80.7.5 and Earlier Versions | Error Code in 80.8.5 and Later Versions | New Error Code Description                                    |
|---|---|---|
| 10006                                     | 10006                                   | The username or password is incorrect.                        |
|   | 206010025                               | Failed to verify the app ID.                                  |
|   | 206030000                               | The user does not exist.                                      |
| 20001                                     | 20001                                   | Incorrect meeting ID or password.                             |
|   | 111070005                               | The meeting does not exist.                                   |
|   | 111070006                               | The personal cloud meeting room does not exist.               |
|   | 111070010                               | You do not have the permissions required to view the meeting. |

| Error Code in 80.7.5 and Earlier Versions | Error Code in 80.8.5 and Later Versions | New Error Code Description  |
|---|---|---|
|   | 111081002                               | The meeting does not exist or has ended.                          |
| 20015                                     | 20015                                   | More participants than allowed by the cloud meeting room package. |
|   | 111072101                               | More participants than allowed.                                   |

## 8.7.29 80.7.5 Updates

1. Added the **ShowSettingWindow** API for displaying the settings window. For details, see [Displaying the Settings Window](#).
2. Added the **moveall\_to\_waitingroom** parameter of moving all participants to the waiting room to the **Config** API. This button can be hidden. For details, see [Configuring the UI](#).
3. Added the **participant\_detail** parameter of injecting the participant profile to the **Config** API and added the participant details button **HWM\_CLICK\_INJECT\_BTN\_PARTICIPANT\_DETAIL** with data of **HwmConfAttendee** to the **OnClickInjectBtn** notification. For details, see [Configuring the UI](#) and [Click Injection Notification](#).
4. Added the screen settings item **HwmScreenSettingTab** to **HwmSettingWindowConfig** and moved the dual-screen setting item from **HwmNormalSettingTab** to **HwmScreenSettingTab**. For details, see [Customizing the Settings Screen](#).
5. Added **isOtherCorpConf** indicating whether the meeting is initiated by an external enterprise to the **HwmConfInfo** parameter in the **OnConfInfo** notification. For details, see [Meeting Details Notification](#).
6. Added the enumerated values **HWM\_USER\_CORP\_INFO\_NOTIFY\_TYPE\_USER\_NAME\_CHANGE** (username change) and **HWM\_USER\_CORP\_INFO\_NOTIFY\_TYPE\_USER\_STATUS\_CHANGE** (user status change) to the **HwmUserCorpInfoNotifyType** parameter in the enterprise information change notification (**OnUserCorpInfo**). For details, see [Changing Enterprise Information](#).
7. Added the **accountId** (Huawei Cloud Meeting account) to the **HwmConfAttendee** parameter of the **AddAttendee** API. For details, see [Inviting a Participant](#).
8. Added error codes. For details, see [Common Error Codes](#).
9. Added the error code indicating that the maximum number of participants in a cloud meeting room package has been reached (**HWM\_CONF\_END\_REASON\_NUM\_OF\_PAR\_EXCEEDS\_UPPER\_LIMIT**). For details, see [Meeting Status Notification](#).

10. Added the call end notification **OnCallRecordInfo**.

## 8.7.30 80.5.11 Updates

1. Added the **statusBar** parameter for hiding the button on the recording status bar to the **Config** API. For details, see [Configuring the UI](#).
2. Added the **DisableVoicePrompts** API for disabling prompt tones. For details, see [Disabling Prompt Tones](#).

## 8.7.31 80.5.5 Updates

1. Added **HWM\_CONF\_END\_REASON\_SERVER\_ERROR** (server exception) to **HwmConfEndReason** (reasons for ending a meeting). For details, see [Table 8-199](#).

## 8.7.32 70.16.5 Updates

1. Added recurring meeting APIs. For details, see [Scheduling a Recurring Meeting Series](#), [Editing a Recurring Meeting Series](#), [Canceling a Recurring Meeting Series](#), [Editing a Recurring Meeting](#), and [Canceling a Recurring Meeting](#).
2. Added **isStopConflictConf** to the **HwmJoinConfByIdInfo** API for joining a meeting, so you can forcibly end a meeting that conflicts with the current cloud meeting room. For details, see [Joining a Meeting](#).
3. Added the **Config** API for configuring custom buttons. Level-2 menus can be added. For details about the API, see [Configuring the UI](#).
4. Added error codes. For details, see [Common Error Codes](#).
5. Added the following buttons to the **Config** API: **share\_strategy** (shared image quality policy, that is, definition first or fluency first), **share\_hide\_video** (hiding the video window during screen sharing), **share\_audio** (sharing computer sound during screen sharing), and **copy\_conf\_info** (copying meeting information). The first three buttons can be hidden, and the last button supports configuration injection. For details, see [Configuring the UI](#) and [Table 8-188](#).
6. Added enumerated values **HWM\_CONF\_ROLE\_AUDIENCE** (attendee), **HWM\_CONF\_ROLE\_COHOST** (co-host), and **HWM\_CONF\_ROLE\_WAITING** (waiting room member) to the meeting role **HwmConfRole**. For details, see [Table 8-201](#).

## 8.7.33 70.14.5 Updates

1. Added the **SetNetworkMode** API for configuring the network mode. For details, see [Setting the Network Mode](#).
2. Added **deptCode** (department ID) to the **HwmAppIdAuthInfo** parameter of the login API. For details, see [Login](#).
3. When scheduling a meeting, you can allow guests to join the meeting at the time you specify before the start time. For details, see [Scheduling a Meeting](#).



## 8.7.34 70.13.5 Updates

1. Added the **HwmLoginResult** parameter to the **OnLoginResult** and **OnLoginBySSOResult** callbacks and added the **HwmLogoutResult** parameter to the **OnLogoutResult** callback. For details, see [Account Operations](#). If an earlier version is upgraded to 70.13.5, the definition of the callback functions needs to be modified.
2. Changed the file name extension of WinUI logs to .txt, including **hwm\_winconfui.txt**, **hwmSdk.txt**, **hwmSdkAgent.txt**, and **hwmSdkAgent32.txt**.
3. Added the **isUploadKeyLog** parameter (whether to automatically collect logs) to the **Config** API. For details, see [Configuring the UI](#).
4. Added **preferredCamera** (list of preferred cameras) to the **HwmInitInfo** parameter of the **Init** API. For details, see [Initializing the SDK](#).
5. Added the **AVDeviceCtrl** API and the **OnAVDeviceCtrlResult** result callback for controlling audio and video devices, and the **OnAVDeviceCtrlStateChanged** notification of device status changes. For details, see [Controlling Audio and Video Devices](#) and [Audio and Video Device Status Notification](#).
6. Added the button customization in the **Config** API. The bottom and sharing toolbars can be dynamically refreshed. For details, see [Configuring the UI](#).

## 8.7.35 70.12.6 Updates

1. Fixed an issue where the video definition cannot be restored after the network is restored.

## 8.7.36 70.12.4 Updates

1. Added **duration** (optional, meeting duration) to the **HwmCreateConfInfo** parameter of the **CreateConf** API. For details, see [Creating a Meeting](#).
2. Added the **ConfigSettingWindow** API for customizing the settings screen. For details, see [Customizing the Settings Screen](#).
3. Added the **OnUserCorpInfo** notification of enterprise information updates. For details, see [Changing Enterprise Information](#).

## 8.7.37 70.11.5 Updates

1. Added **logKeepDays** (log storage duration) to the **HwmInitInfo** parameter of the **Init** API.

For details, see [Initializing the SDK](#).

## 8.7.38 70.10.5 Updates

1. Added the **isHideTransferHostBeforeLeave** parameter (whether to hide the button of appointing a new host when a host leaves a meeting) to the **Config** API.

For details, see [Configuring the UI](#).

## 8.7.39 70.9.5 Updates

1. Added the SSO login API. For details, see [SSO](#).

## 8.7.40 70.8.6 Updates

1. Added the API for refreshing custom button settings. For details, see [Updating Custom Button Configurations](#).
2. Fixed issues and provided more stable experience.

## 8.7.41 70.8.5 Updates

1. The participant list (including the webinar) can be obtained. For details, see [Obtaining the Participant List](#).
2. Audio data streams can be obtained. For details, see [Obtaining Audio Data Streams](#).

## 8.7.42 70.7.5 Updates

1. Video mirroring is supported. After this function is enabled, you can view your own image effect.
2. 32-bit and 64-bit SDKs are available. For details, see [Getting Started](#).
3. The meeting control toolbar can be customized. For details, see [Configuring the UI](#).
4. Background replacement and blurring are supported.
5. During continuous presence broadcast, the shared screen can now be displayed as a small feed, and the participant video screen and the shared screen can be switched.
6. The [Setting a Sharing Policy](#) and [Setting Audio Sharing](#) APIs are added.

## 8.7.43 70.6.5 Updates

- Added the API for displaying the main window of a meeting. For details, see [Displaying the Main Meeting Window](#).
2. You can now hide participants without video in meetings.
  3. When an authorized user joins a meeting that only allows specific users to join the meeting or that is locked, the error code is reported in OnConfState (reason for leaving the meeting), instead of the callback of joining the meeting. For details, see [Meeting Status Notification](#).

## 8.7.44 70.5.8 Updates

1. Optimized the visual experience during meetings.

## 8.7.45 70.4.5 Updates

1. Added the description of response parameters to the API for scheduling a meeting. For details, see [Scheduling a Meeting](#).

3. Added the API for obtaining the current user status. For details, see [Obtaining a User Status](#).
3. Added the configuration of hiding the security menu, caption function, and button of locking sharing. For details, see [Configuring the UI](#).
4. The host can invite others to share content and quickly cancel the sharing.
5. Installation and use in Arabic file paths are supported.
6. Optimized the size of meeting logs.

## 8.7.46 70.3.5 Updates

1. Optimized participant information export during meetings.

## 8.7.47 60.15.5 Updates

1. Added the error code `HWM_AGENT_ERR_NOT_INITED_END` indicating that the initialization is not performed or is not complete. If the initialization callback result is not returned, any other APIs will fail to be called.
2. Added the function of hiding the **External** label in the participant list. For details, see [Enabling a Function](#).
3. Added the function of hiding the pop-up window for incoming calls and meetings. For details, see [Configuring the UI](#).
5. Added the local recording function. The host can control participants' local recording permissions and participants can configure the path for storing recordings. For details, see [Setting the Path for Saving User Files](#).
6. Added the **Security** module.

## 8.7.48 60.13.2 Updates

1. Added the function of changing the name of the **HwmSdk.exe** file in the **HwmSdk** folder before initialization.
2. Changed the value of **exePath** in the initialization API from the absolute path of the **HwmSdk** folder to the absolute path of the .exe file in UTF8 format. For details, see [Table 8-3](#).
3. Added the **logPath** and **userDataPath** parameters to the initialization API to specify the paths for storing log files and user data files. The format is **UTF8**. For details, see [Table 8-3](#).

## 8.7.49 60.12.5 Updates

1. During meeting creation, the meeting room (**vmrId**) and participant scope (**callInRestriction**) can be specified. For details, see [Table 8-103](#).
2. Added the function of customizing the meeting information windows. For details, see [Figure 8-40, Displaying Meeting Information Box Notification](#), and [Destroying a Meeting Information Box](#).
3. Added the function of querying the profile picture of a user from the external corporate directory. When the camera is disabled during a meeting, the profile picture is displayed. For details, see [Querying Profile Pictures in the External Address Book](#).

## 8.7.50 60.11.6 Updates

1. Added the **isAutoRecord** parameter to enable automatic recording for meetings.  
Note: Whether to automatically start recording after a meeting starts. The function is disabled by default. Meeting recording must be enabled if automatic recording is enabled.
  - Added the API for creating a meeting. For details, see [Table 8-103](#).
  - Added the API for scheduling and editing a meeting. For details, see [Table 8-154](#).

## 8.7.51 60.10.5 Updates

1. Added the login site type to the initialization API. For details, see [Initializing the SDK](#).
2. Allowed users to join a meeting in random mode. For details, see [Joining a Meeting Using a Random Code](#).
3. Supported SP authentication and login, and added the **corpId** field. For details, see [Login](#).
4. Optimized the watermark display. For details, see [SetWaterMark](#).

## 8.7.52 60.8.1 Updates

1. Added app IDs during initialization and optimized app differentiation.
2. Added the following APIs: app ID login, meeting scheduling, meeting editing, meeting list query, meeting details query, and meeting cancellation.

## 8.8 Change History

Table 8-236 Change history

| Released On | Version  | Change Description   |
|-------------|----------|--|
| 2024-12-04  | 100.10.7 | Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.10.7 Updates</a> . |
| 2024-11-27  | 100.10.6 | Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.10.6 Updates</a> . |

| Released On | Version  | Change Description   |
|-------------|----------|--|
| 2024-11-12  | 100.10.5 | <ol style="list-style-type: none"> <li>1. Added the <b>SetAutoHideToolBar</b> API for setting whether to automatically hide the meeting control bar.</li> <li>2. Added the <b>SetCustomUIText</b> API for customizing the text for a specific scenario.</li> <li>3. Added the <b>SetCustomUIImage</b> API for customizing the icon for a specific scenario.</li> <li>4. Added the <b>corpEnableForbidScreenshots</b> Bool (whether screenshot capture is forbidden) to the <b>HwmCorpConfigInfo</b> struct (enterprise configuration).<br/>For details, see <a href="#">100.10.5 Updates</a>.</li> </ol> |
| 2024-10-31  | 100.9.7  | <p>Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">100.9.7 Updates</a>.</p>  |

| Released On | Version  | Change Description   |
|-------------|----------|--|
| 2024-10-12  | 100.9.5  | <p>1. Discarded the <b>vmrFlag</b> field in the <b>HwmBookConfParam</b> parameter for scheduling a meeting and the <b>HwmEditConfParam</b> parameter for editing a meeting.</p> <p>2. Added the <b>call_all</b> field to the <b>Config</b> API. This field can be hidden or injected. Added the <b>HWM_CLICK_INJECT_BTN_CALL_ALL</b> button (calling all absent participants) to the <b>OnClickInjectBtn</b> notification. The data information of this button is <b>HwmCallAllInfo</b>.</p> <p>3. Added the <b>OnUserSavePathChanged</b> notification to notify you of user data path changes.</p> <p>4. Added the <b>OnAddAttendeeNotify</b> notification to notify you of participant addition results.</p> <p>5. Added the <b>thirdUserId</b> field (third-party account) to <b>HwmConfIncomingInfo</b> (incoming meeting information).</p> <p>6. Added the <b>startTimeStamp</b> (meeting start time) and <b>endTimeStamp</b> (meeting end time) fields and discarded the <b>startTime</b> and <b>endTime</b> fields.</p> <p>7. Added the <b>supportGuestInviteAttendee</b> field (whether a guest can invite others to the meeting) to <b>HwmMeetingInfo</b> (meeting information).</p> <p>8. Added the <b>stopShareReason</b> field (reason for stopping sharing) to <b>HwmShareStateInfo</b> (sharing status of the transmitter).</p> <p>For details, see <a href="#">100.9.5 Updates</a>.</p> |
| 2024-10-12  | 100.7.13 | <p>Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">100.7.13 Updates</a>.</p>   |
| 2024-08-23  | 100.7.8  | <p>Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">100.7.8 Updates</a>.</p>  |
| 2024-08-16  | 100.7.6  | <p>Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">100.7.6 Updates</a>.</p>  |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2024-08-02  | 100.7.5 | <ol style="list-style-type: none"> <li>1. Added the <b>SetServerAddress</b> API for setting login server information.</li> <li>2. Added the <b>SetProxyInfo</b> API for setting proxy information.</li> <li>3. Added the <b>SetCAVerifyInfo</b> API for setting certificate verification information.</li> <li>4. Added the <b>SetTransparentWnd</b> API for making windows transparent during screen sharing.</li> <li>5. Added the <b>StartProjection</b> API for starting projection.</li> <li>6. Added the <b>handle</b> parameter of the <b>HWND</b> type to the <b>HwmMainWindowInfo</b> struct.</li> <li>7. Added <b>OnMeetingInfoChanged</b> to notify you of meeting information changes.</li> <li>8. Added the <b>defaultSummaryState</b> field (whether cloud recording contains minutes) to <b>HwmCreateConfInfo</b> (creating a meeting), <b>HwmBookConfParam</b> (scheduling a meeting), <b>HwmEditConfParam</b> (editing a meeting), and <b>HwmConfDetail</b> (meeting information).</li> <li>9. Added the <b>corpEnableSummary</b> Bool (whether minutes are supported) to the <b>HwmCorpConfigInfo</b> struct (enterprise configuration).</li> <li>10. Added the <b>autoMuteMode</b> field (whether to automatically mute soft client guests when they join the meeting) and the <b>hardTerminalAutoMuteMode</b> field (whether to automatically mute hard terminal guests when they join the meeting) to <b>HwmCreateConfInfo</b> (creating a meeting), <b>HwmBookConfParam</b> (scheduling a meeting), <b>HwmEditConfParam</b> (editing a meeting), and <b>HwmConfDetail</b> (meeting information).</li> <li>11. Added the <b>isP2PConf</b> parameter (whether the meeting is an instant meeting) to the <b>HwmConfIncomingInfo</b></li> </ol> |

| Released On | Version | Change Description   |
|-------------|---------|--|
|             |         | struct (incoming meeting call information).<br>12. Deprecated the <b>vmrFlag</b> field (whether the meeting is held in a cloud meeting room) in <b>HwmBookConfParam</b> (scheduling a meeting) and <b>HwmEditConfPara</b> (editing a meeting).<br>For details, see <a href="#">100.7.5 Updates</a> .   |
| 2024-06-13  | 100.5.5 | 1. Changed the <b>isForcedVpn</b> Bool in the <b>HwmNetWorkModelInfo</b> struct to the <b>HwmNetConnectType</b> enum.<br>2. Changed the type of the <b>operableUiMonitor</b> parameter in the <b>HwmStartShareInfo</b> struct from enum to struct, and changed the value assignment method to <b>operableUiMonitor.monitor</b> .<br>For details, see <a href="#">100.5.5 Updates</a> . |
| 2024-05-21  | 100.3.7 | Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.3.7 Updates</a> .  |
| 2024-04-23  | 100.3.6 | Added the enumerated value <b>HWM_ENABLE_FEATURE_SUPPORT_GUEST_INVITE</b> for the <b>EnableFeature</b> API used to configure meeting functions.<br>For details, see <a href="#">100.3.6 Updates</a> .  |
| 2024-02-17  | 90.12.7 | Fixed issues and provided more stable experience.<br>For details, see <a href="#">90.12.7 Updates</a> .  |



| Released On | Version | Change Description  |
|-------------|---------|---|
| 2024-01-05  | 90.12.5 | <ol style="list-style-type: none"> <li>1. Added the <b>ShowToast</b> API for displaying a toast message.</li> <li>2. Added the <b>GetMainWindowInfo</b> API for obtaining the main window information.</li> <li>3. Deprecated the <b>OnGetVmrListResult</b> notification and added the <b>OnGetVmrInfoListResult</b> notification to notify you of the cloud meeting room list.</li> <li>4. Added the <b>confResType</b> parameter to <b>HwmCreateConfInfo</b> and <b>HwmBookConfParam</b>.</li> <li>5. Added the <b>OnShareVmrInfoNotify</b> notification to notify you when information about shared cloud meeting rooms was changed.</li> <li>6. Added the participant UUID parameter to <b>HwmCalleeInfo</b>.</li> <li>7. Added the <b>GetErrorMessage</b> API for obtaining an error message, which can be used for prompt.</li> <li>8. Added the <b>SetGuaranteedIpAddresses</b> API for setting guaranteed IP addresses for meeting control to keep on-premises data within your enterprise or support network interruption survival.</li> <li>9. Added the following meeting end error codes to <b>HwmConfEndReason</b>:<br/><b>HWM_CONF_END_REASON_OVER_MAX_PARTICIPANT_NUMBER</b>, <b>HWM_CONF_END_MANAGER_SHARE_VMR_NOT_ENOUGH</b>, and <b>HWM_CONF_END_MANAGER_NO_UPSCALE_VMR</b>.</li> <li>10. Added the <b>OnP2PConfRecordNotify</b> notification to notify you of instant meeting records.</li> <li>11. Added the <b>copy_audience_conf_info</b> parameter to the <b>config</b> API to support the injection of the button used to copy the link to a webinar for attendees.</li> </ol> <p>For details, see <a href="#">90.12.7 Updates</a>.</p> |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2023-09-26  | 90.9.5  | <p>1. Added the <b>concurrentParticipants</b> parameter (maximum number of participants allowed in a meeting) to <b>HwmCreateConfInfo</b> (creating a meeting), <b>HwmBookConfParam</b> (scheduling a meeting), <b>HwmEditConfParam</b> (editing a meeting), and <b>HwmConfDetail</b> (meeting details).</p> <p>2. Added the <b>vmrId</b> parameter (ID of meetings held in a cloud meeting room) to <b>HwmConfIncomingInfo</b> (incoming meeting information).</p> <p>3. Added the <b>SetLogPath</b> API for setting the log storage path.</p> <p>For details, see <a href="#">90.9.5 Updates</a>.</p> |
| 2023-08-24  | 90.7.6  | <p>Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">90.7.6 Updates</a>.</p>  |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2023-08-04  | 90.7.5  | <p>1. Added the <b>StartP2pConf</b> API for starting an instant meeting.</p> <p>2. Added <b>isP2PConf</b> (whether the meeting is an instant meeting) to the <b>HwmConfStateInfo</b> parameter in the meeting status notification <b>OnConfState</b> and the <b>HwmConfEndInfo</b> parameter in the meeting end notification <b>OnConfEndedNotify</b>.</p> <p>3. Added the <b>DeleteSelfAvatar</b> API for deleting a user-defined profile picture.</p> <p>4. Added the <b>GetUserSavePath</b> API for obtaining the save path of a user.</p> <p>5. Added the enumerated values <b>HWM_ENABLE_FEATURE_SUPPORT_DISCONNECT_AUDIO</b> (disconnecting audio), <b>HWM_ENABLE_FEATURE_DISCONNECT_AUDIO_TO_JOIN_CONF</b> (whether to join a meeting without audio), and <b>HWM_ENABLE_FEATURE_CPU_REDUCTION_DETECT</b> (whether to detect CPU frequency reduction) to the <b>EnableFeature</b> parameter of the API for configuring meeting functions.</p> <p>6. Added the error codes <b>HWM_CONF_END_REASON_CONF_NUM_OVER_MAX_ALLOWED</b>, <b>HWM_CONF_END_REASON_CALLEE_REFUSED_END_CONF</b>, <b>HWM_CONF_END_REASON_CALLEE_TIMEOUT_END_CONF</b>, and <b>HWM_CONF_END_FORCE_OPEN_CAMERA_HANGUP</b> to <b>HwmConfEndReason</b> (meeting end reason).</p> <p>7. Added the <b>domain</b> field to the <b>HwmJoinConfByRandomInfo</b> parameter of the API for joining a meeting using a random code.</p> <p>For details, see <a href="#">90.7.5 Updates</a>.</p> |

| Released On | Version  | Change Description  |
|-------------|----------|---|
| 2023-06-02  | 90.6.5   | <ol style="list-style-type: none"> <li>1. Deprecated the <b>StartCall</b> API.</li> <li>2. Added the <b>customInfo</b> field (user-defined information) to <b>HwmBookConfParam</b> (scheduling a meeting), <b>HwmEditConfParam</b> (editing a meeting), <b>HwmCreateConfInfo</b> (creating a meeting), <b>HwmConfInfo</b> (meeting information), and <b>HwmConfListInfo</b> (meeting list).</li> <li>3. Added the <b>isSupportMultiAppLogin</b> field (whether to support login to multiple applications on the same device) to <b>HwmInitInfo</b> in the <b>Init</b> API.</li> <li>4. Added the enumerated value <b>HWM_ENABLE_FEATURE_DEFAULT_SHARE_AUDIO</b> (whether to share audio) to the <b>EnableFeature</b> parameter in the API for setting meeting functions.</li> <li>5. Added <b>OnPoorNetworkQualityInfo-Notify</b> for notifications about poor network connection.</li> <li>6. Added the error codes <b>HWM_CONF_END_REASON_PARTICIPANT_CONF_NOT_EXIST</b>, <b>HWM_CONF_END_REASON_END_EXPIRATION</b>, <b>HWM_CONF_END_REASON_SDK_CHAIR_END_CONF</b>, <b>HWM_CONF_END_REASON_SDK_TIME_OVER_END_CONF</b>, and <b>HWM_CONF_END_REASON_RTC_SDK_NETWORK_FAILED</b>.</li> <li>7. Added the audio and video decoupling plug-in to the <b>Meeting-Workspace-Plugin</b> folder.</li> <li>8. Added error code 412100044 indicating that the server is degraded. After receiving this error code, you can continue to call the API to join a meeting offline.<br/>For details, see <a href="#">90.6.5 Updates</a>.</li> </ol> |
| 2023-05-11  | 80.15.21 | <p>Fixed issues and provided more stable experience.<br/>For details, see <a href="#">80.15.21 Updates</a>.</p>   |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2023-03-29  | 80.15.5 | <p>1. Added <b>OnConfEndedNotify</b> for meeting end notifications.</p> <p>2. Added the <b>isForcedVpn</b> field (whether to forcibly use a VPN) to the <b>HwmNetWorkModeInfo</b> parameter in the API for setting the network mode.</p> <p>For details, see <a href="#">80.15.5 Updates</a>.</p>   |
| 2023-02-22  | 80.13.6 | <p>Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">80.13.6 Updates</a>.</p>   |
| 2023-02-07  | 80.13.5 | <p>1. Added the <b>SetLanguageWithCode</b> API for setting the SDK language.</p> <p>For details, see <a href="#">80.13.5 Updates</a>.</p>   |
| 2023-01-17  | 80.12.7 | <p>Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">80.12.7 Updates</a>.</p>   |
| 2023-01-09  | 80.12.6 | <p>1. Added the enumerated value <b>HWM_ENABLE_FEATURE_CONFIRM_RECORD</b> (whether to display the recording confirmation prompt) to the <b>EnableFeature</b> parameter.</p> <p>For details, see <a href="#">80.12.6 Updates</a>.</p>  |
| 2022-12-23  | 80.12.5 | <p>1. Added the <b>UploadSelfAvatar</b> API for uploading a profile picture.</p> <p>2. Added the <b>OnConfIsShareLocked-Changed</b> notification to notify whether sharing is locked.</p> <p>3. Added the <b>enableShowAddressBook-Structure</b> parameter (whether the corporate directory is displayed) to <b>HwmCorpConfigInfo</b> in the enterprise configuration change notification <b>OnCorpConfig</b>.</p> <p>4. Added the error code <b>111072504 HWM_CONF_END_REASON_PARTICIPANT_REACH_MAX_NUM</b> (The meeting is ended because max. participants in a single meeting reached).</p> <p>For details, see <a href="#">80.12.5 Updates</a>.</p> |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2022-11-16  | 80.10.5 | <ol style="list-style-type: none"> <li>1. Added the <b>joinConfRestrictionType</b> and <b>isOpenWaitingRoom</b> parameters to <b>ChangeVmrInfoParam</b> and <b>HwmVmrInfo</b>.</li> <li>2. Added the <b>SetShareScreenPermission</b> API for setting the sharing permission.<br/>For details, see <a href="#">80.10.5 Updates</a>.</li> </ol>   |
| 2022-10-08  | 80.9.5  | <ol style="list-style-type: none"> <li>1. Changed the <b>subConfUUID</b> parameter to <b>subConfID</b> in the <b>CancelSubCycleConf</b> API for canceling a recurring meeting.</li> <li>2. Discarded the <b>cycleCount</b> parameter in the recurring meeting details of the <b>BookCycleConf</b> API for scheduling a recurring meeting series and the <b>ModifyCycleConf</b> API for editing a recurring meeting series.</li> <li>3. Added the enumerated value <b>HWM_ENABLE_FEATURE_BREAKOUT_CONF</b> to the <b>EnableFeature</b> API for enabling a function.</li> <li>4. Added the <b>isInBreakoutSubConf</b> parameter to <b>HwmConfInfo</b> of meeting details.<br/>For details, see <a href="#">80.9.5 Updates</a>.</li> </ol> |
| 2022-09-02  | 80.8.5  | <ol style="list-style-type: none"> <li>1. Detailed error codes and added error code 10011 indicating that the authentication information has expired.</li> <li>2. Added the <b>isCreator</b> parameter indicating whether the user is the meeting scheduler to the <b>HwmConfInfo</b> parameter of the <b>OnConfInfo</b> API.</li> <li>3. Added the <b>isLiveOn</b> parameter to <b>HwmConfDetail</b> and <b>HwmEditConfParam</b>.<br/>For details, see <a href="#">80.8.5 Updates</a>.</li> </ol>  |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2022-07-30  | 80.7.5  | <ol style="list-style-type: none"> <li>1. Added the <b>ShowSettingWindow</b> API for displaying the settings window.</li> <li>2. Added the <b>moveall_to_waitingroom</b> parameter of moving all participants to the waiting room to the <b>Config</b> API. This button can be hidden.</li> <li>3. Added the <b>participant_detail</b> parameter of injecting the participant profile to the <b>Config</b> API and added the participant details button <b>HWM_CLICK_INJECT_BTN_PARTICIPANT_DETAIL</b> with data of <b>HwmConfAttendee</b> to the <b>OnClickInjectBtn</b> notification.</li> <li>4. Added the screen settings item <b>HwmScreenSettingTab</b> to <b>HwmSettingWindowConfig</b> and moved the dual-screen setting item from <b>HwmNormalSettingTab</b> to <b>HwmScreenSettingTab</b>.</li> <li>5. Added <b>isOtherCorpConf</b> indicating whether the meeting is initiated by an external enterprise to the <b>HwmConfInfo</b> parameter in the <b>OnConfInfo</b> notification.</li> <li>6. Added the enumerated values <b>HWM_USER_CORP_INFO_NOTIFY_TYPE_USER_NAME_CHANGE</b> (username change) and <b>HWM_USER_CORP_INFO_NOTIFY_TYPE_USER_STATUS_CHANGE</b> (user status change) to the <b>HwmUserCorpInfoNotifyType</b> parameter in the enterprise information change notification (<b>OnUserCorpInfo</b>).</li> <li>7. Added the <b>accountId</b> (Huawei Cloud Meeting account) to the <b>HwmConfAttendee</b> parameter of the <b>AddAttendee</b> API.</li> <li>8. Added error codes.</li> <li>9. Added the error code indicating that the maximum number of participants in a cloud meeting room package has been reached (<b>HWM_CONF_END_REASON_NUM_OF_PAR_EXCEEDS_UPPER_LIMIT</b>).</li> <li>10. Added the call end notification <b>OnCallRecordInfo</b>.</li> </ol> |

| Released On | Version | Change Description   |
|-------------|---------|--|
|             |         | For details, see <a href="#">80.7.5 Updates</a> .  |
| 2022-05-30  | 80.5.11 | <ol style="list-style-type: none"> <li>1. Added the <b>statusBar</b> parameter for hiding the button on the recording status bar to the <b>Config</b> API.</li> <li>2. Added the <b>DisableVoicePrompts</b> API for disabling prompt tones.</li> </ol> For details, see <a href="#">80.5.11 Updates</a> .  |
| 2022-05-18  | 80.5.5  | <ol style="list-style-type: none"> <li>1. Added <b>HWM_CONF_END_REASON_SERVER_ERROR</b> (server exception) to <b>HwmConfEndReason</b> (reasons for ending a meeting).</li> </ol> For details, see <a href="#">80.5.5 Updates</a> .   |
| 2022-03-25  | 70.16.5 | <ol style="list-style-type: none"> <li>1. Added APIs related to recurring meetings.</li> <li>2. Added <b>isStopConflictConf</b> to the <b>HwmJoinConfByIdInfo</b> API for joining a meeting, so you can forcibly end a meeting that conflicts with the current cloud meeting room.</li> <li>3. The <b>Config</b> API can be used to customize buttons and add level-2 menus.</li> <li>4. Added error codes.</li> <li>5. Added the following buttons to the <b>Config</b> API: <b>share_strategy</b> (shared image quality policy, that is, definition first or fluency first), <b>share_hide_video</b> (hiding the video window during screen sharing), <b>share_audio</b> (sharing computer sound during screen sharing), and <b>copy_conf_info</b> (copying meeting details). The first three buttons can be hidden, and the last button supports configuration injection. For details.</li> <li>6. Added enumerated values <b>HWM_CONF_ROLE_AUDIENCE</b> (attendee), <b>HWM_CONF_ROLE_COHOST</b> (co-host), and <b>HWM_CONF_ROLE_WAITING</b> (waiting room member) to <b>HwmConfRole</b>.</li> </ol> For details, see <a href="#">70.16.5 Updates</a> . |



| Released On | Version | Change Description   |
|-------------|---------|--|
| 2022-02-19  | 70.14.5 | <p>1. Added the <b>SetNetworkMode</b> API for configuring the network mode.</p> <p>2. Added <b>deptCode</b> (department ID) to the <b>HwmAppIdAuthInfo</b> parameter of the login API.</p> <p>3. When scheduling or editing a meeting, you can allow guests to join the meeting at the time you specify before the start time.</p> <p>For details, see <a href="#">70.14.5 Updates</a>.</p>  |
| 2022-01-19  | 70.13.5 | <p>1. Added the <b>HwmLoginResult</b> parameter to the <b>OnLoginResult</b> and <b>OnLoginBySSOResult</b> callbacks and added the <b>HwmLogoutResult</b> parameter to the <b>OnLogoutResult</b> callback.</p> <p>2. Changed the file name extension of WinUI logs to .txt, including <b>hwm_winconfui.txt</b>, <b>hwmSdk.txt</b>, <b>hwmSdkAgent.txt</b>, and <b>hwmSdkAgent32.txt</b>.</p> <p>3. Added the <b>isUploadKeyLog</b> parameter (whether to automatically collect logs) to the <b>Config</b> API.</p> <p>4. Added <b>preferredCamera</b> (list of preferred cameras) to the <b>HwmInitInfo</b> parameter of the <b>Init</b> API.</p> <p>5. Added the <b>AVDeviceCtrl</b> API and the <b>OnAVDeviceCtrlResult</b> result callback for controlling audio and video devices, and the <b>OnAVDeviceCtrlStateChanged</b> notification of device status changes.</p> <p>6. Added the button customization in the <b>Config</b> API. The bottom and sharing toolbars can be dynamically refreshed.</p> <p>For details, see <a href="#">70.13.5 Updates</a>.</p> |
| 2021-12-23  | 70.12.6 | <p>1. Fixed an issue where the definition cannot be restored when the network is weak.</p> <p>For details, see <a href="#">70.12.6 Updates</a>.</p>  |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2021-12-13  | 70.12.4 | <ol style="list-style-type: none"> <li>1. Added <b>duration</b> (optional, meeting duration) to the <b>HwmCreateConfInfo</b> parameter of the <b>CreateConf</b> API.</li> <li>2. Added the <b>ConfigSettingWindow</b> API for customizing the settings screen.</li> <li>3. Added the <b>OnUserCorpInfo</b> notification of enterprise information updates.</li> </ol> <p>For details, see <a href="#">70.12.4 Updates</a>.</p> |
| 2021-12-03  | 70.11.5 | <ol style="list-style-type: none"> <li>1. Added <b>logKeepDays</b> (log storage duration) to the <b>HwmInitInfo</b> parameter of the <b>Init</b> API.</li> </ol> <p>For details, see <a href="#">70.11.5 Updates</a>.</p>  |
| 2021-10-22  | 70.10.5 | <ol style="list-style-type: none"> <li>1. Added the <b>isHideTransferHostBeforeLeave</b> parameter (whether to hide the button of appointing a new host when a host leaves a meeting) to the <b>Config</b> API.</li> </ol> <p>For details, see <a href="#">70.10.5 Updates</a>.</p>  |
| 2021-09-16  | 70.9.5  | <ol style="list-style-type: none"> <li>1. Added the SSO login API.</li> </ol> <p>For details, see <a href="#">70.9.5 Updates</a>.</p>  |
| 2021-08-28  | 70.8.6  | <ol style="list-style-type: none"> <li>1. Added the API for refreshing custom button settings.</li> <li>2. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">70.8.6 Updates</a>.</p>  |
| 2021-08-18  | 70.8.5  | <ol style="list-style-type: none"> <li>1. You can obtain the participant list in meetings and webinars.</li> <li>2. You can obtain audio data streams.</li> </ol> <p>For details, see <a href="#">70.8.5 Updates</a>.</p>  |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2021-07-16  | 70.7.5  | <ol style="list-style-type: none"><li>1. You can configure video mirroring for the local site in meetings.</li><li>2. 32-bit and 64-bit SDKs are available.</li><li>3. You can customize the meeting control toolbar.</li><li>4. Background replacement and blurring are supported.</li><li>5. During continuous presence broadcast, the shared screen can now be displayed as a small feed, and the participant video screen and the shared screen can be switched.</li><li>6. Added APIs of setting the sharing policy and setting the shared audio.</li></ol> For details, see <a href="#">70.7.5 Updates</a> . |
| 2021-06-10  | 70.6.5  | <ol style="list-style-type: none"><li>1. Added the API for displaying the main meeting window.</li><li>2. You can now hide participants without video in meetings.</li><li>3. When an authorized user joins a meeting that only allows specific users to join the meeting or that is locked, the error code is reported in OnConfState (reason for leaving the meeting), instead of the callback of joining the meeting.</li></ol> For details, see <a href="#">70.6.5 Updates</a> .   |
| 2021-05-17  | 70.5.8  | <ol style="list-style-type: none"><li>1. Optimized the visual experience during meetings.</li></ol> For details, see <a href="#">70.5.8 Updates</a> .  |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2021-04-15  | 70.4.5  | <ol style="list-style-type: none"> <li>1. Added the description of response parameters to the API for scheduling a meeting.</li> <li>2. Added the API for obtaining the current user status.</li> <li>3. Added the configuration of hiding the security menu, caption function, and button of locking sharing.</li> <li>4. The host can invite others to share content and quickly cancel the sharing.</li> <li>5. Installation and use in Arabic file paths are supported.</li> <li>6. Optimized the size of meeting logs.</li> <li>7. Changed the implementation mode of callback functions from pure virtual functions to virtual functions with default implementation. You do not need to define all callback function APIs.</li> </ol> <p>For details, see <a href="#">70.4.5 Updates</a>.</p>                                       |
| 2021-03-12  | 70.3.5  | <ol style="list-style-type: none"> <li>1. Optimized participant information export during meetings.</li> </ol> <p>For details, see <a href="#">70.3.5 Updates</a>.</p>   |
| 2021-02-10  | 60.15.5 | <ol style="list-style-type: none"> <li>1. Added the error code <code>HWM_AGENT_ERR_NOT_INITED_END</code> indicating that the initialization is not performed or is not complete. If the initialization callback result is not returned, any other APIs will fail to be called.</li> <li>2. Added the function of hiding the <b>External</b> label in the participant list.</li> <li>3. Added the function of hiding the pop-up window for incoming calls and meetings.</li> <li>4. Added the API for configuring incoming call answering.</li> <li>5. Added the local recording function. The host can control participants' local recording permissions and participants can configure the path for storing recordings.</li> <li>6. Added the <b>Security</b> module.</li> </ol> <p>For details, see <a href="#">60.15.5 Updates</a>.</p> |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2021-01-08  | 60.13.2 | <p>1. Generally, the application process needs to be ended before application upgrade. To facilitate upgrade management, you can customize the name of the <b>HwmSdk.exe</b> file in the <b>HwmSdk</b> folder before initialization.</p> <p>2. Changed the value of <b>exePath</b> in the initialization API from the absolute path of the <b>HwmSdk</b> folder to the absolute path of the .exe file in UTF-8 format.</p> <p>3. Added the <b>logPath</b> and <b>userDataPath</b> parameters to the initialization API to specify the paths for storing log files and user data files.</p> <p>For details, see <a href="#">60.13.2 Updates</a>.</p> |
| 2020-12-07  | 60.12.5 | <p>1. During meeting creation, the meeting room (<b>vmrId</b>) and scope of users who are allowed to join the meeting (<b>callInRestriction</b>) can be specified.</p> <p>2. Added the function of customizing the meeting details windows.</p> <p>3. Added the function of querying the profile picture of a user from the external corporate directory. When the camera is disabled during a meeting, the profile picture is displayed.</p> <p>For details, see <a href="#">60.12.5 Updates</a>.</p>  |
| 2020-11-07  | 60.11.1 | <p>1. Added the function of automatic meeting recording.</p> <p>2. Added the P2P call function.</p> <p>3. Added the function of setting a display name in a P2P call.</p> <p>For details, see <a href="#">60.11.6 Updates</a>.</p>  |
| 2020-10-15  | 60.10.5 | <p>1. Added login site types during initialization.</p> <p>2. Allowed users to join a meeting in random mode.</p> <p>3. Supported SP authentication and login.</p> <p>4. Optimized the watermark display.</p> <p>For details, see <a href="#">60.10.5 Updates</a>.</p>  |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2020-09-04  | 60.8.1  | 1. Added meeting management APIs related to scheduled meetings.<br>2. Added the scenario of login using a third-party app ID.<br>For details, see <a href="#">60.8.1 Updates</a> . |
| 2020-06-24  | 60.6.4  | This issue is the first official release.  |

# 9 macOS SDK

---

## 9.1 Overview

Huawei Cloud Meeting macOS SDK provides a complete set of APIs. Developers can call the SDK APIs to quickly integrate meeting functions into their applications, including creating, scheduling, and joining meetings, and sharing screens.

## 9.2 Quick Start

This section uses SDK initialization as an example to describe how to use the macOS SDK for secondary development.

### 9.2.1 Preparations

1. Set the environment according to [Environment Requirements](#).
2. **Optional:** Decompress the downloaded **hwmsdk-mac.zip** software package on a Mac computer. Download the required SDK software package by referring to [Downloading SDKs](#).

### 9.2.2 Quick Integration

- Step 1** Decompress all the downloaded software packages to obtain **HWMUISDK** for integration and **HWMUISDKNativeDemo**.

**Figure 9-1** Decompressed files



 NOTE

**AW\_PortraitSDK.framework** in **HWMUISDK** is used for background blurring. To integrate the background blurring function, contact Huawei sales personnel.

**Step 2** Start the Xcode.

**Step 3** Choose **File > New > Project**, choose **App > Next**, enter app information, and click **Create** to create a project.

**Step 4** Configure the system architecture based on **Hardware Requirements**.

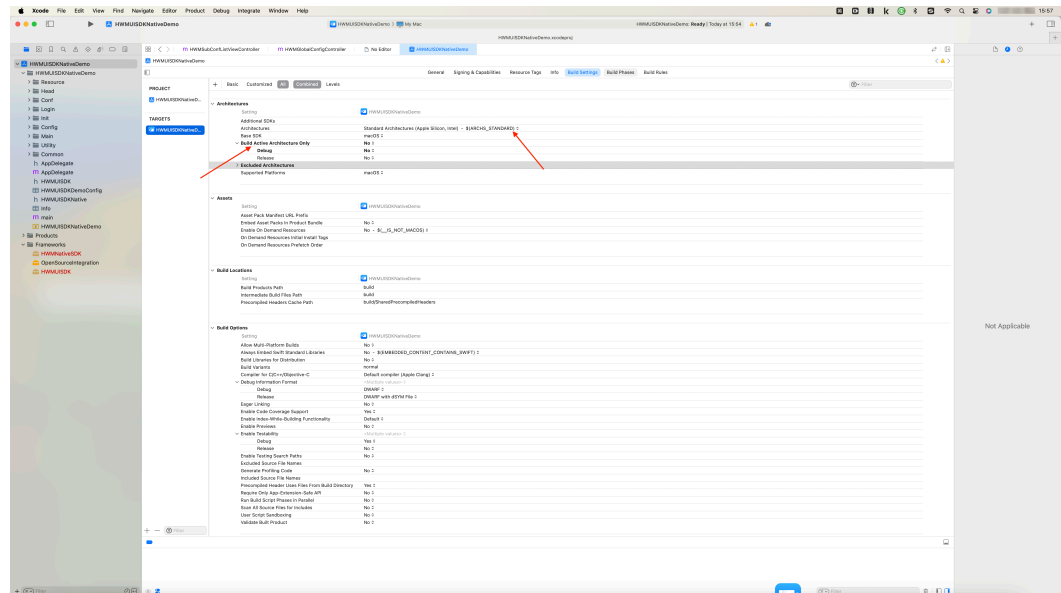
SDK for Intel chips:

Choose **TARGETS > Build Settings > Architectures**.

1. Set **Architectures** to **Standard Architectures**.

2. Set **Build Active Architecture Only**, **Debug**, and **Release** to **No**.

Figure 9-2 After modification



SDK for M-series chips:

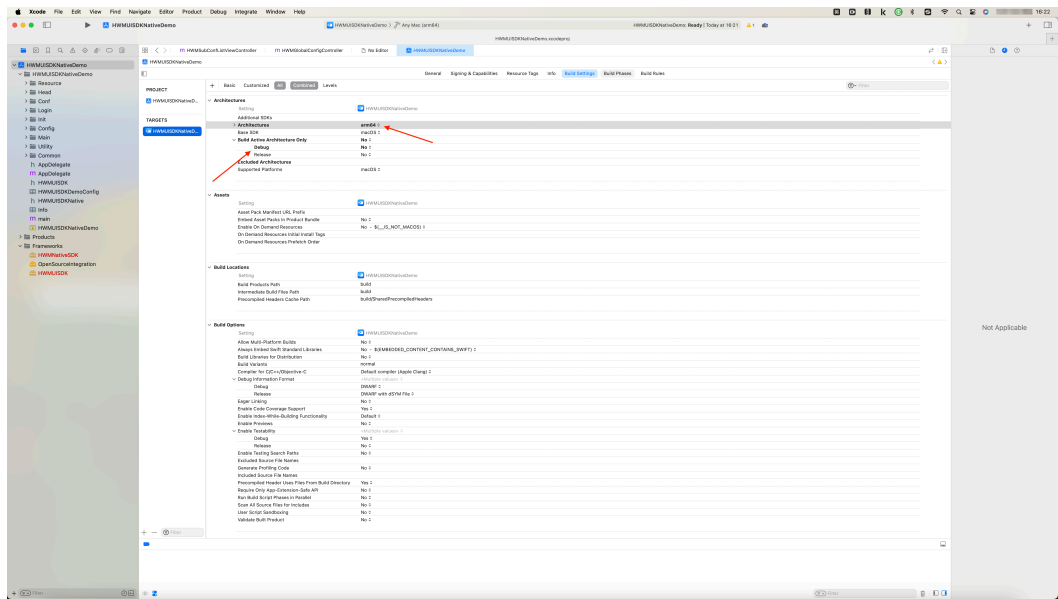
Choose **TARGETS > Build Settings > Architectures**.

1. Set **Architectures** to **arm64**.

2. Set **Build Active Architecture Only**, **Debug**, and **Release** to **No**.



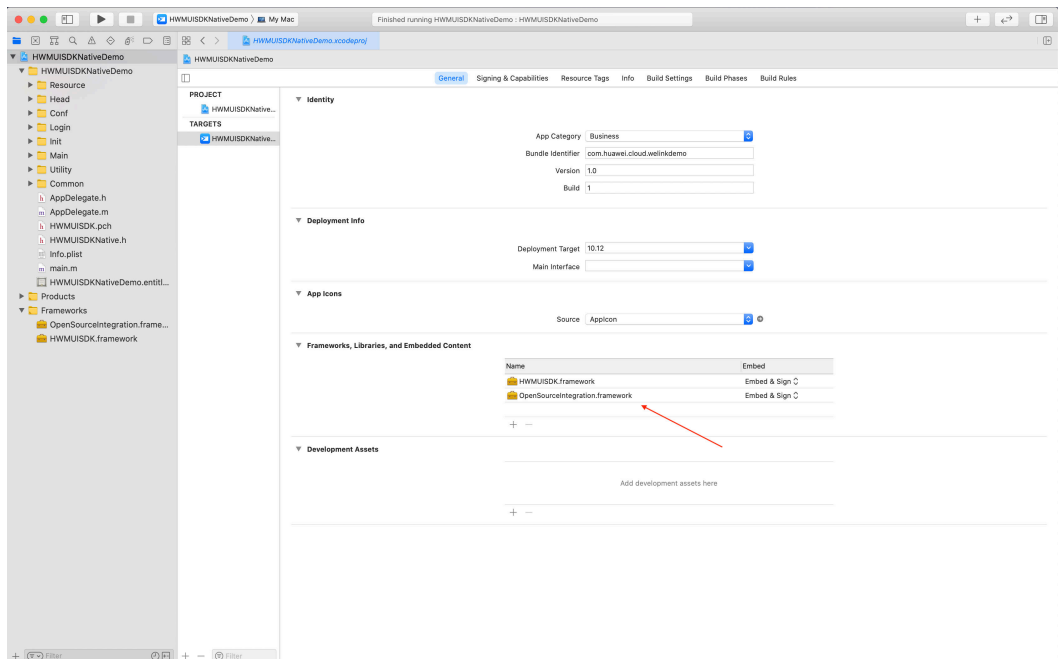
Figure 9-3 After modification

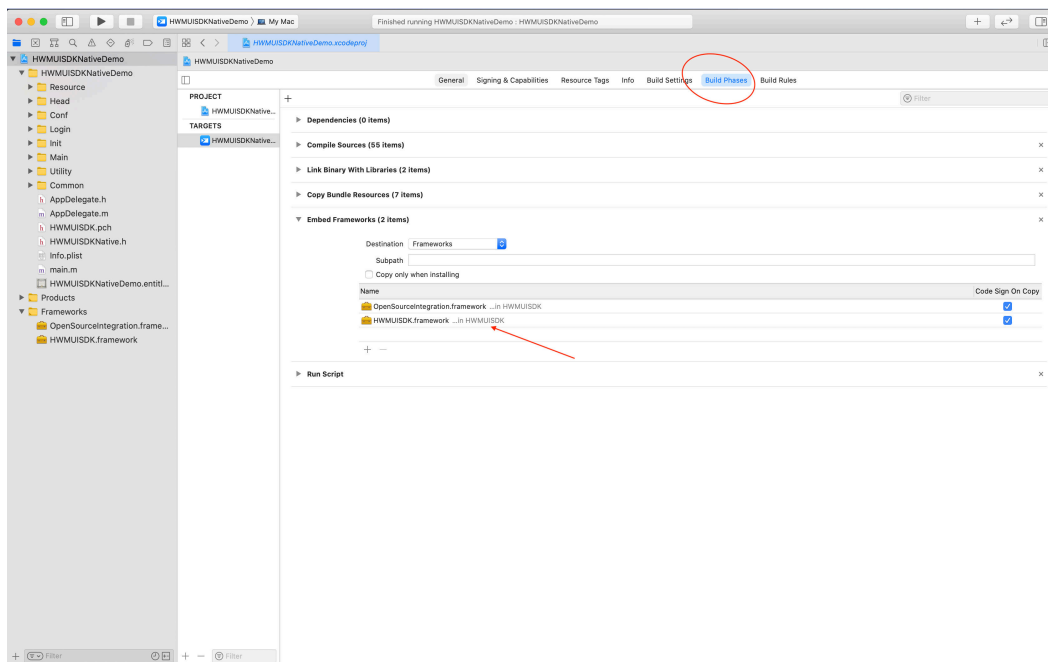


**Step 5** Add **HWMUISDK.framework** and **OpenSourceIntegration.framework** obtained in **Step 1** to the project.

Choose **TARGETS > General**. Then, change the value in the **Embed** column to **Embed & Sign**.

Figure 9-4 After modification





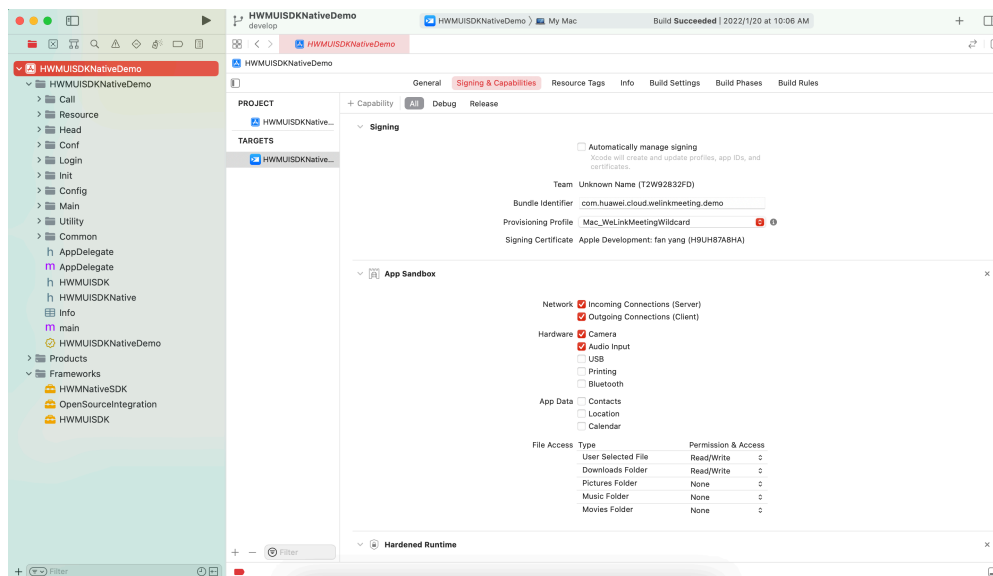
**Step 6** Configure project files.

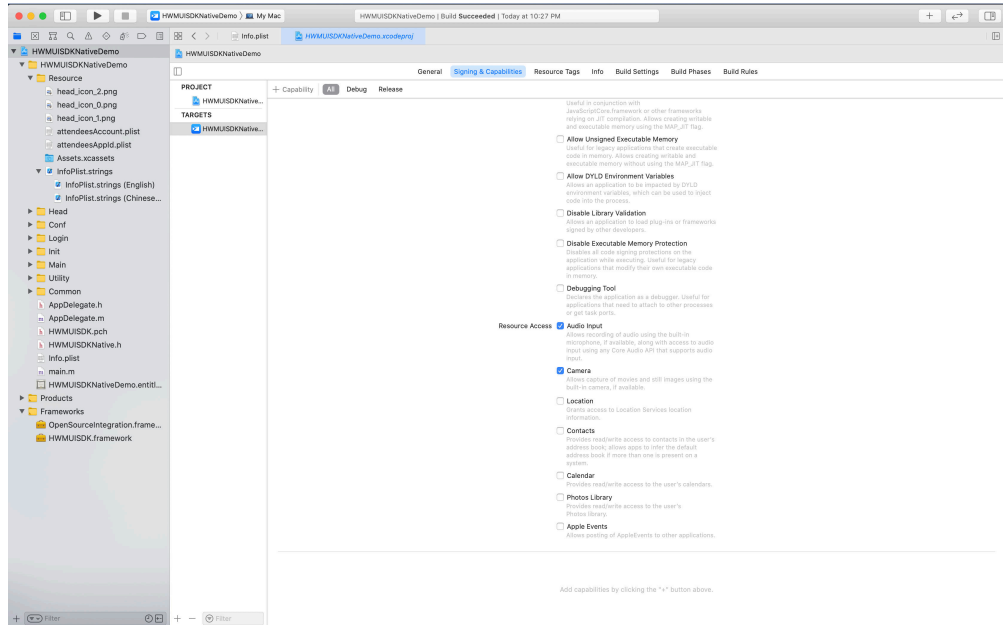
1. Enable the sandbox configuration items. If the app is not to be released to the app store, the sandbox can be disabled.

Set the values of the sandbox configuration item keys to **true**.

- com.apple.security.app-sandbox
- com.apple.security.device.audio-input
- com.apple.security.device.camera
- com.apple.security.files.user-selected.read-write
- com.apple.security.files.downloads.read-write
- com.apple.security.network.client
- com.apple.security.network.server

**Figure 9-5** Enabling sandbox configuration items



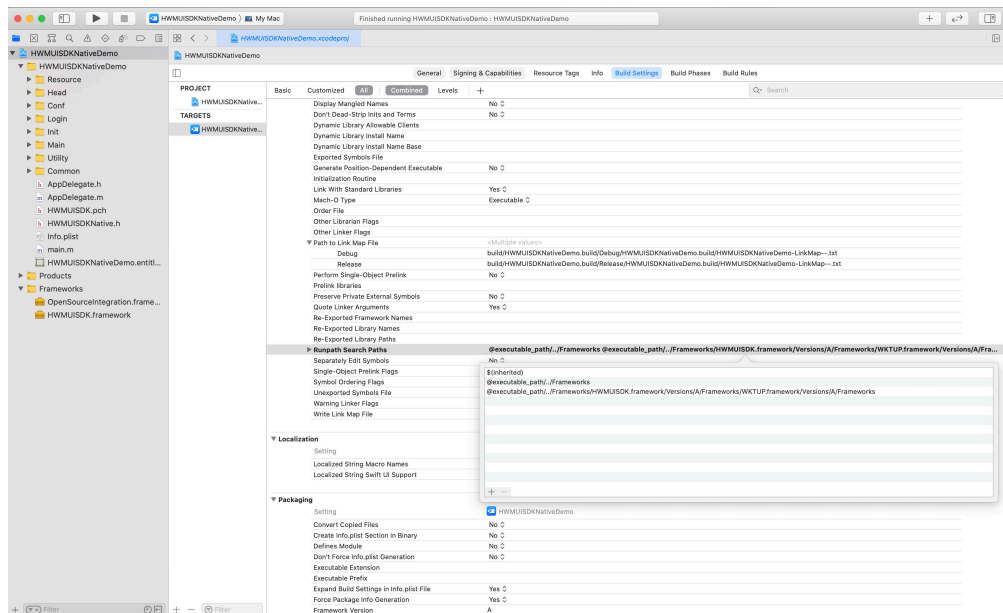


- In **Build Settings**, add the following two relative paths to **Runpath Search Paths**:

@executable\_path/../Frameworks

@executable\_path/../Frameworks/HWMUISDK.framework/Versions/A/  
Frameworks

Figure 9-6 Adding configuration items to Runpath Search Paths



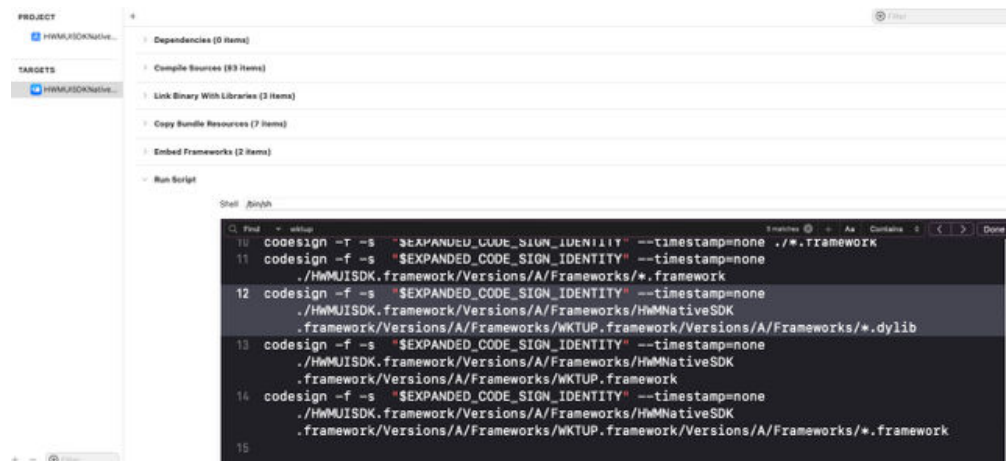
- In **Build Phases**, modify **Run Script** to provide the library re-signature and make it consistent with the app signature.

```
cd "$BUILT_PRODUCTS_DIR"/
# Replace xxxx with your app name.
cd ./xxxx.app/Contents/Frameworks/
echo "##### HWMUISDK.framework xattr #####"
```

```
xattr -r -d com.apple.quarantine ./HWMUISDK.framework
xattr -r -d com.apple.quarantine ./OpenSourceIntegration.framework
echo "##### finish #####"

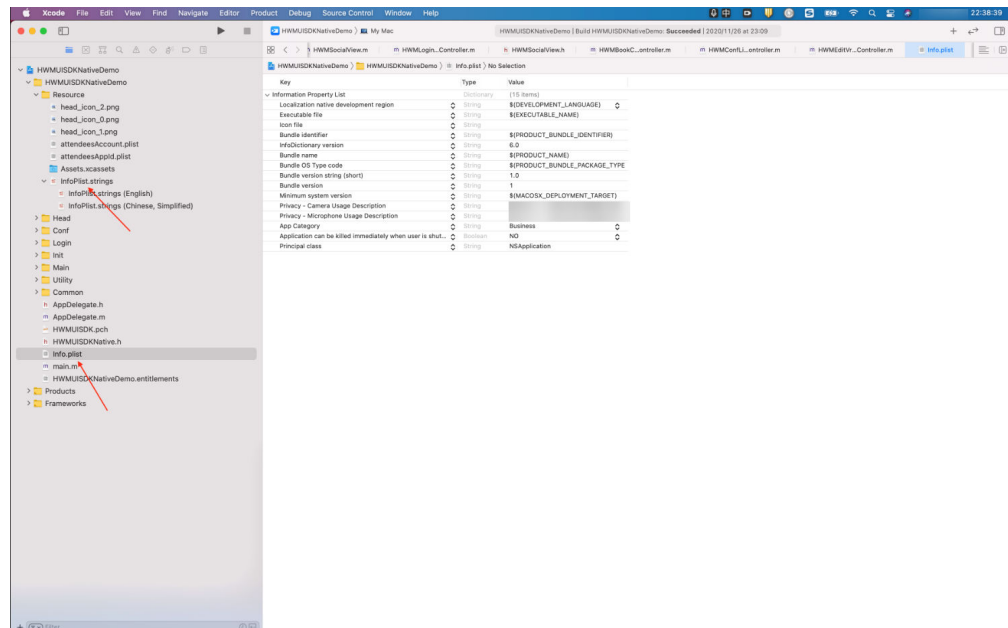
echo "##### HWMUISDK.framework codeSgin #####"
codesign -f -s "$EXPANDED_CODE_SIGN_IDENTITY" --timestamp=none ./
*.framework
codesign -f -s "$EXPANDED_CODE_SIGN_IDENTITY" --timestamp=none ./
HWMUISDK.framework/Versions/A/Frameworks/*.framework
codesign -f -s "$EXPANDED_CODE_SIGN_IDENTITY" --timestamp=none ./
HWMUISDK.framework/Versions/A/Frameworks/HWMNativeSDK.framework/
Versions/A/Frameworks/WKTUP.framework/Versions/A/Frameworks/*.dylib
codesign -f -s "$EXPANDED_CODE_SIGN_IDENTITY" --timestamp=none ./
HWMUISDK.framework/Versions/A/Frameworks/HWMNativeSDK.framework/
Versions/A/Frameworks/WKTUP.framework
codesign -f -s "$EXPANDED_CODE_SIGN_IDENTITY" --timestamp=none ./
HWMUISDK.framework/Versions/A/Frameworks/HWMNativeSDK.framework/
Versions/A/Frameworks/WKTUP.framework/Versions/A/Frameworks/
*.framework
```

**Figure 9-7** Modifying the library signature



4. In the **Info.plist** file, configure the usage prompts (set the language as required) and the attributes related to exiting. The following keys need to be configured:
  - Privacy - Camera Usage Description (Camera usage prompt)
  - Privacy - Microphone Usage Description (Microphone usage prompt)
  - **Application can be killed immediately when user is shutting down or logging out:** Set it to **NO**.

Figure 9-8 Info.plist configuration effect



----End

## 9.2.3 Service Integration

The file for calling the HWM SDK API must contain the following content:

```
#import <HWMUISDK/HWMUISDK.h>
```

### SDK initialization API must be called in the main thread.

```
(void)initSDK {
    HWMOpenSDKConfig *config = [[HWMOpenSDKConfig alloc] init];
    config.appld = getAppld();// In app ID login scenario, transfer the applied enterprise app ID. In non-app
    ID login scenario, you are advised to transfer the app name.
    BOOL result = [HWM SDK initWithConfig:config];
    if (result) {
        [UIUtil showMessage:@"Initialization succeeded." vc:self];
    }
}
```

### Examples

- Login API  
[[HWM SDK getOpenApi] login:account password:password callback:^(NSError \* \_Nullable error, HWMLoginResult \* \_Nullable result){ }];
- API for creating a meeting  
[[HWM SDK getOpenApi] createConf:param callback:^(NSError \* \_Nullable error, HWMCreateConfResult \* \_Nullable result) { }];
- API for joining a meeting  
[[HWM SDK getOpenApi] joinConf:param callback:^(NSError \* \_Nullable error, id \_Nullable result) { }];
- API for scheduling a meeting  
[[HWM BizSdk getBizOpenApi] bookConf:param callback:^(NSError \* \_Nullable error, id \_Nullable result) { }];
- API for editing a meeting  
[[HWM BizSdk getBizOpenApi] editConf:param callback:^(NSError \* \_Nullable error, id \_Nullable result) { }];
- Logout API  
[[HWM SDK getOpenApi] logout:^(NSError \* \_Nullable error, id \_Nullable result) { }];

After the code of the preceding APIs is configured, SDK integration will be completed. For more information, see the `HWMUISDKNativeDemo` sample code.

## 9.3 Typical Scenarios

This section describes the API call orders and examples.

### 9.3.1 API Call in Typical Scenarios

#### API Description

macOS SDK APIs are classified into **synchronous APIs**, **asynchronous APIs**, and **global callback APIs**.

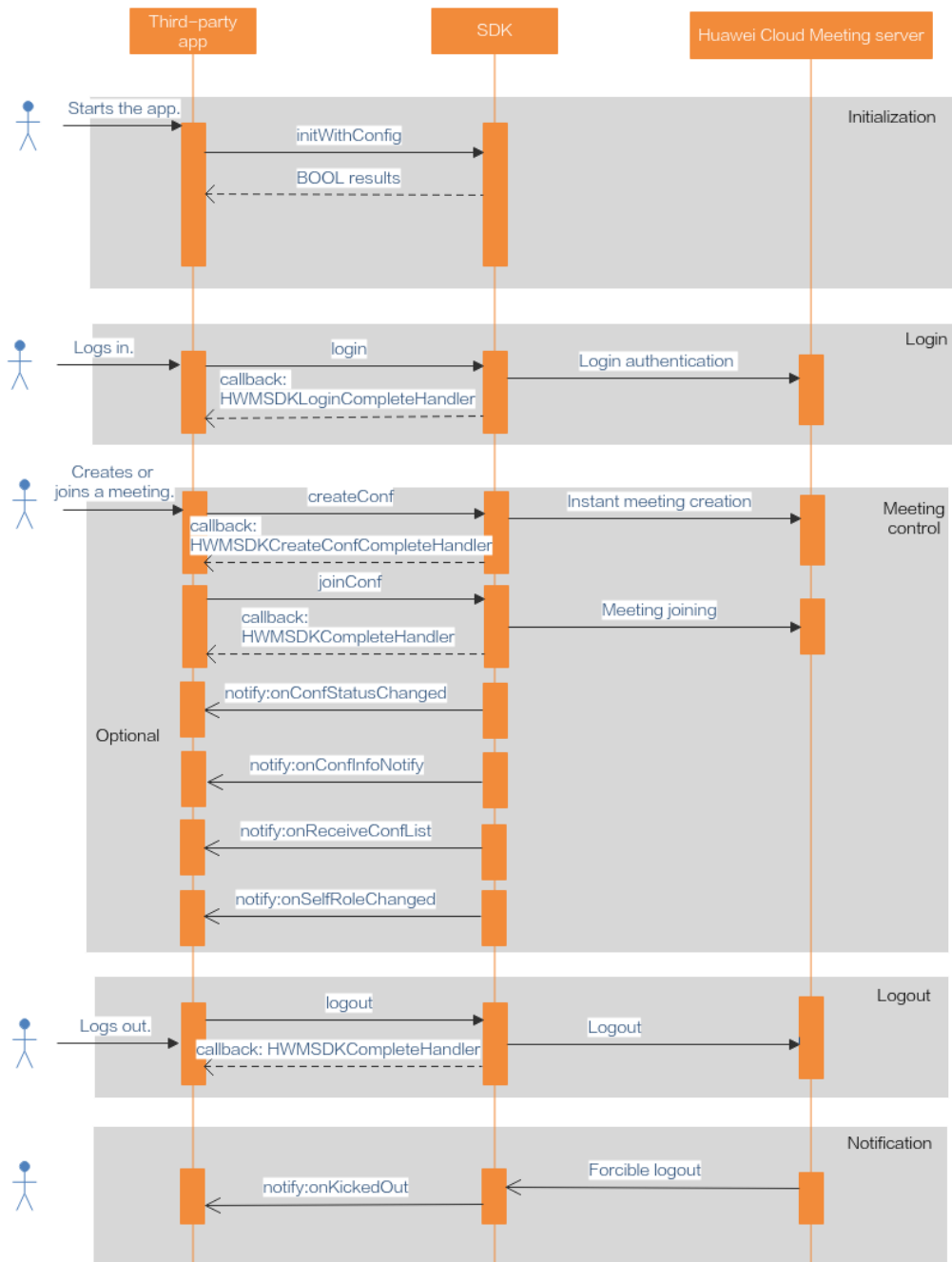
**Synchronous APIs:** Apps proactively call SDK APIs to complete specific tasks. For example, the `initWithConfig` API can be called for initialization.

**Asynchronous APIs:** Every time when an SDK API is called, the result is requested in callback mode.

**Global callback APIs:** When event notifications are triggered by the Huawei Cloud Meeting server or SDK, the SDK notifies apps through notification APIs. For example, the `onConfStatusChanged` API can be called to notify you of meeting calls.

## API Call in Typical Scenarios

Figure 9-9 API call in typical scenarios



### NOTE

1. Before using SDK functions, you need implement initialization.
2. You can join a created meeting by using the meeting ID and password without login. In other scenarios, you need to log in first.
3. You can configure the notification function as required.

## 9.3.2 Scenario 1: Initialization

### Description

The initialization API can be called for SDK initialization after a third-party application starts. You only need to call this API once. You must call this API before calling other functional APIs.

### Service Process

During SDK initialization, call the **initWithConfig** API and then check whether the API is successfully called based on the returned value.

#### Step 1 Call the API.

1. Build **HWMOpenSDKConfig** model parameters.
2. Call the **initWithConfig** API to initialize the configuration. The data in the preceding step is used as input parameters.

#### Step 2 Check the returned value.

**YES:** The initialization is successful. **NO:** The initialization fails.

----End

### Sample Code

```
/// Initialization.
HWMOpenSDKConfig *config = [[HWMOpenSDKConfig alloc] init];
config.appId = getAppId();// Enter the applied app ID.
BOOL result = [HWMsdk initWithConfig:config];
if (result) {
    NSLog(@"Initialization succeeded.");
}
```

#### NOTE

The sample code in the typical scenario and API reference is pseudo code and cannot be directly used.

## 9.3.3 Scenario 2: Login

### 9.3.3.1 Login Using an Account and Password

#### Description

This API is used for login using an account and password. APIs such as **CreateConf** can be called only when you have logged in. To use complete meeting functions, log in to the Huawei Cloud Meeting server first.

#### NOTE

If you have not logged in, you can only join created meetings.



## Service Process

If you need to log in using the SDK, call the **login** API and then implement the callback.

### Step 1 Call the API.

1. Obtain the account and password for login.
2. Call the **login** API to log in. The data in the preceding step is used as input parameters.

### Step 2 Implement the callback.

Implement the callback.

----End

## Sample Code

```
/// Login
/// It is recommended that accounts and passwords used for authentication be stored in ciphertext in the
/// configuration file or as environment variables and be decrypted during usage.
- (void)login {
    NSString *account = @"*****";
    NSString *password = getPassword();
    [[HWMSdk getOpenApi] login:account password:password callback:^(NSError * _Nullable error,
    HWMLoginResult * _Nullable result) {
        if (error == nil) {
            NSLog(@"Login succeeded.");
        }else{
            NSLog(@"Login failed.");
        }
    }
    }
};
```

### 9.3.3.2 Login Using an App ID

#### Description

The **login** API can be used for login using an app ID.

#### NOTE

If you have not logged in, you can only join created meetings.

#### Service Process

If you need to log in using the SDK, call the **login** API and then implement the callback.

##### Step 1 Call the API.

1. Obtain the login account, expiration time, random number, username, and encrypted signature from the server.
2. Call the **login** API to log in. The data in the preceding step is used as input parameters.

##### Step 2 Implement the callback.

Implement the callback.

----End

## Sample Code

```
/// App ID login API
- (void)login {
    HWMAppIDLoginParam *appidInfo = [[HWMAppIDLoginParam alloc] init];
    appidInfo.thirdUserId = getThirdUserId();
    appidInfo.expireTime = 1599618620;
    appidInfo.nonce = getNonce();
    appidInfo.userName = getUserName();
    appidInfo.signature = getSignature();
    [[HWMSSdk getOpenApi] login:appidInfo callback:^(NSError * _Nullable error, HWMLoginResult *
    _Nullable result) {
        if (error == nil) {
            NSLog(@"Login succeeded.");
        }else{
            NSLog(@"Login failed.");
        }
    }
    }];
}
```

## 9.3.4 Scenario 3: Scheduling a Meeting

### Description

The **bookConf** API can be used to schedule a meeting.

### Service Process

If you need to schedule a meeting using the SDK, call the **bookConf** API and then implement the callback.

#### Step 1 Call the API.

1. Call the **bookConf** API to schedule a meeting.

#### Step 2 Implement the callback.

Implement the callback.

----End

## Sample Code

```
/// Schedule a meeting.
- (void)bookConf {
    HWMOrderConfParam * param = [[HWMOrderConfParam alloc] init];
    param.confSubject = @"Meeting topic";
    param.startTime = 1598759580;
    param.duration = 15;
    param.isAutoRecord = NO;
    param.timeZone = 56;
    param.vmrId = @"";
    param.callInRestrictionType = HWMJoinConfRestrictionAll;
    [[HWMBizSdk getBizOpenApi] bookConf:param callback:^(NSError * _Nullable error, id _Nullable result) {
        if (error) {
            NSLog(@"Schedule meeting failed: %@", error.localizedDescription);
        } else {
            NSLog(@"Meeting scheduled.");
        }
    }
    }
}
```

```
    }  
};
```

## 9.3.5 Scenario 4: Editing a Meeting

### Description

The **editConf** API can be used to edit a meeting after you log in and call the [Obtaining Meeting Details](#) API or server RESTful API to obtain the meeting details.

### Service Process

If you need to edit a meeting using the SDK, call the **editConf** API and then implement the callback.

#### Step 1 Call the API.

1. Call the **editConf** API to edit a meeting.

#### Step 2 Implement the callback.

Implement the callback.

----End

### Sample Code

```
/// Edit a meeting.  
- (void)editConf {  
    HWMOrderConfParam * param = [[HWMOrderConfParam alloc] init];  
    param.confSubject = @"Meeting topic";  
    param.startTime = 1598759580;  
    param.duration = 15;  
    param.isAutoRecord = NO;  
    param.timeZone = 56;  
    param.vmrId = @""; // Cloud meeting room ID, required for a meeting held in a cloud meeting room.  
    param.callInRestrictionType = HWMJoinCallRestrictionAll;  
    param.confId = @"986927771";  
    [[HWMBizSdk getBizOpenApi] editConf:param callback:^(NSError *_Nullable error, id _Nullable result) {  
        if (error) {  
            NSLog(@"Edit meeting failed.:%@", error.localizedDescription);  
        } else {  
            NSLog(@"Meeting edited.");  
        }  
    }  
};  
}
```

## 9.3.6 Scenario 5: Creating a Meeting

### Description

The **CreateConf** API can be used to create an instant meeting after your login. Participant information is optional.

#### NOTE

You can create a meeting only after you log in.

## Service Process

If you need to create an instant meeting using the SDK, call the **CreateConf** API and then implement the callback.

### Step 1 Call the API.

1. Assemble the `HWMCreateConfParam` model.
2. Assemble the `HWMAttendeelInfo` model array (participants are optional).
3. Call the **CreateConf** API to create a meeting. The data in preceding steps is used as input parameters.

### Step 2 Implement the callback.

Implement the callback.

----End

## Sample Code

```
/// Create a meeting.
- (void)creatMeeting {
    HWMCreateConfParam *param = [[HWMCreateConfParam alloc] init];
    param.subject = @"Meeting topic";
    param.isCameraOn = YES; // Whether to turn on the camera. By default, the camera is turned off.
    param.isMicOn = YES; // Whether to turn on the microphone. By default, the microphone is turned on.
    param.isAutoRecord = NO; // Whether to enable the meeting recording function. By default, this function
is disabled.
    param.callInRestrictionType = HWMJoinConfRestrictionAll; // Users who are allowed to join the meeting.
    // Participant list.
    if (self.selectedMemebrs) {
        __block NSMutableArray *members = [[NSMutableArray alloc] init];
        [self.selectedMemebrs enumerateObjectsUsingBlock:^(HWMContactSelectedModel * _Nonnull obj,
NSUInteger idx, BOOL * _Nonnull stop) {
            HWMAttendeelInfo *member = [[HWMAttendeelInfo alloc] init];
            member.accountId = obj.accountId;
            member.number = obj.number;
            member.name = obj.name;
            member.thirdUserId = obj.thirdUserId;
            [members addObject:member];
        }];
        param.members = members;
    }
    [[HWM SDK getOpenApi] createConf:param callback:^(NSError * _Nullable error, HWMCreateConfResult *
_Nullable result) {
        [self hideLoading];
        if (error) {
            NSLog(@"Create meeting failed.%@", error.localizedDescription);
        }else{
            NSLog(@"Meeting created.");
        }
    }
}
};
```

### NOTE

The participant list is optional for creating a meeting. If such a list is configured, participants will be called after a meeting is created.

## 9.3.7 Scenario 6: Joining a Meeting

### Description

The **joinConf** API can be used to join a meeting using a meeting ID and password, no matter whether you have logged in or not.

### Service Process

If you need to join an existing meeting using the SDK, call the **joinConf** API and then implement the callback.

#### Step 1 Call the API.

1. Assemble the model.
  - a. **HWMJoinConfParam** is used to join a meeting based on the meeting ID.
  - b. **HWMRandomConfParam** is used to join a meeting in random mode.
2. Call the **joinConf** API to join the meeting. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback.

Implement the callback.

----End

### Sample Code

```
/// Join a meeting.
- (void)joinMeeting {
    HWMJoinConfParam *param = [[HWMJoinConfParam alloc] init];
    param.confId = @"989156631";
    param.password = getPassword();
    param.nickname = @"Hangzhou site";
    param.isCameraOn = NO;
    param.isMicOn = YES;
    [[HWM SDK getOpenApi] joinConf:param callback:^(NSError * _Nullable error, id _Nullable result) {
        if (error) {
            NSLog(@"Join meeting failed.%@", error.localizedDescription);
        } else {
            NSLog(@"Meeting joined.");
        }
    }];
}
```

#### NOTE

If you call this API without logging in to Huawei Cloud Meeting, the **nickname** parameter is mandatory.

## 9.3.8 Scenario 7: Adding Participants

### Description

You can call the API for adding participants during a meeting.

## Service Process

If you need to add participants using the SDK, customize a contact selection page, select the contacts to be added, and add the selected contacts to the meeting.

### NOTE

The macOS SDK supports only customized participant adding.

## Sample Code

```
/// Customize contacts.
- (void)openContactSelectWindow:(NSArray<HWMAttendeeInfo *> *)param scene:
(HWMSelectedContactScene)scene completionHandler:(void (^)(NSArray<HWMAttendeeInfo *> *
Nullable))handler {
    HWMSelectContactViewController *contact = [[HWMSelectContactViewController alloc] init];
    [contact setSelectAttendeeHandler:^(NSArray *attendees) {
        NSMutableArray *arr = @[].mutableCopy;
        for (HWMContactInfoModel *model in attendees) {
            HWMAttendeeInfo *info = [[HWMAttendeeInfo alloc] init];
            info.accountId = model.accountId;
            info.name = model.name;
            info.number = model.number;
            info.thirdUserId = model.thirdUserId;
            info.email = model.email;
            info.mute = model.mute;
            info.role = model.role;
            info.sms = model.sms;
            [arr addObject:info];
        }
        if (handler) {
            handler(arr);
        }
    }];
    self.selectContactVC = contact;
    [self presentViewControllerAsModalWindow:contact];
}
```

## 9.3.9 Scenario 8: Logout

### Description

This API is used to log out of a meeting account.

### Service Process

If you need to log out using the SDK, call the **logout** API and then implement the callback.

#### Step 1 Call the API.

1. Call the **logout** API to log out of Huawei Cloud Meeting.

#### Step 2 Implement the callback.

Implement the callback.

----End

## Sample Code

```
/// Logout
- (void)logout {
```

```
[[HWMSdk getOpenApi] logout:^(NSError * _Nullable error, id _Nullable result) {  
    if (error == nil) {  
        NSLog(@"Logout succeeded.");  
    } else {  
        NSLog(@"Logout failed.");  
    }  
}];  
}
```

## 9.4 APIs

### 9.4.1 Basic Settings

#### 9.4.1.1 Initializing the SDK

##### initWithConfig

###### API Description

This API is used to start and initialize the SDK.

###### Precautions

1. You must call this API before calling other APIs.
2. The initialization method must be called in the main thread.
3. The return value only indicates whether the API is successfully called.

###### Method Definition

```
+ (BOOL)initWithConfig:(HWMSdkConfig *)config;
```

###### Parameter Description

Table 9-1 Parameter description

| Parameter | Mandatory | Type         | Description                     |
|-----------|-----------|--------------|---------------------------------|
| config    | Yes       | HWMSdkConfig | Initialization information set. |

Table 9-2 HWMSdkConfig description

| Parameter | Mandatory | Type        | Description  |
|-----------|-----------|-------------|--|
| appId     | Yes       | NSString *  | App ID. For details about how to request an app ID, see <a href="#">Requesting an App ID</a> in <i>Developer Guide</i> . |
| siteType  | No        | HWMSiteType | Login site type. The default value is <b>HWMSiteTypeChina</b> .  |

| Parameter              | Mandatory | Type       | Description  |
|------------------------|-----------|------------|--|
| hideExternalLabel      | No        | BOOL       | Whether to display the external label in the participant list. By default, the external label is displayed.  |
| hideAllowJoinConf Menu | No        | BOOL       | Whether to hide the menu of meeting joining options in the security settings. By default, the menu is not hidden.  |
| logKeepDays            | No        | NSInteger  | Log storage duration. Valid value range is 3–30. The default value is <b>0</b> . <b>0</b> indicates that logs are not deleted by day.<br>Note: <b>1</b> and <b>2</b> will be converted to <b>3</b> , and the values greater than 30 will be converted to <b>30</b> . |
| appUrl                 | No        | NSString * | Official download link.  |
| isSupportMultiAppLogin | No        | BOOL       | Whether to support login to multiple applications on the same device.  |
| linkPrefix             | No        | NSString * | Prefix of the meeting link copied from the meeting window.   |

 **NOTE**

For details about how to request an app ID, see [Requesting an App ID](#) in *Developer Guide*.

**Table 9-3** Enumerated values of HWMSdkSiteType

| Enumerated Value | Description       |
|------------------|-------------------|
| HWMSiteTypeChina | Chinese mainland. |
| HWMSiteTypeAP    | Asia Pacific.     |

**Return Values****Table 9-4** Return values

| Type | Description   |
|------|---|
| BOOL | If the initialization succeeds, <b>YES</b> is returned. If the initialization fails, <b>NO</b> is returned. |



### Sample Code

```

/// Initialization.
HWMOpenSDKConfig *config = [[HWMOpenSDKConfig alloc] init];
config.appld = getAppId();// Enter the applied app ID.
BOOL result = [HWMSdk initWithConfig:config];
if (result) {
    NSLog(@"Initialization succeeded.");
}
    
```

#### NOTE

- The sample code in the typical scenario and API reference is pseudo code and cannot be directly used.

## 9.4.1.2 Setting a Language

### setLanguage

#### API Description

This API is used to set a language for the app. The set language will be used on the UI.

#### Method Definition

```
+ (void)setLanguage:(HWMSdkLanguageType)language;
```

#### Parameter Description

**Table 9-5** Parameter description

| Parameter | Mandatory | Type               | Description  |
|-----------|-----------|--------------------|--|
| language  | Yes       | HWMSdkLanguageType | Language to be set. Currently, only Chinese and English are supported. |

**Table 9-6** HWMSdkLanguageType parameters

| Enumerated Value              | Description      |
|-------------------------------|------------------|
| HWMSdkLanguageTypeZH          | Chinese.         |
| HWMSdkLanguageTypeEN          | English.         |
| HWMSdkLanguageType-Customized | Custom language. |

#### Sample Code

```

/// Language initialization.
[HWMSdk setLanguage:HWMSdkLanguageTypeEN];
    
```

 NOTE

1. You are advised to use this API after initialization.
2. This API does not support setting during a meeting. A language set during a meeting does not take effect immediately.
3. Currently, only Chinese and English are supported.

## setLanguage:languageCode:

### API Description

This API is used to customize the SDK language. The default language is Chinese.

### Precautions

To implement a user-defined language, create the corresponding internationalization file in the directory at the same level as **en.lproj**. For example, to add Arabic, you can create **ar.lproj/Localizable.strings**. The language set through this API must be the same as the system language.

### Method Definition

```
+ (void)setLanguage:(HWMSdkLanguageType)language languageCode:(NSString *)languageCode;
```

### Parameter Description

Table 9-7 Parameter description

| Parameter    | Mandator<br>y | Type                               | Description   |
|--------------|---------------|------------------------------------|---|
| language     | Yes           | <a href="#">HWMSdkLanguageType</a> | Enumerated values of languages.   |
| languageCode | No            | NSString *                         | Language code. If the language is Chinese or English, this parameter can be left empty. |

### Return Values

None

### Sample Code

```
/// Change the language.  
[HWMSdk setLanguage:HWMSdkLanguageTypeCustomized languageCode:@"ar"];
```

## 9.4.1.3 Enabling or Disabling the Camera and Microphone in a Meeting

### isOpenMicrophoneIncoming

#### API Description

This API is used to customize the microphone status when a user is invited to a meeting.

### Precautions

1. If automatic mute has been set for participants excluding the host, the microphone status customization does not take effect.

### Method Definition

```
- (BOOL)isOpenMicrophoneIncoming;
```

### Parameter Description

None

### Sample Code

```
/// Whether to enable the microphone when a user is invited to a meeting.  
- (BOOL)isOpenMicrophoneIncoming {  
    return NO;  
}
```

## isOpenCameraIncoming

### API Description

This API is used to customize the camera status when a user is invited to a meeting.

### Precautions

None

### Method Definition

```
- (BOOL)isOpenCameraIncoming;
```

### Parameter Description

None

### Sample Code

```
/// Whether to enable the camera when a user is invited to a meeting.  
- (BOOL)isOpenCameraIncoming {  
    return NO;  
}
```

## 9.4.1.4 Customizing a Local Recording Path

### setLocalRecordPath

#### API Description

This API is used to customize the path for storing local recording files.

#### Precautions

If a user specifies a recording folder in this API, another recording folder cannot be created after the sandbox is enabled and will be written to the default path.

#### Method Definition

```
- (void)setLocalRecordPath:(NSURL *)url;
```

### Sample Code

```

NSOpenPanel *select = [NSOpenPanel openPanel];
select.canChooseFiles = NO;
select.canChooseDirectories = YES;
select.prompt = @"OK";
[select beginSheetModalForWindow:self.view.window completionHandler:^(NSModalResponse result) {
    if (result == 1) {
        [[HWMSdk getOpenSDK] setLocalRecordPath:select.URL];
    }
}];

```

## 9.4.1.5 Enabling a Function

### enableSDKCapability

#### API Description

This API is used to enable a function.

#### Method Definition

```
- (void)enableSDKCapability:(HWMSDKCapabilitySupport)type;
```

#### Parameter Description

**Table 9-8** HWMSDKCapabilitySupport description

| Parameter                               | Type       | Description   |
|---|------------|---|
| HWMSDKCapabilitySupportVideoHD          | NSUInteger | Enabling the 720p HD video. The default definition is 360p.                                 |
| HWMSDKCapabilitySupportShareAudio       | NSUInteger | Enabling the <b>Include computer sound</b> option. This option is not displayed by default. |
| HWMSDKCapabilitySupportHideNoCameraView | NSUInteger | Enabling the <b>Hide non-video participants</b> option. This option is enabled by default.  |
| HWMSDKCapabilitySupportBreakoutConf     | NSUInteger | Enabling the breakout room function. This function is enabled by default.                   |
| HWMSDKCapabilitySupportConfirmRecord    | NSUInteger | Recording security prompt, which is disabled by default.                                    |

## Enabling the HD Video

### Sample Code

```

/// Enable the HD video.
[[HWMBizSdk getBizOpenApi] enableSDKCapability:HWMSDKCapabilitySupportVideoHD];

```

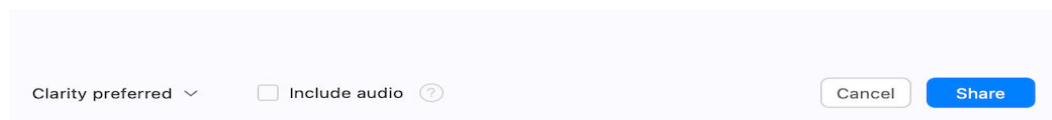
## Enabling Audio Sharing

**Step 1** Call the `enableSDKCapability` API to enable the display of the **Include computer sound** option.

### Sample Code

```
/// Enable audio sharing.
[[HWMBizSdk getBizOpenApi] enableSDKCapability:HWMSDKCapabilitySupportShareAudio];
```

If the function is enabled, the **Include computer sound** option will be displayed in the sharing window when a user initiates screen sharing, as shown in the following figure. If the function is not enabled, the option is not displayed.



**Step 2** Disable the **App Sandbox** function.

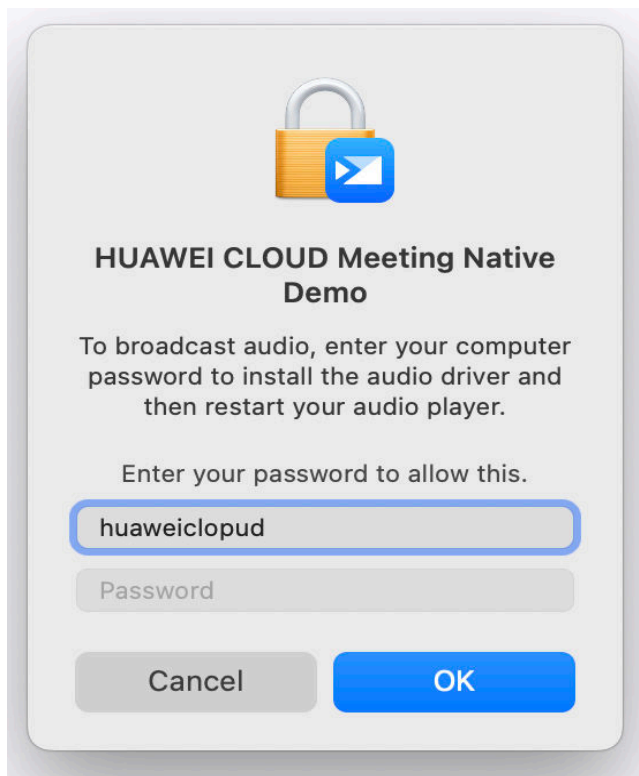
Disable the **App Sandbox** function and obtain the root permission to enable the SDK to automatically install the audio driver plug-in.

Delete the **App Sandbox** item Under **Entitlements File** of the app. The following figure is an example.

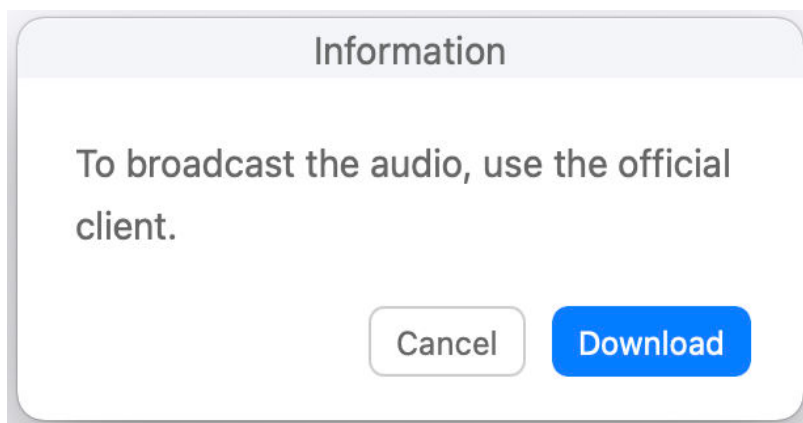
The screenshot shows the Xcode Entitlements File editor for 'HWMUISDKNativeDemo'. The 'App Sandbox' item is selected and highlighted in blue. The table below represents the data shown in the editor.

| Key   | Type       | Value     |
|---|------------|-----------|
| Entitlements File                                 | Dictionary | (7 items) |
| App Sandbox                                       | Boolean    | YES       |
| Audio Input                                       | Boolean    | YES       |
| Camera  | Boolean    | YES       |
| com.apple.security.files.downloads.read-write     | Boolean    | 1         |
| com.apple.security.files.user-selected.read-write | Boolean    | 1         |
| com.apple.security.network.client                 | Boolean    | 1         |
| com.apple.security.network.server                 | Boolean    | 1         |

If the **App Sandbox** function is disabled, the root permission is obtained when **Include computer sound** is selected for the first time. After the user clicks **OK**, the audio driver plug-in is automatically installed. The following figure is an example.



If the **App Sandbox** function is not disabled, the user will be prompted to download the client from the official website when selecting **Include computer sound** for the first time. After the user clicks **Download**, the official website is displayed. The following figure is an example.



The download link can be configured in the **appUrl** parameter of the **initWithConfig** API, which is used to start and initialize the SDK. For details, see [Initializing the SDK](#). If **appUrl** is not configured, the download page is not displayed.

----End

**NOTE**

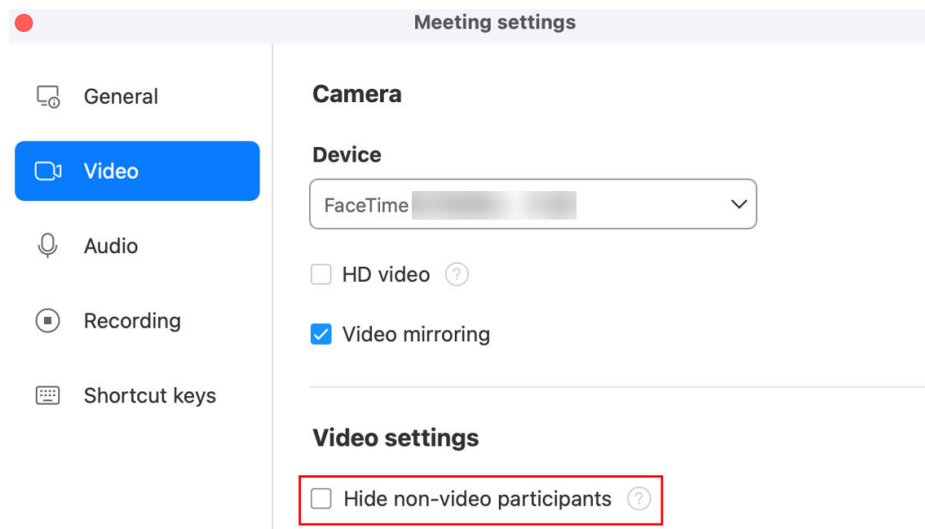
After the **App Sandbox** function is disabled, the user path obtained by the app changes, and the app cannot be released to the Mac App Store.

## Enabling the Function of Hiding Non-Video Participants

### Sample Code

```
/// Enable the option of displaying or hiding non-video participants.  
[[HWMBizSdk getBizOpenApi] enableSDKCapability:HWMSDKCapabilitySuportHideNoCameraView];
```

After the function is enabled, the **Hide non-video participants** option is displayed in the meeting settings.



### Sample Code

```
/// Disable the option of displaying or hiding non-video participants.  
[[HWMBizSdk getBizOpenApi] disableSDKCapability:HWMSDKCapabilitySuportHideNoCameraView];
```

After the function is disabled, the **Hide non-video participants** option is hidden from the meeting settings.

## 9.4.1.6 Setting the Network Mode

### setNetworkModeWithAccessType

#### API Description

This API is used to set the network mode to enterprise intranet access if the media nodes of Huawei Cloud Meeting are deployed in an enterprise and management nodes are accessed through the proxy of the enterprise.

#### NOTE

This API needs to be called only when the app cannot directly access the public network (that is, when the media nodes and management nodes are deployed in the enterprise).

#### Precautions

1. This API is optional. If it is not called, the default mode is used.
2. This API supports only macOS 10.13 and later versions.

#### Method Definition

```
/// Set the network mode.  
+ (void)setNetworkModeWithAccessType:(HWMAccessType)accessType API_AVAILABLE(macos(10.13));
```

## Parameter Description

**Table 9-9** Parameter description

| Parameter  | Man<br>dato<br>ry | Type               | Description          |
|------------|-------------------|--------------------|----------------------|
| accessType | Yes               | HWMMAccessTy<br>pe | Network access type. |

**Table 9-10** Enumerated values of HWMMAccessType

| Enumerated Value    | Description   |
|---------------------|---|
| HWMMAccessTypeAuto  | Default value.  |
| HWMMAccessTypeInner | Intranet access, which is used when the media and signaling nodes are deployed in the enterprise. The app uses the intranet for access. Signaling and media messages access the Huawei Cloud Meeting server through the proxy server.             |
| HWMMAccessTypeOuter | External network access, which is used when the media and signaling nodes are not deployed in the enterprise. The app uses the Internet for access. Signaling and media messages access the Huawei Cloud Meeting server through the proxy server. |

## Sample Code

```
/**
 * Set the network mode.
 */
[HWMSSdk setNetworkModeWithAccessType:HWMMAccessTypeInner];
```

### 9.4.1.7 Disabling Prompt Tones

#### disableVoicePrompts:

##### API Description

This API is used to disable meeting prompt tones.

##### Precautions

1. This API is optional. If it is not called, the default mode is used.
2. The return value only indicates whether the API is successfully called.

##### Method Definition

```
-(HWMSDKERR)disableVoicePrompts:(HWMSDKVoicePromptsModel *)voicePrompts;
```



## Parameter Description

**Table 9-11** HWMSDKVoicePromptsModel description

| Parameter         | Mandatory | Type | Description   |
|-------------------|-----------|------|---|
| disableMutePrompt | Yes       | BOOL | Prompt tone played when the host mutes a participant. |

## Return Values

Whether the API is successfully called.

## Sample Code

```
HWMSDKVoicePromptsModel * model = [[HWMSDKVoicePromptsModel alloc] init];
model.disableMutePrompt = YES;
[[HWMBizSdk getBizOpenApi] disableVoicePrompts:model];
```

## 9.4.1.8 Setting a Log Path

### setLogPath

#### API Description

This API is used to set a path for storing Huawei Cloud Meeting logs.

#### Precautions

None

#### Method Definition

```
+ (void)setLogPath:(NSString *)logPath;
```

#### Parameter Description

**Table 9-12** Parameter description

| Parameter | Mandatory | Type       | Description |
|-----------|-----------|------------|-------------|
| logPath   | Yes       | NSString * | Log path.   |

## Return Values

None

## Sample Code

```
NSString * logPath= [[NSSearchPathForDirectoriesInDomains(NSLibraryDirectory, NSUserDomainMask, YES)
firstObject] stringByAppendingPathComponent:@"log"];
[HWMSdk setLogPath:logPath];
```

## 9.4.1.9 Setting Guaranteed IP Addresses for Meeting Control

### setGuaranteedIpAddresses

#### API Description

This API is used to set the guaranteed IP addresses for meeting control.

#### Precautions

1. This API is optional. If it is not called, the default IP address is used.
2. Up to four IP addresses are supported. They are separated by semicolons (;).

#### Method Definition

```
-(HWMSDKERR)setGuaranteedIpAddresses:(NSString *)pAddresses;
```

#### Parameter Description

Table 9-13 Parameter description

| Parameter  | Mandatory | Type       | Description              |
|------------|-----------|------------|--------------------------|
| pAddresses | Yes       | NSString * | Guaranteed IP addresses. |

#### Return Values

Whether the API is successfully called.

#### Sample Code

```
// Set guaranteed IP addresses.  
HWMSDKERR result = [[HWMBizSdk getBizOpenApi]  
setGuaranteedIpAddresses:self.guarantIpAddrInputView.textField.stringValue];  
NSString *tip = @"Set";  
if (result != HWMSDKSdkerrSuccess) {  
// Display a message if the setting fails.  
tip = [NSString stringWithFormat:@"Set failed[%ld]",result];  
}  
[HWMConsoleManager sharedInstance].console = tip;
```

## 9.4.1.10 Setting Login Server Information

### setServerConfigWithUrl

#### API Description

This API is used to set login server information.

#### Precautions

1. This API is optional. By default, the default login server address and port are used.

#### Method Definition

```
-(void)setServerConfigWithUrl:(NSString *)url port:(NSUInteger)port;
```

## Parameter Description

**Table 9-14** Parameter description

| Parameter | Mandatory | Type       | Description   |
|-----------|-----------|------------|---|
| url       | Yes       | NSString * | Server address. The default value is <b>meeting.huaweicloud.com</b> . |
| port      | Yes       | NSUInteger | Server port. The default value is <b>443</b> .                        |

## Return Values

None

## Sample Code

```
// Set the login server information.
NSString *url = getUrl();
NSUInteger port = getPort();
[HWM SDK setServerConfigWithUrl:url port:port];
```

## 9.4.1.11 Setting Certificate Verification Information

### setCAVerifyInfo

#### API Description

This API is used to set certificate verification information.

#### Precautions

1. This API is optional. By default, certificate verification is disabled.

#### Method Definition

```
-(HWM SDKERR)setCAVerifyInfo:(HWMUISDKCAVerifyInfoModel *)info;
```

#### Parameter Description

**Table 9-15** HWMUISDKCAVerifyInfoModel description

| Parameter  | Mandatory | Type                      | Description        |
|------------|-----------|---------------------------|--------------------|
| verifyMode | Yes       | <b>HWMUISDKVerifyMode</b> | Verification mode. |

| Parameter | Mandatory | Type       | Description  |
|-----------|-----------|------------|--|
| certPath  | No        | NSString * | User-defined path for storing the certificate. If this parameter is left empty, the built-in certificate is used for verification. |

**Table 9-16** Enumerated values of HWMUISDKVerifyMode

| Enumerated Value          | Description                    |
|---------------------------|--------------------------------|
| HWMUISDKVerifyMode-None   | No verification.               |
| HWMUISDKVerifyMode-Server | Verify the server certificate. |

### Return Values

Whether the API is successfully called.

### Sample Code

```
// Set certificate verification information.
HWMUISDKCAVerifyInfoModel *model = [[HWMUISDKCAVerifyInfoModel alloc] init];
model.verifyMode = getVerifyMode();
model.certPath = getCerPath();
HWMSDKERR result = [[HWMSdk getOpenApi] setCAVerifyInfo:model];
NSString *tip = @"Set";
if (result != HWMSDKSd KerrSuccess) {
    // Display a message if the setting fails.
    tip = [NSString stringWithFormat:@"Set failed[%ld]",result];
}
[HWMConsoleManager sharedInstance].console = tip;
```

## 9.4.2 Account Operations

### 9.4.2.1 Logging In to Huawei Cloud Meeting

You can log in using an account and password, or using an app ID.

#### login:password:

##### API Description

This API is used for login using an account and password.

##### Precautions

1. You must log in to Huawei Cloud Meeting before using functions such as creating meetings and being invited into meetings. If you do not log in, you cannot experience complete meeting functions.
2. **Error:** Error information. **nil:** Success.

### Method Definition

```
-(void)login:(NSString * _Nonnull )account password:( NSString * _Nonnull )password callback:( _Nonnull HWMSDKLoginCompleteHandler)callback;
```

### Parameter Description

**Table 9-17** Parameter description

| Parameter | Man<br>dato<br>ry | Type                           | Description   |
|-----------|-------------------|--------------------------------|---|
| account   | Yes               | NSString *                     | Login account.  |
| password  | Yes               | NSString *                     | Login password.                                       |
| callback  | No                | HWMSDKLoginComp<br>leteHandler | <b>Error:</b> Error information. <b>nil:</b> Success. |

### Return Values

**Table 9-18** HWMLoginResult description

| Parameter    | Type       | Description                                    |
|--------------|------------|--|
| userId       | NSString * | Account UUID.                                  |
| account      | NSString * | Login account.                                 |
| thirdAccount | NSString * | Third-party account for login using an app ID. |

### Sample Code

```
/// Login
/// It is recommended that accounts and passwords used for authentication be stored in ciphertext in the
/// configuration file or as environment variables and be decrypted during usage.
-(void)login {
    NSString *account = @"*****";
    NSString *password = getPassword();
    [[HWMSdk getOpenApi] login:account password:password callback:^(NSError * _Nullable error,
    HWMLoginResult * _Nullable result) {
        if (error == nil) {
            NSLog(@"Login succeeded.");
        }else{
            NSLog(@"Login failed.");
        }
    }
    }
};
```

## login:

### API Description

This API is used for login using an app ID.

### Precautions

1. You must log in to Huawei Cloud Meeting before using functions such as creating meetings and being invited into meetings. If you do not log in, you cannot experience complete meeting functions.
2. **Error:** Error information. **nil:** Success.

### Method Definition

```
- (void)login:(HWMAppIDLoginParam *)appidInfo callback:(HWMSDKLoginCompleteHandler)callback;
```

### Parameter Description

**Table 9-19** HWMAppIDLoginParam description

| Parameter   | Mandatory | Type       | Description   |
|-------------|-----------|------------|---|
| signature   | Yes       | NSString * | Authentication signature obtained from the third-party server.  |
| thirdUserId | Yes       | NSString * | Third-party account.  |
| expireTime  | Yes       | NSInteger  | Signature expiration time. The value is a timestamp in seconds. If the value is 0, the signature will not expire. |
| nonce       | Yes       | NSString * | Random number.  |
| userName    | No        | NSString * | Username.   |
| userEmail   | No        | NSString * | Email address.  |
| userPhone   | No        | NSString * | Mobile number.  |
| corpId      | No        | NSString * | This parameter is mandatory when there are multiple enterprises under an SP.                                      |
| deptCode    | No        | NSString * | Department code.  |

### Return Values

For details, see [Table 9-18](#).

### Sample Code

```
/// App ID login API  
- (void)login {  
    HWMAppIDLoginParam *appidInfo = [[HWMAppIDLoginParam alloc] init];
```

```
appidInfo.thirdUserId = getThirdUserId();
appidInfo.expireTime = 1599618620;
appidInfo.nonce = getNonce();
appidInfo.userName = getUsername();
appidInfo.signature = getSignature();
[[HWMSSdk getOpenApi] login:appidInfo callback:^(NSError * _Nullable error, HWMLoginResult *
_Nullable result) {
    if (error == nil) {
        NSLog(@"Login succeeded.");
    }else{
        NSLog(@"Login failed.");
    }
}];
}
}
```

## loginBySSO:

### API Description

This API is used for login in single sign-on (SSO) mode.

### Precautions

You can join a meeting anonymously. However, if you want to use other services, you must log in first.

### Method Definition

```
-(void)loginBySSO:(HWMSSOLoginParam *)param callback:(HWMSDKLoginCompleteHandler)callback;
```

### Parameter Description

**Table 9-20** HWMSSOLoginParam description

| Parameter      | Mandatory | Type                  | Description                 |
|----------------|-----------|-----------------------|-----------------------------|
| domain         | Yes       | NSString *            | Enterprise domain name.     |
| userTicket     | Yes       | NSString *            | code                        |
| authServerType | Yes       | HWMOpenAuthServerType | Authentication server type. |

**Table 9-21** Enumerated value of HWMOpenAuthServerType

| Value                       | Description |
|-----------------------------|-------------|
| HWMOpenAuthServerTypeOAuth2 | SSO         |

### Return Values

For details, see [Table 9-18](#).

### Sample Code

```

/// SSO login API
- (void)login {
    HWMSSOLoginParam *param = [[HWMSSOLoginParam alloc] init];
    param.domain = domain;
    param.code = code;
    param.authServerType = HWMOpenAuthServerTypeOauth2;
    [[HWMSSdk getOpenApi] loginBySSO:param callback:^(NSError * _Nullable error, HWMLoginResult *
_Nullable result) {
        if (error == nil) {
            NSLog(@"Login succeeded.");
        }else{
            NSLog(@"Login failed.");
        }
    }
    }];
}

```

## 9.4.2.2 Logging Out of Huawei Cloud Meeting

### logout

#### API Description

This API is used to log out of a meeting account.

#### Precautions

1. Call this API only when you have logged in.
2. **Error:** Error information. **nil:** Success.

#### Method Definition

```
- (void)logout:(Nonnull HWMSDKCompleteHandler)callback;
```

#### Parameter Description

None

#### Return Values

**Table 9-22** HWMLogoutResult description

| Parameter    | Type       | Description                                    |
|--------------|------------|--|
| userUuid     | NSString * | Account UUID.                                  |
| account      | NSString * | Login account.                                 |
| thirdAccount | NSString * | Third-party account for login using an app ID. |

#### Sample Code

```

/// Logout
- (void)logout {
    [[HWMSSdk getOpenApi] logout:^(NSError * _Nullable error, HWMLogoutResult* _Nullable result) {
        if (error == nil) {
            NSLog(@"Logout succeeded.");
        } else {
            NSLog(@"Logout failed.");
        }
    }
}

```



```
    }  
  }  
}
```

### 9.4.2.3 Uploading a Profile Picture

#### uploadSelfAvatar: success: fail:

##### API Description

This API is used to upload a profile picture.

##### Precautions

1. Pass the profile picture path.
2. The maximum size is 200 KB.
3. Only JPG and PNG files are supported.
4. The recommended aspect ratio is 1:1.
5. **success**: Success. **fail**: Failure. **error**: Error information.

##### Method Definition

```
- (void)uploadSelfAvatar:(NSString *)path success:(void (^)(void))success fail:(void (^)(NSError *error))fail;
```

##### Parameter Description

Table 9-23

| Parameter | Mandatory | Type     | Description            |
|-----------|-----------|----------|------------------------|
| path      | Yes       | NSString | Full path of an image. |

##### Return Values

None

##### Sample Code

```
/// Upload a profile picture.  
- (void)uploadSelfAvatar {  
    [[HWMBizSdk getBizOpenApi] uploadSelfAvatar:path success:^(  
        NSLog(@"set succeeded");  
    } fail:^(NSError *_Nonnull error) {  
        NSLog(@"%@", error.description);  
    }];  
}
```

## 9.4.3 UI Customization

You can customize the UI as required.

### 9.4.3.1 Configuring the UI

Set proxies for the custom pages as required. This operation can be performed when you initialize or use the SDK.

```
[HWMSdk getSdkConfig].socialShareHandler = Proxy; // (Optional) Customizes the social sharing capability during a meeting.  
[HWMSdk getSdkConfig].confUIHandler = Proxy; // (Optional) Customizes UIs during a meeting.  
[HWMSdk getSdkConfig].contactUIHandler = Proxy; // (Optional) Customizes the contact invitation UI during a meeting.  
[HWMSdk getSdkConfig].headPortraitApiHandler = Proxy; // (Optional) Customizes the profile picture display.
```

### 9.4.3.2 Clearing UI Configurations

If you need to clear proxies, set the corresponding values to **nil**.

```
[HWMSdk getSdkConfig].socialShareHandler = nil;  
[HWMSdk getSdkConfig].confUIHandler = nil;  
[HWMSdk getSdkConfig].contactUIHandler = nil;  
[HWMSdk getSdkConfig].headPortraitApiHandler = nil;
```

### 9.4.3.3 Customizing the Bottom Toolbar

#### meetingToolBarItemsForScene

##### API Description

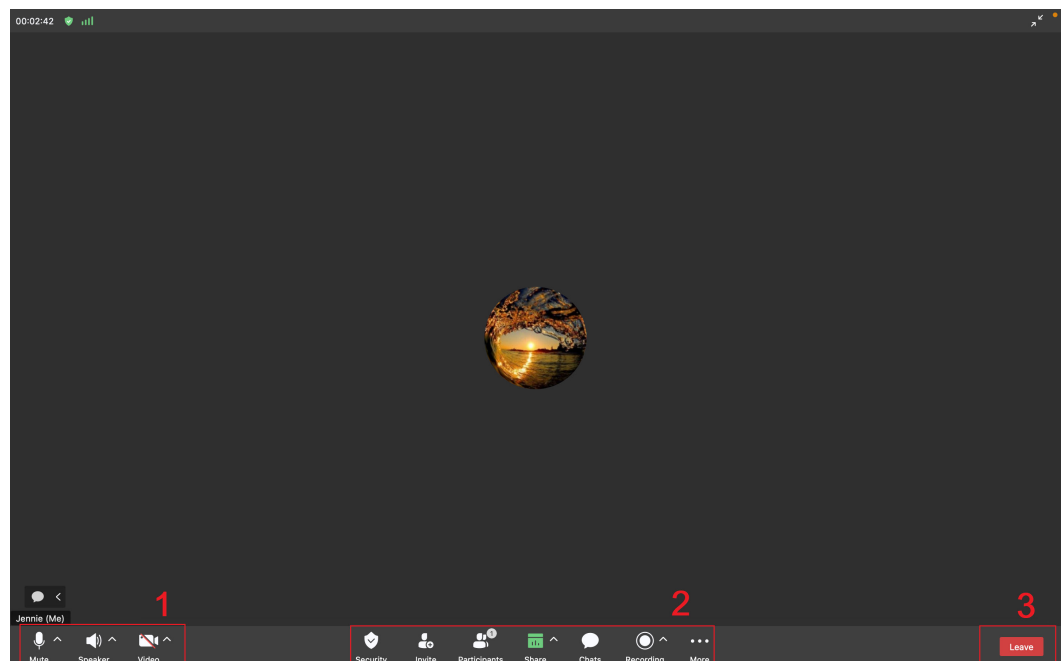
This API is used to customize a meeting control menu at the bottom.

You can adjust the button display sequence or hide buttons in area 1 in the following figure.

A maximum of eight buttons can be displayed in area 2. Extra buttons will not be displayed.

You can only hide or display the button in area 3.

**Figure 9-10** Customizing a meeting control menu at the bottom of a video meeting



## Precautions

1. In the returned full array, use an empty array (@[ ]) to hide a button in a certain area.
2. If the current scenario or role does not support the transferred button, the button will not be displayed. For example, the invitation function is hidden for common participants.

## Method Definition

```
- (nullable NSArray <NSArray <HWMToolBarItemModel * > * > *)meetingToolBarItemsForScene:  
(HWMConfToolBarScene)scene;
```

## Parameter Description

**scene**: scenario where the bottom toolbar is customized. The options are as follows:

**HWMConfToolBarSceneAudioConf**: voice meeting.

**HWMConfToolBarSceneVideoConf**: video meeting.

## Return Values

None

## Sample Code

Take a video meeting as an example:

The following code hides the **Video** button and adds a custom button. Figure 1 shows the effect.

```
- (nullable NSArray <NSArray <HWMToolBarItemModel * > * > *)meetingToolBarItemsForScene:  
(HWMConfToolBarScene)scene {  
    // Customize buttons on the bottom toolbar for the video meeting.  
    if (scene == HWMConfToolBarSceneVideoConf) {  
        // Microphone  
        HWMToolBarItemModel *micItem = [HWMToolBarItemModel defaultMicrophoneItem];  
        // Speaker  
        HWMToolBarItemModel *speakerItem = [HWMToolBarItemModel defaultSpeakerItem];  
        // Participants  
        HWMToolBarItemModel *participantItem = [HWMToolBarItemModel defaultParticipantItem];  
        // Share  
        HWMToolBarItemModel *shareItem = [HWMToolBarItemModel defaultDataShareItem];  
        // Chat  
        HWMToolBarItemModel *chatItem = [HWMToolBarItemModel defaultChatItem];  
        // Custom  
        HWMToolBarItemModel *customItem = [[HWMToolBarItemModel alloc] init];  
        customItem.title = @"Custom";  
        customItem.selectedTitle = @"Select the custom button.";  
        customItem.iconImage = [UIImage imageNamed:@"icon-customize-select-normal"];  
        customItem.selectedIconImage = [UIImage imageNamed:@"icon-customize-select-selected"];  
        customItem.disabledIconImage = [UIImage imageNamed:@"icon-customize-select-normal"];  
        // More  
        HWMToolBarItemModel *moreItem = [HWMToolBarItemModel defaultMoreItem];  
        // Leave  
        HWMToolBarItemModel *leaveItem = [HWMToolBarItemModel defaultLeaveItem];  
  
        // Left area  
        NSArray *leadingArray = @[micItem, speakerItem];  
        // Middle area  
        NSArray *centerArray = @[participantItem, shareItem, chatItem, customItem, moreItem];  
        // Right area  
        NSArray *trailingArray = @[leaveItem];  
    }  
}
```

```
// Return a full array. Use an empty array (@[]) to hide all buttons in a certain area.
return @[leadingArray, centerArray, trailingArray];
}
return nil;
}
```

### 9.4.3.4 Customizing the Sharing Toolbar

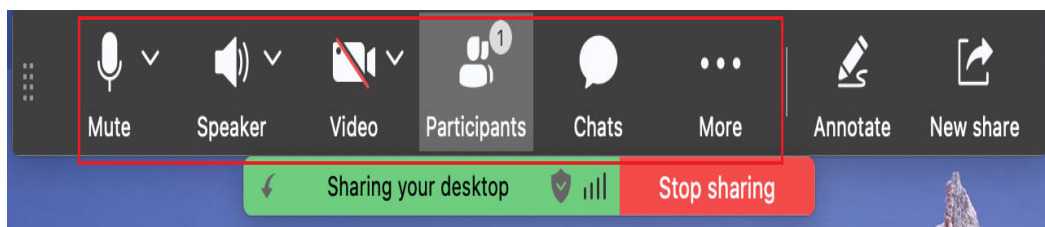
#### screenShareToolBarItems

##### API Description

This API is used to customize buttons on the sharing toolbar.

A maximum of eight buttons can be customized in the boxed area in the following figure. Extra buttons will not be displayed.

**Figure 9-11** Buttons can be customized on the sharing toolbar



##### Precautions

If the current scenario or role does not support the transferred button, the button will not be displayed.

##### Method Definition

```
- (nullable NSArray <HWMToolBarItemModel *> *)screenShareToolBarItems;
```

##### Parameter Description

None

##### Return Values

None

##### Sample Code

```
// Customize buttons on the sharing toolbar.
- (nullable NSArray <HWMToolBarItemModel *> *)screenShareToolBarItems {
    // Microphone
    HWMToolBarItemModel *micItem = [HWMToolBarItemModel defaultMicrophoneItem];
    // Speaker
    HWMToolBarItemModel *speakerItem = [HWMToolBarItemModel defaultSpeakerItem];
    // Camera
    HWMToolBarItemModel *cameraItem = [HWMToolBarItemModel defaultCameraItem];
    // Participants
    HWMToolBarItemModel *participantItem = [HWMToolBarItemModel defaultParticipantItem];
    // Custom
    HWMToolBarItemModel *customItem = [[HWMToolBarItemModel alloc] init];
    customItem.title = @"Custom";
    customItem.selectedTitle = @"Select the custom button.";
    customItem.iconImage = [NSImage imageNamed:@"icon-customize-select-normal"];
    customItem.selectedIconImage = [NSImage imageNamed:@"icon-customize-select-selected"];
}
```

```

customItem.disabledIconImage = [NSImage imageNamed:@"icon-customize-select-normal"];
// Chat
HWMToolBarItemModel *chatItem = [HWMToolBarItemModel defaultChatItem];
// More
HWMToolBarItemModel *moreItem = [HWMToolBarItemModel defaultMoreItem];

return @[micItem, speakerItem, cameraItem, participantItem, customItem, chatItem, moreItem];
}

```

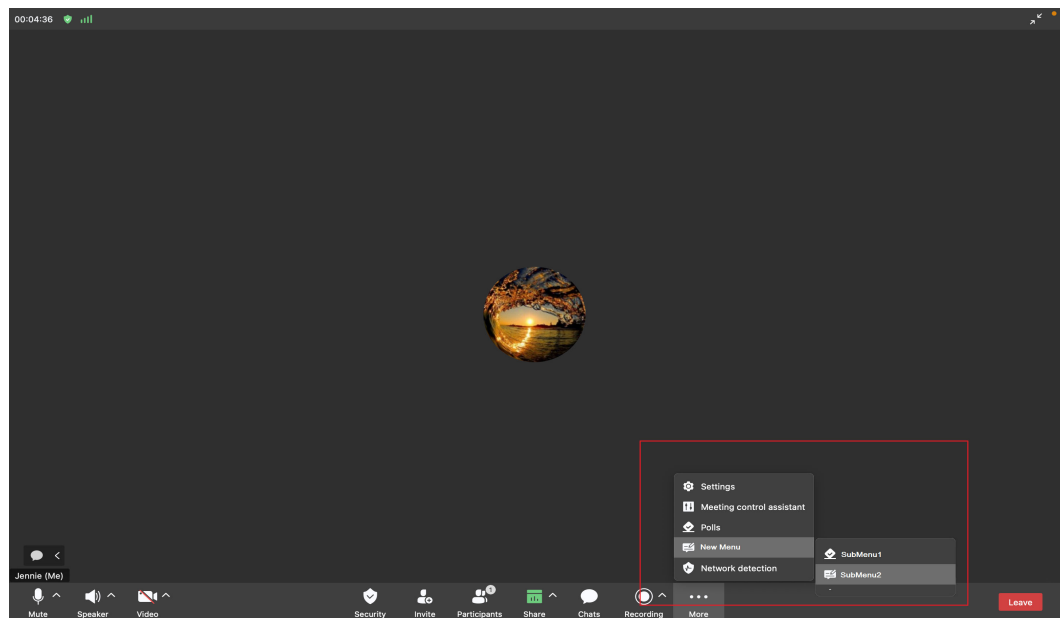
### 9.4.3.5 Customizing the More Menu on the Bottom Toolbar

#### meetingToolBarMoreMenuItems

##### API Description

This API is used to customize the options in the **More** menu on the meeting control toolbar.

**Figure 9-12** Options in the More menu on the meeting control toolbar



##### Precautions

None

##### Method Definition

```

- (nullable NSArray <HWMMenuItemModel *> *)meetingToolBarMoreMenuItems;

```

##### Parameter Description

None

##### Return Values

None

##### Sample Code

```

// Customize the More menu on the bottom toolbar.
- (nullable NSArray <HWMMenuItemModel *> *)meetingToolBarMoreMenuItems {

```

```
// Network detection
HWMenuItemModel *networkDetectionItem = [HWMenuItemModel
defaultNetworkDetectionModel];
// Custom option
HWMenuItemModel *customItem = [[HWMenuItemModel alloc]init];
customItem.title = @"Custom option";
customItem.image = [NSImage imageNamed:@"icon-customize-select-normal"];
HWMenuItemModel *subItem1 = [[HWMenuItemModel alloc]init];
subItem1.title = @"Sub-option 1";
HWMenuItemModel *subItem2 = [[HWMenuItemModel alloc]init];
subItem2.title = @"Sub-option 2";
customItem.submenus = @[subItem1,subItem2];
return @[networkDetectionItem, customItem];
}
```

### 9.4.3.6 Customizing the More Menu on the Sharing Toolbar

#### screenShareToolbarMoreMenuItem

##### API Description

This API is used to customize the options in the **More** menu on the sharing toolbar.

Figure 9-13 Options in the More menu on the sharing toolbar



##### Precautions

None

##### Method Definition

```
- (nullable NSArray <HWMenuItemModel *> *)screenShareToolbarMoreMenuItem;
```

##### Parameter Description

None

##### Return Values

None

##### Sample Code

```
// Customize the options in the More menu on the sharing toolbar.
- (nullable NSArray <HWMenuItemModel *> *)screenShareToolbarMoreMenuItem {
// Network detection
HWMenuItemModel *networkDetectionItem = [HWMenuItemModel
defaultNetworkDetectionModel];
// Custom option
HWMenuItemModel *customItem = [[HWMenuItemModel alloc]init];
customItem.title = @"Custom option";
```

```
customItem.image = [NSImage imageNamed:@"icon-customize-select-normal"];
HWMMenuItemModel *subItem1 = [[HWMMenuItemModel alloc] init];
subItem1.title = @"Sub-option 1";
HWMMenuItemModel *subItem2 = [[HWMMenuItemModel alloc] init];
subItem2.title = @"Sub-option 2";
customItem.submenus = @[subItem1, subItem2];
// Leave
HWMMenuItemModel *leaveItem = [HWMMenuItemModel defaultLeaveMeetingModel];

return @[networkDetectionItem, customItem, leaveItem];
}
```

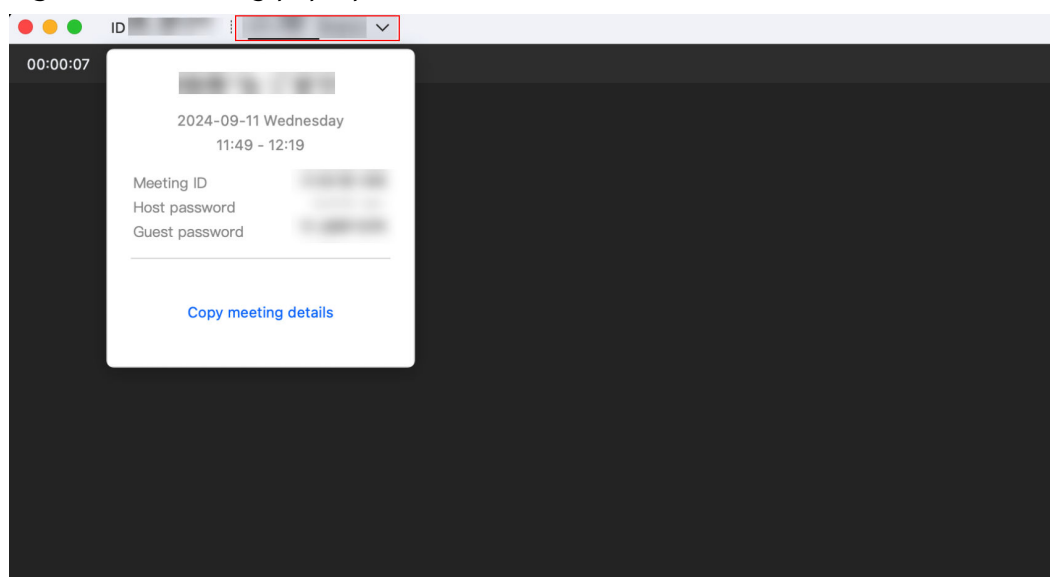
### 9.4.3.7 Customizing the Social Sharing Window

- (NSView \*)socialShareView:(HWMSDKMeetingInfoModel\* )confInfo;

#### API Description

This API is used to block the meeting sharing window. After the setting, the sharing pop-up window of the SDK (shown in the following figure) will be blocked.

Figure 9-14 Sharing pop-up window



#### Precautions

1. If the method is implemented, it will be called when you use the sharing function during a meeting. The SDK controls the position, display, and hiding of the window.

#### Sample Code

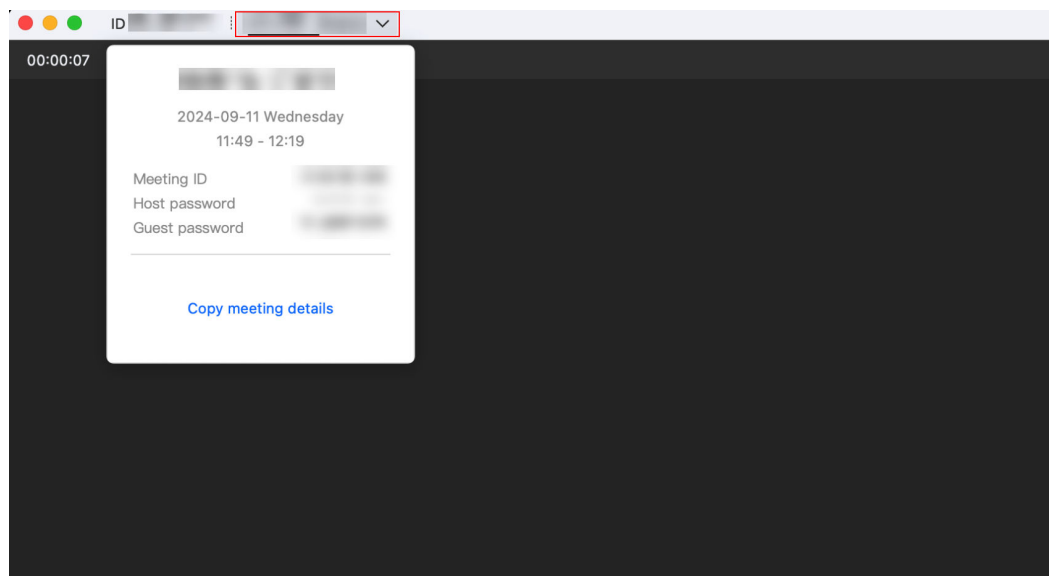
```
- (NSView *)socialShareView:(HWMSDKMeetingInfoModel *)meetingInfo {
    if (!self.socialView) {
        self.socialView = [[HWMSocialView alloc] initWithFrame:NSMakeRange(0, 0, 500, 300)];
        self.socialView.wantsLayer = YES;
        self.socialView.layer.backgroundColor = [NSColor whiteColor].CGColor;
    }
    self.socialView.meetingInfo = meetingInfo;
    return self.socialView;
}
```

```
- (NSView *)socialShareView:(HWMConfStateInfo *)confInfo;
```

### API Description

This API is used to block the meeting sharing window. After the setting, the sharing pop-up window of the SDK (shown in the following figure) will be blocked.

**Figure 9-15** Sharing pop-up window



### Precautions

1. If the method is implemented, it will be called when you use the sharing function during a meeting. The SDK controls the position, display, and hiding of the window.

### Sample Code

```
- (NSView *)socialShareView:(HWMConfStateInfo *)confDetail {  
    if (!self.socialView) {  
        self.socialView = [[HWMSocialView alloc] initWithFrame:NSMakeRange(0, 0, 500, 300)];  
        self.socialView.wantsLayer = YES;  
        self.socialView.layer.backgroundColor = [NSColor whiteColor].CGColor;  
    }  
    self.socialView.confDetail = confDetail;  
    return self.socialView;  
}
```

## 9.4.3.8 Customizing the Contact Selection Window

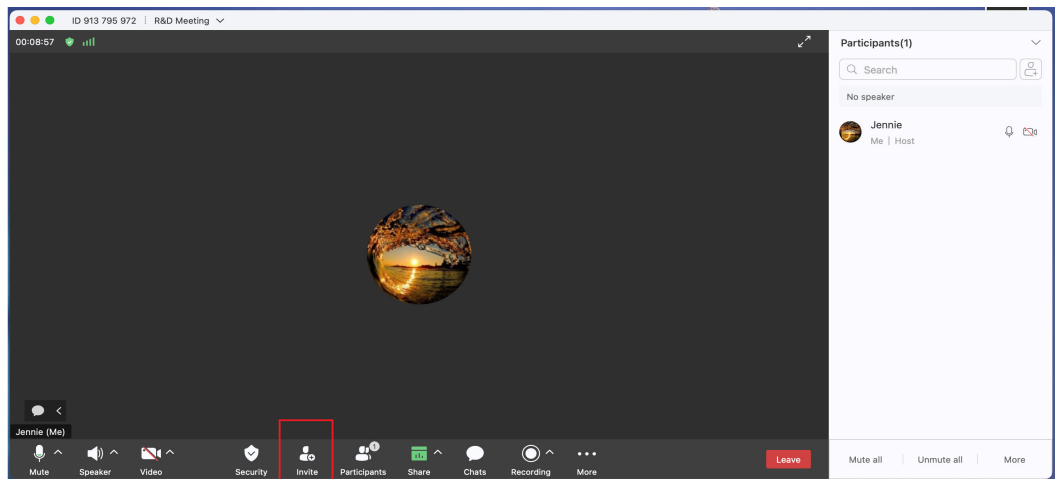
### openContactSelectWindow:scene:completeHandler:

#### API Description

This API is used to customize the contact selection window.



**Figure 9-16** Location where contact selection is triggered



### Precautions

None

### Method Definition

```
- (void)openContactSelectWindow:(NSArray<HWMAttendeeInfo *> *)param scene:  
(HWMSelectedContactScene)scene completionHandler:(void (^)(NSArray<HWMAttendeeInfo *> *  
_Nullable))handler ;
```

### Parameter Description

None

### Return Values

None

### Sample Code

```
- (void)openContactSelectWindow:(NSArray<HWMAttendeeInfo *> *)param scene:  
(HWMSelectedContactScene)scene completionHandler:(void (^)(NSArray<HWMAttendeeInfo *> *  
_Nullable))handler {  
    HWMSelectContactViewController *contact = [[HWMSelectContactViewController alloc] init];  
    [contact setSelectAttendeeInfoHandler:^(NSArray *attendees) {  
        if (handler) {  
            handler(attendees);  
        }  
    }];  
    self.selectContactVC = contact;  
    [self presentViewControllerAsModalWindow:contact];  
}
```

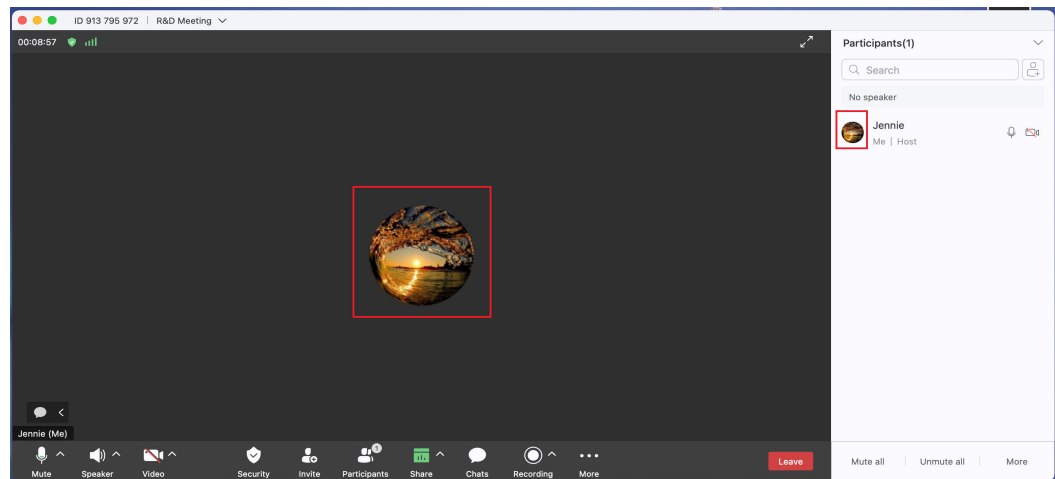
## 9.4.3.9 Customizing the Profile Picture

**downloadHeadPortraitWithThirdAccount: account: number: completionBlock:**

### API Description

This API is used to customize the profile picture displayed after login.

**Figure 9-17** Effect of blocking the profile picture



**Precautions**

1. The profile picture of a user who has not logged in cannot be customized.
2. Profile pictures can be uploaded (see the API for uploading a profile picture) or implemented through injection. If both methods are used, the injected profile picture takes precedence. The profile picture uploaded to the server will not be used in this case.

**Method Definition**

```
-(void)downloadHeadPortraitWithThirdAccount:(NSString *)thirdAccount account:(NSString *)account number:(NSString *)number completionBlock:(void (^)(NSError * _Nullable, NSString * _Nullable))completionBlock
```

**Parameter Description**

**Table 9-24**

| Parameter    | Type     | Description   |
|--------------|----------|---|
| thirdAccount | NSString | This parameter is preferentially used in the app ID login scenario.               |
| account      | NSString | This parameter is preferentially used in the account and password login scenario. |
| number       | NSString | This parameter is preferentially used in the cross-enterprise scenario.           |

**Return Values**

None

**Sample Code**

```
- (void)downloadHeadPortraitWithThirdAccount:(NSString *)thirdAccount account:(NSString *)account
number:(NSString *)number completionBlock:(void (^)(NSError * _Nullable, NSString *
_Nullable))completionBlock {
    if (completionBlock) {
        /// Return the image path to the SDK.
        NSInteger index = arc4random() % 3;
        NSString *path = [[NSBundle bundleForClass:[self class]] pathForResource:[NSString
stringWithFormat:@"head_icon_%lu", index] ofType:@"png"];

        completionBlock(nil, path);
    }
}
```

### 9.4.3.10 Customizing Other UIs

#### videoWindowDockIcon

##### API Description

This API is used to customize the Dock icon of the minimized window during the video call.

##### Method Definition

```
- (NSImage *)videoWindowDockIcon;
```

##### Parameter Description

None

##### Return Values

None

##### Sample Code

```
- (NSImage *)videoWindowDockIcon {
    return [NSImage imageNamed:@"iconMeeting"];
}
```

### 9.4.3.11 Customizing a Watermark for a Meeting

#### setWaterMark

##### API Description

This API is used to customize the watermark for sharing.

##### Method Definition

```
- (void)setWaterMark:(nullable NSAttributedString *)waterMarkString;
```

##### Parameter Description

Watermark content.

##### Return Values

None

##### Sample Code

```
NSAttributedString *waterMarkString = [[NSAttributedString alloc] initWithString:@"Watermark content"];
[[HWMMSdk getOpenApi] setWaterMark:waterMarkString];
```

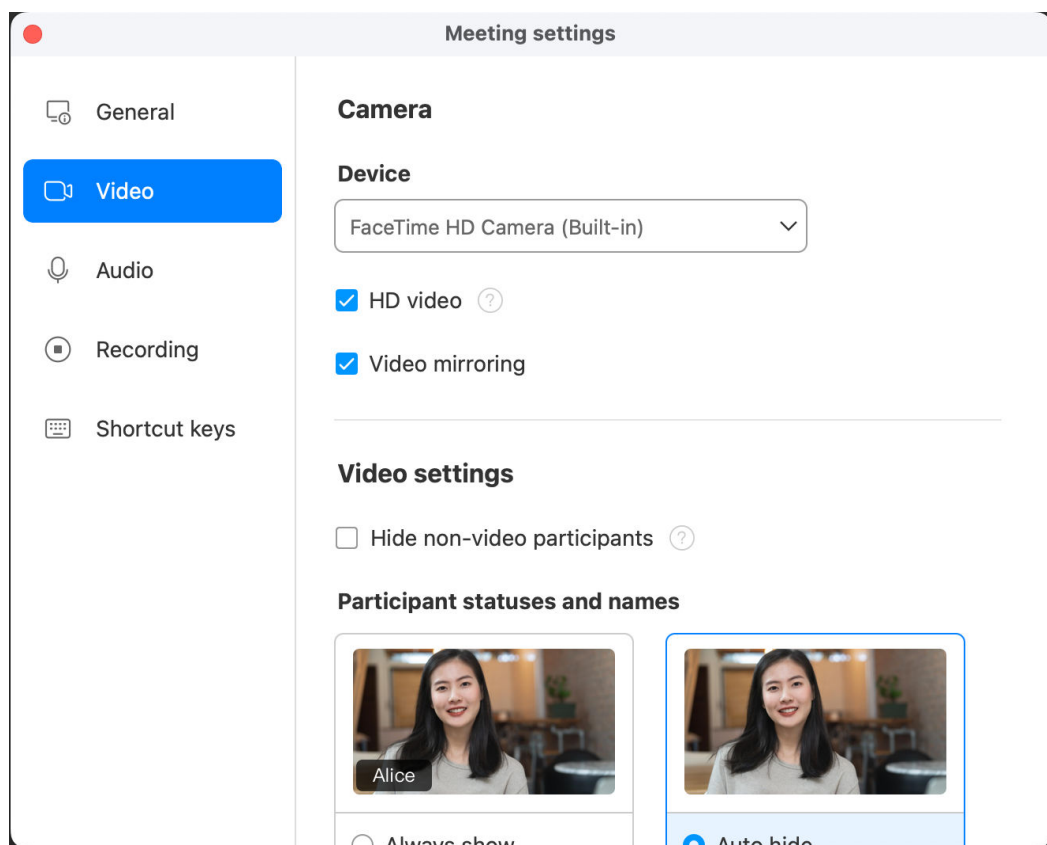
## 9.4.3.12 Customizing the Settings Page

### buildSettingTabItems

#### API Description

This API is used to customize the display of tab pages and function areas of the settings page. If not customized, all tab pages and function areas are displayed by default.

**Figure 9-18** Customizing the settings page



#### Method Definition

```
-(NSArray <HWMSettingTabItem *> *)buildSettingTabItems;
```

#### Parameter Description

**Table 9-25** HWMSettingTabItem

| Parameter | Type              | Description |
|-----------|-------------------|-------------|
| type      | HWMSettingTabType | Tab type.   |
| text      | NSString          | Title.      |
| image     | NSImage           | Image.      |

| Parameter        | Type    | Description                                    |
|------------------|---------|--|
| hoverImage       | NSImage | Effect when the pointer is placed on an image. |
| settingMenuItems | NSArray | Function list on the right.                    |

**Table 9-26** HWMSettingMenuItem

| Parameter | Type               | Description    |
|-----------|--------------------|----------------|
| type      | HWMSettingMenuType | Function type. |
| text      | NSString           | Title.         |

**Table 9-27** HWMSettingTabType parameters

| Parameter           | Type       | Description                 |
|---------------------|------------|-----------------------------|
| HWMSettingTabNormal | NSUInteger | General settings page.      |
| HWMSettingTabVideo  | NSUInteger | Video settings page.        |
| HWMSettingTabAudio  | NSUInteger | Audio settings page.        |
| HWMSettingTabRecord | NSUInteger | Recording settings page.    |
| HWMSettingTabHotKey | NSUInteger | Shortcut key settings page. |

**Table 9-28** HWMSettingMenuType parameters

| Parameter                 | Type       | Description                    |
|---------------------------|------------|--------------------------------|
| HWMSettingMenuLogin       | NSUInteger | Login settings.                |
| HWMSettingMenuCall        | NSUInteger | Meeting call settings.         |
| HWMSettingMenuChat-Notify | NSUInteger | Message notification settings. |
| HWMSettingMenuSubtitle    | NSUInteger | Caption settings.              |
| HWMSettingMenuMicrophone  | NSUInteger | Microphone settings.           |
| HWMSettingMenuSpeaker     | NSUInteger | Speaker settings.              |

| Parameter              | Type       | Description            |
|------------------------|------------|------------------------|
| HWMSettingMenuAdvanced | NSUInteger | Advanced settings.     |
| HWMSettingMenuCamera   | NSUInteger | Camera settings.       |
| HWMSettingMenuLayout   | NSUInteger | Layout settings.       |
| HWMSettingMenuRecord   | NSUInteger | Recording settings.    |
| HWMSettingMenuHotKey   | NSUInteger | Shortcut key settings. |

### Return Values

None

### Sample Code

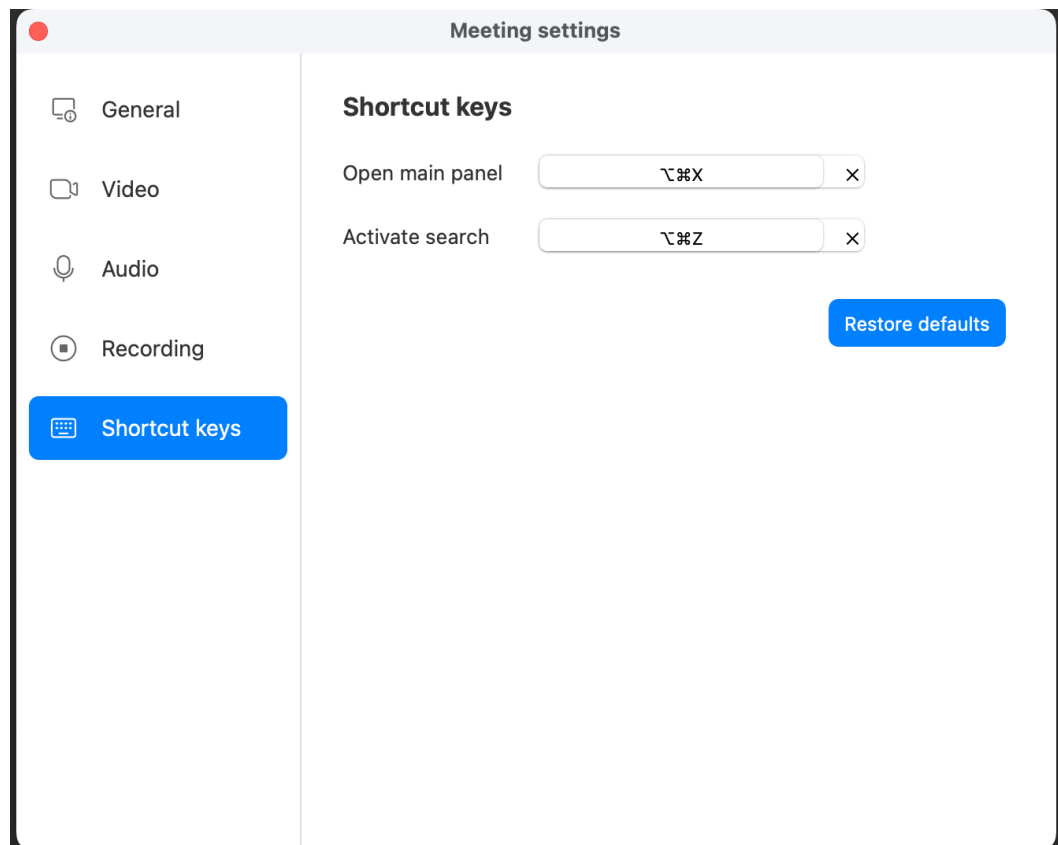
```
- (NSArray <HWMSettingTabItem *> *)buildSettingTabItems{
    HWMSettingTabItem *normalTab = [HWMSettingTabItem defaultTabNormal];
    HWMSettingTabItem *videoTab = [HWMSettingTabItem defaultTabVideo];
    HWMSettingTabItem *audioTab = [HWMSettingTabItem defaultTabAudio];
    HWMSettingTabItem *recordTab = [HWMSettingTabItem defaultTabRecord];
    HWMSettingTabItem *hotKeyTab = [HWMSettingTabItem defaultTabHotKey];
    return @[normalTab, videoTab, audioTab, recordTab, hotKeyTab];
};
```

## buildSettingHotKeyItems

### API Description

This API is used to customize the shortcut key page of the settings page. The shortcut key page will not be displayed if not set.

**Figure 9-19** Customizing shortcut keys



### Method Definition

```
- (NSArray<HWMSettingHotKeyItem *> *)buildSettingHotKeyItem;
```

### Parameter Description

**Table 9-29** HWMSettingHotKeyItem

| Parameter | Type                 | Description                  |
|-----------|----------------------|------------------------------|
| type      | HWMSettingHotKeyType | Shortcut key type.           |
| keyCode   | NSInteger            | Default shortcut key.        |
| keyName   | NSString             | Key value of a shortcut key. |
| text      | NSString             | Shortcut key title.          |
| action    | dispatch_block_t     | Shortcut key response event. |

**Table 9-30** HWMSettingHotKeyType parameters

| Parameter                      | Type       | Description         |
|--------------------------------|------------|---------------------|
| HWMSettingHotKeyOpenMain       | NSUInteger | Main panel opening. |
| HWMSettingHotKeyActivateSearch | NSUInteger | Activate search.    |

**Return Values**

None

**Sample Code**

```

- (NSArray <HWMSettingHotKeyItem *> *)buildSettingHotKeyItems {
    HWMSettingHotKeyItem *item = [[HWMSettingHotKeyItem alloc] initWithType:2 text:@"Custom
shortcut key" keyCode:kVK_ANSI_C keyName:@"HWMHotKeyCustomKey"];
    item.action = ^{
        NSLog(@"action");
    };
    return @[item];
};

```

**9.4.3.13 Customizing Contact Information**

**queryUserDetailByNumbers: completionBlock:**

**API Description**

This API is used to inject contact information.

**Precautions**

1. You need to subscribe to the **HWMContactApiHandler** proxy object to use the API.

**Figure 9-20** Injected department information displayed in the tooltip

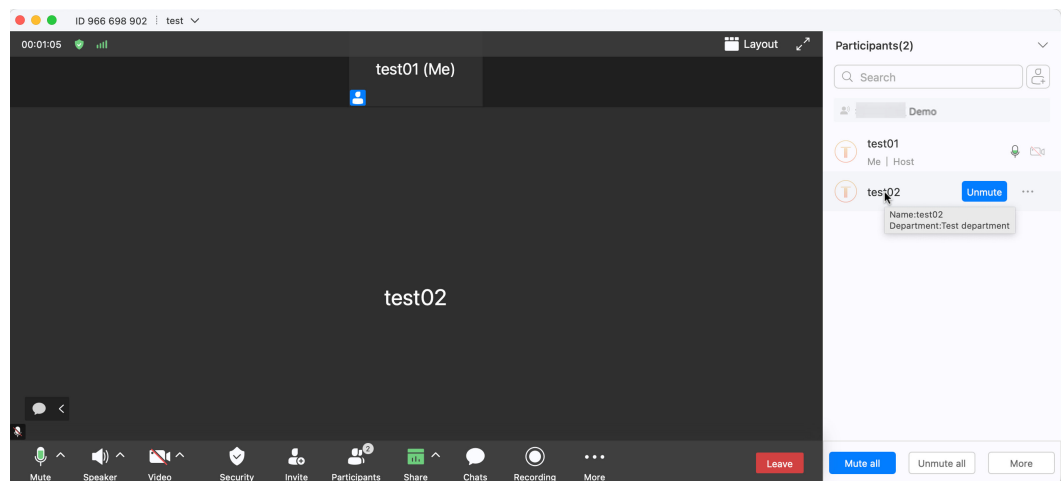
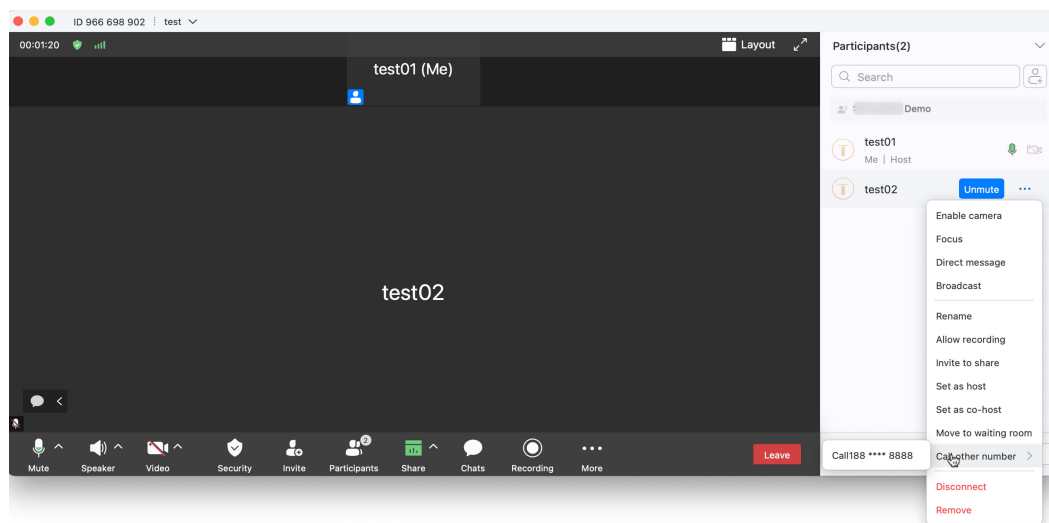




Figure 9-21 Customizing the display mode of mobile numbers



### Method Definition

```

/// Query a contact by number (SIP number).
/// @param numbers number set
/// @param completionBlock result callback. If there is a value in NSArray, an error will not be returned.
/// Return the query result (userInfo) to the SDK.
- (void)queryUserDetailByNumbers:(NSArray<NSString * > *)numbers
    completionBlock:(void (^)(NSError * _Nullable error, NSArray<HWMEnterpriseContact * >
*_Nullable userInfo))completionBlock;
    
```

### Parameter Description

Table 9-31

| Parameter | Type    | Description                               |
|-----------|---------|---|
| numbers   | NSArray | SIP number of the contact to be injected. |

### Return Values

None

### Sample Code

```

- (void)queryUserDetailByNumbers:(NSArray<NSString * > *)numbers completionBlock:(void (^)(NSError *
_Nullable, NSArray<HWMEnterpriseContact * > *_Nullable))completionBlock {
    NSArray *data = [self searchContactsWithKeys:numbers isNumber:YES]; // Contact array obtained through
the numbers array.
    completionBlock(nil,data); // Return the data source to the SDK.
}
    
```

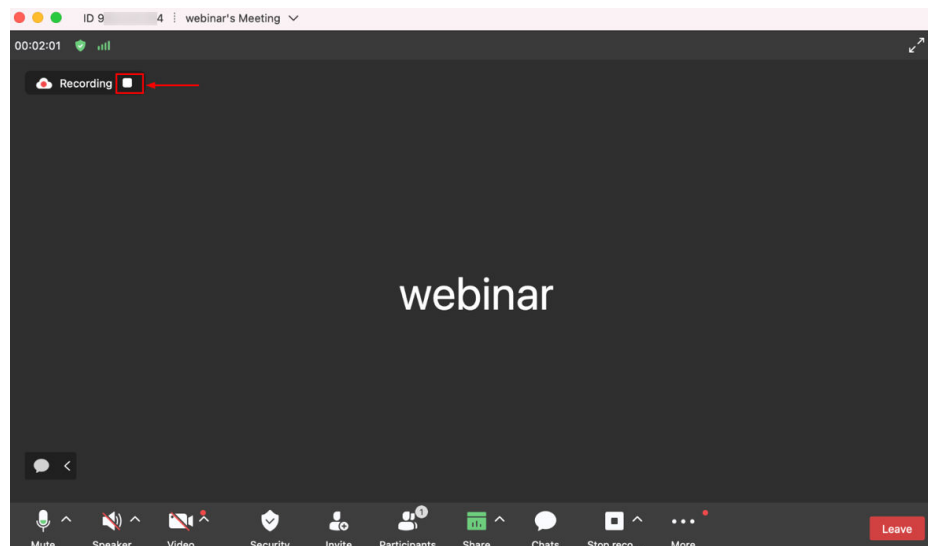
## 9.4.3.14 Customizing the Recording Button

### buildRecordMenuItems

#### API Description

This API is used to customize whether to hide the recording button next to the recording status bar.

**Figure 9-22** Customizable location



### Precautions

1. Currently, only the button on the right of the recording status bar can be hidden. If no item is passed, the button will be hidden.

### Method Definition

```
- (NSArray <HWMStatusBarItemModel *> *)buildRecordMenuItems;
```

### Parameter Description

None

### Return Values

None

### Sample Code

```
/// Customize the recording button next to the recording status bar.  
- (NSArray <HWMStatusBarItemModel *> *)buildRecordMenuItems {  
    HWMStatusBarItemModel *recordItem = [WKCFStatusBarItemModel defaultStatusBarRecordMenu];  
    // If the operation button on the right of the recording status bar is not required, leave the array empty.  
    return @[recordItem];  
}
```

## 9.4.3.15 Displaying the Settings Window

### showSettingWindowWithInfo

#### API Description

This API is used to display the settings window.

#### Method Definition

```
- (void)showSettingWindowWithInfo:(HWMUISDKShowSettingWindowInfoModel *)info;
```

## Parameter Description

**Table 9-32** Parameter description

| Parameter | Man<br>dato<br>ry | Type   | Description   |
|-----------|-------------------|--|---|
| info      | Yes               | HWMUISDKShowSet-<br>tingWindowInfoMo-<br>del | Information about<br>displaying the settings<br>window. |

**Table 9-33** HWMUISDKShowSettingWindowInfoModel parameters

| Parameter   | Type                     | Description                      |
|-------------|--------------------------|----------------------------------|
| isShow      | BOOL                     | Whether the window is displayed. |
| defaultPage | HWMUISDKSetting-<br>Page | Tab displayed by default.        |

**Table 9-34** Enumerated values of HWMUISDKSettingPage

| Enumerated Value               | Description               |
|--------------------------------|---------------------------|
| HWMUISDKSettingPage-<br>Normal | General                   |
| HWMUISDKSettingPageVi-<br>deo  | Video                     |
| HWMUISDKSettingPageAu-<br>dio  | Audio                     |
| HWMUISDKSettingPageRe-<br>cord | Recording                 |
| HWMUISDKSettingPage-<br>Hotkey | Shortcut keys             |
| HWMUISDKSettingPa-<br>geScreen | Screen                    |
| HWMUISDKSettingPage-<br>Count  | Number of setting screens |

## Return Values

None

## Sample Code

```

- (void)settingEvent:(NSButton *)button {
    if (![HWM SDK hasInit]) {
        // Call this API after initialization.
        return;
    }
    HWMUISDKShowSettingWindowInfoModel *model = [[HWMUISDKShowSettingWindowInfoModel alloc]
init];
    model.isShow = YES;// Whether the window is displayed.
    model.defaultPage = HWMUISDKSettingPageNormal;// Set the tab page to be displayed.
    [[HWMBizSdk getBizOpenApi] showSettingWindowWithInfo:model];
}

```

### 9.4.3.16 Customizing Subitems in the Participant List

#### onClickInjectParticipantItemBtnNotify

##### API Description

This API is used to customize an event of clicking a subitem in the participant list.

##### Method Definition

```

- (void)onClickInjectParticipantItemBtnNotify:(HWMUISDKInjectParticipantItemBtnInfoModel *)injectBtnInfo;

```

##### Parameter Description

**Table 9-35** Parameter description

| Parameter     | Man<br>dato<br>ry | Type  | Description   |
|---------------|-------------------|---|---|
| injectBtnInfo | Yes               | HWMUISDKInjectPar-<br>ticipantItemBtnInfo-<br>Model | Information about<br>displaying the settings<br>window. |

**Table 9-36** HWMUISDKInjectParticipantItemBtnInfoModel description

| Parameter       | Type                                       | Description                      |
|-----------------|--|----------------------------------|
| injectBtn       | HWMUISDKClickInject-<br>ParticipantItemBtn | Button type.                     |
| participantInfo | HWMUISDKParticipan-<br>tItemInfoModel      | Participant subitem information. |
| btnId           | NSString *                                 | Button ID.                       |

**Table 9-37** Enumerated values of HWMUISDKClickInjectParticipantItemBtn

| Enumerated Value                                       | Description                            |
|--|--|
| HWMUISDKClickInjectParticipantItemBtnCallOtherNum      | <b>Call other number</b> button.       |
| HWMUISDKClickInjectParticipantItemBtnParticipantDetail | Button of viewing participant details. |

**Table 9-38** HWMUISDKParticipantItemInfoModel description

| Parameter   | Type       | Description   |
|-------------|------------|---|
| number      | NSString * | Number.   |
| nickName    | NSString * | Participant nickname.   |
| thirdUserId | NSString * | Third-party account of the participant, which is used for login using app ID. |
| accountId   | NSString * | Huawei Cloud Meeting account.   |

### Return Values

None

### Sample Code

```
- (void)onClickInjectParticipantItemBtnNotify:(HWMUISDKInjectParticipantItemBtnInfoModel *)injectBtnInfo
{
    // After receiving the notification, process the reported information. The processing mode of the sample
    // code is to print the reported information.
    NSString *info = [injectBtnInfo yy_modelDescription];
    [HWMConsoleManager sharedInstance].console = [NSString stringWithFormat:@"participant: %@", info];
}
```

## 9.4.3.17 Displaying a Toast Message

### showToast

#### API Description

This API is used to display a toast.

#### Method Definition

```
- (void)showToast:(HWMUISDKToastInfoModel *)info;
```

#### Parameter Description

**Table 9-39** Parameter description

| Parameter | Man<br>dato<br>ry | Type                        | Description          |
|-----------|-------------------|-----------------------------|----------------------|
| info      | Yes               | HWMUISDKToastIn-<br>foModel | Message information. |

**Table 9-40** HWMUISDKToastInfoModel description

| Parameter | Type       | Description                   |
|-----------|------------|-------------------------------|
| content   | NSString * | Toast message.                |
| duration  | NSInteger  | Display duration, in seconds. |

### Return Values

None

### Sample Code

```
HWMUISDKToastInfoModel * info = [[HWMUISDKToastInfoModel alloc] init];
// Obtain the message and duration from the text box.
info.content = self.toastContentView.textField.stringValue;
info.duration = self.toastDurationInfoView.textField.intValue;
[[HWMBizSdk getBizOpenApi] showToast:info];
```

## 9.4.3.18 Obtaining Information About the Main Window

### getMainWindowInfo

#### API Description

This API is used to obtain information about the main window.

#### Method Definition

```
-(HWMUISDKMainWindowInfoModel *)getMainWindowInfo;
```

#### Parameter Description

None

#### Return Values

**Table 9-41** HWMUISDKMainWindowInfoModel description

| Parameter | Type      | Description   |
|-----------|-----------|---|
| x         | NSInteger | Offset of the window relative to the left side of the screen. |

| Parameter | Type       | Description   |
|-----------|------------|---|
| y         | NSInteger  | Offset of the window relative to the top of the screen. |
| width     | NSInteger  | Width of the window.                                    |
| height    | NSInteger  | Height of the window.                                   |
| handle    | NSUInteger | Window handle.  |

#### Sample Code

```
HWMUISDKMainWindowInfoModel * info = [[HWMBizSdk getBizOpenApi] getMainWindowInfo];
```

### 9.4.3.19 Obtaining an Error Message

#### getErrorMessage

##### API Description

This API is used to obtain an error message using an error code.

##### Method Definition

```
-(NSString *)getErrorMessage:(NSUInteger)code;
```

##### Parameter Description

Table 9-42 Parameter description

| Parameter | Type       | Description |
|-----------|------------|-------------|
| code      | NSUInteger | Error code. |

##### Return Values

Table 9-43 Parameter description

| Type       | Description    |
|------------|----------------|
| NSString * | Error message. |

#### Sample Code

```
-(void)setError:(NSError *)error {
    NSString *errorTips = [[HWMBizSdk getBizOpenApi] getErrorMessage:error.code];
}
```

### 9.4.3.20 Displaying the Meeting Control Assistant

#### supportMeetingAssistant

##### API Description

This API is used to set whether to display the meeting control assistant in the **More** menu during a meeting.

##### Method Definition

```
- (HWMSDKERR)supportMeetingAssistant:(BOOL)support;
```

##### Parameter Description

Table 9-44 Parameter description

| Parameter | Man<br>dato<br>ry | Type | Description  |
|-----------|-------------------|------|--|
| support   | Yes               | BOOL | Whether to display the meeting control assistant. Call this API after initialization and before joining a meeting. By default, the assistant is not displayed. |

##### Return Values

Whether the API is successfully called.

##### Sample Code

```
// Set whether to display the meeting control assistant.  
HWMSDKERR result = [[HWMSdk getOpenApi] supportMeetingAssistant:YES];
```

### 9.4.3.21 Customizing the Text for a Specific Scenario

#### setCustomUITextWithCustomSceneTextInfoList

##### API Description

This API is used to customize the text for a specific scenario.

##### Precautions

None

##### Method Definition

```
- (void)setCustomUITextWithCustomSceneTextInfoList:(HWMUISDKCustomSceneTextInfoListModel  
*)customSceneTextInfoList;
```

##### Parameter Description



**Table 9-45** Parameter description

| Parameter               | Man<br>dato<br>ry | Type   | Description |
|-------------------------|-------------------|--|-------------|
| customSceneTextInfoList | Yes               | <a href="#">HWMUISDKCustomSceneTextInfoListModel</a> | Text model. |

**Table 9-46** [HWMUISDKCustomSceneTextInfoListModel](#) description

| Parameter               | Type   | Description          |
|-------------------------|--|----------------------|
| customSceneTextInfoList | NSArray<br>< <a href="#">HWMUISDKCustomSceneTextInfoModel</a> *> * | Custom text details. |

**Table 9-47** [HWMUISDKCustomSceneTextInfoModel](#) description

| Parameter     | Type  | Description                            |
|---------------|---|--|
| scene         | <a href="#">HWMUISDKUICustomTextScene</a>                       | Scenario requiring text customization. |
| sceneTextList | NSArray<br>< <a href="#">HWMUISDKUICustomTextInfoModel</a> *> * | List of custom text strings.           |

**Table 9-48** [HWMUISDKUICustomTextInfoModel](#) description

| Parameter    | Type                             | Description           |
|--------------|----------------------------------|-----------------------|
| languageType | <a href="#">HWMUISDKLanguage</a> | Language type.        |
| languageCode | NSString *                       | Custom language code. |
| customText   | NSString *                       | Custom text.          |

**Table 9-49** Enumerated values of [HWMUISDKUICustomTextScene](#)

| Enumerated Value                                      | Description                       |
|---|-----------------------------------|
| <a href="#">HWMUISDKCloudRecordFinishedAlertScene</a> | Cloud recording end notification. |

| Enumerated Value                        | Description   |
|---|---|
| HWMUISDKCloudRecordFinishedAlertImScene | Notification in the dialog box displayed when cloud recording ends in an ongoing meeting. |

**Table 9-50** Enumerated values of HWMUISDKLanguage

| Enumerated Value           | Description      |
|----------------------------|------------------|
| HWMUISDKLanguageZhCn       | Chinese.         |
| HWMUISDKLanguageEnGb       | English.         |
| HWMUISDKLanguageCustomized | Custom language. |

### Return Values

None

### Sample Code

```
/// Customize the text for a scenario.
- (void)customLanguageInfos {
    HWMUISDKCustomSceneTextInfoListModel *listModel = [[HWMUISDKCustomSceneTextInfoListModel alloc] init];
    HWMUISDKCustomSceneTextInfoModel *sceneModel = [[HWMUISDKCustomSceneTextInfoModel alloc] init];
    sceneModel.scene = _currentScene;
    listModel.customSceneTextInfoList = @[sceneModel];
    [[HWMUISDK getOpenApi] setCustomUITextWithCustomSceneTextInfoList:listModel];
}
```

## 9.4.4 Meeting Control

### 9.4.4.1 Creating a Meeting

#### createConf

##### API Description

This API is used to create an instant meeting.

##### Precautions

1. By default, this API enables you to join a meeting as a host. During API calling, there is no need to add your information to the participant parameters.
2. If other participants need to be invited, their information needs to be transferred.
3. The meeting creation result can be obtained by calling the callback API.

##### Method Definition

```
- (void)createConf:(HWMCreateConfParam * _Nonnull)param callback:( _Nonnull  
HWMSDKCreateConfCompleteHandler)callback;
```

### Parameter Description

**Table 9-51** HWMCreateConfParam description

| Parameter              | Mandatory | Type                                       | Description  |
|------------------------|-----------|--|--|
| subject                | Yes       | NSString *                                 | Meeting topic.   |
| members                | No        | NSArray<br><HWMAttendeeInfo*><br>*         | Member list (optional).  |
| isCameraOn             | No        | BOOL                                       | Whether to turn on the camera. By default, the camera is turned off.   |
| isMicOn                | No        | BOOL                                       | Whether to turn on the microphone. By default, the microphone is turned on.  |
| isAutoRecord           | No        | BOOL                                       | Whether to automatically start recording after the meeting starts. The function is disabled by default. Meeting recording must be enabled if automatic recording is enabled.           |
| vmrId                  | No        | NSString *                                 | ID of the personal meeting or cloud meeting room. This parameter is required when a personal meeting or a cloud meeting room is created. In other cases, this parameter is left empty. |
| callInRestriction-Type | No        | <a href="#">HWMJoinConfRestrictionType</a> | Users who are allowed to join the meeting.   |

| Parameter              | Mandatory | Type                    | Description  |
|------------------------|-----------|-------------------------|--|
| noPassword             | No        | BOOL                    | Whether a meeting has no password. By default, a meeting has a password. (This parameter is valid only for random meetings held in the cloud meeting room.)  |
| guestPwd               | No        | NSString                | Password for a guest to join a meeting. By default, this parameter is left empty, indicating that a password is generated randomly. (This parameter is valid only for random meetings held in the cloud meeting room.) |
| isVideo                | No        | BOOL                    | Whether to create a video meeting. The default value is <b>YES</b> . If <b>NO</b> is specified, a voice meeting is created.  |
| vmrConfIdType          | No        | <b>HWMVmrConfIdType</b> | ID type of the cloud meeting room. A fixed ID is used by default.  |
| isOpenWaitingRoom      | No        | BOOL                    | Whether to enable the waiting room.<br><b>NOTE</b><br>The function takes effect only after the waiting room function is enabled.   |
| customInfo             | No        | NSString *              | User-defined information (meeting details and in-meeting chat messages).   |
| concurrentParticipants | No        | NSUInteger              | Maximum number of participants in the meeting. The default value is <b>0</b> .   |

| Parameter                | Mandatory | Type                            | Description  |
|--------------------------|-----------|---------------------------------|--|
| confResType              | No        | <a href="#">HWMLConfResType</a> | Meeting resource type.   |
| autoMuteMode             | No        | <a href="#">HWMAutoMuteType</a> | Whether soft client guests are automatically muted when they join the meeting.   |
| hardTerminalAutoMuteMode | No        | <a href="#">HWMAutoMuteType</a> | Whether hard terminal guests are automatically muted when they join the meeting. |

**Table 9-52** HWMAttendeeInfo description

| Parameter   | Mandatory | Type     | Description  |
|-------------|-----------|----------|--|
| name        | Yes       | NSString | Participant name.  |
| number      | No        | NSString | SIP number or phone number.<br>This parameter is mandatory in the account and password login scenario. |
| thirdUserId | No        | NSString | Third-party account.<br>This parameter is mandatory in the app ID login scenario.                      |
| accountId   | No        | NSString | User login account.<br>This parameter is mandatory in the account and password login scenario.         |
| email       | No        | NSString | Email address.   |
| sms         | No        | NSString | Mobile number for receiving SMS notifications.   |

| Parameter | Mandatory | Type            | Description                     |
|-----------|-----------|-----------------|---------------------------------|
| mute      | No        | BOOL            | Whether to mute the microphone. |
| role      | No        | HWMConfRoleType | Participant role.               |

**Table 9-53** Enumerated values of HWMConfResType

| Enumerated Value          | Description                |
|---------------------------|----------------------------|
| HWMSDKConfRestypeDefault  | Default.                   |
| HWMSDKConfRestypeShareVmr | Shared cloud meeting room. |

**Table 9-54** Enumerated values of HWMAutoMuteType

| Enumerated Value          | Description |
|---------------------------|-------------|
| HWMSDKAutoMuteTypeDefault | Default.    |
| HWMSDKAutoMuteTypeMute    | Muted.      |
| HWMSDKAutoMuteTypeUnmute  | Unmuted.    |

## Return Values

None

## Sample Code

```

// Create a meeting.
- (void)creatMeeting {
    HWMCreateConfParam *param = [[HWMCreateConfParam alloc] init];
    param.subject = @"Meeting topic";
    param.isCameraOn = YES; // Whether to turn on the camera. By default, the camera is turned off.
    param.isMicOn = YES; // Whether to turn on the microphone. By default, the microphone is turned on.
    param.isAutoRecord = NO; // Whether to enable the automatic recording function. By default, this
function is disabled.
    param.joinConfRestrictionType = HWMJoinConfRestrictionAll; // Users who are allowed to join the
meeting.

    [[HWMSdk getOpenApi] createConf:param callback:^(NSError * _Nullable error, HWMCreateConfResult *
_Nullable result) {
        [self hideLoading];
        if (error) {
            NSLog(@"Create meeting failed.%@", error.localizedDescription);
        }else{
            NSLog(@"Meeting created.");
        }
    }];
}

```

```

    }
  };
}

```

## 9.4.4.2 Joining a Meeting

### joinConf

#### API Description

This API is used to join an existing meeting by using the meeting ID and password. The following two methods can be used to join a meeting:

- Enter the meeting ID and password.
- Use a meeting ID to join a meeting in random mode. The meeting link (for example, <https://bmeeting.huaweicloud.com/#/j/981924330/e11ddec62ee760734fcf2ba55b79937eac2aa68677caf659>) in the notification email contains the meeting ID (981924330) and random code (e11ddec62ee760734fcf2ba55b79937eac2aa68677caf659).

#### Precautions

1. Use the child class **HWMJoinConfParam** to join a meeting using the ID, and use the child class **HWMRandomConfParam** to join a meeting in random mode.
2. This API can be called regardless of whether you have logged in.
3. The actual service processing result can be obtained by calling the corresponding callback API.

#### Method Definition

```

- (void)joinConf:(HWMBaseJoinConfParam * _Nonnull)param callback:(_Nonnull HWMSDKCompleteHandler)callback;

```

#### Parameter Description

Table 9-55 HWMBaseJoinConfParam

| Parameter  | Mandatory | Type       | Description  |
|------------|-----------|------------|--|
| confId     | Yes       | NSString * | Meeting ID.  |
| nickname   | No        | NSString * | Display name in the meeting. If you have logged in, this parameter can be left blank. In such a case, the login username is used as the display name in the meeting. |
| isCameraOn | No        | BOOL       | Whether to turn on the camera. By default, the camera is turned off.   |
| isMicOn    | No        | BOOL       | Whether to turn on the microphone. By default, the microphone is turned on.  |

| Parameter | Mandatory | Type | Description  |
|-----------|-----------|------|--|
| isSpkOn   | No        | BOOL | Whether to unmute the speaker. By default, the speaker is unmuted. |

**Table 9-56** HWMJoinConfParam description (inherited from HWMBaseJoinConfParam)

| Parameter          | Mandatory | Type       | Description   |
|--------------------|-----------|------------|---|
| password           | No        | NSString * | Meeting password. To join a meeting as a host, pass the host password. To join a meeting as a guest, pass the guest password unless the meeting is password-free. |
| isStopConflictConf | No        | BOOL       | Used to forcibly end a meeting that conflicts with the current cloud meeting room. (Only the owner of the cloud meeting room resource has the permission.)        |

**Table 9-57** HWMRandomConfParam description (inherited from HWMBaseJoinConfParam)

| Parameter | Mandatory | Type       | Description  |
|-----------|-----------|------------|--|
| random    | Yes       | NSString * | This parameter is transferred when you join a meeting in random mode.  |
| domain    | No        | NSString * | Domain name. This parameter is used when you join the meeting offline. |

### Sample Code

```

/// Join a meeting.
- (void)joinMeeting {
    HWMJoinConfParam *param = [[HWMJoinConfParam alloc] init];
    param.confId = @"989156631";
    param.password = getPassword();
    param.nickname = @"Hangzhou site";
    param.isCameraOn = NO;
    param.isMicOn = YES;
    [[HWM SDK getOpenApi] joinConf:param callback:^(NSError * _Nullable error, id _Nullable result) {
        if (error) {
            NSLog(@"Join meeting failed.%@", error.localizedDescription);
        }else{
    }
}

```



```
        NSLog(@"Meeting joined.");
    }
    }];
}
// Join a meeting in random mode.
- (void)joinMeetingByRandom {
    HWMRandomConfParam *param = [[HWMRandomConfParam alloc] init];
    param.confId = @"989156631";
    param.random = getRandom();
    param.nickname = @"Hangzhou site";
    param.isCameraOn = NO;
    param.isMicOn = YES;
    [[HWM SDK getOpenApi] joinConf:param callback:^(NSError * _Nullable error, id _Nullable result) {
        [self hideLoading];
        if (error) {
            NSLog(@"Join meeting failed.%@", error.localizedDescription);
        }else{
            NSLog(@"Meeting joined.");
        }
    }
    }];
}
```

### 9.4.4.3 Inviting a Participant

#### addAttendee

##### API Description

This API is used to add a participant to a meeting.

##### Precautions

1. Only the host in the meeting can add participants.

##### Method Definition

```
- (void)addAttendee:(NSArray<HWMAttendeeInfo *> *) attendee callback:(_Nonnull  
HWM SDKCompleteHandler)callback;
```

##### Parameter Description

**attendee** contains the information about the members to join the meeting. For details, see [HWMAttendeeInfo](#).

##### Sample Code

```
/// Add a participant to a meeting.
[[HWM BizSdk getBizOpenApi] addAttendee:arr callback:^(NSError * _Nullable error, id _Nullable result) {
    if (!error) {
        NSLog(@"success");
    }
}];
```

### 9.4.4.4 Displaying the Main Meeting Window

#### showMeetingWindow

##### API Description

This API is used to place the main meeting window at the top when it is minimized or covered by other windows.

##### Precautions

None

#### Method Definition

```
- (void)showMeetingWindow;
```

#### Parameter Description

None

#### Return Values

None

#### Sample Code

```
[[HWMBizSdk getBizOpenApi] showMeetingWindow];
```

### 9.4.4.5 Setting the Sharing Permission

#### setShareScreenPermission

##### API Description

This API is used to set the sharing permission.

##### Precautions

The return value of this API indicates whether the API is successfully called.

##### Method Definition

```
- (BOOL)setShareScreenPermission:(BOOL)isPermission;
```

##### Parameter Description

Table 9-58 Parameter description

| Parameter    | Man<br>dato<br>ry | Type | Description                 |
|--------------|-------------------|------|-----------------------------|
| isPermission | Yes               | bool | Whether sharing is allowed. |

##### Return Values

Table 9-59 Return value

| Type | Description  |
|------|--|
| BOOL | If the API is called successfully, <b>YES</b> is returned. If the API fails to be called, <b>NO</b> is returned. |

##### Sample Code

```
/// Set the sharing permission.  
[[HWMSdk getOpenApi] setShareScreenPermission:isPermission];
```

## 9.4.4.6 Leaving a Meeting

### leaveConf

#### API Description

This API is used to leave a meeting.

#### Precautions

1. Do not call this API if you are not in a meeting.
2. If this API is called to leave a meeting, the meeting will not end. You can join the meeting again when the meeting is still in progress.

#### Method Definition

```
- (void)leaveConf:(HWMSDKCompleteHandler)callback;
```

#### Parameter Description

None

#### Return Values

None

#### Sample Code

```
/// Leave a meeting.  
[[HWMSdk getBizOpenApi] leaveConf:^(NSError * _Nullable error, id _Nullable result) {  
    [UIUtil showMessage:@"Left meeting." error:error];  
}];
```

## 9.4.4.7 Ending a Meeting

### endConf

#### API Description

This API is used to end a meeting.

#### Precautions

1. Do not call this API if you are not in a meeting.
2. Only the host can end a meeting.
3. After this API is called, the meeting will end and you cannot join the meeting again.

#### Method Definition

```
- (void)endConf:(HWMSDKCompleteHandler)callback;
```

#### Parameter Description

None

#### Return Values

None

### Sample Code

```
/// End a meeting.
[[HWM SDK getBizOpenApi] endConf:^(NSError * _Nullable error, id _Nullable result) {
    [UIUtil showMessage:@"Meeting ended." error:error];
}];
```

## 9.4.4.8 Starting an Instant Meeting

### startP2PConf

#### API Description

This API is used to start an instant meeting.

#### Precautions

1. The actual service processing result can be obtained by calling the corresponding callback API.

#### Method Definition

```
- (void)startP2PConf:(HWMUISDKStartCallInfoModel *)param callback:(_Nonnull HWMUISDKCreateConfCompleteHandler)callback;
```

**Table 9-60** HWMUISDKStartCallInfoModel description

| Parameter  | Mandatory | Type                                | Description                     |
|------------|-----------|-------------------------------------|---------------------------------|
| calleeInfo | Yes       | <a href="#">HWMUISDKCalleeInfo*</a> | Called participant information. |
| callerInfo | Yes       | <a href="#">HWMUISDKCallerInfo*</a> | Caller information.             |
| mediaType  | Yes       | <a href="#">HWMUISDKMediaType</a>   | Media type.                     |

**Table 9-61** HWMUISDKCallerInfo description

| Parameter | Mandatory | Type       | Description  |
|-----------|-----------|------------|--------------|
| nickName  | No        | NSString * | Caller name. |

**Table 9-62** HWMUISDKCalleeInfo description

| Parameter | Mandatory | Type       | Description              |
|-----------|-----------|------------|--------------------------|
| nickName  | No        | NSString * | Called participant name. |

| Parameter   | Mandatory | Type       | Description  |
|-------------|-----------|------------|--|
| number      | Yes       | NSString * | Called number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set ( <b>number</b> is prior to <b>thirdUserId</b> ). |
| thirdUserId | Yes       | NSString * | Third-party account of the called participant. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set ( <b>number</b> is prior to <b>thirdUserId</b> ).  |

**Table 9-63** Enumerated values of HWMUISDKMediaType

| Enumerated Value       | Description |
|------------------------|-------------|
| HWMUISDKMediaTypeAudio | Audio.      |
| HWMUISDKMediaTypeVideo | Video.      |

### Return Values

None

### Sample Code

```
- (void)startP2PConf {
    // Set the information about the called participant.
    HWMUISDKCalleeInfo *calleeInfo = [[HWMUISDKCalleeInfo alloc] init];
    calleeInfo.nickName = @"Called participant name";
    calleeInfo.number = @"123456";
    calleeInfo.thirdUserId = @"123456";

    // Set the caller information.
    HWMUISDKCallerInfo *callerInfo = [[HWMUISDKCallerInfo alloc] init];
    callerInfo.nickName = @"Caller name";

    HWMUISDKStartCallInfoModel *param = [[HWMUISDKStartCallInfoModel alloc] init];
    // Set the media type.
    param.mediaType = HWMUISDKMediaTypeVideo;
    param.calleeInfo = calleeInfo;
    param.callerInfo = callerInfo;
    // Call the SDK API.
    [[HWM SDK getOpenApi] startP2PConf:param callback:^(NSError * _Nullable error,
    HWMCreateConfResult * _Nullable result) {
        if (error) {
            NSLog(@"Start instant meeting failed.:%@", error.localizedDescription);
        } else {
            NSLog(@"Instant meeting started.");
        }
    }];
}
```

## 9.4.4.9 Starting Projection

### startProjectionWithParam

#### API Description

This API is used to start projection.

#### Precautions

1. Call this API after login.
2. The actual service processing result is returned in the callback.

#### Method Definition

```
- (void)startProjectionWithParam:(HWMUISDKStartProjectionParamModel *)param callback:
(HWMSDKStartProjectionCompleteHandler)callback;
```

#### Parameter Description

**Table 9-64** HWMUISDKStartProjectionParamModel description

| Parameter    | Mandatory | Type       | Description   |
|--------------|-----------|------------|---|
| pairCode     | Yes       | NSString * | Pairing code.   |
| randomNumber | No        | NSString * | Random number, which needs to be carried for cross-enterprise projection. To obtain the value, call this API with <b>pairCode</b> carried. The call fails and error code <b>222020012</b> is returned. You can obtain the <b>randomNumber</b> value in <b>callback</b> and use the value to call this API again for secondary projection. |
| verifyCode   | No        | NSString * | Verification code, which needs to be carried for cross-enterprise projection. To obtain the value, call this API with <b>pairCode</b> carried. The call fails and error code <b>222020012</b> is returned. You can obtain the verification code in the returned result and use the code to call this API again for secondary projection.  |

### Return Values

**Table 9-65** HWMSDKStartProjectionCompleteHandler description

| Type   | Description        |
|--|--------------------|
| NSError *  | Error message.     |
| <a href="#">HWMUISDKStartProjectionResultModel</a> | Projection result. |

**Table 9-66** HWMUISDKStartProjectionResultModel description

| Parameter    | Type       | Description  |
|--------------|------------|--|
| randomNumber | NSString * | Random number. It is returned in the cross-enterprise projection scenario and used for secondary projection. |

### Sample Code

```
/// Start projection.
- (void)startProjection {
    HWMUISDKStartProjectionParamModel *param = [[HWMUISDKStartProjectionParamModel alloc] init];
    param.pairCode = getPairCode();
    param.randomNumber = getRandomNumber();
    param.verifyCode = getVerifyCode();
    [[HWM SDK getOpenApi] startProjectionWithParam:param
     callback:^(NSError *_Nullable error, HWMUISDKStartProjectionResultModel *_Nullable
startProjectionResult) {
        if (error) {
            NSLog(@"Start projection failed.:%@", error.localizedDescription);
        } else {
            NSLog(@"Projection started.");
        }
    }];
}
```

## 9.4.5 Meeting Management

### 9.4.5.1 Scheduling a Meeting

#### bookConf

##### API Description

This API is used to schedule a meeting.

##### Precautions

1. The start time of a meeting must be later than the current time.
2. The **vmrId** parameter must be passed for a personal meeting or cloud meeting room.
3. The **attende** parameter must be passed if participant information needs to be carried.
4. Meeting recording must be enabled if automatic recording is enabled.
5. For details about the meeting details returned in the callback, see [HWMConfDetail](#).

##### Method Definition

```
- (void)bookConf:(HWMOrderConfParam *_Nonnull)param callback:(_Nonnull
HWM SDKCompleteHandler)callback;
```

##### Parameter Description

Table 9-67 HWMOrderConfParam description

| Parameter   | Mandatory | Type       | Description    |
|-------------|-----------|------------|----------------|
| confSubject | Yes       | NSString * | Meeting topic. |



| Parameter             | Mandatory | Type  | Description  |
|-----------------------|-----------|---|--|
| startTime             | Yes       | NSTimeInterval                                | Meeting start time. The value is a UTC timestamp, accurate to seconds.<br><b>NOTE</b><br>The value is the difference between the UTC time and the UTC offset (converted into seconds). For example, if the time zone is UTC+08:00, the value is the UTC timestamp - (8 x 60 x 60). |
| duration              | No        | NSUInteger                                    | Meeting duration, in minutes. The value ranges from 15 to 1,440.   |
| isAutoRecord          | No        | BOOL  | Whether to automatically start recording after the meeting starts. The function is disabled by default. Meeting recording must be enabled if automatic recording is enabled.   |
| timeZone              | Yes       | NSUInteger                                    | Time zone. The current time zone is used by default. Value range: 1-73. For China, the value is <b>56</b> and GMT+08:00 time is used. For details, see <a href="#">Time Zone Table</a> .   |
| vmrId                 | No        | NSString *                                    | This parameter needs to be transferred for a personal meeting or cloud meeting room.   |
| callInRestrictionType | No        | <a href="#">HWMJoinConfRestrictionType</a>    | Users who are allowed to join the meeting.   |
| attendee              | No        | NSArray< <a href="#">HWMAttendeeInfo</a> *> * | Participant details.   |
| isSmsOn               | No        | BOOL  | (Optional) Whether to send SMS notifications. This function must be enabled in the enterprise configuration. Otherwise, this function does not take effect.  |

| Parameter           | Mandatory | Type                             | Description   |
|---------------------|-----------|----------------------------------|---|
| isMailOn            | No        | BOOL                             | (Optional) Whether to send email notifications. This function must be enabled in the enterprise configuration. Otherwise, this function does not take effect.   |
| isEmailCalendarOn   | No        | BOOL                             | Whether to send an email calendar.  |
| noPassword          | No        | BOOL                             | Whether a meeting has no password. By default, a meeting has a password. (This parameter is valid only for random meetings held in the cloud meeting room.)   |
| guestPwd            | No        | NSString                         | Password for a guest to join a meeting. By default, this parameter is left empty, indicating that a password is generated randomly. (This parameter is valid only for random meetings held in the cloud meeting room.)  |
| isVideo             | No        | BOOL                             | Whether to create a video meeting. The default value is <b>YES</b> . If <b>NO</b> is specified, a voice meeting is created.   |
| vmrConfIdType       | No        | <a href="#">HWMVmrConfIdType</a> | ID type of the cloud meeting room. A fixed ID is used by default.   |
| allowGuestStartConf | No        | BOOL                             | Whether to allow guests to join the meeting ahead of the host.<br><b>NOTE</b> <ul style="list-style-type: none"> <li>This parameter is valid only for meetings with a random ID.</li> <li>For meetings with fixed IDs, use the API for <a href="#">Modifying Cloud Meeting Room Information</a>.</li> </ul> |

| Parameter                | Mandatory | Type                            | Description   |
|--------------------------|-----------|---------------------------------|---|
| allowGuestStartConfTime  | No        | NSUInteger                      | <p>Time range allowed for guests to join the meeting in advance, in minutes.</p> <p><b>0:</b> Guests can join the meeting at any time before the scheduled time.</p> <p><b>x:</b> Guest can join the meeting <i>x</i> minutes before the scheduled time.</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>This parameter is valid only for meetings with a random ID.</li> <li>For meetings with fixed IDs, the time range cannot be set.</li> </ul> |
| isOpenWaitingRoom        | No        | BOOL                            | <p>Whether to enable the waiting room.</p> <p><b>NOTE</b></p> <p>The function takes effect only after the waiting room function is enabled.</p>   |
| isRecordOn               | No        | BOOL                            | Whether to enable recording.  |
| customInfo               | No        | NSString *                      | User-defined information (meeting details and in-meeting chat messages).  |
| concurrentParticipants   | No        | NSUInteger                      | Maximum number of participants in the meeting. The default value is <b>0</b> .  |
| confResType              | No        | <a href="#">HWMLConfResType</a> | Meeting resource type.  |
| autoMuteMode             | No        | <a href="#">HWMAutoMuteType</a> | Whether soft client guests are automatically muted when they join the meeting.  |
| hardTerminalAutoMuteMode | No        | <a href="#">HWMAutoMuteType</a> | Whether hard terminal guests are automatically muted when they join the meeting.  |

**Table 9-68** Enumerated values of HWMJoinConfRestrictionType

| Parameter                     | Value | Description           |
|-------------------------------|-------|-----------------------|
| HWMJoinConfRestrictionAll     | 0     | Everyone.             |
| HWMJoinConfRestrictionCompany | 2     | Corporate users only. |
| HWMJoinConfRestrictionInvited | 3     | Invited users only.   |

**Table 9-69** HWMAttendeeInfo description

| Parameter   | Mandatory | Type                             | Description  |
|-------------|-----------|----------------------------------|--|
| number      | No        | NSString *                       | This parameter is mandatory in the account and password login scenario.                                    |
| thirdUserId | No        | NSString *                       | Third-party account, which is mandatory in the app ID login scenario.                                      |
| name        | No        | NSString *                       | Site name.   |
| email       | No        | NSString *                       | Email address.   |
| sms         | No        | NSString *                       | Mobile number.   |
| role        | No        | <a href="#">HWMConfRoleType</a>  | Participant role.  |
| accountId   | No        | NSString *                       | UUID. (The login account is returned in the meeting details.)  |
| mute        | No        | BOOL                             | Whether to mute the microphone.  |
| isAnonymous | No        | BOOL                             | Whether to join the meeting anonymously. (This parameter is used only for obtaining the participant list.) |
| state       | No        | <a href="#">HWMAttendeeState</a> | Participant status. (This parameter is used only for obtaining the participant list.)                      |

| Parameter | Mandatory | Type       | Description   |
|-----------|-----------|------------|---|
| orgId     | No        | NSString * | Used to identify whether the participant belongs to the current enterprise. (This parameter is used only for obtaining the participant list.) |

**Table 9-70** Enumerated values of HWMConfRoleType

| Parameter               | Description |
|-------------------------|-------------|
| HWMConfRoleTypeAttendee | Guest.      |
| HWMConfRoleTypeChairman | Host.       |

**Table 9-71** Enumerated values of HWMVmrConfIdType

| Enumerated Value       | Description                          |
|------------------------|--------------------------------------|
| HWMVmrConfIdTypeFixed  | Fixed ID of the cloud meeting room.  |
| HWMVmrConfIdTypeRandom | Random ID of the cloud meeting room. |

### Sample Code

```

/// Schedule a meeting.
- (void)bookConf {
    HWMOrderConfParam * param = [[HWMOrderConfParam alloc] init];
    param.confSubject = @"Meeting topic";
    param.startTime = 1598759580;
    param.duration = 15;
    param.isAutoRecord = NO;
    param.timeZone = 56;
    param.vmrId = @"";
    param.attendee = self.attenteeArr;
    param.callInRestrictionType = HWMCallRestrictionAll;
    [[HWMBizSdk getBizOpenApi] bookConf:param callback:^(NSError *_Nullable error, id _Nullable result) {
        if (error) {
            NSLog(@"Schedule meeting failed.:%@", error.localizedDescription);
        } else {
            NSLog(@"Meeting scheduled.");
        }
    }];
}

```

## 9.4.5.2 Editing a Meeting

### editConf

#### API Description

This API is used to edit a meeting that has not been started yet.

#### Precautions

1. This API can be called only when a meeting has not been started and you are the host.
2. **userId** must be transferred when a participant tries to edit a scheduled meeting. (In the meeting details, each participant carries this parameter.)
3. **All fields are mandatory. Specify the fields that need to be modified as required, and obtain the values of other fields that do not need to be modified from the meeting details.**

#### Method Definition

```
-(void)editConf:(HWMOrderConfParam *_Nonnull)param callback:(_Nonnull HWMSDKCompleteHandler)callback;
```

#### Parameter Description

Table 9-72 HWMOrderConfParam description

| Parameter | Mandatory | Type       | Description                        |
|-----------|-----------|------------|------------------------------------|
| confId    | Yes       | NSString * | Meeting ID.                        |
| isLiveOn  | No        | BOOL       | Whether live broadcast is enabled. |

For details about other parameters, see [Table 9-67](#).

#### Sample Code

```
/// Edit a meeting.
-(void)editConf {
    HWMOrderConfParam * param = [[HWMOrderConfParam alloc] init];
    param.confSubject = @"Meeting topic";
    param.startTime = 1598759580;
    param.duration = 15;
    param.isAutoRecord = NO;
    param.timeZone = 56;
    param.vmrId = @""; // Cloud meeting room ID, required for a meeting held in a cloud meeting room.
    param.callInRestrictionType = HWMCallRestrictionAll;
    param.confId = @"986927771";
    [[HWMBizSdk getBizOpenApi] editConf:param callback:^(NSError *_Nullable error, id _Nullable result) {
        if (error) {
            NSLog(@"Edit meeting failed.:%@", error.localizedDescription);
        } else {
            NSLog(@"Meeting edited.");
        }
    }];
}
```

### 9.4.5.3 Obtaining the Meeting List

#### getConfList

##### API Description

This API is used to obtain the meeting list.

##### Precautions

1. This API is valid only after you have logged in to Huawei Cloud Meeting and received the meeting list notification. Otherwise, an empty list is returned.

##### Method Definition

```
- (NSArray<HWMConfListItemInfo *> *)getConfList;
```

##### Parameter Description

Table 9-73 HWMConfListItemInfo description

| Parameter       | Type                            | Description  |
|-----------------|---------------------------------|--|
| confId          | NSString *                      | Meeting ID.  |
| vmrConferenceld | NSString *                      | Cloud meeting room ID, which is used when the cloud meeting room is displayed. |
| confSubject     | NSString *                      | Meeting topic.   |
| chairmanPwd     | NSString *                      | Host password.   |
| generalPwd      | NSString *                      | Guest password.  |
| startTimeStamp  | NSInteger                       | Meeting start time. The value is a UTC timestamp, accurate to seconds.         |
| endTimeStamp    | NSInteger                       | Meeting end time. The value is a UTC timestamp, accurate to seconds.           |
| videoConf       | BOOL                            | Whether the meeting is a video meeting.  |
| scheduserName   | NSString *                      | Scheduler name.  |
| chairJoinUri    | NSString *                      | Link for the host to join the meeting.   |
| guestJoinUri    | NSString *                      | Link for guests to join the meeting.   |
| role            | <a href="#">HWMConfRoleType</a> | Participant role.  |
| isAutoRecord    | BOOL                            | Whether to automatically start recording.                                      |
| accessNumber    | NSString *                      | Meeting access number.   |

| Parameter       | Type                              | Description  |
|-----------------|-----------------------------------|--|
| scheduleVmr     | BOOL                              | Whether the meeting is a scheduled meeting held in the cloud meeting room. <b>0</b> : Common meeting. <b>1</b> : Scheduled meeting held in the cloud meeting room. |
| audiencePwd     | NSString *                        | Guest password.  |
| audienceJoinUri | NSString *                        | Link for guests to join the meeting.   |
| isWebinar       | BOOL                              | Whether the meeting is a webinar.  |
| confStateType   | <a href="#">HWMUISDKConfState</a> | Meeting status.  |

**Table 9-74** Enumerated values of HWMConfRoleType

| Parameter               | Description |
|-------------------------|-------------|
| HWMConfRoleTypeAttendee | Guest.      |
| HWMConfRoleTypeChairman | Host.       |

**Table 9-75** Enumerated values of HWMUISDKConfState

| Parameter                  | Description                   |
|----------------------------|-------------------------------|
| HWMUISDKConfStateSchedule  | The meeting is scheduled.     |
| HWMUISDKConfStateCreating  | The meeting is being created. |
| HWMUISDKConfStateGoing     | The meeting has started.      |
| HWMUISDKConfStateDestroyed | The meeting has ended.        |

### Sample Code

```
/// Obtain the meeting list.
[[HWMBizSdk getBizOpenApi] getConfList];
```

## 9.4.5.4 Obtaining Meeting Details

### getConfDetail

#### API Description



This API is used to obtain meeting details.

### Precautions

None

### Method Definition

```
-(void)getConfDetail:(NSString *)confId completionHandler:(HWMSDKConfInfoCompleteHandler)handler;
```

### Parameter Description

HWMConfDetail parameters are inherited from [HWMConfListItemInfo](#).

**Table 9-76** HWMConfDetail description (inherited from HWMConfListItemInfo)

| Parameter               | Type  | Description  |
|-------------------------|---|--|
| guestFreePwd            | BOOL  | Whether a guest can join the meeting without the password.   |
| sendNotify              | BOOL  | Whether to send email notifications.   |
| sendSms                 | BOOL  | Whether to send SMS notifications.   |
| sendCalendarNotify      | BOOL  | Whether to send calendar notifications.  |
| isAutoRecord            | BOOL  | Whether to automatically start recording after a meeting starts.   |
| vmrId                   | NSString *                                    | ID of the meeting created using the cloud meeting room ID, which is used for editing a meeting.  |
| callInRestriction       | <a href="#">HWMCallInRestrictionType</a>      | Incoming call restriction.   |
| vmrFlag                 | BOOL  | Whether the meeting is held in a cloud meeting room.   |
| attendee                | NSArray< <a href="#">HWMAttendeeInfo</a> *> * | Participant list.  |
| allowGuestStartConf     | BOOL  | Whether to allow guests to join the meeting ahead of the host.   |
| allowGuestStartConfTime | NSInteger                                     | Time range allowed for guests to join the meeting in advance, in minutes. A guest can start a meeting <i>n</i> minutes before the scheduled time. The value of <i>n</i> can be <b>0</b> , <b>5</b> , <b>10</b> , <b>15</b> , or <b>30</b> . The default value is <b>0</b> , indicating that a user can join a meeting at any time. |
| vmrConfIdType           | <a href="#">HWMVmrConfIdType</a>              | ID type of the cloud meeting room.   |

| Parameter                | Type                            | Description  |
|--------------------------|---------------------------------|--|
| isOpenWaitingRoom        | BOOL                            | Whether to enable the waiting room.  |
| isRecordOn               | BOOL                            | Whether to enable recording.   |
| isLiveOn                 | BOOL                            | Whether to enable live broadcast.  |
| customInfo               | NSString *                      | User-defined information (meeting details and in-meeting chat messages).         |
| concurrentParticipants   | NSUInteger                      | Maximum number of participants in the meeting. The default value is 0.           |
| timeZone                 | NSString *                      | Time zone.   |
| autoMuteMode             | <a href="#">HWMAutoMuteType</a> | Whether soft client guests are automatically muted when they join the meeting.   |
| hardTerminalAutoMuteMode | <a href="#">HWMAutoMuteType</a> | Whether hard terminal guests are automatically muted when they join the meeting. |

### Sample Code

```
/// Obtain meeting details.
- (void)getConfDetail {
    [[HWMBizSdk getBizOpenApi] getConfDetail:@"986927771" completionHandler:^(NSError * _Nullable
error, HWMConfDetail * _Nullable result) {
        if (error) {
            NSLog(@"%@", error.localizedDescription);
        } else {
            NSLog(@"Meeting details obtained.");
        }
    }
};
}
```

## 9.4.5.5 Canceling a Meeting

### cancelConf

#### API Description

This API is used to cancel a meeting that has not been started yet.

#### Precautions

1. Only the host can cancel a meeting.

#### Method Definition

```
- (void)cancelConf:(NSString * _Nonnull)confId callback:( _Nonnull HWMSDKCompleteHandler)callback;
```

#### Parameter Description

**Table 9-77** Parameter description

| Parameter | Mandatory | Type       | Description |
|-----------|-----------|------------|-------------|
| confId    | Yes       | NSString * | Meeting ID. |

### Sample Code

```
/// Cancel a meeting.
- (void)cancelConf {
    [[HWMBizSdk getBizOpenApi] cancelConf:@"986927771" callback:^(NSError * _Nullable error, id
    _Nullable result) {
        if (error) {
            NSLog(@"%@",error.localizedDescription);
        } else {
            NSLog(@"Meeting canceled.");
        }
    }
};
}
```

## 9.4.5.6 Obtaining the Cloud Meeting Room List

### getVmrList

#### API Description

This API is used to obtain the cloud meeting room list.

#### Precautions

None

#### Method Definition

Deprecated API:

```
- (void)getVmrList:(_Nonnull HWMSDKVmrListCompleteHandler)callback;
```

New API:

```
- (void)getVmrInfoList:(_Nonnull HWMSDKVmrInfoListCompleteHandler)callback;
```

#### Parameter Description

**Table 9-78** HWMVmrInfoListModel description

| Parameter         | Type                          | Description                                       |
|-------------------|-------------------------------|---|
| vmrs              | NSArray<br><HWMVmrInfoModel>* | Cloud meeting room information.                   |
| isEnabledShareVmr | BOOL                          | Whether shared cloud meeting rooms are available. |

**Table 9-79** HWMVmrlInfoModel description

| Parameter            | Type                                       | Description   |
|----------------------|--|---|
| name                 | NSString *                                 | Cloud meeting room name.  |
| confId               | NSString *                                 | Display ID of the cloud meeting room.   |
| vmrId                | NSString *                                 | Unique cloud meeting room ID.   |
| chairmanPwd          | NSString *                                 | Host password.  |
| guestPwd             | NSString *                                 | Guest password.   |
| type                 | <a href="#">HWMConfIdType</a>              | Meeting type.   |
| maxParties           | NSUInteger                                 | Maximum number of participants in the cloud meeting room.   |
| usable               | BOOL                                       | Cloud meeting room status. <b>YES</b> : The cloud meeting room is available. <b>NO</b> : The cloud meeting room is unavailable. |
| allowGuestStart-Conf | BOOL                                       | Whether to allow guests to join the meeting ahead of the host.  |
| confAllowJoinUser    | <a href="#">HWMJoinConfRestrictionType</a> | Users who are allowed to join the meeting.  |
| isOpenWaitingRoom    | BOOL                                       | Whether to enable the waiting room.   |

**Table 9-80** Enumerated values of HWMConfIdType

| Parameter            | Description            |
|----------------------|------------------------|
| HWMConfIdPersonal    | Personal meeting ID.   |
| HWMConfIdMeetingRoom | Cloud meeting room ID. |
| HWMConfIdRandom      | Random meeting ID.     |

**Table 9-81** Enumerated values of HWMJoinConfRestrictionType

| Parameter                     | Description           |
|-------------------------------|-----------------------|
| HWMJoinConfRestrictionAll     | Everyone.             |
| HWMJoinConfRestrictionCompany | Corporate users only. |
| HWMJoinConfRestrictionInvited | Invited users only.   |

### Sample Code

```
/// Obtain the cloud meeting room list.
- (void)getVmrList {
    [[HWMBizSdk getBizOpenApi] getVmrList:^(NSError * _Nullable error, NSArray<HWMVmrInfoModel *> *
    _Nullable result) {
        if (error) {
            NSLog(@"Cloud meeting room list obtained.");
        } else {
            NSLog(@"Failed to obtain the cloud meeting room list.");
        }
    }];
}
```

## 9.4.5.7 Modifying Cloud Meeting Room Information

### changeVmrInfo

#### API Description

This API is used to modify cloud meeting room information.

#### Precautions

1. If possible, change guest passwords only.

#### Method Definition

```
- (void)changeVmrInfo:(HWMModifyVMRParam *)info callback:(_Nonnull
HWMSDKCompleteHandler)callback;
```

#### Parameter Description

Table 9-82 HWMModifyVMRParam description

| Parameter           | Mandatory | Type                                       | Description  |
|---------------------|-----------|--|--|
| vmrId               | Yes       | NSString *                                 | Unique cloud meeting room ID.                                  |
| guestPwd            | Yes       | NSString *                                 | Guest password.  |
| chairPwd            | Yes       | NSString *                                 | Host password.   |
| vmrName             | Yes       | BOOL                                       | Cloud meeting room name.                                       |
| allowGuestStartConf | Yes       | BOOL                                       | Whether to allow guests to join the meeting ahead of the host. |
| confAllowJoinUser   | No        | <a href="#">HWMJoinConfRestrictionType</a> | Users who are allowed to join the meeting.                     |
| isOpenWaitingRoom   | No        | BOOL                                       | Whether to enable the waiting room.                            |

**Table 9-83** Enumerated values of HWMJoinConfRestrictionType

| Parameter                     | Description           |
|-------------------------------|-----------------------|
| HWMJoinConfRestrictionAll     | Everyone.             |
| HWMJoinConfRestrictionCompany | Corporate users only. |
| HWMJoinConfRestrictionInvited | Invited users only.   |

**Sample Code**

```
/// Modify cloud meeting room information.
- (void)changeVmrInfo {
    HWMModifyVmrParam * vmrInfo = [[HWMModifyVmrParam alloc] init];
    vmrInfo.guestPwd = getGuestPwd();
    vmrInfo.chairPwd = getChairPwd();
    vmrInfo.vmrName = @"Cloud meeting room name"
    vmrInfo.vmrId = @"8a8d0d8a718d87d50171a9f6b8de0f40";
    vmrInfo.allowGuestStartConf = YES;
    [[HWMBizSdk getBizOpenApi] changeVmrInfo:vmrInfo callback:^(NSError * _Nullable error, id _Nullable
result) {
        if (error) {
            NSLog(@"%@", error.localizedDescription);
        } else {
            NSLog(@"Cloud meeting room information modified.");
        }
    }];
}
```

### 9.4.5.8 Scheduling a Recurring Meeting Series

#### bookCycleConf

**API Description**

This API is used to schedule a recurring meeting series.

**Precautions**

- This API can be called only when you have logged in to Huawei Cloud Meeting.
- The meeting start time must be later than the current time, and the meeting duration must be longer than 15 minutes.
- The **vmrId** parameter must be passed for a personal meeting or cloud meeting room.
- The **attendees** parameter must be passed if participant information needs to be carried.
- The maximum time span of a recurring meeting series is one year. The number of recurring meetings in a series cannot exceed 50. Otherwise, only the first 50 meetings are scheduled.
- For details about the meeting information returned in the callback, see [HWMConfDetail](#).

**Method Definition**

```
- (void)bookCycleConf:(HWMBookCycleConfParam * _Nonnull)param callback:(_Nonnull
HWMSDKCompleteHandler)callback;
```

## Parameter Description

**Table 9-84** HWMBookCycleConfParam parameter description

| Parameter      | Mandatory | Type                              | Description   |
|----------------|-----------|-----------------------------------|---|
| confParam      | Yes       | <a href="#">HWMOrderConfParam</a> | Parameters for scheduling the recurring meeting series. |
| cycleConfParam | Yes       | <a href="#">HWMCycleConfParam</a> | Parameters of recurring meetings.                       |

**Table 9-85** HWMCycleConfParam parameter description

| Parameter | Mandatory | Type                         | Description  |
|-----------|-----------|------------------------------|--|
| startDate | Yes       | NSDateInterval               | Start date and timestamp, in seconds (GMT).  |
| endDate   | Yes       | NSDateInterval               | End date and timestamp, in seconds (GMT).  |
| cycleMode | Yes       | <a href="#">HWMCycleMode</a> | Period type.   |
| interval  | Yes       | NSUInteger                   | Interval of recurring meetings.<br>1. If <b>cycleType</b> is set to daily, there is a meeting every several days. The value ranges from 1 to 15.<br>2. If <b>cycleType</b> is set to weekly, there is a meeting every several weeks. The value ranges from 1 to 5.<br>3. If <b>cycleType</b> is set to monthly, there is a meeting every several months. The value ranges from 1 to 3. |

| Parameter     | Mandatory | Type       | Description   |
|---------------|-----------|------------|---|
| listPoints    | Yes       | NSString * | Point for holding recurring meetings. This parameter is valid only when meetings are held weekly or monthly. Separate values by colons (,), for example, <b>1,3,5,7</b> . |
| preRemindDays | Yes       | NSUInteger | Number of days in advance users are notified of a recurring meeting.  |

**Table 9-86** Enumerated values of HWMCycleMode

| Value             | Description |
|-------------------|-------------|
| HWMCycleModeDay   | Daily.      |
| HWMCycleModeWeek  | Weekly.     |
| HWMCycleModeMonth | Monthly.    |

### Sample Code

```

/// Schedule a recurring meeting series.
- (void)bookCycleConf{
    HWMOrderConfParam * orderConfParam = [[HWMOrderConfParam alloc] init];
    orderConfParam.confSubject = @"My Scheduled Meeting";
    orderConfParam.isAutoRecord = YES;
    orderConfParam.startTime = 1633017600; // UTC timestamp, in seconds. If the obtained time is the local
time, the time needs to be converted to the UTC time.
    orderConfParam.duration = 30; // Meeting duration, in minutes
    orderConfParam.timeZone = 56;
    orderConfParam.callInRestrictionType = HWMCallRestrictionAll;
    HWMAttendeeInfo * attendeeInfo = [[HWMAttendeeInfo alloc] init];
    attendeeInfo.name = @"Mike";
    attendeeInfo.number = @"+991116003543";
    attendeeInfo.isMute = YES;
    orderConfParam.attendee = @[attendeeInfo];

    HWMCycleConfParamModel * cycleConfParamModel = [[HWMCycleConfParamModel alloc] init];
    cycleConfParamModel.startDate = 1633017600; // UTC timestamp, in seconds. If the obtained time is the
local time, the time needs to be converted to the UTC time.
    cycleConfParamModel.endDate = 1636560000;
    cycleConfParamModel.cycleType = HWMSDKCycleTypeWeek;
    cycleConfParamModel.preRemindDays = 1;

    HWMBookCycleConfParam *param = [[HWMBookCycleConfParam alloc] init];
    param.confParam = orderConfParam;
    param.cycleConfParam = cycleConfParamModel;
    [[HWMBizSdk getBizOpenApi] bookCycleConf:param callback:^(NSError * _Nullable error, id _Nullable
result) {
        if (!error) {
            NSLog(@"book cycle conf success");
        }
    }];
}

```



```

    }else{
        NSLog(@"book cycle conf fail errorCode : %zd",error.code);
    }
    }];
}
}

```

## 9.4.5.9 Editing a Recurring Meeting Series

### editCycleConf

#### API Description

This API is used to edit a recurring meeting series.

#### Precautions

1. Call this API after login.
2. **All fields are mandatory. Specify the fields to be edited as required, and assign values in the meeting details to remaining fields.**

#### Method Definition

```

- (void)editCycleConf:(HWMBookCycleConfParam *_Nonnull)param callback:(_Nonnull
HWMSDKCompleteHandler)callback

```

#### Parameter Description

**Table 9-87** HWMBookCycleConfParam parameter description

| Parameter      | Mandatory | Type                              | Description                          |
|----------------|-----------|-----------------------------------|--------------------------------------|
| confParam      | Yes       | <a href="#">HWMOrderConfParam</a> | Common meeting parameters.           |
| cycleConfParam | Yes       | <a href="#">HWMCycleConfParam</a> | Recurring meeting series parameters. |

#### Sample Code

```

/// Edit a recurring meeting series.
- (void)editCycleConf{
    HWMOrderConfParam * orderConfParam = [[HWMOrderConfParam alloc] init];
    orderConfParam.confSubject = @"My Scheduled Meeting";
    orderConfParam.isAutoRecord = YES;
    orderConfParam.startTime = 1633017600; // UTC timestamp, in seconds. If the obtained time is the local
time, the time needs to be converted to the UTC time.
    orderConfParam.duration = 30; // Meeting duration, in minutes
    orderConfParam.timeZone = 56;
    orderConfParam.callInRestrictionType = HWMCallRestrictionAll;
    HWMAttendeeInfo * attendeeInfo = [[HWMAttendeeInfo alloc] init];
    attendeeInfo.name = @"Mike";
    attendeeInfo.number = @"+991116003543";
    attendeeInfo.isMute = YES;
    orderConfParam.attendee = @[attendeeInfo];

    HWMCycleConfParamModel * cycleConfParamModel = [[HWMCycleConfParamModel alloc] init];
    cycleConfParamModel.startDate = 1633017600; // UTC timestamp, in seconds. If the obtained time is the
local time, the time needs to be converted to the UTC time.
    cycleConfParamModel.endDate = 1636560000;
    cycleConfParamModel.cycleType = HWMSDKCycleTypeWeek;
}

```

```
cycleConfParamModel.preRemindDays = 1;

HWMBookCycleConfParam *param = [[HWMBookCycleConfParam alloc] init];
param.confParam = orderConfParam;
param.cycleConfParam = cycleConfParamModel;

[[HWMBizSdk getBizOpenApi] editCycleConf:param callback:^(NSError * _Nullable error, id _Nullable result) {
    if (!error) {
        NSLog(@"book cycle conf success");
    }else{
        NSLog(@"book cycle conf fail errorCode : %zd",error.code);
    }
}];
}
```

## 9.4.5.10 Canceling a Recurring Meeting Series

### cancelCycleConf

#### API Description

This API is used to cancel a recurring meeting series that has at least one upcoming meeting.

#### Precautions

1. Call this API after login.
2. Call this API before the last recurring meeting starts. If the last recurring meeting is already in progress, calling this API is invalid.

#### Method Definition

```
- (void)cancelCycleConf:(NSString * _Nonnull)confId callback:( _Nonnull HWMSDKCompleteHandler)callback;
```

#### Parameter Description

Table 9-88 Parameter description

| Parameter | Mandatory | Type       | Description |
|-----------|-----------|------------|-------------|
| confId    | Yes       | NSString * | Meeting ID. |

#### Sample Code

```
/// Cancel a recurring meeting series.
- (void)cancelCycleConf {
    NSString *confId = "989156631";
    [[HWMBizSdk getBizOpenApi] cancelCycleConfWithParam:cancelParam callback:^(NSError * _Nullable error, id _Nullable result) {
        NSString *tips = !error ? @"Recurring meeting series canceled." : @"Cancel recurring meeting series failed.";
        NSLog(@"%@@",tips);
    }];
}
```

## 9.4.5.11 Editing a Recurring Meeting

### editSubCycleConf

#### API Description

This API is used to edit a recurring meeting.

#### Precautions

1. Call this API after login.

#### Method Definition

```
- (void)editSubCycleConf:(HWMSDKModifySubCycleConfParamModel *_Nonnull)param callback:(_Nonnull HWMSDKCompleteHandler)callback;
```

#### Parameter Description

**Table 9-89** HWMSDKModifySubCycleConfParamModel parameter description

| Parameter         | Mandatory | Type                                    | Description  |
|-------------------|-----------|---|--|
| confId            | Yes       | NSString *                              | Meeting ID.  |
| subConfID         | Yes       | NSString *                              | UUID of a recurring meeting.   |
| confMediaType     | No        | <a href="#">HWMSDKConfMediaType</a>     | Meeting media type.  |
| startTime         | No        | NSInteger                               | Meeting start time (UTC time), in seconds.<br><b>NOTE</b><br>The value is the difference between the UTC time and the UTC offset (converted into seconds). For example, if the time zone is UTC+08:00, the value is the UTC timestamp - (8 x 60 x 60).                       |
| confLen           | No        | NSInteger                               | Meeting duration, in minutes.  |
| isAutoRecord      | No        | BOOL                                    | Whether to automatically start recording after a meeting starts.   |
| recordAuthType    | No        | NSInteger                               | Recording authentication mode. The options are as follows: <b>0</b> : The recording can be viewed or downloaded through link (no nonce is added). <b>1</b> : Corporate users can view or download the recording. <b>2</b> : Participants can view or download the recording. |
| callInRestriction | No        | <a href="#">HWMSDKAllowJoinUserType</a> | Incoming call restriction.   |

| Parameter               | Mandatory | Type      | Description  |
|-------------------------|-----------|-----------|--|
| allowGuestStartConf     | No        | BOOL      | Whether to allow guests to start the meeting.  |
| allowGuestStartConfTime | No        | NSInteger | Time range for a guest to join a meeting in advance, in minutes. The options are as follows: <b>0</b> : at any time; <b>n</b> : <i>n</i> minutes in advance. |

**Table 9-90** Enumerated values of HWMConfMediaType

| Enumerated Value      | Value | Description    |
|-----------------------|-------|----------------|
| HWMConfMediaTypeAudio | 0     | Voice meeting. |
| HWMConfMediaTypeVideo | 1     | Video meeting. |

**Table 9-91** Enumerated values of HWMConfAllowJoinUserType

| Value                                 | Description           |
|---------------------------------------|-----------------------|
| HWMConfAllowJoinUserTypeAnyone        | Anyone.               |
| HWMConfAllowJoinUserTypeLoggedInUser  | Logged-in users.      |
| HWMConfAllowJoinUserTypeInCompanyUser | Corporate users only. |
| HWMConfAllowJoinUserTypeInvitedUser   | Invited users only.   |

### Sample Code

```

/// Edit a recurring meeting.
- (void)editSubCycleConf{
    HWMSDKModifySubCycleConfParamModel * modifySubCycleConfParamModel =
[[HWMSDKModifySubCycleConfParamModel alloc] init];
    modifySubCycleConfParamModel.confId = confId;
    modifySubCycleConfParamModel.subConfId = subConfId;
    modifySubCycleConfParamModel.confMediaType = HWMConfMediaTypeVideo;
    modifySubCycleConfParamModel.startTime = 1633017600;
    modifySubCycleConfParamModel.confLen = 60;
    modifySubCycleConfParamModel.isAutoRecord = NO;
    modifySubCycleConfParamModel.callInRestriction = HWMConfAllowJoinUserTypeAnyone;
    modifySubCycleConfParamModel.allowGuestStartConf = NO;
    modifySubCycleConfParamModel.allowGuestStartConfTime = 0;
    [[HWMBizSdk getBizOpenApi] editSubCycleConf:modifySubCycleConfParamModel callback:^(NSError *
_Nullable error, id _Nullable result) {
        if (!error) {
            NSLog(@"Recurring meeting edited.");
        }
    }];
}

```

```

    }else{
        NSLog(@"Edit recurring meeting failed:%zd %@", error.code, error.localizedDescription);
    }
    }];
}
}

```

## 9.4.5.12 Canceling a Recurring Meeting

### cancelSubCycleConf

#### API Description

This API is used to cancel a recurring meeting that has not been started yet.

#### Precautions

1. Call this API after login.
2. Call this API before a recurring meeting starts. If the meeting is already in progress, calling this API is invalid.

#### Method Definition

```

- (void)cancelSubCycleConf:(HWMSDKCancelSubCycleConfParamModel *_Nonnull)param callback:
(_Nonnull HWMSDKCompleteHandler)callback

```

#### Parameter Description

**Table 9-92** HWMSDKCancelSubCycleConfParamModel parameter description

| Parameter     | Mandatory | Type       | Description                        |
|---------------|-----------|------------|------------------------------------|
| confId        | Yes       | NSString * | Meeting ID.                        |
| subConfID     | Yes       | NSString * | Recurring meeting ID.              |
| endOnlineConf | Yes       | BOOL       | Whether to end an ongoing meeting. |

#### Sample Code

```

/// Cancel a recurring meeting.
- (void)confirmCancelSubConf {
    HWMSDKCancelSubCycleConfParamModel *cancelParma = [[HWMSDKCancelSubCycleConfParamModel
alloc] init];
    cancelParma.confId = confId;
    cancelParma.subConfID = subConfID;
    cancelParma.endOnlineConf = YES;
    [[HWMBizSdk getBizOpenApi] cancelSubCycleConf:cancelParma callback:^(NSError * _Nullable error, id
_Nullable result) {
        NSString *tips = !error ? @"Meeting canceled." : @"Cancel meeting failed.";
        NSLog(@"%@",tips);
    }];
}

```

## 9.4.6 Conference Information

## 9.4.6.1 Obtaining the Participant List

### getAttendeeList

#### API Description

This API is used to obtain the participant list in a meeting.

#### Precautions

1. This API can be called only during a meeting.

#### Method Definition

```
- (NSArray <HWMAttendeeInfo *> *)getAttendeeList;
```

#### Parameter Description

See [HWMAttendeeInfo](#).

**Table 9-93** Enumerated values of HWMAttendeeState

| Parameter               | Description                           |
|-------------------------|---------------------------------------|
| HWMAttendeeStateInConf  | The participant is in the meeting.    |
| HWMAttendeeStateCalling | The participant is being called.      |
| HWMAttendeeStateLeaved  | The participant has left the meeting. |

#### Sample Code

```
/// Obtain the participant list.  
[[HWMBizSdk getBizOpenApi] getAttendeeList];
```

## 9.4.6.2 Obtaining the Attendee List

### getAudienceList

#### API Description

This API is used to obtain the attendee list in a webinar.

#### Precautions

1. Call this API only in webinars.
2. Attendees cannot call this API, but can obtain the list from the meeting details message.

#### Method Definition

```
- (NSArray <HWMAttendeeInfo *> *)getAudienceList;
```

#### Parameter Description

See [HWMAttendeeInfo](#).

#### Sample Code

```
/// Obtaining the attendee list.  
[[HWMBizSdk getBizOpenApi] getAudienceList];
```

### 9.4.6.3 Obtaining a User Status

#### getUserState

##### API Description

This API is used to obtain the status of a user (whether the user is in a meeting).

##### Precautions

None

##### Method Definition

```
-(HWMUserState)getUserState;
```

##### Parameter Description

**Table 9-94** Enumerated values of HWMUserState

| Parameter          | Value | Description                           |
|--------------------|-------|---------------------------------------|
| HWMUserStateIdle   | 0     | The participant is in the idle state. |
| HWMUserStateInConf | 1     | The participant is in the meeting.    |
| HWMUserStateInCall | 2     | The participant is being called.      |

##### Return Values

None

##### Sample Code

```
[[HWMSdk getOpenApi] getUserState];
```

### 9.4.6.4 Determining Whether You Are a Host

#### selfIsChairMan

##### API Description

This API is used to determine whether you are a host.

##### Precautions

1. **YES** is returned when you are a host. **NO** is returned when you are not the host or not in a meeting.

##### Method Definition

```
- (BOOL)selfIsChairMan;
```

### Parameter Description

None

### Sample Code

```
/// Determine whether you are a host.  
[[HWMBizSdk getBizOpenApi] selfIsChairMan];
```

## 9.4.7 Audio and Video Data Streams

### 9.4.7.1 Obtaining Audio Data Streams

#### setAudioRawDataOutputConfig

##### API Description

This API is used to obtain audio data streams.

##### Precautions

If this API is called and the parameter is set to **YES**, the service processing result is returned in the corresponding notification ([Audio Data Stream Notification](#)).

This API can be called after initialization. You will receive a notification after creating or joining a meeting.

##### Method Definition

```
- (void)setAudioRawDataOutputConfig:(BOOL)enable;
```

##### Parameter Description

**YES**: The function is enabled. **NO**: The function is disabled (default).

##### Return Values

None

##### Sample Code

```
[[HWMBizSdk getBizOpenApi] setAudioRawDataOutputConfig:YES];
```

## 9.5 Notification Reference

### Precautions

1. You must register a proxy object to use a notification method.  
The following two ways are available:
  - a. Assign a value to the attribute of the **HWMOpenSDKConfig** object during initialization.

```
HWMOpenSDKConfig *config = [[HWMOpenSDKConfig alloc] init];  
// Example (Use the corresponding proxy as required.)  
config.globalHandler = [NotifyMessageHandler sharedInstance];
```



- b. Use **[HWMSdk getSdkConfig]** to obtain the initialization object and assign a value to the attribute.

```
// Example (Use the corresponding proxy as required.)  
[HWMSdk getSdkConfig].globalHandler = [NotifyMessageHandler sharedInstance];
```

2. The proxy method must be written in the proxy object.
3. Ensure that the proxy object exists when using the proxy.

## 9.5.1 Precautions

1. You must register a proxy object to use a notification method.

Single-proxy registration modes:

- a. Assign a value to the attribute of the **HWMOpenSDKConfig** object during initialization.

```
HWMOpenSDKConfig *config = [[HWMOpenSDKConfig alloc] init];  
// Example (Use the corresponding proxy as required.)  
config.confSettingHandler = [NotifyMessageHandler sharedInstance];
```

- b. Use **[HWMSdk getSdkConfig]** to obtain the initialization object and assign a value to the attribute.

```
// Example (Use the corresponding proxy as required.)  
[HWMSdk getSdkConfig].confSettingHandler = [NotifyMessageHandler sharedInstance];
```

Multi-proxy registration modes:

- a. Subscription

```
// Example (Use the corresponding proxy as required.)  
HWMOpenSDKConfig *config = [HWMSdk getSdkConfig].confSettingHandler;  
[config subscribeGlobalNotificationHandler:[NotifyMessageHandler sharedInstance]];
```

- b. Unsubscription

```
HWMOpenSDKConfig *config = [HWMSdk getSdkConfig].confSettingHandler;  
// Example (Use the corresponding proxy as required.)  
[config unsubscribeGlobalNotificationHandler:[NotifyMessageHandler sharedInstance]];
```

2. The proxy method must be written in the proxy object.
3. Ensure that the proxy object exists when using the proxy.

## 9.5.2 Account Status Change Notification

### 9.5.2.1 Forcible Logout Notification

#### Notification Description

A notification is sent when you were kicked out of this account by another device. In this case, you need to log in again. You need to call the login API again to perform operations.

#### Method Definition

```
- (void)onKickedOut;
```

#### Sample Code

```
/// Forcibly logged out.  
- (void)onKickedOut {  
    NSLog(@"Your account has logged in on another terminal.");  
}
```

## Precautions

1. Subscribe to the **HWMNotifyHandler** delegate during SDK initialization or set the delegate on the target page.

## 9.5.3 Basic Configuration Change Notification

### 9.5.3.1 Enterprise Configuration Information

#### Notification Description

A notification is sent when the login is successful. The enterprise configuration information is delivered.

#### Method Definition

```
- (void)onCorpConfigNotify:(HWMCorpConfigInfo *)corpConfig;
```

#### Sample Code

```
- (void)onCorpConfigNotify:(HWMCorpConfigInfo *)corpConfig {  
    if (corpConfig.hasSMSPerm) {  
        NSLog(@"The SMS notification sending permission is available.");  
    }  
    if (corpConfig.hasRecordPerm) {  
        NSLog(@"The meeting recording permission is available.");  
    }  
    if (corpConfig.hasPstnPerm) {  
        NSLog(@"The PSTN call permission is available.");  
    }  
}
```

## Precautions

1. Subscribe to the **HWMNotifyHandler** proxy during SDK initialization or set the proxy on the target page.

## Parameter Description

**Table 9-95** Parameter description

| Parameter  | Type                                | Description                |
|------------|-------------------------------------|----------------------------|
| corpConfig | <a href="#">HWMCorpConfigInfo</a> * | Configuration information. |

**Table 9-96** HWMCorpConfigInfo parameters

| Parameter     | Type | Description  |
|---------------|------|--|
| hasRecordPerm | BOOL | Whether the meeting recording permission is available. |

| Parameter   | Type | Description   |
|-------------|------|---|
| hasPstnPerm | BOOL | Whether the PSTN call permission is available.                |
| hasSMSPerm  | BOOL | Whether the SMS notification sending permission is available. |

## 9.5.4 Customized UI Event Notification

### 9.5.4.1 Notification of Opening the Contact Selection Window

#### Notification Description

A notification is sent when the SDK opens the contact selection window for a participant to return custom contacts.

#### Method Definition

```
- (void)openContactSelectWindow:(nullable NSArray<HWMAttendeeInfo *> *)param scene:
(HWMSelectedContactScene *)scene
completeHandler:(void (^)(NSArray<HWMAttendeeInfo *> *_Nullable result))handler;
```

#### Sample Code

```
/// Customize contacts.
- (void)openContactSelectWindow:(NSArray<HWMAttendeeInfo *> *)param scene:
(HWMSelectedContactScene)scene completeHandler:(void (^)(NSArray<HWMAttendeeInfo *> *
_Nullable))handler {
    HWMSelectContactViewController *contact = [[HWMSelectContactViewController alloc] init];
    [contact setSelectAttendeeInfoHandler:^(NSArray *attendees) {
        if (handler) {
            handler(attendees);
        }
    }];
    self.selectContactVC = contact;
    [self presentViewControllerAsModalWindow:contact];
}
```

#### Precautions

1. Set the **contactUIHandler** proxy during SDK initialization or set the proxy on the target page.

#### Parameter Description

**Table 9-97** Parameter description

| Parameter | Type                         | Description                       |
|-----------|------------------------------|-----------------------------------|
| param     | NSArray<HWMAttendeeInfo *> * | Existing contacts in the meeting. |

| Parameter | Type  | Description   |
|-----------|---|---|
| scene     | <a href="#">HWMSelectedContactScene</a>                                       | Contact selection scenario. By default, it is in the meeting.   |
| handler   | void(^)<br>(NSArray< <a href="#">HWMAttendeeInfo</a> *><br>*_Nullable result) | Result. A participant needs to encapsulate selected contacts into <a href="#">HWMAttendeeInfo</a> and call the handler to return it to the SDK. |

**Table 9-98** Enumerated values of HWMSelectedContactScene

| Parameter                    | Description   |
|------------------------------|---|
| HWMSelectedContactInConf = 0 | In the common meeting, modal and non-modal dialog boxes can be used for window display.   |
| HWMSelectedContactInShare    | In the sharing scenario of the meeting, non-modal dialog boxes are used for window display. Modal dialog boxes are not recommended. |

## 9.5.4.2 Notification of Closing the Contact Selection Window

### Notification Description

A notification is sent for a participant to close the contact selection window.

### Method Definition

```
- (void)closeContactSelectWindow;
```

#### Sample Code

```
/// Close the window for selecting contacts.  
- (void)closeContactSelectWindow {  
    if (self.selectContactVC) {  
        [self.selectContactVC.view.window close];  
    }  
}
```

### Precautions

1. Set the **contactUIHandler** proxy during SDK initialization or set the proxy on the target page.

### 9.5.4.3 Notification of Setting a Dock Icon

#### Notification Description

A notification is sent for the access party to return an image, which is used as the Dock icon of the minimized window during the video call.

#### Method Definition

```
- (NSImage *)videoWindowDockIcon;
```

#### Sample Code

```
/// Set the Dock icon of the minimized window during the video call.  
- (NSImage *)videoWindowDockIcon {  
    return [NSImage imageNamed:@"iconMeeting"];  
}
```

#### Precautions

1. Set the **confUIHandler** proxy during SDK initialization or set the proxy on the target page.

### 9.5.4.4 Notification of Obtaining the User Profile Picture

#### Notification Description

A notification is sent for the access party to return the profile picture corresponding to the unique user ID.

#### Method Definition

```
- (void)downloadHeadPortraitWithThirdAccount:(NSString *)thirdAccount account:(NSString *)account  
number:(nonnull NSString *)number completionBlock:(void (^)(NSError *_Nullable error, NSString *_Nullable  
headImagePath))completionBlock;
```

#### Sample Code

```
- (void)downloadHeadPortraitWithThirdAccount:(NSString *)thirdAccount account:(NSString *)account  
number:(NSString *)number completionBlock:(void (^)(NSError *_Nullable, NSString *  
_Nullable))completionBlock {  
    NSLog(@"thirdAccount:%@ -- account:%@ -- number:%@", thirdAccount, account, number);  
    if (completionBlock) {  
        /// Return the image path to the SDK.  
        NSInteger index = arc4random() % 3;  
        NSString *path = [[NSBundle bundleForClass:[self class]] pathForResource:[NSString  
stringWithFormat:@"head_icon_%lu", index] ofType:@"png"];  
        completionBlock(nil, path);  
    }  
}
```

#### Precautions

1. Set the **headPortraitApiHandler** proxy during SDK initialization or set the proxy on the target page.

## Parameter Description

**Table 9-99** Parameter description

| Parameter       | Type   | Description   |
|-----------------|--|---|
| thirdAccount    | NSString *   | This parameter is preferentially used in the app ID login scenario.               |
| account         | NSString *   | This parameter is preferentially used in the account and password login scenario. |
| number          | NSString *   | This parameter is preferentially used in the cross-enterprise scenario.           |
| completionBlock | void(^)(NSError *_Nullable error, NSString *_Nullable headImagePath) | Result callback.  |

### 9.5.4.5 Meeting Information Sharing Notification

#### Notification Description

A notification is sent to display the page for sharing meeting information. The sharing page and size displayed when the pointer is placed on the title bar are specified by the external app. The display position and time of display and hiding are controlled by the SDK. This API is used for native implementation, which is convenient and simple.

#### Method Definition

```
- (NSView *)socialShareView:(HWMConfStateInfo *)confInfo;
```

#### Sample Code

```
- (NSView *)socialShareView:(HWMConfStateInfo *)confDetail {
    if (!self.socialView) {
        self.socialView = [[HWMSocialView alloc] initWithFrame:NSMakeRange(0, 0, 500, 300)];
        self.socialView.wantsLayer = YES;
        self.socialView.layer.backgroundColor = [NSColor whiteColor].CGColor;
    }
    self.socialView.confDetail = confDetail;
    return self.socialView;
}
```

**Table 9-100** Parameter description

| Parameter | Type                               | Description                        |
|-----------|------------------------------------|------------------------------------|
| confInfo  | <a href="#">HWMConfStateInfo</a> * | Details about the ongoing meeting. |

**Table 9-101** HWMConfStateInfo parameters

| Parameter        | Type                            | Description  |
|------------------|---------------------------------|--|
| confId           | NSString *                      | Meeting ID.  |
| confSubject      | NSString *                      | Meeting topic.   |
| chairmanPwd      | NSString *                      | Host password.   |
| generalPwd       | NSString *                      | Guest password.  |
| startTimeStamp   | NSInteger                       | Meeting start time. The value is a UTC timestamp, accurate to seconds.   |
| endTimeStamp     | NSInteger                       | Meeting end time. The value is a UTC timestamp, accurate to seconds.   |
| videoConf        | BOOL                            | Whether the meeting is a video meeting.  |
| confScheduleName | NSString *                      | Scheduler name.  |
| chairJoinUri     | NSString *                      | Link for the host to join the meeting.   |
| guestJoinUri     | NSString *                      | Link for guests to join the meeting.   |
| vmrConferenceId  | NSString *                      | ID of the meeting held in the cloud meeting room.  |
| role             | <a href="#">HWMConfRoleType</a> | Role.  |
| orgId            | NSString *                      | Enterprise ID of the meeting. If an enterprise ID reported in <b>corpId</b> in the login result is different from the enterprise ID of the meeting, an external contact joins the meeting. |
| customInfo       | NSString *                      | User-defined information (meeting details and in-meeting chat messages).   |

## Precautions

1. Set the **HWMSocialShareHandler** proxy during SDK initialization or set the proxy on the target page.

### 9.5.4.6 Custom Meeting Details Sharing Notification

#### Notification Description

A notification is sent when the external app displays the page for sharing meeting details. The sharing page settings, including the size, display position, and time of

display and hiding, are controlled by the external app when the pointer is placed on the title bar.

 **NOTE**

This API is mainly used for Electron JavaScript implementation. For native implementation, use [Meeting Information Sharing Notification](#).

## Method Definition

```
- (void)showSocialShareView:(NSPoint)point shareInfo:(HWMConfStateInfo *)confInfo;
```

**Table 9-102** Parameter description

| Parameter | Type                                  | Description                        |
|-----------|---------------------------------------|------------------------------------|
| point     | NSPoint                               | Pointer position.                  |
| confInfo  | <a href="#">HWMConfStateInfo</a><br>* | Details about the ongoing meeting. |

## Precautions

1. Set the **HWMSocialShareHandler** delegate during SDK initialization or set the delegate on the target page.
2. You only need to implement either the method for meeting details sharing notification or the one for custom meeting details sharing notification. If both methods are implemented, only **showSocialShareView: shareInfo** is used.

## 9.5.5 Meeting Status Change Notification

### 9.5.5.1 Meeting Status Change Notification

#### Notification Description

A notification is sent when the meeting status is changed.

#### Method Definition

```
- (void)onConfStatusChanged:(HWMConfStatus)status;
```

#### Sample Code

```
- (void)onConfStatusChanged:(HWMConfStatus)status {
    switch (status) {
        case HWMConfStatusIdle:
            NSLog(@"Meeting ended.");
            break;
        case HWMConfStatusIncoming:
            NSLog(@"Incoming call.");
            break;
        case HWMConfStatusCallingOut:
            NSLog(@"Outgoing call.");
            break;
        case HWMConfStatusConnected:
            NSLog(@"Connected.");
    }
}
```



```
        break;
    default:
        break;
    }
}
```

## Precautions

1. Subscribe to the **HWMBizNotificationHandler** proxy during SDK initialization or set the proxy on the target page.

## Parameter Description

**Table 9-103** Parameter description

| Parameter | Type                             | Description          |
|-----------|----------------------------------|----------------------|
| status    | <a href="#">HWMSDKConfStatus</a> | Meeting call status. |

**Table 9-104** Enumerated values of HWMSDKConfStatus

| Enumerated Value           | Description                                |
|----------------------------|--|
| HWMSDKConfStatusIdle = 0   | Idle state. That is, the meeting is ended. |
| HWMSDKConfStatusIncoming   | Incoming call.                             |
| HWMSDKConfStatusCallingOut | Outgoing call.                             |
| HWMSDKConfStatusConnected  | Connected.                                 |

### 9.5.5.2 Ongoing Meeting Details Change Notification

#### Notification Description

A notification is sent when the details about the ongoing meeting change.

#### Method Definition

```
-(void)onConfInfoNotify:(HWMSDKConfStateInfo *)confInfo;
```

Sample Code

```
-(void)onConfInfoNotify:(HWMSDKConfStateInfo *)confInfo {
    NSLog(@"Ongoing meeting details report onConfInfoNotify :%@", [confInfo yy_modelDescription]);
}
```

## Precautions

1. Subscribe to the **HWMBizNotificationHandler** proxy during SDK initialization or set the proxy on the target page.

## Parameter Description

**Table 9-105** Parameter description

| Parameter | Type  | Description      |
|-----------|---|------------------|
| confInfo  | <a href="#">HWMSDKMeetingInfoModel</a><br>* | Meeting details. |

### 9.5.5.3 Notification of Ongoing Meeting Information Changes

#### Notification Description

A notification is sent when the information about the ongoing meeting changed.

#### Method Definition

```
- (void)onMeetingInfoChanged:(HWMSDKMeetingInfoModel *)meetingInfo;
```

#### Sample Code

```
- (void)onMeetingInfoChanged:(HWMSDKMeetingInfoModel *)meetingInfo {
    NSLog(@"Ongoing meeting information report onMeetingInfoChanged :%@", [meetingInfo
yy_modelDescription]);
}
```

#### Precautions

1. Subscribe to the **HWMBizNotificationHandler** delegate during SDK initialization or set the delegate on the target page.

## Parameter Description

**Table 9-106** HWMSDKMeetingInfoModel description

| Parameter           | Type                                    | Description                             |
|---------------------|---|---|
| baseInfo            | <a href="#">HWMSDKConfBaseInfoModel</a> | Basic meeting details.                  |
| orgId               | NSString *                              | Enterprise ID.                          |
| recordMode          | <a href="#">HWMSDKConfRecordMode</a>    | Media recording mode.                   |
| supportBreakoutConf | BOOL                                    | Whether breakout rooms are supported.   |
| isBreakoutSubConf   | BOOL                                    | Whether the session is a breakout room. |

**Table 9-107** HWMSDKConfBaseInfoModel description

| Parameter           | Type                                 | Description   |
|---------------------|--------------------------------------|---|
| confId              | NSString *                           | Meeting ID, which used to join a meeting. If the meeting is held in a cloud meeting room, this ID is the actual meeting ID. |
| vmrConfId           | NSString *                           | ID of the meeting when it is held in a cloud meeting room.  |
| confSubject         | NSString *                           | Meeting topic.  |
| startTime           | NSInteger                            | Meeting start timestamp, accurate to seconds (GMT).   |
| endTime             | NSInteger                            | Meeting end timestamp, accurate to seconds (GMT).   |
| timeZone            | NSString *                           | Time zone.  |
| hostPwd             | NSString *                           | Host password.  |
| guestPwd            | NSString *                           | Guest password.   |
| scheduserU<br>uid   | NSString *                           | Scheduler UUID.   |
| scheduserN<br>ame   | NSString *                           | Scheduler name.   |
| hostJoinUri         | NSString *                           | Link for the host to join the meeting.  |
| guestJoinUr<br>i    | NSString *                           | Link for guests to join the meeting.  |
| selfConfRol<br>e    | <a href="#">HWMSDKConfRole</a>       | Role in the meeting.  |
| isWebinar           | BOOL                                 | Whether the meeting is a webinar.   |
| isCreator           | BOOL                                 | Whether the meeting was scheduled by you.   |
| audienceJoi<br>nUri | NSString *                           | Link for attendees to join the webinar.   |
| audienceP<br>wd     | NSString *                           | Attendee password.  |
| conference<br>Type  | <a href="#">HWMSDKConferenceType</a> | Meeting type.   |
| confUuid            | NSString *                           | Meeting UUID.   |
| openCusto<br>mPara  | NSString *                           | Custom extension information.   |

| Parameter           | Type                   | Description   |
|---------------------|------------------------|---|
| liveRoomAddress     | NSString *             | Live broadcast address.                             |
| isHighResolution    | BOOL                   | Whether the meeting resolution is ultra-HD (1080p). |
| isP2PConf           | BOOL                   | Whether the meeting is an instant meeting.          |
| supportSummary      | BOOL                   | Whether meeting minutes are supported.              |
| defaultSummaryState | <b>HWMSummaryState</b> | Meeting minutes status.                             |

**Table 9-108** Enumerated values of HWMConfRole

| Enumerated Value    | Description          |
|---------------------|----------------------|
| HWMConfRoleAttendee | Guest.               |
| HWMConfRoleHost     | Host.                |
| HWMConfRoleAudience | Attendee.            |
| HWMConfRoleCohost   | Co-host.             |
| HWMConfRoleWaiting  | Waiting room member. |

**Table 9-109** Enumerated values of HWMConferenceType

| Enumerated Value     | Description        |
|----------------------|--------------------|
| HWMSDKConfTypeCommon | Common meeting.    |
| HWMSDKConfTypeCycle  | Recurring meeting. |

**Table 9-110** Enumerated values of HWMSummaryState

| Enumerated Value        | Description |
|-------------------------|-------------|
| HWMSDKSummaryStateClose | Disabled.   |
| HWMSDKSummaryStateOpen  | Enabled.    |

**Table 9-111** Enumerated values of HWMConfRecordMode

| Enumerated Value               | Description                   |
|--------------------------------|-------------------------------|
| HWMConfRecordModeDisable       | Disabled.                     |
| HWMConfRecordModeLive          | Live broadcast.               |
| HWMConfRecordModeRecord        | Recording.                    |
| HWMConfRecordModeLiveAndRecord | Live broadcast and recording. |

## 9.5.5.4 Notifications for Poor Network Connection

### Notification Description

A notification is sent when the network connection is poor.

### Method Definition

```
-(void)onPoorNetworkQualityInfoNotify:(HWMSDKPoorNetWorkQualityInfoModel *)poorNetWorkInfo;
```

### Precautions

1. Subscribe to the **HWMBizNotificationHandler** proxy during SDK initialization or set the proxy on the target page.

### Parameter Description

**Table 9-112** HWMSDKPoorNetWorkQualityInfoModel description

| Parameter   | Type   | Description                                       |
|-------------|--|---|
| userId      | NSUInteger   | User ID.  |
| nickName    | NSString *   | Display name in the meeting.                      |
| thirdUserId | NSString *   | Third-party account.                              |
| accountId   | NSString *   | Account information.                              |
| number      | NSString *   | SIP number.                                       |
| isLocal     | BOOL   | Whether the participant is the local client user. |
| audioStatus | <a href="#">HWMSDKLowNetWork-StatusInfoModel *</a> | Audio status.                                     |
| videoStatus | <a href="#">HWMSDKLowNetWork-StatusInfoModel *</a> | Video status.                                     |

| Parameter   | Type   | Description     |
|-------------|--|-----------------|
| shareStatus | <a href="#">HWMSDKLowNetWork-StatusInfoModel *</a> | Sharing status. |

**Table 9-113** HWMSDKLowNetWorkStatusInfoModel description

| Parameter  | Type                                | Description       |
|------------|-------------------------------------|-------------------|
| packetLoss | NSUInteger                          | Packet loss rate. |
| delay      | NSUInteger                          | Delay.            |
| jitter     | NSUInteger                          | Jitter.           |
| status     | <a href="#">HWMLowNetWorkStatus</a> | Status.           |

**Table 9-114** Enumerated values of HWMLowNetWorkStatus

| Enumerated Value           | Description |
|----------------------------|-------------|
| HWMLowNetWorkStatusNormal  | Normal.     |
| HWMLowNetWorkStatusBad     | Poor.       |
| HWMLowNetWorkStatusVeryBad | Very poor.  |

## 9.5.5.5 Notification of Incoming Meeting Call Status Changes

### Notification Description

A notification is sent when a meeting call is received.

### Method Definition

```
- (void)onConfIncoming:(HWMConfIncomingInfo *)confIncomingInfo;
```

#### Sample Code

```
- (void)onConfIncoming:(HWMConfIncomingInfo *)confIncomingInfo {
    NSLog(@"%@", [confIncomingInfo yy_modelDescription]);
}
```

### Precautions

1. Subscribe to the **HWMNotifyHandler** delegate during SDK initialization or set the delegate on the target page.

## Parameter Description

**Table 9-115** HWMConfIncomingInfo description

| Parameter   | Type                  | Description                                     |
|-------------|-----------------------|---|
| state       | HWMConfIncoming-State | Incoming call status.                           |
| mediaType   | HWMSDKConfMedia-Type  | Meeting media type.                             |
| confId      | NSString              | Meeting ID.                                     |
| vmrConfId   | NSString              | ID of the meeting held in a cloud meeting room. |
| isP2PConf   | BOOL                  | Whether the meeting is an instant meeting.      |
| thirdUserId | NSString              | Third-party user account.                       |

**Table 9-116** Enumerated values of HWMConfIncomingState

| Enumerated Value            | Description  |
|-----------------------------|--|
| HWMConfIncomingStateStart   | Initial state. The phone of the called party is ringing.                                 |
| HWMConfIncomingStateAccept  | The call is answered.  |
| HWMConfIncomingStateReject  | The call is rejected.  |
| HWMConfIncomingStateTimeout | The called party does not respond, the call times out, or the calling party has hung up. |

**Table 9-117** Enumerated values of HWMSDKConfMediaType

| Enumerated Value         | Description |
|--------------------------|-------------|
| HWMSDKConfMediaTypeAudio | Audio.      |
| HWMSDKConfMediaTypeVideo | Video.      |

## 9.5.5.6 Notification of Instant Meeting Records

### Notification Description

A notification of instant meeting records is sent.

### Method Definition

```
- (void)onP2PConfRecord:(HWMP2PConfRecordInfoModel *)recordInfo;
```

#### Sample Code

```
- (void)onP2PConfRecord:(HWMP2PConfRecordInfoModel *)recordInfo{  
    NSLog(@"%@", [recordInfo yy_modelDescription]);  
}
```

### Precautions

1. Subscribe to the **HWMNotifyHandler** delegate during SDK initialization or set the delegate on the target page.

### Parameter Description

**Table 9-118** HWMP2PConfRecordInfoModel description

| Parameter         | Type  | Description                           |
|-------------------|---|---------------------------------------|
| callerInfo        | <a href="#">HWMUISDKCallMemberInfoModel</a> | Caller information.                   |
| calleeInfo        | <a href="#">HWMUISDKCallMemberInfoModel</a> | Called participant information.       |
| startTime         | NSInteger                                   | Call start time.                      |
| endTime           | NSInteger                                   | Call end time.                        |
| isCallOut         | BOOL  | Whether the call is an outgoing call. |
| mediaType         | <a href="#">HWMUISDKMediaType</a>           | Media type.                           |
| resultCode        | HWMUISDKSDKERR                              | Call end reason.                      |
| resultMsg         | NSString                                    | Call end description.                 |
| isCallEstablished | BOOL  | Whether the call is connected.        |

**Table 9-119** HWMUISDKCallMemberInfoModel description

| Parameter | Type     | Description |
|-----------|----------|-------------|
| number    | NSString | Number.     |



| Parameter   | Type     | Description          |
|-------------|----------|----------------------|
| nickName    | NSString | Member name.         |
| thirdUserId | NSString | Third-party account. |

**Table 9-120** Enumerated values of HWMUISDKMediaType

| Enumerated Value       | Description |
|------------------------|-------------|
| HWMUISDKMediaTypeAudio | Audio.      |
| HWMUISDKMediaTypeVideo | Video.      |

## 9.5.5.7 Meeting End Notification

### Notification Description

A notification is sent when a meeting ended.

### Method Definition

```
(void)onConfEndedNotify:(HWMUISDKConfEndInfoModel *)confEndInfo;
```

Sample Code

```
(void)onConfEndedNotify:(HWMUISDKConfEndInfoModel *)confEndInfo{
    NSLog(@"Meeting end notification report onConfEndedNotify :%@", [confEndInfo yy_modelDescription]);
}
```

### Precautions

1. Subscribe to the **HWMBizNotificationHandler** delegate during SDK initialization or set the delegate on the target page.

### Parameter Description

**Table 9-121** HWMUISDKConfEndInfoModel description

| Parameter | Type                                  | Description                                |
|-----------|---------------------------------------|--|
| reason    | <a href="#">HWMUISDKConfEndReason</a> | Reason for leaving the meeting.            |
| isP2PConf | BOOL                                  | Whether the meeting is an instant meeting. |

**Table 9-122** Enumerated values of HWMUISDKConfEndReason

| Enumerated Value  | Description   |
|---|---|
| HWMUISDKConfEndReasonLeaveConfHangup                      | The user leaves the meeting.                                      |
| HWMUISDKConfEndReasonStopConfHangup                       | The meeting has ended.  |
| HWMUISDKConfEndReasonHostHangup                           | The user is removed by the host.                                  |
| HWMUISDKConfEndReasonSessionTimerTimeout                  | Network interrupted.  |
| HWMUISDKConfEndReasonNostreamHangup                       | Network error.  |
| HWMUISDKConfEndReasonCorpConferenceResourceHasBeenRunOut  | Enterprise resources have been used up.                           |
| HWMUISDKConfEndReasonConfOnlySameEnterprise               | Only enterprise users can join the meeting.                       |
| HWMUISDKConfEndReasonConfOnlyInvited                      | Only invited users can join the meeting.                          |
| HWMUISDKConfEndReasonConfIsLocked                         | The meeting is locked.  |
| HWMUISDKConfEndErrVmrNotBeenHold                          | Guests are not allowed to activate the meeting.                   |
| HWMUISDKConfEndReasonVmrConfConflict                      | Meetings conflict in this cloud meeting room.                     |
| HWMUISDKConfEndReasonServerError                          | Server exception.   |
| HWMUISDKConfEndReasonNumOfParExceedsUpperLimit            | More participants than allowed by the cloud meeting room package. |
| HWMUISDKConfEndReasonConfNumOverMaxAllowed = 111071116    | The maximum number of ongoing meetings has been reached.          |
| HWMUISDKConfEndManagerShareVmrNotEnough = 111071151       | No shared cloud meeting rooms are available.                      |
| HWMUISDKConfEndReasonOverMaxParticipantNumber = 111072101 | More participants than allowed.                                   |
| HWMUISDKConfEndReasonParticipantReachMaxNum = 111072504   | Max. participants in a single meeting reached.                    |
| HWMUISDKConfEndReasonParticipantConfNotExist = 111081002  | The meeting does not exist or has ended.                          |
| HWMUISDKConfEndManagerNoUpscaleVmr = 112030001            | There are no cloud meeting rooms of higher specifications.        |

| Enumerated Value                                     | Description                                       |
|--|---|
| HWMUISDKConfEndReasonEndExpiration = 414100069       | Invalid user, enterprise, or SP.                  |
| HWMUISDKConfEndReasonSdkChair-EndConf = 414100074    | The host ends the meeting.                        |
| HWMUISDKConfEndReasonSdkTimeoverEndConf = 414100075  | The meeting ends when the scheduled time arrives. |
| HWMUISDKConfEndForceOpenCameraHangup = 414100078     | The video meeting is forcibly ended.              |
| HWMUISDKConfEndReasonRtcSdkNetworkFailed = 990000053 | Network exception.                                |

### 9.5.5.8 Notification of Participant Addition Results

#### Notification Description

A notification is sent when the participant addition results are returned.

#### Method Definition

```
- (void)onAddAttendeeNotify:(HWMSDKAddAttendeeResultListModel *)resultList;
```

#### Sample Code

```
- (void)onAddAttendeeNotify:(HWMSDKAddAttendeeResultListModel *)resultList{
    NSLog(@"Notification of participant addition results onConfEndedNotify :%@", [resultList
yy_modelDescription]);
}
```

#### Precautions

1. Subscribe to the **HWMBizNotificationHandler** proxy during SDK initialization or set the proxy on the target page.

#### Parameter Description

**Table 9-123** HWMSDKAddAttendeeResultListModel description

| Parameter        | Type  | Description                             |
|------------------|---|---|
| addAttendeeInfos | NSArray< <a href="#">HWMSDKAddAttendeeInfoModel</a> > | Information about invited participants. |

**Table 9-124** HWMSDKAddAttendeeInfoModel description

| Parameter   | Type      | Description   |
|-------------|-----------|---|
| number      | NSString  | Number.   |
| thirdUserId | NSString  | Third-party account.  |
| result      | HWMSDKERR | Invitation error code. For details, see the <b>HWMSDKCommonDefine.h</b> file. |

## 9.5.6 Service Message Notification

### 9.5.6.1 Role Change Notification

#### Notification Description

A notification is sent when a role changes.

#### Method Definition

```
- (void)onSelfRoleChanged:(HWMSDKConfRoleType)confRole;
```

#### Sample Code

```
- (void)onSelfRoleChanged:(HWMSDKConfRoleType)confRole {
    switch (confRole) {
        case HWMSDKConfRoleTypeAttendee:
            NSLog(@"Participant");
            break;
        case HWMSDKConfRoleTypeAudience:
            NSLog(@"Attendee");
            break;
        case HWMSDKConfRoleTypeChairman:
            NSLog(@"Host");
            break;
        default:
            break;
    }
}
```

#### Precautions

1. Subscribe to the **HWMBizNotificationHandler** delegate during SDK initialization or set the delegate on the target page.

#### Parameter Description

**Table 9-125** Parameter description

| Parameter | Type                               | Description |
|-----------|------------------------------------|-------------|
| confRole  | <a href="#">HWMSDKConfRoleType</a> | Role.       |

**Table 9-126** Enumerated values of HWMConfRoleType

| Enumerated Value            | Description   |
|-----------------------------|---------------|
| HWMConfRoleTypeInvalid = -1 | Invalid role. |
| HWMConfRoleTypeAttendee = 0 | Guest.        |
| HWMConfRoleTypeChairman     | Host.         |
| HWMConfRoleTypeAudience     | Attendee.     |

## 9.5.6.2 Meeting List Change Notification

### Notification Description

A notification is sent when the meeting list changes.

### Method Definition

```
-(void)onReceiveConfList:(NSArray<HWMConfListItemInfo *> *)confList;
```

#### Sample Code

```
-(void)onReceiveConfList:(NSArray<HWMConfListItemInfo *> *)confList {  
    NSLog(@"%lu", confList.count);  
    [self.dataArr removeAllObjects];  
    [self.dataArr addObjectsFromArray:confList];  
    [self.listView reloadData];  
}
```

### Precautions

1. Subscribe to the **HWMBizNotificationHandler** proxy during SDK initialization or set the proxy on the target page.

### Parameter Description

**Table 9-127** Parameter description

| Parameter | Type  | Description   |
|-----------|---|---------------|
| confList  | NSArray< <a href="#">HWMConfListItemInfo</a> *> * | Meeting list. |

**Table 9-128** HWMConfListItemInfo parameters

| Parameter        | Type                            | Description  |
|------------------|---------------------------------|--|
| confId           | NSString *                      | Meeting ID.  |
| confSubject      | NSString *                      | Meeting topic.   |
| accessNumber     | NSString *                      | Meeting access code.   |
| chairmanPwd      | NSString *                      | Host password.   |
| generalPwd       | NSString *                      | Guest password.  |
| startTime        | NSTimeInterval                  | Meeting start time. The value is a UTC timestamp, accurate to seconds.   |
| endTime          | NSTimeInterval                  | Meeting end time. The value is a UTC timestamp, accurate to seconds.   |
| videoConf        | BOOL                            | Whether the meeting is a video meeting.  |
| confScheduleName | NSString *                      | Scheduler name.  |
| chairJoinUri     | NSString *                      | Link for the host to join the meeting.   |
| guestJoinUri     | NSString *                      | Link for guests to join the meeting.   |
| vmrConferenceId  | NSString *                      | ID of the meeting held in the cloud meeting room.  |
| isAutoRecord     | BOOL                            | Whether to enable automatic recording for a meeting.   |
| scheduleVmr      | BOOL                            | Whether the meeting is a scheduled meeting held in the cloud meeting room. <b>0</b> : Common meeting. <b>1</b> : Scheduled meeting held in the cloud meeting room. |
| role             | <a href="#">HWMConfRoleType</a> | Role.  |

### 9.5.6.3 Audio Data Stream Notification

#### Notification Description

A notification is sent when an audio data stream is sent.

#### Method Definition

```
- (void)onAudioFrameDataNotify:(HWMAudioFrameDataModel *)pFrame;
```

## Sample Code

```
(void)onAudioFrameDataNotify:(HWMAudioFrameDataModel *)pFrame{  
    NSLog(@"In-meeting audio stream report:%@", [pFrame yy_modelDescription]);  
}
```

## Precautions

1. Subscribe to the **HWMBizNotificationHandler** proxy during SDK initialization or set the proxy on the target page.
2. You need to call the API for **obtaining audio data streams** and set the parameter to **YES**. Then, data can be reported in the notification.

## Parameter Description

**Table 9-129** Parameter description

| Parameter | Type                     | Description               |
|-----------|--------------------------|---------------------------|
| pFrame    | HWMAudioFrameDataModel * | Audio stream information. |

**Table 9-130** HWMAudioFrameDataModel parameters

| Parameter       | Type                     | Description   |
|-----------------|--------------------------|---|
| iSamples        | NSInteger                | Number of sampling points of each audio channel.<br>$iSamples = iSamplesPerSec \times 10 \text{ ms} / 1000$                                   |
| iSamplesPerSec  | NSInteger                | Sampling ratio.   |
| iBytesPerSample | NSInteger                | Number of bytes of each sampling point. Generally, the PCM audio is 16 bits.  |
| iChannels       | NSInteger                | Number of audio channels.   |
| pBuffer         | NSData                   | Data buffer. Length = $iSamples \times iBytesPerSample \times iChannels$  |
| uiDataLen       | NSInteger                | Data length, which is used after encoding or before decoding. The value of this parameter needs to be updated after encryption or decryption. |
| eFrameType      | HWMAudioRowDataFrameType | Audio frame type.   |

**Table 9-131** Enumerated values of HWMAudioRowDataFrameType

| Enumerated Value                  | Description |
|-----------------------------------|-------------|
| HWMAudioRowDataFrameTypePcm16 = 0 | Pcm16       |

## 9.5.6.4 Notification of Shared Cloud Meeting Rooms

### Notification Description

A notification is sent when information about shared cloud meeting rooms was changed.

### Method Definition

```
- (void)onShareVmrInfoNotify:(HWMSDKShareVmrInfoModel *)shareVmrInfo;
```

#### Sample Code

```
- (void)onShareVmrInfoNotify:(HWMSDKShareVmrInfoModel *)shareVmrInfo{  
    NSLog(@"%@", [shareVmrInfo yy_modelDescription]);  
}
```

### Precautions

1. Subscribe to the **HWMNotifyHandler** delegate during SDK initialization or set the delegate on the target page.

### Parameter Description

**Table 9-132** HWMSDKShareVmrInfoModel description

| Parameter         | Type | Description                                       |
|-------------------|------|---|
| isEnabledShareVmr | BOOL | Whether shared cloud meeting rooms are available. |

## 9.5.7 Incoming Call Answering Policy Configuration

### 9.5.7.1 Configuring the Policy for Answering a Meeting Call

#### Notification Description

A notification is sent when a meeting call is received. The called party needs to return the policy for answering the meeting call. If no policy is configured, the default configuration is used, and the dialog box for answering the meeting call is displayed.



## Method Definition

```
- (HWMIncomingAnswerType)answerTypeOnConflncoming;
```

### Sample Code

```
- (HWMIncomingAnswerType)answerTypeOnConflncoming {  
    return HWMIncomingAnswerAutoDecline; // Automatically rejects the call.  
}
```

## Precautions

1. Set the **incomingAnswerHandler** proxy during SDK initialization or set the proxy on the target page.

## 9.5.7.2 Notification of Setting the Microphone Status

### Notification Description

A notification is sent for incoming meetings. Participants are required to set whether to turn on microphones. If this method is not implemented, microphones are turned on by default.

## Method Definition

```
- (BOOL)isOpenMicrophoneIncoming;
```

### Sample Code

```
- (BOOL)isOpenMicrophoneIncoming {  
    return YES;  
}
```

## Precautions

1. Set the **confSettingHandler** proxy during SDK initialization or set the proxy on the target page.

## 9.5.7.3 Notification of Setting the Camera Status

### Notification Description

A notification is sent for incoming meetings. Participants are required to set whether to turn on cameras. If this method is not implemented, cameras are turned off by default.

## Method Definition

```
- (BOOL)isOpenCameraIncoming;
```

### Sample Code

```
- (BOOL)isOpenCameraIncoming {  
    return YES;  
}
```

## Precautions

1. Set the **confSettingHandler** proxy during SDK initialization or set the proxy on the target page.

## 9.6 Error Code Reference

### 9.6.1 Common Error Codes

**Table 9-133** Enumerated values of HWMUISDKErrorCode

| Parameter                               | Value | Description   |
|---|-------|---|
| HWMUISDKErrorCodeContactNotFound        | 40000 | The contact does not exist.                               |
| HWMUISDKErrorCodeNumberAndAccountEmpty  | 40001 | The account and number cannot be both empty.              |
| HWMUISDKErrorCodeArgsError              | 40002 | Parameter error.  |
| HWMUISDKErrorCodeRepeatRequest          | 40003 | Method call repeated.                                     |
| HWMUISDKErrorCodeTimeout                | 40004 | Timeout.  |
| HWMUISDKErrorCodeUnInit                 | 40005 | Uninitialized.  |
| HWMUISDKErrorCodeArgsLengthOverrun      | 40006 | The parameter value length exceeds the limit.             |
| HWMUISDKErrorCodePasswordOrAccountEmpty | 40007 | The account and password cannot be both empty.            |
| HWMUISDKErrorCodeConfIdEmpty            | 40008 | The meeting ID cannot be empty.                           |
| HWMUISDKErrorCodeUnLogin                | 40009 | You have not logged in yet.                               |
| HWMUISDKErrorCodeLogging                | 40010 | Logging in...   |
| HWMUISDKErrorCodeSubjectTooLong         | 40011 | The meeting topic cannot contain more than 50 characters. |
| HWMUISDKErrorCodeConfIdTooLong          | 40012 | The meeting ID cannot contain more than 20 characters.    |
| HWMUISDKErrorCodeConfOrCallExit         | 40013 | In a meeting or being called.                             |

| Parameter                                    | Value     | Description   |
|--|-----------|---|
| HWMUISDKErrorCodeAPPI-DInfollegal            | 40014     | Invalid app ID.   |
| HWMUISDKErrorCodeVMR-HostPasswordLengthlegal | 40015     | The length of the host password is invalid.                   |
| HWMUISDKErrorCodeVMR-NameEmpty               | 40016     | The cloud meeting room name is empty.                         |
| HWMUISDKErrorCodeCallInterfaceError          | 40110     | Failed to call a meeting API.                                 |
| HWMUISDKErrorCodeConf-StartTimeEarly         | 40115     | The start time of a meeting is earlier than the current time. |
| HWMUISDKErrorCodeNotInConf                   | 40116     | Not in a meeting.   |
| HWMUISDKErrorCodeE2EEncryptAlgorithmError    | 41117     | The end-to-end encryption algorithm is asymmetric.            |
| HWMUISDKErrorCodeCallResourceNoEnough        | 115022001 | The enterprise's concurrent resources are insufficient.       |

## 9.6.2 Error Codes

**Table 9-134** Error codes

| Error Code | Error Description                              |
|------------|--|
| -1         | Unknown error.                                 |
| 0          | Success.                                       |
| 111070001  | Request error.                                 |
| 111070002  | Insufficient permissions.                      |
| 111070003  | System processing failure.                     |
| 111070004  | Meeting authentication failed.                 |
| 111070005  | Meeting does not exist.                        |
| 111070006  | Personal cloud meeting room does not exist.    |
| 111070007  | Meeting access number does not exist.          |
| 111070008  | Meeting notification could not be sent.        |
| 111070009  | Meeting password cannot be left blank.         |
| 111070010  | Insufficient permissions to view this meeting. |

| Error Code | Error Description  |
|------------|--|
| 111070100  | Get started meeting exception.   |
| 111070101  | Start meeting exception.   |
| 111070102  | Apply IVR resource exception.  |
| 111070103  | Start IVR meeting exception.   |
| 111070104  | Apply site resource exception.   |
| 111070105  | Start sub meeting exception.   |
| 111070106  | Add channel exception.   |
| 111070107  | Move and apply site resource exception.  |
| 111070108  | Start meeting exception.   |
| 111070109  | Get started cloud meeting exception.   |
| 111070110  | Invite site exception.   |
| 111070111  | Request token is null.   |
| 111070112  | Rename site exception.   |
| 111070113  | Hangup site exception.   |
| 111070114  | Mass hangup site exception.  |
| 111070115  | Delete attendee exception.   |
| 111070116  | Mass delete attendee exception.  |
| 111070117  | Book cycle meeting exception.  |
| 111070118  | Modify cycle meeting exception.  |
| 111070119  | Create cycle meeting exception.  |
| 111070120  | Region data not found.   |
| 111070121  | Forbidden subscribe.   |
| 111070122  | Cancel subscribe fail.   |
| 111071001  | Sysportal service exception.   |
| 111071002  | Conf service exception.  |
| 111071003  | Failed to create the meeting. Try again later.                                     |
| 111071004  | This cloud meeting room does not allow guests to join before the host.             |
| 111071005  | This cloud meeting room has been scheduled for another meeting during this period. |
| 111071006  | Insufficient cloud meeting time.   |

| Error Code | Error Description                                   |
|------------|---|
| 111071007  | Meeting does not exist.                             |
| 111071008  | Cannot query meeting list.                          |
| 111071009  | Cannot change cloud meeting into immediate meeting. |
| 111071010  | Cannot modify cloud meeting flag.                   |
| 111071011  | The cloud meeting has not yet started. Please wait. |
| 111071012  | Not cloud meeting.                                  |
| 111071013  | Start time less than current time.                  |
| 111071014  | Start time over max schedule time.                  |
| 111071015  | Duration over range.                                |
| 111071016  | Cycle ID list null exception.                       |
| 111071017  | Meeting size over range.                            |
| 111071018  | Invalid media type.                                 |
| 111071019  | Invalid meeting type.                               |
| 111071020  | Cycle params null exception.                        |
| 111071021  | Duration over range.                                |
| 111071022  | Subject length too long.                            |
| 111071023  | Group URI length too long.                          |
| 111071024  | Invalid email address format.                       |
| 111071025  | Invalid mobile number format.                       |
| 111071026  | Department name too long.                           |
| 111071027  | Invalid welcome voice enable value.                 |
| 111071028  | Invalid enter voice enable value.                   |
| 111071029  | Invalid leave voice enable value.                   |
| 111071030  | Invalid reminders value.                            |
| 111071031  | Invalid allow record value.                         |
| 111071032  | Invalid auto record value.                          |
| 111071033  | Invalid user type value.                            |
| 111071034  | Invalid encrypt mode value.                         |
| 111071035  | Invalid language value.                             |
| 111071036  | Invalid auto prolong value.                         |

| Error Code | Error Description  |
|------------|--|
| 111071037  | VmrID too long.  |
| 111071038  | Invalid record type value.   |
| 111071039  | Live address too long.   |
| 111071040  | Aux address too long.  |
| 111071041  | Null start date for cycle meeting.   |
| 111071042  | Null end date for cycle meeting.   |
| 111071043  | Invalid cycle type value for cycle meeting.  |
| 111071044  | Invalid interval for cycle meeting.  |
| 111071045  | Null point for cycle meeting.  |
| 111071046  | Invalid point value for cycle meeting.   |
| 111071047  | Invalid vmr flag value.  |
| 111071048  | Invalid record auxStream.  |
| 111071049  | Invalid multiStream flag.  |
| 111071050  | Invalid audience flag.   |
| 111071051  | Invalid liveChannel ID.  |
| 111071052  | Anonymous login is locked. Try again later.  |
| 111071053  | Link login is locked. Try again later.   |
| 111071054  | Not enough Meeting ID.   |
| 111071055  | Failed to apply meeting ID.  |
| 111071056  | Failed to release meeting ID.  |
| 111071057  | Live room is used.   |
| 111071058  | The meeting has not yet started. Please wait.  |
| 111071059  | Meeting size over range.   |
| 111071060  | The enterprise cannot create meetings because it has not purchased any concurrent meeting resources. |
| 111071061  | Parameter verify failed.   |
| 111071062  | Json conversion failed.  |
| 111071063  | Not cloud meeting room owner.  |
| 111071064  | This cloud meeting room has been started for another meeting during this period.                     |

| Error Code | Error Description  |
|------------|--|
| 111071065  | This meeting cannot be modified because it is already started. |
| 111071066  | Attendees amount over range.                                   |
| 111071067  | This meeting cannot be canceled because it is already started. |
| 111071068  | Meeting password encrypt failed.                               |
| 111071069  | No meeting during this period.                                 |
| 111071070  | Sub cycle meeting cannot modify live room.                     |
| 111071071  | Stop online meeting exception.                                 |
| 111071072  | Meeting is ended.  |
| 111071073  | Not allow anonymous user.                                      |
| 111071074  | Only allow user in organization.                               |
| 111071075  | Only allow invited user.                                       |
| 111071076  | Batch export task for history meeting list during this period. |
| 111071077  | Only allow invited user and user in organization.              |
| 111071078  | Max current participants amount reached.                       |
| 111071079  | Invalid CTD param.   |
| 111071080  | Invalid guest password.  |
| 111071081  | Guest password conflict with meeting ID.                       |
| 111071082  | Max meeting amount reached.                                    |
| 111071083  | Invalid meeting random number.                                 |
| 111071084  | Max export history meeting list times reached.                 |
| 111071085  | Max multi view layouts reached.                                |
| 111071086  | Max multi view invalid manual type.                            |
| 111071087  | Max multi view sub view amount reached.                        |
| 111071088  | Max multi view sub view numbers reached.                       |
| 111071089  | Webinar and common meeting cannot be converted to each other.  |
| 111071090  | Not allow add audience.  |
| 111071091  | Meeting password authentication failed.                        |
| 111071092  | File export task failed.                                       |

| Error Code | Error Description   |
|------------|---|
| 111071093  | File export task is downloading.                              |
| 111071094  | Not allow audience to join.                                   |
| 111071095  | Need to get WEBINAR_CONF.DTO object.                          |
| 111071096  | User-defined languages over range.                            |
| 111071097  | Your enterprise does not support simultaneous interpretation. |
| 111071098  | Need to set interpreter groups.                               |
| 111071099  | Invalid interpretation language.                              |
| 111071100  | Max languages in a meeting are reached.                       |
| 111071101  | This interpreter group ID already exists.                     |
| 111071102  | Max interpreters in the interpreter group reached.            |
| 111071103  | This interpreter already exists in an interpreter group.      |
| 111071104  | Invalid interpreter account.                                  |
| 111071105  | Guest password conflict with chairman password.               |
| 111071106  | Meeting is holding.   |
| 111071107  | Invalid audience password.                                    |
| 111071108  | Audience password conflict with meeting id.                   |
| 111071109  | Audience password conflict with chairman password.            |
| 111071110  | Only RTC meeting support E2E encrypt.                         |
| 111071111  | Audience password conflict with guest password.               |
| 111071112  | Cloud meeting room ID type cannot be modified.                |
| 111071113  | Cloud meeting room type cannot be modified.                   |
| 111071114  | Cloud meeting room flag cannot be modified.                   |
| 111071119  | Sub cycle meeting modify time over range.                     |
| 111072001  | Application for meeting resources failed.                     |
| 111072002  | Failed to release meeting resources.                          |
| 111072003  | The meeting is ending.  |
| 111072004  | The meeting is starting.                                      |
| 111072005  | The meeting has not yet started.                              |
| 111072006  | The meeting has ended.  |



| Error Code | Error Description  |
|------------|--|
| 111072007  | Site invitation failed.  |
| 111072008  | Site does not exist.   |
| 111072009  | Failed to disconnect the site.   |
| 111072010  | Coming soon...   |
| 111072011  | Meeting status incorrect.  |
| 111072012  | Site control operation failed.   |
| 111072013  | The cloud meeting room is in use by another meeting.                                       |
| 111072014  | The meeting has ended.   |
| 111072015  | The meeting has not yet started.   |
| 111072016  | Meeting does not exist.  |
| 111072017  | Meeting has no attendee.   |
| 111072018  | Application for chairman password exception.   |
| 111072019  | Not found site which can be moved exception.   |
| 111072020  | The current meeting is not a recording meeting. Recording is not supported.                |
| 111072021  | System processing failure.   |
| 111072022  | Insufficient recording resources in the system.  |
| 111072023  | There are no participants in this meeting.   |
| 111072024  | Operation failed. No sites have joined this meeting.                                       |
| 111072025  | Voice meeting does not support this function.  |
| 111072026  | The voice site does not support this operation.  |
| 111072027  | Voice sites cannot be displayed in custom continuous presence.                             |
| 111072028  | At least one site must have custom continuous presence configured.                         |
| 111072029  | At most one presentation pane is allowed in custom continuous presence.                    |
| 111072030  | In the voice-activated continuous presence mode, each pane can only support a single user. |
| 111072031  | The number used for the site to join the meeting cannot be left blank.                     |
| 111072032  | The number used for the site to join the meeting is too long.                              |

| Error Code | Error Description  |
|------------|--|
| 111072033  | The format of the number used for joining the meeting is incorrect.                                  |
| 111072034  | Length of site name too long.  |
| 111072035  | The site role type is outside the allowed range.   |
| 111072036  | Length of site email address too long.   |
| 111072037  | Length of site mobile number too long.   |
| 111072038  | The value for whether a site is muted after it first joins the meeting is outside the allowed range. |
| 111072039  | The value for whether to automatically invite a site is outside the allowed range.                   |
| 111072040  | The host's site viewing type is outside the allowed range.   |
| 111072041  | The value of the continuous presence setting mode is outside the allowed range.                      |
| 111072042  | The polling time is outside the allowed range.   |
| 111072043  | The pane type cannot be left blank.  |
| 111072044  | Invalid pane type.   |
| 111072045  | The value of the switch is outside the allowed range.  |
| 111072046  | The site name cannot be left blank.  |
| 111072047  | Site name too long.  |
| 111072048  | Continuous presence is not supported. Ask the administrator to configure related data on the MCU.    |
| 111072049  | Response timed out. Try again later.   |
| 111072050  | Meeting locked.  |
| 111072051  | The meeting display mode is empty.   |
| 111072052  | The meeting display mode is outside the allowed range.   |
| 111072053  | The meeting pane type is outside the allowed range.  |
| 111072054  | The banner or caption type is empty.   |
| 111072055  | The banner or caption content is empty.  |
| 111072056  | The banner or caption content cannot exceed 2,000 bytes.   |
| 111072057  | The request message body is empty.   |
| 111072058  | The pane index is greater than the total number of panes.  |
| 111072059  | Meeting has no host.   |

| Error Code | Error Description   |
|------------|---|
| 111072060  | Regular participants cannot perform this operation.   |
| 111072061  | You have set host polling and cannot select a specific site to view or set continuous presence. |
| 111072062  | You cannot select a site to view on the web page. Perform the operation on the terminal.        |
| 111072063  | Applying for recording resources...   |
| 111072064  | Too many failed login attempts. Try again later.  |
| 111072065  | The meeting ID or password is incorrect. Check the ID and password and try again.               |
| 111072066  | The enterprise has not purchased any recording storage space.                                   |
| 111072067  | Insufficient enterprise recording storage space.  |
| 111072068  | Failed to start live broadcast. Try again later.  |
| 111072069  | Not allow to hand up for host.  |
| 111072070  | The operation is not allowed for guest.   |
| 111072071  | The operation is only allowed for yourself.   |
| 111072072  | Not allow to apply host for attendees who do not have meeting control abilities.                |
| 111072073  | Notify message is expired.  |
| 111072074  | Only participants with a number registered on HUAWEI CLOUD can be set as the host.              |
| 111072075  | Hung up site for meeting ended.   |
| 111072076  | Hung up site by host.   |
| 111072077  | Hung up site because host deleted site.   |
| 111072078  | Hung up site because meeting is recreated.  |
| 111072079  | Hung up site for moving site failed.  |
| 111072080  | Hung up site for inviting site cross region failed.   |
| 111072081  | Hung up site for invitation exception.  |
| 111072082  | Hung up site for joining meeting repeatedly.  |
| 111072083  | Lock sharing failed.  |
| 111072084  | This site does not support 1-screen layout.   |
| 111072085  | Not support realtime subtitle.  |

| Error Code | Error Description  |
|------------|--|
| 111072086  | Realtime subtitle pid is null.                               |
| 111072087  | Invalid realtime subtitle pid.                               |
| 111072088  | Failed to set realtime subtitle.                             |
| 111072089  | Not allow audience to change speaker status.                 |
| 111072090  | Allow/forbid audience to speak only for audience.            |
| 111072091  | This meeting does not support simultaneous interpretation.   |
| 111072092  | Interpreter group is empty.                                  |
| 111072093  | This meeting has not enabled simultaneous interpretation.    |
| 111072094  | This site is not interpreter.                                |
| 111072095  | This site has not yet confirmed interpreter identity.        |
| 111072096  | Invalid site language.                                       |
| 111072097  | This site is confirmed interpreter.                          |
| 111072098  | This site listen channel is different from speak channel.    |
| 111072099  | Failed to set interpretation languages. Try again.           |
| 111072100  | Failed to set interpretation channel. Try again.             |
| 111072101  | Max participant amount reached.                              |
| 111072102  | Max allowed handup amount reached.                           |
| 111072103  | Max allowed speaking amount reached.                         |
| 111072104  | Failed to set virtual audio CSD site.                        |
| 111072105  | This meeting does not support cohost.                        |
| 111072106  | This site does not support cohost.                           |
| 111072107  | Host cannot be set to cohost.                                |
| 111072108  | Audience cannot be set to cohost.                            |
| 111072109  | Need to check cohost permission.                             |
| 111072110  | Cohost cannot operate host.                                  |
| 111072111  | This site does not support share invitation.                 |
| 111072201  | Hung up site because heart beat failed.                      |
| 111072202  | Insufficient audience cloud meeting room logic resources.    |
| 111072203  | Insufficient participant cloud meeting room logic resources. |
| 111072204  | Insufficient webinar resources, so started failed.           |

| Error Code | Error Description   |
|------------|---|
| 111072205  | Only RTC conf support local record.   |
| 111072206  | Invalid E2E encryption parameter.   |
| 111072207  | Not allow to switch role in webinar.  |
| 111072208  | The client version used by the user is too early. Cannot start local recording. |
| 111072211  | Meeting is under AR assist.   |
| 111072213  | Audience cannot be set to host.   |
| 111072214  | Rename param contains sensitive words.  |
| 111073001  | User does not exist.  |
| 111073002  | Department does not exist.  |
| 111073003  | Invalid username format.  |
| 111073004  | Invalid department name format.   |
| 111073005  | Could not query department.   |
| 111073006  | Application for anonymous user failed.  |
| 111073007  | Invalid cloud meeting room package status.                                      |
| 111073008  | Failed to Release anonymous user.   |
| 111073009  | Not support cycle meeting for welinkC.  |
| 111073010  | Not support cloud meeting room for welinkC.                                     |
| 111073011  | Failed to get WeLink token.   |
| 111073012  | Failed to Get M to M token.   |
| 111073013  | Invalid webinar cloud meeting package status.                                   |
| 111073014  | Max extend times for cloud meeting trial version reached.                       |
| 111073015  | Max extend duration for cloud meeting trial version reached.                    |
| 111073016  | Not support auto extend meeting for cloud meeting trial version.                |
| 111074001  | This meeting host already exists.   |
| 111074002  | No meeting host permissions.  |
| 111074003  | Failed to extend the meeting. Max meeting duration reached.                     |
| 111074004  | Failed to extend the meeting. The service processing is abnormal.               |

| Error Code | Error Description   |
|------------|---|
| 111075001  | Failed to start timer.                                      |
| 111075002  | Failed to end timer.  |
| 111075003  | Json parse failed.  |
| 111076001  | Released by host.   |
| 111076002  | Released by portal host.                                    |
| 111076003  | Max number of participants reached.                         |
| 111076004  | Insufficient enterprise resources.                          |
| 111076005  | Not answered.   |
| 111076006  | User does not exist.  |
| 111076007  | Offline.  |
| 111076008  | Busy.   |
| 111076009  | Rejected by user.   |
| 111076010  | Released by user.   |
| 111076011  | Insufficient meeting resources in the system.               |
| 111076012  | Outbound calling disabled.                                  |
| 111076013  | Application for address token failed.                       |
| 111076014  | Call failed.  |
| 111076015  | Max number of participants reached.                         |
| 111076099  | Common error.   |
| 111077001  | RSE server info does not exist.                             |
| 111077101  | Not support AI record.                                      |
| 111077102  | Reapplying for AI record resource.                          |
| 111077103  | Insufficient AI record resource.                            |
| 111077104  | In AI recording, the meeting cannot stop live or recording. |
| 111077201  | Record file does not exist or have no permission.           |
| 111077202  | RSE authentication failed.                                  |
| 111078000  | No available region in multi region.                        |
| 111078001  | No available global in multi region.                        |
| 111078002  | Dispatch region error in multi region.                      |
| 111079000  | Failed to phrase big data param query xml.                  |

| Error Code | Error Description   |
|------------|---|
| 111079001  | Failed to phrase anonymous assign xml.                    |
| 111080001  | Bad request.  |
| 111080002  | Insufficient permissions.                                 |
| 111080004  | Site data not found or deleted.                           |
| 111081001  | Site is inviting.   |
| 111081002  | Site meeting does not exist or is ended.                  |
| 111081003  | Failed to apply site resource.                            |
| 111081004  | Failed to release site resource.                          |
| 111081005  | Failed to apply site media resource.                      |
| 111081006  | Authentication failed.                                    |
| 111081007  | Meeting is locked.  |
| 111081009  | Login is locked because max authentication times reached. |
| 111081010  | Waiting user restrictions.                                |
| 111082001  | Not support this control.                                 |
| 111082002  | No response.  |
| 111082003  | Site not exist.   |
| 111082004  | Site unavailable.   |
| 111082005  | Site busy.  |
| 111082006  | Site refused.   |
| 111082007  | Site leave.   |
| 111082008  | PSTN service is closed.                                   |
| 111082009  | SIP invitation timeout.                                   |
| 111083001  | RSE does not exist.                                       |
| 111084001  | Failed to execute DTMF.                                   |
| 111084002  | Get started meeting exception.                            |
| 111084003  | Call MCU side exception.                                  |
| 111084004  | Join call exception.                                      |
| 111084005  | Invite exception.   |
| 111084006  | Call terminal side exception.                             |
| 111084007  | Answer exception.   |

| Error Code | Error Description  |
|------------|--|
| 111084008  | Common CTL exception.  |
| 111084009  | Hangup exception.  |
| 111084010  | Notify capability exception.   |
| 111084011  | Update MT exception.   |
| 111084012  | Negotiate exception.   |
| 111084013  | Not support this meeting.  |
| 111084014  | Not allowed join meeting in RTC inviting because guests are not invited.   |
| 111089002  | Failed to phrase URI join xml.   |
| 111090001  | Failed to join data meeting.   |
| 111090002  | Join data meeting overtime.  |
| 111100001  | Failed to get slider image.  |
| 111100002  | Slider check failed.   |
| 111100003  | Invalid random number.   |
| 111100004  | Invalid slider token.  |
| 111100005  | Need to check slider.  |
| 111100006  | Invalid SMS phone number.  |
| 111100007  | Failed to send verification code.  |
| 111100008  | Verification code expired.   |
| 111100009  | Verification code error.   |
| 111100010  | Max verification code check times reached.   |
| 111100011  | The uuid is invalid, you need to re-verify the phone number.   |
| 111100012  | The meeting is not on this site.   |
| 111100013  | Need to verify the mobile phone number. Mobile number verification is required when an International site user joins a meeting held by a free enterprise on the Chinese mainland site. |
| 111110001  | Failed to add IM group.  |
| 111110002  | Failed to disband IM group.  |
| 111110003  | Failed to add IM member.   |
| 111110004  | Failed to remove IM member.  |
| 11112001   | Failed to enter the waiting room.  |



| Error Code | Error Description  |
|------------|--|
| 111112002  | Failed to exit the waiting room.                           |
| 111112003  | Waiting room cache operation failed.                       |
| 111112004  | Co-hosts cannot be moved into the waiting room.            |
| 111112005  | Not allowed to enable waiting room.                        |
| 111112008  | Not support this feature according to client capabilities. |
| 112010001  | Common failure.  |
| 112010002  | Null param.  |
| 112010003  | Participant not found.                                     |
| 112010004  | Meeting not found.   |
| 112010005  | SIP invite information timeout.                            |
| 112010006  | SIP invite information failed.                             |
| 112010007  | SIP information timeout.                                   |
| 112010008  | SIP information failed.                                    |
| 112010009  | System processing failed.                                  |
| 112010010  | System processing failed.                                  |
| 112010011  | Failed to invite MRS.                                      |
| 112010012  | Failed to invite participant.                              |
| 112010013  | Data meeting join information failed.                      |
| 112010014  | Failed to start meeting.                                   |
| 112010015  | Media negotiation failed.                                  |
| 112010016  | User rejects.  |
| 112010017  | User is busy.  |
| 112010018  | No call permission.  |
| 112010019  | Unknown callee.  |
| 112010020  | No user response.  |
| 112010021  | Join meeting timed out.                                    |
| 112010022  | Session has been released.                                 |
| 112010023  | Callee is not registered.                                  |
| 112010024  | SIP invite timed out.                                      |
| 112010025  | User Session timer times out and hangs up.                 |

| Error Code | Error Description   |
|------------|---|
| 112010026  | The participant bye hangs up on the MRS side.                                 |
| 112010027  | The participant bye hangs up on terminal side.                                |
| 112010028  | No RTP stream hang up.  |
| 112100000  | Sysportal exception.  |
| 112100001  | Bad request.  |
| 112100002  | Illegal request.  |
| 112100003  | Data not found.   |
| 112100004  | Data duplication.   |
| 112100006  | The requested type is not supported.  |
| 112100007  | Failed to save notification template.   |
| 112100008  | Failed to save data.  |
| 112100009  | Failed to query data.   |
| 112100010  | Failed to delete data.  |
| 112100011  | Password reset required.  |
| 112100012  | Incorrect old password.   |
| 112100013  | The new password cannot be the same as the old password.                      |
| 112100014  | Insufficient password complexity and low security.                            |
| 112100015  | The length does not meet the requirements.                                    |
| 112100016  | RSE is in meeting.  |
| 112100017  | RSE to be deleted.  |
| 112100018  | Failed to query the meeting list.   |
| 112100019  | User has been locked out. Try again later.                                    |
| 112100022  | The live room channel name exists.  |
| 112100023  | Failed to modify system configuration items for duplicated meeting ID prefix. |
| 112100024  | CONFID prefix can only be added, not modified or deleted.                     |
| 112100025  | The live room channel url exists.   |
| 112100026  | The live room has been occupied.  |
| 112100027  | The live room does not exist.   |
| 112100028  | Live room release failed.   |

| Error Code | Error Description  |
|------------|--|
| 112100029  | The request is missing header or param.  |
| 112100030  | The Live main stream URL already exists.   |
| 112100031  | The Live auxiliary stream URL already exists.  |
| 112100032  | Password is weak.  |
| 112100033  | The live room is occupied.   |
| 112100034  | Save part of attendees since max attendees size reached.   |
| 112100035  | Failed to export data.   |
| 112100036  | Failed to import data.   |
| 112100037  | Max file size reached.   |
| 112100038  | LVS target address exists.   |
| 112100039  | LVS port existed.  |
| 112100040  | Not allow to modify global standby config.   |
| 112100041  | MCU insulation IP address exists.  |
| 112100042  | MCU insulation IP address cannot be modified.  |
| 112100043  | SBC address exists.  |
| 112100044  | Internal exception.  |
| 112100045  | System config delete exception.  |
| 112100046  | No ISBC access address.  |
| 112100047  | Media type need to be HD because the organization enables full HD capability.  |
| 112100061  | Same interpreter language abbreviation exists.   |
| 112100062  | Same interpreter language name exists.   |
| 112100063  | MCU type is MIXED and insulation config is not configured, or MCU meeting exists when modifying MCU connection settings. |
| 112100064  | MCU type is MIXED and insulation config is not configured when adding mcu connection settings.                           |
| 112100065  | MCU type is MIXED when modifying MCU insulation config or disbanding enterprise.   |
| 112100066  | MCU type is MIXED when deleting MCU insulation config.   |
| 112100067  | This gateway type is incompatible with MCU.  |
| 115021001  | Insufficient media resource.   |

| Error Code | Error Description   |
|------------|---|
| 115021002  | Meeting does not exist.   |
| 115021003  | Media resource does not exist.  |
| 115021005  | Insufficient media bandwidth resource.                                |
| 115021006  | Media device fault.   |
| 115022000  | Insufficient common logic resource.                                   |
| 115022001  | Insufficient meeting resources in the enterprise.                     |
| 115022002  | Insufficient logic port resource.                                     |
| 115022003  | Live broadcast resources have not been purchased or are insufficient. |
| 115022004  | Media device does not exist.  |
| 115023001  | Insufficient ID resources.  |
| 115024001  | RMS service exception.  |
| 115025001  | The live room has already been occupied.                              |
| 115025002  | The live room does not exist.   |
| 115025003  | Live room release failed.   |
| 115026001  | MCU meeting exists.   |
| 115029001  | Invalid common parameter.   |
| 115029002  | Null parameter.   |
| 115029003  | service is not available.   |
| 115029004  | Configuration exception.  |
| 115029005  | Duplicately apply resources.  |
| 115029006  | Waiting for applying resources.                                       |
| 115029999  | Unknown error.  |
| 118000000  | User authentication failed.   |
| 118000001  | User token authentication failed.                                     |
| 118000002  | User authentication account lockout.                                  |
| 200000001  | Server is busy. Please try again later.                               |
| 200000002  | Internal error. Please contact SRE.                                   |
| 200000003  | Invalid parameter. Please check whether the parameters are valid.     |

| Error Code | Error Description   |
|------------|---|
| 200000004  | Illegal request. Please check the value of the request header field X-Auth-Token or X-Access-Token. |
| 200000005  | Forbidden access during the version upgrade.  |
| 201020023  | This user is already the owner of another corporation and cannot create a new corporation for it.   |
| 201040005  | Max number of users reached. Please check the purchased meeting users.                              |
| 201040016  | Password security is low. Please set another password.  |
| 201040031  | Activation code overdue.  |
| 201040042  | Pre-authentication expired.   |
| 201040043  | This user is the owner of another corporation and cannot be invited.                                |
| 201040044  | Invalid invite connection.  |
| 201040045  | User is already in waiting list.  |
| 201040046  | User already exists.  |
| 201040047  | Account modification is not allowed.  |
| 201050012  | Activation code does not exist.   |
| 201050015  | Invalid activation code.  |
| 201050021  | Activation failed.  |
| 201050022  | Terminal does not allow unbinding.  |
| 201080000  | VMR resource unavailable.   |
| 201080006  | The host password and the guest password cannot be the same. Please confirm the input parameters.   |
| 201080017  | Same as meeting password.   |
| 201510001  | No invite permission to get an invite code.   |
| 201510003  | Invalid application.  |
| 206010000  | User name or password error.  |
| 206010007  | Account is not activated, no permission to log in.  |
| 206010010  | Failed to get verification code. Please contact SRE.  |
| 206010011  | Verification code must be filled.   |
| 206010012  | Verification code check failed.   |
| 206010013  | Jump login failed. Please contact SRE.  |

| Error Code | Error Description  |
|------------|--|
| 206010022  | SSO login failed. Please contact SRE.  |
| 206010023  | SSO login is not supported.  |
| 206010024  | Invalid authentication type.   |
| 206010025  | APPID verification failed.   |
| 206010027  | Authentication type error.   |
| 206010029  | Network error.   |
| 206010030  | APPID does not allow automatic registration.   |
| 206010031  | APPID auto registration failed.  |
| 206010036  | Normal users cannot log in.  |
| 206010042  | Huawei account authentication failed.  |
| 206010057  | APPID authentication expires.  |
| 206010058  | APPID account is not bound.  |
| 206010064  | Site mismatch.   |
| 206010065  | Phone number conflict.   |
| 206010066  | E-mail conflict.   |
| 206010070  | The number of users has reached the maximum.   |
| 206010071  | WeChat authentication failed.  |
| 206010074  | International sites support site changing re-login.  |
| 206010075  | Account has been unbound.  |
| 206020000  | Invalid authentication information. Please check the value of the request header field X-Auth-Token or X-Access-Token. |
| 206020001  | Token is created by disaster recovery site.  |
| 206020002  | Token is invalid due to being kicked.  |
| 206030000  | The user does not exist.   |
| 206030001  | The verification code is incorrect or has expired. Please obtain a new one.  |
| 206030002  | Incorrect verification code.   |
| 206030003  | Failed to send the verification code.  |
| 206030004  | Try to get a new verification code 180s later.   |
| 206030005  | The password cannot be changed.  |

| Error Code | Error Description  |
|------------|--|
| 206030006  | The old password is incorrect.   |
| 206030007  | The length of the new password does not meet the requirements.   |
| 206030008  | The password complexity does not meet the requirements.  |
| 206030009  | The new password must be different from the previous old passwords.  |
| 206030010  | The password cannot contain three or more of the same characters consecutively.  |
| 206030011  | The password cannot be changed within 5 minutes upon the last password change.   |
| 206030012  | The password cannot contain the account or the reverse order of the account.   |
| 206030013  | At least two characters must be different between the new and old passwords.   |
| 206030014  | Invalid password format.   |
| 206030015  | The user is locked and will be locked in 60s.  |
| 206030016  | Have no right to reset other's password.   |
| 206030018  | The number of password retrieval times in a day has reached the maximum (10 times).  |
| 206030019  | The number of incorrect verification code inputs have reached the maximum. Please get it again.                                    |
| 206030023  | Failed to send verification code. Please contact SRE.  |
| 206030028  | The system has enabled SSO login and does not support changing the password. Please retry after the system has disabled SSO login. |
| 206030031  | Forgot password for Huawei account.  |
| 206040000  | No corresponding terminal type.  |
| 206060008  | Sending verification code is locked.   |
| 206060009  | Slider verification required.  |
| 206060010  | Invalid slider token.  |
| 206060011  | Request parameter error.   |
| 206060012  | Sending SMS is not supported.  |
| 206060013  | Repeated sending is not supported.   |
| 206060014  | Invalid verification code.   |

| Error Code | Error Description   |
|------------|---|
| 206060015  | Max verification code check times reached.                      |
| 206060017  | Failed to bind Huawei account.                                  |
| 211030046  | Not the IdeaHub activation code.                                |
| 211030050  | auth fail too many times, locked.                               |
| 211030052  | auth fail too many times, permanently locked.                   |
| 211060003  | The maximum number of log upload times has been reached.        |
| 411000001  | Common failure.   |
| 411000002  | Parameter error.  |
| 411000003  | Meeting does not exist.   |
| 411000004  | A meeting already exists.                                       |
| 411000005  | Meeting state error.  |
| 411000006  | Failed to get device.   |
| 411000007  | Failed to set device.   |
| 411000008  | No device available.  |
| 411000009  | This operation is only supported on mobile.                     |
| 411000010  | Network access error.   |
| 411000011  | Other supplementary service is running.                         |
| 411000012  | Memory allocation error.  |
| 411000013  | Initialization failed.  |
| 411000014  | User does not exist.  |
| 411000015  | Did not join the data meeting.                                  |
| 411000016  | Neither meeting nor call exists.                                |
| 411000017  | SVN port detection failed.                                      |
| 411000018  | Failed to write file.   |
| 411000019  | RTC does not support STG mode.                                  |
| 411000020  | Failed to load RTC library. RTC meeting is not supported.       |
| 411000021  | The meeting is in the audience pause state when changing roles. |
| 411000022  | Not in call.  |
| 411000023  | Meeting or call does not exist.                                 |



| Error Code | Error Description  |
|------------|--|
| 411000024  | Pairing state not allowed.   |
| 411000025  | Pairing request failed.  |
| 411000026  | Pairing exceeds limit.   |
| 411000027  | Pairing common error.  |
| 411000028  | Pairing and joining the meeting failed.                              |
| 411000029  | Pairing and joining the meeting is busy.                             |
| 411000030  | Pairing and joining the meeting is invalid.                          |
| 411000031  | Multiple clicks at the same time to pair and join the meeting error. |
| 411000032  | Pairing is not established or is being established.                  |
| 411000033  | The camera is not turned on in the third-party capture mode.         |
| 411000034  | RTC engine creation failed.  |
| 411000035  | Not in a meeting.  |
| 411000036  | mute self failed.  |
| 411000100  | End the meeting with no stream due to disconnection of network.      |
| 411000101  | End the meeting with no stream because fail to re-join meeting.      |
| 411000102  | Null pointer exception.  |
| 411000103  | Parameters cannot be empty.  |
| 411000104  | Encrypt and decrypt func not match.                                  |
| 411000105  | Load user-defined DLLs failed.                                       |
| 411000106  | Shimo Docs is not supported.   |
| 412100001  | The message processing thread is not initialized.                    |
| 412100002  | Parameter error.   |
| 412100003  | Timeout.   |
| 412100004  | Memory allocation error.   |
| 412100005  | XML parsing error.   |
| 412100006  | DNS resolution error.  |
| 412100007  | Request message failed.  |
| 412100008  | Authentication failed.   |

| Error Code | Error Description   |
|------------|---|
| 412100009  | Server error.   |
| 412100010  | Account is locked.  |
| 412100011  | Create timer error.   |
| 412100012  | Server CA certificate verification failed.  |
| 412100013  | Network error.  |
| 412100014  | Server redirect.  |
| 412100015  | Account is not activated.   |
| 412100016  | JSON parsing error.   |
| 412100017  | The proxy communication times out and the TCP link building fails. Probably because the proxy configuration is incorrect.                                       |
| 412100018  | Disconnected by the proxy. Probably because the server address is misconfigured.  |
| 412100019  | The TCP link establishment timed out. Probably because the proxy domain name or port configuration is incorrect.  |
| 412100020  | The authentication process failed. The user does not have proxy permission and needs to apply for proxy permission.   |
| 412100021  | The authentication process failed. The proxy user name or password is incorrect.  |
| 412100022  | The authentication process failed. Incorrect authentication type. User name and password are required. The user needs to be prompted for input.                 |
| 412100023  | The authentication process failed. Other unknown errors. It may be that the authentication method is not supported. The user needs to be prompted to try again. |
| 412100024  | The authentication process failed. Unable to resolve gateway.   |
| 412100025  | The authentication process failed. Unable to resolve host.  |
| 412100026  | The authentication process failed. Unable to connect.   |
| 412100027  | The authentication process failed. Operation times out.   |
| 412100028  | Message length too long.  |
| 412100029  | Base64 encryption failed.   |
| 412100030  | XML parsing error.  |
| 412100031  | Secure function error.  |

| Error Code | Error Description   |
|------------|---|
| 412100032  | Firewall detection parameter error.   |
| 412100033  | Failed to create STG tunnel.  |
| 412100034  | Failed to update STG service.   |
| 412100035  | Encryption failed.  |
| 412100036  | Do not allow duplicate downloads.   |
| 412100037  | File operation failed.  |
| 412100038  | The request message returns empty.  |
| 412100039  | The number of detection servers is 0 error.                                     |
| 412100040  | Failed to get local IP address.   |
| 412200001  | Internal error.   |
| 412200002  | Parameter error.  |
| 412200003  | Network timeout.  |
| 412200004  | Network Error.  |
| 412200005  | Need to bind mobile phone.  |
| 412200006  | Need to bind email.   |
| 412200007  | Has initialized already.  |
| 412200008  | State machine execution failed.   |
| 412200009  | Failed to start timer.  |
| 412200010  | The user is prompted to change the password when logging in for the first time. |
| 412200011  | Unknown authentication type.  |
| 413000001  | Common error.   |
| 413000002  | Parameter error.  |
| 413000003  | Memory allocation error.  |
| 413000004  | System error.   |
| 413000005  | Message sending error.  |
| 413000006  | Get system configuration error.   |
| 413000007  | Physical network error.   |
| 413000008  | Network access error.   |
| 413000009  | Create timer error.   |

| Error Code | Error Description                                      |
|------------|--|
| 413000010  | Call state error.                                      |
| 413000011  | Other operation in progress error.                     |
| 413000012  | Requesting the master to start call error.             |
| 413000013  | Requesting audio resource error.                       |
| 413000014  | Other supplementary service is running.                |
| 413000015  | Record call error.                                     |
| 413000016  | Media process error.                                   |
| 413000017  | Maximum number of calls reached.                       |
| 413000018  | SIP account ID does not exist.                         |
| 413000019  | Call ID does not exist.                                |
| 413000020  | Failed due to registering.                             |
| 413000021  | Registration failed.                                   |
| 413000022  | Deregistration failed.                                 |
| 413000023  | Setting account information error.                     |
| 413000024  | Setting SIP account error.                             |
| 413000025  | Reporting SIP account information error.               |
| 413000026  | Server information error.                              |
| 413000027  | SIP account information error.                         |
| 413000028  | SIPC execution error.                                  |
| 413000029  | Not registered error.                                  |
| 413000030  | Call Sip interface to subscribe error.                 |
| 413000031  | Canceling subscription error.                          |
| 413000032  | Subscribing error.                                     |
| 413000033  | Only one local meeting is allowed.                     |
| 413000034  | Local meeting is not created.                          |
| 413000035  | The participant line does not match the chair account. |
| 413000036  | Local meeting state error.                             |
| 413000037  | Failed to report the linkage state of the IP Phone.    |
| 413000038  | Meeting ID does not exist.                             |
| 413000039  | Video hold error.                                      |

| Error Code | Error Description                              |
|------------|--|
| 413000040  | Video unhold error.                            |
| 413000041  | The maximum number of server meetings reached. |
| 413000042  | Get AA random number error.                    |
| 413000043  | AA login error.                                |
| 413000044  | Meeting type mismatch.                         |
| 413000045  | Failed to start video meeting.                 |
| 413000046  | AA no master server.                           |
| 413000047  | Password error.                                |
| 413000048  | Username error.                                |
| 413000049  | User is logged in.                             |
| 413000050  | Account is locked.                             |
| 413000051  | Terminal type mismatch.                        |
| 413000052  | Parsing XML error.                             |
| 413000053  | Connecting to server error.                    |
| 413000054  | Get media configuration error.                 |
| 413000055  | Get service permission error.                  |
| 413000056  | Insufficient service permission.               |
| 413000057  | Network environment error.                     |
| 413000058  | Service conflict.                              |
| 413000059  | Connection timeout.                            |
| 413000060  | Unknown error.                                 |
| 413000061  | Add ringing information error.                 |
| 413000062  | Delete ringing information error.              |
| 413000063  | Create ringing number error.                   |
| 413000064  | VVM parameter error.                           |
| 413000065  | Getting registered service error.              |
| 413000066  | Getting voicemail error.                       |
| 413000067  | Attendee already exists.                       |
| 413000068  | Attendee does not exist.                       |
| 413000069  | Create server video meeting window error.      |

| Error Code | Error Description   |
|------------|---|
| 413000070  | Video window already exists.  |
| 413000071  | Getting meeting list error.   |
| 413000072  | Operating requires host privileges.   |
| 413000073  | No video device to operate.   |
| 413000074  | Refresh registration is not turned off.   |
| 413000075  | Online state report error.  |
| 413000076  | Network address subscription report error.  |
| 413000077  | Telepresence account was force unregistered. Information report error.              |
| 413000078  | TLS root certificate error.   |
| 413000079  | AD authentication error.  |
| 413000080  | Meeting list is getting.  |
| 413000081  | Prohibited calls.   |
| 413000082  | The maximum number of calls has been reached.                                       |
| 413000083  | The maximum number of encrypted calls has been reached.                             |
| 413000084  | The maximum number of video calls has been reached and needs to downgrade to audio. |
| 413000085  | H323 account ID does not exist.   |
| 413000086  | H323 account information error.   |
| 413000087  | H323 account information report failed.   |
| 413000088  | Insufficient local resources.   |
| 413000089  | The calling protocol is not supported.  |
| 413000090  | Setting H323 account information error.   |
| 413000091  | Mediatrix meeting access number reporting failed.                                   |
| 413000092  | Mediatrix VMR information reporting failed.   |
| 413000093  | IMS meeting list information reporting failed.                                      |
| 413000094  | TUP initialization is not complete.   |
| 413000095  | Message return value error.   |
| 413000096  | Message content too large error.  |
| 413000097  | Secure function error.  |
| 413000098  | message response is empty error.  |

| Error Code | Error Description   |
|------------|---|
| 413000099  | Account is not enabled.   |
| 413000100  | Create call control implement error.  |
| 413000101  | Already in call.  |
| 413000102  | Call does not exist.  |
| 413000103  | Failed to get media configuration information.  |
| 413000104  | Failed to set third-party capture. Calling HME_V_Capture_InputData failed.  |
| 414100001  | Common error.   |
| 414100002  | Parameter error.  |
| 414100003  | Timeout.  |
| 414100004  | Memory allocation error.  |
| 414100005  | DNS resolution error.   |
| 414100006  | Request message failed.   |
| 414100007  | Authentication failed.  |
| 414100008  | Server error.   |
| 414100009  | Create timer error.   |
| 414100010  | Start timer error.  |
| 414100011  | The meeting control block is full. Please release the control block that is not in use.   |
| 414100012  | The proxy communication times out and the TCP link building fails. Probably because the proxy configuration is incorrect.                       |
| 414100013  | Disconnected by the proxy. Probably because the server address is misconfigured.  |
| 414100014  | The TCP link establishment timed out. Probably because the proxy domain name or port configuration is incorrect.                                |
| 414100015  | The authentication process failed. The user does not have proxy permission and needs to apply for proxy permission.                             |
| 414100016  | The authentication process failed. The proxy user name or password is incorrect.  |
| 414100017  | The authentication process failed. Incorrect authentication type. User name and password are required. The user needs to be prompted for input. |

| Error Code | Error Description   |
|------------|---|
| 414100018  | The authentication process failed. Other unknown errors. It may be that the authentication method is not supported. The user needs to be prompted to try again. |
| 414100019  | Curl proxy exception.   |
| 414100020  | Curl host exception.  |
| 414100021  | Curl connection exception.  |
| 414100022  | Curl operation timed out.   |
| 414100023  | Message length too long.  |
| 414100024  | Failed to create thread.  |
| 414100025  | Secure function error.  |
| 414100026  | JSON parsing failed.  |
| 414100027  | WS token is empty.  |
| 414100028  | Return JSON data error.   |
| 414100029  | Failed to create meeting control block.   |
| 414100030  | Failed to get meeting control block.  |
| 414100031  | Failed to get meeting control block by CallId.  |
| 414100032  | Destroying the meeting control block failed.  |
| 414100033  | Temporary creating meeting information not found.   |
| 414100034  | Failed to get participant ID.   |
| 414100035  | Failed to get MT by participant ID.   |
| 414100036  | Failed to get self information by participant ID.   |
| 414100037  | Failed to get participant information by MT.  |
| 414100038  | Manual invitation required.   |
| 414100039  | The major parameters of the meeting have been reported.   |
| 414100040  | Subtitles are not supported.  |
| 414100041  | Meeting Hang Up - Timeout.  |
| 414100042  | Meeting Hang Up - No Streaming.   |
| 414100043  | Meeting hung up - Hung up by the host.  |
| 414100044  | Meeting Hang Up - Meeting has ended.  |
| 414100045  | End of meeting due to leave meeting.  |
| 414100046  | Message queue processing function registration failed.  |



| Error Code | Error Description  |
|------------|--|
| 414100047  | Message queue processing function deregistration failed.   |
| 414100048  | Meeting ended due to reject meeting.   |
| 414100049  | Meeting ended by self.   |
| 414100050  | The meeting control module is not initialized.   |
| 414100051  | The watching special site reaches the maximum.   |
| 414100052  | The watching HD site reaches the maximum.  |
| 414100053  | The watching SD site reaches the maximum.  |
| 414100054  | The watching specification reaches the maximum.  |
| 414100055  | Watching internal errors.  |
| 414100056  | Duplicated watch render.   |
| 414100057  | HTTP request error.  |
| 414100058  | WebSocket request timeout.   |
| 414100059  | Loading failed.  |
| 414100061  | The meeting ends due to the timeout of guest waiting before meeting or the timeout of the meeting control heartbeat. |
| 414100062  | The meeting ends due to being canceled.  |
| 414100063  | The meeting ends due to network error when guest waiting before meeting.   |
| 415000001  | DB is not initialized.   |
| 415000002  | Common failure.  |
| 415000003  | Proxy detection has not been completed.  |
| 416000001  | Invalid parameter.   |
| 416000002  | Track module is not initialized.   |
| 416000003  | Track event does not exist.  |
| 416000004  | Not logged in.   |
| 416000005  | Upload is not enabled.   |
| 419100001  | Invalid parameter.   |
| 419100002  | Incorrect URI.   |
| 419100003  | Memory allocation failed.  |
| 419100004  | SDP error.   |

| Error Code | Error Description                         |
|------------|---|
| 419100005  | Connection does not exist.                |
| 419100006  | Connection failure.                       |
| 419100007  | Operation forbidden.                      |
| 419100008  | State error.                              |
| 419100009  | No corresponding line data.               |
| 419100010  | No corresponding registered instance.     |
| 419100011  | No corresponding call instance.           |
| 419100012  | No corresponding subscription instance.   |
| 419100013  | No corresponding Refer instance.          |
| 419100014  | No corresponding DIM instance.            |
| 419100015  | Failed to create header.                  |
| 419100016  | Failed to parse header.                   |
| 419100017  | Header not found.                         |
| 419100018  | No SDP message body.                      |
| 419100019  | Failed to get capability.                 |
| 419100020  | Failed to compare capability.             |
| 419100021  | Failed to open logical channel.           |
| 419100022  | Encoding SDP failed.                      |
| 419100023  | Decoding SDP failed.                      |
| 419100024  | Negotiate to unsupported SDP.             |
| 419100025  | TPTD initialization failed.               |
| 419100026  | TPT initialization failed.                |
| 419100027  | TXN initialization failed.                |
| 419100028  | UA initialization failed.                 |
| 419100029  | GLUE initialization failed.               |
| 419100030  | HLLM initialization failed.               |
| 419100031  | VCOM initialization failed.               |
| 419100032  | SDP initialization failed.                |
| 419100033  | Multiple instance error.                  |
| 419100034  | Insufficient registration control blocks. |

| Error Code | Error Description   |
|------------|---|
| 419100035  | Insufficient subscription control blocks.                     |
| 419100036  | Insufficient call control blocks.                             |
| 419100037  | Insufficient IM control blocks.                               |
| 419100038  | Failed to parse URI xml to string.                            |
| 419100039  | Encryption negotiation failed.                                |
| 419100040  | Local capabilities are not configured.                        |
| 419100041  | BFCP token error.   |
| 419100042  | DNS resolution error.   |
| 419100043  | Failed to get subscription state.                             |
| 419100044  | IPv4 is not supported.  |
| 419100045  | IPv6 is not supported.  |
| 419100046  | Unsupported host type.  |
| 419100047  | Failed to get timer.  |
| 420000001  | Cannot receive sharing invitations.                           |
| 420000002  | ReportDTO parameter verification failed.                      |
| 420000003  | Report folder creation failed.                                |
| 420000004  | Report folder compression failure.                            |
| 420000005  | The path of the ZIP file to be uploaded is empty.             |
| 420000006  | The size of the ZIP file to be uploaded reaches the maximum.  |
| 420000007  | The same person reported more than 100 times within 24 hours. |
| 430100001  | Common Error.   |
| 430100002  | Invalid parameters.   |
| 430100003  | SIP connection check failed.                                  |
| 430100004  | Timeout.  |
| 430100005  | In process.   |
| 430100006  | Not initialized or initialization is not complete.            |
| 430100007  | Not supported in this release.                                |
| 430100008  | Operation interrupt.  |
| 430100009  | Contact not found.  |

| Error Code | Error Description   |
|------------|---|
| 430100010  | Args length overrun.  |
| 430100011  | APPID info illegal.   |
| 430100012  | E2EEncrypt algorithm error.   |
| 430200001  | unlogin.  |
| 430200002  | Repeated login.   |
| 430200003  | SIP connection timeout.   |
| 430200004  | Invalid login password.   |
| 430200005  | Password or account empty.  |
| 430300001  | The calling number, account number or third-party account number cannot be empty. |
| 430300002  | Call account empty.   |
| 430300003  | Call nickname empty.  |
| 430400001  | Password required to join the meeting.  |
| 430400002  | Time zone error.  |
| 430400003  | The meeting duration is less than 1.  |
| 430400004  | Joining the conference is interrupted.  |
| 430400005  | Password input at least 4 digits.   |
| 430400006  | User voluntarily cancels.   |
| 430400007  | The guest password illegal.   |
| 430400008  | Not in conference or in call.   |
| 430400009  | Already exist conf or call.   |
| 430400010  | Confld empty.   |
| 430400011  | Subject too long.   |
| 430400012  | VMR host password length illegal.   |
| 430400013  | VMR name empty.   |
| 430400014  | Conf starttime early.   |
| 430400015  | Share is locked.  |
| 430400016  | Not in data conference.   |
| 430400017  | Role not support operation  |
| 430500001  | HTTP request, server exception.   |

| Error Code | Error Description                                 |
|------------|---|
| 430500002  | HTTP request, Connecting to the server times out. |
| 430500003  | Network unavailable.                              |
| 510000403  | Server forbidden.                                 |
| 510000404  | Not found.  |
| 510000480  | Temporary unavailable.                            |
| 510000486  | Busy here.  |
| 510000487  | Request terminated.                               |
| 510000488  | Request is not acceptable here.                   |
| 510000603  | Decline.  |
| 510000841  | Hangup without toast.                             |
| 510000842  | Conference is locked.                             |
| 910000001  | Server error.                                     |
| 910000002  | SFU service failure.                              |
| 910000003  | Service unavailable 503.                          |
| 910000004  | Internal error.                                   |
| 910000005  | Kicked off.                                       |
| 910000006  | Signature expired.                                |
| 910000007  | Reconnect timeout.                                |
| 910000008  | Network detection.                                |
| 910000009  | User is removed.                                  |
| 910000010  | The room is dismissed.                            |
| 990000001  | Internal error.                                   |
| 990000002  | Message too large.                                |
| 990000003  | Insufficient memory.                              |
| 990000004  | Failed to send message synchronously.             |
| 990000005  | Parameter error.                                  |
| 990000006  | Call ID order error.                              |
| 990000007  | Failed to set local screen.                       |
| 990000008  | Failed to open remote screen.                     |
| 990000009  | Device configuration failed.                      |

| Error Code | Error Description   |
|------------|---|
| 990000010  | Initializing.   |
| 990000011  | Deinitializing.   |
| 990000012  | Uploading log.  |
| 990000013  | Failed to get media port.   |
| 990000014  | The maximum number view window reached .                              |
| 990000015  | Media negotiation failed.   |
| 990000016  | Server no response.   |
| 990000017  | Role switch failed.   |
| 990000018  | Failed to join room.  |
| 990000019  | Failed to join room. Status is busy.                                  |
| 990000020  | Failed to join room. Server error.                                    |
| 990000021  | Failed to join room. Service unavailable.                             |
| 990000022  | Failed to join room. Authentication failed.                           |
| 990000023  | Failed to join room. Authentication retry.                            |
| 990000024  | Failed to join room. Clock synchronization.                           |
| 990000025  | Failed to join room. URL error.                                       |
| 990000026  | Kicked off.   |
| 990000027  | Share failed.   |
| 990000028  | Currently in external media output mode, this operation is forbidden. |
| 990000029  | Reconnection failed.  |
| 990000030  | Server breaks down.   |
| 990000031  | Signature has expired.  |
| 990000032  | Failed to set remote window mode.                                     |
| 990000033  | Failed to subscribe or unsubscribe audio.                             |
| 990000034  | Failed to connect to other room.                                      |
| 990000035  | Failed to disconnect other room.                                      |
| 990000036  | Role switching is not allowed.  |
| 990000037  | Currently in third-party capture mode, this operation is forbidden.   |
| 990000038  | Failed to set third-party audio capture.                              |

| Error Code | Error Description                              |
|------------|--|
| 990000039  | Failed to set third-party video capture.       |
| 990000040  | Failed to set share sound switch.              |
| 990000041  | Failed to start or stop upstream audio stream. |
| 990000042  | Failed to start or stop upstream video stream. |
| 990000043  | User is removed.                               |
| 990000044  | The room is dismissed.                         |
| 990000045  | Failed to set remote View.                     |

## 9.7 Version Updates

### 9.7.1 100.10.7 Updates

1. Fixed issues and provided more stable experience.

### 9.7.2 100.10.6 Updates

1. Fixed issues and provided more stable experience.

### 9.7.3 100.10.5 Updates

1. Added the UI SDK for devices with Apple-developed M-series chips. For details, see [Quick Integration](#).
2. Added the `setCustomUITextWithCustomSceneTextInfoList` API for customizing the text for a specific scenario. For details, see [Customizing the Text for a Specific Scenario](#).

### 9.7.4 100.9.7 Updates

1. Fixed issues and provided more stable experience.

### 9.7.5 100.9.5 Updates

1. Added the `startTimeStamp` (meeting start time) and `endTimeStamp` (meeting end time) fields to `HWMConfStateInfo` and `HWMConfListItemInfo`, and discarded the original `startTime` and `endTime` fields. For details, see [Table 9-101](#) and [Table 9-73](#).
2. Added the `linkPrefix` field (meeting link prefix) to `HWMOpenSDKConfig`. For details, see [Table 9-2](#).
3. Added the `thirdUserId` field (third-party user account) to `HWMConfIncomingInfo`. For details, see [Table 9-115](#).
4. Added the `onAddAttendeeNotify` notification to notify you of participant addition results. For details, see [Notification of Participant Addition Results](#).

5. Added the **onLoginError** notification (login failure notification) to **HWMNotifyHandler**. When receiving the error code 412100012 indicating that the server CA certificate verification failed, you will be logged out.

## 9.7.6 100.7.13 Updates

1. Fixed issues and provided more stable experience.

## 9.7.7 100.7.8 Updates

1. Fixed issues and provided more stable experience.

## 9.7.8 100.7.6 Updates

1. Fixed issues and provided more stable experience.

## 9.7.9 100.7.5 Updates

1. Added the **setServerConfigWithURL** API for setting login server information. For details, see [Setting Login Server Information](#).
2. Added the **setCAVerifyInfo** API for setting certificate verification information. For details, see [Setting Login Server Information](#).
3. Added the **supportMeetingAssistant** API for displaying the meeting control assistant. For details, see [Displaying the Meeting Control Assistant](#).
4. Added the **socialShareView** API with the new meeting information parameter **HWMSDKMeetingInfoModel**. For details, see [Customizing the Social Sharing Window](#).
5. Added the **startProjectionWithParam** API for starting projection. For details, see [Starting Projection](#).
6. Added **onConfEndedNotify** for meeting end notifications. For details, see [Meeting End Notification](#).
7. Added **onMeetingInfoChanged** to notify you of meeting information changes. For details, see [Notification of Ongoing Meeting Information Changes](#).
8. Added the **handle** field (window handle) to **HWMUISDKMainWindowInfoModel** (main window information). For details, see [Table 9-41](#).
9. Added the **autoMuteMode** field (whether to automatically mute soft client guests when they join the meeting) and the **hardTerminalAutoMuteMode** field (whether to automatically mute hard terminal guests when they join the meeting) to the APIs for creating, scheduling, editing, and querying a meeting. For details, see [Table 9-51](#), [Table 9-67](#), and [Table 9-76](#).
10. Added the **isP2PConf** field (whether the meeting is an instant meeting) to **HWMConfIncomingInfo** (incoming meeting details). For details, see [Table 9-115](#).

## 9.7.10 100.5.5 Updates

1. Added the **timeZone** parameter to **HWMConfDetail**. For details, see [Table 9-76](#).



2. Added the **audiencePwd**, **audienceJoinUri**, **isWebinar**, and **confStateType** parameters to **HWMConfListItemInfo**. For details, see [Table 9-73](#).

## 9.7.11 100.3.6 Updates

1. Fixed issues and provided more stable experience.

## 9.7.12 90.12.7 Updates

1. Fixed issues and provided more stable experience.

## 9.7.13 90.12.5 Updates

1. Added the **ShowToast** API for displaying a toast message. For details, see [Displaying a Toast Message](#).
2. Added the **GetMainWindowInfo** API for obtaining the main window information. For details, see [Obtaining Information About the Main Window](#).
3. Deprecated the **getVmrList** API and added the **getVmrInfoList** API. For details, see [Obtaining the Cloud Meeting Room List](#).
4. Added the **HWMConfResType** parameter (meeting resource type) to **HWMCreateConfParam** (creating a meeting) and **HWMOrderConfParam** (scheduling a meeting). For details, see [Table 9-51](#) and [Table 9-67](#).
5. Added **OnShareVmrInfoNotify** to notify you when information about shared cloud meeting rooms was changed. For details, see [Notification of Shared Cloud Meeting Rooms](#).
6. Added the **GetErrorMessage** API for obtaining an error message, which can be used for prompt. For details, see [Obtaining an Error Message](#).
7. Added the **SetGuaranteedIpAddresses** API for setting guaranteed IP addresses for meeting control to keep on-premises data within your enterprise or support network interruption survival. For details, see [Setting Guaranteed IP Addresses for Meeting Control](#).
8. Added the **OnP2PConfRecordNotify** notification to notify you of instant meeting records. For details, see [Notification of Instant Meeting Records](#).

## 9.7.14 90.9.5 Updates

1. Added the **concurrentParticipants** parameter (maximum number of participants allowed in a meeting) to **HWMCreateConfParam** (creating a meeting), **HWMOrderConfParam** (scheduling a meeting), and **HWMConfDetail** (meeting details). For details, see [Table 9-51](#), [Table 9-67](#), and [Table 9-76](#).
2. Added the **vmrConfId** parameter (ID of meetings held in a cloud meeting room) to **HWMConfIncomingInfo** (incoming meeting details). For details, see [Table 9-115](#).
3. Added the **SetLogPath** API for setting the log storage path. For details, see [Setting a Log Path](#).

## 9.7.15 90.7.5 Updates

1. Added the **StartP2pConf** API for starting an instant meeting. For details, see [Starting an Instant Meeting](#).
2. Added the **domain** field to the **HWMRandomConfParam** parameter of the API for joining a meeting using a random code. For details, see [Table 9-57](#).
3. Fixed issues and provided more stable experience.

## 9.7.16 90.6.5 Updates

1. Deprecated the **StartCall** API.
2. Added the **isSupportMultiAppLogin** parameter, which indicates whether login to multiple applications on the same device is supported. For details, see [Table 9-2](#).
3. Added the **onPoorNetworkQualityInfoNotify()** API for reporting information about poor network connection. For details, see [Notifications for Poor Network Connection](#).
4. Added the **customInfo** field to the APIs for scheduling, editing, creating, and querying a meeting. For details, see [Table 9-51](#), [Table 9-67](#), and [Table 9-76](#).
5. Added error code 412100044. (For details about the adaptation mode of this error code, see the demo.)
6. Fixed issues and provided more stable experience.

## 9.7.17 80.15.21 Updates

1. Fixed issues and provided more stable experience.

## 9.7.18 80.15.5 Updates

1. Fixed issues and provided more stable experience.

## 9.7.19 80.13.6 Updates

1. Fixed issues and provided more stable experience.

## 9.7.20 80.13.5 Updates

1. Fixed issues and provided more stable experience.

## 9.7.21 80.12.7 Updates

1. Fixed issues and provided more stable experience.

## 9.7.22 80.12.6 Updates

1. Added the enumerated value **HWMSDKCapabilitySupportConfirmRecord** (whether to display the recording security prompt) to the **enableSDKCapability** API. For details, see [Table 9-8](#).
2. Fixed issues and provided more stable experience.

## 9.7.23 80.12.5 Updates

1. Changed the conditions for uploading profile pictures (to check the type and size of profile pictures). For details, see [Uploading a Profile Picture](#).
2. Fixed issues and provided more stable experience.

## 9.7.24 80.10.5 Updates

1. Added parameters **confAllowJoinUser** (users who are allowed to join the meeting) and **isOpenWaitingRoom** (whether the waiting room is enabled) to the APIs for obtaining the cloud meeting room list (**HWMVmrInfoModel.h**) and modifying cloud meeting room information (**HWMModifyVmrParam.h**). For details, see [HWMVmrInfoModel](#) and [HWMModifyVmrParam](#).
2. Added the **setShareScreenPermission** API for setting the sharing permission. For details, see [Setting the Sharing Permission](#).

## 9.7.25 80.9.5 Updates

1. Added the **isRecordOn** and **isLiveOn** parameters to the **HWMConfDetail.h** API for obtaining meeting details and the **HWMOrderConfParam.h** API for editing a meeting. For details, see [HWMConfDetail](#) and [HWMOrderConfParam](#).
2. Added the enumerated value **HWMSDKCapabilitySupportBreakoutConf** (breakout room) to the **enableSDKCapability** API for enabling a function. For details, see [HWMSDKCapabilitySupport](#).
3. Changed the **subConfUUID** parameter to **subConfID** in the **CancelSubCycleConf** API for canceling a recurring meeting. For details, see [HWMSDKCancelSubCycleConfParamModel](#).
4. Discarded the **cycleCount** parameter in **HWMCycleConfParam.h** of APIs for scheduling and editing a recurring meeting series. For details, see [HWMCycleConfParam](#).

## 9.7.26 80.8.5 Updates

1. Fixed issues and provided more stable experience.

## 9.7.27 80.7.5 Updates

1. You can customize the app language. For details, see [Setting a Language](#).
2. Added the **showSettingWindowWithInfo** API for displaying the settings window. For details, see [Displaying the Settings Window](#).
3. Added **onClickInjectParticipantItemBtnNotify** for sending a notification when an item in the participant list is clicked. For details, see [Customizing Subitems in the Participant List](#).
4. Added error codes. For details, see [Common Error Codes](#).

## 9.7.28 80.5.11 Updates

1. Added the **disableVoicePrompts** API for disabling prompt tones. For details, see [Disabling Prompt Tones](#).

2. Added the function of customizing the recording button. For details, see [Customizing the Recording Button](#).

## 9.7.29 80.5.5 Updates

1. Added the **isOpenWaitingRoom** parameter to **HWMCreateConfParam.h** of creating a meeting, **HWMOrderConfParam.h** of scheduling and modifying a meeting, and **HWMConfDetail.h** of querying meeting details. For details, see [Creating a Meeting](#), [Scheduling a Meeting](#), [Editing a Meeting](#), and [Obtaining Meeting Details](#).
2. You can enable or disable the **Hide non-video participants** in meeting settings. For details, see [Enabling the Function of Hiding Non-Video Participants](#).

## 9.7.30 70.16.5 Updates

1. Added APIs related to recurring meetings. For details, see [Scheduling a Recurring Meeting Series](#), [Editing a Recurring Meeting Series](#), [Canceling a Recurring Meeting Series](#), [Editing a Recurring Meeting](#), and [Canceling a Recurring Meeting](#).
2. Added **isStopConflictConf** to **HWMJoinConfParam.h** in the API for joining a meeting using an ID. For details, see [Table 9-56](#).
3. Adjusted the SSO login API. For details, see [loginBySSO](#).
4. Modified error codes. For details about the new error code description, see [Table 9-135](#).

**Table 9-135** Mapping between error codes of the old and new versions

| Error Codes in 70.14.6 and Earlier Versions | Error Codes After 70.16.5 | New Error Code Description   |
|---|---------------------------|--|
| 40117                                       | 430400007                 | The guest password is invalid.                                       |
| 40017                                       | 430400001                 | The calling number, account, or third-party account cannot be empty. |

## 9.7.31 70.14.5 Updates

1. When scheduling a meeting in a cloud meeting room, you can select a fixed or random cloud meeting room ID. For details, see [Table 9-71](#).
3. When scheduling or editing a meeting, you can set the time (**allowGuestStartConf** and **allowGuestStartConfTime**) when a guest is allowed to join the meeting ahead of the host. For details, see [Table 9-67](#).
4. A department ID can be specified for login using an app ID. For details, see [Table 9-19](#).
5. Added the API for setting the network mode. For details, see [Setting the Network Mode](#).

## 9.7.32 70.13.5 Updates

1. Added **userUuid** (the original **uuid** field), **account**, and **thirdAccount** to the callback of login and logout APIs. For details, see [Table 9-18](#) and [Table 9-22](#). If an earlier version is upgraded to 70.13.5, the definition of the callback functions needs to be modified.
2. Added the notification of incoming call status changes. For details, see [Notification of Incoming Meeting Call Status Changes](#).
3. Added the incoming call notification.
4. Added the function of enabling audio sharing. For details, see [Enabling Audio Sharing](#).
5. Changed the default local recording path. The access app needs to apply for the permission to download recordings to a folder. For details, [Step 6](#).

## 9.7.33 70.12.6 Updates

1. Fixed an issue where the video definition cannot be restored after the network is restored.

## 9.7.34 70.12.4 Updates

1. The meeting settings window can be customized. For details, see [Customizing the Settings Page](#).
2. Feature support can be enabled. For details, see [Enabling a Function](#).

## 9.7.35 70.11.5 Updates

1. The signature script of the project configuration and Runpath Search Paths configuration are changed. For details, see [Step 6](#).
2. The **logKeepDays** field is added to the **Initializing the SDK API**. For details, see [Table 9-2](#).

## 9.7.36 70.10.5 Updates

1. Watermarks can be customized. For details, see [Customizing a Watermark for a Meeting](#).
2. The local recording path can be customized. For details, see [Customizing a Local Recording Path](#).

## 9.7.37 70.9.5 Updates

1. Added the SSO login mode. For details, see [loginBySSO](#).

## 9.7.38 70.8.6 Updates

Fixed issues and provided more stable experience.

## 9.7.39 70.8.5 Updates

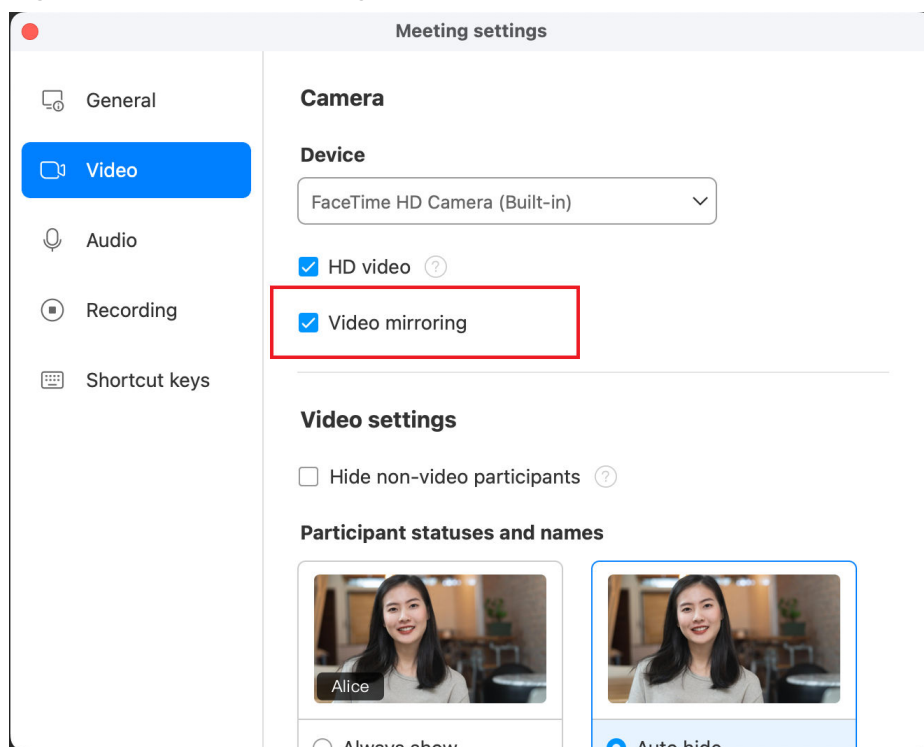
1. The participant list (including the webinar) can be obtained. For details, see [Obtaining the Participant List](#).

2. Audio data streams can be obtained. For details, see [Obtaining Audio Data Streams](#).

## 9.7.40 70.7.5 Updates

1. Video mirroring is supported. After this function is enabled, you can view your own image effect.

**Figure 9-23** Video mirroring



2. Visual effect of in-meeting screens is optimized.
3. The meeting control toolbar can be customized. For details, see [UI Customization](#).

## 9.7.41 70.6.5 Updates

1. Added the API for displaying the main window of a meeting. For details, see [Displaying the Main Meeting Window](#).

## 9.7.42 70.5.8 Updates

1. The project configuration signature script is added with new code. For details, see [Figure 9-7](#).

```
codesign -f -s "$EXPANDED_CODE_SIGN_IDENTITY" ./HWMUISDK.framework/
Versions/A/Frameworks/WKTUP.framework/Versions/A/Frameworks/
libHRTCEngine.framework/Versions/A/libHRTCEngine
```

2. The shared video can be displayed as the sub-picture of the broadcast continuous presence. In this mode, the video and shared video can be switched freely.

3. On-screen comments are supported.

## 9.7.43 70.4.5 Updates

1. The project configuration signature script is added with new code. For details, see [Figure 9-7](#).

```
codesign -f -s "$EXPANDED_CODE_SIGN_IDENTITY" ./HWMUISDK.framework/  
Versions/A/Frameworks/WKTUP.framework/Versions/A/Frameworks/  
libHME_Video.framework/Versions/A/libHME_Video
```

2. Added the function of querying whether a terminal is in a meeting. For details, see [Obtaining a User Status](#).
3. A configuration item in the security menu can be hidden. For details, see [Initializing the SDK](#).
4. The host can invite others to share content and quickly cancel the sharing.
5. Log size is optimized.

## 9.7.44 70.3.5 Updates

1. The function of exporting participant information during a conference is optimized.

## 9.7.45 60.15.5 Updates

1. Added the API for configuring the incoming call answering policy. For details, see [Incoming Call Answering Policy Configuration](#).
2. Added the parameter for setting a speaker in a meeting. For details, see [Table 9-55](#).
3. Added the parameters for creating, scheduling, and editing a meeting password and voice meeting.
4. The Security module is added to the meeting for unified permissions management.
5. Added the function of hiding external labels in the participant list. For details, see [Initializing the SDK](#).

## 9.7.46 60.13.2 Updates

1. Added the API for adding participants. For details, see [Inviting a Participant](#).
2. Added the API for leaving a meeting. For details, see [Leaving a Meeting](#).
3. Added the API for ending a meeting. For details, see [Ending a Meeting](#).
4. Added the API for setting a language. For details, see [Setting a Language](#).

## 9.7.47 60.12.5 Updates

1. Added the notification of adding an incoming call answering policy. For details, see [Incoming Call Answering Policy Configuration](#).
2. Added the parameter for specifying whether to mute the speaker when joining a meeting. For details, see [Table 9-55](#).

3. Added the parameters for creating a meeting password and creating a voice meeting. For details, see [Table 9-51](#).
4. Added the parameters for scheduling and editing meeting passwords and the parameter indicating whether a meeting is a video meeting. For details, see [Table 9-67](#).

## 9.8 Change History

**Table 9-136** Change history

| Released On | Version  | Change Description  |
|-------------|----------|---|
| 2024-12-03  | 100.10.7 | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.10.7 Updates</a> .   |
| 2024-11-27  | 100.10.6 | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.10.6 Updates</a> .   |
| 2024-11-18  | 100.10.5 | 1. Added the UI SDK for devices with Apple-developed M-series chips.<br>2. Added the <b>setCustomUITextWithCustomSceneTextInfoList</b> API for customizing the text for a specific scenario.<br>For details, see <a href="#">100.10.5 Updates</a> .   |
| 2024-10-31  | 100.9.7  | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.9.7 Updates</a> .  |
| 2024-10-12  | 100.9.5  | 1. Added the <b>startTimeStamp</b> (meeting start time) and <b>endTimeStamp</b> (meeting end time) fields to <b>HWMConfStateInfo</b> and <b>HWMConfListItemInfo</b> and discarded the <b>startTime</b> and <b>endTime</b> fields.<br>2. Added the <b>linkPrefix</b> field (meeting link prefix) to <b>HWMOpenSDKConfig</b> .<br>3. Added the <b>thirdUserId</b> field (third-party user account) to <b>HWMConfIncomingInfo</b> .<br>4. Added the <b>onAddAttendeeNotify</b> notification to notify you of participant addition results.<br>5. Added the <b>onLoginError</b> notification (login failure notification) to <b>HWMNotifyHandler</b> . When receiving the error code 412100012 indicating that the server CA certificate verification failed, you will be logged out.<br>For details, see <a href="#">100.9.5 Updates</a> . |
| 2024-10-12  | 100.7.13 | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.7.13 Updates</a> .   |
| 2024-08-23  | 100.7.8  | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.7.8 Updates</a> .  |



| Released On | Version | Change Description  |
|-------------|---------|---|
| 2024-08-16  | 100.7.6 | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.7.6 Updates</a> .  |
| 2024-08-02  | 100.7.5 | 1. Added the <b>setServerConfigWithURL</b> API for setting login server information.<br>2. Added the <b>setCAVerifyInfo</b> API for setting certificate verification information.<br>3. Added the <b>supportMeetingAssistant</b> API for displaying the meeting control assistant.<br>4. Added the <b>socialShareView</b> API with the new meeting information parameter <b>HWMSDKMeetingInfoModel</b> .<br>5. Added the <b>startProjectionWithParam</b> API for starting projection.<br>6. Added <b>onConfEndedNotify</b> to notify you when the meeting ends.<br>7. Added <b>onMeetingInfoChanged</b> to notify you of meeting information changes.<br>8. Added the <b>handle</b> field (window handle) to <b>HWMUISDKMainWindowInfoModel</b> (main window information).<br>9. Added the <b>autoMuteMode</b> field (whether to automatically mute soft client guests when they join the meeting) and the <b>hardTerminalAutoMuteMode</b> field (whether to automatically mute hard terminal guests when they join the meeting) to the APIs for creating, scheduling, editing, and querying a meeting.<br>10. Added the <b>isP2PConf</b> field (whether the meeting is an instant meeting) to <b>HWMConfIncomingInfo</b> (incoming meeting details).<br>For details, see <a href="#">100.7.5 Updates</a> . |
| 2024-06-13  | 100.5.5 | 1. Added the <b>timeZone</b> parameter to <b>HWMConfDetail</b> .<br>2. Added the <b>audiencePwd</b> , <b>audienceJoinUri</b> , <b>isWebinar</b> , and <b>confStateType</b> parameters to <b>HWMConfListItemInfo</b> .<br>For details, see <a href="#">100.5.5 Updates</a> .   |
| 2024-04-23  | 100.3.6 | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.3.6 Updates</a> .  |
| 2024-02-17  | 90.12.7 | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">90.12.7 Updates</a> .  |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2024-01-05  | 90.12.5 | <ol style="list-style-type: none"> <li>1. Added the <b>ShowToast</b> API for displaying a toast message.</li> <li>2. Added the <b>GetMainWindowInfo</b> API for obtaining the main window information.</li> <li>3. Deprecated the <b>getVmrList</b> API and added the <b>getVmrInfoList</b> API.</li> <li>4. Added the <b>HWMConfResType</b> parameter (meeting resource type) to <b>HWMCreateConfParam</b> (creating a meeting) and <b>HWMOrderConfParam</b> (scheduling a meeting).</li> <li>5. Added the <b>OnShareVmrInfoNotify</b> notification to notify you when information about shared cloud meeting rooms was changed.</li> <li>6. Added the <b>GetErrorMessage</b> API for obtaining an error message, which can be used for prompt.</li> <li>7. Added the <b>SetGuaranteedIpAddresses</b> API for setting guaranteed IP addresses for meeting control to keep on-premises data within your enterprise or support network interruption survival.</li> <li>8. Added the <b>OnP2PConfRecordNotify</b> notification to notify you of instant meeting records.</li> </ol> <p>For details, see <a href="#">90.12.5 Updates</a>.</p> |
| 2023-10-08  | 90.9.5  | <ol style="list-style-type: none"> <li>1. Added the <b>concurrentParticipants</b> parameter (maximum number of participants allowed in a meeting) to <b>HWMCreateConfParam</b> (creating a meeting), <b>HWMOrderConfParam</b> (scheduling a meeting), and <b>HWMConfDetail</b> (meeting details).</li> <li>2. Added the <b>vmrConfId</b> parameter (ID of meetings held in a cloud meeting room) to <b>HWMConfIncomingInfo</b> (incoming meeting details).</li> <li>3. Added the <b>SetLogPath</b> API for setting the log storage path.</li> </ol> <p>For details, see <a href="#">90.9.5 Updates</a>.</p>  |
| 2023-08-05  | 90.7.5  | <ol style="list-style-type: none"> <li>1. Added the <b>StartP2pConf</b> API for starting an instant meeting.</li> <li>2. Added the <b>domain</b> field to the <b>HWMRandomConfParam</b> parameter of the API for joining a meeting using a random code.</li> <li>3. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">90.7.5 Updates</a>.</p>   |

| Released On | Version  | Change Description   |
|-------------|----------|--|
| 2023-06-01  | 90.6.5   | <ol style="list-style-type: none"> <li>1. Deprecated the <b>StartCall</b> API.</li> <li>2. Added the <b>isSupportMultiAppLogin</b> parameter, which indicates whether login to multiple applications on the same device is supported.</li> <li>3. Added the <b>onPoorNetworkQualityInfoNotify()</b> API for reporting information about poor network connection.</li> <li>4. Added the <b>customInfo</b> field to the APIs for scheduling, editing, creating, and querying a meeting.</li> <li>5. Added error code 412100044. (For details about the adaptation mode of this error code, see the demo.)</li> <li>6. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">90.6.5 Updates</a> . |
| 2023-05-11  | 80.15.21 | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">80.15.21 Updates</a> .   |
| 2023-03-29  | 80.15.5  | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">80.15.5 Updates</a> .  |
| 2023-02-23  | 80.13.6  | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">80.13.6 Updates</a> .  |
| 2023-02-07  | 80.13.5  | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">80.13.5 Updates</a> .  |
| 2023-01-17  | 80.12.7  | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">80.12.7 Updates</a> .  |
| 2023-01-09  | 80.12.6  | <ol style="list-style-type: none"> <li>1. Added the enumerated value <b>HWMSDKCapabilitySupportConfirmRecord</b> (whether to display the recording security prompt) to the <b>enableSDKCapability</b> API.</li> <li>2. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">80.12.6 Updates</a> .   |
| 2022-12-24  | 80.12.5  | <ol style="list-style-type: none"> <li>1. Changed the conditions for uploading profile pictures (to check the type and size of profile pictures).</li> <li>2. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">80.12.5 Updates</a> .  |
| 2022-11-16  | 80.10.5  | <ol style="list-style-type: none"> <li>1. Added the <b>confAllowJoinUser</b> and <b>isOpenWaitingRoom</b> parameters to <b>HWMVmrInfoModel.h</b> (cloud meeting room list) and <b>HWMModifyVMRParam.h</b> (modifying the cloud meeting room info).</li> <li>2. Added the <b>setShareScreenPermission</b> API for setting the sharing permission.</li> </ol> For details, see <a href="#">80.10.5 Updates</a> .   |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2022-10-08  | 80.9.5  | <ol style="list-style-type: none"> <li>1. Added the <b>isRecordOn</b> and <b>isLiveOn</b> parameters to <b>HWMConfDetail.h</b> (meeting details) and <b>HWMOrderConfParam.h</b> (editing a meeting).</li> <li>2. Added the enumerated value <b>HWMSDKCapabilitySupportBreakoutConf</b> (breakout room function) in the <b>enableSDKCapability</b> API for enabling a function.</li> <li>3. Changed the <b>subConfUUID</b> parameter to <b>subConfID</b> in the <b>CancelSubCycleConf</b> API for canceling a recurring meeting.</li> <li>4. Discarded the <b>cycleCount</b> parameter in <b>HWMCycleConfParam.h</b> of APIs for scheduling and editing a recurring meeting series.</li> </ol> <p>For details, see <a href="#">80.9.5 Updates</a>.</p> |
| 2022-09-02  | 80.8.5  | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">80.8.5 Updates</a>.</p>  |
| 2022-07-30  | 80.7.5  | <ol style="list-style-type: none"> <li>1. You can customize the app language.</li> <li>2. Added the <b>showSettingWindowWithInfo</b> API for displaying the settings window.</li> <li>3. Added <b>onClickInjectParticipantItemBtnNotify</b> for sending a notification when an item in the participant list is clicked.</li> <li>4. Added error codes.</li> </ol> <p>For details, see <a href="#">80.7.5 Updates</a>.</p>   |
| 2022-06-17  | 80.5.11 | <ol style="list-style-type: none"> <li>1. Added the API for disabling prompt tones.</li> <li>2. Added the function of customizing the recording button.</li> </ol> <p>For details, see <a href="#">80.5.11 Updates</a>.</p>   |
| 2022-05-18  | 80.5.5  | <ol style="list-style-type: none"> <li>1. Added the <b>isOpenWaitingRoom</b> parameter to <b>HWMCreateConfParam.h</b> of creating a meeting, <b>HWMOrderConfParam.h</b> of scheduling and modifying a meeting, and <b>HWMConfDetail.h</b> of querying meeting details.</li> <li>2. You can enable or disable the <b>Hide non-video participants</b> in meeting settings.</li> </ol> <p>For details, see <a href="#">80.5.5 Updates</a>.</p>   |
| 2022-04-15  | 70.16.5 | <ol style="list-style-type: none"> <li>1. Added APIs related to recurring meetings.</li> <li>2. Added <b>isStopConflictConf</b> to <b>HWMJoinConfParam</b> for joining a meeting using its ID.</li> <li>3. Adjusted the SSO login API.</li> <li>4. Modified error codes and released the description of new error codes and the mapping between the error codes of the old and new versions.</li> </ol> <p>For details, see <a href="#">70.16.5 Updates</a>.</p>  |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2022-02-19  | 70.14.5 | <ol style="list-style-type: none"> <li>1. Supported fixed or random cloud meeting room IDs for scheduling a meeting in a cloud meeting room.</li> <li>2. Added the APIs for initiating a point-to-point call, call status change notification, and call end notification.</li> <li>3. Added the <b>allowGuestStartConf</b> parameter for allowing guests to join the meeting at the time you specify before the start time (<b>allowGuestStartConfTime</b>) when you schedule or edit a meeting.</li> <li>4. Supported department IDs specified for login using an app ID.</li> <li>5. Added the API for configuring the network mode.</li> </ol> <p>For details, see <a href="#">70.14.5 Updates</a>.</p> |
| 2022-01-19  | 70.13.5 | <ol style="list-style-type: none"> <li>1. Added <b>userUuid</b> (the original <b>uuid</b> field), <b>account</b>, and <b>thirdAccount</b> to the callback of login and logout APIs.</li> <li>2. Added the API for the notification of incoming meeting call status changes.</li> <li>3. Added the incoming call notification.</li> <li>4. Modified the parameters for obtaining a window handle.</li> <li>5. Added the function of enabling audio sharing.</li> <li>6. Changed the default local recording path. The access app needs to apply for the permission to download recordings to a folder.</li> </ol> <p>For details, see <a href="#">70.13.5 Updates</a>.</p>                                  |
| 2021-12-23  | 70.12.6 | <ol style="list-style-type: none"> <li>1. Fixed an issue where the definition cannot be restored when the network is weak.</li> </ol> <p>For details, see <a href="#">70.12.6 Updates</a>.</p>   |
| 2021-12-15  | 70.12.4 | <ol style="list-style-type: none"> <li>1. Supported the customization of the meeting settings page.</li> <li>2. Supported feature enabling.</li> </ol> <p>For details, see <a href="#">70.12.4 Updates</a>.</p>  |
| 2021-12-03  | 70.11.5 | <ol style="list-style-type: none"> <li>1. Changed the signature script and <b>Runpath Search Paths</b> configurations of the project.</li> <li>2. Added <b>logKeepDays</b> (log storage duration) to the initialization API.</li> </ol> <p>For details, see <a href="#">70.11.5 Updates</a>.</p>   |
| 2021-10-22  | 70.10.5 | <ol style="list-style-type: none"> <li>1. Supported watermark customization.</li> <li>2. Supported the customization of the local recording path.</li> </ol> <p>For details, see <a href="#">70.10.5 Updates</a>.</p>  |
| 2021-09-16  | 70.9.5  | <p>Added SSO login.</p> <p>For details, see <a href="#">70.9.5 Updates</a>.</p>  |
| 2021-08-28  | 70.8.6  | <p>Fixed issues and provided more stable experience.</p>   |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2021-08-18  | 70.8.5  | <ol style="list-style-type: none"><li>1. You can obtain the participant list in meetings and webinars.</li><li>2. You can obtain audio data streams.</li></ol> For details, see <a href="#">70.8.5 Updates</a> .   |
| 2021-07-16  | 70.7.5  | <ol style="list-style-type: none"><li>1. You can configure video mirroring for the local site in meetings.</li><li>2. Supported UI update in meetings.</li><li>3. You can customize the meeting control toolbar.</li></ol> For details, see <a href="#">70.7.5 Updates</a> .   |
| 2021-06-10  | 70.6.5  | <ol style="list-style-type: none"><li>1. Added the API for displaying the main meeting window.</li></ol> For details, see <a href="#">70.6.5 Updates</a> .   |
| 2021-05-17  | 70.5.8  | <ol style="list-style-type: none"><li>1. Changed the signature script of the project configuration. For details about the new code, see <a href="#">Figure 9-7</a>.</li><li>2. During continuous presence broadcast, the shared screen can now be displayed as a small feed, and the participant video screen and the shared screen can be switched.</li><li>3. Supported on-screen comments.</li></ol> For details, see <a href="#">70.5.8 Updates</a> .  |
| 2021-04-15  | 70.4.5  | <ol style="list-style-type: none"><li>1. Changed the signature script of the project configuration. For details, see <a href="#">Figure 9-7</a>.</li><li>2. You can query whether the current terminal is in a meeting. For details, see <a href="#">Obtaining a User Status</a>.</li><li>3. You can configure whether to hide the security settings. For details, see <a href="#">Initializing the SDK</a>.</li><li>4. The host can invite others to share content and quickly cancel the sharing.</li><li>5. Optimized the size of meeting logs.</li></ol> For details, see <a href="#">70.4.5 Updates</a> . |
| 2021-03-12  | 70.3.5  | <ol style="list-style-type: none"><li>1. Optimized participant information export during meetings.</li></ol> For details, see <a href="#">70.3.5 Updates</a> .   |
| 2021-02-10  | 60.15.5 | <ol style="list-style-type: none"><li>1. Added the API for the notification of the incoming call answering policy.</li><li>2. Added the parameter for setting the speaker when a participant joins a meeting.</li><li>3. Added the parameters for meeting creation and scheduling, meeting password editing, and voice meeting.</li><li>4. Added the <b>Security</b> module.</li></ol> For details, see <a href="#">60.15.5 Updates</a> .  |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2021-01-08  | 60.13.2 | <ol style="list-style-type: none"><li>1. Added the API for adding participants to a meeting.</li><li>2. Added the API for leaving a meeting.</li><li>3. Added the API for ending a meeting.</li><li>4. Added the API for setting the language.</li></ol> For details, see <a href="#">60.13.2 Updates</a> . |
| 2020-12-07  | 60.12.5 | This issue is the first official release.   |

# 10 Electron SDK

---

## 10.1 Overview

The Electron SDK of Huawei Cloud Meeting provides a complete set of APIs. The SDK is applicable to Windows and macOS. Developers can call the APIs provided by the SDK to quickly integrate audio and video meeting capabilities into their applications, including creating, scheduling, and joining meetings, sharing screens and programs, annotating whiteboards, and muting all participants.

## 10.2 Getting Started

Before integrating the Electron SDK into a third-party application, familiarize yourself with the basic process of integrating the Huawei Cloud Meeting Electron SDK into an Electron client by referring to [Building the Electron Demo](#).

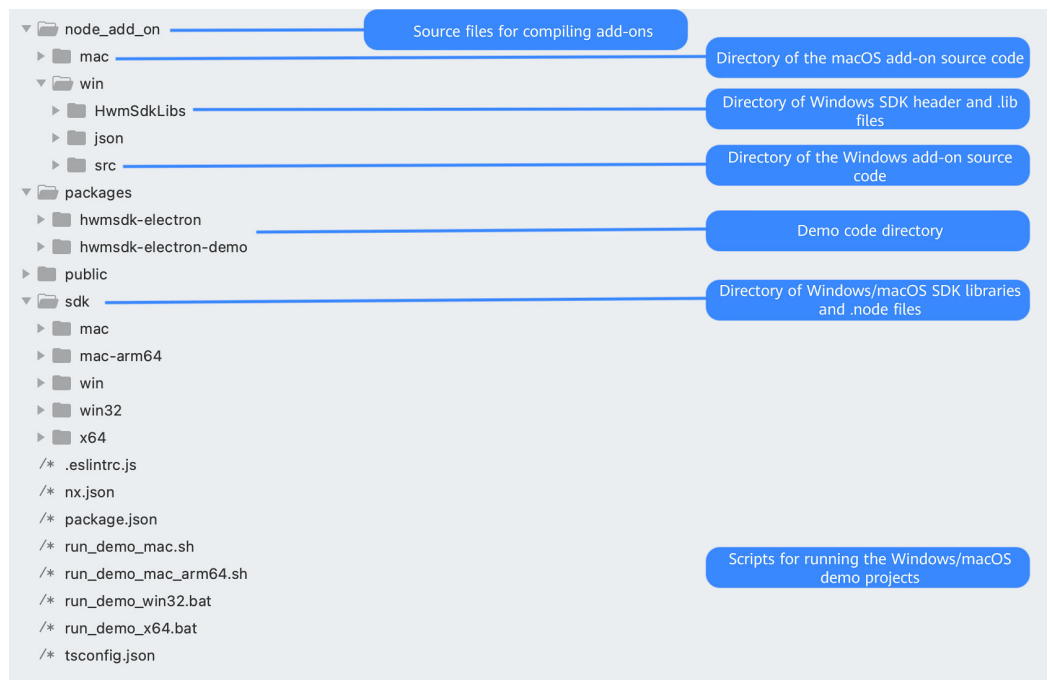
To integrate Huawei Cloud Meeting Electron SDK into a third-party Electron client, perform the following steps:

**Step 1** Download the [Electron SDK](#).

**Step 2** Decompress the Electron SDK to obtain the following directories and files.



**Figure 10-1** Directory structure of the SDK package



**NOTE**

1. If the macOS platform is used, decompress the Electron SDK on the macOS computer. Or, the framework will be damaged and the SDK cannot be used.

**Step 3 Copy Electron SDK files.**

**NOTE**

1. If Node.js has been installed, run the following command to check the Node.js version. The result **x64** indicates 64-bit and **ia32** indicates 32-bit.

```
$ node -p "process.arch"
```

2. If Node.js is not installed, download the required version from the [Node.js website](#).

- If the platform is Windows and the Node.js version is 32-bit, run the **run\_demo\_win32.bat** script in the directory generated after decompression in the preceding step.
- If the platform is Windows and the Node.js version is 64-bit, run the **run\_demo\_x64.bat** script in the directory generated after decompression in the preceding step.
- On a Mac with an Intel chip, run the **run\_demo\_mac.sh** script in the directory generated after decompression in the preceding step.
- On a Mac with an M-series chip, run the **run\_demo\_mac\_arm64.sh** script in the directory generated after decompression in the preceding step.

 NOTE

The .bat or .sh script can perform the following operations:

- Compile TS APIs and generate JS and types files.
- Copy the SDK files of the corresponding platform to the corresponding directory (**sdk/win32**, **sdk/x64**, or **sdk/mac**).
- Run the demo.
- Copy the **js** and **types** directories and their subdirectories and files and the **package.json** file in the root directory to a directory of the project. (If the project uses TypeScript, copy the **ts** directory and its subdirectories and files.)

 NOTE

The JavaScript APIs to be called are stored in the **js** folder, and the entry file is **js\index.js**. (If the project uses TypeScript, the entry file is **ts\index.ts**.)

**Step 4** Add dependencies.

Add dependencies by referring to the **package.json** file in the demo.

```
"dependencies": {  
  "electron": "^13.6.7"  
},
```

**Step 5** Use the import mode to reference the directory where API files of the Electron SDK are located, initialize the UISDKService object, and configure the node path to load the SDK.

Refer to the **AppService.js/NotifyService.js** code in the demo.

```
import UISDKService from 'hwmsdk-electron';  
const os = window.require('os');  
const platform = os.platform();  
const arch = os.arch();  
const path = window.require("path");  
  
let instance = null;  
export default class ApiService {  
  constructor() {  
    if (!instance) {  
      instance = this;  
      // Pass the actual node path to the UISDKService constructor.  
      let _path = (platform == 'darwin' ? './sdk/mac/' : arch == 'x64' ? './sdk/x64/' : './sdk/win32/');  
      let nodePath = path.join(window.__dirname, (_path + "HwmUisdk.node"));  
      console.log("ApiService nodePath", nodePath);  
      this.uisdkService = new UISDKService(nodePath);  
    }  
    return instance;  
  }  
}
```

**Step 6** Call APIs.

For details about the API calling and message notification processing sequence of Huawei Cloud Meeting, see [API Call in Typical Scenarios](#).

JavaScript APIs that can be called by third-party applications are stored in **js/api/**. You can call these APIs by referring to **AppService/ApiService.js** in the demo.

```
import UISDKService from 'hwmsdk-electron';  
const os = window.require('os');  
const platform = os.platform();
```

```
const arch = os.arch();
const path = window.require("path");

let instance = null;
export default class ApiService {
  constructor() {
    if (!instance) {
      instance = this;
      // Pass the actual node path to the UISDKService constructor.
      let _path = (platform == 'darwin' ? './../sdk/mac/' : arch == 'x64' ? './../sdk/x64/' : './../sdk/win32/');
      let nodePath = path.join(window.__dirname, (_path + "HwmUisdk.node"));
      console.log("ApiService nodePath", nodePath);
      this.uisdkService = new UISDKService(nodePath);
    }
    return instance;
  }

  init(initInfo) {
    console.log("init, in param = ", initInfo);
    let ret = this.uisdkService.init(initInfo);
    console.log("init, out data = ", ret);
    return ret;
  }
}
```

### Step 7 Subscribe to event notifications.

JavaScript APIs for subscribing to notifications that can be received by the third-party application are stored in **js/api/**. You can subscribe to these notifications by referring to **AppService/NotifyService.js** in the demo.

```
import UISDKService from 'hwmsdk-electron';
const os = window.require('os');
const platform = os.platform();
const arch = os.arch();
const path = window.require("path");

export default class NotifyService {
  static setNotifyFunc() {

    let _path = (platform == 'darwin' ? './../sdk/mac/' : arch == 'x64' ? './../sdk/x64/' : './../sdk/win32/');
    let nodePath = path.join(window.__dirname, (_path + "HwmUisdk.node"));
    console.log("NotifyService nodePath", nodePath);
    let uisdkService = new UISDKService(nodePath);
    uisdkService.getConfMgrApi().setOnConfListChangedCB(NotifyService.handleOnConfListChanged);
  }

  static handleOnConfListChanged(confListInfo) {
    console.log('OnConfListChanged', ' ', confListInfo = ' ', confListInfo);
    let _confListInfo = window.sessionStorage.getItem("confListInfo");
    _confListInfo = _confListInfo ? JSON.parse(_confListInfo) : [];
    console.log("sessionStorage confList:", _confListInfo);
    let confListNew = confListInfo.confListItem;
    let _data = JSON.stringify(confListNew ? confListNew : []);
    window.sessionStorage.setItem("confListInfo", _data);
  }
}
```

### Step 8 (Optional) Use enumerations provided by the Electron SDK.

You can use the enumeration definitions provided by the Electron SDK for the third-party application, copy **packages/hwmsdk-electron/js/Api/enum.js** and **packages/hwmsdk-electron/types/Api/enum.d.ts** to a directory of the project, and use these enumeration definitions by referring to **packages/hwmsdk-electron-demo/src/Constants/typeOption.js** in the demo.

```
import { MediaType } from "../enum";
```

```
export const MediaTypeOptions = [  
  {  
    value: MediaType.HWM_MEDIA_TYPE_AUDIO,  
    label: "Audio",  
  },  
  {  
    value: MediaType.HWM_MEDIA_TYPE_VIDEO,  
    label: "Video",  
  }  
];
```

----End

## 10.3 Typical Scenarios

This section describes the API call orders and examples of Huawei Cloud Meeting.

### 10.3.1 API Call in Typical Scenarios

#### API Description

Electron SDK APIs are classified into active calling synchronous APIs, active calling asynchronous APIs, and subscription and notification APIs.

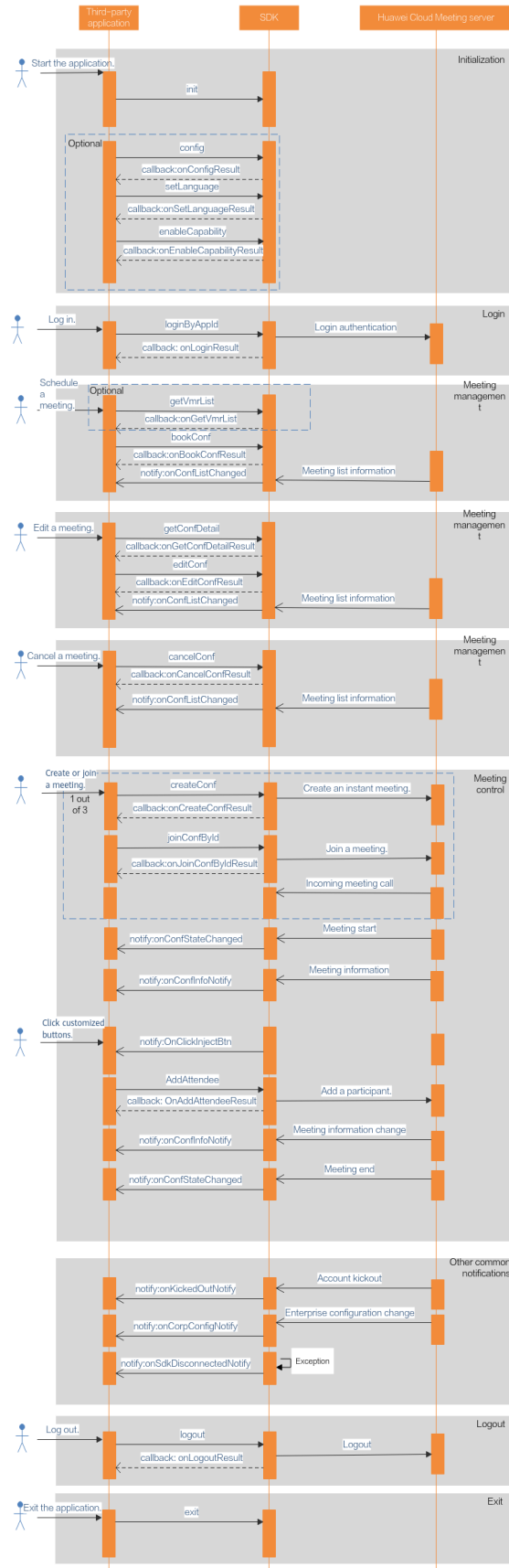
**Active calling synchronous APIs:** The application actively calls these APIs to complete tasks. For example, the **Init** API is called for initialization.

**Active calling asynchronous APIs:** The application actively calls APIs and the SDK processes internal tasks asynchronously. After a task is processed, the SDK notifies the application in API callback mode. For example, the input parameters of the API for creating a meeting include the parameters required for creating a meeting and the **onCreateConfResult** callback function of the meeting creation result.

**Subscription and notification APIs:** For an event notification triggered by the Huawei Cloud Meeting server or SDK, after the corresponding subscription API is called, the SDK notifies the application through the notification API. For example, the **setOnConfListChangedCB** notification API for subscribing to the meeting list.

## API Call in Typical Scenarios

Figure 10-2 API call in typical scenarios



 NOTE

1. Generally, the process needs to be ended before application upgrade. To facilitate upgrade management on the Windows 64-bit platform, change the name of the **HwmSdk.exe** file in the **HwmSdk** folder to your own name before initialization. (Ignore this note if you use other platforms.)
2. Login is not mandatory. You can use the meeting ID and password to join a created meeting without login.
3. The UI of the current SDK provides functions of leaving and ending a meeting. If you do not need to control these functions, you do not need to call APIs for leaving and ending a meeting.
4. After a meeting starts, the **onConflInfoNotify** notification of the subscribed-to meeting details is reported for multiple times.

## 10.3.2 Scenario 1: Initialization

### Description

The initialization API can be called for SDK initialization after a third-party application starts. You only need to call this API once. You must call this API before calling other functional APIs.

### Service Process

During SDK initialization, if the Windows 64-bit platform is used, change the name of the **HwmSdk.exe** file in the **HwmSdk** folder and call the init synchronization API.

#### Step 1 Change the name of the .exe file (only for the Windows 64-bit platform).

Change the name of the **HwmSdk.exe** file in the **HwmSdk** folder to **MySdk.exe**.

#### Step 2 Call the API.

1. Construct the **InitInfo** data structure.
2. Call the **Init** API to initialize the configuration. The data in the preceding step is used as input parameters.

----End

### Sample Code

```
/**
 * Call the initialization API and start the application.
 */
async goToInit() {
  let param = {
    exePath: "E:\\Hello_World\\debug\\win32\\HwmSdk\\MySdk.exe", // Configure the SDK path only for
    the Windows 64-bit platform. Assume that the HwmSdk directory is in E:\\Hello_World\\debug\\win32\\
    and the .exe file name is MySdk.exe. (The path must be encoded using UTF-8.)
    logPath: "E:\\Hello_World\\debug\\win32\\MySdk\\log\\", // Specify the log path. (The path must be
    encoded using UTF-8.)
    userDataPath: "E:\\Hello_World\\debug\\win32\\MySdk\\UserData\\", // Specify the data path. (The
    path must be encoded using UTF-8.)
    appId: getAppId()
  };
  const apiService = new ApiService();
  let setResult = await apiService.init(param);
  if (setResult != 0) {
```

```
        window.electron.ipcRenderer.send("show-error-alert", "init error = " + setResult.ret);
    }
}
/**
 * Definition of init in ApiService
 */
init(initInfo) {
    console.log("init, in param = ", initInfo);
    let ret = this.uisdkService.init(initInfo);
    console.log("init, out data = ", ret);
    return ret;
}
```

#### NOTE

The sample code in the typical scenario and API reference is pseudo code and cannot be directly used.

## 10.3.3 Scenario 2: Login

### Description

You can use an app ID (for details about how to request an app ID, see [Introduction to App ID Authentication](#)) or Huawei Cloud Meeting account to log in to Huawei Cloud Meeting. The API for creating a meeting can be called only when you have logged in. To use complete meeting functions, log in to Huawei Cloud Meeting.

#### NOTE

If you have not logged in, you can only join created meetings.

### Service Process

Take app ID login as an example. Call the **loginByAppId** API and configure the API callback function **onLoginResult** when using the SDK to log in to the app.

#### Step 1 Call the API.

1. Assemble the data structure **AppIdAuthInfo** and the API callback function **onLoginResult**.
2. Call the **loginByAppId** API to log in. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback function.

Implement the **onLoginResult** function.

----End

### Sample Code

```
/**
 * Login
 */
async goToLoginByAppId(){
    /**
     * The data conversion performed by the third-party server is omitted here. The nonce and signature are
     * obtained.
```



```
*/
let param = {
  thirdUserId: getThirdUserId(),
  userName: getUsername(),
  signature: getSignature(),
  nonce: getNonce(),
  expireTime: 1598398920,
  userEmail: getEmail(),
  userPhone: getUserPhone(),
}
const apiService = new ApiService();
let setResult = await apiService.loginByAppId(param);
if(setResult.ret == 0){
  this.props.history.push('/main');
}else{
  window.electron.ipcRenderer.send("show-error-alert", "loginByAppId error = " + setResult.ret);
}
}
```

```
/**
 * Definition of loginByAppId API in ApiService
 */
async loginByAppId(appIdAuthInfo) {
  return new Promise((resolve) => {
    let resultCallback = (ret, reason, loginResult) => {
      console.log("loginByAppId, out data = ", { ret, reason, loginResult });
      resolve({ ret, reason, loginResult });
    };
    console.log("loginByAppId, in param = ", appIdAuthInfo);
    this.uisdkService.getLoginApi().loginByAppId(appIdAuthInfo, resultCallback);
  });
}
```

## 10.3.4 Scenario 3: Scheduling a Meeting

### Description

After logging in to Huawei Cloud Meeting using an account, you can schedule a meeting. When scheduling the meeting, you can add participants in addition to setting mandatory meeting parameters.

### Service Process

Call the **bookConf** API to schedule a meeting and implement the API callback function **onBookConfResult** and the subscribed-to notification **onConfListChanged**.

To schedule a meeting using a personal meeting ID or a cloud meeting room, call the **getVmrList** API to query the personal meeting ID and cloud meeting room information, and then process the data returned by the **onGetVmrListResult** function. The data can be used to schedule the meeting.

#### Step 1 Call the API.

1. Assemble the data structure **BookConfParam** (including **Array<AttendeeBaseInfo>** in the structure) and the API callback function **onBookConfResult**.
2. Call the **bookConf** API to schedule a meeting. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback function.

Implement the **onBookConfResult** function.

### Step 3 Implement the notification function.

Implement the **onConfListChanged** function.

----End

## Sample Code

```
/**
 * Schedule a meeting.
 */
async goToBookConf() {
  let _attendees = [{
    nickName: "Mike",
    number: "+991116003543",
    email: "",
    sms: "",
    thirdUserId: "",
    isMute: true,
    isAutoInvite: true,
  }];
  let param = {
    startTime: 1598398920; // UTC timestamp, in seconds. If the obtained time is the local time, the time
    needs to be converted to the UTC time.
    duration: 30; // Meeting duration, in minutes.
    isSendCalendar: true,
    confCommonParam: {
      subject: "My Scheduled Meeting", // The value must be a UTF-8 character string.
      mediaType: MediaType.HWM_MEDIA_TYPE_VIDEO,
      needPassword: true,
      timezone: 56, // Time zone. 56 indicates GMT+08:00.
      confAllowJoinUser: ConfAllowJoinUserType.CONF_ALLOW_JOIN_ANYONE,
      isSendSms: true,
      isSendEmail: true,
      attendees: _attendees,
      isAutoRecord: false, // By default, automatic recording is disabled.
    }
  }
  const apiService = new ApiService();
  let setResult = await apiService.bookConf(param);
  if (setResult.ret != 0) {
    window.electron.ipcRenderer.send("show-error-alert", "bookConf error = " + setResult.ret);
  }
}
```

```
/**
 * Definition of bookConf API in ApiService
 */
async bookConf(bookConfParam) {
  return new Promise((resolve) => {
    let resultCallback = (ret, reason, confDetail) => {
      console.log("bookConf, out data = ", { ret, reason, confDetail });
      resolve({ ret, reason, confDetail });
    };
    console.log("bookConf, in param = ", bookConfParam);
    this.uisdkService.getConfMgrApi().bookConf(bookConfParam, resultCallback);
  });
}
```

```
/**
 * Subscribe to the onConfListChanged notification of the meeting list information.
 */
uisdkService.getConfMgrApi().setOnConfListChangedCB(NotifyService.handleOnConfListChanged);
/**
```

```
* Definition of handleOnConfListChanged in NotifyService
*/
static handleOnConfListChanged(confListInfo) {
  console.log('OnConfListChanged', ' ', confListInfo = ' ', confListInfo);
  let _confListInfo = window.sessionStorage.getItem("confListInfo");
  _confListInfo = _confListInfo ? JSON.parse(_confListInfo) : [];
  console.log("sessionStorage confList:", _confListInfo);
  let confListNew = confListInfo.confListItem;
  let _data = JSON.stringify(confListNew ? confListNew : []);
  window.sessionStorage.setItem("confListInfo", _data);
}
```

## 10.3.5 Scenario 4: Editing a Meeting

### Description

After a meeting is scheduled, you can use the meeting modification API to edit the meeting details and add participants.

### Service Process

To edit a meeting after the meeting list is obtained, call the **getConfDetail** API to query the meeting details, process the details in the API callback **onGetConfDetailResult**, call the **editConf** API to modify the meeting details, and implement the API callback function **onEditConfResult** and the subscribed-to **onConfListChanged** notification.

#### Step 1 Obtain meeting details.

1. Assemble the data structure **GetConfDetailParam** and the API callback function **onGetConfDetailResult**.
2. Call the **GetConfDetail** API. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback function.

Implement the **onGetConfDetailResult** function to obtain the meeting details.

#### Step 3 Call the API for editing the meeting.

1. Use the data obtained in step 2 to assemble the data structure **EditConfParam** (including **Array<AttendeeBaseInfo>** in the structure) and the callback function **onEditConfResult**.
2. Call the **editConf** API. The data in the preceding step is used as input parameters.

#### Step 4 Implement the callback function.

Implement the **onEditConfResult** function.

#### Step 5 Implement the notification function.

Implement the **onConfListChanged** function.

----End

### Sample Code

```
/**
 * Obtain meeting details.
```

```
*/
async getConfInfoById(confId) {
  let param = {
    confId: "989156631",
  }
  const apiService = new ApiService();
  let setResult = await apiService.getConfDetail(param);
  if (setResult.ret === 0) {
    let _data = setResult.confDetail;
    console.log("confDetail:", _data);
    // The code for caching meeting details is omitted here.
  } else {
    window.electron.ipcRenderer.send("show-error-alert", "getConfDetail error = " + setResult.ret);
  }
}
```

```
/**
 * Definition of getConfDetail API in ApiService
 */
async getConfDetail(getConfDetailParam) {
  return new Promise((resolve) => {
    let resultCallback = (ret, reason, confDetail) => {
      console.log("getConfDetail, out data = ", { ret, reason, confDetail });
      resolve({ ret, reason, confDetail });
    };
    console.log("getConfDetail, in param = ", getConfDetailParam);
    this.uisdkService.getConfMgrApi().getConfDetail(getConfDetailParam, resultCallback);
  });
}
```

```
/**
 * Edit a meeting.
 */
async editConf() {
  // According to the cache, meeting details are stored in state. Obtain meeting details from state.
  let { confId, subject, startTime, duration, mediaType, needPassword, timezone, vmrFlag, vmrId,
  confAllowJoinUser, isSendSms, isSendEmail,
  isSendCalendar, attendees, isAutoRecord, isOpenWaitingRoom, vmrConfId } = this.state;
  let _attendees = attendees ? JSON.parse(attendees) : "";
  let param = {
    confId: confId,
    startTime: 1598398920, // UTC timestamp.
    duration: 0 * 60 + 30, // Meeting duration.
    isSendCalendar: isSendCalendar,
    confCommonParam: {
      subject: subject,
      mediaType: mediaType,
      needPassword: needPassword,
      timezone: 56, // Local time zone. The value 56 indicates GMT+08:00.
      vmrId: vmrId,
      vmrConfIdType: (vmrConfId !== "") ? 0 : 1,
      confAllowJoinUser: ConfAllowJoinUserType.CONF_ALLOW_JOIN_ANYONE, // Obtain the type of
users allowed to join the meeting.
      isSendSms: isSendSms,
      isSendEmail: isSendEmail,
      attendees: _attendees,
      isAutoRecord: false; // By default, automatic recording is disabled.
      isOpenWaitingRoom: isOpenWaitingRoom,
    }
  }
  const apiService = new ApiService();
  let setResult = await apiService.editConf(param);
  if (setResult.ret !== 0) {
    window.electron.ipcRenderer.send("show-error-alert", "editConf error = " + setResult.ret);
  }
}
/**
 * Definition of editConf API in ApiService
```

```
*/
async editConf(editConfParam) {
  return new Promise((resolve) => {
    let resultCallback = (ret, reason) => {
      console.log("editConf, out data = ", { ret, reason });
      resolve({ ret, reason });
    };
    console.log("editConf, in param = ", editConfParam);
    this.usdkService.getConfMgrApi().editConf(editConfParam, resultCallback);
  });
}
```

#### NOTE

The **onConfListChanged** event notification scenario is the same as the meeting scheduling scenario. For details, see [Sample Code](#).

## 10.3.6 Scenario 5: Canceling a Meeting

### Description

After a meeting is scheduled, you can call the API of canceling a meeting to cancel the meeting.

### Service Process

To cancel a meeting, call the **cancelConf** API and implement the callback function **onCancelConfResult** and the subscribed-to notification **onConfListChanged**.

#### Step 1 Call an API.

1. Assemble the data structure **CancelConfParam** and the API callback function **onCancelConfResult**.
2. Call the **cancelConf** API to cancel the meeting. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback function.

Implement the **onCancelConfResult** function.

#### Step 3 Implement the notification function.

Implement the **onConfListChanged** function.

----End

### Sample Code

```
/**
 * API for canceling a meeting
 */
async cancelConfById() {
  let param = {
    confId: "989156631",
  }
  console.log(param);
  const apiService = new ApiService();
  let setResult = await apiService.cancelConf(param);
  if (setResult.ret != 0) {
    window.electron.ipcRenderer.send("show-error-alert", "cancelConf error = " + setResult.ret);
  }
  this.props.history.push('/main');
}
```

```
/**
 * Definition of cancelConf API in ApiService
 */
async cancelConf(cancelConfParam) {
  return new Promise((resolve) => {
    let resultCallback = (ret, reason) => {
      console.log("cancelConf, out data = ", { ret, reason });
      resolve({ ret, reason });
    };
    console.log("cancelConf, in param = ", cancelConfParam);
    this.uisdkService.getConfMgrApi().cancelConf(cancelConfParam, resultCallback);
  });
}
```

#### NOTE

The **onConfListChanged** event notification scenario is the same as the meeting scheduling scenario. For details, see [Sample Code](#).

## 10.3.7 Scenario 6: Creating a Meeting

### Description

After logging in to Huawei Cloud Meeting using an account, you can start an instant meeting. Participant information is optional.

### Service Process

To create a meeting using a personal meeting ID or cloud meeting room, call the **getVmrList** API to query the personal meeting ID and cloud meeting room information, and then process the data returned by the **onGetVmrListResult** function. The data can be used to create the meeting.

When using the SDK to create an instant meeting, call the **createConf** API and implement the API callback function **onCreateConfResult** and subscribed-to notifications **onConfStateChanged** and **onConfInfoNotify**.

#### Step 1 Call the API.

1. Assemble the data structure **CreateConfInfo** (including **Array<AttendeeBaseInfo>** in the structure, which is optional) and the API callback function **onCreateConfResult**.
2. Call the **createConf** API to create a meeting. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback function.

Implement the **onCreateConfResult** function.

#### Step 3 Implement the notification function.

Implement the **onConfStateChanged** function.

#### Step 4 Implement the notification function.

Implement the **onConfInfoNotify** function.

#### Step 5 Implement the notification function.

Implement the **onConfListChanged** function.

----End

## Sample Code

```
/**
 * Create a meeting.
 */
async goToCreateConf() {
  let param = {
    subject: "My Meeting",
    mediaType: MediaType.HWM_MEDIA_TYPE_VIDEO,
    needPassword: true,
    confAllowJoinUser: ConfAllowJoinUserType.CONF_ALLOW_JOIN_ANYONE,
    isMicOn: true, // The microphone is enabled by default after a user joins the meeting.
    isCameraOn: false, // The camera is disabled by default after a user joins the meeting.
  }
  const apiService = new ApiService();
  let setResult = await apiService.createConf(param);
  if (setResult.ret != 0) {
    window.electron.ipcRenderer.send("show-error-alert", "createConf error = " + setResult.ret);
  }
}
/**
 * Definition of createConf API in ApiService
 */
async createConf(createConfInfo) {
  return new Promise((resolve) => {
    let resultCallback = (ret, reason, createConfResult) => {
      console.log("createConf, out data = ", { ret, reason, createConfResult });
      resolve({ ret, reason, createConfResult });
    };
    console.log("createConf, in param = ", createConfInfo);
    this.uidkService.getConfCtrlApi().createConf(createConfInfo, resultCallback);
  });
}
```

### NOTE

Parameters, such as the meeting topic and participant name, in Electron SDK APIs must be encoded in UTF-8. Otherwise, an error will be reported.

```
/**
 * Subscribe to the meeting status notification onConfStateChanged.
 */
uidkService.getConfCtrlApi().setOnConfStateChangedCB(NotifyService.handleOnConfStateChanged);
/**
 * Definition of handleOnConfStateChanged in NotifyService
 */
static handleOnConfStateChanged(confStateInfo) {
  console.log('OnConfStateChanged', ' ', confStateInfo = ' ', confStateInfo);
}
```

```
/**
 * Subscribe to the meeting message notification onConfInfoNotify
 */
uidkService.getConfCtrlApi().setOnConfInfoNotifyCB(NotifyService.handleOnConfInfoNotify);
/**
 * Definition of handleOnConfInfoNotify in NotifyService
 */
static handleOnConfInfoNotify(confInfo) {
  console.log('OnConfInfoNotify', ' ', confInfo = ' ', confInfo);
}
```

 NOTE

The **onConfListChanged** event notification scenario is the same as the meeting scheduling scenario. For details, see [Sample Code](#).

Character strings in Electron SDK callback functions or message notifications are encoded in UTF-8.

## 10.3.8 Scenario 7: Joining a Meeting

### Description

You can call this API to join a meeting using a meeting ID and password regardless of whether you have logged in to Huawei Cloud Meeting or not.

### Service Process

When using the SDK to join an existing meeting, call the **joinConfById** API and implement the API callback function **onJoinConfByIdResult** and subscribed-to message notifications **onConfStateChanged** and **onConfInfoNotify**.

#### Step 1 Call the API.

1. Assemble the data structure **JoinConfByIdInfo** and the API callback function **onJoinConfByIdResult**.
2. Call the **joinConfById** API. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback function.

Implement the **onJoinConfByIdResult** function.

#### Step 3 Implement the notification function.

Implement the **onConfStateChanged** function.

#### Step 4 Implement the notification function.

Implement the **onConfInfoNotify** function.

----End

### Sample Code

```
async goToJoinConfById() {
  let { confId, password, nickName, isSpeakerOff, isMicOn, isCameraOn } = this.state;
  let param = {
    confId: "989156631",
    password: "*****",
    nickName: "Hangzhou site",
    isSpeakerOff: false, // The speaker is not muted by default after a user joins the meeting.
    isMicOn: true, // The microphone is enabled by default after a user joins the meeting.
    isCameraOn: false, // The camera is disabled by default after a user joins the meeting.
  }
  const apiService = new ApiService();
  let setResult = await apiService.joinConfById(param);
  if(setResult.ret != 0){
    window.electron.ipcRenderer.send("show-error-alert", "joinConfById error = " + setResult.ret);
  }
}
/**
 * Definition of joinConfById API in ApiService
```



```
*/
async joinConfById(joinConfByIdInfo) {
  return new Promise((resolve) => {
    let resultCallback = (ret, reason) => {
      console.log("joinConfById, out data = ", { ret, reason });
      resolve({ ret, reason });
    };
    console.log("joinConfById, in param = ", joinConfByIdInfo);
    this.uisdkService.getConfCtrlApi().joinConfById(joinConfByIdInfo, resultCallback);
  });
}
```

#### NOTE

The **onConfStateChanged** and **onConfInfoNotify** event notification scenarios are the same as the meeting creation scenario. For details, see [Scenario 6: Creating a Meeting](#).

## 10.3.9 Scenario 8: Joining a Meeting by Clicking a Link in an Email

### Description

You can use a meeting link (for example, <https://bmeeting.huaweicloud.com/#/j/981924330/e11ddec62ee760734fcf2ba55b79937eac2aa68677caf659>) in the notification email to join a meeting. The link contains the meeting ID (981924330) and random code (e11ddec62ee760734fcf2ba55b79937eac2aa68677caf659).

You can call this API to join a meeting using the meeting ID and 48-digit value (random code) mapping to the password in the meeting link before or after logging in to Huawei Cloud Meeting.

### Service Process

When using the SDK to join an existing meeting, call the **joinConfByRandom** API and implement the API callback function **onJoinConfByRandomResult** and subscribed-to message notifications **onConfStateChanged** and **onConfInfoNotify**.

#### Step 1 Call the API.

1. Assemble the data structure **JoinConfByRandomInfo** and callback function **onJoinConfByRandomResult**.
2. Call the **joinConfByRandom** API to join the meeting. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback function.

Implement the **onJoinConfByRandomResult** function.

#### Step 3 Implement the notification function.

Implement the **onConfStateChanged** function.

#### Step 4 Implement the notification function.

Implement the **onConfInfoNotify** function.

----End

## Sample Code

```
// Join a meeting using the meeting ID and random code.
async goToJoinConfByRandom(){
  let { confId, random, nickName, isSpeakerOff, isMicOn, isCameraOn } = this.state;
  let param = {
    confId: "988148352",
    random: "c4f92bc34e685bbba6c23589741be0431997f30da5d6e47b",
    nickName: "Hangzhou site",
    isSpeakerOff: false, // The speaker is not muted by default after a user joins the meeting.
    isMicOn: true, // The microphone is enabled by default after a user joins the meeting.
    isCameraOn: false, // The camera is disabled by default after a user joins the meeting.
  }
  const apiService = new ApiService();
  let setResult = await apiService.joinConfByRandom(param);
  if(setResult.ret != 0){
    window.electron.ipcRenderer.send("show-error-alert", "joinConfByRandom error = " + setResult.ret);
  }
}

/**
 * Definition of joinConfByRandom API in ApiService
 */
async joinConfByRandom(joinConfByRandomInfo) {
  return new Promise((resolve) => {
    let resultCallback = (ret, reason) => {
      console.log("joinConfByRandom, out data = ", { ret, reason });
      resolve({ ret, reason });
    };
    console.log("joinConfByRandom, in param = ", joinConfByRandomInfo);
    this.uisdkService.getConfCtrlApi().joinConfByRandom(joinConfByRandomInfo, resultCallback);
  });
}
```

### NOTE

The **onConfStateChanged** and **onConfInfoNotify** event notification scenarios are the same as the meeting creation scenario. For details, see [Scenario 6: Creating a Meeting](#).

The 48-digit value mapping to the password is a part of the character string carried in the link for sharing a meeting.

<https://bmeeting.huaweicloud.com/#/j/987297025/227b2d708b7e5a24ce8de2159772239b1672c0a85ba70d85>

## 10.3.10 Scenario 9: Adding Participants

### Description

You can call the API for adding participants during a meeting.

### Service Process

When using the SDK to add participants, call the **addAttendee** API and implement the API callback function **onAddAttendeeResult**.

#### Step 1 Call the API.

1. Assemble the data structure **AddAttendeeInfo** and the API callback function **onAddAttendeeResult**.
2. Call the **addAttendee** API. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback function.

Implement the **onAddAttendeeResult** function.

----End

## Sample Code

```
/**
 * Add a participant.
 */
async goToAddAttendee() {
  let _attendees = [{
    nickName: "Mike",
    number: "+991116003543"
  }];
  let param = {
    attendees: _attendees
  }
  const apiService = new ApiService();
  let setResult = await apiService.addAttendee(param);
  if(setResult.ret != 0){
    window.electron.ipcRenderer("show-error-alert", "addAttendee error = " + setResult.ret);
  }
}
/**
 * Definition of getConfigDetail API in ApiService
 */
async addAttendee(addAttendeeInfo) {
  return new Promise((resolve) => {
    let resultCallback = (ret, reason) => {
      console.log("addAttendee, out data = ", { ret, reason });
      resolve({ ret, reason });
    };
    console.log("addAttendee, in param = ", addAttendeeInfo);
    this.uidkService.getConfigCtrlApi().addAttendee(addAttendeeInfo, resultCallback);
  });
}
```

## 10.3.11 Scenario 10: Customizing the Invite Button in a Meeting

### Description

In most scenarios where the SDK is used for secondary development, third-party applications do not use the corporate directory provided by Huawei Cloud Meeting. Therefore, the page for inviting participants only provides a button and does not provide the complete function of inviting participants. You must implement the function by yourself.

### Service Process

When using the SDK to implement the participant invitation function, call the **config** API, implement the API callback function **onConfigResult** and implement the subscribed-to message notification **onClickInjectBtnNotify** after the **Invite** button is clicked in a meeting.

#### Step 1 Call an API.

1. Assemble the character string containing the configuration information and the API callback function **onConfigResult**.
2. Call the **config** API. The data in the preceding step is used as input parameters.

**Step 2 Implement the callback function.**

Implement the **onConfigResult** function.

**Step 3 Implement the notification function.**

After the **Invite** button is clicked, implement the subscribed-to message notification **onClickInjectBtnNotify**.

----End

**Sample Code**

```
/**
 * Configure the Invite button.
 */
async setInvite(){
  let param = {
    "frame": {
      "confMenu": {
        "toolBar": {
          "button": [{
            "buttonId": "invite",
            "showAsAction": "ifRoom",
            "isCustomizedClick": true
          }]
        }
      }
    }
  }
  const apiService = new ApiService();
  let setResult = await apiService.config(JSON.stringify(param));
  if(setResult.ret != 0){
    window.electron.ipcRenderer.send("show-error-alert", "config error = " + setResult.ret);
  }
}

/**
 * Definition of config API in ApiService
 */
async config(uiConfig) {
  return new Promise((resolve) => {
    let resultCallback = (ret, reason) => {
      console.log("config, out data = ", { ret, reason });
      resolve({ ret, reason });
    };
    console.log("config, in param = ", uiConfig);
    this.uisdkService.getUIConfigApi().config(uiConfig, resultCallback);
  });
}
```

```
/**
 * Subscribe to the button click notification onClickInjectBtnNotify.
 */
uisdkService.getUIConfigApi().setOnClickInjectBtnNotifyCB(NotifyService.handleOnClickInjectBtnNotify);

/**
 * Definition of handleOnClickInjectBtnNotify in NotifyService
 */
static handleOnClickInjectBtnNotify(injectBtnInfo) {
  console.log('OnClickInjectBtnNotify', injectBtnInfo);
  switch (injectBtnInfo.injectBtn) {
    // Send a notification after the Invite button is clicked.
    case ClickInjectBtn.HWM_CLICK_INJECT_BTN_INVITE:
      // Display the screen for adding participants.
      window.location.hash = "#/confCtrlPage/addAttendee";
      window.electron.ipcRenderer.send('show-add-attendee-window');
      break;
  }
}
```

```
    default:
      break;
  }
}
```

## 10.3.12 Scenario 11: Logout

### Description

You can call this API to log out of Huawei Cloud Meeting.

### Service Process

When using the SDK to log out, call the **logout** API and implement the API callback function **onLogoutResult**.

#### Step 1 Call the API.

1. Assemble the API callback function **onLogoutResult**.
2. Call the **Logout** API to log out. The data in the preceding step is used as input parameters.

#### Step 2 Implement the callback function.

Implement the **onLogoutResult** function.

----End

### Sample Code

```
/**
 * Log out.
 */
async Logout(){
  const apiService = new ApiService();
  let setResult = await apiService.logout();
  if(setResult.ret === 0){
    console.log("logoutresult:", setResult.logoutResult);
    window.sessionStorage.setItem("confListInfo", "");
    this.props.history.push('/');
  }else{
    window.electron.ipcRenderer.send("show-error-alert", "logout error = " + setResult.ret);
  }
}
```

```
/**
 * Definition of logout API in ApiService
 */
async logout() {
  return new Promise((resolve) => {
    let resultCallback = (ret, reason, logoutResult) => {
      console.log("logout, out data = ", { ret, reason, logoutResult });
      resolve({ ret, reason, logoutResult });
    };
    console.log("logout, in param = ");
    this.uidsdkService.getLoginApi().logout(resultCallback);
  });
}
```

## 10.3.13 Scenario 12: Exit

### Description

When a third-party application exits the SDK, the SDK needs to be deinitialized. Otherwise, the **HwmSdk.exe** process (main process of the Electron SDK on the Windows 64-bit platform) is still running in the background. This scenario applies only to the 64-bit Windows platform.

### Service Process

To exit the SDK, call the **Exit** synchronization API.

#### Step 1 Call an API.

1. Call the **Exit** API to exit the SDK.

----End

### Sample Code

```
/**
 * Exit the SDK.
 */
async exitSdk(){
  const apiService = await new ApiService();
  let setResult = await apiService.exit();
  if(setResult != 0){
    window.electron.ipcRenderer.send("show-error-alert", "exit error = " + setResult);
  }
}

/**
 * Definition of exit API in ApiService
 */
exit() {
  console.log("exit, in param = ");
  let ret = this.uisdkService.exit();
  console.log("exit, out data = ", ret);
  return ret;
}
```

## 10.4 APIs

### 10.4.1 UISDK API Management Objects

UISDK API management objects

#### 10.4.1.1 Initializing the SDK

### Function

This API is used to start and initialize the SDK. 1. Before calling this API, modify the name of the **HwmSdk.exe** file in the **HwmSdk** folder. 2. Before calling other APIs, you must call this API and wait for the initialization callback result. 3. Each time the initialization API is called, the SDK is restarted and all the previous settings and operations do not exist.

## Function Prototype

init(initInfo: InitInfo): SDKERR

## Request Parameters

**Table 10-1** Input parameter description

| Parameter | Mandatory | Type     | Description                 |
|-----------|-----------|----------|-----------------------------|
| initInfo  | Yes       | InitInfo | Initialization information. |

**Table 10-2** InitInfo

| Parameter    | Mandatory | Type   | Description   |
|--------------|-----------|--------|---|
| exePath      | Yes       | string | SDK startup path, that is, the absolute path of the .exe file in the <b>HwmSdk</b> folder of the SDK package. Before calling this API, change the name of the <b>HwmSdk.exe</b> file in the <b>HwmSdk</b> folder of the SDK package to your desired name. Assume that the path of the <b>HwmSdk</b> folder is <b>D:\MyApp\SDK\HwmSdk\</b> and the name of the .exe file is <b>MySdk.exe</b> . Then set this parameter to <b>D:\MyApp\SDK\HwmSdk\MySdk.exe</b> . UTF-8 encoding is required. (This parameter is valid only for the Windows 64-bit platform.) |
| logPath      | Yes       | string | SDK log path. If this parameter is not set, the default path is used. UTF-8 encoding is required.   |
| userDataPath | Yes       | string | SDK user data path. If this parameter is not set, the default path is used. UTF-8 encoding is required. (This parameter is valid only for the Windows platform.)  |
| appld        | Yes       | string | App ID. For details about how to request an app ID, see section "Introduction to App ID Authentication."  |

| Parameter              | Mandatory | Type     | Description   |
|------------------------|-----------|----------|---|
| siteType               | No        | SiteType | Site type. The default value is <b>0</b> , indicating that Chinese mainland site is used.   |
| logKeepDays            | No        | number   | Log storage duration. Valid value range is 3–30. The default value is <b>0</b> . <b>0</b> indicates that logs are not deleted by day. <b>1</b> and <b>2</b> will be converted to <b>3</b> , and values greater than 30 will be converted to <b>30</b> .   |
| preferredCamera        | No        | string   | Preferred camera list. After this parameter is set, the first available camera is selected based on the sequence in the list when the camera is opened for the first time. This parameter can be left empty. If it is left empty, available cameras are enabled in the default sequence. (This parameter is valid only for the Windows platform.) |
| appUrl                 | No        | string   | Download link on the official website (valid only for the macOS platform).  |
| isSupportMultiAppLogin | Yes       | boolean  | Whether to support login to multiple applications on the same device.   |

**Table 10-3** Enumerated values of SiteType

| Enumeration Name    | Enumerated Value | Description       |
|---------------------|------------------|-------------------|
| HWM_SITE_TYPE_CHINA | 0                | Chinese mainland. |
| HWM_SITE_TYPE_AP    | 1                | Asia Pacific.     |

## Return Values

For details about **SDKERR**, see [Error Code Reference](#).



### 10.4.1.2 Exiting the SDK

#### Function

This API is used to exit the SDK. 1. After this API is called, the SDK cannot be used. 2. Call this API when exiting the application. If this API is not called, the SDK process still exists after the application exits. 3. Call this API in the process killing scenario on macOS.

#### Function Prototype

`exit(): SDKERR`

#### Return Values

For details about **SDKERR**, see [Error Code Reference](#).

### 10.4.1.3 Obtaining a Login Service Object

#### Function

This API is used to obtain a login service object.

#### Function Prototype

`getLoginApi(): ILogin`

#### Return Values

`ILogin`

### 10.4.1.4 Obtaining a Meeting Control Service Object

#### Function

This API is used to obtain a meeting control service object.

#### Function Prototype

`getConfCtrlApi(): IConfCtrl`

#### Return Values

`IConfCtrl`

### 10.4.1.5 Obtaining a Meeting Management Service Object

#### Function

This API is used to obtain a meeting management service object.

## Function Prototype

```
getConfMgrApi(): IConfMgr
```

## Return Values

IConfMgr

### 10.4.1.6 Obtaining a Configuration Service Object

#### Function

This API is used to obtain a configuration service object.

#### Function Prototype

```
getConfigApi(): IConfig
```

#### Return Values

IConfig

### 10.4.1.7 Obtaining a UI Configuration Service Object

#### Function

This API is used to obtain a UI configuration service object.

#### Function Prototype

```
getUIConfigApi(): IUIConfig
```

#### Return Values

IUIConfig

### 10.4.1.8 Subscribing to Disconnection Notifications

#### Function

A notification is sent when the SDK is disconnected.

#### Function Prototype

```
setOnSdkDisconnectedNotifyCB(onSdkDisconnectedNotify: () => void):  
voidsetOnSdkDisconnectedNotifyCB(onSdkDisconnectedNotify: () => void): void
```

## Request Parameters

**Table 10-4** Input parameter description

| Parameter               | Mandatory | Type       | Description                                     |
|-------------------------|-----------|------------|---|
| onSdkDisconnectedNotify | Y         | () => void | Notification sent when the SDK is disconnected. |

## Return Values

void

## 10.4.2 Login Management Objects

Login management objects

### 10.4.2.1 Subscribing to Login Kickout Notifications

#### Function

A notification is sent when you were kicked out of this account by another device. In this case, you need to log in again.

#### Function Prototype

```
setOnKickedOutNotifyCB(onKickedOutNotify: () => void):  
voidsetOnKickedOutNotifyCB(onKickedOutNotify: () => void): void
```

## Request Parameters

**Table 10-5** Input parameter description

| Parameter         | Mandatory | Type       | Description  |
|-------------------|-----------|------------|--|
| onKickedOutNotify | Yes       | () => void | Notifies you when you were kicked out of this account by another device. In this case, you need to log in again. |

## Return Values

void

### 10.4.2.2 Subscribing to Enterprise Configuration Notifications

#### Function

A notification is sent when the enterprise configuration is changed.

## Function Prototype

```
setOnCorpConfigNotifyCB(onCorpConfigNotify: (configInfo: CorpConfigInfo) => void): void
setOnCorpConfigNotifyCB(onCorpConfigNotify: (configInfo: CorpConfigInfo) => void): void
```

## Request Parameters

**Table 10-6** Input parameter description

| Parameter          | Mandatory | Type                                 | Description  |
|--------------------|-----------|--------------------------------------|--|
| onCorpConfigNotify | Yes       | (configInfo: CorpConfigInfo) => void | A notification is sent when the enterprise configuration is changed. |

## Return Values

void

## Notification Method Parameters

```
(configInfo: CorpConfigInfo) => void
```

**Table 10-7** Input parameter description

| Parameter  | Type           | Description                |
|------------|----------------|----------------------------|
| configInfo | CorpConfigInfo | Configuration information. |

**Table 10-8** CorpConfigInfo

| Parameter                | Type    | Description  |
|--------------------------|---------|--|
| pstnEnable               | boolean | Whether to support mobile phone calls.   |
| smsEnable                | boolean | Whether to support SMS notifications.  |
| recordEnable             | boolean | Whether to support meeting recording.  |
| pstnNumber               | string  | PSTN call number.  |
| allowGuestStart-Conf     | boolean | Whether to allow guests to start the meeting in advance.   |
| allowGuestStart-ConfTime | number  | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance. |

| Parameter                      | Type    | Description   |
|--------------------------------|---------|---|
| enableShowAddressBookStructure | boolean | Whether to display the corporate directory (valid only for the Windows client). |
| corpEnableSummary              | boolean | Whether meeting minutes are supported (valid only for the Windows client).      |

### 10.4.2.3 Subscribing to Login Error Notifications

#### Function

A notification is sent when login failed.

#### Function Prototype

```
setOnLoginErrorNotifyCB(onLoginErrorNotify: (ret: SDKERR, reason: string) => void): void  
setOnLoginErrorNotifyCB(onLoginErrorNotify: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

Table 10-9 Input parameter description

| Parameter          | Mandatory | Type                                  | Description                     |
|--------------------|-----------|---------------------------------------|---------------------------------|
| onLoginErrorNotify | Yes       | (ret: SDKERR, reason: string) => void | Notifies you when login failed. |

#### Return Values

void

#### Notification Method Parameters

(ret: SDKERR, reason: string) => void

Table 10-10 Input parameter description

| Parameter | Type   | Description |
|-----------|--|-------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code. |

| Parameter | Type   | Description        |
|-----------|--------|--------------------|
| reason    | string | Error description. |

## 10.4.2.4 Subscribing to Shared Cloud Meeting Room Changes

### Function

A notification is sent when information about shared cloud meeting rooms was changed.

### Function Prototype

```
setOnShareVmrInfoNotifyCB(onShareVmrInfoNotify: (shareVmrInfo:
ShareVmrInfo) => void): void
setOnShareVmrInfoNotifyCB(onShareVmrInfoNotify:
(shareVmrInfo: ShareVmrInfo) => void): void
```

### Request Parameters

**Table 10-11** Input parameter description

| Parameter            | Mandatory | Type                                 | Description   |
|----------------------|-----------|--------------------------------------|---|
| onShareVmrInfoNotify | Yes       | (shareVmrInfo: ShareVmrInfo) => void | Notifies you when information about shared cloud meeting rooms was changed. |

### Return Values

void

### Notification Method Parameters

(shareVmrInfo: ShareVmrInfo) => void

**Table 10-12** Input parameter description

| Parameter    | Type         | Description                                   |
|--------------|--------------|---|
| shareVmrInfo | ShareVmrInfo | Information about shared cloud meeting rooms. |

**Table 10-13** ShareVmrInfo

| Parameter         | Type    | Description                                       |
|-------------------|---------|---|
| isEnabledShareVmr | boolean | Whether shared cloud meeting rooms are available. |

## 10.4.2.5 Account and Password Login

### Function

This API is used to log in to the system using an account and password. You must log in to Huawei Cloud Meeting before using functions such as creating meetings and being invited into meetings. If you do not log in, you cannot experience complete meeting functions.

### Function Prototype

```
loginByAccount(accountAuthInfo: AccountAuthInfo, onLoginResult?: (ret: SDKERR, reason: string, loginResult: LoginResult) => void):  
voidloginByAccount(accountAuthInfo: AccountAuthInfo, onLoginResult?: (ret: SDKERR, reason: string, loginResult: LoginResult) => void): void
```

### Request Parameters

**Table 10-14** Input parameter description

| Parameter       | Mandatory | Type  | Description                                      |
|-----------------|-----------|---|--|
| accountAuthInfo | Yes       | AccountAuthInfo   | Account and password authentication information. |
| onLoginResult   | Yes       | (ret: SDKERR, reason: string, loginResult: LoginResult) => void | Login callback.                                  |

**Table 10-15** AccountAuthInfo

| Parameter | Mandatory | Type   | Description     |
|-----------|-----------|--------|-----------------|
| account   | Yes       | string | Login account.  |
| password  | Yes       | string | Login password. |

### Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, loginResult: LoginResult) => void

**Table 10-16** Input parameter description

| Parameter   | Type   | Description        |
|-------------|--|--------------------|
| ret         | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason      | string   | Error description. |
| loginResult | LoginResult  | Login result.      |

**Table 10-17** LoginResult

| Parameter        | Type    | Description  |
|------------------|---------|--|
| userId           | string  | UUID, which is the unique user ID allocated by the system. |
| account          | string  | Account.   |
| thirdAccount     | string  | Third-party account.                                       |
| basicCallAbility | boolean | Whether the point-to-point call capability is available.   |

### 10.4.2.6 App ID Login

#### Function

This API is used to log in to the system using an app ID. You must log in to Huawei Cloud Meeting before using functions such as creating meetings and being invited into meetings. If you do not log in, you cannot experience complete meeting functions.

#### Function Prototype

```
loginByAppId(appIdAuthInfo: AppIdAuthInfo, onLoginResult?: (ret: SDKERR, reason: string, loginResult: LoginResult) => void): void  
loginByAppId(appIdAuthInfo: AppIdAuthInfo, onLoginResult?: (ret: SDKERR, reason: string, loginResult: LoginResult) => void): void
```



## Request Parameters

**Table 10-18** Input parameter description

| Parameter     | Mandatory | Type  | Description                        |
|---------------|-----------|---|------------------------------------|
| appldAuthInfo | Yes       | AppldAuthInfo   | App ID authentication information. |
| onLoginResult | Yes       | (ret: SDKERR, reason: string, loginResult: LoginResult) => void | Login callback.                    |

**Table 10-19** AppldAuthInfo

| Parameter   | Mandatory | Type   | Description   |
|-------------|-----------|--------|---|
| corpId      | No        | string | Enterprise ID. This parameter is mandatory only in SP mode. Do not configure this parameter in single-enterprise mode. Otherwise, the authentication fails.                     |
| thirdUserId | Yes       | string | Unique ID of a third-party account.   |
| userName    | No        | string | Username. If this parameter is left blank, the value of this parameter is the same as that of <b>thirdUserId</b> by default.  |
| signature   | Yes       | string | Authentication signature obtained from the third-party server.  |
| nonce       | Yes       | string | Nonce value obtained from the third-party server, which is used by the Huawei Cloud server to verify the validity of the authentication signature.                              |
| expireTime  | Yes       | number | Validity period timestamp of the authentication signature obtained from the third-party server, in seconds. <b>0</b> indicates that the authentication signature never expires. |
| userEmail   | No        | string | Email address of the user.  |

| Parameter | Mandatory | Type   | Description                |
|-----------|-----------|--------|----------------------------|
| userPhone | No        | string | Mobile number of the user. |
| deptCode  | No        | string | Department ID.             |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, loginResult: LoginResult) => void

**Table 10-20** Input parameter description

| Parameter   | Type   | Description        |
|-------------|--|--------------------|
| ret         | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason      | string   | Error description. |
| loginResult | LoginResult  | Login result.      |

**Table 10-21** LoginResult

| Parameter        | Type    | Description  |
|------------------|---------|--|
| userId           | string  | UUID, which is the unique user ID allocated by the system. |
| account          | string  | Account.   |
| thirdAccount     | string  | Third-party account.                                       |
| basicCallAbility | boolean | Whether the point-to-point call capability is available.   |

### 10.4.2.7 SSO

#### Function

This API is used to log in to the system via single sign-on (SSO). You must log in to Huawei Cloud Meeting before using functions such as creating meetings and being invited into meetings. If you do not log in, you cannot experience complete meeting functions.

## Function Prototype

```
loginBySSO(ssoAuthInfo: SSOAuthInfo, onLoginResult?: (ret: SDKERR, reason: string, loginResult: LoginResult) => void): void
loginBySSO(ssoAuthInfo: SSOAuthInfo, onLoginResult?: (ret: SDKERR, reason: string, loginResult: LoginResult) => void): void
```

## Request Parameters

**Table 10-22** Input parameter description

| Parameter     | Mandatory | Type  | Description                     |
|---------------|-----------|---|---------------------------------|
| ssoAuthInfo   | Yes       | SSOAuthInfo   | SSO authentication information. |
| onLoginResult | Yes       | (ret: SDKERR, reason: string, loginResult: LoginResult) => void | Login callback.                 |

**Table 10-23** SSOAuthInfo

| Parameter      | Mandatory | Type           | Description                  |
|----------------|-----------|----------------|------------------------------|
| code           | Yes       | string         | Authorization code.          |
| domain         | Yes       | string         | Enterprise domain name.      |
| authServerType | Yes       | AuthServerType | Authentication service type. |

**Table 10-24** Enumerated values of AuthServerType

| Enumeration Name        | Enumerated Value | Description |
|-------------------------|------------------|-------------|
| AUTH_SERVER_TYPE_OAUTH2 | 0                | SSO.        |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, loginResult: LoginResult) => void

**Table 10-25** Input parameter description

| Parameter   | Type   | Description        |
|-------------|--|--------------------|
| ret         | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason      | string   | Error description. |
| loginResult | LoginResult  | Login result.      |

**Table 10-26** LoginResult

| Parameter        | Type    | Description  |
|------------------|---------|--|
| userId           | string  | UUID, which is the unique user ID allocated by the system. |
| account          | string  | Account.   |
| thirdAccount     | string  | Third-party account.                                       |
| basicCallAbility | boolean | Whether the point-to-point call capability is available.   |

## 10.4.2.8 Logout

### Function

This API is used to log out of Huawei Cloud Meeting. Call this API only after login.

### Function Prototype

```
logout(onLogoutResult?: (ret: SDKERR, reason: string, logoutResult: LogoutResult) => void): void  
logout(onLogoutResult?: (ret: SDKERR, reason: string, logoutResult: LogoutResult) => void): void
```

### Request Parameters

**Table 10-27** Input parameter description

| Parameter      | Mandatory | Type  | Description      |
|----------------|-----------|---|------------------|
| onLogoutResult | Yes       | (ret: SDKERR, reason: string, logoutResult: LogoutResult) => void | Logout callback. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, logoutResult: LogoutResult) => void

**Table 10-28** Input parameter description

| Parameter    | Type   | Description        |
|--------------|--|--------------------|
| ret          | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason       | string   | Error description. |
| logoutResult | LogoutResult   | Logout result.     |

**Table 10-29** LogoutResult

| Parameter    | Type   | Description  |
|--------------|--------|--|
| userId       | string | UUID, which is the unique user ID allocated by the system. |
| account      | string | Account.   |
| thirdAccount | string | Third-party account.                                       |

### 10.4.2.9 Setting the Network Mode

#### Function

This API is used to set the network mode. 1. This API needs to be called only when an application in an enterprise cannot directly access the public network (that is, when the media nodes and management nodes are deployed in the enterprise). If the media nodes of Huawei Cloud Meeting are deployed in the enterprise and management nodes are accessed through the proxy of the enterprise, set the network mode to enterprise intranet access. 2. This API is optional. If it is not called, the default mode is used.

#### Function Prototype

```
setNetworkMode(networkInfo: NetWorkModeInfo, onSetNetworkModeResult?:  
(ret: SDKERR, reason: string) => void): void  
setNetworkMode(networkInfo:  
NetWorkModeInfo, onSetNetworkModeResult?: (ret: SDKERR, reason: string) =>  
void): void
```

## Request Parameters

**Table 10-30** Input parameter description

| Parameter              | Mandatory | Type                                  | Description                           |
|------------------------|-----------|---------------------------------------|---------------------------------------|
| networkInfo            | Yes       | NetWorkModeInfo                       | Network mode information.             |
| onSetNetworkModeResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of setting the network mode. |

**Table 10-31** NetWorkModeInfo

| Parameter      | Mandatory | Type              | Description  |
|----------------|-----------|-------------------|--|
| accessType     | Yes       | NetworkAccessType | Network access type.   |
| netConnectType | No        | NetConnectType    | Network connection type (valid only for the Windows client). |

**Table 10-32** Enumerated values of NetworkAccessType

| Enumeration Name  | Enumerated Value | Description   |
|-------------------|------------------|---|
| ACCESS_TYPE_AUTO  | 0                | Default value. Currently, the value is the same as the extranet access mode.  |
| ACCESS_TYPE_INNER | 1                | Intranet access, which is used when the media and signaling nodes are deployed in the enterprise. The app uses the intranet for access. Signaling and media messages access the Huawei Cloud Meeting server through the proxy server. |
| ACCESS_TYPE_OUTER | 2                | External network access, which is used when the media and signaling nodes are not deployed in the enterprise. The app uses the Internet for access. Signaling and media messages can directly access the Huawei Cloud Meeting server. |

**Table 10-33** Enumerated values of NetConnectType

| Enumeration Name         | Enumerated Value | Description                 |
|--------------------------|------------------|-----------------------------|
| NET_CONNECT_AUTO         | 0                | Auto mode.                  |
| NET_CONNECT_FORCE_VPN    | 1                | Forcible VPN.               |
| NET_CONNECT_FORCE_DIRECT | 2                | Forcible direct connection. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-34** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.2.10 Uploading a Profile Picture

#### Function

This API is used to upload a profile picture to the address book on the meeting server. Precautions: 1. Call this API only when you have logged in. 2. Upload a PNG or JPG image no more than 200 KB. 3. The recommended aspect ratio is 1:1.

#### Function Prototype

```
uploadSelfAvatar(selfAvatarInfo: SelfAvatarInfo, onUploadSelfAvatarResult?: (ret: SDKERR, reason: string) => void): void
uploadSelfAvatar(selfAvatarInfo: SelfAvatarInfo, onUploadSelfAvatarResult?: (ret: SDKERR, reason: string) => void): void
```

## Request Parameters

**Table 10-35** Input parameter description

| Parameter                | Mandatory | Type                                  | Description   |
|--------------------------|-----------|---------------------------------------|---|
| selfAvatarInfo           | Yes       | SelfAvatarInfo                        | Personal profile picture information.               |
| onUploadSelfAvatarResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of uploading the personal profile picture. |

**Table 10-36** SelfAvatarInfo

| Parameter | Mandatory | Type   | Description             |
|-----------|-----------|--------|-------------------------|
| path      | Yes       | string | Full path of the image. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-37** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.2.11 Setting Guaranteed IP Addresses for Meeting Control

#### Function

This API is used to set the guaranteed IP addresses for meeting control. Up to four IP addresses are supported. They are separated by semicolons (;).

#### Function Prototype

```
setGuaranteedIpAddresses(guaranteedIpAddresses: string): SDKERR
```



## Request Parameters

**Table 10-38** Input parameter description

| Parameter             | Mandatory | Type   | Description              |
|-----------------------|-----------|--------|--------------------------|
| guaranteedIpAddresses | Yes       | string | Guaranteed IP addresses. |

## Return Values

For details about SDKERR, see [Error Code Reference](#).

### 10.4.2.12 Setting Login Server Information

#### Function

This API is used to set login server information.

#### Function Prototype

```
setServerAddress(serverInfo: ServerInfo, onSetServerAddressResult?: (ret: SDKERR, reason: string) => void): void
setServerAddress(serverInfo: ServerInfo, onSetServerAddressResult?: (ret: SDKERR, reason: string) => void): void
```

## Request Parameters

**Table 10-39** Input parameter description

| Parameter                | Mandatory | Type                                  | Description                         |
|--------------------------|-----------|---------------------------------------|-------------------------------------|
| serverInfo               | Yes       | ServerInfo                            | Server information.                 |
| onSetServerAddressResult | Yes       | (ret: SDKERR, reason: string) => void | Login address information callback. |

**Table 10-40** ServerInfo

| Parameter  | Mandatory | Type   | Description   |
|------------|-----------|--------|---|
| serverAddr | Yes       | string | Server address. The default value is <b>meeting.huaweicloud.com</b> . |
| serverPort | Yes       | number | Server port. The default value is <b>443</b> .                        |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-41** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.2.13 Setting Proxy Information

#### Function

This API is used to set proxy information.

#### Function Prototype

```
setProxy(proxyInfo: ProxyInfo, onSetProxyResult?: (ret: SDKERR, reason: string) => void): void  
setProxy(proxyInfo: ProxyInfo, onSetProxyResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-42** Input parameter description

| Parameter        | Mandatory | Type                                  | Description                 |
|------------------|-----------|---------------------------------------|-----------------------------|
| proxyInfo        | Yes       | ProxyInfo                             | Proxy information.          |
| onSetProxyResult | Yes       | (ret: SDKERR, reason: string) => void | Proxy information callback. |

**Table 10-43** ProxyInfo

| Parameter         | Mandatory | Type              | Description                 |
|-------------------|-----------|-------------------|-----------------------------|
| proxyConfigPolicy | Yes       | ProxyConfigPolicy | Proxy configuration policy. |

| Parameter | Mandatory | Type   | Description            |
|-----------|-----------|--------|------------------------|
| server    | No        | string | Proxy server address.  |
| port      | No        | number | Proxy server port.     |
| account   | No        | string | Proxy server account.  |
| password  | No        | string | Proxy server password. |

**Table 10-44** Enumerated values of ProxyConfigPolicy

| Enumeration Name               | Enumerated Value | Description                             |
|--------------------------------|------------------|---|
| HWM_PROXY_CONFIG_POLICY_CUSTOM | 0                | Use a proxy with custom configurations. |
| HWM_PROXY_CONFIG_POLICY_OFF    | 1                | Do not use a proxy.                     |
| HWM_PROXY_CONFIG_POLICY_AUTO   | 2                | Use the system proxy.                   |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-45** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.2.14 Setting Certificate Verification Information

#### Function

This API is used to set certificate verification information.

## Function Prototype

setCAVerifyInfo(CAVerifyInfo: CAVerifyInfo, onSetCAVerifyInfoResult?: (ret: SDKERR, reason: string) => void): void  
 setCAVerifyInfo(CAVerifyInfo: CAVerifyInfo, onSetCAVerifyInfoResult?: (ret: SDKERR, reason: string) => void): void

## Request Parameters

**Table 10-46** Input parameter description

| Parameter               | Mandatory | Type                                  | Description   |
|-------------------------|-----------|---------------------------------------|---|
| CAVerifyInfo            | Yes       | CAVerifyInfo                          | Certificate verification information.                         |
| onSetCAVerifyInfoResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of setting the certificate verification information. |

**Table 10-47** CAVerifyInfo

| Parameter  | Mandatory | Type       | Description  |
|------------|-----------|------------|--|
| verifyMode | Yes       | VerifyMode | Verification mode.   |
| certPath   | No        | string     | User-defined path for storing the certificate. If this parameter is left empty, the built-in certificate is used for verification. |

**Table 10-48** Enumerated values of VerifyMode

| Enumeration Name   | Enumerated Value | Description                    |
|--------------------|------------------|--------------------------------|
| VERIFY_MODE_NONE   | 0                | No verification.               |
| VERIFY_MODE_SERVER | 1                | Verify the server certificate. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-49** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

## 10.4.3 Meeting Control Objects

Meeting control objects

### 10.4.3.1 Subscribing to Meeting Status Notifications

#### Function

A notification is sent when the meeting status is changed.

#### Function Prototype

```
setOnConfStateChangedCB(onConfStateChanged: (confStateInfo: ConfStateInfo) => void): void
setOnConfStateChangedCB(onConfStateChanged: (confStateInfo: ConfStateInfo) => void): void
```

#### Request Parameters

**Table 10-50** Input parameter description

| Parameter              | Mandatory | Type                                   | Description   |
|------------------------|-----------|--|---|
| onConfStateCh<br>anged | Y         | (confStateInfo: ConfStateInfo) => void | Notification sent when the meeting status is changed. |

#### Return Values

void

#### Notification Method Parameters

(confStateInfo: ConfStateInfo) => void

**Table 10-51** Input parameter description

| Parameter     | Type          | Description                 |
|---------------|---------------|-----------------------------|
| confStateInfo | ConfStateInfo | Meeting status information. |

**Table 10-52** ConfStateInfo

| Parameter | Type  | Description     |
|-----------|-------|-----------------|
| state     | State | Meeting status. |

**Table 10-53** Enumerated values of State

| Enumeration Name | Enumerated Value | Description |
|------------------|------------------|-------------|
| HWM_STATE_OFF    | 0                | Closed.     |
| HWM_STATE_ON     | 1                | Open.       |

### 10.4.3.2 Subscribing to Meeting End Notifications

#### Function

A notification is sent when a meeting ended.

#### Function Prototype

```
setOnConfEndedNotifyCB(onConfEndedNotify: (confEndInfo: ConfEndInfo) => void): void
setOnConfEndedNotifyCB(onConfEndedNotify: (confEndInfo: ConfEndInfo) => void): void
```

#### Request Parameters

**Table 10-54** Input parameter description

| Parameter         | Mandatory | Type                               | Description                        |
|-------------------|-----------|------------------------------------|------------------------------------|
| onConfEndedNotify | Yes       | (confEndInfo: ConfEndInfo) => void | Notifies you when a meeting ended. |

## Return Values

void

## Notification Method Parameters

(confEndInfo: ConfEndInfo) => void

**Table 10-55** Input parameter description

| Parameter   | Type        | Description                          |
|-------------|-------------|--------------------------------------|
| confEndInfo | ConfEndInfo | Information about the ended meeting. |

**Table 10-56** ConfEndInfo

| Parameter | Type          | Description                                |
|-----------|---------------|--|
| reason    | ConfEndReason | Reason for leaving the meeting.            |
| isP2PConf | boolean       | Whether the meeting is an instant meeting. |

**Table 10-57** Enumerated values of ConfEndReason

| Enumeration Name   | Enumerated Value | Description   |
|--|------------------|---|
| HWM_CONF_END_REASON_LEAVE_CONF_HANGUP                    | 0                | The user leaves the meeting.                                    |
| HWM_CONF_END_REASON_STOP_CONF_HANGUP                     | 1                | The meeting has ended.  |
| HWM_CONF_END_REASON_HOST_HANGUP                          | 2                | The user is removed by the host.                                |
| HWM_CONF_END_REASON_SESSION_TIMER_TIMEOUT                | 3                | Network interrupted.  |
| HWM_CONF_END_REASON_NETWORK_OSTREAM_HANGUP               | 4                | Network error.  |
| HWM_CONF_END_REASON_ENTERPRISE_RESOURCE_HAS_BEEN_RUN_OUT | 5                | The amount of enterprise resources has reached the upper limit. |
| HWM_CONF_END_REASON_ENTERPRISE_ONLY_SAME_ENTERPRISE      | 6                | Only enterprise users can join the meeting.                     |

| Enumeration Name  | Enumerated Value  | Description  |
|---|-------------------|--|
| HWM_CONF_END_REASON_CONF_ONLY_INVITED                       | 7                 | Only invited users can join the meeting.                                   |
| HWM_CONF_END_REASON_CONF_IS_LOCKED                          | 8                 | The meeting is locked.   |
| HWM_CONF_END_ERR_VMR_NOT_BEEN_HOLD                          | 9                 | Guests are not allowed to activate the meeting in this cloud meeting room. |
| HWM_CONF_END_REASON_VMR_CONF_CONFLICT                       | 10                | Meetings conflict in this cloud meeting room.                              |
| HWM_CONF_END_REASON_SERVER_ERROR                            | 11                | Server exception.  |
| HWM_CONF_END_REASON_NUM_OF_PARTICIPANTS_EXCEEDS_UPPER_LIMIT | 12                | More participants than allowed by the cloud meeting room package.          |
| HWM_CONF_END_REASON_CONF_NUM_OVER_MAX_ALLOWED               | 1110<br>7111<br>6 | The maximum number of ongoing meetings has been reached.                   |
| HWM_CONF_END_REASON_PARTICIPANT_REACH_MAX_NUMBER            | 1110<br>7250<br>4 | Maximum number of participants in a single meeting has been reached.       |
| HWM_CONF_END_REASON_PARTICIPANT_CONF_NOT_EXIST              | 1110<br>8100<br>2 | The meeting does not exist or has ended.                                   |
| HWM_CONF_END_REASON_CONF_CONFLICT                           | 1111<br>1100<br>8 | Another device has joined this meeting using your account.                 |
| HWM_CONF_END_REASON_END_CONF_NET_BREAK                      | 4110<br>0010<br>0 | No stream was received. The network was disconnected.                      |
| HWM_CONF_END_REASON_END_EXPIRATION                          | 4141<br>0006<br>9 | Invalid user, enterprise, or SP.   |
| HWM_CONF_END_REASON_SDK_CHAIR_END_CONF                      | 4141<br>0007<br>4 | The host ended the meeting.  |
| HWM_CONF_END_REASON_SDK_TIMEOVER_END_CONF                   | 4141<br>0007<br>5 | The scheduled end time arrived.  |



| Enumeration Name  | Enumerated Value | Description  |
|---|------------------|--|
| HWM_CONF_END_REASON_RTC_SDK_NETWORK_FAILED                  | 990000053        | Network error.   |
| HWM_CONF_END_FORCE_OPEN_CAMERA_HANGUP                       | 414100078        | The video meeting was forcibly ended.  |
| HWM_CONF_END_MANAGER_SHARE_VMR_NOT_ENOUGH                   | 111071151        | No shared cloud meeting rooms are available.                                     |
| HWM_CONF_END_MANAGER_NO_UPSCALE_VMR                         | 112030001        | There are no cloud meeting rooms of higher specifications.                       |
| HWM_CONF_END_REASON_OVER_MAX_PARTICIPANT_NUMBER             | 111072101        | More participants than allowed.  |
| HWM_CONF_END_REASON_PROJECTION_FAILED                       | 414100080        | Projection failed.   |
| HWM_CONF_END_REASON_PROJECTION_CANCEL                       | 414100082        | The large screen canceled the projection during negotiation.                     |
| HWM_CONF_END_REASON_PROJECTION_BY_SENDER_WITH_TWO_MEMBERS   | 414100083        | The projection initiator in this two-participant meeting ended the projection.   |
| HWM_CONF_END_REASON_PROJECTION_BY_RECEIVER                  | 414100084        | The large screen ended the projection.   |
| HWM_CONF_END_REASON_PROJECTION_BY_SENDER_WITH_MULTI_MEMBERS | 414100085        | The projection initiator in this multi-participant meeting ended the projection. |

### 10.4.3.3 Subscribing to the Callback of Instant Meeting Records

#### Function

This API is used to subscribe to the callback of instant meeting records.

#### Function Prototype

```
setOnP2PConfRecordNotifyCB(onP2PConfRecordNotify: (recordInfo: P2PConfRecordInfo) => void):
```

voidsetOnP2PConfRecordNotifyCB(onP2PConfRecordNotify: (recordInfo: P2PConfRecordInfo) => void): void

## Request Parameters

**Table 10-58** Input parameter description

| Parameter             | Mandatory | Type                                    | Description                          |
|-----------------------|-----------|---|--------------------------------------|
| onP2PConfRecordNotify | Yes       | (recordInfo: P2PConfRecordInfo) => void | Callback of instant meeting records. |

## Return Values

void

## Notification Method Parameters

(recordInfo: P2PConfRecordInfo) => void

**Table 10-59** Input parameter description

| Parameter  | Type              | Description                 |
|------------|-------------------|-----------------------------|
| recordInfo | P2PConfRecordInfo | Meeting record information. |

**Table 10-60** P2PConfRecordInfo

| Parameter      | Type           | Description  |
|----------------|----------------|--|
| callerInfo     | CallMemberInfo | Caller information.  |
| calleeInfo     | CallMemberInfo | Called participant information.  |
| startTime      | number         | (Discarded. The <b>startTimeStamp</b> field is recommended.) Call start time, accurate to seconds (UTC). |
| endTime        | number         | (Discarded. The <b>endTimeStamp</b> field is recommended.) Call end time, accurate to seconds (UTC).     |
| startTimeStamp | number         | Meeting start time (timestamp, in seconds).  |
| endTimeStamp   | number         | Meeting end time (timestamp, in seconds).  |
| isCallOut      | boolean        | Whether the call is an outgoing call.  |

| Parameter         | Type   | Description                    |
|-------------------|--|--------------------------------|
| mediaType         | MediaType  | Media type.                    |
| resultCode        | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.                    |
| resultMsg         | string   | Error description.             |
| isCallEstablished | boolean  | Whether the call is connected. |

**Table 10-61** CallMemberInfo

| Parameter   | Type   | Description          |
|-------------|--------|----------------------|
| number      | string | Number.              |
| nickName    | string | Member name.         |
| thirdUserId | string | Third-party account. |

**Table 10-62** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

### 10.4.3.4 Subscribing to Meeting Details Notifications

#### Function

A notification is sent when meeting details changed.

#### Function Prototype

```
setOnConfInfoNotifyCB(onConfInfoNotify: (confInfo: ConfInfo) => void): void
voidsetOnConfInfoNotifyCB(onConfInfoNotify: (confInfo: ConfInfo) => void): void
```

## Request Parameters

**Table 10-63** Input parameter description

| Parameter        | Mandatory | Type                         | Description                                |
|------------------|-----------|------------------------------|--|
| onConfInfoNotify | Yes       | (confInfo: ConfInfo) => void | Notifies you when meeting details changed. |

## Return Values

void

## Notification Method Parameters

(confInfo: ConfInfo) => void

**Table 10-64** Input parameter description

| Parameter | Type     | Description      |
|-----------|----------|------------------|
| confInfo  | ConfInfo | Meeting details. |

**Table 10-65** ConfInfo

| Parameter    | Type     | Description  |
|--------------|----------|--|
| hostJoinUri  | string   | Link for the host to join the meeting (valid only for the macOS platform).       |
| guestJoinUri | string   | Link for guests to join the meeting using a browser.                             |
| confId       | string   | Meeting ID.  |
| selfConfRole | ConfRole | Role in the meeting, for example, host and guest.                                |
| hostPwd      | string   | Host password.   |
| guestPwd     | string   | Guest password.  |
| subject      | string   | Meeting topic.   |
| startTime    | number   | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time. |
| endTime      | number   | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time.     |

| Parameter            | Type      | Description   |
|----------------------|-----------|---|
| startTimeStamp       | number    | Meeting start time (timestamp, in seconds).   |
| endTimeStamp         | number    | Meeting end time (timestamp, in seconds).   |
| schedulerName        | string    | Name of the user who schedules the meeting.   |
| mediaType            | MediaType | Meeting type. (This parameter is valid only for the macOS platform.)  |
| vmrConfId            | string    | Display ID of the cloud meeting. (This parameter is valid only for the macOS platform.)   |
| corpId               | string    | Enterprise ID. (This parameter is valid only for the macOS platform.)   |
| customInfo           | string    | Custom extension information.   |
| isOtherCorpConf      | boolean   | Whether the meeting belongs to an external enterprise. If you join the meeting of an external enterprise or join the meeting anonymously, the value is <b>true</b> . Otherwise, the value is <b>false</b> . |
| isCreator            | boolean   | Whether you are the meeting scheduler. This parameter is valid only for the Windows platform.   |
| isInBreakoutSub-Conf | boolean   | Whether you are in a breakout room.   |

**Table 10-66** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.               |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

**Table 10-67** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

### 10.4.3.5 Subscribing to Sharing Status Notifications

#### Function

A notification is sent when the sharing status is changed.

#### Function Prototype

setOnShareStateChangedCB(onShareStateChanged: (shareStateInfo: ShareStateInfo) => void): void  
setOnShareStateChangedCB(onShareStateChanged: (shareStateInfo: ShareStateInfo) => void): void

#### Request Parameters

**Table 10-68** Input parameter description

| Parameter           | Mandatory | Type                                     | Description   |
|---------------------|-----------|--|---|
| onShareStateChanged | Y         | (shareStateInfo: ShareStateInfo) => void | Notification sent when the sharing status is changed. |

#### Return Values

void

#### Notification Method Parameters

(shareStateInfo: ShareStateInfo) => void

**Table 10-69** Input parameter description

| Parameter      | Type           | Description                 |
|----------------|----------------|-----------------------------|
| shareStateInfo | ShareStateInfo | Sharing status information. |

**Table 10-70** ShareStateInfo

| Parameter       | Type            | Description  |
|-----------------|-----------------|--|
| state           | State           | Sharing status.  |
| nickName        | string          | Sharer name. This parameter is valid only when <b>state</b> is set to <b>HWM_STATE_ON</b> .          |
| number          | string          | Number of the sharer. This parameter is valid only when <b>state</b> is set to <b>HWM_STATE_ON</b> . |
| monitor         | Monitor         | Type of the shared monitor (primary or secondary monitor).   |
| shareType       | ShareType       | Sharing type.  |
| appHandle       | number          | Program handle.  |
| stopShareReason | StopShareReason | Reason for stopping sharing.   |

**Table 10-71** Enumerated values of State

| Enumeration Name | Enumerated Value | Description |
|------------------|------------------|-------------|
| HWM_STATE_OFF    | 0                | Disabled.   |
| HWM_STATE_ON     | 1                | Enabled.    |

**Table 10-72** Enumerated values of Monitor

| Enumeration Name      | Enumerated Value | Description |
|-----------------------|------------------|-------------|
| HWM_MONITOR_MAIN      | 1                | Primary.    |
| HWM_MONITOR_SECONDARY | 2                | Secondary.  |

**Table 10-73** Enumerated values of ShareType

| Enumeration Name          | Enumerated Value | Description         |
|---------------------------|------------------|---------------------|
| HWM_SHARE_TYPE_MONITOR    | 0                | Screen sharing.     |
| HWM_SHARE_TYPE_APP        | 1                | Program sharing.    |
| HWM_SHARE_TYPE_WHITEBOARD | 2                | Whiteboard sharing. |

**Table 10-74** Enumerated values of StopShareReason

| Enumeration Name              | Enumerated Value | Description                      |
|-------------------------------|------------------|----------------------------------|
| HWM_STOP_SHARE_BY_NORMAL      | 0                | The sharing is stopped normally. |
| HWM_STOP_SHARE_BY_REJOIN_CONF | 1                | MMR migration.                   |

### 10.4.3.6 Subscribing to Role Change Notifications

#### Function

A notification is sent when your role changed (valid only for the macOS platform).

#### Function Prototype

```
setOnSelfRoleChangedCB(onSelfRoleChanged: (role: ConfRole) => void):  
voidsetOnSelfRoleChangedCB(onSelfRoleChanged: (role: ConfRole) => void): void
```

#### Request Parameters

**Table 10-75** Input parameter description

| Parameter         | Mandatory | Type                     | Description  |
|-------------------|-----------|--------------------------|--|
| onSelfRoleChanged | Yes       | (role: ConfRole) => void | Notifies you when your role changed (valid only for the macOS platform). |



## Return Values

void

## Notification Method Parameters

(role: ConfRole) => void

**Table 10-76** Input parameter description

| Parameter | Type     | Description          |
|-----------|----------|----------------------|
| role      | ConfRole | Role in the meeting. |

**Table 10-77** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Common participant.  |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

### 10.4.3.7 Subscribing to Poor Network Connection Notifications

#### Function

This API is used to subscribe to poor network connection notifications.

#### Function Prototype

```
setOnPoorNetworkQualityInfoNotifyCB(onPoorNetworkQualityInfoNotify:
(poorNetWorkInfo: PoorNetWorkQualityInfo) => void):
voidsetOnPoorNetworkQualityInfoNotifyCB(onPoorNetworkQualityInfoNotify:
(poorNetWorkInfo: PoorNetWorkQualityInfo) => void): void
```

## Request Parameters

**Table 10-78** Input parameter description

| Parameter                      | Mandatory | Type  | Description                                 |
|--------------------------------|-----------|---|---|
| onPoorNetworkQualityInfoNotify | Yes       | (poorNetworkInfo: PoorNetworkQualityInfo) => void | Notification about poor network connection. |

## Return Values

void

## Notification Method Parameters

(poorNetworkInfo: PoorNetworkQualityInfo) => void

**Table 10-79** Input parameter description

| Parameter       | Type                   | Description                      |
|-----------------|------------------------|----------------------------------|
| poorNetworkInfo | PoorNetworkQualityInfo | Type of poor network connection. |

**Table 10-80** PoorNetworkQualityInfo

| Parameter | Type   | Description  |
|-----------|--------|--|
| nickName  | string | Participant name.  |
| number    | string | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |

| Parameter   | Type                 | Description  |
|-------------|----------------------|--|
| thirdUserId | string               | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set. |
| accountId   | string               | Huawei Cloud Meeting account.  |
| isLocal     | boolean              | Whether the participant is the local client user.  |
| audioStatus | LowNetWorkStatusInfo | Network status of audio.   |
| videoStatus | LowNetWorkStatusInfo | Network status of video.   |
| shareStatus | LowNetWorkStatusInfo | Network status of sharing.   |

**Table 10-81** LowNetWorkStatusInfo

| Parameter  | Type             | Description       |
|------------|------------------|-------------------|
| packetLoss | number           | Packet loss rate. |
| delay      | number           | Delay.            |
| jitter     | number           | Jitter.           |
| status     | LowNetWorkStatus | Network status.   |

**Table 10-82** Enumerated values of LowNetWorkStatus

| Enumeration Name             | Enumerated Value | Description |
|------------------------------|------------------|-------------|
| LOW_NET_WORK_STATUS_NORMAL   | 0                | Normal.     |
| LOW_NET_WORK_STATUS_BAD      | 1                | Poor.       |
| LOW_NET_WORK_STATUS_VERY_BAD | 2                | Very poor.  |

### 10.4.3.8 Subscribing to Notifications of Ongoing Meeting Information Changes

#### Function

This API is used to subscribe to notifications of ongoing meeting information changes.

#### Function Prototype

```
setOnMeetingInfoChangedCB(onMeetingInfoChanged: (meetingInfo: MeetingInfo) => void): void
setOnMeetingInfoChangedCB(onMeetingInfoChanged: (meetingInfo: MeetingInfo) => void): void
```

#### Request Parameters

**Table 10-83** Input parameter description

| Parameter            | Mandatory | Type                               | Description  |
|----------------------|-----------|------------------------------------|--|
| onMeetingInfoChanged | Yes       | (meetingInfo: MeetingInfo) => void | Notification of ongoing meeting information changes. |

#### Return Values

void

#### Notification Method Parameters

(meetingInfo: MeetingInfo) => void

**Table 10-84** Input parameter description

| Parameter   | Type        | Description                  |
|-------------|-------------|------------------------------|
| meetingInfo | MeetingInfo | Ongoing meeting information. |

**Table 10-85** MeetingInfo

| Parameter  | Type           | Description                |
|------------|----------------|----------------------------|
| baseInfo   | ConfBaseInfo   | Basic meeting information. |
| orgId      | string         | Enterprise ID.             |
| recordMode | ConfRecordMode | Media recording mode.      |

| Parameter                  | Type    | Description                                       |
|----------------------------|---------|---|
| supportBreakout-Conf       | boolean | Whether breakout rooms are supported.             |
| isBreakoutSubConf          | boolean | Whether the session is a breakout room.           |
| supportGuestInviteAttendee | boolean | Whether a guest can invite others to the meeting. |

**Table 10-86** ConfBaseInfo

| Parameter      | Type     | Description   |
|----------------|----------|---|
| confId         | string   | Meeting ID, which used to join a meeting. If the meeting is held in a cloud meeting room, this ID is the actual meeting ID. |
| vmrConfId      | string   | ID of the meeting when it is held in a cloud meeting room.  |
| confSubject    | string   | Meeting topic.  |
| startTime      | number   | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start timestamp, accurate to seconds (UTC).            |
| endTime        | number   | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end timestamp, accurate to seconds (UTC).                |
| startTimeStamp | number   | Meeting start time (timestamp, in seconds).   |
| endTimeStamp   | number   | Meeting end time (timestamp, in seconds).   |
| timeZone       | string   | Time zone.  |
| hostPwd        | string   | Host password.  |
| guestPwd       | string   | Guest password.   |
| scheduserUuid  | string   | Scheduler UUID.   |
| scheduserName  | string   | Scheduler name.   |
| hostJoinUri    | string   | Link for the host to join the meeting.  |
| guestJoinUri   | string   | Link for guests to join the meeting.  |
| selfConfRole   | ConfRole | Role in the meeting. Example: host or guest.  |

| Parameter           | Type           | Description   |
|---------------------|----------------|---|
| isWebinar           | boolean        | Whether the meeting is a webinar.                   |
| isCreator           | boolean        | Whether the meeting was scheduled by you.           |
| audienceJoinUri     | string         | Link for attendees to join the webinar.             |
| audiencePwd         | string         | Attendee password.                                  |
| conferenceType      | ConferenceType | Meeting type.                                       |
| confUuid            | string         | Meeting UUID.                                       |
| openCustomPara      | string         | Custom extension information.                       |
| liveRoomAddress     | string         | Live broadcast address.                             |
| isHighResolution    | boolean        | Whether the meeting resolution is ultra-HD (1080p). |
| isP2PConf           | boolean        | Whether the meeting is an instant meeting.          |
| supportSummary      | boolean        | Whether meeting minutes are supported.              |
| defaultSummaryState | SummaryState   | Meeting minutes status.                             |

**Table 10-87** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

**Table 10-88** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description |
|------------------------|------------------|-------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.      |
| HWM_CONF_ROLE_HOST     | 1                | Host.       |

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

**Table 10-89** Enumerated values of ConfState

| Enumeration Name         | Enumerated Value | Description                   |
|--------------------------|------------------|-------------------------------|
| HWM_CONF_STATE_SCHEDULE  | 0                | The meeting is scheduled.     |
| HWM_CONF_STATE_CREATING  | 1                | The meeting is being created. |
| HWM_CONF_STATE_GOING     | 2                | The meeting has started.      |
| HWM_CONF_STATE_DESTROYED | 3                | The meeting has ended.        |

**Table 10-90** Enumerated values of ConferenceType

| Enumeration Name     | Enumerated Value | Description        |
|----------------------|------------------|--------------------|
| HWM_CONF_TYPE_COMMON | 0                | Common meeting.    |
| HWM_CONF_TYPE_CYCLE  | 1                | Recurring meeting. |

**Table 10-91** CycleConfParam

| Parameter | Type   | Description  |
|-----------|--------|--|
| startDate | number | Start date and timestamp, accurate to seconds (UTC). |
| endDate   | number | End date and timestamp, accurate to seconds (UTC).   |

| Parameter     | Type      | Description   |
|---------------|-----------|---|
| cycleType     | CycleType | Period type.  |
| interval      | number    | Interval of recurring meetings. If <b>cycleType</b> is set to daily, there is a meeting every several days and the value range is [1,15]. If <b>cycleType</b> is set to weekly, there is a meeting every several weeks and the value range is [1,5]. If <b>cycleType</b> is set to monthly, there is a meeting every several months and the value range is [1,3]. |
| listPoints    | string    | Meeting start points in the specified period. This parameter is valid only when meetings are held weekly or monthly. Values are separated by colons (,), for example, <b>1,3,5,7</b> .  |
| preRemindDays | number    | Number of days in advance users are notified of a recurring meeting.  |

**Table 10-92** Enumerated values of CycleType

| Enumeration Name | Enumerated Value | Description |
|------------------|------------------|-------------|
| CYCLE_TYPE_DAY   | 0                | Daily.      |
| CYCLE_TYPE_WEEK  | 1                | Weekly.     |
| CYCLE_TYPE_MONTH | 2                | Monthly.    |

**Table 10-93** SubCycleConfParam

| Parameter      | Type      | Description  |
|----------------|-----------|--|
| subConfID      | string    | UUID of a recurring meeting.   |
| mediaType      | MediaType | Media type.  |
| startTime      | number    | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time. |
| endTime        | number    | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time.     |
| startTimeStamp | number    | Meeting start time (timestamp, in seconds).                                      |



| Parameter                | Type                  | Description  |
|--------------------------|-----------------------|--|
| endTimeStamp             | number                | Meeting end time (timestamp, in seconds).  |
| isAutoRecord             | boolean               | Whether to automatically start recording after a meeting starts.   |
| recordAuthType           | RecordAuthType        | Recording authentication mode.   |
| confAllowJoinUser        | ConfAllowJoinUserType | Users who are allowed to join the meeting. By default, everyone is allowed.  |
| allowGuestStart-Conf     | boolean               | Whether to allow guests to start the meeting.  |
| allowGuestStart-ConfTime | number                | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance. |

**Table 10-94** Enumerated values of RecordAuthType

| Enumeration Name                 | Enumerated Value | Description   |
|----------------------------------|------------------|---|
| REOCDR_AUTH_TYPE_ANYONE          | 0                | The recording can be viewed or downloaded through link (no nonce is added). |
| REOCDR_AUTH_TYPE_IN_COMPANY_USER | 1                | Corporate users can view or download the recording.                         |
| REOCDR_AUTH_TYPE_ATTENDEE        | 2                | Participants can view or download the recording.                            |

**Table 10-95** Enumerated values of ConfAllowJoinUserType

| Enumeration Name                | Enumerated Value | Description           |
|---------------------------------|------------------|-----------------------|
| CONF_ALLOW_JOIN_ANYONE          | 0                | Everyone.             |
| CONF_ALLOW_JOIN_LOGINED_USER    | 1                | Logged-in users.      |
| CONF_ALLOW_JOIN_IN_COMPANY_USER | 2                | Corporate users only. |

| Enumeration Name             | Enumerated Value | Description         |
|------------------------------|------------------|---------------------|
| CONF_ALLOW_JOIN_INVITED_USER | 3                | Invited users only. |

**Table 10-96** Enumerated values of SummaryState

| Enumeration Name    | Enumerated Value | Description |
|---------------------|------------------|-------------|
| SUMMARY_STATE_CLOSE | 0                | Disabled.   |
| SUMMARY_STATE_OPEN  | 1                | Enabled.    |

**Table 10-97** Enumerated values of ConfRecordMode

| Enumeration Name            | Enumerated Value | Description                   |
|-----------------------------|------------------|-------------------------------|
| CONF_RECORD_DISABLE         | 0                | Disabled.                     |
| CONF_RECORD_LIVE            | 1                | Live broadcast.               |
| CONF_RECORD_RECORD          | 2                | Recording.                    |
| CONF_RECORD_LIVE_AND_RECORD | 3                | Live broadcast and recording. |

### 10.4.3.9 Subscribing to Participant Addition Result Notifications

#### Function

When multiple participants are added, there may be multiple notifications.

#### Function Prototype

```
setOnAddAttendeeNotifyCB(onAddAttendeeNotify: (addAttendeeResultList:
AddAttendeeResultList) => void):
voidsetOnAddAttendeeNotifyCB(onAddAttendeeNotify: (addAttendeeResultList:
AddAttendeeResultList) => void): void
```

## Request Parameters

**Table 10-98** Input parameter description

| Parameter           | Mandatory | Type   | Description  |
|---------------------|-----------|--|--|
| onAddAttendeeNotify | Yes       | (addAttendeeResultList: AddAttendeeResultList) => void | When multiple participants are added, there may be multiple notifications. |

## Return Values

void

## Notification Method Parameters

(addAttendeeResultList: AddAttendeeResultList) => void

**Table 10-99** Input parameter description

| Parameter             | Type                  | Description                 |
|-----------------------|-----------------------|-----------------------------|
| addAttendeeResultList | AddAttendeeResultList | List of added participants. |

**Table 10-100** AddAttendeeResultList

| Parameter             | Type              | Description                   |
|-----------------------|-------------------|-------------------------------|
| addAttendeeResultSize | number            | Number of added participants. |
| addAttendeeResults    | AddAttendeeResult | List of added participants.   |

**Table 10-101** AddAttendeeResult

| Parameter   | Type   | Description          |
|-------------|--------|----------------------|
| number      | string | Number.              |
| thirdUserId | string | Third-party account. |

| Parameter  | Type   | Description |
|------------|--|-------------|
| resultCode | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code. |

### 10.4.3.10 Creating a Meeting

#### Function

This API is used to create an instant meeting. 1. By default, calling this API will add you to the meeting as the host. You do not need to pass your own information in the participant parameters. 2. If other participants need to be invited when a meeting is created, the information about other participants needs to be passed. If other participants are not required to join the meeting, participant details and the number of participants can be empty.

#### Function Prototype

```
createConf(createConfInfo: CreateConfInfo, onCreateConfResult?: (ret: SDKERR, reason: string, createConfResult: CreateConfResult) => void): void
voidcreateConf(createConfInfo: CreateConfInfo, onCreateConfResult?: (ret: SDKERR, reason: string, createConfResult: CreateConfResult) => void): void
```

#### Request Parameters

**Table 10-102** Input parameter description

| Parameter          | Mandatory | Type  | Description                       |
|--------------------|-----------|---|-----------------------------------|
| createConfInfo     | Yes       | CreateConfInfo  | Meeting creation information.     |
| onCreateConfResult | Yes       | (ret: SDKERR, reason: string, createConfResult: CreateConfResult) => void | Callback of creating the meeting. |

**Table 10-103** CreateConfInfo

| Parameter | Mandatory | Type      | Description    |
|-----------|-----------|-----------|----------------|
| subject   | Yes       | string    | Meeting topic. |
| mediaType | Yes       | MediaType | Meeting type.  |

| Parameter          | Mandatory | Type                   | Description  |
|--------------------|-----------|------------------------|--|
| needPassword       | Yes       | boolean                | Whether a guest password is required. This parameter is valid only for meetings with a random ID.  |
| isAutoRecord       | No        | boolean                | Whether automatic meeting recording is enabled. If automatic meeting recording is enabled, the meeting will be recorded by default, regardless of whether recording is enabled or disabled in the meeting. This parameter is valid only for cloud recording, not for local recording on clients. |
| allowRecord        | No        | boolean                | Whether meeting recording is supported. (This parameter is valid only for the Windows platform.) This parameter is valid only for cloud recording, not for local recording on clients.   |
| confAllowJoin User | No        | ConfAllowJoin UserType | Users who are allowed to join the meeting. By default, everyone is allowed.  |
| vmrId              | No        | string                 | Unique cloud meeting room ID. To schedule a meeting with a random meeting ID, set this parameter to an empty string.   |
| vmrConfIdType      | No        | VmrConfIdType          | ID type of the cloud meeting room.   |
| guestPwd           | No        | string                 | Guest password. If this parameter is left empty, the server randomly generates a password. This parameter is valid only for meetings with a random ID.   |
| isOpenWaiting Room | No        | boolean                | Waiting room status. This parameter takes effect only when the waiting room function is enabled.   |

| Parameter                | Mandatory | Type             | Description  |
|--------------------------|-----------|------------------|--|
| duration                 | No        | number           | Meeting duration, in minutes. The value ranges from 15 to 1,440. If this parameter is left blank, the server uses the default meeting duration.          |
| isMicOn                  | No        | boolean          | Whether to enable the microphone. The options are <b>true</b> (yes) and <b>false</b> (no).   |
| isCameraOn               | No        | boolean          | Whether to enable the camera. The options are <b>true</b> (yes) and <b>false</b> (no).   |
| concurrentParticipants   | No        | number           | Maximum number of participants in the meeting. The value can be <b>0</b> (unlimited) or greater than <b>0</b> (specific maximum number of participants). |
| numOfAttendee            | Yes       | number           | Number of participants. If participants are not required, set this parameter to <b>0</b> .   |
| attendees                | Yes       | AttendeeBaseInfo | Participant details. If participants are not required, leave this parameter empty.   |
| customInfo               | No        | string           | User-defined information.  |
| confResType              | No        | ConfResType      | Meeting resource type.   |
| defaultSummaryState      | No        | SummaryState     | Initial state of whether the cloud recording contains minutes (valid only for the Windows platform).   |
| autoMuteMode             | No        | AutoMuteType     | Whether soft client guests are automatically muted when they join the meeting.   |
| hardTerminalAutoMuteMode | No        | AutoMuteType     | Whether hard terminal guests are automatically muted when they join the meeting.   |

**Table 10-104** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

**Table 10-105** Enumerated values of ConfAllowJoinUserType

| Enumeration Name                | Enumerated Value | Description           |
|---------------------------------|------------------|-----------------------|
| CONF_ALLOW_JOIN_ANYONE          | 0                | Everyone.             |
| CONF_ALLOW_JOIN_LOGINED_USER    | 1                | Logged-in users.      |
| CONF_ALLOW_JOIN_IN_COMPANY_USER | 2                | Corporate users only. |
| CONF_ALLOW_JOIN_INVITED_USER    | 3                | Invited users only.   |

**Table 10-106** Enumerated values of VmrConfIdType

| Enumeration Name            | Enumerated Value | Description                          |
|-----------------------------|------------------|--------------------------------------|
| HWM_VMR_CONF_ID_TYPE_FIXED  | 0                | Fixed ID of the cloud meeting room.  |
| HWM_VMR_CONF_ID_TYPE_RANDOM | 1                | Random ID of the cloud meeting room. |

**Table 10-107** AttendeeBaseInfo

| Parameter | Mandatory | Type   | Description       |
|-----------|-----------|--------|-------------------|
| nickName  | Yes       | string | Participant name. |

| Parameter    | Mandatory | Type         | Description  |
|--------------|-----------|--------------|--|
| number       | Yes       | string       | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId  | Yes       | string       | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |
| accountId    | No        | string       | Huawei Cloud Meeting account.  |
| email        | No        | string       | Email address used for receiving email notifications.  |
| sms          | No        | string       | Mobile number used for receiving SMS notifications.  |
| isAutoInvite | No        | boolean      | Whether to automatically invite participants.  |
| isMute       | No        | boolean      | Whether to mute the microphone.  |
| role         | No        | ConfRole     | Participant role in the meeting.   |
| type         | No        | AttendeeType | Participant type.  |
| userUuid     | No        | string       | Participant UUID.  |



**Table 10-108** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.               |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

**Table 10-109** Enumerated values of AttendeeType

| Enumeration Name           | Enumerated Value | Description  |
|----------------------------|------------------|--|
| ATTENDEE_TYPE_NORMAL       | 0                | Voice, HD, and SD participant addresses.   |
| ATTENDEE_TYPE_TELEPRESENCE | 1                | Address of a telepresence participant (uni-screen or tri-screen telepresence participant). |
| ATTENDEE_TYPE_TERMINAL     | 2                | Meeting room or hard terminal.   |
| ATTENDEE_TYPE_OUTSIDE      | 3                | External participant.  |
| ATTENDEE_TYPE_CUSTOMNUMBER | 4                | Custom number.   |
| ATTENDEE_TYPE_MOBILE       | 5                | Soft client user's mobile phone.   |
| ATTENDEE_TYPE_ANONYMOUS    | 6                | Anonymous user.  |
| ATTENDEE_TYPE_TELEPHONE    | 7                | Phone user.  |
| ATTENDEE_TYPE_BOARD        | 8                | Whiteboard user.   |
| ATTENDEE_TYPE_IDEAHUB      | 9                | Large-screen device with HiSilicon chips.  |
| ATTENDEE_TYPE_HWVISION     | 10               | Smart TV.  |
| ATTENDEE_TYPE_WELINKC      | 11               | WeLink (public edition).   |

**Table 10-110** Enumerated values of ConfResType

| Enumeration Name           | Enumerated Value | Description                |
|----------------------------|------------------|----------------------------|
| HWM_CONF_RESTYPE_DEFAULT   | 0                | Default.                   |
| HWM_CONF_RESTYPE_SHARE_VMR | 3                | Shared cloud meeting room. |

**Table 10-111** Enumerated values of SummaryState

| Enumeration Name    | Enumerated Value | Description |
|---------------------|------------------|-------------|
| SUMMARY_STATE_CLOSE | 0                | Disabled.   |
| SUMMARY_STATE_OPEN  | 1                | Enabled.    |

**Table 10-112** Enumerated values of AutoMuteType

| Enumeration Name       | Enumerated Value | Description |
|------------------------|------------------|-------------|
| AUTO_MUTE_TYPE_DEFAULT | 0                | Default.    |
| AUTO_MUTE_TYPE_MUTE    | 1                | Muted.      |
| AUTO_MUTE_TYPE_UNMUTE  | 2                | Unmuted.    |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, createConfResult: CreateConfResult) => void

**Table 10-113** Input parameter description

| Parameter        | Type   | Description              |
|------------------|--|--------------------------|
| ret              | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.              |
| reason           | string   | Error description.       |
| createConfResult | CreateConfResult   | Meeting creation result. |

**Table 10-114** CreateConfResult

| Parameter      | Type      | Description   |
|----------------|-----------|---|
| confId         | string    | Meeting ID.   |
| vmrConfId      | string    | Cloud meeting room ID (valid only for the macOS platform).  |
| hostPwd        | string    | Host password.  |
| guestPwd       | string    | Guest password.   |
| mediaType      | MediaType | Meeting media type (valid only for the macOS platform).   |
| guestJoinUri   | string    | Guest link.   |
| selfConfRole   | ConfRole  | Role in the meeting.  |
| subject        | string    | Meeting topic.  |
| startTime      | number    | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time, accurate to seconds (UTC). |
| endTime        | number    | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time.                                |
| startTimeStamp | number    | Meeting start time (timestamp, in seconds).   |
| endTimeStamp   | number    | Meeting end time (timestamp, in seconds).   |
| schedulerName  | string    | Name of the user who schedules the meeting.   |
| customInfo     | string    | Custom extension information.   |

### 10.4.3.11 Starting an Instant Meeting

#### Function

This API is used to start an instant meeting.

#### Function Prototype

```
startP2pConf(startCallInfo: StartCallInfo, onStartP2pConfResult?: (ret: SDKERR,
reason: string, createConfResult: CreateConfResult) => void):
voidstartP2pConf(startCallInfo: StartCallInfo, onStartP2pConfResult?: (ret: SDKERR,
reason: string, createConfResult: CreateConfResult) => void): void
```

#### Request Parameters

**Table 10-115** Input parameter description

| Parameter            | Mandatory | Type  | Description                                    |
|----------------------|-----------|---|--|
| startCallInfo        | Yes       | StartCallInfo   | Information about starting an instant meeting. |
| onStartP2pConfResult | Yes       | (ret: SDKERR, reason: string, createConfResult: CreateConfResult) => void | Callback of starting the instant meeting.      |

**Table 10-116** StartCallInfo

| Parameter  | Mandatory | Type       | Description                     |
|------------|-----------|------------|---------------------------------|
| callerInfo | Yes       | CallerInfo | Caller information.             |
| calleeInfo | Yes       | CalleeInfo | Called participant information. |
| mediaType  | Yes       | MediaType  | Media type.                     |

**Table 10-117** CallerInfo

| Parameter | Mandatory | Type   | Description  |
|-----------|-----------|--------|--------------|
| nickName  | No        | string | Caller name. |

**Table 10-118** CalleeInfo

| Parameter   | Mandatory | Type   | Description  |
|-------------|-----------|--------|--|
| nickName    | No        | string | Called participant name.   |
| number      | Yes       | string | Called number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set ( <b>number</b> is prior to <b>thirdUserId</b> ). |
| thirdUserId | Yes       | string | Third-party account of the called participant. Either this parameter or <b>number</b> is used. The priority is as follows: <b>number</b> > <b>thirdUserId</b> . This parameter is used for app ID authentication.  |
| userUuid    | No        | string | Participant UUID.  |

**Table 10-119** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, createConfResult: CreateConfResult) => void

**Table 10-120** Input parameter description

| Parameter        | Type   | Description              |
|------------------|--|--------------------------|
| ret              | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.              |
| reason           | string   | Error description.       |
| createConfResult | CreateConfResult   | Meeting creation result. |

**Table 10-121** CreateConfResult

| Parameter      | Type      | Description   |
|----------------|-----------|---|
| confId         | string    | Meeting ID.   |
| vmrConfId      | string    | Cloud meeting room ID (valid only for the macOS platform).  |
| hostPwd        | string    | Host password.  |
| guestPwd       | string    | Guest password.   |
| mediaType      | MediaType | Meeting media type (valid only for the macOS platform).   |
| guestJoinUri   | string    | Guest link.   |
| selfConfRole   | ConfRole  | Role in the meeting.  |
| subject        | string    | Meeting topic.  |
| startTime      | number    | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time, accurate to seconds (UTC). |
| endTime        | number    | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time.                                |
| startTimeStamp | number    | Meeting start time (timestamp, in seconds).   |
| endTimeStamp   | number    | Meeting end time (timestamp, in seconds).   |
| schedulerName  | string    | Name of the user who schedules the meeting.   |
| customInfo     | string    | Custom extension information.   |

**Table 10-122** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.               |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

### 10.4.3.12 Joining a Meeting

#### Function

This API is used to join an existing meeting by using the meeting ID and password. This API can be called regardless of whether you have logged in.

#### Function Prototype

```
joinConfById(joinConfByIdInfo: JoinConfByIdInfo, onJoinConfByIdResult?: (ret: SDKERR, reason: string) => void): void
joinConfById(joinConfByIdInfo: JoinConfByIdInfo, onJoinConfByIdResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-123** Input parameter description

| Parameter            | Mandatory | Type                                  | Description  |
|----------------------|-----------|---------------------------------------|--|
| joinConfByIdInfo     | Yes       | JoinConfByIdInfo                      | Information about joining a meeting using an ID.       |
| onJoinConfByIdResult | Yes       | (ret: SDKERR, reason: string) => void | Callback for joining the meeting using the meeting ID. |

**Table 10-124** JoinConfByIdInfo

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| confId    | Yes       | string | Meeting ID. |

| Parameter          | Mandatory | Type    | Description   |
|--------------------|-----------|---------|---|
| password           | No        | string  | Meeting password. If you want to join a meeting as a host, you must enter the host password. To join a meeting as a guest, pass the guest password or leave it empty if the meeting is password-free.                             |
| nickName           | No        | string  | Display name in the meeting. If you have logged in, this parameter can be left blank. In such a case, the login username is used as the display name in the meeting. If you join the meeting anonymously, specify this parameter. |
| corpTrustAppId     | Yes       | string  | Enterprise mutual trust application ID.   |
| isSpeakerOff       | No        | boolean | Whether to disable the speaker. The options are <b>true</b> (yes) and <b>false</b> (no).  |
| isMicOn            | No        | boolean | Whether to enable the microphone. The options are <b>true</b> (yes) and <b>false</b> (no).  |
| isCameraOn         | No        | boolean | Whether to enable the camera. The options are <b>true</b> (yes) and <b>false</b> (no).  |
| isStopConflictConf | No        | boolean | Forcibly end a meeting that conflicts with the current cloud meeting room. (Only the owner of the cloud meeting room resource has the permission.)  |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void



**Table 10-125** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.3.13 Joining a Meeting Using a Random Code

#### Function

The meeting link (for example, <https://bmeeting.huaweicloud.com/#/j/981924330/e11ddec62ee760734fcf2ba55b79937eac2aa68677caf659>) in the notification email contains the meeting ID (981924330) and random code (e11ddec62ee760734fcf2ba55b79937eac2aa68677caf659). You can call this API to join the meeting.

#### Function Prototype

```
joinConfByRandom(joinConfByRandomInfo: JoinConfByRandomInfo,
onJoinConfByRandomResult?: (ret: SDKERR, reason: string) => void):
void
joinConfByRandom(joinConfByRandomInfo: JoinConfByRandomInfo,
onJoinConfByRandomResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-126** Input parameter description

| Parameter                | Mandatory | Type                                  | Description  |
|--------------------------|-----------|---------------------------------------|--|
| joinConfByRandomInfo     | Yes       | JoinConfByRandomInfo                  | Information about joining a meeting using a random code. |
| onJoinConfByRandomResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of joining the meeting using the random code.   |

**Table 10-127** JoinConfByRandomInfo

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| confId    | Yes       | string | Meeting ID. |

| Parameter    | Mandatory | Type    | Description   |
|--------------|-----------|---------|---|
| random       | No        | string  | Mapping value of a 48-digit meeting password. The value comes from the end of the meeting link in the shared meeting details. If a meeting does not require a guest password, this parameter can be left blank.                   |
| nickName     | No        | string  | Display name in the meeting. If you have logged in, this parameter can be left blank. In such a case, the login username is used as the display name in the meeting. If you join the meeting anonymously, specify this parameter. |
| domain       | No        | string  | Domain name.  |
| isSpeakerOff | No        | boolean | Whether to disable the speaker. The options are <b>true</b> (yes) and <b>false</b> (no).  |
| isMicOn      | No        | boolean | Whether to enable the microphone. The options are <b>true</b> (yes) and <b>false</b> (no).  |
| isCameraOn   | No        | boolean | Whether to enable the camera. The options are <b>true</b> (yes) and <b>false</b> (no).  |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-128** Input parameter description

| Parameter | Type   | Description |
|-----------|--|-------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code. |

| Parameter | Type   | Description        |
|-----------|--------|--------------------|
| reason    | string | Error description. |

### 10.4.3.14 Adding Participants

#### Function

This API is used to add participants to a meeting or call. 1. If you are not in the meeting or call, calling this API will fail. 2. If you call this API during a call, the call is converted to a meeting.

#### Function Prototype

```
addAttendee(addAttendeeInfo: AddAttendeeInfo, onAddAttendeeResult?: (ret: SDKERR, reason: string) => void): void
addAttendee(addAttendeeInfo: AddAttendeeInfo, onAddAttendeeResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

Table 10-129 Input parameter description

| Parameter           | Mandatory | Type                                  | Description                                 |
|---------------------|-----------|---------------------------------------|---|
| addAttendeeInfo     | Yes       | AddAttendeeInfo                       | Information about participants to be added. |
| onAddAttendeeResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of adding participants.            |

Table 10-130 AddAttendeeInfo

| Parameter    | Mandatory | Type             | Description                         |
|--------------|-----------|------------------|-------------------------------------|
| attendeeSize | Yes       | number           | Number of participants to be added. |
| attendees    | Yes       | AttendeeBaseInfo | List of participants to be added.   |

Table 10-131 AttendeeBaseInfo

| Parameter | Mandatory | Type   | Description       |
|-----------|-----------|--------|-------------------|
| nickName  | Yes       | string | Participant name. |

| Parameter    | Mandatory | Type         | Description  |
|--------------|-----------|--------------|--|
| number       | Yes       | string       | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId  | Yes       | string       | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |
| accountId    | No        | string       | Huawei Cloud Meeting account.  |
| email        | No        | string       | Email address used for receiving email notifications.  |
| sms          | No        | string       | Mobile number used for receiving SMS notifications.  |
| isAutoInvite | No        | boolean      | Whether to automatically invite participants.  |
| isMute       | No        | boolean      | Whether to mute the microphone.  |
| role         | No        | ConfRole     | Participant role in the meeting.   |
| type         | No        | AttendeeType | Participant type.  |
| userUuid     | No        | string       | Participant UUID.  |

**Table 10-132** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.               |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

**Table 10-133** Enumerated values of AttendeeType

| Enumeration Name           | Enumerated Value | Description  |
|----------------------------|------------------|--|
| ATTENDEE_TYPE_NORMAL       | 0                | Voice, HD, and SD participant addresses.   |
| ATTENDEE_TYPE_TELEPRESENCE | 1                | Address of a telepresence participant (uni-screen or tri-screen telepresence participant). |
| ATTENDEE_TYPE_TERMINAL     | 2                | Meeting room or hard terminal.   |
| ATTENDEE_TYPE_OUTSIDE      | 3                | External participant.  |
| ATTENDEE_TYPE_CUSTOMNUMBER | 4                | Custom number.   |
| ATTENDEE_TYPE_MOBILE       | 5                | Soft client user's mobile phone.   |
| ATTENDEE_TYPE_ANONYMOUS    | 6                | Anonymous user.  |
| ATTENDEE_TYPE_TELEPHONE    | 7                | Phone user.  |
| ATTENDEE_TYPE_BOARD        | 8                | Whiteboard user.   |
| ATTENDEE_TYPE_IDEAHUB      | 9                | Large-screen device with HiSilicon chips.  |
| ATTENDEE_TYPE_HWVISION     | 10               | Smart TV.  |
| ATTENDEE_TYPE_WELINKC      | 11               | WeLink (public edition).   |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-134** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.3.15 Leaving a Meeting

#### Function

This API is used to leave a meeting. 1. Call this API only when you are in a meeting. 2. Calling this API will not end the meeting. You can join the meeting again when the meeting exists.

#### Function Prototype

```
leaveConf(onLeaveConfResult?: (ret: SDKERR, reason: string) => void):  
voidleaveConf(onLeaveConfResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-135** Input parameter description

| Parameter         | Mandatory | Type                                  | Description                    |
|-------------------|-----------|---------------------------------------|--------------------------------|
| onLeaveConfResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of leaving a meeting. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-136** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.3.16 Ending a Meeting

#### Function

This API is used to end a meeting. 1. Call this API only when you are in a meeting. 2. Calling this API will end the meeting. No one can join the meeting again.

#### Function Prototype

```
endConf(onEndConfResult?: (ret: SDKERR, reason: string) => void):  
voidendConf(onEndConfResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-137** Input parameter description

| Parameter       | Mandatory | Type                                  | Description                   |
|-----------------|-----------|---------------------------------------|-------------------------------|
| onEndConfResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of ending a meeting. |

#### Return Values

void

#### Callback Method Parameters

```
(ret: SDKERR, reason: string) => void
```

**Table 10-138** Input parameter description

| Parameter | Type   | Description |
|-----------|--|-------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code. |

| Parameter | Type   | Description        |
|-----------|--------|--------------------|
| reason    | string | Error description. |

### 10.4.3.17 Obtaining the Participant List

#### Function

This API is used to obtain the participant list in a meeting. Call this API only when you are in a meeting.

#### Function Prototype

```
getAttendeeList(onGetAttendeeListResult?: (ret: SDKERR, reason: string,
attendeeList: AttendeeListInfo) => void):
voidgetAttendeeList(onGetAttendeeListResult?: (ret: SDKERR, reason: string,
attendeeList: AttendeeListInfo) => void): void
```

#### Request Parameters

**Table 10-139** Input parameter description

| Parameter               | Mandatory | Type  | Description                                 |
|-------------------------|-----------|---|---|
| onGetAttendeeListResult | Yes       | (ret: SDKERR, reason: string, attendeeList: AttendeeListInfo) => void | Callback of obtaining the participant list. |

#### Return Values

void

#### Callback Method Parameters

(ret: SDKERR, reason: string, attendeeList: AttendeeListInfo) => void

**Table 10-140** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |



| Parameter    | Type             | Description       |
|--------------|------------------|-------------------|
| attendeeList | AttendeeListInfo | Participant list. |

**Table 10-141** AttendeeListInfo

| Parameter     | Type         | Description                         |
|---------------|--------------|-------------------------------------|
| numOfAttendee | number       | Number of participants in the list. |
| attendees     | AttendeeInfo | Basic participant information.      |

**Table 10-142** AttendeeInfo

| Parameter   | Type              | Description   |
|-------------|-------------------|---|
| baseInfo    | AttendeeBaseInfo  | Basic participant information.  |
| isSelf      | boolean           | Whether you are the participant.  |
| state       | ConfAttendeeState | Participant status.   |
| isAnonymous | boolean           | Whether the participant joins the meeting anonymously.                                      |
| corpId      | string            | Enterprise ID, which is used to identify whether the participant belongs to the enterprise. |

**Table 10-143** AttendeeBaseInfo

| Parameter | Type   | Description  |
|-----------|--------|--|
| nickName  | string | Participant name.  |
| number    | string | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |

| Parameter    | Type         | Description  |
|--------------|--------------|--|
| thirdUserId  | string       | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set. |
| accountId    | string       | Huawei Cloud Meeting account.  |
| email        | string       | Email address used for receiving email notifications.  |
| sms          | string       | Mobile number used for receiving SMS notifications.  |
| isAutoInvite | boolean      | Whether to automatically invite participants.  |
| isMute       | boolean      | Whether to mute the microphone.  |
| role         | ConfRole     | Participant role in the meeting.   |
| type         | AttendeeType | Participant type.  |
| userUuid     | string       | Participant UUID.  |

**Table 10-144** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.               |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

**Table 10-145** Enumerated values of AttendeeType

| Enumeration Name     | Enumerated Value | Description                              |
|----------------------|------------------|--|
| ATTENDEE_TYPE_NORMAL | 0                | Voice, HD, and SD participant addresses. |

| Enumeration Name           | Enumerated Value | Description  |
|----------------------------|------------------|--|
| ATTENDEE_TYPE_TELEPRESENCE | 1                | Address of a telepresence participant (uni-screen or tri-screen telepresence participant). |
| ATTENDEE_TYPE_TERMINAL     | 2                | Meeting room or hard terminal.   |
| ATTENDEE_TYPE_OUTSIDE      | 3                | External participant.  |
| ATTENDEE_TYPE_CUSTOMNUMBER | 4                | Custom number.   |
| ATTENDEE_TYPE_MOBILE       | 5                | Soft client user's mobile phone.   |
| ATTENDEE_TYPE_ANONYMOUS    | 6                | Anonymous user.  |
| ATTENDEE_TYPE_TELEPHONE    | 7                | Phone user.  |
| ATTENDEE_TYPE_BOARD        | 8                | Whiteboard user.   |
| ATTENDEE_TYPE_IDEAHUB      | 9                | Large-screen device with HiSilicon chips.  |
| ATTENDEE_TYPE_HWVISION     | 10               | Smart TV.  |
| ATTENDEE_TYPE_WELINKC      | 11               | WeLink (public edition).   |

**Table 10-146** Enumerated values of ConfAttendeeState

| Enumeration Name             | Enumerated Value | Description                             |
|------------------------------|------------------|---|
| CONF_ATTENDEE_STATE_IN_CONF  | 0                | The participant is in the meeting.      |
| CONF_ATTENDEE_STATE_CALLING  | 1                | The participant is being called.        |
| CONF_ATTENDEE_STATE_JOINING  | 2                | The participant is joining the meeting. |
| CONF_ATTENDEE_STATE_LEAVED   | 3                | The participant has left the meeting.   |
| CONF_ATTENDEE_STATE_NO_EXIST | 4                | The user does not exist.                |

| Enumeration Name                | Enumerated Value | Description                               |
|---------------------------------|------------------|---|
| CONF_ATTENDEE_STATE_BUSY        | 5                | The called user is busy.                  |
| CONF_ATTENDEE_STATE_NO_ANSWER   | 6                | The called user does not answer the call. |
| CONF_ATTENDEE_STATE_REJECT      | 7                | The called user rejects the call.         |
| CONF_ATTENDEE_STATE_CALL_FAILED | 8                | Call failed.                              |

### 10.4.3.18 Obtaining the Attendee List

#### Function

This API is used to obtain the attendee list in a meeting. 1. Call this API only when you are in a meeting. 2. Attendees cannot call this API. You can obtain the attendee role information from the meeting details notification.

#### Function Prototype

```
getAudienceList(onGetAudienceListResult?: (ret: SDKERR, reason: string,
audienceList: AttendeeListInfo) => void):
voidgetAudienceList(onGetAudienceListResult?: (ret: SDKERR, reason: string,
audienceList: AttendeeListInfo) => void): void
```

#### Request Parameters

**Table 10-147** Input parameter description

| Parameter               | Mandatory | Type  | Description                              |
|-------------------------|-----------|---|--|
| onGetAudienceListResult | Yes       | (ret: SDKERR, reason: string, audienceList: AttendeeListInfo) => void | Callback of obtaining the attendee list. |

#### Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, audienceList: AttendeeListInfo) => void

**Table 10-148** Input parameter description

| Parameter    | Type   | Description        |
|--------------|--|--------------------|
| ret          | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason       | string   | Error description. |
| audienceList | AttendeeListInfo   | Attendee list.     |

**Table 10-149** AttendeeListInfo

| Parameter     | Type         | Description                         |
|---------------|--------------|-------------------------------------|
| numOfAttendee | number       | Number of participants in the list. |
| attendees     | AttendeeInfo | Basic participant information.      |

**Table 10-150** AttendeeInfo

| Parameter   | Type              | Description   |
|-------------|-------------------|---|
| baseInfo    | AttendeeBaseInfo  | Basic participant information.  |
| isSelf      | boolean           | Whether you are the participant.  |
| state       | ConfAttendeeState | Participant status.   |
| isAnonymous | boolean           | Whether the participant joins the meeting anonymously.                                      |
| corpId      | string            | Enterprise ID, which is used to identify whether the participant belongs to the enterprise. |

**Table 10-151** AttendeeBaseInfo

| Parameter | Type   | Description       |
|-----------|--------|-------------------|
| nickName  | string | Participant name. |

| Parameter    | Type         | Description  |
|--------------|--------------|--|
| number       | string       | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId  | string       | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |
| accountId    | string       | Huawei Cloud Meeting account.  |
| email        | string       | Email address used for receiving email notifications.  |
| sms          | string       | Mobile number used for receiving SMS notifications.  |
| isAutoInvite | boolean      | Whether to automatically invite participants.  |
| isMute       | boolean      | Whether to mute the microphone.  |
| role         | ConfRole     | Participant role in the meeting.   |
| type         | AttendeeType | Participant type.  |
| userId       | string       | Participant UUID.  |

**Table 10-152** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description |
|------------------------|------------------|-------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.      |
| HWM_CONF_ROLE_HOST     | 1                | Host.       |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.   |

| Enumeration Name      | Enumerated Value | Description          |
|-----------------------|------------------|----------------------|
| HWM_CONF_ROLE_COHOST  | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING | 4                | Waiting room member. |

**Table 10-153** Enumerated values of AttendeeType

| Enumeration Name           | Enumerated Value | Description  |
|----------------------------|------------------|--|
| ATTENDEE_TYPE_NORMAL       | 0                | Voice, HD, and SD participant addresses.   |
| ATTENDEE_TYPE_TELEPRESENCE | 1                | Address of a telepresence participant (uni-screen or tri-screen telepresence participant). |
| ATTENDEE_TYPE_TERMINAL     | 2                | Meeting room or hard terminal.   |
| ATTENDEE_TYPE_OUTSIDE      | 3                | External participant.  |
| ATTENDEE_TYPE_CUSTOMNUMBER | 4                | Custom number.   |
| ATTENDEE_TYPE_MOBILE       | 5                | Soft client user's mobile phone.   |
| ATTENDEE_TYPE_ANONYMOUS    | 6                | Anonymous user.  |
| ATTENDEE_TYPE_TELEPHONE    | 7                | Phone user.  |
| ATTENDEE_TYPE_BOARD        | 8                | Whiteboard user.   |
| ATTENDEE_TYPE_IDEAHUB      | 9                | Large-screen device with HiSilicon chips.  |
| ATTENDEE_TYPE_HWVISION     | 10               | Smart TV.  |
| ATTENDEE_TYPE_WELINKC      | 11               | WeLink (public edition).   |

**Table 10-154** Enumerated values of ConfAttendeeState

| Enumeration Name                | Enumerated Value | Description                               |
|---------------------------------|------------------|---|
| CONF_ATTENDEE_STATE_IN_CONF     | 0                | The participant is in the meeting.        |
| CONF_ATTENDEE_STATE_CALLING     | 1                | The participant is being called.          |
| CONF_ATTENDEE_STATE_JOINING     | 2                | The participant is joining the meeting.   |
| CONF_ATTENDEE_STATE_LEAVED      | 3                | The participant has left the meeting.     |
| CONF_ATTENDEE_STATE_NO_EXIST    | 4                | The user does not exist.                  |
| CONF_ATTENDEE_STATE_BUSY        | 5                | The called user is busy.                  |
| CONF_ATTENDEE_STATE_NO_ANSWER   | 6                | The called user does not answer the call. |
| CONF_ATTENDEE_STATE_REJECT      | 7                | The called user rejects the call.         |
| CONF_ATTENDEE_STATE_CALL_FAILED | 8                | Call failed.                              |

### 10.4.3.19 Obtaining a User Status

#### Function

This API is used to obtain the status of a user (whether the user is being called or in the meeting).

#### Function Prototype

```
getUserState(onGetUserStateResult?: (ret: SDKERR, reason: string, userState:
UserState) => void): void
getUserState(onGetUserStateResult?: (ret: SDKERR, reason: string, userState: UserState) => void): void
```



## Request Parameters

**Table 10-155** Input parameter description

| Parameter            | Mandatory | Type  | Description                            |
|----------------------|-----------|---|--|
| onGetUserStateResult | Yes       | (ret: SDKERR, reason: string, userState: UserState) => void | Callback of obtaining the user status. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, userState: UserState) => void

**Table 10-156** Input parameter description

| Parameter | Type   | Description   |
|-----------|--|---|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.   |
| reason    | string   | Error description.  |
| userState | UserState  | User status, which is used to determine whether the user is busy. |

**Table 10-157** Enumerated values of UserState

| Enumeration Name  | Enumerated Value | Description   |
|-------------------|------------------|---------------|
| HWM_STATE_IDLE    | 0                | Idle.         |
| HWM_STATE_IN_CONF | 1                | In a meeting. |
| HWM_STATE_IN_CALL | 2                | In a call.    |

### 10.4.3.20 Obtaining Your Role in a Meeting

#### Function

This API is used to obtain your role in a meeting (valid only for the macOS platform).

#### Function Prototype

```
getSelfRole(onGetSelfRoleResult?: (ret: SDKERR, reason: string, selfRole: ConfRole) => void): void
getSelfRole(onGetSelfRoleResult?: (ret: SDKERR, reason: string, selfRole: ConfRole) => void): void
```

#### Request Parameters

**Table 10-158** Input parameter description

| Parameter           | Mandatory | Type  | Description                                     |
|---------------------|-----------|---|---|
| onGetSelfRoleResult | Yes       | (ret: SDKERR, reason: string, selfRole: ConfRole) => void | Callback for obtaining the role in the meeting. |

#### Return Values

void

#### Callback Method Parameters

(ret: SDKERR, reason: string, selfRole: ConfRole) => void

**Table 10-159** Input parameter description

| Parameter | Type   | Description          |
|-----------|--|----------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.          |
| reason    | string   | Error description.   |
| selfRole  | ConfRole   | Role in the meeting. |

**Table 10-160** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.               |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

### 10.4.3.21 Setting the Participant Name

#### Function

This API is used to set the participant name.

#### Function Prototype

```
renameSelf(renameSelfInfo: RenameSelfInfo, onRenameSelfResult?: (ret: SDKERR, reason: string) => void): void
renameSelf(renameSelfInfo: RenameSelfInfo, onRenameSelfResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-161** Input parameter description

| Parameter          | Mandatory | Type                                  | Description                                   |
|--------------------|-----------|---------------------------------------|---|
| renameSelfInfo     | Yes       | RenameSelfInfo                        | Participant name information.                 |
| onRenameSelfResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of configuring the participant name. |

**Table 10-162** RenameSelfInfo

| Parameter | Mandatory | Type   | Description       |
|-----------|-----------|--------|-------------------|
| nickName  | Yes       | string | Participant name. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-163** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.3.22 Starting Projection

#### Function

This API is used to start projection. Call this API only after login.

#### Function Prototype

```
startProjection(startProjectionParam: StartProjectionParam,
onStartProjectionResult?: (ret: SDKERR, reason: string, startProjectionResult:
StartProjectionResult) => void): void
startProjection(startProjectionParam:
StartProjectionParam, onStartProjectionResult?: (ret: SDKERR, reason: string,
startProjectionResult: StartProjectionResult) => void): void
```

#### Request Parameters

**Table 10-164** Input parameter description

| Parameter               | Mandatory | Type  | Description                             |
|-------------------------|-----------|---|---|
| startProjectionParam    | Yes       | StartProjectionParam  | Parameter body for starting projection. |
| onStartProjectionResult | Yes       | (ret: SDKERR, reason: string, startProjectionResult: StartProjectionResult) => void | Callback of starting projection.        |

**Table 10-165** StartProjectionParam

| Parameter    | Mandatory | Type   | Description   |
|--------------|-----------|--------|---|
| pairCode     | Yes       | string | Pairing code.   |
| randomNumber | No        | string | Random number, which needs to be carried for cross-enterprise projection.     |
| verifyCode   | No        | string | Verification code, which needs to be carried for cross-enterprise projection. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, startProjectionResult: StartProjectionResult) => void

**Table 10-166** Input parameter description

| Parameter             | Type   | Description        |
|-----------------------|--|--------------------|
| ret                   | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason                | string   | Error description. |
| startProjectionResult | StartProjectionResult  | Projection result. |

**Table 10-167** StartProjectionResult

| Parameter    | Type   | Description    |
|--------------|--------|----------------|
| randomNumber | string | Random number. |

### 10.4.3.23 Automatically Hiding the Meeting Control Bar

#### Function

This API is used to set whether to automatically hide the meeting control bar. This setting will automatically hide the meeting control bar after a period of inactivity with the mouse. This setting is only applicable during a meeting session and will revert to its default state once you leave the meeting.

## Function Prototype

setAutoHideToolBar(autoHideToolBarParam: AutoHideToolBarParam): SDKERR

## Request Parameters

**Table 10-168** Input parameter description

| Parameter            | Mandatory | Type                 | Description  |
|----------------------|-----------|----------------------|--|
| autoHideToolBarParam | Yes       | AutoHideToolBarParam | Parameters for automatically hiding the meeting control bar. |

**Table 10-169** AutoHideToolBarParam

| Parameter  | Mandatory | Type    | Description  |
|------------|-----------|---------|--|
| isAutoHide | Yes       | boolean | Whether to automatically hide the meeting control bar. |

## Return Values

For details about **SDKERR**, see [Error Code Reference](#).

## 10.4.4 Meeting Management Objects

Meeting management objects

### 10.4.4.1 Subscribing to Incoming Call Notifications

#### Function

A notification is sent when you received an incoming meeting call.

#### Function Prototype

```
setOnConflIncomingNotifyCB(onConflIncomingNotify: (conflIncomingInfo: ConflIncomingInfo) => void): void
voidsetOnConflIncomingNotifyCB(onConflIncomingNotify: (conflIncomingInfo: ConflIncomingInfo) => void): void
```

## Request Parameters

**Table 10-170** Input parameter description

| Parameter            | Mandatory | Type   | Description                               |
|----------------------|-----------|--|---|
| onConflncomingNotify | Yes       | (conflncomingInfo: ConflncomingInfo) => void | Notifies you of an incoming meeting call. |

## Return Values

void

## Notification Method Parameters

(conflncomingInfo: ConflncomingInfo) => void

**Table 10-171** Input parameter description

| Parameter        | Type             | Description                |
|------------------|------------------|----------------------------|
| conflncomingInfo | ConflncomingInfo | Incoming call information. |

**Table 10-172** ConflncomingInfo

| Parameter   | Type            | Description   |
|-------------|-----------------|---|
| state       | ConfComingState | Incoming call status.   |
| mediaType   | MediaType       | Meeting media type.   |
| isP2PConf   | boolean         | Whether the meeting is an instant meeting.                    |
| confId      | string          | Meeting ID.   |
| vmrConfId   | string          | ID of meetings held in a cloud meeting room.                  |
| thirdUserId | string          | Third-party user ID, which is used for app ID authentication. |

**Table 10-173** Enumerated values of ConfComingState

| Enumeration Name              | Enumerated Value | Description   |
|-------------------------------|------------------|---|
| HWM_CONF_COMING_STATE_START   | 1                | Initial state. The phone of the called participant is ringing.                        |
| HWM_CONF_COMING_STATE_ACCEPT  | 2                | The call was answered.  |
| HWM_CONF_COMING_STATE_REJECT  | 3                | The call was rejected.  |
| HWM_CONF_COMING_STATE_TIMEOUT | 4                | The called party did not respond, the call timed out, or the caller hung up the call. |

**Table 10-174** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

## 10.4.4.2 Subscribing to Meeting List Notifications

### Function

A notification is sent when the meeting list changed.

### Function Prototype

```
setOnConfListChangedCB(onConfListChanged: (confListInfo: ConfListInfo) => void): void
setOnConfListChangedCB(onConfListChanged: (confListInfo: ConfListInfo) => void): void
```



## Request Parameters

**Table 10-175** Input parameter description

| Parameter         | Mandatory | Type                                 | Description                                 |
|-------------------|-----------|--------------------------------------|---|
| onConfListChanged | Yes       | (confListInfo: ConfListInfo) => void | Notifies you when the meeting list changed. |

## Return Values

void

## Notification Method Parameters

(confListInfo: ConfListInfo) => void

**Table 10-176** Input parameter description

| Parameter    | Type         | Description   |
|--------------|--------------|---------------|
| confListInfo | ConfListInfo | Meeting list. |

**Table 10-177** ConfListInfo

| Parameter    | Type         | Description              |
|--------------|--------------|--------------------------|
| confListSize | number       | Number of meetings.      |
| confListItem | ConfListItem | Meeting list parameters. |

**Table 10-178** ConfListItem

| Parameter   | Type   | Description   |
|-------------|--------|---|
| confId      | string | Meeting ID.   |
| subject     | string | Meeting topic.  |
| hostPwd     | string | Host password.  |
| guestPwd    | string | Guest password.   |
| audiencePwd | string | Attendee password. (This parameter is valid only for the Windows platform.) |

| Parameter       | Type              | Description   |
|-----------------|-------------------|---|
| startTime       | number            | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time (UTC time), in seconds. |
| endTime         | number            | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time (UTC time), in seconds.     |
| startTimeStamp  | number            | Meeting start time (timestamp, in seconds).   |
| endTimeStamp    | number            | Meeting end time (timestamp, in seconds).   |
| timezone        | Timezone          | Time zone code (valid only for the Windows platform).   |
| mediaType       | MediaType         | Media type.   |
| schedulerName   | string            | Name of the user who schedules the meeting.   |
| vmrConfId       | string            | Display ID of the cloud meeting.  |
| hostJoinUri     | string            | Link for the host to join the meeting.  |
| guestJoinUri    | string            | Link for guests to join the meeting.  |
| audienceJoinUri | string            | Link for attendees to join the meeting (valid only for the Windows platform).                           |
| confStateType   | ConfState         | Meeting status (valid only for the Windows platform).   |
| isWebinar       | boolean           | Whether the meeting is a webinar or not (valid only for the Windows platform).                          |
| selfConfRole    | ConfRole          | Role in the meeting.  |
| conferenceType  | ConferenceType    | Meeting type.   |
| cycleParam      | CycleConfParam    | Recurring meeting series parameters.  |
| subConfSize     | number            | Number of recurring meetings.   |
| subConfParam    | SubCycleConfParam | Recurring meeting parameters.   |
| customInfo      | string            | User-defined information.   |

**Table 10-179** Enumerated values of Timezone

| Enumeration Name             | Enumerated Value | Description                         |
|------------------------------|------------------|-------------------------------------|
| HWM_TIMEZONE_DEFAULT         | 0                | Default MediaX time zone            |
| HWM_TIMEZONE_INTERDATE_LINE  | 1                | International Date Line West        |
| HWM_TIMEZONE_MIDWAY_ISLAND   | 2                | Midway Island, Samoa                |
| HWM_TIMEZONE_HAWAII          | 3                | Hawaii                              |
| HWM_TIMEZONE_ALASKA          | 4                | Alaska                              |
| HWM_TIMEZONE_PACIFIC_TIME    | 5                | Pacific Time (US & Canada), Tijuana |
| HWM_TIMEZONE_ARIZONA         | 6                | Arizona                             |
| HWM_TIMEZONE_MOUNTAIN_TIME   | 7                | Mountain Time (US & Canada)         |
| HWM_TIMEZONE_CENTRAL_AMERICA | 8                | Central America                     |
| HWM_TIMEZONE_CENTRAL_TIME    | 9                | Central Time (US & Canada)          |
| HWM_TIMEZONE_MEXICO_CITY     | 10               | Mexico City                         |
| HWM_TIMEZONE_SASKATCHEWAN    | 11               | Saskatchewan                        |
| HWM_TIMEZONE_BOGOTA          | 12               | Bogota, Lima, Quito                 |
| HWM_TIMEZONE_EASTERN_TIME    | 13               | Eastern Time (US & Canada)          |
| HWM_TIMEZONE_INDIANA         | 14               | Indiana (East)                      |
| HWM_TIMEZONE_ATLANTIC_TIME   | 15               | Atlantic Time (Canada)              |
| HWM_TIMEZONE_CARACAS         | 16               | Caracas, La Paz                     |
| HWM_TIMEZONE_SANTIAGO        | 17               | Santiago                            |
| HWM_TIMEZONE_NEWFOUNDLAND    | 18               | Newfoundland                        |
| HWM_TIMEZONE_BRASILIA        | 19               | Brasilia                            |

| Enumeration Name                | Enumerated Value | Description  |
|---------------------------------|------------------|--|
| HWM_TIMEZONE_BUENOS_AIRES       | 20               | Buenos Aires, Georgetown                               |
| HWM_TIMEZONE_GREENLAND          | 21               | Greenland  |
| HWM_TIMEZONE_MID_ATLANTIC       | 22               | Mid-Atlantic   |
| HWM_TIMEZONE_AZORES             | 23               | Azores   |
| HWM_TIMEZONE_CAPEVERDE          | 24               | Cape Verde Is.   |
| HWM_TIMEZONE_MONROVIA           | 25               | Monrovia   |
| HWM_TIMEZONE_GREENWICH_MEANTIME | 26               | Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London |
| HWM_TIMEZONE_AMSTERDAM          | 27               | Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna       |
| HWM_TIMEZONE_BELGRADE           | 28               | Belgrade, Bratislava, Budapest, Ljubljana, Prague      |
| HWM_TIMEZONE_BRUSSELS           | 29               | Brussels, Copenhagen, Madrid, Paris                    |
| HWM_TIMEZONE_SARAJEVO           | 30               | Sarajevo, Skopje, Vilnius, Sofia, Warsaw, Zagreb       |
| HWM_TIMEZONE_WESTCENTRAL_AFRICA | 31               | West Central Africa                                    |
| HWM_TIMEZONE_ATHENS             | 32               | Athens, Istanbul, Minsk                                |
| HWM_TIMEZONE_BUCHAREST          | 33               | Bucharest  |
| HWM_TIMEZONE_CAIRO              | 34               | Cairo  |
| HWM_TIMEZONE_HARARE             | 35               | Harare, Pretoria                                       |
| HWM_TIMEZONE_HELSINKI           | 36               | Helsinki, Riga, Tallinn                                |
| HWM_TIMEZONE_JERUSALEM          | 37               | Jerusalem  |
| HWM_TIMEZONE_BAGHDAD            | 38               | Baghdad  |
| HWM_TIMEZONE_KUWAIT             | 39               | Kuwait, Riyadh   |
| HWM_TIMEZONE_MOSCOW             | 40               | Moscow, St. Petersburg, Kazan, Volgograd               |
| HWM_TIMEZONE_NAIROBI            | 41               | Nairobi  |

| Enumeration Name          | Enumerated Value | Description                                   |
|---------------------------|------------------|---|
| HWM_TIMEZONE_TEHRAN       | 42               | Tehran  |
| HWM_TIMEZONE_ABU_DHABI    | 43               | Abu Dhabi, Muscat                             |
| HWM_TIMEZONE_TBILISI      | 44               | Tbilisi, Yerevan                              |
| HWM_TIMEZONE_KABUL        | 45               | Kabul   |
| HWM_TIMEZONE_EKATERINBURG | 46               | Ekaterinburg                                  |
| HWM_TIMEZONE_ISLAMABAD    | 47               | Islamabad, Karachi, Tashkent                  |
| HWM_TIMEZONE_CALCUTTA     | 48               | Kolkata, Chennai, Mumbai, New Delhi           |
| HWM_TIMEZONE_KATHMANDU    | 49               | Kathmandu                                     |
| HWM_TIMEZONE_ALMATY       | 50               | Almaty  |
| HWM_TIMEZONE_ASTANA       | 51               | Astana, Dhaka                                 |
| HWM_TIMEZONE_SRIJAYA      | 52               | Sri Jayawardenepura                           |
| HWM_TIMEZONE_RANGOON      | 53               | Yangon (Rangoon)                              |
| HWM_TIMEZONE_BANGKOK      | 54               | Bangkok, Jakarta, Hanoi                       |
| HWM_TIMEZONE_NOVOSIBIRSK  | 55               | Novosibirsk                                   |
| HWM_TIMEZONE_BEIJING      | 56               | Beijing, Chongqing, Hong Kong, Urumqi, Taipei |
| HWM_TIMEZONE_KRASNOYARSK  | 57               | Krasnoyarsk, Ulaanbaatar                      |
| HWM_TIMEZONE_KUALALUMPUR  | 58               | Kuala Lumpur, Singapore                       |
| HWM_TIMEZONE_PERTH        | 59               | Perth   |
| HWM_TIMEZONE_OSAKA        | 60               | Tokyo, Osaka, Sapporo                         |
| HWM_TIMEZONE_SEOUL        | 61               | Seoul   |
| HWM_TIMEZONE_YAKUTSK      | 62               | Yakutsk                                       |
| HWM_TIMEZONE_ADELAIDE     | 63               | Adelaide                                      |
| HWM_TIMEZONE_DARWIN       | 64               | Darwin  |
| HWM_TIMEZONE_BRISBANE     | 65               | Brisbane                                      |

| Enumeration Name         | Enumerated Value | Description                   |
|--------------------------|------------------|-------------------------------|
| HWM_TIMEZONE_CANBERRA    | 66               | Canberra, Melbourne, Sydney   |
| HWM_TIMEZONE_GUAM        | 67               | Guam, Port Moresby            |
| HWM_TIMEZONE_HOBART      | 68               | Hobart                        |
| HWM_TIMEZONE_VLADIVOSTOK | 69               | Vladivostok                   |
| HWM_TIMEZONE_SOLOMON     | 70               | Solomon Is., New Caledonia    |
| HWM_TIMEZONE_AUCKLAND    | 71               | Auckland, Wellington          |
| HWM_TIMEZONE_FIJI        | 72               | Fuji, Kamchatka, Marshall Is. |
| HWM_TIMEZONE_NUKUALOFA   | 73               | Nuku'alofa                    |
| HWM_TIMEZONE_IRKUTSK     | 74               | Irkutsk                       |
| HWM_TIMEZONE_CASABLANCA  | 75               | Casablanca                    |
| HWM_TIMEZONE_BAKU        | 76               | Baku                          |
| HWM_TIMEZONE_MAGADAN     | 77               | Magadan                       |

**Table 10-180** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

**Table 10-181** Enumerated values of ConfState

| Enumeration Name        | Enumerated Value | Description               |
|-------------------------|------------------|---------------------------|
| HWM_CONF_STATE_SCHEDULE | 0                | The meeting is scheduled. |

| Enumeration Name         | Enumerated Value | Description                   |
|--------------------------|------------------|-------------------------------|
| HWM_CONF_STATE_CREATING  | 1                | The meeting is being created. |
| HWM_CONF_STATE_GOING     | 2                | The meeting has started.      |
| HWM_CONF_STATE_DESTROYED | 3                | The meeting has ended.        |

**Table 10-182** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.               |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

**Table 10-183** Enumerated values of ConferenceType

| Enumeration Name     | Enumerated Value | Description        |
|----------------------|------------------|--------------------|
| HWM_CONF_TYPE_COMMON | 0                | Common meeting.    |
| HWM_CONF_TYPE_CYCLE  | 1                | Recurring meeting. |

**Table 10-184** CycleConfParam

| Parameter | Type   | Description  |
|-----------|--------|--|
| startDate | number | Start date and timestamp, accurate to seconds (UTC). |

| Parameter     | Type      | Description   |
|---------------|-----------|---|
| endDate       | number    | End date and timestamp, accurate to seconds (UTC).  |
| cycleType     | CycleType | Period type.  |
| interval      | number    | Interval of recurring meetings. If <b>cycleType</b> is set to daily, there is a meeting every several days and the value range is [1,15]. If <b>cycleType</b> is set to weekly, there is a meeting every several weeks and the value range is [1,5]. If <b>cycleType</b> is set to monthly, there is a meeting every several months and the value range is [1,3]. |
| listPoints    | string    | Point for holding recurring meetings. This parameter is valid only when meetings are held weekly or monthly. Values are separated by colons (,), for example, <b>1,3,5,7</b> .  |
| preRemindDays | number    | Number of days in advance users are notified of a recurring meeting.  |

**Table 10-185** Enumerated values of CycleType

| Enumeration Name | Enumerated Value | Description |
|------------------|------------------|-------------|
| CYCLE_TYPE_DAY   | 0                | Daily.      |
| CYCLE_TYPE_WEEK  | 1                | Weekly.     |
| CYCLE_TYPE_MONTH | 2                | Monthly.    |

**Table 10-186** SubCycleConfParam

| Parameter | Type      | Description  |
|-----------|-----------|--|
| subConfID | string    | UUID of a recurring meeting.   |
| mediaType | MediaType | Media type.  |
| startTime | number    | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time. |
| endTime   | number    | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time.     |



| Parameter                | Type                  | Description  |
|--------------------------|-----------------------|--|
| startTimeStamp           | number                | Meeting start time (timestamp, in seconds).  |
| endTimeStamp             | number                | Meeting end time (timestamp, in seconds).  |
| isAutoRecord             | boolean               | Whether to automatically start recording after a meeting starts.   |
| recordAuthType           | RecordAuthType        | Recording authentication mode.   |
| confAllowJoinUser        | ConfAllowJoinUserType | Users who are allowed to join the meeting. By default, everyone is allowed.  |
| allowGuestStart-Conf     | boolean               | Whether to allow guests to start the meeting.  |
| allowGuestStart-ConfTime | number                | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance. |

**Table 10-187** Enumerated values of RecordAuthType

| Enumeration Name                 | Enumerated Value | Description   |
|----------------------------------|------------------|---|
| REOCDR_AUTH_TYPE_ANYONE          | 0                | The recording can be viewed or downloaded through link (no nonce is added). |
| REOCDR_AUTH_TYPE_IN_COMPANY_USER | 1                | Corporate users can view or download the recording.                         |
| REOCDR_AUTH_TYPE_ATTENDEE        | 2                | Participants can view or download the recording.                            |

**Table 10-188** Enumerated values of ConfAllowJoinUserType

| Enumeration Name             | Enumerated Value | Description      |
|------------------------------|------------------|------------------|
| CONF_ALLOW_JOIN_ANYONE       | 0                | Everyone.        |
| CONF_ALLOW_JOIN_LOGINED_USER | 1                | Logged-in users. |

| Enumeration Name                | Enumerated Value | Description           |
|---------------------------------|------------------|-----------------------|
| CONF_ALLOW_JOIN_IN_COMPANY_USER | 2                | Corporate users only. |
| CONF_ALLOW_JOIN_INVITED_USER    | 3                | Invited users only.   |

### 10.4.4.3 Scheduling a Meeting

#### Function

This API is used to schedule a meeting. 1. Call this API only after login. 2. When calling this API, add yourself as the host to the participant list. 3. The callback function returns details about the scheduled meeting. For details, see the **HwmConfDetail** structure. If only a meeting ID is returned, meeting details fail to be obtained.

#### Function Prototype

```
bookConf(bookConfParam: BookConfParam, onBookConfResult?: (ret: SDKERR, reason: string, confDetail: ConfDetail) => void): void  
bookConf(bookConfParam: BookConfParam, onBookConfResult?: (ret: SDKERR, reason: string, confDetail: ConfDetail) => void): void
```

#### Request Parameters

Table 10-189 Input parameter description

| Parameter        | Mandatory | Type  | Description                          |
|------------------|-----------|---|--------------------------------------|
| bookConfParam    | Yes       | BookConfParam   | Parameters for scheduling a meeting. |
| onBookConfResult | Yes       | (ret: SDKERR, reason: string, confDetail: ConfDetail) => void | Callback of scheduling the meeting.  |

**Table 10-190** BookConfParam

| Parameter       | Mandatory | Type            | Description  |
|-----------------|-----------|-----------------|--|
| startTime       | Yes       | number          | UTC timestamp when the meeting starts, in seconds. The value is the difference between the UTC time and the UTC offset (converted into seconds). For example, if the time zone is UTC+08:00, the value is the UTC timestamp - (8 x 60 x 60). |
| duration        | Yes       | number          | Meeting duration, in minutes. The value ranges from 15 to 1,440.   |
| confCommonParam | Yes       | ConfCommonParam | Common meeting parameters.   |
| isSendCalendar  | No        | boolean         | Whether to send a calendar email.  |

**Table 10-191** ConfCommonParam

| Parameter    | Mandatory | Type      | Description  |
|--------------|-----------|-----------|--|
| subject      | Yes       | string    | Meeting topic.   |
| mediaType    | No        | MediaType | Meeting type. By default, the meeting is an audio meeting.   |
| needPassword | No        | boolean   | Whether a guest password is required. By default, the guest password is not required (valid only for meetings with a random ID).   |
| isAutoRecord | No        | boolean   | Whether to enable automatic meeting recording. By default, this function is disabled. If automatic meeting recording is enabled, the meeting will be recorded by default, regardless of whether recording is enabled or disabled in the meeting. This parameter is valid only for cloud recording, not for local recording on clients. |

| Parameter          | Mandatory | Type                   | Description  |
|--------------------|-----------|------------------------|--|
| allowRecord        | No        | boolean                | Whether meeting recording is supported. (This parameter is valid only for the Windows platform.) This parameter is valid only for cloud recording, not for local recording on clients.   |
| allowLive          | No        | boolean                | Reserved field. This parameter is transparently transmitted during meeting modification.   |
| timezone           | Yes       | Timezone               | Time zone code. This parameter is used for sending meeting notifications.  |
| vmrId              | No        | string                 | Unique cloud meeting room ID. To schedule a meeting using concurrent participants, set this parameter to an empty string. When you modify a meeting, you cannot modify this parameter and need to enter the value returned in meeting details.                             |
| confAllowJoin User | No        | ConfAllowJoin UserType | Users who are allowed to join the meeting. By default, everyone is allowed.  |
| isSendSms          | No        | boolean                | Whether to send an SMS notification. To use this function, enable it in the enterprise configuration first. Otherwise, this parameter does not take effect.  |
| isSendEmail        | No        | boolean                | Whether to send an email notification.   |
| vmrConfIdType      | No        | VmrConfIdType          | ID type of the cloud meeting room. When modifying a meeting, set this parameter to <b>HWM_VMR_CONF_ID_TYPE_FIXED</b> if <b>vmrConfId</b> in meeting details is not empty, or set it to <b>HWM_VMR_CONF_ID_TYPE_RANDOM</b> if <b>vmrConfId</b> in meeting details is empty. |

| Parameter                | Mandatory | Type             | Description  |
|--------------------------|-----------|------------------|--|
| guestPwd                 | No        | string           | Guest password. If this parameter is left empty, the server randomly generates a password. This parameter is valid only for meetings with a random ID.   |
| isOpenWaitingRoom        | No        | boolean          | Waiting room status. This parameter takes effect only when the waiting room function is enabled.   |
| numOfAttendee            | Yes       | number           | Number of participants.  |
| attendees                | Yes       | AttendeeBaseInfo | Participant list.  |
| allowGuestStartConf      | No        | boolean          | Whether to allow guests to start the meeting.  |
| allowGuestStartConfTime  | No        | number           | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance.                       |
| concurrentParticipants   | Yes       | number           | Maximum number of participants in the meeting. The value can be <b>0</b> (unlimited) or greater than <b>0</b> (specific maximum number of participants). |
| customInfo               | No        | string           | User-defined information.  |
| confResType              | No        | ConfResType      | Meeting resource type.   |
| defaultSummaryState      | No        | SummaryState     | Initial state of whether the cloud recording contains minutes (unavailable for recurring meetings; valid only for the Windows platform).                 |
| autoMuteMode             | No        | AutoMuteType     | Whether soft client guests are automatically muted when they join the meeting.   |
| hardTerminalAutoMuteMode | No        | AutoMuteType     | Whether hard terminal guests are automatically muted when they join the meeting.   |

**Table 10-192** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

**Table 10-193** Enumerated values of Timezone

| Enumeration Name             | Enumerated Value | Description                         |
|------------------------------|------------------|-------------------------------------|
| HWM_TIMEZONE_DEFAULT         | 0                | Default MediaX time zone            |
| HWM_TIMEZONE_INTERDATE_LINE  | 1                | International Date Line West        |
| HWM_TIMEZONE_MIDWAY_ISLAND   | 2                | Midway Island, Samoa                |
| HWM_TIMEZONE_HAWAII          | 3                | Hawaii                              |
| HWM_TIMEZONE_ALASKA          | 4                | Alaska                              |
| HWM_TIMEZONE_PACIFIC_TIME    | 5                | Pacific Time (US & Canada), Tijuana |
| HWM_TIMEZONE_ARIZONA         | 6                | Arizona                             |
| HWM_TIMEZONE_MOUNTAIN_TIME   | 7                | Mountain Time (US & Canada)         |
| HWM_TIMEZONE_CENTRAL_AMERICA | 8                | Central America                     |
| HWM_TIMEZONE_CENTRAL_TIME    | 9                | Central Time (US & Canada)          |
| HWM_TIMEZONE_MEXICO_CITY     | 10               | Mexico City                         |
| HWM_TIMEZONE_SASKATCHEWAN    | 11               | Saskatchewan                        |
| HWM_TIMEZONE_BOGOTA          | 12               | Bogota, Lima, Quito                 |
| HWM_TIMEZONE_EASTERN_TIME    | 13               | Eastern Time (US & Canada)          |
| HWM_TIMEZONE_INDIANA         | 14               | Indiana (East)                      |

| Enumeration Name                | Enumerated Value | Description  |
|---------------------------------|------------------|--|
| HWM_TIMEZONE_ATLANTIC_TIME      | 15               | Atlantic Time (Canada)                                 |
| HWM_TIMEZONE_CARACAS            | 16               | Caracas, La Paz  |
| HWM_TIMEZONE_SANTIAGO           | 17               | Santiago   |
| HWM_TIMEZONE_NEWFOUNDLAND       | 18               | Newfoundland   |
| HWM_TIMEZONE_BRASILIA           | 19               | Brasilia   |
| HWM_TIMEZONE_BUENOSAIRES        | 20               | Buenos Aires, Georgetown                               |
| HWM_TIMEZONE_GREENLAND          | 21               | Greenland  |
| HWM_TIMEZONE_MIDATLANTIC        | 22               | Mid-Atlantic   |
| HWM_TIMEZONE_AZORES             | 23               | Azores   |
| HWM_TIMEZONE_CAPEVERDE          | 24               | Cape Verde Is.   |
| HWM_TIMEZONE_MONROVIA           | 25               | Monrovia   |
| HWM_TIMEZONE_GREENWICH_MEANTIME | 26               | Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London |
| HWM_TIMEZONE_AMSTERDAM          | 27               | Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna       |
| HWM_TIMEZONE_BELGRADE           | 28               | Belgrade, Bratislava, Budapest, Ljubljana, Prague      |
| HWM_TIMEZONE_BRUSSELS           | 29               | Brussels, Copenhagen, Madrid, Paris                    |
| HWM_TIMEZONE_SARAJEVO           | 30               | Sarajevo, Skopje, Vilnius, Sofia, Warsaw, Zagreb       |
| HWM_TIMEZONE_WESTCENTRAL_AFRICA | 31               | West Central Africa                                    |
| HWM_TIMEZONE_ATHENS             | 32               | Athens, Istanbul, Minsk                                |
| HWM_TIMEZONE_BUCHAREST          | 33               | Bucharest  |
| HWM_TIMEZONE_CAIRO              | 34               | Cairo  |
| HWM_TIMEZONE_HARARE             | 35               | Harare, Pretoria                                       |
| HWM_TIMEZONE_HELSINKI           | 36               | Helsinki, Riga, Tallinn                                |

| Enumeration Name          | Enumerated Value | Description                                   |
|---------------------------|------------------|---|
| HWM_TIMEZONE_JERUSALEM    | 37               | Jerusalem                                     |
| HWM_TIMEZONE_BAGHDAD      | 38               | Baghdad                                       |
| HWM_TIMEZONE_KUWAIT       | 39               | Kuwait, Riyadh                                |
| HWM_TIMEZONE_MOSCOW       | 40               | Moscow, St. Petersburg, Kazan, Volgograd      |
| HWM_TIMEZONE_NAIROBI      | 41               | Nairobi                                       |
| HWM_TIMEZONE_TEHRAN       | 42               | Tehran  |
| HWM_TIMEZONE_ABU_DHABI    | 43               | Abu Dhabi, Muscat                             |
| HWM_TIMEZONE_TBILISI      | 44               | Tbilisi, Yerevan                              |
| HWM_TIMEZONE_KABUL        | 45               | Kabul   |
| HWM_TIMEZONE_EKATERINBURG | 46               | Ekaterinburg                                  |
| HWM_TIMEZONE_ISLAMABAD    | 47               | Islamabad, Karachi, Tashkent                  |
| HWM_TIMEZONE_CALCUTTA     | 48               | Kolkata, Chennai, Mumbai, New Delhi           |
| HWM_TIMEZONE_KATHMANDU    | 49               | Kathmandu                                     |
| HWM_TIMEZONE_ALMATY       | 50               | Almaty  |
| HWM_TIMEZONE_ASTANA       | 51               | Astana, Dhaka                                 |
| HWM_TIMEZONE_SRIJAYA      | 52               | Sri Jayawardenepura                           |
| HWM_TIMEZONE_RANGOON      | 53               | Yangon (Rangoon)                              |
| HWM_TIMEZONE_BANGKOK      | 54               | Bangkok, Jakarta, Hanoi                       |
| HWM_TIMEZONE_NOVOSIBIRSK  | 55               | Novosibirsk                                   |
| HWM_TIMEZONE_BEIJING      | 56               | Beijing, Chongqing, Hong Kong, Urumqi, Taipei |
| HWM_TIMEZONE_KRASNOYARSK  | 57               | Krasnoyarsk, Ulaanbaatar                      |
| HWM_TIMEZONE_KUALALUMPUR  | 58               | Kuala Lumpur, Singapore                       |
| HWM_TIMEZONE_PERTH        | 59               | Perth   |



| Enumeration Name         | Enumerated Value | Description                   |
|--------------------------|------------------|-------------------------------|
| HWM_TIMEZONE_OSAKA       | 60               | Tokyo, Osaka, Sapporo         |
| HWM_TIMEZONE_SEOUL       | 61               | Seoul                         |
| HWM_TIMEZONE_YAKUTSK     | 62               | Yakutsk                       |
| HWM_TIMEZONE_ADELAIDE    | 63               | Adelaide                      |
| HWM_TIMEZONE_DARWIN      | 64               | Darwin                        |
| HWM_TIMEZONE_BRISBANE    | 65               | Brisbane                      |
| HWM_TIMEZONE_CANBERRA    | 66               | Canberra, Melbourne, Sydney   |
| HWM_TIMEZONE_GUAM        | 67               | Guam, Port Moresby            |
| HWM_TIMEZONE_HOBART      | 68               | Hobart                        |
| HWM_TIMEZONE_VLADIVOSTOK | 69               | Vladivostok                   |
| HWM_TIMEZONE_SOLOMON     | 70               | Solomon Is., New Caledonia    |
| HWM_TIMEZONE_AUCKLAND    | 71               | Auckland, Wellington          |
| HWM_TIMEZONE_FIJI        | 72               | Fuji, Kamchatka, Marshall Is. |
| HWM_TIMEZONE_NUKUALOFA   | 73               | Nuku'alofa                    |
| HWM_TIMEZONE_IRKUTSK     | 74               | Irkutsk                       |
| HWM_TIMEZONE_CASABLANCA  | 75               | Casablanca                    |
| HWM_TIMEZONE_BAKU        | 76               | Baku                          |
| HWM_TIMEZONE_MAGADAN     | 77               | Magadan                       |

**Table 10-194** Enumerated values of ConfAllowJoinUserType

| Enumeration Name             | Enumerated Value | Description      |
|------------------------------|------------------|------------------|
| CONF_ALLOW_JOIN_ANYONE       | 0                | Everyone.        |
| CONF_ALLOW_JOIN_LOGINED_USER | 1                | Logged-in users. |

| Enumeration Name                | Enumerated Value | Description           |
|---------------------------------|------------------|-----------------------|
| CONF_ALLOW_JOIN_IN_COMPANY_USER | 2                | Corporate users only. |
| CONF_ALLOW_JOIN_INVITED_USER    | 3                | Invited users only.   |

**Table 10-195** Enumerated values of VmrConfIdType

| Enumeration Name            | Enumerated Value | Description                          |
|-----------------------------|------------------|--------------------------------------|
| HWM_VMR_CONF_ID_TYPE_FIXED  | 0                | Fixed ID of the cloud meeting room.  |
| HWM_VMR_CONF_ID_TYPE_RANDOM | 1                | Random ID of the cloud meeting room. |

**Table 10-196** AttendeeBaseInfo

| Parameter | Mandatory | Type   | Description  |
|-----------|-----------|--------|--|
| nickName  | Yes       | string | Participant name.  |
| number    | Yes       | string | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |

| Parameter    | Mandatory | Type         | Description  |
|--------------|-----------|--------------|--|
| thirdUserId  | Yes       | string       | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set. |
| accountId    | No        | string       | Huawei Cloud Meeting account.  |
| email        | No        | string       | Email address used for receiving email notifications.  |
| sms          | No        | string       | Mobile number used for receiving SMS notifications.  |
| isAutoInvite | No        | boolean      | Whether participants are automatically invited.  |
| isMute       | No        | boolean      | Whether the microphone is muted.   |
| role         | No        | ConfRole     | Participant role in the meeting.   |
| type         | No        | AttendeeType | Participant type.  |
| userId       | No        | string       | Participant UUID.  |

**Table 10-197** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.               |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

**Table 10-198** Enumerated values of AttendeeType

| Enumeration Name           | Enumerated Value | Description  |
|----------------------------|------------------|--|
| ATTENDEE_TYPE_NORMAL       | 0                | Voice, HD, and SD participant addresses.   |
| ATTENDEE_TYPE_TELEPRESENCE | 1                | Address of a telepresence participant (uni-screen or tri-screen telepresence participant). |
| ATTENDEE_TYPE_TERMINAL     | 2                | Meeting room or hard terminal.   |
| ATTENDEE_TYPE_OUTSIDE      | 3                | External participant.  |
| ATTENDEE_TYPE_CUSTOMNUMBER | 4                | Custom number.   |
| ATTENDEE_TYPE_MOBILE       | 5                | Soft client user's mobile phone.   |
| ATTENDEE_TYPE_ANONYMOUS    | 6                | Anonymous user.  |
| ATTENDEE_TYPE_TELEPHONE    | 7                | Phone user.  |
| ATTENDEE_TYPE_BOARD        | 8                | Whiteboard user.   |
| ATTENDEE_TYPE_IDEAHUB      | 9                | Large-screen device with HiSilicon chips.  |
| ATTENDEE_TYPE_HWVISION     | 10               | Smart TV.  |
| ATTENDEE_TYPE_WELINKC      | 11               | WeLink (public edition).   |

**Table 10-199** Enumerated values of ConfResType

| Enumeration Name           | Enumerated Value | Description                |
|----------------------------|------------------|----------------------------|
| HWM_CONF_RESTYPE_DEFAULT   | 0                | Default.                   |
| HWM_CONF_RESTYPE_SHARE_VMR | 3                | Shared cloud meeting room. |

**Table 10-200** Enumerated values of SummaryState

| Enumeration Name    | Enumerated Value | Description |
|---------------------|------------------|-------------|
| SUMMARY_STATE_CLOSE | 0                | Disabled.   |
| SUMMARY_STATE_OPEN  | 1                | Enabled.    |

**Table 10-201** Enumerated values of AutoMuteType

| Enumeration Name       | Enumerated Value | Description |
|------------------------|------------------|-------------|
| AUTO_MUTE_TYPE_DEFAULT | 0                | Default.    |
| AUTO_MUTE_TYPE_MUTE    | 1                | Muted.      |
| AUTO_MUTE_TYPE_UNMUTE  | 2                | Unmuted.    |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, confDetail: ConfDetail) => void

**Table 10-202** Input parameter description

| Parameter  | Type   | Description        |
|------------|--|--------------------|
| ret        | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason     | string   | Error description. |
| confDetail | ConfDetail   | Meeting details.   |

**Table 10-203** ConfDetail

| Parameter    | Type         | Description                |
|--------------|--------------|----------------------------|
| confListInfo | ConfListItem | Basic meeting information. |

| Parameter               | Type                  | Description  |
|-------------------------|-----------------------|--|
| vmrId                   | string                | Unique cloud meeting room ID.  |
| vmrFlag                 | boolean               | Whether the meeting is held in a cloud meeting room.   |
| isAutoRecord            | boolean               | Whether automatic meeting recording is enabled.  |
| allowRecord             | boolean               | Whether meeting recording is supported.  |
| allowLive               | boolean               | Reserved field. This parameter is transparently transmitted during meeting modification.   |
| needPassword            | boolean               | Whether a password is required.  |
| isSendSms               | boolean               | Whether SMS notifications are sent.  |
| isSendEmail             | boolean               | Whether email notifications are sent.  |
| isSendCalendar          | boolean               | Whether calendar notifications are sent.   |
| confAllowJoinUser       | ConfAllowJoinUserType | Meeting access settings.   |
| numOfAttendee           | number                | Number of participants.  |
| attendees               | AttendeeBaseInfo      | Participant list.  |
| isOpenWaitingRoom       | boolean               | Whether the waiting room is enabled.   |
| allowGuestStartConf     | boolean               | Whether to allow guests to start the meeting.  |
| allowGuestStartConfTime | number                | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance.                       |
| vmrConfIdType           | VmrConfIdType         | ID type of the cloud meeting room.   |
| concurrentParticipants  | number                | Maximum number of participants in the meeting. The value can be <b>0</b> (unlimited) or greater than <b>0</b> (specific maximum number of participants). |
| defaultSummaryState     | SummaryState          | Initial state of whether the cloud recording contains minutes (unavailable for recurring meetings; valid only for the Windows platform).                 |
| autoMuteMode            | AutoMuteType          | Whether soft client users are automatically muted.   |

| Parameter                | Type         | Description  |
|--------------------------|--------------|--|
| hardTerminalAutoMuteMode | AutoMuteType | Whether hard terminal users are automatically muted. |

**Table 10-204** ConfListItem

| Parameter       | Type      | Description   |
|-----------------|-----------|---|
| confId          | string    | Meeting ID.   |
| subject         | string    | Meeting topic.  |
| hostPwd         | string    | Host password.  |
| guestPwd        | string    | Guest password.   |
| audiencePwd     | string    | Attendee password. (This parameter is valid only for the Windows platform.)                             |
| startTime       | number    | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time (UTC time), in seconds. |
| endTime         | number    | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time (UTC time), in seconds.     |
| startTimeStamp  | number    | Meeting start time (timestamp, in seconds).   |
| endTimeStamp    | number    | Meeting end time (timestamp, in seconds).   |
| timezone        | Timezone  | Time zone code (valid only for the Windows platform).   |
| mediaType       | MediaType | Media type.   |
| schedulerName   | string    | Name of the user who schedules the meeting.   |
| vmrConfId       | string    | Display ID of the cloud meeting.  |
| hostJoinUri     | string    | Link for the host to join the meeting.  |
| guestJoinUri    | string    | Link for guests to join the meeting.  |
| audienceJoinUri | string    | Link for attendees to join the meeting (valid only for the Windows platform).                           |
| confStateType   | ConfState | Meeting status (valid only for the Windows platform).   |

| Parameter      | Type              | Description  |
|----------------|-------------------|--|
| isWebinar      | boolean           | Whether the meeting is a webinar or not (valid only for the Windows platform). |
| selfConfRole   | ConfRole          | Role in the meeting.   |
| conferenceType | ConferenceType    | Meeting type.  |
| cycleParam     | CycleConfParam    | Recurring meeting series parameters.   |
| subConfSize    | number            | Number of recurring meetings.  |
| subConfParam   | SubCycleConfParam | Recurring meeting parameters.  |
| customInfo     | string            | User-defined information.  |

**Table 10-205** Enumerated values of ConfState

| Enumeration Name         | Enumerated Value | Description                   |
|--------------------------|------------------|-------------------------------|
| HWM_CONF_STATE_SCHEDULE  | 0                | The meeting is scheduled.     |
| HWM_CONF_STATE_CREATING  | 1                | The meeting is being created. |
| HWM_CONF_STATE_GOING     | 2                | The meeting has started.      |
| HWM_CONF_STATE_DESTROYED | 3                | The meeting has ended.        |

**Table 10-206** Enumerated values of ConferenceType

| Enumeration Name     | Enumerated Value | Description        |
|----------------------|------------------|--------------------|
| HWM_CONF_TYPE_COMMON | 0                | Common meeting.    |
| HWM_CONF_TYPE_CYCLE  | 1                | Recurring meeting. |



**Table 10-207** CycleConfParam

| Parameter     | Type      | Description   |
|---------------|-----------|---|
| startDate     | number    | Start date and timestamp, accurate to seconds (UTC).  |
| endDate       | number    | End date and timestamp, accurate to seconds (UTC).  |
| cycleType     | CycleType | Period type.  |
| interval      | number    | Interval of recurring meetings. If <b>cycleType</b> is set to daily, there is a meeting every several days and the value range is [1,15]. If <b>cycleType</b> is set to weekly, there is a meeting every several weeks and the value range is [1,5]. If <b>cycleType</b> is set to monthly, there is a meeting every several months and the value range is [1,3]. |
| listPoints    | string    | Point for holding recurring meetings. This parameter is valid only when meetings are held weekly or monthly. Values are separated by colons (,), for example, <b>1,3,5,7</b> .  |
| preRemindDays | number    | Number of days in advance users are notified of a recurring meeting.  |

**Table 10-208** Enumerated values of CycleType

| Enumeration Name | Enumerated Value | Description |
|------------------|------------------|-------------|
| CYCLE_TYPE_DAY   | 0                | Daily.      |
| CYCLE_TYPE_WEEK  | 1                | Weekly.     |
| CYCLE_TYPE_MONTH | 2                | Monthly.    |

**Table 10-209** SubCycleConfParam

| Parameter | Type      | Description                  |
|-----------|-----------|------------------------------|
| subConfID | string    | UUID of a recurring meeting. |
| mediaType | MediaType | Media type.                  |

| Parameter               | Type                  | Description  |
|-------------------------|-----------------------|--|
| startTime               | number                | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time.   |
| endTime                 | number                | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time.   |
| startTimeStamp          | number                | Meeting start time (timestamp, in seconds).  |
| endTimeStamp            | number                | Meeting end time (timestamp, in seconds).  |
| isAutoRecord            | boolean               | Whether to automatically start recording after a meeting starts.   |
| recordAuthType          | RecordAuthType        | Recording authentication mode.   |
| confAllowJoinUser       | ConfAllowJoinUserType | Users who are allowed to join the meeting. By default, everyone is allowed.  |
| allowGuestStartConf     | boolean               | Whether to allow guests to start the meeting.  |
| allowGuestStartConfTime | number                | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance. |

**Table 10-210** Enumerated values of RecordAuthType

| Enumeration Name                | Enumerated Value | Description   |
|---------------------------------|------------------|---|
| REOCD_AUTH_TYPE_ANYONE          | 0                | The recording can be viewed or downloaded through link (no nonce is added). |
| REOCD_AUTH_TYPE_IN_COMPANY_USER | 1                | Corporate users can view or download the recording.                         |
| REOCD_AUTH_TYPE_ATTENDEE        | 2                | Participants can view or download the recording.                            |

**Table 10-211** AttendeeBaseInfo

| Parameter | Type   | Description       |
|-----------|--------|-------------------|
| nickName  | string | Participant name. |

| Parameter    | Type         | Description  |
|--------------|--------------|--|
| number       | string       | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId  | string       | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |
| accountId    | string       | Huawei Cloud Meeting account.  |
| email        | string       | Email address used for receiving email notifications.  |
| sms          | string       | Mobile number used for receiving SMS notifications.  |
| isAutoInvite | boolean      | Whether participants are automatically invited.  |
| isMute       | boolean      | Whether the microphone is muted.   |
| role         | ConfRole     | Participant role in the meeting.   |
| type         | AttendeeType | Participant type.  |
| userId       | string       | Participant UUID.  |

#### 10.4.4.4 Canceling a Meeting

##### Function

This API is used to cancel a scheduled meeting. 1. Call this API only after login. 2. Call this API to cancel a meeting that has not started. If the meeting has started, a failure message is returned.

##### Function Prototype

```
cancelConf(cancelConfParam: CancelConfParam, onCancelConfResult?: (ret: SDKERR, reason: string) => void): void  
cancelConf(cancelConfParam: CancelConfParam, onCancelConfResult?: (ret: SDKERR, reason: string) => void): void
```

## Request Parameters

**Table 10-212** Input parameter description

| Parameter          | Mandatory | Type                                  | Description                         |
|--------------------|-----------|---------------------------------------|-------------------------------------|
| cancelConfParam    | Yes       | CancelConfParam                       | Parameters for canceling a meeting. |
| onCancelConfResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of canceling the meeting.  |

**Table 10-213** CancelConfParam

| Parameter     | Mandatory | Type    | Description  |
|---------------|-----------|---------|--|
| confId        | Yes       | string  | Meeting ID.  |
| isForceCancel | No        | boolean | Whether to forcibly cancel the meeting. You can forcibly cancel an ongoing meeting. (This parameter is valid only for the Windows platform.) |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-214** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.4.5 Editing a Meeting

#### Function

This API is used to edit a scheduled meeting. 1. Call this API only after login. 2. Call this API to modify a meeting that has not started. If the meeting has started,

a failure message is returned. 3. All parameters are mandatory. Before modifying a meeting, query the meeting details. For the data that does not need to be changed, use the data returned after the meeting details are queried.

## Function Prototype

```
editConf(editConfParam: EditConfParam, onEditConfResult?: (ret: SDKERR, reason: string) => void): void
editConf(editConfParam: EditConfParam, onEditConfResult?: (ret: SDKERR, reason: string) => void): void
```

## Request Parameters

**Table 10-215** Input parameter description

| Parameter        | Mandatory | Type                                  | Description                         |
|------------------|-----------|---------------------------------------|-------------------------------------|
| editConfParam    | Yes       | EditConfParam                         | Parameters for modifying a meeting. |
| onEditConfResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of modifying the meeting.  |

**Table 10-216** EditConfParam

| Parameter       | Mandatory | Type            | Description  |
|-----------------|-----------|-----------------|--|
| confId          | Yes       | string          | Meeting ID.  |
| startTime       | Yes       | number          | Meeting start time, accurate to seconds (UTC). If it is not specified, the meeting starts immediately. The value is the difference between the UTC time and the UTC offset (converted into seconds). For example, if the time zone is UTC+08:00, the value is the UTC timestamp - (8 x 60 x 60). |
| duration        | Yes       | number          | Meeting duration, in minutes.  |
| confCommonParam | Yes       | ConfCommonParam | Common meeting parameters.   |
| isSendCalendar  | No        | boolean         | Whether to send calendar notifications.  |

**Table 10-217** ConfCommonParam

| Parameter    | Mandatory | Type      | Description  |
|--------------|-----------|-----------|--|
| subject      | Yes       | string    | Meeting topic.   |
| mediaType    | No        | MediaType | Meeting type. By default, the meeting is an audio meeting.   |
| needPassword | No        | boolean   | Whether a guest password is required. By default, the guest password is not required (valid only for meetings with a random ID).   |
| isAutoRecord | No        | boolean   | Whether to enable automatic meeting recording. By default, this function is disabled. If automatic meeting recording is enabled, the meeting will be recorded by default, regardless of whether recording is enabled or disabled in the meeting. This parameter is valid only for cloud recording, not for local recording on clients. |
| allowRecord  | No        | boolean   | Whether meeting recording is supported. (This parameter is valid only for the Windows platform.) This parameter is valid only for cloud recording, not for local recording on clients.   |
| allowLive    | No        | boolean   | Reserved field. This parameter is transparently transmitted during meeting modification.   |
| timezone     | Yes       | Timezone  | Time zone code. This parameter is used for sending meeting notifications.  |
| vmrId        | No        | string    | Unique cloud meeting room ID. To schedule a meeting using concurrent participants, set this parameter to an empty string. When you modify a meeting, you cannot modify this parameter and need to enter the value returned in meeting details.   |

| Parameter               | Mandatory | Type                  | Description  |
|-------------------------|-----------|-----------------------|--|
| confAllowJoinUser       | No        | ConfAllowJoinUserType | Users who are allowed to join the meeting. By default, everyone is allowed.  |
| isSendSms               | No        | boolean               | Whether to send an SMS notification. To use this function, enable it in the enterprise configuration first. Otherwise, this parameter does not take effect.  |
| isSendEmail             | No        | boolean               | Whether to send an email notification.   |
| vmrConfIdType           | No        | VmrConfIdType         | ID type of the cloud meeting room. When modifying a meeting, set this parameter to <b>HWM_VMR_CONF_ID_TYPE_FIXED</b> if <b>vmrConfId</b> in meeting details is not empty, or set it to <b>HWM_VMR_CONF_ID_TYPE_RANDOM</b> if <b>vmrConfId</b> in meeting details is empty. |
| guestPwd                | No        | string                | Guest password. If this parameter is left empty, the server randomly generates a password. This parameter is valid only for meetings with a random ID.   |
| isOpenWaitingRoom       | No        | boolean               | Waiting room status. This parameter takes effect only when the waiting room function is enabled.   |
| numOfAttendee           | Yes       | number                | Number of participants.  |
| attendees               | Yes       | AttendeeBaseInfo      | Participant list.  |
| allowGuestStartConf     | No        | boolean               | Whether to allow guests to start the meeting.  |
| allowGuestStartConfTime | No        | number                | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance.   |

| Parameter                | Mandatory | Type         | Description  |
|--------------------------|-----------|--------------|--|
| concurrentParticipants   | Yes       | number       | Maximum number of participants in the meeting. The value can be <b>0</b> (unlimited) or greater than <b>0</b> (specific maximum number of participants). |
| customInfo               | No        | string       | User-defined information.  |
| confResType              | No        | ConfResType  | Meeting resource type.   |
| defaultSummaryState      | No        | SummaryState | Initial state of whether the cloud recording contains minutes (unavailable for recurring meetings; valid only for the Windows platform).                 |
| autoMuteMode             | No        | AutoMuteType | Whether soft client guests are automatically muted when they join the meeting.   |
| hardTerminalAutoMuteMode | No        | AutoMuteType | Whether hard terminal guests are automatically muted when they join the meeting.   |

**Table 10-218** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

**Table 10-219** Enumerated values of Timezone

| Enumeration Name            | Enumerated Value | Description                  |
|-----------------------------|------------------|------------------------------|
| HWM_TIMEZONE_DEFAULT        | 0                | Default MediaX time zone     |
| HWM_TIMEZONE_INTERDATE_LINE | 1                | International Date Line West |
| HWM_TIMEZONE_MIDWAY_ISLAND  | 2                | Midway Island, Samoa         |



| Enumeration Name             | Enumerated Value | Description                         |
|------------------------------|------------------|-------------------------------------|
| HWM_TIMEZONE_HAWAII          | 3                | Hawaii                              |
| HWM_TIMEZONE_ALASKA          | 4                | Alaska                              |
| HWM_TIMEZONE_PACIFIC_TIME    | 5                | Pacific Time (US & Canada), Tijuana |
| HWM_TIMEZONE_ARIZONA         | 6                | Arizona                             |
| HWM_TIMEZONE_MOUNTAIN_TIME   | 7                | Mountain Time (US & Canada)         |
| HWM_TIMEZONE_CENTRAL_AMERICA | 8                | Central America                     |
| HWM_TIMEZONE_CENTRAL_TIME    | 9                | Central Time (US & Canada)          |
| HWM_TIMEZONE_MEXICO_CITY     | 10               | Mexico City                         |
| HWM_TIMEZONE_SASKATCHEWAN    | 11               | Saskatchewan                        |
| HWM_TIMEZONE_BOGOTA          | 12               | Bogota, Lima, Quito                 |
| HWM_TIMEZONE_EASTERN_TIME    | 13               | Eastern Time (US & Canada)          |
| HWM_TIMEZONE_INDIANA         | 14               | Indiana (East)                      |
| HWM_TIMEZONE_ATLANTIC_TIME   | 15               | Atlantic Time (Canada)              |
| HWM_TIMEZONE_CARACAS         | 16               | Caracas, La Paz                     |
| HWM_TIMEZONE_SANTIAGO        | 17               | Santiago                            |
| HWM_TIMEZONE_NEWFOUNDLAND    | 18               | Newfoundland                        |
| HWM_TIMEZONE_BRASILIA        | 19               | Brasilia                            |
| HWM_TIMEZONE_BUENOS_AIRES    | 20               | Buenos Aires, Georgetown            |
| HWM_TIMEZONE_GREENLAND       | 21               | Greenland                           |
| HWM_TIMEZONE_MID_ATLANTIC    | 22               | Mid-Atlantic                        |
| HWM_TIMEZONE_AZORES          | 23               | Azores                              |

| Enumeration Name                | Enumerated Value | Description  |
|---------------------------------|------------------|--|
| HWM_TIMEZONE_CAPEVERDE          | 24               | Cape Verde Is.   |
| HWM_TIMEZONE_MONROVIA           | 25               | Monrovia   |
| HWM_TIMEZONE_GREENWICH_MEANTIME | 26               | Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London |
| HWM_TIMEZONE_AMSTERDAM          | 27               | Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna       |
| HWM_TIMEZONE_BELGRADE           | 28               | Belgrade, Bratislava, Budapest, Ljubljana, Prague      |
| HWM_TIMEZONE_BRUSSELS           | 29               | Brussels, Copenhagen, Madrid, Paris                    |
| HWM_TIMEZONE_SARAJEVO           | 30               | Sarajevo, Skopje, Vilnius, Sofia, Warsaw, Zagreb       |
| HWM_TIMEZONE_WESTCENTRAL_AFRICA | 31               | West Central Africa                                    |
| HWM_TIMEZONE_ATHENS             | 32               | Athens, Istanbul, Minsk                                |
| HWM_TIMEZONE_BUCHAREST          | 33               | Bucharest  |
| HWM_TIMEZONE_CAIRO              | 34               | Cairo  |
| HWM_TIMEZONE_HARARE             | 35               | Harare, Pretoria                                       |
| HWM_TIMEZONE_HELSINKI           | 36               | Helsinki, Riga, Tallinn                                |
| HWM_TIMEZONE_JERUSALEM          | 37               | Jerusalem  |
| HWM_TIMEZONE_BAGHDAD            | 38               | Baghdad  |
| HWM_TIMEZONE_KUWAIT             | 39               | Kuwait, Riyadh   |
| HWM_TIMEZONE_MOSCOW             | 40               | Moscow, St. Petersburg, Kazan, Volgograd               |
| HWM_TIMEZONE_NAIROBI            | 41               | Nairobi  |
| HWM_TIMEZONE_TEHRAN             | 42               | Tehran   |
| HWM_TIMEZONE_ABU_DHABI          | 43               | Abu Dhabi, Muscat                                      |
| HWM_TIMEZONE_TBILISI            | 44               | Tbilisi, Yerevan                                       |
| HWM_TIMEZONE_KABUL              | 45               | Kabul  |
| HWM_TIMEZONE_EKATERINBURG       | 46               | Ekaterinburg   |

| Enumeration Name         | Enumerated Value | Description                                   |
|--------------------------|------------------|---|
| HWM_TIMEZONE_ISLAMABAD   | 47               | Islamabad, Karachi, Tashkent                  |
| HWM_TIMEZONE_CALCUTTA    | 48               | Kolkata, Chennai, Mumbai, New Delhi           |
| HWM_TIMEZONE_KATHMANDU   | 49               | Kathmandu                                     |
| HWM_TIMEZONE_ALMATY      | 50               | Almaty  |
| HWM_TIMEZONE_ASTANA      | 51               | Astana, Dhaka                                 |
| HWM_TIMEZONE_SRIJAYA     | 52               | Sri Jayawardenepura                           |
| HWM_TIMEZONE_RANGOON     | 53               | Yangon (Rangoon)                              |
| HWM_TIMEZONE_BANGKOK     | 54               | Bangkok, Jakarta, Hanoi                       |
| HWM_TIMEZONE_NOVOSIBIRSK | 55               | Novosibirsk                                   |
| HWM_TIMEZONE_BEIJING     | 56               | Beijing, Chongqing, Hong Kong, Urumqi, Taipei |
| HWM_TIMEZONE_KRASNOYARSK | 57               | Krasnoyarsk, Ulaanbaatar                      |
| HWM_TIMEZONE_KUALALUMPUR | 58               | Kuala Lumpur, Singapore                       |
| HWM_TIMEZONE_PERTH       | 59               | Perth   |
| HWM_TIMEZONE_OSAKA       | 60               | Tokyo, Osaka, Sapporo                         |
| HWM_TIMEZONE_SEOUL       | 61               | Seoul   |
| HWM_TIMEZONE_YAKUTSK     | 62               | Yakutsk                                       |
| HWM_TIMEZONE_ADELAIDE    | 63               | Adelaide                                      |
| HWM_TIMEZONE_DARWIN      | 64               | Darwin  |
| HWM_TIMEZONE_BRISBANE    | 65               | Brisbane                                      |
| HWM_TIMEZONE_CANBERRA    | 66               | Canberra, Melbourne, Sydney                   |
| HWM_TIMEZONE_GUAM        | 67               | Guam, Port Moresby                            |
| HWM_TIMEZONE_HOBART      | 68               | Hobart  |
| HWM_TIMEZONE_VLADIVOSTOK | 69               | Vladivostok                                   |
| HWM_TIMEZONE_SOLOMON     | 70               | Solomon Is., New Caledonia                    |

| Enumeration Name        | Enumerated Value | Description                   |
|-------------------------|------------------|-------------------------------|
| HWM_TIMEZONE_AUCKLAND   | 71               | Auckland, Wellington          |
| HWM_TIMEZONE_FIJI       | 72               | Fuji, Kamchatka, Marshall Is. |
| HWM_TIMEZONE_NUKUALOFA  | 73               | Nuku'alofa                    |
| HWM_TIMEZONE_IRKUTSK    | 74               | Irkutsk                       |
| HWM_TIMEZONE_CASABLANCA | 75               | Casablanca                    |
| HWM_TIMEZONE_BAKU       | 76               | Baku                          |
| HWM_TIMEZONE_MAGADAN    | 77               | Magadan                       |

**Table 10-220** Enumerated values of ConfAllowJoinUserType

| Enumeration Name                | Enumerated Value | Description           |
|---------------------------------|------------------|-----------------------|
| CONF_ALLOW_JOIN_ANYONE          | 0                | Everyone.             |
| CONF_ALLOW_JOIN_LOGINED_USER    | 1                | Logged-in users.      |
| CONF_ALLOW_JOIN_IN_COMPANY_USER | 2                | Corporate users only. |
| CONF_ALLOW_JOIN_INVITED_USER    | 3                | Invited users only.   |

**Table 10-221** Enumerated values of VmrConfIdType

| Enumeration Name            | Enumerated Value | Description                          |
|-----------------------------|------------------|--------------------------------------|
| HWM_VMR_CONF_ID_TYPE_FIXED  | 0                | Fixed ID of the cloud meeting room.  |
| HWM_VMR_CONF_ID_TYPE_RANDOM | 1                | Random ID of the cloud meeting room. |

**Table 10-222** AttendeeBaseInfo

| Parameter    | Mandatory | Type         | Description  |
|--------------|-----------|--------------|--|
| nickName     | Yes       | string       | Participant name.  |
| number       | Yes       | string       | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId  | Yes       | string       | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |
| accountId    | No        | string       | Huawei Cloud Meeting account.  |
| email        | No        | string       | Email address used for receiving email notifications.  |
| sms          | No        | string       | Mobile number used for receiving SMS notifications.  |
| isAutoInvite | No        | boolean      | Whether to automatically invite participants.  |
| isMute       | No        | boolean      | Whether to mute the microphone.  |
| role         | No        | ConfRole     | Participant role in the meeting.   |
| type         | No        | AttendeeType | Participant type.  |
| userUuid     | No        | string       | Participant UUID.  |

**Table 10-223** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.               |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

**Table 10-224** Enumerated values of AttendeeType

| Enumeration Name           | Enumerated Value | Description  |
|----------------------------|------------------|--|
| ATTENDEE_TYPE_NORMAL       | 0                | Voice, HD, and SD participant addresses.   |
| ATTENDEE_TYPE_TELEPRESENCE | 1                | Address of a telepresence participant (uni-screen or tri-screen telepresence participant). |
| ATTENDEE_TYPE_TERMINAL     | 2                | Meeting room or hard terminal.   |
| ATTENDEE_TYPE_OUTSIDE      | 3                | External participant.  |
| ATTENDEE_TYPE_CUSTOMNUMBER | 4                | Custom number.   |
| ATTENDEE_TYPE_MOBILE       | 5                | Soft client user's mobile phone.   |
| ATTENDEE_TYPE_ANONYMOUS    | 6                | Anonymous user.  |
| ATTENDEE_TYPE_TELEPHONE    | 7                | Phone user.  |
| ATTENDEE_TYPE_BOARD        | 8                | Whiteboard user.   |
| ATTENDEE_TYPE_IDEAHUB      | 9                | Large-screen device with HiSilicon chips.  |
| ATTENDEE_TYPE_HWVISION     | 10               | Smart TV.  |
| ATTENDEE_TYPE_WELINKC      | 11               | WeLink (public edition).   |

**Table 10-225** Enumerated values of ConfResType

| Enumeration Name           | Enumerated Value | Description                |
|----------------------------|------------------|----------------------------|
| HWM_CONF_RESTYPE_DEFAULT   | 0                | Default.                   |
| HWM_CONF_RESTYPE_SHARE_VMR | 3                | Shared cloud meeting room. |

**Table 10-226** Enumerated values of SummaryState

| Enumeration Name    | Enumerated Value | Description |
|---------------------|------------------|-------------|
| SUMMARY_STATE_CLOSE | 0                | Disabled.   |
| SUMMARY_STATE_OPEN  | 1                | Enabled.    |

**Table 10-227** Enumerated values of AutoMuteType

| Enumeration Name       | Enumerated Value | Description |
|------------------------|------------------|-------------|
| AUTO_MUTE_TYPE_DEFAULT | 0                | Default.    |
| AUTO_MUTE_TYPE_MUTE    | 1                | Muted.      |
| AUTO_MUTE_TYPE_UNMUTE  | 2                | Unmuted.    |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-228** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.4.6 Obtaining the Cloud Meeting Room List

#### Function

This API is used to obtain the cloud meeting room list. Call this API only after login.

#### Function Prototype

```
getVmrList(onGetVmrListResult?: (ret: SDKERR, reason: string, vmrListInfo: VmrListInfo) => void): void  
getVmrList(onGetVmrListResult?: (ret: SDKERR, reason: string, vmrListInfo: VmrListInfo) => void): void
```

#### Request Parameters

**Table 10-229** Input parameter description

| Parameter          | Mandatory | Type  | Description   |
|--------------------|-----------|---|---|
| onGetVmrListResult | Yes       | (ret: SDKERR, reason: string, vmrListInfo: VmrListInfo) => void | Cloud meeting room list notification, which is returned upon the request for obtaining the cloud meeting room list. |

#### Return Values

void

#### Callback Method Parameters

```
(ret: SDKERR, reason: string, vmrListInfo: VmrListInfo) => void
```



**Table 10-230** Input parameter description

| Parameter   | Type   | Description              |
|-------------|--|--------------------------|
| ret         | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.              |
| reason      | string   | Error description.       |
| vmrListInfo | VmrListInfo  | Cloud meeting room list. |

**Table 10-231** VmrListInfo

| Parameter         | Type    | Description                                       |
|-------------------|---------|---|
| numOfVmrs         | number  | Number of cloud meeting rooms.                    |
| vmrs              | VmrInfo | Cloud meeting room information.                   |
| isEnabledShareVmr | boolean | Whether shared cloud meeting rooms are available. |

**Table 10-232** VmrInfo

| Parameter            | Type      | Description   |
|----------------------|-----------|---|
| vmrConfId            | string    | Fixed meeting ID of the cloud meeting room.               |
| vmrId                | string    | Unique cloud meeting room ID.                             |
| hostPwd              | string    | Host password of the cloud meeting room.                  |
| guestPwd             | string    | Guest password of the cloud meeting room.                 |
| vmrType              | VmrIdType | Cloud meeting room type.                                  |
| maxParties           | number    | Maximum number of participants in the cloud meeting room. |
| isEnabled            | boolean   | Whether the cloud meeting room is available.              |
| name                 | string    | Cloud meeting room name.                                  |
| allowGuestStart-Conf | boolean   | Whether to allow guests to start the meeting.             |

| Parameter         | Type                  | Description  |
|-------------------|-----------------------|--|
| confAllowJoinUser | ConfAllowJoinUserType | Users who are allowed to join the meeting. By default, everyone is allowed.                      |
| isOpenWaitingRoom | boolean               | Waiting room status. This parameter takes effect only when the waiting room function is enabled. |

**Table 10-233** Enumerated values of VmrlidType

| Enumeration Name      | Enumerated Value | Description            |
|-----------------------|------------------|------------------------|
| RANDOM_MEETING_ID     | 0                | Random meeting ID.     |
| PERSONAL_MEETING_ID   | 1                | Personal meeting ID.   |
| CLOUD_MEETING_ROOM_ID | 2                | Cloud meeting room ID. |

**Table 10-234** Enumerated values of ConfAllowJoinUserType

| Enumeration Name                | Enumerated Value | Description           |
|---------------------------------|------------------|-----------------------|
| CONF_ALLOW_JOIN_ANYONE          | 0                | Everyone.             |
| CONF_ALLOW_JOIN_LOGINED_USER    | 1                | Logged-in users.      |
| CONF_ALLOW_JOIN_IN_COMPANY_USER | 2                | Corporate users only. |
| CONF_ALLOW_JOIN_INVITED_USER    | 3                | Invited users only.   |

### 10.4.4.7 Obtaining Meeting Details

#### Function

This API is used to obtain meeting details. Call this API only after login.

#### Function Prototype

```
getConfDetail(getConfDetailParam: GetConfDetailParam, onGetConfDetailResult?: (ret: SDKERR, reason: string, confDetail: ConfDetail) => void):
```

void getConfDetail(getConfDetailParam: GetConfDetailParam, onGetConfDetailResult?: (ret: SDKERR, reason: string, confDetail: ConfDetail) => void): void

## Request Parameters

**Table 10-235** Input parameter description

| Parameter             | Mandatory | Type  | Description   |
|-----------------------|-----------|---|---|
| getConfDetailParam    | Yes       | GetConfDetailParam  | Parameters for obtaining meeting details.   |
| onGetConfDetailResult | Yes       | (ret: SDKERR, reason: string, confDetail: ConfDetail) => void | Meeting details notification, which is returned upon the request for obtaining meeting details. |

**Table 10-236** GetConfDetailParam

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| confId    | Yes       | string | Meeting ID. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, confDetail: ConfDetail) => void

**Table 10-237** Input parameter description

| Parameter  | Type   | Description        |
|------------|--|--------------------|
| ret        | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason     | string   | Error description. |
| confDetail | ConfDetail   | Meeting details.   |

**Table 10-238** ConfDetail

| Parameter               | Type                  | Description  |
|-------------------------|-----------------------|--|
| confListInfo            | ConfListItem          | Basic meeting information.   |
| vmrId                   | string                | Unique cloud meeting room ID.  |
| vmrFlag                 | boolean               | Whether the meeting is held in a cloud meeting room.   |
| isAutoRecord            | boolean               | Whether automatic meeting recording is enabled.  |
| allowRecord             | boolean               | Whether meeting recording is supported.  |
| allowLive               | boolean               | Reserved field. This parameter is transparently transmitted during meeting modification.   |
| needPassword            | boolean               | Whether a password is required.  |
| isSendSms               | boolean               | Whether SMS notifications are sent.  |
| isSendEmail             | boolean               | Whether email notifications are sent.  |
| isSendCalendar          | boolean               | Whether calendar notifications are sent.   |
| confAllowJoinUser       | ConfAllowJoinUserType | Meeting access settings.   |
| numOfAttendee           | number                | Number of participants.  |
| attendees               | AttendeeBaseInfo      | Participant list.  |
| isOpenWaitingRoom       | boolean               | Whether the waiting room is enabled.   |
| allowGuestStartConf     | boolean               | Whether to allow guests to start the meeting.  |
| allowGuestStartConfTime | number                | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance.                       |
| vmrConfIdType           | VmrConfIdType         | ID type of the cloud meeting room.   |
| concurrentParticipants  | number                | Maximum number of participants in the meeting. The value can be <b>0</b> (unlimited) or greater than <b>0</b> (specific maximum number of participants). |
| defaultSummaryState     | SummaryState          | Initial state of whether the cloud recording contains minutes (unavailable for recurring meetings; valid only for the Windows platform).                 |

| Parameter                | Type         | Description  |
|--------------------------|--------------|--|
| autoMuteMode             | AutoMuteType | Whether soft client users are automatically muted.   |
| hardTerminalAutoMuteMode | AutoMuteType | Whether hard terminal users are automatically muted. |

**Table 10-239** ConfListItem

| Parameter       | Type      | Description   |
|-----------------|-----------|---|
| confId          | string    | Meeting ID.   |
| subject         | string    | Meeting topic.  |
| hostPwd         | string    | Host password.  |
| guestPwd        | string    | Guest password.   |
| audiencePwd     | string    | Attendee password. (This parameter is valid only for the Windows platform.)                             |
| startTime       | number    | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time (UTC time), in seconds. |
| endTime         | number    | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time (UTC time), in seconds.     |
| startTimeStamp  | number    | Meeting start time (timestamp, in seconds).   |
| endTimeStamp    | number    | Meeting end time (timestamp, in seconds).   |
| timezone        | Timezone  | Time zone code (valid only for the Windows platform).   |
| mediaType       | MediaType | Media type.   |
| schedulerName   | string    | Name of the user who schedules the meeting.   |
| vmrConfId       | string    | Display ID of the cloud meeting.  |
| hostJoinUri     | string    | Link for the host to join the meeting.  |
| guestJoinUri    | string    | Link for guests to join the meeting.  |
| audienceJoinUri | string    | Link for attendees to join the meeting (valid only for the Windows platform).                           |
| confStateType   | ConfState | Meeting status (valid only for the Windows platform).   |

| Parameter      | Type              | Description  |
|----------------|-------------------|--|
| isWebinar      | boolean           | Whether the meeting is a webinar or not (valid only for the Windows platform). |
| selfConfRole   | ConfRole          | Role in the meeting.   |
| conferenceType | ConferenceType    | Meeting type.  |
| cycleParam     | CycleConfParam    | Recurring meeting series parameters.   |
| subConfSize    | number            | Number of recurring meetings.  |
| subConfParam   | SubCycleConfParam | Recurring meeting parameters.  |
| customInfo     | string            | User-defined information.  |

**Table 10-240** Enumerated values of Timezone

| Enumeration Name             | Enumerated Value | Description                         |
|------------------------------|------------------|-------------------------------------|
| HWM_TIMEZONE_DEFAULT         | 0                | Default MediaX time zone            |
| HWM_TIMEZONE_INTERDATE_LINE  | 1                | International Date Line West        |
| HWM_TIMEZONE_MIDWAY_ISLAND   | 2                | Midway Island, Samoa                |
| HWM_TIMEZONE_HAWAII          | 3                | Hawaii                              |
| HWM_TIMEZONE_ALASKA          | 4                | Alaska                              |
| HWM_TIMEZONE_PACIFIC_TIME    | 5                | Pacific Time (US & Canada), Tijuana |
| HWM_TIMEZONE_ARIZONA         | 6                | Arizona                             |
| HWM_TIMEZONE_MOUNTAIN_TIME   | 7                | Mountain Time (US & Canada)         |
| HWM_TIMEZONE_CENTRAL_AMERICA | 8                | Central America                     |
| HWM_TIMEZONE_CENTRAL_TIME    | 9                | Central Time (US & Canada)          |
| HWM_TIMEZONE_MEXICO_CITY     | 10               | Mexico City                         |

| Enumeration Name                | Enumerated Value | Description  |
|---------------------------------|------------------|--|
| HWM_TIMEZONE_SASKATCHEWAN       | 11               | Saskatchewan   |
| HWM_TIMEZONE_BOGOTA             | 12               | Bogota, Lima, Quito                                    |
| HWM_TIMEZONE_EASTERN_TIME       | 13               | Eastern Time (US & Canada)                             |
| HWM_TIMEZONE_INDIANA            | 14               | Indiana (East)   |
| HWM_TIMEZONE_ATLANTIC_TIME      | 15               | Atlantic Time (Canada)                                 |
| HWM_TIMEZONE_CARACAS            | 16               | Caracas, La Paz  |
| HWM_TIMEZONE_SANTIAGO           | 17               | Santiago   |
| HWM_TIMEZONE_NEWFOUNDLAND       | 18               | Newfoundland   |
| HWM_TIMEZONE_BRASILIA           | 19               | Brasilia   |
| HWM_TIMEZONE_BUENOS_AIRES       | 20               | Buenos Aires, Georgetown                               |
| HWM_TIMEZONE_GREENLAND          | 21               | Greenland  |
| HWM_TIMEZONE_MID_ATLANTIC       | 22               | Mid-Atlantic   |
| HWM_TIMEZONE_AZORES             | 23               | Azores   |
| HWM_TIMEZONE_CAPEVERDE          | 24               | Cape Verde Is.   |
| HWM_TIMEZONE_MONROVIA           | 25               | Monrovia   |
| HWM_TIMEZONE_GREENWICH_MEANTIME | 26               | Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London |
| HWM_TIMEZONE_AMSTERDAM          | 27               | Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna       |
| HWM_TIMEZONE_BELGRADE           | 28               | Belgrade, Bratislava, Budapest, Ljubljana, Prague      |
| HWM_TIMEZONE_BRUSSELS           | 29               | Brussels, Copenhagen, Madrid, Paris                    |
| HWM_TIMEZONE_SARAJEVO           | 30               | Sarajevo, Skopje, Vilnius, Sofia, Warsaw, Zagreb       |
| HWM_TIMEZONE_WESTCENTRAL_AFRICA | 31               | West Central Africa                                    |

| Enumeration Name          | Enumerated Value | Description                              |
|---------------------------|------------------|--|
| HWM_TIMEZONE_ATHENS       | 32               | Athens, Istanbul, Minsk                  |
| HWM_TIMEZONE_BUCHAREST    | 33               | Bucharest                                |
| HWM_TIMEZONE_CAIRO        | 34               | Cairo                                    |
| HWM_TIMEZONE_HARARE       | 35               | Harare, Pretoria                         |
| HWM_TIMEZONE_HELSINKI     | 36               | Helsinki, Riga, Tallinn                  |
| HWM_TIMEZONE_JERUSALEM    | 37               | Jerusalem                                |
| HWM_TIMEZONE_BAGHDAD      | 38               | Baghdad                                  |
| HWM_TIMEZONE_KUWAIT       | 39               | Kuwait, Riyadh                           |
| HWM_TIMEZONE_MOSCOW       | 40               | Moscow, St. Petersburg, Kazan, Volgograd |
| HWM_TIMEZONE_NAIROBI      | 41               | Nairobi                                  |
| HWM_TIMEZONE_TEHRAN       | 42               | Tehran                                   |
| HWM_TIMEZONE_ABU_DHABI    | 43               | Abu Dhabi, Muscat                        |
| HWM_TIMEZONE_TBILISI      | 44               | Tbilisi, Yerevan                         |
| HWM_TIMEZONE_KABUL        | 45               | Kabul                                    |
| HWM_TIMEZONE_EKATERINBURG | 46               | Ekaterinburg                             |
| HWM_TIMEZONE_ISLAMABAD    | 47               | Islamabad, Karachi, Tashkent             |
| HWM_TIMEZONE_CALCUTTA     | 48               | Kolkata, Chennai, Mumbai, New Delhi      |
| HWM_TIMEZONE_KATHMANDU    | 49               | Kathmandu                                |
| HWM_TIMEZONE_ALMATY       | 50               | Almaty                                   |
| HWM_TIMEZONE_ASTANA       | 51               | Astana, Dhaka                            |
| HWM_TIMEZONE_SRIJAYA      | 52               | Sri Jayawardenepura                      |
| HWM_TIMEZONE_RANGOON      | 53               | Yangon (Rangoon)                         |
| HWM_TIMEZONE_BANGKOK      | 54               | Bangkok, Jakarta, Hanoi                  |
| HWM_TIMEZONE_NOVOSIBIRSK  | 55               | Novosibirsk                              |



| Enumeration Name         | Enumerated Value | Description                                   |
|--------------------------|------------------|---|
| HWM_TIMEZONE_BEIJING     | 56               | Beijing, Chongqing, Hong Kong, Urumqi, Taipei |
| HWM_TIMEZONE_KRASNOYARSK | 57               | Krasnoyarsk, Ulaanbaatar                      |
| HWM_TIMEZONE_KUALALUMPUR | 58               | Kuala Lumpur, Singapore                       |
| HWM_TIMEZONE_PERTH       | 59               | Perth   |
| HWM_TIMEZONE_OSAKA       | 60               | Tokyo, Osaka, Sapporo                         |
| HWM_TIMEZONE_SEOUL       | 61               | Seoul   |
| HWM_TIMEZONE_YAKUTSK     | 62               | Yakutsk                                       |
| HWM_TIMEZONE_ADELAIDE    | 63               | Adelaide                                      |
| HWM_TIMEZONE_DARWIN      | 64               | Darwin  |
| HWM_TIMEZONE_BRISBANE    | 65               | Brisbane                                      |
| HWM_TIMEZONE_CANBERRA    | 66               | Canberra, Melbourne, Sydney                   |
| HWM_TIMEZONE_GUAM        | 67               | Guam, Port Moresby                            |
| HWM_TIMEZONE_HOBART      | 68               | Hobart  |
| HWM_TIMEZONE_VLADIVOSTOK | 69               | Vladivostok                                   |
| HWM_TIMEZONE_SOLOMON     | 70               | Solomon Is., New Caledonia                    |
| HWM_TIMEZONE_AUCKLAND    | 71               | Auckland, Wellington                          |
| HWM_TIMEZONE_FIJI        | 72               | Fuji, Kamchatka, Marshall Is.                 |
| HWM_TIMEZONE_NUKUALOFA   | 73               | Nuku'alofa                                    |
| HWM_TIMEZONE_IRKUTSK     | 74               | Irkutsk                                       |
| HWM_TIMEZONE_CASABLANCA  | 75               | Casablanca                                    |
| HWM_TIMEZONE_BAKU        | 76               | Baku  |
| HWM_TIMEZONE_MAGADAN     | 77               | Magadan                                       |

**Table 10-241** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

**Table 10-242** Enumerated values of ConfState

| Enumeration Name         | Enumerated Value | Description                   |
|--------------------------|------------------|-------------------------------|
| HWM_CONF_STATE_SCHEDULE  | 0                | The meeting is scheduled.     |
| HWM_CONF_STATE_CREATING  | 1                | The meeting is being created. |
| HWM_CONF_STATE_GOING     | 2                | The meeting has started.      |
| HWM_CONF_STATE_DESTROYED | 3                | The meeting has ended.        |

**Table 10-243** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.               |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

**Table 10-244** Enumerated values of ConferenceType

| Enumeration Name     | Enumerated Value | Description        |
|----------------------|------------------|--------------------|
| HWM_CONF_TYPE_COMMON | 0                | Common meeting.    |
| HWM_CONF_TYPE_CYCLE  | 1                | Recurring meeting. |

**Table 10-245** CycleConfParam

| Parameter     | Type      | Description   |
|---------------|-----------|---|
| startDate     | number    | Start date and timestamp, accurate to seconds (UTC).  |
| endDate       | number    | End date and timestamp, accurate to seconds (UTC).  |
| cycleType     | CycleType | Period type.  |
| interval      | number    | Interval of recurring meetings. If <b>cycleType</b> is set to daily, there is a meeting every several days and the value range is [1,15]. If <b>cycleType</b> is set to weekly, there is a meeting every several weeks and the value range is [1,5]. If <b>cycleType</b> is set to monthly, there is a meeting every several months and the value range is [1,3]. |
| listPoints    | string    | Point for holding recurring meetings. This parameter is valid only when meetings are held weekly or monthly. Values are separated by colons (,), for example, <b>1,3,5,7</b> .  |
| preRemindDays | number    | Number of days in advance users are notified of a recurring meeting.  |

**Table 10-246** Enumerated values of CycleType

| Enumeration Name | Enumerated Value | Description |
|------------------|------------------|-------------|
| CYCLE_TYPE_DAY   | 0                | Daily.      |
| CYCLE_TYPE_WEEK  | 1                | Weekly.     |

| Enumeration Name | Enumerated Value | Description |
|------------------|------------------|-------------|
| CYCLE_TYPE_MONTH | 2                | Monthly.    |

**Table 10-247** SubCycleConfParam

| Parameter                | Type                  | Description  |
|--------------------------|-----------------------|--|
| subConfID                | string                | UUID of a recurring meeting.   |
| mediaType                | MediaType             | Media type.  |
| startTime                | number                | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time.   |
| endTime                  | number                | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time.   |
| startTimeStamp           | number                | Meeting start time (timestamp, in seconds).  |
| endTimeStamp             | number                | Meeting end time (timestamp, in seconds).  |
| isAutoRecord             | boolean               | Whether to automatically start recording after a meeting starts.   |
| recordAuthType           | RecordAuthType        | Recording authentication mode.   |
| confAllowJoinUser        | ConfAllowJoinUserType | Users who are allowed to join the meeting. By default, everyone is allowed.  |
| allowGuestStart-Conf     | boolean               | Whether to allow guests to start the meeting.  |
| allowGuestStart-ConfTime | number                | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance. |

**Table 10-248** Enumerated values of RecordAuthType

| Enumeration Name                 | Enumerated Value | Description   |
|----------------------------------|------------------|---|
| REOCDR_AUTH_TYPE_ANYONE          | 0                | The recording can be viewed or downloaded through link (no nonce is added). |
| REOCDR_AUTH_TYPE_IN_COMPANY_USER | 1                | Corporate users can view or download the recording.                         |
| REOCDR_AUTH_TYPE_ATTENDEE        | 2                | Participants can view or download the recording.                            |

**Table 10-249** Enumerated values of ConfAllowJoinUserType

| Enumeration Name                | Enumerated Value | Description           |
|---------------------------------|------------------|-----------------------|
| CONF_ALLOW_JOIN_ANYONE          | 0                | Everyone.             |
| CONF_ALLOW_JOIN_LOGINED_USER    | 1                | Logged-in users.      |
| CONF_ALLOW_JOIN_IN_COMPANY_USER | 2                | Corporate users only. |
| CONF_ALLOW_JOIN_INVITED_USER    | 3                | Invited users only.   |

**Table 10-250** AttendeeBaseInfo

| Parameter | Type   | Description       |
|-----------|--------|-------------------|
| nickName  | string | Participant name. |

| Parameter    | Type         | Description  |
|--------------|--------------|--|
| number       | string       | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId  | string       | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |
| accountId    | string       | Huawei Cloud Meeting account.  |
| email        | string       | Email address used for receiving email notifications.  |
| sms          | string       | Mobile number used for receiving SMS notifications.  |
| isAutoInvite | boolean      | Whether participants are automatically invited.  |
| isMute       | boolean      | Whether the microphone is muted.   |
| role         | ConfRole     | Participant role in the meeting.   |
| type         | AttendeeType | Participant type.  |
| userId       | string       | Participant UUID.  |

**Table 10-251** Enumerated values of AttendeeType

| Enumeration Name           | Enumerated Value | Description  |
|----------------------------|------------------|--|
| ATTENDEE_TYPE_NORMAL       | 0                | Voice, HD, and SD participant addresses.   |
| ATTENDEE_TYPE_TELEPRESENCE | 1                | Address of a telepresence participant (uni-screen or tri-screen telepresence participant). |

| Enumeration Name           | Enumerated Value | Description                               |
|----------------------------|------------------|---|
| ATTENDEE_TYPE_TERMINAL     | 2                | Meeting room or hard terminal.            |
| ATTENDEE_TYPE_OUTSIDE      | 3                | External participant.                     |
| ATTENDEE_TYPE_CUSTOMNUMBER | 4                | Custom number.                            |
| ATTENDEE_TYPE_MOBILE       | 5                | Soft client user's mobile phone.          |
| ATTENDEE_TYPE_ANONYMOUS    | 6                | Anonymous user.                           |
| ATTENDEE_TYPE_TELEPHONE    | 7                | Phone user.                               |
| ATTENDEE_TYPE_BOARD        | 8                | Whiteboard user.                          |
| ATTENDEE_TYPE_IDEAHUB      | 9                | Large-screen device with HiSilicon chips. |
| ATTENDEE_TYPE_HWVISION     | 10               | Smart TV.                                 |
| ATTENDEE_TYPE_WELINKC      | 11               | WeLink (public edition).                  |

**Table 10-252** Enumerated values of VmrConfIdType

| Enumeration Name            | Enumerated Value | Description                          |
|-----------------------------|------------------|--------------------------------------|
| HWM_VMR_CONF_ID_TYPE_FIXED  | 0                | Fixed ID of the cloud meeting room.  |
| HWM_VMR_CONF_ID_TYPE_RANDOM | 1                | Random ID of the cloud meeting room. |

**Table 10-253** Enumerated values of SummaryState

| Enumeration Name    | Enumerated Value | Description |
|---------------------|------------------|-------------|
| SUMMARY_STATE_CLOSE | 0                | Disabled.   |
| SUMMARY_STATE_OPEN  | 1                | Enabled.    |

**Table 10-254** Enumerated values of AutoMuteType

| Enumeration Name       | Enumerated Value | Description |
|------------------------|------------------|-------------|
| AUTO_MUTE_TYPE_DEFAULT | 0                | Default.    |
| AUTO_MUTE_TYPE_MUTE    | 1                | Muted.      |
| AUTO_MUTE_TYPE_UNMUTE  | 2                | Unmuted.    |

### 10.4.4.8 Modifying Cloud Meeting Room Information

#### Function

This API is used to modify cloud meeting room information. 1. Call this API only after login. 2. All parameters are mandatory. Before calling this API, obtain the cloud meeting room list. For data that does not need to be changed, use the data returned by the API for obtaining the cloud meeting room list.

#### Function Prototype

```
changeVmrInfo(vmrInfoParam: ChangeVmrInfoParam, onChangeVmrInfoResult?:  
(ret: SDKERR, reason: string) => void): void  
changeVmrInfo(vmrInfoParam: ChangeVmrInfoParam, onChangeVmrInfoResult?:  
(ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-255** Input parameter description

| Parameter             | Mandatory | Type                                  | Description                                       |
|-----------------------|-----------|---------------------------------------|---|
| vmrInfoParam          | Yes       | ChangeVmrInfoParam                    | Information about modifying a cloud meeting room. |
| onChangeVmrInfoResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of modifying the cloud meeting room.     |

**Table 10-256** ChangeVmrInfoParam

| Parameter | Mandatory | Type   | Description                   |
|-----------|-----------|--------|-------------------------------|
| vmrId     | Yes       | string | Unique cloud meeting room ID. |
| vmrName   | Yes       | string | Cloud meeting room name.      |



| Parameter           | Mandatory | Type                  | Description  |
|---------------------|-----------|-----------------------|--|
| guestPwd            | Yes       | string                | Guest password of the cloud meeting room.  |
| hostPwd             | Yes       | string                | Host password of the cloud meeting room.   |
| allowGuestStartConf | No        | boolean               | Whether to allow guests to start the meeting in advance.   |
| confAllowJoinUser   | No        | ConfAllowJoinUserType | Users who are allowed to join the meeting. By default, everyone is allowed.                      |
| isOpenWaitingRoom   | No        | boolean               | Waiting room status. This parameter takes effect only when the waiting room function is enabled. |

**Table 10-257** Enumerated values of ConfAllowJoinUserType

| Enumeration Name                | Enumerated Value | Description           |
|---------------------------------|------------------|-----------------------|
| CONF_ALLOW_JOIN_ANYONE          | 0                | Everyone.             |
| CONF_ALLOW_JOIN_LOGINED_USER    | 1                | Logged-in users.      |
| CONF_ALLOW_JOIN_IN_COMPANY_USER | 2                | Corporate users only. |
| CONF_ALLOW_JOIN_INVITED_USER    | 3                | Invited users only.   |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-258** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.4.9 Obtaining the Meeting List

#### Function

This API is used to obtain the meeting list (valid only for the macOS platform). Call this API only after login and when you receive the meeting list notification for the first time. Otherwise, an empty list is returned.

#### Function Prototype

```
getConfList(onGetConfListResult?: (ret: SDKERR, reason: string, confListInfo: ConfListInfo) => void): void
getConfList(onGetConfListResult?: (ret: SDKERR, reason: string, confListInfo: ConfListInfo) => void): void
```

#### Request Parameters

**Table 10-259** Input parameter description

| Parameter           | Mandatory | Type  | Description   |
|---------------------|-----------|---|---|
| onGetConfListResult | Yes       | (ret: SDKERR, reason: string, confListInfo: ConfListInfo) => void | Meeting list notification, which is returned upon the request for the meeting list. |

#### Return Values

void

#### Callback Method Parameters

```
(ret: SDKERR, reason: string, confListInfo: ConfListInfo) => void
```

**Table 10-260** Input parameter description

| Parameter    | Type   | Description        |
|--------------|--|--------------------|
| ret          | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason       | string   | Error description. |
| confListInfo | ConfListInfo   | Meeting list.      |

**Table 10-261** ConfListInfo

| Parameter    | Type         | Description              |
|--------------|--------------|--------------------------|
| confListSize | number       | Number of meetings.      |
| confListItem | ConfListItem | Meeting list parameters. |

**Table 10-262** ConfListItem

| Parameter      | Type      | Description   |
|----------------|-----------|---|
| confId         | string    | Meeting ID.   |
| subject        | string    | Meeting topic.  |
| hostPwd        | string    | Host password.  |
| guestPwd       | string    | Guest password.   |
| audiencePwd    | string    | Attendee password. (This parameter is valid only for the Windows platform.)                             |
| startTime      | number    | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time (UTC time), in seconds. |
| endTime        | number    | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time (UTC time), in seconds.     |
| startTimeStamp | number    | Meeting start time (timestamp, in seconds).   |
| endTimeStamp   | number    | Meeting end time (timestamp, in seconds).   |
| timezone       | Timezone  | Time zone code (valid only for the Windows platform).   |
| mediaType      | MediaType | Media type.   |

| Parameter       | Type              | Description  |
|-----------------|-------------------|--|
| schedulerName   | string            | Name of the user who schedules the meeting.                                    |
| vmrConfId       | string            | Display ID of the cloud meeting.   |
| hostJoinUri     | string            | Link for the host to join the meeting.   |
| guestJoinUri    | string            | Link for guests to join the meeting.   |
| audienceJoinUri | string            | Link for attendees to join the meeting (valid only for the Windows platform).  |
| confStateType   | ConfState         | Meeting status (valid only for the Windows platform).                          |
| isWebinar       | boolean           | Whether the meeting is a webinar or not (valid only for the Windows platform). |
| selfConfRole    | ConfRole          | Role in the meeting.   |
| conferenceType  | ConferenceType    | Meeting type.  |
| cycleParam      | CycleConfParam    | Recurring meeting series parameters.   |
| subConfSize     | number            | Number of recurring meetings.  |
| subConfParam    | SubCycleConfParam | Recurring meeting parameters.  |
| customInfo      | string            | User-defined information.  |

**Table 10-263** Enumerated values of Timezone

| Enumeration Name            | Enumerated Value | Description                         |
|-----------------------------|------------------|-------------------------------------|
| HWM_TIMEZONE_DEFAULT        | 0                | Default MediaX time zone            |
| HWM_TIMEZONE_INTERDATE_LINE | 1                | International Date Line West        |
| HWM_TIMEZONE_MIDWAY_ISLAND  | 2                | Midway Island, Samoa                |
| HWM_TIMEZONE_HAWAII         | 3                | Hawaii                              |
| HWM_TIMEZONE_ALASKA         | 4                | Alaska                              |
| HWM_TIMEZONE_PACIFIC_TIME   | 5                | Pacific Time (US & Canada), Tijuana |

| Enumeration Name                | Enumerated Value | Description  |
|---------------------------------|------------------|--|
| HWM_TIMEZONE_ARIZONA            | 6                | Arizona  |
| HWM_TIMEZONE_MOUNTAIN_TIME      | 7                | Mountain Time (US & Canada)                            |
| HWM_TIMEZONE_CENTRAL_AMERICA    | 8                | Central America  |
| HWM_TIMEZONE_CENTRAL_TIME       | 9                | Central Time (US & Canada)                             |
| HWM_TIMEZONE_MEXICO_CITY        | 10               | Mexico City  |
| HWM_TIMEZONE_SASKATCHEWAN       | 11               | Saskatchewan   |
| HWM_TIMEZONE_BOGOTA             | 12               | Bogota, Lima, Quito                                    |
| HWM_TIMEZONE_EASTERN_TIME       | 13               | Eastern Time (US & Canada)                             |
| HWM_TIMEZONE_INDIANA            | 14               | Indiana (East)   |
| HWM_TIMEZONE_ATLANTIC_TIME      | 15               | Atlantic Time (Canada)                                 |
| HWM_TIMEZONE_CARACAS            | 16               | Caracas, La Paz  |
| HWM_TIMEZONE_SANTIAGO           | 17               | Santiago   |
| HWM_TIMEZONE_NEWFOUNDLAND       | 18               | Newfoundland   |
| HWM_TIMEZONE_BRASILIA           | 19               | Brasilia   |
| HWM_TIMEZONE_BUENOS_AIRES       | 20               | Buenos Aires, Georgetown                               |
| HWM_TIMEZONE_GREENLAND          | 21               | Greenland  |
| HWM_TIMEZONE_MID_ATLANTIC       | 22               | Mid-Atlantic   |
| HWM_TIMEZONE_AZORES             | 23               | Azores   |
| HWM_TIMEZONE_CAPEVERDE          | 24               | Cape Verde Is.   |
| HWM_TIMEZONE_MONROVIA           | 25               | Monrovia   |
| HWM_TIMEZONE_GREENWICH_MEANTIME | 26               | Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London |

| Enumeration Name                | Enumerated Value | Description                                       |
|---------------------------------|------------------|---|
| HWM_TIMEZONE_AMSTERDAM          | 27               | Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna  |
| HWM_TIMEZONE_BELGRADE           | 28               | Belgrade, Bratislava, Budapest, Ljubljana, Prague |
| HWM_TIMEZONE_BRUSSELS           | 29               | Brussels, Copenhagen, Madrid, Paris               |
| HWM_TIMEZONE_SARAJEVO           | 30               | Sarajevo, Skopje, Vilnius, Sofia, Warsaw, Zagreb  |
| HWM_TIMEZONE_WESTCENTRAL_AFRICA | 31               | West Central Africa                               |
| HWM_TIMEZONE_ATHENS             | 32               | Athens, Istanbul, Minsk                           |
| HWM_TIMEZONE_BUCHAREST          | 33               | Bucharest   |
| HWM_TIMEZONE_CAIRO              | 34               | Cairo   |
| HWM_TIMEZONE_HARARE             | 35               | Harare, Pretoria                                  |
| HWM_TIMEZONE_HELSINKI           | 36               | Helsinki, Riga, Tallinn                           |
| HWM_TIMEZONE_JERUSALEM          | 37               | Jerusalem   |
| HWM_TIMEZONE_BAGHDAD            | 38               | Baghdad   |
| HWM_TIMEZONE_KUWAIT             | 39               | Kuwait, Riyadh                                    |
| HWM_TIMEZONE_MOSCOW             | 40               | Moscow, St. Petersburg, Kazan, Volgograd          |
| HWM_TIMEZONE_NAIROBI            | 41               | Nairobi   |
| HWM_TIMEZONE_TEHRAN             | 42               | Tehran  |
| HWM_TIMEZONE_ABU_DHABI          | 43               | Abu Dhabi, Muscat                                 |
| HWM_TIMEZONE_TBILISI            | 44               | Tbilisi, Yerevan                                  |
| HWM_TIMEZONE_KABUL              | 45               | Kabul   |
| HWM_TIMEZONE_EKATERINBURG       | 46               | Ekaterinburg                                      |
| HWM_TIMEZONE_ISLAMABAD          | 47               | Islamabad, Karachi, Tashkent                      |
| HWM_TIMEZONE_CALCUTTA           | 48               | Kolkata, Chennai, Mumbai, New Delhi               |
| HWM_TIMEZONE_KATHMANDU          | 49               | Kathmandu   |

| Enumeration Name         | Enumerated Value | Description                                   |
|--------------------------|------------------|---|
| HWM_TIMEZONE_ALMATY      | 50               | Almaty  |
| HWM_TIMEZONE_ASTANA      | 51               | Astana, Dhaka                                 |
| HWM_TIMEZONE_SRIJAYA     | 52               | Sri Jayawardenepura                           |
| HWM_TIMEZONE_RANGOON     | 53               | Yangon (Rangoon)                              |
| HWM_TIMEZONE_BANGKOK     | 54               | Bangkok, Jakarta, Hanoi                       |
| HWM_TIMEZONE_NOVOSIBIRSK | 55               | Novosibirsk                                   |
| HWM_TIMEZONE_BEIJING     | 56               | Beijing, Chongqing, Hong Kong, Urumqi, Taipei |
| HWM_TIMEZONE_KRASNOYARSK | 57               | Krasnoyarsk, Ulaanbaatar                      |
| HWM_TIMEZONE_KUALALUMPUR | 58               | Kuala Lumpur, Singapore                       |
| HWM_TIMEZONE_PERTH       | 59               | Perth   |
| HWM_TIMEZONE_OSAKA       | 60               | Tokyo, Osaka, Sapporo                         |
| HWM_TIMEZONE_SEOUL       | 61               | Seoul   |
| HWM_TIMEZONE_YAKUTSK     | 62               | Yakutsk                                       |
| HWM_TIMEZONE_ADELAIDE    | 63               | Adelaide                                      |
| HWM_TIMEZONE_DARWIN      | 64               | Darwin  |
| HWM_TIMEZONE_BRISBANE    | 65               | Brisbane                                      |
| HWM_TIMEZONE_CANBERRA    | 66               | Canberra, Melbourne, Sydney                   |
| HWM_TIMEZONE_GUAM        | 67               | Guam, Port Moresby                            |
| HWM_TIMEZONE_HOBART      | 68               | Hobart  |
| HWM_TIMEZONE_VLADIVOSTOK | 69               | Vladivostok                                   |
| HWM_TIMEZONE_SOLOMON     | 70               | Solomon Is., New Caledonia                    |
| HWM_TIMEZONE_AUCKLAND    | 71               | Auckland, Wellington                          |
| HWM_TIMEZONE_FIJI        | 72               | Fuji, Kamchatka, Marshall Is.                 |
| HWM_TIMEZONE_NUKUALOFA   | 73               | Nuku'alofa                                    |
| HWM_TIMEZONE_IRKUTSK     | 74               | Irkutsk                                       |

| Enumeration Name        | Enumerated Value | Description |
|-------------------------|------------------|-------------|
| HWM_TIMEZONE_CASABLANCA | 75               | Casablanca  |
| HWM_TIMEZONE_BAKU       | 76               | Baku        |
| HWM_TIMEZONE_MAGADAN    | 77               | Magadan     |

**Table 10-264** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

**Table 10-265** Enumerated values of ConfState

| Enumeration Name         | Enumerated Value | Description                   |
|--------------------------|------------------|-------------------------------|
| HWM_CONF_STATE_SCHEDULE  | 0                | The meeting is scheduled.     |
| HWM_CONF_STATE_CREATING  | 1                | The meeting is being created. |
| HWM_CONF_STATE_GOING     | 2                | The meeting has started.      |
| HWM_CONF_STATE_DESTROYED | 3                | The meeting has ended.        |



**Table 10-266** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.               |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

**Table 10-267** Enumerated values of ConferenceType

| Enumeration Name     | Enumerated Value | Description        |
|----------------------|------------------|--------------------|
| HWM_CONF_TYPE_COMMON | 0                | Common meeting.    |
| HWM_CONF_TYPE_CYCLE  | 1                | Recurring meeting. |

**Table 10-268** CycleConfParam

| Parameter | Type      | Description   |
|-----------|-----------|---|
| startDate | number    | Start date and timestamp, accurate to seconds (UTC).  |
| endDate   | number    | End date and timestamp, accurate to seconds (UTC).  |
| cycleType | CycleType | Period type.  |
| interval  | number    | Interval of recurring meetings. If <b>cycleType</b> is set to daily, there is a meeting every several days and the value range is [1,15]. If <b>cycleType</b> is set to weekly, there is a meeting every several weeks and the value range is [1,5]. If <b>cycleType</b> is set to monthly, there is a meeting every several months and the value range is [1,3]. |

| Parameter     | Type   | Description  |
|---------------|--------|--|
| listPoints    | string | Point for holding recurring meetings. This parameter is valid only when meetings are held weekly or monthly. Values are separated by colons (,), for example, <b>1,3,5,7</b> . |
| preRemindDays | number | Number of days in advance users are notified of a recurring meeting.   |

**Table 10-269** Enumerated values of CycleType

| Enumeration Name | Enumerated Value | Description |
|------------------|------------------|-------------|
| CYCLE_TYPE_DAY   | 0                | Daily.      |
| CYCLE_TYPE_WEEK  | 1                | Weekly.     |
| CYCLE_TYPE_MONTH | 2                | Monthly.    |

**Table 10-270** SubCycleConfParam

| Parameter         | Type                  | Description  |
|-------------------|-----------------------|--|
| subConfID         | string                | UUID of a recurring meeting.   |
| mediaType         | MediaType             | Media type.  |
| startTime         | number                | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time. |
| endTime           | number                | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time.     |
| startTimeStamp    | number                | Meeting start time (timestamp, in seconds).                                      |
| endTimeStamp      | number                | Meeting end time (timestamp, in seconds).  |
| isAutoRecord      | boolean               | Whether to automatically start recording after a meeting starts.                 |
| recordAuthType    | RecordAuthType        | Recording authentication mode.   |
| confAllowJoinUser | ConfAllowJoinUserType | Users who are allowed to join the meeting. By default, everyone is allowed.      |

| Parameter                | Type    | Description  |
|--------------------------|---------|--|
| allowGuestStart-Conf     | boolean | Whether to allow guests to start the meeting.  |
| allowGuestStart-ConfTime | number  | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance. |

**Table 10-271** Enumerated values of RecordAuthType

| Enumeration Name                | Enumerated Value | Description   |
|---------------------------------|------------------|---|
| REOCD_AUTH_TYPE_ANYONE          | 0                | The recording can be viewed or downloaded through link (no nonce is added). |
| REOCD_AUTH_TYPE_IN_COMPANY_USER | 1                | Corporate users can view or download the recording.                         |
| REOCD_AUTH_TYPE_ATTENDEE        | 2                | Participants can view or download the recording.                            |

**Table 10-272** Enumerated values of ConfAllowJoinUserType

| Enumeration Name                | Enumerated Value | Description           |
|---------------------------------|------------------|-----------------------|
| CONF_ALLOW_JOIN_ANYONE          | 0                | Everyone.             |
| CONF_ALLOW_JOIN_LOGINED_USER    | 1                | Logged-in users.      |
| CONF_ALLOW_JOIN_IN_COMPANY_USER | 2                | Corporate users only. |
| CONF_ALLOW_JOIN_INVITED_USER    | 3                | Invited users only.   |

## 10.4.4.10 Scheduling a Recurring Meeting Series

### Function

This API is used to schedule a recurring meeting series. 1. Call this API only after login. 2. This API is an asynchronous API. The return value only indicates whether

the API is successfully called. The actual service processing result is returned in the corresponding callback function. 3. The meeting start time must be later than the current time, and the meeting duration must be longer than 15 minutes. 4. The **attendees** parameter must be passed if participant information needs to be carried. 5. The maximum time span of a recurring meeting series is one year. The number of recurring meetings in a series cannot exceed 50. Otherwise, only the first 50 meetings are scheduled. 6. The callback function returns scheduled meeting details. For details, see the **HwmConfDetail** structure. If only a meeting ID is returned, meeting details fail to be obtained.

## Function Prototype

```
bookCycleConf(bookCycleConfParam: BookCycleConfParam,
onBookCycleConfResult?: (ret: SDKERR, reason: string, confDetail: ConfDetail) =>
void): void
bookCycleConf(bookCycleConfParam: BookCycleConfParam,
onBookCycleConfResult?: (ret: SDKERR, reason: string, confDetail: ConfDetail) =>
void): void
```

## Request Parameters

**Table 10-273** Input parameter description

| Parameter             | Mandatory | Type  | Description   |
|-----------------------|-----------|---|---|
| bookCycleConfParam    | Yes       | BookCycleConfParam  | Parameters for scheduling a recurring meeting series. |
| onBookCycleConfResult | Yes       | (ret: SDKERR, reason: string, confDetail: ConfDetail) => void | Callback of creating a recurring meeting series.      |

**Table 10-274** BookCycleConfParam

| Parameter     | Mandatory | Type           | Description   |
|---------------|-----------|----------------|---|
| bookConfParam | No        | BookConfParam  | Parameters for scheduling a recurring meeting series. |
| cycleParam    | Yes       | CycleConfParam | Recurring meeting parameters.                         |

**Table 10-275** BookConfParam

| Parameter       | Mandatory | Type            | Description  |
|-----------------|-----------|-----------------|--|
| startTime       | Yes       | number          | UTC timestamp when the meeting starts, in seconds. The value is the difference between the UTC time and the UTC offset (converted into seconds). For example, if the time zone is UTC+08:00, the value is the UTC timestamp - (8 x 60 x 60). |
| duration        | Yes       | number          | Meeting duration, in minutes. The value ranges from 15 to 1,440.   |
| confCommonParam | Yes       | ConfCommonParam | Common meeting parameters.   |
| isSendCalendar  | No        | boolean         | Whether to send a calendar email.  |

**Table 10-276** ConfCommonParam

| Parameter    | Mandatory | Type      | Description  |
|--------------|-----------|-----------|--|
| subject      | Yes       | string    | Meeting topic.   |
| mediaType    | No        | MediaType | Meeting type. By default, the meeting is an audio meeting.   |
| needPassword | No        | boolean   | Whether a guest password is required. By default, the guest password is not required (valid only for meetings with a random ID).   |
| isAutoRecord | No        | boolean   | Whether to enable automatic meeting recording. By default, this function is disabled. If automatic meeting recording is enabled, the meeting will be recorded by default, regardless of whether recording is enabled or disabled in the meeting. This parameter is valid only for cloud recording, not for local recording on clients. |

| Parameter          | Mandatory | Type                   | Description  |
|--------------------|-----------|------------------------|--|
| allowRecord        | No        | boolean                | Whether meeting recording is supported. (This parameter is valid only for the Windows platform.) This parameter is valid only for cloud recording, not for local recording on clients.   |
| allowLive          | No        | boolean                | Reserved field. This parameter is transparently transmitted during meeting modification.   |
| timezone           | Yes       | Timezone               | Time zone code. This parameter is used for sending meeting notifications.  |
| vmrId              | No        | string                 | Unique cloud meeting room ID. To schedule a meeting using concurrent participants, set this parameter to an empty string. When you modify a meeting, you cannot modify this parameter and need to enter the value returned in meeting details.                             |
| confAllowJoin User | No        | ConfAllowJoin UserType | Users who are allowed to join the meeting. By default, everyone is allowed.  |
| isSendSms          | No        | boolean                | Whether to send an SMS notification. To use this function, enable it in the enterprise configuration first. Otherwise, this parameter does not take effect.  |
| isSendEmail        | No        | boolean                | Whether to send an email notification.   |
| vmrConfIdType      | No        | VmrConfIdType          | ID type of the cloud meeting room. When modifying a meeting, set this parameter to <b>HWM_VMR_CONF_ID_TYPE_FIXED</b> if <b>vmrConfId</b> in meeting details is not empty, or set it to <b>HWM_VMR_CONF_ID_TYPE_RANDOM</b> if <b>vmrConfId</b> in meeting details is empty. |

| Parameter                | Mandatory | Type             | Description  |
|--------------------------|-----------|------------------|--|
| guestPwd                 | No        | string           | Guest password. If this parameter is left empty, the server randomly generates a password. This parameter is valid only for meetings with a random ID.   |
| isOpenWaitingRoom        | No        | boolean          | Waiting room status. This parameter takes effect only when the waiting room function is enabled.   |
| numOfAttendee            | Yes       | number           | Number of participants.  |
| attendees                | Yes       | AttendeeBaseInfo | Participant list.  |
| allowGuestStartConf      | No        | boolean          | Whether to allow guests to start the meeting.  |
| allowGuestStartConfTime  | No        | number           | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance.                       |
| concurrentParticipants   | Yes       | number           | Maximum number of participants in the meeting. The value can be <b>0</b> (unlimited) or greater than <b>0</b> (specific maximum number of participants). |
| customInfo               | No        | string           | User-defined information.  |
| confResType              | No        | ConfResType      | Meeting resource type.   |
| defaultSummaryState      | No        | SummaryState     | Initial state of whether the cloud recording contains minutes (unavailable for recurring meetings; valid only for the Windows platform).                 |
| autoMuteMode             | No        | AutoMuteType     | Whether soft client guests are automatically muted when they join the meeting.   |
| hardTerminalAutoMuteMode | No        | AutoMuteType     | Whether hard terminal guests are automatically muted when they join the meeting.   |

**Table 10-277** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

**Table 10-278** Enumerated values of Timezone

| Enumeration Name             | Enumerated Value | Description                         |
|------------------------------|------------------|-------------------------------------|
| HWM_TIMEZONE_DEFAULT         | 0                | Default MediaX time zone            |
| HWM_TIMEZONE_INTERDATE_LINE  | 1                | International Date Line West        |
| HWM_TIMEZONE_MIDWAY_ISLAND   | 2                | Midway Island, Samoa                |
| HWM_TIMEZONE_HAWAII          | 3                | Hawaii                              |
| HWM_TIMEZONE_ALASKA          | 4                | Alaska                              |
| HWM_TIMEZONE_PACIFIC_TIME    | 5                | Pacific Time (US & Canada), Tijuana |
| HWM_TIMEZONE_ARIZONA         | 6                | Arizona                             |
| HWM_TIMEZONE_MOUNTAIN_TIME   | 7                | Mountain Time (US & Canada)         |
| HWM_TIMEZONE_CENTRAL_AMERICA | 8                | Central America                     |
| HWM_TIMEZONE_CENTRAL_TIME    | 9                | Central Time (US & Canada)          |
| HWM_TIMEZONE_MEXICO_CITY     | 10               | Mexico City                         |
| HWM_TIMEZONE_SASKATCHEWAN    | 11               | Saskatchewan                        |
| HWM_TIMEZONE_BOGOTA          | 12               | Bogota, Lima, Quito                 |
| HWM_TIMEZONE_EASTERN_TIME    | 13               | Eastern Time (US & Canada)          |
| HWM_TIMEZONE_INDIANA         | 14               | Indiana (East)                      |



| Enumeration Name                | Enumerated Value | Description  |
|---------------------------------|------------------|--|
| HWM_TIMEZONE_ATLANTIC_TIME      | 15               | Atlantic Time (Canada)                                 |
| HWM_TIMEZONE_CARACAS            | 16               | Caracas, La Paz  |
| HWM_TIMEZONE_SANTIAGO           | 17               | Santiago   |
| HWM_TIMEZONE_NEWFOUNDLAND       | 18               | Newfoundland   |
| HWM_TIMEZONE_BRASILIA           | 19               | Brasilia   |
| HWM_TIMEZONE_BUENOSAIRES        | 20               | Buenos Aires, Georgetown                               |
| HWM_TIMEZONE_GREENLAND          | 21               | Greenland  |
| HWM_TIMEZONE_MIDATLANTIC        | 22               | Mid-Atlantic   |
| HWM_TIMEZONE_AZORES             | 23               | Azores   |
| HWM_TIMEZONE_CAPEVERDE          | 24               | Cape Verde Is.   |
| HWM_TIMEZONE_MONROVIA           | 25               | Monrovia   |
| HWM_TIMEZONE_GREENWICH_MEANTIME | 26               | Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London |
| HWM_TIMEZONE_AMSTERDAM          | 27               | Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna       |
| HWM_TIMEZONE_BELGRADE           | 28               | Belgrade, Bratislava, Budapest, Ljubljana, Prague      |
| HWM_TIMEZONE_BRUSSELS           | 29               | Brussels, Copenhagen, Madrid, Paris                    |
| HWM_TIMEZONE_SARAJEVO           | 30               | Sarajevo, Skopje, Vilnius, Sofia, Warsaw, Zagreb       |
| HWM_TIMEZONE_WESTCENTRAL_AFRICA | 31               | West Central Africa                                    |
| HWM_TIMEZONE_ATHENS             | 32               | Athens, Istanbul, Minsk                                |
| HWM_TIMEZONE_BUCHAREST          | 33               | Bucharest  |
| HWM_TIMEZONE_CAIRO              | 34               | Cairo  |
| HWM_TIMEZONE_HARARE             | 35               | Harare, Pretoria                                       |
| HWM_TIMEZONE_HELSINKI           | 36               | Helsinki, Riga, Tallinn                                |

| Enumeration Name          | Enumerated Value | Description                                   |
|---------------------------|------------------|---|
| HWM_TIMEZONE_JERUSALEM    | 37               | Jerusalem                                     |
| HWM_TIMEZONE_BAGHDAD      | 38               | Baghdad                                       |
| HWM_TIMEZONE_KUWAIT       | 39               | Kuwait, Riyadh                                |
| HWM_TIMEZONE_MOSCOW       | 40               | Moscow, St. Petersburg, Kazan, Volgograd      |
| HWM_TIMEZONE_NAIROBI      | 41               | Nairobi                                       |
| HWM_TIMEZONE_TEHRAN       | 42               | Tehran  |
| HWM_TIMEZONE_ABU_DHABI    | 43               | Abu Dhabi, Muscat                             |
| HWM_TIMEZONE_TBILISI      | 44               | Tbilisi, Yerevan                              |
| HWM_TIMEZONE_KABUL        | 45               | Kabul   |
| HWM_TIMEZONE_EKATERINBURG | 46               | Ekaterinburg                                  |
| HWM_TIMEZONE_ISLAMABAD    | 47               | Islamabad, Karachi, Tashkent                  |
| HWM_TIMEZONE_CALCUTTA     | 48               | Kolkata, Chennai, Mumbai, New Delhi           |
| HWM_TIMEZONE_KATHMANDU    | 49               | Kathmandu                                     |
| HWM_TIMEZONE_ALMATY       | 50               | Almaty  |
| HWM_TIMEZONE_ASTANA       | 51               | Astana, Dhaka                                 |
| HWM_TIMEZONE_SRIJAYA      | 52               | Sri Jayawardenepura                           |
| HWM_TIMEZONE_RANGOON      | 53               | Yangon (Rangoon)                              |
| HWM_TIMEZONE_BANGKOK      | 54               | Bangkok, Jakarta, Hanoi                       |
| HWM_TIMEZONE_NOVOSIBIRSK  | 55               | Novosibirsk                                   |
| HWM_TIMEZONE_BEIJING      | 56               | Beijing, Chongqing, Hong Kong, Urumqi, Taipei |
| HWM_TIMEZONE_KRASNOYARSK  | 57               | Krasnoyarsk, Ulaanbaatar                      |
| HWM_TIMEZONE_KUALALUMPUR  | 58               | Kuala Lumpur, Singapore                       |
| HWM_TIMEZONE_PERTH        | 59               | Perth   |

| Enumeration Name         | Enumerated Value | Description                   |
|--------------------------|------------------|-------------------------------|
| HWM_TIMEZONE_OSAKA       | 60               | Tokyo, Osaka, Sapporo         |
| HWM_TIMEZONE_SEOUL       | 61               | Seoul                         |
| HWM_TIMEZONE_YAKUTSK     | 62               | Yakutsk                       |
| HWM_TIMEZONE_ADELAIDE    | 63               | Adelaide                      |
| HWM_TIMEZONE_DARWIN      | 64               | Darwin                        |
| HWM_TIMEZONE_BRISBANE    | 65               | Brisbane                      |
| HWM_TIMEZONE_CANBERRA    | 66               | Canberra, Melbourne, Sydney   |
| HWM_TIMEZONE_GUAM        | 67               | Guam, Port Moresby            |
| HWM_TIMEZONE_HOBART      | 68               | Hobart                        |
| HWM_TIMEZONE_VLADIVOSTOK | 69               | Vladivostok                   |
| HWM_TIMEZONE_SOLOMON     | 70               | Solomon Is., New Caledonia    |
| HWM_TIMEZONE_AUCKLAND    | 71               | Auckland, Wellington          |
| HWM_TIMEZONE_FIJI        | 72               | Fuji, Kamchatka, Marshall Is. |
| HWM_TIMEZONE_NUKUALOFA   | 73               | Nuku'alofa                    |
| HWM_TIMEZONE_IRKUTSK     | 74               | Irkutsk                       |
| HWM_TIMEZONE_CASABLANCA  | 75               | Casablanca                    |
| HWM_TIMEZONE_BAKU        | 76               | Baku                          |
| HWM_TIMEZONE_MAGADAN     | 77               | Magadan                       |

**Table 10-279** Enumerated values of ConfAllowJoinUserType

| Enumeration Name             | Enumerated Value | Description      |
|------------------------------|------------------|------------------|
| CONF_ALLOW_JOIN_ANYONE       | 0                | Everyone.        |
| CONF_ALLOW_JOIN_LOGINED_USER | 1                | Logged-in users. |

| Enumeration Name                | Enumerated Value | Description           |
|---------------------------------|------------------|-----------------------|
| CONF_ALLOW_JOIN_IN_COMPANY_USER | 2                | Corporate users only. |
| CONF_ALLOW_JOIN_INVITED_USER    | 3                | Invited users only.   |

**Table 10-280** Enumerated values of VmrConfIdType

| Enumeration Name            | Enumerated Value | Description                          |
|-----------------------------|------------------|--------------------------------------|
| HWM_VMR_CONF_ID_TYPE_FIXED  | 0                | Fixed ID of the cloud meeting room.  |
| HWM_VMR_CONF_ID_TYPE_RANDOM | 1                | Random ID of the cloud meeting room. |

**Table 10-281** AttendeeBaseInfo

| Parameter | Mandatory | Type   | Description  |
|-----------|-----------|--------|--|
| nickName  | Yes       | string | Participant name.  |
| number    | Yes       | string | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |

| Parameter    | Mandatory | Type         | Description  |
|--------------|-----------|--------------|--|
| thirdUserId  | Yes       | string       | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set. |
| accountId    | No        | string       | Huawei Cloud Meeting account.  |
| email        | No        | string       | Email address used for receiving email notifications.  |
| sms          | No        | string       | Mobile number used for receiving SMS notifications.  |
| isAutoInvite | No        | boolean      | Whether participants are automatically invited.  |
| isMute       | No        | boolean      | Whether the microphone is muted.   |
| role         | No        | ConfRole     | Participant role in the meeting.   |
| type         | No        | AttendeeType | Participant type.  |
| userId       | No        | string       | Participant UUID.  |

**Table 10-282** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.               |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

**Table 10-283** Enumerated values of AttendeeType

| Enumeration Name           | Enumerated Value | Description  |
|----------------------------|------------------|--|
| ATTENDEE_TYPE_NORMAL       | 0                | Voice, HD, and SD participant addresses.   |
| ATTENDEE_TYPE_TELEPRESENCE | 1                | Address of a telepresence participant (uni-screen or tri-screen telepresence participant). |
| ATTENDEE_TYPE_TERMINAL     | 2                | Meeting room or hard terminal.   |
| ATTENDEE_TYPE_OUTSIDE      | 3                | External participant.  |
| ATTENDEE_TYPE_CUSTOMNUMBER | 4                | Custom number.   |
| ATTENDEE_TYPE_MOBILE       | 5                | Soft client user's mobile phone.   |
| ATTENDEE_TYPE_ANONYMOUS    | 6                | Anonymous user.  |
| ATTENDEE_TYPE_TELEPHONE    | 7                | Phone user.  |
| ATTENDEE_TYPE_BOARD        | 8                | Whiteboard user.   |
| ATTENDEE_TYPE_IDEAHUB      | 9                | Large-screen device with HiSilicon chips.  |
| ATTENDEE_TYPE_HWVISION     | 10               | Smart TV.  |
| ATTENDEE_TYPE_WELINKC      | 11               | WeLink (public edition).   |

**Table 10-284** Enumerated values of ConfResType

| Enumeration Name           | Enumerated Value | Description                |
|----------------------------|------------------|----------------------------|
| HWM_CONF_RESTYPE_DEFAULT   | 0                | Default.                   |
| HWM_CONF_RESTYPE_SHARE_VMR | 3                | Shared cloud meeting room. |

**Table 10-285** Enumerated values of SummaryState

| Enumeration Name    | Enumerated Value | Description |
|---------------------|------------------|-------------|
| SUMMARY_STATE_CLOSE | 0                | Disabled.   |
| SUMMARY_STATE_OPEN  | 1                | Enabled.    |

**Table 10-286** Enumerated values of AutoMuteType

| Enumeration Name       | Enumerated Value | Description |
|------------------------|------------------|-------------|
| AUTO_MUTE_TYPE_DEFAULT | 0                | Default.    |
| AUTO_MUTE_TYPE_MUTE    | 1                | Muted.      |
| AUTO_MUTE_TYPE_UNMUTE  | 2                | Unmuted.    |

**Table 10-287** CycleConfParam

| Parameter | Mandatory | Type      | Description   |
|-----------|-----------|-----------|---|
| startDate | Yes       | number    | Start date and timestamp, accurate to seconds (UTC).  |
| endDate   | Yes       | number    | End date and timestamp, accurate to seconds (UTC).  |
| cycleType | Yes       | CycleType | Period type.  |
| interval  | Yes       | number    | Interval of recurring meetings. If <b>cycleType</b> is set to daily, there is a meeting every several days and the value range is [1,15]. If <b>cycleType</b> is set to weekly, there is a meeting every several weeks and the value range is [1,5]. If <b>cycleType</b> is set to monthly, there is a meeting every several months and the value range is [1,3]. |

| Parameter  | Mandatory | Type   | Description  |
|------------|-----------|--------|--|
| listPoints | Yes       | string | Point for holding recurring meetings. This parameter is valid only when meetings are held weekly or monthly. Values are separated by colons (,), for example, <b>1,3,5,7</b> . |
| preReminds | Yes       | number | Number of days in advance users are notified of a recurring meeting.   |

**Table 10-288** Enumerated values of CycleType

| Enumeration Name | Enumerated Value | Description |
|------------------|------------------|-------------|
| CYCLE_TYPE_DAY   | 0                | Daily.      |
| CYCLE_TYPE_WEEK  | 1                | Weekly.     |
| CYCLE_TYPE_MONTH | 2                | Monthly.    |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, confDetail: ConfDetail) => void

**Table 10-289** Input parameter description

| Parameter  | Type   | Description        |
|------------|--|--------------------|
| ret        | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason     | string   | Error description. |
| confDetail | ConfDetail   | Meeting details.   |



**Table 10-290** ConfDetail

| Parameter               | Type                  | Description  |
|-------------------------|-----------------------|--|
| confListInfo            | ConfListItem          | Basic meeting information.   |
| vmrId                   | string                | Unique cloud meeting room ID.  |
| vmrFlag                 | boolean               | Whether the meeting is held in a cloud meeting room.   |
| isAutoRecord            | boolean               | Whether automatic meeting recording is enabled.  |
| allowRecord             | boolean               | Whether meeting recording is supported.  |
| allowLive               | boolean               | Reserved field. This parameter is transparently transmitted during meeting modification.   |
| needPassword            | boolean               | Whether a password is required.  |
| isSendSms               | boolean               | Whether SMS notifications are sent.  |
| isSendEmail             | boolean               | Whether email notifications are sent.  |
| isSendCalendar          | boolean               | Whether calendar notifications are sent.   |
| confAllowJoinUser       | ConfAllowJoinUserType | Meeting access settings.   |
| numOfAttendee           | number                | Number of participants.  |
| attendees               | AttendeeBaseInfo      | Participant list.  |
| isOpenWaitingRoom       | boolean               | Whether the waiting room is enabled.   |
| allowGuestStartConf     | boolean               | Whether to allow guests to start the meeting.  |
| allowGuestStartConfTime | number                | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance.                       |
| vmrConfIdType           | VmrConfIdType         | ID type of the cloud meeting room.   |
| concurrentParticipants  | number                | Maximum number of participants in the meeting. The value can be <b>0</b> (unlimited) or greater than <b>0</b> (specific maximum number of participants). |
| defaultSummaryState     | SummaryState          | Initial state of whether the cloud recording contains minutes (unavailable for recurring meetings; valid only for the Windows platform).                 |

| Parameter                | Type         | Description  |
|--------------------------|--------------|--|
| autoMuteMode             | AutoMuteType | Whether soft client users are automatically muted.   |
| hardTerminalAutoMuteMode | AutoMuteType | Whether hard terminal users are automatically muted. |

**Table 10-291** ConfListItem

| Parameter       | Type      | Description   |
|-----------------|-----------|---|
| confId          | string    | Meeting ID.   |
| subject         | string    | Meeting topic.  |
| hostPwd         | string    | Host password.  |
| guestPwd        | string    | Guest password.   |
| audiencePwd     | string    | Attendee password. (This parameter is valid only for the Windows platform.)                             |
| startTime       | number    | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time (UTC time), in seconds. |
| endTime         | number    | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time (UTC time), in seconds.     |
| startTimeStamp  | number    | Meeting start time (timestamp, in seconds).   |
| endTimeStamp    | number    | Meeting end time (timestamp, in seconds).   |
| timezone        | Timezone  | Time zone code (valid only for the Windows platform).   |
| mediaType       | MediaType | Media type.   |
| schedulerName   | string    | Name of the user who schedules the meeting.   |
| vmrConfId       | string    | Display ID of the cloud meeting.  |
| hostJoinUri     | string    | Link for the host to join the meeting.  |
| guestJoinUri    | string    | Link for guests to join the meeting.  |
| audienceJoinUri | string    | Link for attendees to join the meeting (valid only for the Windows platform).                           |
| confStateType   | ConfState | Meeting status (valid only for the Windows platform).   |

| Parameter      | Type              | Description  |
|----------------|-------------------|--|
| isWebinar      | boolean           | Whether the meeting is a webinar or not (valid only for the Windows platform). |
| selfConfRole   | ConfRole          | Role in the meeting.   |
| conferenceType | ConferenceType    | Meeting type.  |
| cycleParam     | CycleConfParam    | Recurring meeting series parameters.   |
| subConfSize    | number            | Number of recurring meetings.  |
| subConfParam   | SubCycleConfParam | Recurring meeting parameters.  |
| customInfo     | string            | User-defined information.  |

**Table 10-292** Enumerated values of ConfState

| Enumeration Name         | Enumerated Value | Description                   |
|--------------------------|------------------|-------------------------------|
| HWM_CONF_STATE_SCHEDULE  | 0                | The meeting is scheduled.     |
| HWM_CONF_STATE_CREATING  | 1                | The meeting is being created. |
| HWM_CONF_STATE_GOING     | 2                | The meeting has started.      |
| HWM_CONF_STATE_DESTROYED | 3                | The meeting has ended.        |

**Table 10-293** Enumerated values of ConferenceType

| Enumeration Name     | Enumerated Value | Description        |
|----------------------|------------------|--------------------|
| HWM_CONF_TYPE_COMMON | 0                | Common meeting.    |
| HWM_CONF_TYPE_CYCLE  | 1                | Recurring meeting. |

**Table 10-294** CycleConfParam

| Parameter     | Type      | Description   |
|---------------|-----------|---|
| startDate     | number    | Start date and timestamp, accurate to seconds (UTC).  |
| endDate       | number    | End date and timestamp, accurate to seconds (UTC).  |
| cycleType     | CycleType | Period type.  |
| interval      | number    | Interval of recurring meetings. If <b>cycleType</b> is set to daily, there is a meeting every several days and the value range is [1,15]. If <b>cycleType</b> is set to weekly, there is a meeting every several weeks and the value range is [1,5]. If <b>cycleType</b> is set to monthly, there is a meeting every several months and the value range is [1,3]. |
| listPoints    | string    | Point for holding recurring meetings. This parameter is valid only when meetings are held weekly or monthly. Values are separated by colons (,), for example, <b>1,3,5,7</b> .  |
| preRemindDays | number    | Number of days in advance users are notified of a recurring meeting.  |

**Table 10-295** SubCycleConfParam

| Parameter      | Type           | Description  |
|----------------|----------------|--|
| subConfID      | string         | UUID of a recurring meeting.   |
| mediaType      | MediaType      | Media type.  |
| startTime      | number         | (Discarded. The <b>startTimeStamp</b> field is recommended.) Meeting start time. |
| endTime        | number         | (Discarded. The <b>endTimeStamp</b> field is recommended.) Meeting end time.     |
| startTimeStamp | number         | Meeting start time (timestamp, in seconds).                                      |
| endTimeStamp   | number         | Meeting end time (timestamp, in seconds).  |
| isAutoRecord   | boolean        | Whether to automatically start recording after a meeting starts.                 |
| recordAuthType | RecordAuthType | Recording authentication mode.   |

| Parameter                | Type                  | Description  |
|--------------------------|-----------------------|--|
| confAllowJoinUser        | ConfAllowJoinUserType | Users who are allowed to join the meeting. By default, everyone is allowed.  |
| allowGuestStart-Conf     | boolean               | Whether to allow guests to start the meeting.  |
| allowGuestStart-ConfTime | number                | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance. |

**Table 10-296** Enumerated values of RecordAuthType

| Enumeration Name                  | Enumerated Value | Description   |
|-----------------------------------|------------------|---|
| REOCDRD_AUTH_TYPE_ANYONE          | 0                | The recording can be viewed or downloaded through link (no nonce is added). |
| REOCDRD_AUTH_TYPE_IN_COMPANY_USER | 1                | Corporate users can view or download the recording.                         |
| REOCDRD_AUTH_TYPE_ATTENDEE        | 2                | Participants can view or download the recording.                            |

**Table 10-297** AttendeeBaseInfo

| Parameter | Type   | Description  |
|-----------|--------|--|
| nickName  | string | Participant name.  |
| number    | string | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |

| Parameter    | Type         | Description  |
|--------------|--------------|--|
| thirdUserId  | string       | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set. |
| accountId    | string       | Huawei Cloud Meeting account.  |
| email        | string       | Email address used for receiving email notifications.  |
| sms          | string       | Mobile number used for receiving SMS notifications.  |
| isAutoInvite | boolean      | Whether participants are automatically invited.  |
| isMute       | boolean      | Whether the microphone is muted.   |
| role         | ConfRole     | Participant role in the meeting.   |
| type         | AttendeeType | Participant type.  |
| userUuid     | string       | Participant UUID.  |

#### 10.4.4.11 Editing a Recurring Meeting Series

##### Function

This API is used to edit a recurring meeting series. 1. Call this API only after login. 2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function. 3. All fields are mandatory. Specify the fields to be edited as required, and assign values in the meeting details to remaining fields.

##### Function Prototype

```
modifyCycleConf(modifyParam: ModifyCycleConfParam,  
onModifyCycleConfResult?: (ret: SDKERR, reason: string) => void):  
void  
modifyCycleConf(modifyParam: ModifyCycleConfParam,  
onModifyCycleConfResult?: (ret: SDKERR, reason: string) => void): void
```

##### Request Parameters

**Table 10-298** Input parameter description

| Parameter   | Mandatory | Type                 | Description  |
|-------------|-----------|----------------------|--|
| modifyParam | Yes       | ModifyCycleConfParam | Parameters for editing a recurring meeting series. |

| Parameter               | Mandatory | Type                                  | Description                                     |
|-------------------------|-----------|---------------------------------------|---|
| onModifyCycleConfResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of editing a recurring meeting series. |

**Table 10-299** ModifyCycleConfParam

| Parameter     | Mandatory | Type           | Description  |
|---------------|-----------|----------------|--|
| editConfParam | No        | EditConfParam  | Parameters for editing a recurring meeting series. |
| cycleParam    | Yes       | CycleConfParam | Recurring meeting parameters.                      |

**Table 10-300** EditConfParam

| Parameter       | Mandatory | Type            | Description   |
|-----------------|-----------|-----------------|---|
| confId          | Yes       | string          | Meeting ID.   |
| startTime       | Yes       | number          | Meeting start time. If the start time is not specified, the meeting starts immediately. The value is accurate to seconds (UTC). The value is the difference between the UTC time and the UTC offset (converted into seconds). For example, if the time zone is UTC+08:00, the value is the UTC timestamp - (8 x 60 x 60). |
| duration        | Yes       | number          | Meeting duration, in minutes.   |
| confCommonParam | Yes       | ConfCommonParam | Common meeting parameters.  |
| isSendCalendar  | No        | boolean         | Whether to send calendar notifications.   |

**Table 10-301** ConfCommonParam

| Parameter | Mandatory | Type   | Description    |
|-----------|-----------|--------|----------------|
| subject   | Yes       | string | Meeting topic. |

| Parameter          | Mandatory | Type                   | Description  |
|--------------------|-----------|------------------------|--|
| mediaType          | No        | MediaType              | Meeting type. By default, the meeting is an audio meeting.   |
| needPassword       | No        | boolean                | Whether a guest password is required. By default, the guest password is not required (valid only for meetings with a random ID).   |
| isAutoRecord       | No        | boolean                | Whether to enable automatic meeting recording. By default, this function is disabled. If automatic meeting recording is enabled, the meeting will be recorded by default, regardless of whether recording is enabled or disabled in the meeting. This parameter is valid only for cloud recording, not for local recording on clients. |
| allowRecord        | No        | boolean                | Whether meeting recording is supported. (This parameter is valid only for the Windows platform.) This parameter is valid only for cloud recording, not for local recording on clients.   |
| allowLive          | No        | boolean                | Reserved field. This parameter is transparently transmitted during meeting modification.   |
| timezone           | Yes       | Timezone               | Time zone code. This parameter is used for sending meeting notifications.  |
| vmrId              | No        | string                 | Unique cloud meeting room ID. To schedule a meeting using concurrent participants, set this parameter to an empty string. When you modify a meeting, you cannot modify this parameter and need to enter the value returned in meeting details.   |
| confAllowJoin User | No        | ConfAllowJoin UserType | Users who are allowed to join the meeting. By default, everyone is allowed.  |



| Parameter               | Mandatory | Type             | Description  |
|-------------------------|-----------|------------------|--|
| isSendSms               | No        | boolean          | Whether to send an SMS notification. To use this function, enable it in the enterprise configuration first. Otherwise, this parameter does not take effect.  |
| isSendEmail             | No        | boolean          | Whether to send an email notification.   |
| vmrConfIdType           | No        | VmrConfIdType    | ID type of the cloud meeting room. When modifying a meeting, set this parameter to <b>HWM_VMR_CONF_ID_TYPE_FIXED</b> if <b>vmrConfId</b> in meeting details is not empty, or set it to <b>HWM_VMR_CONF_ID_TYPE_RANDOM</b> if <b>vmrConfId</b> in meeting details is empty. |
| guestPwd                | No        | string           | Guest password. If this parameter is left empty, the server randomly generates a password. This parameter is valid only for meetings with a random ID.   |
| isOpenWaitingRoom       | No        | boolean          | Waiting room status. This parameter takes effect only when the waiting room function is enabled.   |
| numOfAttendee           | Yes       | number           | Number of participants.  |
| attendees               | Yes       | AttendeeBaseInfo | Participant list.  |
| allowGuestStartConf     | No        | boolean          | Whether to allow guests to start the meeting.  |
| allowGuestStartConfTime | No        | number           | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance.   |

| Parameter                | Mandatory | Type         | Description  |
|--------------------------|-----------|--------------|--|
| concurrentParticipants   | Yes       | number       | Maximum number of participants in the meeting. The value can be <b>0</b> (unlimited) or greater than <b>0</b> (specific maximum number of participants). |
| customInfo               | No        | string       | User-defined information.  |
| confResType              | No        | ConfResType  | Meeting resource type.   |
| defaultSummaryState      | No        | SummaryState | Initial state of whether the cloud recording contains minutes (unavailable for recurring meetings; valid only for the Windows platform).                 |
| autoMuteMode             | No        | AutoMuteType | Whether soft client guests are automatically muted when they join the meeting.   |
| hardTerminalAutoMuteMode | No        | AutoMuteType | Whether hard terminal guests are automatically muted when they join the meeting.   |

**Table 10-302** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

**Table 10-303** Enumerated values of Timezone

| Enumeration Name            | Enumerated Value | Description                  |
|-----------------------------|------------------|------------------------------|
| HWM_TIMEZONE_DEFAULT        | 0                | Default MediaX time zone     |
| HWM_TIMEZONE_INTERDATE_LINE | 1                | International Date Line West |
| HWM_TIMEZONE_MIDWAY_ISLAND  | 2                | Midway Island, Samoa         |

| Enumeration Name             | Enumerated Value | Description                         |
|------------------------------|------------------|-------------------------------------|
| HWM_TIMEZONE_HAWAII          | 3                | Hawaii                              |
| HWM_TIMEZONE_ALASKA          | 4                | Alaska                              |
| HWM_TIMEZONE_PACIFIC_TIME    | 5                | Pacific Time (US & Canada), Tijuana |
| HWM_TIMEZONE_ARIZONA         | 6                | Arizona                             |
| HWM_TIMEZONE_MOUNTAIN_TIME   | 7                | Mountain Time (US & Canada)         |
| HWM_TIMEZONE_CENTRAL_AMERICA | 8                | Central America                     |
| HWM_TIMEZONE_CENTRAL_TIME    | 9                | Central Time (US & Canada)          |
| HWM_TIMEZONE_MEXICO_CITY     | 10               | Mexico City                         |
| HWM_TIMEZONE_SASKATCHEWAN    | 11               | Saskatchewan                        |
| HWM_TIMEZONE_BOGOTA          | 12               | Bogota, Lima, Quito                 |
| HWM_TIMEZONE_EASTERN_TIME    | 13               | Eastern Time (US & Canada)          |
| HWM_TIMEZONE_INDIANA         | 14               | Indiana (East)                      |
| HWM_TIMEZONE_ATLANTIC_TIME   | 15               | Atlantic Time (Canada)              |
| HWM_TIMEZONE_CARACAS         | 16               | Caracas, La Paz                     |
| HWM_TIMEZONE_SANTIAGO        | 17               | Santiago                            |
| HWM_TIMEZONE_NEWFOUNDLAND    | 18               | Newfoundland                        |
| HWM_TIMEZONE_BRASILIA        | 19               | Brasilia                            |
| HWM_TIMEZONE_BUENOS_AIRES    | 20               | Buenos Aires, Georgetown            |
| HWM_TIMEZONE_GREENLAND       | 21               | Greenland                           |
| HWM_TIMEZONE_MID_ATLANTIC    | 22               | Mid-Atlantic                        |
| HWM_TIMEZONE_AZORES          | 23               | Azores                              |

| Enumeration Name                | Enumerated Value | Description  |
|---------------------------------|------------------|--|
| HWM_TIMEZONE_CAPEVERDE          | 24               | Cape Verde Is.   |
| HWM_TIMEZONE_MONROVIA           | 25               | Monrovia   |
| HWM_TIMEZONE_GREENWICH_MEANTIME | 26               | Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London |
| HWM_TIMEZONE_AMSTERDAM          | 27               | Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna       |
| HWM_TIMEZONE_BELGRADE           | 28               | Belgrade, Bratislava, Budapest, Ljubljana, Prague      |
| HWM_TIMEZONE_BRUSSELS           | 29               | Brussels, Copenhagen, Madrid, Paris                    |
| HWM_TIMEZONE_SARAJEVO           | 30               | Sarajevo, Skopje, Vilnius, Sofia, Warsaw, Zagreb       |
| HWM_TIMEZONE_WESTCENTRAL_AFRICA | 31               | West Central Africa                                    |
| HWM_TIMEZONE_ATHENS             | 32               | Athens, Istanbul, Minsk                                |
| HWM_TIMEZONE_BUCHAREST          | 33               | Bucharest  |
| HWM_TIMEZONE_CAIRO              | 34               | Cairo  |
| HWM_TIMEZONE_HARARE             | 35               | Harare, Pretoria                                       |
| HWM_TIMEZONE_HELSINKI           | 36               | Helsinki, Riga, Tallinn                                |
| HWM_TIMEZONE_JERUSALEM          | 37               | Jerusalem  |
| HWM_TIMEZONE_BAGHDAD            | 38               | Baghdad  |
| HWM_TIMEZONE_KUWAIT             | 39               | Kuwait, Riyadh   |
| HWM_TIMEZONE_MOSCOW             | 40               | Moscow, St. Petersburg, Kazan, Volgograd               |
| HWM_TIMEZONE_NAIROBI            | 41               | Nairobi  |
| HWM_TIMEZONE_TEHRAN             | 42               | Tehran   |
| HWM_TIMEZONE_ABU_DHABI          | 43               | Abu Dhabi, Muscat                                      |
| HWM_TIMEZONE_TBILISI            | 44               | Tbilisi, Yerevan                                       |
| HWM_TIMEZONE_KABUL              | 45               | Kabul  |
| HWM_TIMEZONE_EKATERINBURG       | 46               | Ekaterinburg   |

| Enumeration Name         | Enumerated Value | Description                                   |
|--------------------------|------------------|---|
| HWM_TIMEZONE_ISLAMABAD   | 47               | Islamabad, Karachi, Tashkent                  |
| HWM_TIMEZONE_CALCUTTA    | 48               | Kolkata, Chennai, Mumbai, New Delhi           |
| HWM_TIMEZONE_KATHMANDU   | 49               | Kathmandu                                     |
| HWM_TIMEZONE_ALMATY      | 50               | Almaty  |
| HWM_TIMEZONE_ASTANA      | 51               | Astana, Dhaka                                 |
| HWM_TIMEZONE_SRIJAYA     | 52               | Sri Jayawardenepura                           |
| HWM_TIMEZONE_RANGOON     | 53               | Yangon (Rangoon)                              |
| HWM_TIMEZONE_BANGKOK     | 54               | Bangkok, Jakarta, Hanoi                       |
| HWM_TIMEZONE_NOVOSIBIRSK | 55               | Novosibirsk                                   |
| HWM_TIMEZONE_BEIJING     | 56               | Beijing, Chongqing, Hong Kong, Urumqi, Taipei |
| HWM_TIMEZONE_KRASNOYARSK | 57               | Krasnoyarsk, Ulaanbaatar                      |
| HWM_TIMEZONE_KUALALUMPUR | 58               | Kuala Lumpur, Singapore                       |
| HWM_TIMEZONE_PERTH       | 59               | Perth   |
| HWM_TIMEZONE_OSAKA       | 60               | Tokyo, Osaka, Sapporo                         |
| HWM_TIMEZONE_SEOUL       | 61               | Seoul   |
| HWM_TIMEZONE_YAKUTSK     | 62               | Yakutsk                                       |
| HWM_TIMEZONE_ADELAIDE    | 63               | Adelaide                                      |
| HWM_TIMEZONE_DARWIN      | 64               | Darwin  |
| HWM_TIMEZONE_BRISBANE    | 65               | Brisbane                                      |
| HWM_TIMEZONE_CANBERRA    | 66               | Canberra, Melbourne, Sydney                   |
| HWM_TIMEZONE_GUAM        | 67               | Guam, Port Moresby                            |
| HWM_TIMEZONE_HOBART      | 68               | Hobart  |
| HWM_TIMEZONE_VLADIVOSTOK | 69               | Vladivostok                                   |
| HWM_TIMEZONE_SOLOMON     | 70               | Solomon Is., New Caledonia                    |

| Enumeration Name        | Enumerated Value | Description                   |
|-------------------------|------------------|-------------------------------|
| HWM_TIMEZONE_AUCKLAND   | 71               | Auckland, Wellington          |
| HWM_TIMEZONE_FIJI       | 72               | Fuji, Kamchatka, Marshall Is. |
| HWM_TIMEZONE_NUKUALOFA  | 73               | Nuku'alofa                    |
| HWM_TIMEZONE_IRKUTSK    | 74               | Irkutsk                       |
| HWM_TIMEZONE_CASABLANCA | 75               | Casablanca                    |
| HWM_TIMEZONE_BAKU       | 76               | Baku                          |
| HWM_TIMEZONE_MAGADAN    | 77               | Magadan                       |

**Table 10-304** Enumerated values of ConfAllowJoinUserType

| Enumeration Name                | Enumerated Value | Description           |
|---------------------------------|------------------|-----------------------|
| CONF_ALLOW_JOIN_ANYONE          | 0                | Everyone.             |
| CONF_ALLOW_JOIN_LOGINED_USER    | 1                | Logged-in users.      |
| CONF_ALLOW_JOIN_IN_COMPANY_USER | 2                | Corporate users only. |
| CONF_ALLOW_JOIN_INVITED_USER    | 3                | Invited users only.   |

**Table 10-305** Enumerated values of VmrConfIdType

| Enumeration Name            | Enumerated Value | Description                          |
|-----------------------------|------------------|--------------------------------------|
| HWM_VMR_CONF_ID_TYPE_FIXED  | 0                | Fixed ID of the cloud meeting room.  |
| HWM_VMR_CONF_ID_TYPE_RANDOM | 1                | Random ID of the cloud meeting room. |

**Table 10-306** AttendeeBaseInfo

| Parameter    | Mandatory | Type         | Description  |
|--------------|-----------|--------------|--|
| nickName     | Yes       | string       | Participant name.  |
| number       | Yes       | string       | Number. If this parameter is set to the SIP number (for example, +99111244216210249) allocated to the account, the Huawei Cloud Meeting app is called. If this parameter is set to a PSTN number (for example, 18700000000), the number is called through the VoIP gateway if the enterprise has enabled PSTN call. This parameter is used for account and password authentication. Either this parameter or <b>thirdUserId</b> must be set. |
| thirdUserId  | Yes       | string       | Third-party user ID. This parameter is used for app ID authentication. Either this parameter or <b>number</b> must be set.   |
| accountId    | No        | string       | Huawei Cloud Meeting account.  |
| email        | No        | string       | Email address used for receiving email notifications.  |
| sms          | No        | string       | Mobile number used for receiving SMS notifications.  |
| isAutoInvite | No        | boolean      | Whether participants are automatically invited.  |
| isMute       | No        | boolean      | Whether the microphone is muted.   |
| role         | No        | ConfRole     | Participant role in the meeting.   |
| type         | No        | AttendeeType | Participant type.  |
| userUuid     | No        | string       | Participant UUID.  |

**Table 10-307** Enumerated values of ConfRole

| Enumeration Name       | Enumerated Value | Description          |
|------------------------|------------------|----------------------|
| HWM_CONF_ROLE_ATTENDEE | 0                | Guest.               |
| HWM_CONF_ROLE_HOST     | 1                | Host.                |
| HWM_CONF_ROLE_AUDIENCE | 2                | Attendee.            |
| HWM_CONF_ROLE_COHOST   | 3                | Co-host.             |
| HWM_CONF_ROLE_WAITING  | 4                | Waiting room member. |

**Table 10-308** Enumerated values of AttendeeType

| Enumeration Name           | Enumerated Value | Description  |
|----------------------------|------------------|--|
| ATTENDEE_TYPE_NORMAL       | 0                | Voice, HD, and SD participant addresses.   |
| ATTENDEE_TYPE_TELEPRESENCE | 1                | Address of a telepresence participant (uni-screen or tri-screen telepresence participant). |
| ATTENDEE_TYPE_TERMINAL     | 2                | Meeting room or hard terminal.   |
| ATTENDEE_TYPE_OUTSIDE      | 3                | External participant.  |
| ATTENDEE_TYPE_CUSTOMNUMBER | 4                | Custom number.   |
| ATTENDEE_TYPE_MOBILE       | 5                | Soft client user's mobile phone.   |
| ATTENDEE_TYPE_ANONYMOUS    | 6                | Anonymous user.  |
| ATTENDEE_TYPE_TELEPHONE    | 7                | Phone user.  |
| ATTENDEE_TYPE_BOARD        | 8                | Whiteboard user.   |
| ATTENDEE_TYPE_IDEAHUB      | 9                | Large-screen device with HiSilicon chips.  |
| ATTENDEE_TYPE_HWVISION     | 10               | Smart TV.  |
| ATTENDEE_TYPE_WELINKC      | 11               | WeLink (public edition).   |



**Table 10-309** Enumerated values of ConfResType

| Enumeration Name           | Enumerated Value | Description                |
|----------------------------|------------------|----------------------------|
| HWM_CONF_RESTYPE_DEFAULT   | 0                | Default.                   |
| HWM_CONF_RESTYPE_SHARE_VMR | 3                | Shared cloud meeting room. |

**Table 10-310** Enumerated values of SummaryState

| Enumeration Name    | Enumerated Value | Description |
|---------------------|------------------|-------------|
| SUMMARY_STATE_CLOSE | 0                | Disabled.   |
| SUMMARY_STATE_OPEN  | 1                | Enabled.    |

**Table 10-311** Enumerated values of AutoMuteType

| Enumeration Name       | Enumerated Value | Description |
|------------------------|------------------|-------------|
| AUTO_MUTE_TYPE_DEFAULT | 0                | Default.    |
| AUTO_MUTE_TYPE_MUTE    | 1                | Muted.      |
| AUTO_MUTE_TYPE_UNMUTE  | 2                | Unmuted.    |

**Table 10-312** CycleConfParam

| Parameter | Mandatory | Type      | Description  |
|-----------|-----------|-----------|--|
| startDate | Yes       | number    | Start date and timestamp, accurate to seconds (UTC). |
| endDate   | Yes       | number    | End date and timestamp, accurate to seconds (UTC).   |
| cycleType | Yes       | CycleType | Period type.   |

| Parameter     | Mandatory | Type   | Description   |
|---------------|-----------|--------|---|
| interval      | Yes       | number | Interval of recurring meetings. If <b>cycleType</b> is set to daily, there is a meeting every several days and the value range is [1,15]. If <b>cycleType</b> is set to weekly, there is a meeting every several weeks and the value range is [1,5]. If <b>cycleType</b> is set to monthly, there is a meeting every several months and the value range is [1,3]. |
| listPoints    | Yes       | string | Point for holding recurring meetings. This parameter is valid only when meetings are held weekly or monthly. Values are separated by colons (,), for example, <b>1,3,5,7</b> .  |
| preRemindDays | Yes       | number | Number of days in advance users are notified of a recurring meeting.  |

**Table 10-313** Enumerated values of CycleType

| Enumeration Name | Enumerated Value | Description |
|------------------|------------------|-------------|
| CYCLE_TYPE_DAY   | 0                | Daily.      |
| CYCLE_TYPE_WEEK  | 1                | Weekly.     |
| CYCLE_TYPE_MONTH | 2                | Monthly.    |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-314** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

#### 10.4.4.12 Editing a Recurring Meeting

##### Function

This API is used to edit a recurring meeting. 1. Call this API only after login. 2. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

##### Function Prototype

```
modifySubCycleConf(modifySubCycleConfParam: ModifySubCycleConfParam,  
onModifySubCycleConfResult?: (ret: SDKERR, reason: string) => void):  
void  
voidmodifySubCycleConf(modifySubCycleConfParam: ModifySubCycleConfParam,  
onModifySubCycleConfResult?: (ret: SDKERR, reason: string) => void): void
```

##### Request Parameters

**Table 10-315** Input parameter description

| Parameter                  | Mandatory | Type                                  | Description                                 |
|----------------------------|-----------|---------------------------------------|---|
| modifySubCycleConfParam    | Yes       | ModifySubCycleConfParam               | Parameters for editing a recurring meeting. |
| onModifySubCycleConfResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of editing a recurring meeting.    |

**Table 10-316** ModifySubCycleConfParam

| Parameter | Mandatory | Type      | Description                  |
|-----------|-----------|-----------|------------------------------|
| confId    | Yes       | string    | Meeting ID.                  |
| subConfId | Yes       | string    | UUID of a recurring meeting. |
| mediaType | Yes       | MediaType | Meeting type.                |

| Parameter               | Mandatory | Type                  | Description  |
|-------------------------|-----------|-----------------------|--|
| startTime               | No        | number                | Meeting start time (UTC time), in seconds. The value is the difference between the UTC time and the UTC offset (converted into seconds). For example, if the time zone is UTC+08:00, the value is the UTC timestamp - (8 x 60 x 60).   |
| duration                | Yes       | number                | Meeting duration, in minutes.  |
| isAutoRecord            | No        | boolean               | Whether automatic meeting recording is enabled. If automatic meeting recording is enabled, the meeting will be recorded by default, regardless of whether recording is enabled or disabled in the meeting. This parameter is valid only for cloud recording, not for local recording on clients. |
| recordAuthType          | No        | RecordAuthType        | Recording authentication mode.   |
| confAllowJoinUser       | No        | ConfAllowJoinUserType | Users who are allowed to join the meeting. By default, everyone is allowed.  |
| allowGuestStartConf     | No        | boolean               | Whether to allow guests to start the meeting.  |
| allowGuestStartConfTime | No        | number                | Time range for a guest to join the meeting in advance, in minutes. <b>0</b> : at any time; <i>n</i> : <i>n</i> minutes in advance.   |

**Table 10-317** Enumerated values of MediaType

| Enumeration Name     | Enumerated Value | Description |
|----------------------|------------------|-------------|
| HWM_MEDIA_TYPE_AUDIO | 0                | Audio.      |
| HWM_MEDIA_TYPE_VIDEO | 1                | Video.      |

**Table 10-318** Enumerated values of RecordAuthType

| Enumeration Name                 | Enumerated Value | Description   |
|----------------------------------|------------------|---|
| REOCDR_AUTH_TYPE_ANYONE          | 0                | The recording can be viewed or downloaded through link (no nonce is added). |
| REOCDR_AUTH_TYPE_IN_COMPANY_USER | 1                | Corporate users can view or download the recording.                         |
| REOCDR_AUTH_TYPE_ATTENDEE        | 2                | Participants can view or download the recording.                            |

**Table 10-319** Enumerated values of ConfAllowJoinUserType

| Enumeration Name                | Enumerated Value | Description           |
|---------------------------------|------------------|-----------------------|
| CONF_ALLOW_JOIN_ANYONE          | 0                | Everyone.             |
| CONF_ALLOW_JOIN_LOGINED_USER    | 1                | Logged-in users.      |
| CONF_ALLOW_JOIN_IN_COMPANY_USER | 2                | Corporate users only. |
| CONF_ALLOW_JOIN_INVITED_USER    | 3                | Invited users only.   |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-320** Input parameter description

| Parameter | Type   | Description |
|-----------|--|-------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code. |

| Parameter | Type   | Description        |
|-----------|--------|--------------------|
| reason    | string | Error description. |

### 10.4.4.13 Canceling a Recurring Meeting Series

#### Function

This API is used to cancel a recurring meeting series that has at least one upcoming meeting. 1. Call this API only after login. 2. Call this API before the last recurring meeting starts. If the last recurring meeting is already in progress, calling this API is invalid. 3. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Function Prototype

```
cancelCycleConf(cancelCycleConfParam: CancelCycleConfParam,
onCancelCycleConfResult?: (ret: SDKERR, reason: string) => void):
voidcancelCycleConf(cancelCycleConfParam: CancelCycleConfParam,
onCancelCycleConfResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-321** Input parameter description

| Parameter               | Mandatory | Type                                  | Description  |
|-------------------------|-----------|---------------------------------------|--|
| cancelCycleConfParam    | Yes       | CancelCycleConfParam                  | Parameters for canceling a recurring meeting series. |
| onCancelCycleConfResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of canceling a recurring meeting series.    |

**Table 10-322** CancelCycleConfParam

| Parameter     | Mandatory | Type    | Description                        |
|---------------|-----------|---------|------------------------------------|
| confId        | Yes       | string  | Meeting ID.                        |
| endOnlineConf | Yes       | boolean | Whether to end an ongoing meeting. |

#### Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-323** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.4.14 Canceling a Recurring Meeting

#### Function

This API is used to cancel a recurring meeting. 1. Call this API only after login. 2. Call this API before a recurring meeting starts. If the meeting is already in progress, calling this API is invalid. 3. This API is an asynchronous API. The return value only indicates whether the API is successfully called. The actual service processing result is returned in the corresponding callback function.

#### Function Prototype

```
cancelSubCycleConf(cancelSubCycleConfParam: CancelSubCycleConfParam,  
onCancelSubCycleConfResult?: (ret: SDKERR, reason: string) => void):  
void  
cancelSubCycleConf(cancelSubCycleConfParam: CancelSubCycleConfParam,  
onCancelSubCycleConfResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-324** Input parameter description

| Parameter                  | Mandatory | Type                                  | Description                                   |
|----------------------------|-----------|---------------------------------------|---|
| cancelSubCycleConfParam    | Yes       | CancelSubCycleConfParam               | Parameters for canceling a recurring meeting. |
| onCancelSubCycleConfResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of canceling a recurring meeting.    |

**Table 10-325** CancelSubCycleConfParam

| Parameter     | Mandatory | Type    | Description                        |
|---------------|-----------|---------|------------------------------------|
| confId        | Yes       | string  | Meeting ID.                        |
| subConfID     | Yes       | string  | UUID of a recurring meeting.       |
| endOnlineConf | Yes       | boolean | Whether to end an ongoing meeting. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-326** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

## 10.4.5 Common Configuration Management Objects

Common configuration management objects

### 10.4.5.1 Subscribing to Notifications of Reporting Audio Stream Frame Data

#### Function

A notification is sent when audio stream frame data starts to be reported. (For Windows, only 32-bit Windows is supported.)

#### Function Prototype

```
setOnAudioFrameNotifyCB(onAudioFrameNotify: (audioFrameData: AudioFrameData) => void): void  
setOnAudioFrameNotifyCB(onAudioFrameNotify: (audioFrameData: AudioFrameData) => void): void
```



## Request Parameters

**Table 10-327** Input parameter description

| Parameter          | Mandatory | Type                                     | Description   |
|--------------------|-----------|--|---|
| onAudioFrameNotify | Yes       | (audioFrameData: AudioFrameData) => void | Notifies you when audio stream frame data starts to be reported. (For Windows, only 32-bit Windows is supported.) |

## Return Values

void

## Notification Method Parameters

(audioFrameData: AudioFrameData) => void

**Table 10-328** Input parameter description

| Parameter      | Type           | Description              |
|----------------|----------------|--------------------------|
| audioFrameData | AudioFrameData | Audio stream frame data. |

**Table 10-329** AudioFrameData

| Parameter       | Type           | Description   |
|-----------------|----------------|---|
| eFrameType      | AudioFrameType | Audio frame type.   |
| iSamples        | number         | Number of sampling points of each audio channel. <b>iSamples</b> = <b>iSamplesPerSec</b> x 10 ms/1,000        |
| iSamplesPerSec  | number         | Sampling ratio.   |
| iBytesPerSample | number         | Number of bytes of each sampling point. Generally, the PCM audio is 16 bits.                                  |
| iChannels       | number         | Number of audio channels.   |
| uiBufferLen     | number         | Buffer length. The encoded data is encrypted by a third party. The data length increases to prevent overflow. |
| pBuffer         | HWM_CHAR *     | Data buffer. Length = <b>iSamples</b> x <b>iBytesPerSample</b> x <b>iChannels</b>                             |

| Parameter | Type   | Description   |
|-----------|--------|---|
| uiDataLen | number | Data length, which is used after encoding or before decoding. The value of this parameter needs to be updated after encryption or decryption. |

**Table 10-330** Enumerated values of AudioFrameType

| Enumeration Name           | Enumerated Value | Description |
|----------------------------|------------------|-------------|
| HWM_AUDIO_FRAME_TYPE_PCM16 | 0                | 16-bit PCM. |

## 10.4.5.2 Subscribing to Notifications of User Data Path Changes

### Function

A notification is sent when the user data path is changed. (This API is valid only for the Windows platform.)

### Function Prototype

```
setOnUserSavePathChangedCB(onUserSavePathChanged: (userSavePathInfo:
UserSavePathInfo) => void):
voidsetOnUserSavePathChangedCB(onUserSavePathChanged: (userSavePathInfo:
UserSavePathInfo) => void): void
```

### Request Parameters

**Table 10-331** Input parameter description

| Parameter             | Mandatory | Type   | Description   |
|-----------------------|-----------|--|---|
| onUserSavePathChanged | Yes       | (userSavePathInfo: UserSavePathInfo) => void | A notification is sent when the user data path is changed. (This parameter is valid only for the Windows platform.) |

### Return Values

void

## Notification Method Parameters

(userSavePathInfo: UserSavePathInfo) => void

**Table 10-332** Input parameter description

| Parameter        | Type             | Description       |
|------------------|------------------|-------------------|
| userSavePathInfo | UserSavePathInfo | Path information. |

**Table 10-333** UserSavePathInfo

| Parameter | Type         | Description  |
|-----------|--------------|--|
| pathType  | SavePathType | Save path type.  |
| path      | string       | Save path. The value is an absolute path and must be encoded in UTF-8. |

**Table 10-334** Enumerated values of SavePathType

| Enumeration Name           | Enumerated Value | Description                             |
|----------------------------|------------------|---|
| HWM_SAVE_PATH_LOCAL_RECORD | 0                | Path for storing local recording files. |

### 10.4.5.3 Enabling or Disabling Functions

#### Function

This API is used to enable or disable meeting functions. Functions in the enumeration have default values. Call this API when you need to change the function status.

#### Function Prototype

enableCapability(capabilityInfo: CapabilityInfo, onEnableCapabilityResult?: (ret: SDKERR, reason: string) => void): void  
 disableCapability(capabilityInfo: CapabilityInfo, onDisableCapabilityResult?: (ret: SDKERR, reason: string) => void): void

## Request Parameters

**Table 10-335** Input parameter description

| Parameter                | Mandatory | Type  | Description                                |
|--------------------------|-----------|---|--|
| capabilityInfo           | Yes       | CapabilityInfo                              | Function configuration.                    |
| onEnableCapabilityResult | Yes       | (ret: SDKERR,<br>reason: string)<br>=> void | Callback of configuring function statuses. |

**Table 10-336** CapabilityInfo

| Parameter | Mandatory | Type           | Description      |
|-----------|-----------|----------------|------------------|
| type      | Yes       | CapabilityType | Function type.   |
| isEnabled | Yes       | boolean        | Function status. |

**Table 10-337** Enumerated values of CapabilityType

| Enumeration Name                         | Enumerated Value | Description   |
|--|------------------|---|
| HWM_CAPABILITY_TYPE_SHOW_HANGUP_ATTENDEE | 0                | Displaying offline participants (valid only for the Windows platform).        |
| HWM_CAPABILITY_TYPE_HIDE_EXTERNAL_LABEL  | 1                | Hiding the <b>External</b> label.   |
| HWM_CAPABILITY_TYPE_RESOLUTION_1080P     | 2                | 1080p (valid only for the Windows platform)                                   |
| HWM_CAPABILITY_TYPE_RESOLUTION_720P      | 3                | 720p (valid only for the macOS platform).                                     |
| HWM_CAPABILITY_TYPE_MULTI_MONITOR        | 4                | Multi-monitor mode (valid only for the Windows platform).                     |
| HWM_CAPABILITY_TYPE_HOWLING_DETECTION    | 5                | Feedback detection (valid only for the Windows platform).                     |
| HWM_CAPABILITY_AUTO_MIC_VOLUME           | 6                | Automatic microphone volume adjustment (valid only for the Windows platform). |
| HWM_CAPABILITY_SHARE_AUDIO               | 7                | Audio sharing.  |

| Enumeration Name                             | Enumerated Value | Description  |
|--|------------------|--|
| HWM_CAPABILITY_HIDE_NO_CAMERA_VIEW           | 8                | Hiding non-video participants (valid only for the macOS platform).       |
| HWM_CAPABILITY_BREAKOUT_CONF                 | 9                | Enabling or disabling the breakout room function.                        |
| HWM_CAPABILITY_CONFIRM_RECORD                | 10               | Recording confirmation.  |
| HWM_CAPABILITY_SUPPORT_DISCONNECT_AUDIO      | 12               | Audio disconnection (valid only for the Windows platform).               |
| HWM_CAPABILITY_DISCONNECT_AUDIO_TO_JOIN_CONF | 13               | Joining the meeting without audio (valid only for the Windows platform). |
| HWM_CAPABILITY_CPU_REDUCTION_DETECT          | 14               | Detecting CPU frequency reduction (valid only for the Windows platform). |
| HWM_CAPABILITY_SUPPORT_GUEST_INVITE          | 16               | Participant invitation.  |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-338** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.5.4 Setting the Language

#### Function

This API is used to set the language. The default language is Chinese. To customize a language, create the corresponding internationalization files in

`\HwmSdk\sdkResources\language\` in Windows or `/HWMUISDK.framework/Versions/A/Frameworks/WKLanguage.framework/Resources/` in macOS. For example, create `\ar\temp.js` in Windows or `ar.lproj/Localizable.strings` in macOS for Arabic. The language set through this API must be the same as the system language.

## Function Prototype

```
setLanguage(languageInfo: LanguageInfo, onSetLanguageResult?: (ret: SDKERR, reason: string) => void): void  
setLanguage(languageInfo: LanguageInfo, onSetLanguageResult?: (ret: SDKERR, reason: string) => void): void
```

## Request Parameters

**Table 10-339** Input parameter description

| Parameter           | Mandatory | Type                                  | Description                       |
|---------------------|-----------|---------------------------------------|-----------------------------------|
| languageInfo        | Yes       | LanguageInfo                          | Language type information.        |
| onSetLanguageResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of setting the language. |

**Table 10-340** LanguageInfo

| Parameter    | Mandatory | Type     | Description                  |
|--------------|-----------|----------|------------------------------|
| type         | Yes       | Language | Language type.               |
| languageCode | No        | string   | Code of the custom language. |

**Table 10-341** Enumerated values of Language

| Enumeration Name        | Enumerated Value | Description      |
|-------------------------|------------------|------------------|
| HWM_LANGUAGE_ZH_CN      | 0                | Chinese.         |
| HWM_LANGUAGE_EN_GB      | 1                | English.         |
| HWM_LANGUAGE_CUSTOMIZED | 2                | Custom language. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-342** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.5.5 Setting the Save Path

#### Function

This API is used to set the path for saving user files (including local recording files). This API is optional. If the save path is not set, the default path is used.

#### Function Prototype

```
setUserSavePath(userSavePathInfo: UserSavePathInfo, onSetUserSavePathResult?: (ret: SDKERR, reason: string) => void): void
setUserSavePath(userSavePathInfo: UserSavePathInfo, onSetUserSavePathResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-343** Input parameter description

| Parameter               | Mandatory | Type                                  | Description                        |
|-------------------------|-----------|---------------------------------------|------------------------------------|
| userSavePathInfo        | Yes       | UserSavePathInfo                      | Save path information.             |
| onSetUserSavePathResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of setting the save path. |

**Table 10-344** UserSavePathInfo

| Parameter | Mandatory | Type         | Description     |
|-----------|-----------|--------------|-----------------|
| pathType  | Yes       | SavePathType | Save path type. |

| Parameter | Mandatory | Type   | Description  |
|-----------|-----------|--------|--|
| path      | Yes       | string | Save path. The value is an absolute path and must be encoded in UTF-8. |

**Table 10-345** Enumerated values of SavePathType

| Enumeration Name           | Enumerated Value | Description                             |
|----------------------------|------------------|---|
| HWM_SAVE_PATH_LOCAL_RECORD | 0                | Path for storing local recording files. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-346** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.5.6 Obtaining the Save Path

#### Function

This API is used to obtain the path for saving user files (including local recording files). It is valid only for the Windows platform.

#### Function Prototype

```
getUserSavePath(pathType: SavePathType, onGetUserSavePathResult?: (ret: SDKERR, reason: string, pathInfo: UserSavePathInfo) => void): void
void getUserSavePath(pathType: SavePathType, onGetUserSavePathResult?: (ret: SDKERR, reason: string, pathInfo: UserSavePathInfo) => void): void
```



## Request Parameters

**Table 10-347** Input parameter description

| Parameter               | Mandatory | Type  | Description                        |
|-------------------------|-----------|---|------------------------------------|
| pathType                | Yes       | SavePathType  | Save path type.                    |
| onGetUserSavePathResult | Yes       | (ret: SDKERR, reason: string, pathInfo: UserSavePathInfo) => void | Callback of setting the save path. |

**Table 10-348** Enumerated values of SavePathType

| Enumeration Name           | Enumerated Value | Description                             |
|----------------------------|------------------|---|
| HWM_SAVE_PATH_LOCAL_RECORD | 0                | Path for storing local recording files. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, pathInfo: UserSavePathInfo) => void

**Table 10-349** Input parameter description

| Parameter | Type   | Description            |
|-----------|--|------------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.            |
| reason    | string   | Error description.     |
| pathInfo  | UserSavePathInfo   | Save path information. |

**Table 10-350** UserSavePathInfo

| Parameter | Type         | Description  |
|-----------|--------------|--|
| pathType  | SavePathType | Save path type.  |
| path      | string       | Save path. The value is an absolute path and must be encoded in UTF-8. |

## 10.4.5.7 Enabling or Disabling Audio Streams

### Function

This API is used to enable or disable audio streams.

### Function Prototype

```
setAudioRawDataOutputConfig(audioRawDataConfigInfo:  
AudioRawDataConfigInfo, onSetAudioRawDataOutputConfigResult?: (ret: SDKERR,  
reason: string) => void):  
void  
setAudioRawDataOutputConfig(audioRawDataConfigInfo:  
AudioRawDataConfigInfo, onSetAudioRawDataOutputConfigResult?: (ret: SDKERR,  
reason: string) => void): void
```

### Request Parameters

**Table 10-351** Input parameter description

| Parameter                           | Mandatory | Type                                  | Description                                      |
|-------------------------------------|-----------|---------------------------------------|--|
| audioRawDataConfigInfo              | Yes       | AudioRawDataConfigInfo                | Audio stream configuration.                      |
| onSetAudioRawDataOutputConfigResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of enabling or disabling audio streams. |

**Table 10-352** AudioRawDataConfigInfo

| Parameter | Mandatory | Type    | Description                        |
|-----------|-----------|---------|------------------------------------|
| isOpen    | Yes       | boolean | Whether audio streams are enabled. |

### Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-353** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.5.8 Setting the Call Answer Mode

#### Function

This API is used to set the call answer mode, including original pop-up, automatic rejection, and automatic answer.

#### Function Prototype

```
setAnswerType(inComingAnswerTypeInfo: InComingAnswerTypeInfo,
onSetAnswerTypeResult?: (ret: SDKERR, reason: string) => void):
void
setAnswerType(inComingAnswerTypeInfo: InComingAnswerTypeInfo,
onSetAnswerTypeResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-354** Input parameter description

| Parameter              | Mandatory | Type                                  | Description  |
|------------------------|-----------|---------------------------------------|--|
| inComingAnswerTypeInfo | Yes       | InComingAnswerTypeInfo                | Incoming call answer information.                  |
| onSetAnswerTypeResult  | Yes       | (ret: SDKERR, reason: string) => void | Callback of setting the incoming call answer mode. |

**Table 10-355** InComingAnswerTypeInfo

| Parameter | Mandatory | Type               | Description                |
|-----------|-----------|--------------------|----------------------------|
| type      | Yes       | InComingAnswerType | Incoming call answer type. |

**Table 10-356** Enumerated values of InComingAnswerType

| Enumeration Name            | Enumerated Value | Description   |
|-----------------------------|------------------|---|
| HWM_INCOMING_ANSWER_NORMAL  | 0                | (Default value) Displays the incoming call answer screen. |
| HWM_INCOMING_ANSWER_DECLINE | 1                | Rejects an incoming call.                                 |
| HWM_INCOMING_ANSWER_ANSWER  | 2                | Answers an incoming call.                                 |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-357** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

## 10.4.5.9 Configuring Device Statuses After a Meeting Call Is Answered

### Function

This API is used to set the status of devices, including the microphone and camera, when a meeting call is answered.

### Function Prototype

```
setDeviceConfigForConfIncoming(deviceConfig: DeviceConfig,
onSetDeviceConfigForConfIncomingResult?: (ret: SDKERR, reason: string) => void):
void
setDeviceConfigForConfIncoming(deviceConfig: DeviceConfig,
onSetDeviceConfigForConfIncomingResult?: (ret: SDKERR, reason: string) => void):
void
```

## Request Parameters

**Table 10-358** Input parameter description

| Parameter                                  | Mandatory | Type  | Description  |
|--|-----------|---|--|
| deviceConfig                               | Yes       | DeviceConfig                                | Device configuration.  |
| onSetDeviceConfigForConfInc<br>omingResult | Yes       | (ret: SDKERR,<br>reason: string)<br>=> void | Callback of setting the microphone or camera status when a meeting call is answered. |

**Table 10-359** DeviceConfig

| Parameter  | Mandatory | Type    | Description                       |
|------------|-----------|---------|-----------------------------------|
| isMicOn    | No        | boolean | Whether to enable the microphone. |
| isCameraOn | No        | boolean | Whether to enable the camera.     |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-360** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.5.10 Obtain the Meeting PSTN Number

#### Function

This API is used to obtain the meeting PSTN number.

## Function Prototype

```
getConfPstnAccessNumber(onGetConfPstnAccessNumberResult?: (ret: SDKERR,
reason: string, pstnAccessNumberInfo: PstnAccessNumberInfo) => void):
voidgetConfPstnAccessNumber(onGetConfPstnAccessNumberResult?: (ret:
SDKERR, reason: string, pstnAccessNumberInfo: PstnAccessNumberInfo) => void):
void
```

## Request Parameters

**Table 10-361** Input parameter description

| Parameter                       | Mandatory | Type  | Description                                    |
|---------------------------------|-----------|---|--|
| onGetConfPstnAccessNumberResult | Yes       | (ret: SDKERR, reason: string, pstnAccessNumberInfo: PstnAccessNumberInfo) => void | Callback of obtaining the meeting PSTN number. |

## Return Values

void

## Callback Method Parameters

```
(ret: SDKERR, reason: string, pstnAccessNumberInfo: PstnAccessNumberInfo) =>
void
```

**Table 10-362** Input parameter description

| Parameter            | Type   | Description                      |
|----------------------|--|----------------------------------|
| ret                  | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.                      |
| reason               | string   | Error description.               |
| pstnAccessNumberInfo | PstnAccessNumberInfo   | Meeting PSTN number information. |

**Table 10-363** PstnAccessNumberInfo

| Parameter        | Type   | Description          |
|------------------|--------|----------------------|
| pstnAccessNumber | string | Meeting PSTN number. |

### 10.4.5.11 Disabling Prompt Tones

#### Function

This API is used to disable prompt tones.

#### Function Prototype

```
disableVoicePrompts(voicePromptsInfo: VoicePromptsInfo,
onDisableVoicePromptsResult?: (ret: SDKERR, reason: string) => void):
void
disableVoicePrompts(voicePromptsInfo: VoicePromptsInfo,
onDisableVoicePromptsResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-364** Input parameter description

| Parameter                   | Mandatory | Type                                  | Description                         |
|-----------------------------|-----------|---------------------------------------|-------------------------------------|
| voicePromptsInfo            | Yes       | VoicePromptsInfo                      | Prompt tone information.            |
| onDisableVoicePromptsResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of disabling prompt tones. |

**Table 10-365** VoicePromptsInfo

| Parameter           | Mandatory | Type    | Description                              |
|---------------------|-----------|---------|--|
| isDisableMutePrompt | Yes       | boolean | Whether to disable the mute prompt tone. |

#### Return Values

void

#### Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-366** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

## 10.4.5.12 Setting the Sharing Permission

### Function

This API is used to set the sharing permission. By default, sharing is allowed.

### Function Prototype

```
setShareScreenPermission(permission: SharePermission,
onSetShareScreenPermissionResult?: (ret: SDKERR, reason: string) => void):
voidsetShareScreenPermission(permission: SharePermission,
onSetShareScreenPermissionResult?: (ret: SDKERR, reason: string) => void): void
```

### Request Parameters

**Table 10-367** Input parameter description

| Parameter                                | Mandatory | Type  | Description                                    |
|--|-----------|---|--|
| permission                               | Yes       | SharePermissi<br>on                         | Permission type information.                   |
| onSetShareScr<br>eenPermission<br>Result | Yes       | (ret: SDKERR,<br>reason: string)<br>=> void | Callback of setting the<br>sharing permission. |

**Table 10-368** SharePermission

| Parameter | Mandatory | Type    | Description                 |
|-----------|-----------|---------|-----------------------------|
| isAllowed | Yes       | boolean | Whether to disable sharing. |

### Return Values

void



## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-369** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.5.13 Setting the Path for Saving Logs

#### Function

This API is used to set the path for saving logs. This API is optional. If the save path is not set, the default path is used.

#### Function Prototype

setLogPath(logPathInfo: LogPathInfo, onSetLogPathResult?: (ret: SDKERR, reason: string) => void): void  
 voidsetLogPath(logPathInfo: LogPathInfo, onSetLogPathResult?: (ret: SDKERR, reason: string) => void): void

#### Request Parameters

**Table 10-370** Input parameter description

| Parameter           | Mandatory | Type                                  | Description                                   |
|---------------------|-----------|---------------------------------------|---|
| logPathInfo         | Yes       | LogPathInfo                           | Log path information.                         |
| onSetLogPath Result | Yes       | (ret: SDKERR, reason: string) => void | Callback of setting the path for saving logs. |

**Table 10-371** LogPathInfo

| Parameter | Mandatory | Type   | Description  |
|-----------|-----------|--------|--|
| path      | Yes       | string | Save path. The value is an absolute path and must be encoded in UTF-8. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-372** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.5.14 Obtaining an Error Message

#### Function

This API is used to obtain an error message.

#### Function Prototype

getErrorMessage(errorCode: number): ErrorMessageInfo

#### Request Parameters

**Table 10-373** Input parameter description

| Parameter        | Mandatory | Type             | Description    |
|------------------|-----------|------------------|----------------|
| errorCode        | Yes       | number           | Error code.    |
| errorMessageInfo | Yes       | ErrorMessageInfo | Error message. |

## Return Values

ErrorMessageInfo

### 10.4.5.15 Making Windows Transparent During Screen Sharing

#### Function

Up to four window handles are supported. (This API is valid only for the Windows platform.)

## Function Prototype

```
setTransparentWnd(wndInfo: TransparentWndInfo, onSetTransparentWndResult?:
(ret: SDKERR, reason: string) => void): void
setTransparentWnd(wndInfo:
TransparentWndInfo, onSetTransparentWndResult?: (ret: SDKERR, reason: string)
=> void): void
```

## Request Parameters

**Table 10-374** Input parameter description

| Parameter                     | Mandatory | Type  | Description                                |
|-------------------------------|-----------|---|--|
| wndInfo                       | Yes       | TransparentW<br>ndInfo                      | Window handle information.                 |
| onSetTranspar<br>entWndResult | Yes       | (ret: SDKERR,<br>reason: string)<br>=> void | Callback of making windows<br>transparent. |

**Table 10-375** TransparentWndInfo

| Parameter | Mandatory | Type          | Description               |
|-----------|-----------|---------------|---------------------------|
| handle    | Yes       | HWM_HWND<br>* | Window handles.           |
| count     | Yes       | number        | Number of window handles. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-376** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about<br><b>SDKERR</b> , see<br><a href="#">Error Code<br/>Reference</a> . | Error code.        |
| reason    | string   | Error description. |

## 10.4.5.16 Customizing the Text for a Specific Scenario

### Function

This API is used to customize the text for a specific scenario.

### Function Prototype

```
setCustomUIText(customSceneTextInfoList: CustomSceneTextInfoList,  
onSetCustomUITextResult?: (ret: SDKERR, reason: string) => void):  
void  
setCustomUIText(customSceneTextInfoList: CustomSceneTextInfoList,  
onSetCustomUITextResult?: (ret: SDKERR, reason: string) => void): void
```

### Request Parameters

**Table 10-377** Input parameter description

| Parameter               | Mandatory | Type                                  | Description  |
|-------------------------|-----------|---------------------------------------|--|
| customSceneTextInfoList | Yes       | CustomSceneTextInfoList               | Custom text details.                                 |
| onSetCustomUITextResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of customizing text for specific scenarios. |

**Table 10-378** CustomSceneTextInfoList

| Parameter                   | Mandatory | Type                | Description                                       |
|-----------------------------|-----------|---------------------|---|
| customSceneTextInfoListSize | Yes       | number              | Number of scenarios requiring text customization. |
| customSceneTextInfoList     | Yes       | CustomSceneTextInfo | Custom text details.                              |

**Table 10-379** CustomSceneTextInfo

| Parameter         | Mandatory | Type              | Description                            |
|-------------------|-----------|-------------------|--|
| scene             | Yes       | UICustomTextScene | Scenario requiring text customization. |
| sceneTextListSize | Yes       | number            | Number of custom text strings.         |
| sceneTextList     | Yes       | UICustomTextInfo  | List of custom text strings.           |

**Table 10-380** Enumerated values of UICustomTextScene

| Enumeration Name                                | Enumerated Value | Description  |
|---|------------------|--|
| CLOUD_RECORD_FINISHED_ALERT_SCENE               | 0                | Cloud recording end notification.  |
| CLOUD_RECORD_FINISHED_ALERT_IM_SCENE            | 1                | Notification in the dialog box displayed when cloud recording ends in an ongoing meeting (for macOS only). |
| CLOUD_RECORD_MENU_TITLE_TEXT_SCENE              | 2                | Cloud recording title in the recording pop-up menu (for Windows only).                                     |
| CLOUD_RECORD_MENU_DESCRIPTION_TEXT_SCENE        | 3                | Cloud recording description in the recording pop-up menu (for Windows only).                               |
| MAIN_WINDOW_CLOUD_RECORD_DESCRIPTION_TEXT_SCENE | 4                | Cloud recording description in the main window (for Windows only).   |

**Table 10-381** UICustomTextInfo

| Parameter    | Mandatory | Type     | Description                  |
|--------------|-----------|----------|------------------------------|
| languageType | Yes       | Language | Language type.               |
| languageCode | No        | string   | Code of the custom language. |
| customText   | Yes       | string   | Custom text.                 |

**Table 10-382** Enumerated values of Language

| Enumeration Name        | Enumerated Value | Description      |
|-------------------------|------------------|------------------|
| HWM_LANGUAGE_ZH_CN      | 0                | Chinese.         |
| HWM_LANGUAGE_EN_GB      | 1                | English.         |
| HWM_LANGUAGE_CUSTOMIZED | 2                | Custom language. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-383** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.5.17 Customizing the Icon for a Specific Scenario

#### Function

This API is used to customize the icon for a specific scenario.

#### Function Prototype

```
setCustomUIImage(customScenelImageInfoList: CustomScenelImageInfoList,
onSetCustomUIImageResult?: (ret: SDKERR, reason: string) => void):
voidsetCustomUIImage(customScenelImageInfoList: CustomScenelImageInfoList,
onSetCustomUIImageResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-384** Input parameter description

| Parameter                 | Mandatory | Type                                  | Description   |
|---------------------------|-----------|---------------------------------------|---|
| customScenelImageInfoList | Yes       | CustomScenelImageInfoList             | Custom icon details.                                  |
| onSetCustomUIImageResult  | Yes       | (ret: SDKERR, reason: string) => void | Callback of customizing icons for specific scenarios. |

**Table 10-385** CustomScenelImageInfoList

| Parameter                     | Mandatory | Type   | Description                                       |
|-------------------------------|-----------|--------|---|
| customScenelImageInfoListSize | Yes       | number | Number of scenarios requiring icon customization. |

| Parameter                    | Mandatory | Type                     | Description          |
|------------------------------|-----------|--------------------------|----------------------|
| customScenel<br>mageInfoList | Yes       | CustomScenel<br>mageInfo | Custom icon details. |

**Table 10-386** CustomScenelmageInfo

| Parameter | Mandatory | Type                   | Description                               |
|-----------|-----------|------------------------|---|
| scene     | Yes       | UICustomImag<br>eScene | Scenario requiring icon<br>customization. |
| imagePath | Yes       | string                 | Custom icon path.                         |
| width     | Yes       | number                 | Custom icon width.                        |
| height    | Yes       | number                 | Custom icon height.                       |

**Table 10-387** Enumerated values of UICustomImageScene

| Enumeration Name                        | Enum<br>erate<br>d<br>Value | Description   |
|---|-----------------------------|---|
| CLOUD_RECORD_ICON_IMAG<br>E_SCENE       | 0                           | Main icon of cloud recording in a<br>meeting (in the recording pop-up<br>menu, participant list, and sharing<br>toolbar). |
| MAIN_WINDOW_CLOUD_REC<br>ORD_ICON_SCENE | 1                           | Small cloud recording icon in the main<br>window.   |
| MAIN_WINDOW_CLOUD_REC<br>ORD_LOGO_SCENE | 2                           | Large cloud recording logo in the main<br>window.   |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-388** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

## 10.4.6 UI Configuration Management Objects

UI configuration management objects

### 10.4.6.1 Subscribing to Click Injection Notifications

#### Function

A notification is sent when a user clicked a button configured with click injection.

#### Function Prototype

```
setOnClickInjectBtnNotifyCB(onClickInjectBtnNotify: (injectBtnInfo: InjectBtnInfo) => void): void  
setOnClickInjectBtnNotifyCB(onClickInjectBtnNotify: (injectBtnInfo: InjectBtnInfo) => void): void
```

#### Request Parameters

**Table 10-389** Input parameter description

| Parameter              | Mandatory | Type                                   | Description  |
|------------------------|-----------|--|--|
| onClickInjectBtnNotify | Yes       | (injectBtnInfo: InjectBtnInfo) => void | Notifies you when a user clicked a button configured with click injection. |

#### Return Values

void

#### Notification Method Parameters

(injectBtnInfo: InjectBtnInfo) => void



**Table 10-390** Input parameter description

| Parameter     | Type          | Description                   |
|---------------|---------------|-------------------------------|
| injectBtnInfo | InjectBtnInfo | Click injection notification. |

**Table 10-391** InjectBtnInfo

| Parameter | Type           | Description  |
|-----------|----------------|--------------|
| injectBtn | ClickInjectBtn | Button type. |
| btnId     | string         | Button ID.   |

**Table 10-392** Enumerated values of ClickInjectBtn

| Enumeration Name                             | Enumerated Value | Description                                       |
|--|------------------|---|
| HWM_CLICK_INJECT_BTN_INVITE                  | 0                | <b>Invite</b> button.                             |
| HWM_CLICK_INJECT_BTN_ATTENDEE                | 1                | <b>Participants</b> button.                       |
| HWM_CLICK_INJECT_BTN_CHAT                    | 2                | <b>Chats</b> button.                              |
| HWM_CLICK_INJECT_BTN_SHARE                   | 3                | <b>Share</b> button.                              |
| HWM_CLICK_INJECT_BTN_LEAVE                   | 4                | <b>Leave</b> button.                              |
| HWM_CLICK_INJECT_BTN_CUSTOM                  | 5                | Custom button.                                    |
| HWM_CLICK_INJECT_BTN_GUEST_INVITE            | 6                | <b>Invite</b> button displayed to guests.         |
| HWM_CLICK_INJECT_BTN_FEEDBACK                | 7                | Feedback button.                                  |
| HWM_CLICK_INJECT_BTN_COPY_CONF_INFO          | 8                | Button for copying meeting details.               |
| HWM_CLICK_INJECT_BTN_COPY_AUDIENCE_CONF_INFO | 9                | Button for copying meeting details for attendees. |
| HWM_CLICK_INJECT_BTN_CALL_ALL                | 10               | <b>Call all</b> button.                           |

## 10.4.6.2 Subscribing to Click Injection Notifications of Participant List Subitems

### Function

A notification is sent when a user clicked a button configured with click injection in the participant list.

### Function Prototype

```
setOnClickInjectParticipantItemBtnNotifyCB(onClickInjectParticipantItemBtnNotify:
(injectBtnInfo: InjectParticipantItemBtnInfo) => void):
voidsetOnClickInjectParticipantItemBtnNotifyCB(onClickInjectParticipantItemBtnNo
tify: (injectBtnInfo: InjectParticipantItemBtnInfo) => void): void
```

### Request Parameters

**Table 10-393** Input parameter description

| Parameter                             | Mandatory | Type  | Description  |
|---------------------------------------|-----------|---|--|
| onClickInjectParticipantItemBtnNotify | Yes       | (injectBtnInfo: InjectParticipantItemBtnInfo) => void | Notifies you when a user clicked a button configured with click injection in the participant list. |

### Return Values

void

### Notification Method Parameters

(injectBtnInfo: InjectParticipantItemBtnInfo) => void

**Table 10-394** Input parameter description

| Parameter     | Type                         | Description                   |
|---------------|------------------------------|-------------------------------|
| injectBtnInfo | InjectParticipantItemBtnInfo | Click injection notification. |

**Table 10-395** InjectParticipantItemBtnInfo

| Parameter | Type                          | Description  |
|-----------|-------------------------------|--------------|
| injectBtn | ClickInjectParticipantItemBtn | Button type. |

| Parameter       | Type                | Description                      |
|-----------------|---------------------|----------------------------------|
| participantInfo | ParticipantItemInfo | Subitem in the participant list. |
| btnId           | string              | Button ID.                       |

**Table 10-396** Enumerated values of ClickInjectParticipantItemBtn

| Enumeration Name   | Enumerated Value | Description                            |
|--|------------------|--|
| HWM_CLICK_INJECT_PARTICIPANT_ITEM_BTN_CALL_OTHER_NUM     | 0                | <b>Call other number</b> button.       |
| HWM_CLICK_INJECT_PARTICIPANT_ITEM_BTN_PARTICIPANT_DETAIL | 1                | Button of viewing participant details. |

**Table 10-397** ParticipantItemInfo

| Parameter   | Type   | Description   |
|-------------|--------|---|
| number      | string | Number.   |
| nickName    | string | Participant display name.   |
| thirdUserId | string | Third-party account of the participant, which is used for app ID login. |
| accountId   | string | Huawei Cloud Meeting account.   |

### 10.4.6.3 Subscribing to Click Injection Notifications of the Call all Button

#### Function

A notification is sent when a user clicked the **Call all** button in the absent participant list.

#### Function Prototype

```
setOnClickInjectCallAllBtnNotifyCB(onClickInjectCallAllBtnNotify: (injectBtnInfo: CallAllBtnInfo) => void): void
void setOnClickInjectCallAllBtnNotifyCB(onClickInjectCallAllBtnNotify: (injectBtnInfo: CallAllBtnInfo) => void): void
```

## Request Parameters

**Table 10-398** Input parameter description

| Parameter                     | Mandatory | Type                                    | Description   |
|-------------------------------|-----------|---|---|
| onClickInjectCallAllBtnNotify | Yes       | (injectBtnInfo: CallAllBtnInfo) => void | A notification is sent when a user clicked the <b>Call all</b> button in the absent participant list. |

## Return Values

void

## Notification Method Parameters

(injectBtnInfo: CallAllBtnInfo) => void

**Table 10-399** Input parameter description

| Parameter     | Type           | Description                   |
|---------------|----------------|-------------------------------|
| injectBtnInfo | CallAllBtnInfo | Click injection notification. |

**Table 10-400** CallAllBtnInfo

| Parameter    | Type                | Description  |
|--------------|---------------------|--|
| injectBtn    | ClickInjectBtn      | Button type.   |
| participants | ParticipantItemInfo | Called participant information.                          |
| count        | number              | Number of participants in the <b>participants</b> field. |

**Table 10-401** Enumerated values of ClickInjectBtn

| Enumeration Name            | Enumerated Value | Description           |
|-----------------------------|------------------|-----------------------|
| HWM_CLICK_INJECT_BTN_INVITE | 0                | <b>Invite</b> button. |

| Enumeration Name                             | Enumerated Value | Description                                       |
|--|------------------|---|
| HWM_CLICK_INJECT_BTN_ATTENDEE                | 1                | <b>Participants</b> button.                       |
| HWM_CLICK_INJECT_BTN_CHAT                    | 2                | <b>Chats</b> button.                              |
| HWM_CLICK_INJECT_BTN_SHARE                   | 3                | <b>Share</b> button.                              |
| HWM_CLICK_INJECT_BTN_LEAVE                   | 4                | <b>Leave</b> button.                              |
| HWM_CLICK_INJECT_BTN_CUSTOM                  | 5                | Custom button.                                    |
| HWM_CLICK_INJECT_BTN_GUEST_INVITE            | 6                | <b>Invite</b> button displayed to guests.         |
| HWM_CLICK_INJECT_BTN_FEEDBACK                | 7                | Feedback button.                                  |
| HWM_CLICK_INJECT_BTN_COPY_CONF_INFO          | 8                | Button for copying meeting details.               |
| HWM_CLICK_INJECT_BTN_COPY_AUDIENCE_CONF_INFO | 9                | Button for copying meeting details for attendees. |
| HWM_CLICK_INJECT_BTN_CALL_ALL                | 10               | <b>Call all</b> button.                           |

**Table 10-402** ParticipantItemInfo

| Parameter   | Type   | Description   |
|-------------|--------|---|
| number      | string | Number.   |
| nickName    | string | Participant display name.   |
| thirdUserId | string | Third-party account of the participant, which is used for app ID login. |
| accountId   | string | Huawei Cloud Meeting account.   |

### 10.4.6.4 Subscribing to Window Handle Notifications

#### Function

A notification is sent when the window handle information changes.

## Function Prototype

```
setOnRenderWindowInfoListChangedCB(onRenderWindowInfoListChanged:
(hwndInfo: HwndListInfo) => void):
voidsetOnRenderWindowInfoListChangedCB(onRenderWindowInfoListChanged:
(hwndInfo: HwndListInfo) => void): void
```

## Request Parameters

**Table 10-403** Input parameter description

| Parameter                     | Mandatory | Type                             | Description   |
|-------------------------------|-----------|----------------------------------|---|
| onRenderWindowInfoListChanged | Y         | (hwndInfo: HwndListInfo) => void | Notification sent when the window handle information changes. |

## Return Values

void

## Notification Method Parameters

(hwndInfo: HwndListInfo) => void

**Table 10-404** Input parameter description

| Parameter | Type         | Description                |
|-----------|--------------|----------------------------|
| hwndInfo  | HwndListInfo | Window handle information. |

**Table 10-405** HwndListInfo

| Parameter      | Type     | Description                           |
|----------------|----------|---------------------------------------|
| hwndInfoList   | HwndInfo | Video window handle list.             |
| hwndListLength | number   | Number of window handles in the list. |

### 10.4.6.5 Subscribing to Notifications of Profile Picture Query in an External Corporate Directory

#### Function

A notification is sent when a user enabled the profile picture function in the external corporate directory and joined a meeting with camera disabled.

## Function Prototype

```
setOnQueryContactAvatarNotifyCB(onQueryContactAvatarNotify: (contactInfo: ContactInfo) => void): void  
voidsetOnQueryContactAvatarNotifyCB(onQueryContactAvatarNotify: (contactInfo: ContactInfo) => void): void
```

## Request Parameters

**Table 10-406** Input parameter description

| Parameter                  | Mandatory | Type                               | Description  |
|----------------------------|-----------|------------------------------------|--|
| onQueryContactAvatarNotify | Yes       | (contactInfo: ContactInfo) => void | Notifies you when a user enabled the profile picture function in the external corporate directory and joined a meeting with camera disabled. |

## Return Values

void

## Notification Method Parameters

(contactInfo: ContactInfo) => void

**Table 10-407** Input parameter description

| Parameter   | Type        | Description                                     |
|-------------|-------------|---|
| contactInfo | ContactInfo | Information about querying an external contact. |

**Table 10-408** ContactInfo

| Parameter   | Type   | Description   |
|-------------|--------|---|
| accountId   | string | Account. This parameter is preferentially used in the account and password login scenario.                  |
| thirdUserId | string | Third-party account of the participant. This parameter is preferentially used in the app ID login scenario. |
| number      | string | Number. This parameter is preferentially used in cross-enterprise scenarios.                                |

| Parameter | Type   | Description  |
|-----------|--------|--|
| userId    | string | UUID (unique user ID allocated by the system, which is valid only for the Windows platform). |

### 10.4.6.6 Configuring the UI

#### Function

This API is used to customize parameters and UI elements in a meeting.

#### Function Prototype

```
config(uiConfig: string, onConfigResult?: (ret: SDKERR, reason: string) => void):
voidconfig(uiConfig: string, onConfigResult?: (ret: SDKERR, reason: string) => void):
void
```

#### Request Parameters

**Table 10-409** Input parameter description

| Parameter      | Mandatory | Type                                  | Description  |
|----------------|-----------|---------------------------------------|--|
| uiConfig       | Yes       | string                                | Configuration information, which is in JSON format. For details, see <a href="#">JSON Description for UI Configuration</a> . |
| onConfigResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of customizing parameters.  |

#### Return Values

void

#### Callback Method Parameters

(ret: SDKERR, reason: string) => void



**Table 10-410** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.6.7 Customizing a Watermark for a Meeting

#### Function

This API is used to customize a watermark. If not specified, the internal priorities are used to display the watermark. 1. Call this API before a meeting. Calling this API during a meeting does not take effect. 2. If the enterprise-level watermark function is disabled, the custom watermark content injection does not take effect.

#### Function Prototype

```
setWaterMark(waterMarkInfo: WaterMarkInfo, onSetWaterMarkResult?: (ret: SDKERR, reason: string) => void): void  
setWaterMark(waterMarkInfo: WaterMarkInfo, onSetWaterMarkResult?: (ret: SDKERR, reason: string) => void): void
```

#### Request Parameters

**Table 10-411** Input parameter description

| Parameter            | Mandatory | Type                                  | Description  |
|----------------------|-----------|---------------------------------------|--|
| waterMarkInfo        | Yes       | WaterMarkInfo                         | Watermark injection information.                         |
| onSetWaterMarkResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of configuring watermark injection information. |

**Table 10-412** WaterMarkInfo

| Parameter | Mandatory | Type               | Description   |
|-----------|-----------|--------------------|---|
| content   | No        | string             | Custom watermark injection content.   |
| color     | No        | WaterMarkColorType | Watermark font color. <b>0</b> : light; <b>1</b> : standard; <b>2</b> : dark. |

**Table 10-413** Enumerated values of WaterMarkColorType

| Enumeration Name                  | Enumerated Value | Description      |
|-----------------------------------|------------------|------------------|
| HWM_WATERMARK_COLOR_TYPE_LIGHT    | 0                | Light #CCCCCC    |
| HWM_WATERMARK_COLOR_TYPE_STANDARD | 1                | Standard #999999 |
| HWM_WATERMARK_COLOR_TYPE_DARKER   | 2                | Dark #666666     |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-414** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

## 10.4.6.8 Obtaining the Window Handle List

### Function

This API is used to obtain the window handle list.

### Function Prototype

```
getRenderWindowInfoList(onGetRenderWindowInfoListResult?: (ret: SDKERR, reason: string, hwndInfo: HwndListInfo) => void): void
voidgetRenderWindowInfoList(onGetRenderWindowInfoListResult?: (ret: SDKERR, reason: string, hwndInfo: HwndListInfo) => void): void
```

## Request Parameters

**Table 10-415** Input parameter description

| Parameter                       | Mandatory | Type  | Description  |
|---------------------------------|-----------|---|--|
| onGetRenderWindowInfoListResult | Yes       | (ret: SDKERR, reason: string, hwndInfo: HwndListInfo) => void | Callback of the window handle list, which is returned for <b>GetRenderWindowInfoList</b> requests. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, hwndInfo: HwndListInfo) => void

**Table 10-416** Input parameter description

| Parameter | Type   | Description                |
|-----------|--|----------------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.                |
| reason    | string   | Error description.         |
| hwndInfo  | HwndListInfo   | Window handle information. |

**Table 10-417** HwndListInfo

| Parameter      | Type     | Description                           |
|----------------|----------|---------------------------------------|
| hwndInfoList   | HwndInfo | Video window handle list.             |
| hwndListLength | number   | Number of window handles in the list. |

### 10.4.6.9 Displaying the Meeting Window

#### Function

This API is used to place the main meeting window at the top when it is minimized or covered by other windows. An ongoing meeting will be selected from the meeting list to show its window.

## Function Prototype

showMeetingWindow(onShowMeetingWindowResult?: (ret: SDKERR, reason: string) => void): void  
showMeetingWindow(onShowMeetingWindowResult?: (ret: SDKERR, reason: string) => void): void

## Request Parameters

**Table 10-418** Input parameter description

| Parameter                 | Mandatory | Type                                  | Description   |
|---------------------------|-----------|---------------------------------------|---|
| onShowMeetingWindowResult | Yes       | (ret: SDKERR, reason: string) => void | This parameter is used to display the meeting window. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-419** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.6.10 Configuring a Profile Picture

## Function

This API is used to configure the profile picture information.

## Function Prototype

setAvatar(avatarInfo: AvatarInfo, onSetAvatarResult?: (ret: SDKERR, reason: string) => void): void  
setAvatar(avatarInfo: AvatarInfo, onSetAvatarResult?: (ret: SDKERR, reason: string) => void): void

## Request Parameters

**Table 10-420** Input parameter description

| Parameter         | Mandatory | Type                                  | Description                                  |
|-------------------|-----------|---------------------------------------|--|
| avatarInfo        | Yes       | AvatarInfo                            | Profile picture information.                 |
| onSetAvatarResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of configuring the profile picture. |

**Table 10-421** AvatarInfo

| Parameter  | Mandatory | Type   | Description           |
|------------|-----------|--------|-----------------------|
| number     | Yes       | string | Number.               |
| avatarPath | Yes       | string | Profile picture path. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-422** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.6.11 Customizing the Meeting Window Icon on the Taskbar

#### Function

This API is used to set the meeting window icon on the taskbar (valid only for the macOS platform). On the Windows platform, you can replace the **video.ico** file in **HwmSdk\sdkResources\nativeimg**.

## Function Prototype

```
setMeetingWindowIcon(windowIconInfo: WindowIconInfo,
onSetMeetingWindowIconResult?: (ret: SDKERR, reason: string) => void):
voidsetMeetingWindowIcon(windowIconInfo: WindowIconInfo,
onSetMeetingWindowIconResult?: (ret: SDKERR, reason: string) => void): void
```

## Request Parameters

**Table 10-423** Input parameter description

| Parameter                    | Mandatory | Type                                  | Description                                      |
|------------------------------|-----------|---------------------------------------|--|
| windowIconInfo               | Yes       | WindowIconInfo                        | Window icon information.                         |
| onSetMeetingWindowIconResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of configuring the meeting window icon. |

**Table 10-424** WindowIconInfo

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| iconPath  | Yes       | string | Icon path.  |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-425** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

## 10.4.6.12 Displaying the Settings Window

### Function

This API is used to display the settings window.

### Function Prototype

```
showSettingWindow(showInfo: ShowSettingWindowInfo,
onShowSettingWindowResult?: (ret: SDKERR, reason: string) => void):
void
showSettingWindow(showInfo: ShowSettingWindowInfo,
onShowSettingWindowResult?: (ret: SDKERR, reason: string) => void): void
```

### Request Parameters

**Table 10-426** Input parameter description

| Parameter                 | Mandatory | Type                                  | Description                                       |
|---------------------------|-----------|---------------------------------------|---|
| showInfo                  | Yes       | ShowSettingWindowInfo                 | Information about displaying the settings window. |
| onShowSettingWindowResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of displaying the settings window.       |

**Table 10-427** ShowSettingWindowInfo

| Parameter   | Mandatory | Type        | Description                               |
|-------------|-----------|-------------|---|
| isShow      | Yes       | boolean     | Whether the settings window is displayed. |
| defaultPage | Yes       | SettingPage | Tab displayed by default.                 |

**Table 10-428** Enumerated values of SettingPage

| Enumeration Name    | Enumerated Value | Description   |
|---------------------|------------------|---------------|
| SETTING_PAGE_NORMAL | 0                | General       |
| SETTING_PAGE_VIDEO  | 1                | Video         |
| SETTING_PAGE_AUDIO  | 2                | Audio         |
| SETTING_PAGE_RECORD | 3                | Recording     |
| SETTING_PAGE_HOTKEY | 4                | Shortcut keys |

| Enumeration Name    | Enumerated Value | Description               |
|---------------------|------------------|---------------------------|
| SETTING_PAGE_SCREEN | 5                | Screen                    |
| SETTING_PAGE_COUNT  | 6                | Number of setting screens |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-429** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.6.13 Displaying a Toast Message

## Function

This API is used to display a toast message.

## Function Prototype

```
showToast(toastInfo: ToastInfo, onShowToastResult?: (ret: SDKERR, reason: string) => void): void
showToast(toastInfo: ToastInfo, onShowToastResult?: (ret: SDKERR, reason: string) => void): void
```

## Request Parameters

**Table 10-430** Input parameter description

| Parameter | Mandatory | Type      | Description    |
|-----------|-----------|-----------|----------------|
| toastInfo | Yes       | ToastInfo | Toast message. |



| Parameter         | Mandatory | Type                                  | Description                             |
|-------------------|-----------|---------------------------------------|---|
| onShowToastResult | Yes       | (ret: SDKERR, reason: string) => void | Callback of displaying a toast message. |

**Table 10-431** ToastInfo

| Parameter | Mandatory | Type   | Description                   |
|-----------|-----------|--------|-------------------------------|
| content   | Yes       | string | Toast message.                |
| duration  | Yes       | number | Display duration, in seconds. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string) => void

**Table 10-432** Input parameter description

| Parameter | Type   | Description        |
|-----------|--|--------------------|
| ret       | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.        |
| reason    | string   | Error description. |

### 10.4.6.14 Obtaining Information About the Main Window

#### Function

This API is used to obtain information about the main window.

#### Function Prototype

```
getMainWindowInfo(onGetMainWindowInfoResult?: (ret: SDKERR, reason: string, mainWindowInfo: MainWindowInfo) => void):  
void  
voidgetMainWindowInfo(onGetMainWindowInfoResult?: (ret: SDKERR, reason: string, mainWindowInfo: MainWindowInfo) => void): void
```

## Request Parameters

**Table 10-433** Input parameter description

| Parameter                 | Mandatory | Type  | Description   |
|---------------------------|-----------|---|---|
| onGetMainWindowInfoResult | Yes       | (ret: SDKERR, reason: string, mainWindowInfo: MainWindowInfo) => void | Main window information notification, which is returned when the main window information is obtained. |

## Return Values

void

## Callback Method Parameters

(ret: SDKERR, reason: string, mainWindowInfo: MainWindowInfo) => void

**Table 10-434** Input parameter description

| Parameter      | Type   | Description              |
|----------------|--|--------------------------|
| ret            | For details about <b>SDKERR</b> , see <a href="#">Error Code Reference</a> . | Error code.              |
| reason         | string   | Error description.       |
| mainWindowInfo | MainWindowInfo   | Main window information. |

**Table 10-435** MainWindowInfo

| Parameter | Type   | Description   |
|-----------|--------|---|
| x         | number | Offset of the window relative to the left side of the screen. |
| y         | number | Offset of the window relative to the top of the screen.       |
| width     | number | Width of the window.  |
| height    | number | Height of the window.   |
| handle    | number | Window handle.  |

## 10.5 Error Codes

### Error Code Reference

**Table 10-436** Enumerated values of SDKError

| Variable                              | Value     | Description  |
|---------------------------------------|-----------|--|
| SDKERR_UNKOWN                         | -1        | Unknown error.   |
| SDKERR_SUCCESS                        | 0         | Successful.  |
| CMS_CONF_SERVER_FLOW_CONTROL          | 100000429 | Server flow control error.                                   |
| CMS_CONF_BAD_REQUEST                  | 111070001 | Request error.   |
| CMS_CONF_INSUFFICIENT_PERMISSIONS     | 111070002 | Insufficient permissions.                                    |
| CMS_CONF_EXCEPTION                    | 111070003 | System processing failed.                                    |
| CMS_CONF_AUTH_FAIL                    | 111070004 | Verification failed.   |
| CMS_CONF_DATA_NOT_FOUND               | 111070005 | The meeting does not exist.                                  |
| CMS_VMR_DATA_NOT_FOUND                | 111070006 | The personal cloud meeting room does not exist.              |
| CMS_ACCESS_NUMBER_NOT_FOUND           | 111070007 | The meeting access number does not exist.                    |
| CMS_CONF_NOTICE_MODEL_CONFIG_ERROR    | 111070008 | The meeting notification template is incorrect.              |
| CMS_CONF_AUTHEN_NEED_PASSWORD         | 111070009 | The meeting password cannot be empty.                        |
| CMS_CONF_ROLE_AUTHENTICATION_FAILED   | 111070010 | You do not have the permissions to view the meeting.         |
| CMS_CONF_GET_STARTED_CONF_EXCEPTION   | 111070100 | An exception occurred when obtaining the meeting to be held. |
| CMS_CONF_START_EXCEPTION              | 111070101 | An exception occurred when starting the meeting.             |
| CMS_CONF_APPLY_IVR_RESOURCE_EXCEPTION | 111070102 | An exception occurred when requesting IVR resources.         |

| Variable                                      | Value     | Description  |
|---|-----------|--|
| CMS_START_IVRCONF_EXCEPTION                   | 111070103 | An exception occurred when starting the IVR meeting.   |
| CMS_CONF_APPLY_PARTICIPANT_RESOURCE_EXCEPTION | 111070104 | An exception occurred when requesting participant resources.                                 |
| CMS_START_SUBCONF_EXCEPTION                   | 111070105 | An exception occurred when starting the meeting.   |
| CMS_CONF_ADD_CHANNEL_EXCEPTION                | 111070106 | An exception occurred when creating the cascading channel.                                   |
| CMS_CONF_MOVE_AND_APPLY_RESOURCE_EXCEPTION    | 111070107 | An exception occurred when requesting resources to move the participant.                     |
| CMS_START_CONF_EXCEPTION                      | 111070108 | An exception occurred when starting the meeting.   |
| CMS_CONF_GET_STARTED_VMRCONF_EXCEPTION        | 111070109 | An exception occurred when obtaining details of a meeting held using the cloud meeting room. |
| CMS_CONF_INVITE_PARTICIPANT_EXCEPTION         | 111070110 | An exception occurred when inviting the participant.   |
| CMS_REQUEST_TOKEN_IS_NULL                     | 111070111 | The request token is empty.  |
| CMS_CONF_RENAME_PARTICIPANT_EXCEPTION         | 111070112 | An exception occurred when renaming the participant.   |
| CMS_CONF_HANGUP_EXCEPTION                     | 111070113 | An exception occurred when disconnecting the participant.                                    |
| CMS_CONF_BULK_HANGUP_EXCEPTION                | 111070114 | An exception occurred when disconnecting the participants.                                   |
| CMS_CONF_DELETE_ATTENDEE_EXCEPTION            | 111070115 | An exception occurred when removing the participant.   |
| CMS_CONF_BULK_DELETE_ATTENDEE_EXCEPTION       | 111070116 | An exception occurred when removing the participants.  |
| CMS_SCHEDULE_CYCLE_CONF_EXCEPTION             | 111070117 | An exception occurred when scheduling a recurring meeting.                                   |
| CMS_MODIFY_CYCLE_CONF_EXCEPTION               | 111070118 | An exception occurred when modifying the recurring meeting.                                  |
| CMS_CREATE_CYCLE_CONF_EXCEPTION               | 111070119 | An exception occurred when creating a recurring meeting.                                     |

| Variable                                     | Value     | Description  |
|--|-----------|--|
| CMS_REGION_DATA_NOT_FOUND                    | 111070120 | Failed to obtain the region information.   |
| CMS_FORBIDDEN_SUBSCRIBE                      | 111070121 | Subscription is not allowed.   |
| CMS_CANCEL_SUBSCRIBE_FAIL                    | 111070122 | Failed to cancel subscription.   |
| CMS_CONF_SYSportal_SERVICE_EXCEPTION         | 111071001 | Sysportal service exception.   |
| CMS_CONF_EXECUTOR_RUN_EXCEPTION              | 111071002 | Conf service exception.  |
| CMS_CONF_ID_NOT_EXIST                        | 111071003 | Failed to create the meeting. Try again later.                                     |
| CMS_VMR_ONLY_ALLOW_CHAIR_START_CONF          | 111071004 | Guests are not allowed to join the cloud meeting room ahead of the host.           |
| CMS_VMR_CONF_CONFLICT                        | 111071005 | This cloud meeting room has been scheduled for another meeting during this period. |
| CMS_VMR_IMMEDIATELY_CONF_DURATION_NOT_ENOUGH | 111071006 | Insufficient cloud meeting duration.   |
| CMS_VMR_SCHEDULE_RELATION_NOT_EXIST          | 111071007 | The meeting does not exist.  |
| CMS_CONF_QUERY_LIST_FAIL                     | 111071008 | Failed to query the meeting list.  |
| CMS_CONF_MODIFY_IMMEDIATELY_VMR_FAIL         | 111071009 | Meetings held using cloud meeting rooms cannot be changed to instant meetings.     |
| CMS_CONF_MODIFY_VMR_FLAG_FAIL                | 111071010 | The cloud meeting room ID cannot be modified.                                      |
| CMS_VMR_CONF_NOT_REACH_PREPARE_TIME          | 111071011 | The meeting has not started.   |
| CMS_CONF_NOT_VMR                             | 111071012 | The meeting is not held in a cloud meeting room.                                   |
| CMS_CONF_START_TIME_LESS_THAN_CURRENT_TIME   | 111071013 | The meeting start time cannot be earlier than the current system time.             |

| Variable                                   | Value     | Description   |
|--|-----------|---|
| CMS_CONF_START_TIME_OVER_MAX_SCHEDULE_TIME | 111071014 | The start time exceeds the allowed range.                             |
| CMS_CONF_DURATION_OVER_RANGE               | 111071015 | Duration too long.  |
| CMS_CONF_PARAMS_NULL_EXCEPTION             | 111071016 | The list of IDs of recurring meetings to be canceled cannot be empty. |
| CMS_CONF_SIZE_OVER_RANGE                   | 111071017 | More participants than allowed.                                       |
| CMS_CONF_MEDIA_TYPE_ILLEGAL                | 111071018 | Invalid media type.   |
| CMS_CONF_CONFERENCE_TYPE_ILLEGAL           | 111071019 | Invalid meeting type.   |
| CMS_CONF_CYCLE_PARAMS_NULL_EXCEPTION       | 111071020 | Recurring meeting parameters must be carried for a recurring meeting. |
| CMS_CONF_LENGTH_OVER_RANGE                 | 111071021 | Meeting duration too long.  |
| CMS_CONF_SUBJECT_LENGTH_TOO_LONG           | 111071022 | Meeting topic too long.   |
| CMS_CONF_GROUPURI_LENGTH_TOO_LONG          | 111071023 | groupuri too long.  |
| CMS_CONF_EMAIL_ILLEGAL                     | 111071024 | Invalid email address.  |
| CMS_CONF_SMS_ILLEGAL                       | 111071025 | Invalid mobile number.  |
| CMS_CONF_DEPTNAME_TOO_LONG                 | 111071026 | Department name too long.   |
| CMS_CONF_WELCOME_VOICE_NOT_IN_RANGE        | 111071027 | The status of the joining message switch is invalid.                  |
| CMS_CONF_ENTER_VOICE_PROMPT_NOT_IN_RANGE   | 111071028 | The status of the joining voice prompt switch is invalid.             |
| CMS_CONF_LEAVE_MESSAGE_PROMPT_NOT_IN_RANGE | 111071029 | The status of the leaving message switch is invalid.                  |
| CMS_CONF_REMINDER_ILLEGAL                  | 111071030 | The meeting reminder status is invalid.                               |

| Variable                                    | Value     | Description   |
|---|-----------|---|
| CMS_CONF_ALLOW_RECORD_NOT_IN_RANGE          | 111071031 | The status of network recording is invalid.                           |
| CMS_CONF_AUTO_RECORD_NOT_IN_RANGE           | 111071032 | The status of automatic recording is invalid.                         |
| CMS_CONF_USER_TYPE_NOT_IN_RANGE             | 111071033 | The user type of the meeting scheduler is invalid.                    |
| CMS_CONF_ENCRYPT_MODE_NOT_IN_RANGE          | 111071034 | Invalid encryption type.  |
| CMS_CONF_LANGUAGE_NOT_IN_RANGE              | 111071035 | Invalid language.   |
| CMS_CONF_AUTO_PROLONG_NOT_IN_RANGE          | 111071036 | The status of whether to automatically extend the meeting is invalid. |
| CMS_CONF_VMRID_TOO_LONG                     | 111071037 | vmrid too long.   |
| CMS_CONF_RECORD_TYPE_NOT_IN_RANGE           | 111071038 | Invalid recording type.   |
| CMS_CONF_LIVE_ADDRESS_TOO_LONG              | 111071039 | Video live broadcast URL too long.                                    |
| CMS_CONF_AUX_ADDRESS_TOO_LONG               | 111071040 | Presentation live broadcast URL too long.                             |
| CMS_CONF_CYCLE_PARAMS_STARTDATE_NULL        | 111071041 | The start date of the recurring meeting is empty.                     |
| CMS_CONF_CYCLE_PARAMS_ENDDATE_NULL          | 111071042 | The end date of the recurring meeting is empty.                       |
| CMS_CONF_CYCLE_PARAMS_CYCLE_ILLEGAL         | 111071043 | Invalid period type for a recurring meeting.                          |
| CMS_CONF_CYCLE_PARAMS_INTERVAL_NOT_IN_RANGE | 111071044 | Invalid interval for a recurring meeting.                             |
| CMS_CONF_CYCLE_PARAMS_POINT_NULL_EXCEPTION  | 111071045 | The <b>point</b> parameter for a recurring meeting is empty.          |
| CMS_CONF_CYCLE_PARAMS_POINT_NOT_IN_RANGE    | 111071046 | Invalid <b>point</b> for a recurring meeting.                         |

| Variable                                       | Value     | Description  |
|--|-----------|--|
| CMS_CONF_VMR_FLAG_NOT_IN_RANGE                 | 111071047 | Invalid vmrFlag.   |
| CMS_CONF_RECORD_AUX_STREAM_NOT_IN_RANGE        | 111071048 | Invalid recordAuxStream.   |
| CMS_CONF_MULTI_STREAM_FLAG_NOT_IN_RANGE        | 111071049 | Invalid multiStreamFlag.   |
| CMS_CONF_AUDIENCE_FLAG_NOT_IN_RANGE            | 111071050 | Invalid audienceFlag.  |
| CMS_CONF_LIVE_CHANNEL_ID_NOT_EXISTED           | 111071051 | liveChannelID does not exist.  |
| CMS_CONF_ANONYMOUS_LOGIN_LOCKED                | 111071052 | Anonymous login is locked. Try again later.  |
| CMS_CONF_LINK_LOGIN_LOCKED                     | 111071053 | Login using the link is locked. Try again later.   |
| CMS_CONF_IDENTIFIER_NOT_ENOUGH                 | 111071054 | Insufficient meeting ID resources.   |
| CMS_CONF_IDENTIFIER_APPLY_FAILED               | 111071055 | Failed to request the meeting ID.  |
| CMS_CONF_IDENTIFIER_RELEASE_FAILED             | 111071056 | Failed to release the meeting ID.  |
| CMS_CONF_LIVE_ROOM_ISUSED                      | 111071057 | The live broadcast room has been occupied.   |
| CMS_NOT_ALLOWED_GUEST_FIRST_JOIN               | 111071058 | The meeting has not started.   |
| CMS_CONF_SIZE_OVER_COMMUNAL_VMR_MAXNUM         | 111071059 | More participants than allowed.  |
| CMS_ORG_CONCURRENT_PARTICIPANTS_NUMBER_IS_ZERO | 111071060 | The enterprise has no concurrent participant resources configured and cannot use the personal meeting ID or random meeting ID to initiate a meeting. |
| CMS_PARAMETER_VERIFIED_FAIL                    | 111071061 | Parameter verification failed.   |
| CMS_JSON_CONVERSION_FAILED                     | 111071062 | JSON conversion failed.  |



| Variable   | Value     | Description  |
|--|-----------|--|
| CMS_CONF_USER_NOT_VMR_OWNER                      | 111071063 | The user is not the owner of the cloud meeting room.               |
| CMS_VMR_CONF_CONFLICT_AS_VMR_ALREADY_STARTED     | 111071064 | A meeting is in progress in this cloud meeting room.               |
| CMS_CONF_MODIFY_FAIL_AS_CONF_ALREADY_STARTED     | 111071065 | The meeting is in progress. Its information cannot be modified.    |
| CMS_CONF_ATTENDEES_NUMBER_EXCEED_LIMIT           | 111071066 | More participants than allowed.                                    |
| CMS_CONF_CANCEL_FAIL_AS_CONF_STARTED             | 111071067 | The meeting is in progress and cannot be canceled.                 |
| CMS_CONF_PWD_ENCRYPT_FAILED                      | 111071068 | Failed to encrypt the meeting password.                            |
| CMS_CONF_NOCONF_IN_SELECTED_TIME                 | 111071069 | No meeting in your selected time.                                  |
| CMS_SUB_CYCONF_ANNOT_MODIFY_LIVE_ROOM            | 111071070 | The live broadcast room cannot be changed for a recurring meeting. |
| CMS_STOP_ONLINE_CONF_EXCEPTION                   | 111071071 | Failed to end the meeting.   |
| CMS_CONF_CLOSED_RECENTLY                         | 111071072 | The meeting has ended.   |
| CMS_CONF_NOT_ALLOW_ANONYMOUS                     | 111071073 | Anonymous users are not allowed to join the meeting.               |
| CMS_CONF_ONLY_ALLOW_USER_IN_ORG                  | 111071074 | Only corporate users are allowed to join the meeting.              |
| CMS_CONF_ONLY_ALLOW_USER_INVITED                 | 111071075 | Only invited users are allowed to join the meeting.                |
| CMS_BATCH_EXPORT_HIS_CONF_LIST_CONFLICT          | 111071076 | A batch export task is being executed.                             |
| CMS_CONF_ONLY_ALLOW_USER_INVITED_AND_USER_IN_ORG | 111071077 | Only invited users or corporate users can join the meeting.        |

| Variable  | Value     | Description   |
|---|-----------|---|
| CMS_WELINK_C_CONCURRENT_PARTICIPANTS_NUMBER_IS_NOT_ENOUGH | 111071078 | The number of concurrent participants in the meeting has reached the maximum allowed limit.           |
| CMS_CONF_CTD_PARAMETER_ILLEGAL                            | 111071079 | Invalid CTD meeting parameter.  |
| CMS_GUEST_PWD_ILLEGAL                                     | 111071080 | Invalid guest password.   |
| CMS_GUEST_PWD_CONFLICT_WITH_CONF_ID                       | 111071081 | The guest password conflicts with the meeting ID.   |
| CMS_CONF_NUM_UP_TO_LIMIT                                  | 111071082 | More meetings than allowed.   |
| CMS_CONF_RANDOM_INVALID                                   | 111071083 | Invalid meeting random number.  |
| CMS_EXPORT_HISTORICAL_CONF_UP_TO_LIMIT                    | 111071084 | More historical meeting exports than allowed.   |
| CMS_MULTI_PICTURE_TOO_MANY_LAYOUTS                        | 111071085 | More continuous presence layouts than allowed.  |
| CMS_MULTI_PICTURE_MANUAL_TYPE_INVALID                     | 111071086 | The continuous presence mode is invalid.  |
| CMS_MULTI_PICTURE_TOO_MANY_SUBPICTURES                    | 111071087 | More continuous presence screens than allowed.  |
| CMS_MULTI_PICTURE_TOO_MANY_SUBNUMBERS                     | 111071088 | More participants in a screen of continuous presence than allowed.                                    |
| CMS_WEBINAR_COMMON_NON_CONVERT                            | 111071089 | A webinar cannot be changed to a common meeting, and a common meeting cannot be changed to a webinar. |
| CMS_NOT_ALLOW_AUDIENCE                                    | 111071090 | Adding attendees is not allowed.  |
| CMS_CONF_PASSWORD_AUTH_FAILED                             | 111071091 | Incorrect password.   |
| CMS_FILE_EXPORT_TASK_FAILED                               | 111071092 | Failed to export the file.  |
| CMS_FILE_EXPORT_TASK_DOWNLOADING                          | 111071093 | The file is being exported.   |
| CMS_CONF_FORBID_AUDIENCE_JOIN                             | 111071094 | Attendees cannot join the meeting.  |

| Variable  | Value     | Description   |
|---|-----------|---|
| CMS_CONF_NEED_GET_WEBINAR_CONF_DTO              | 111071095 | The WEBINAR_CONF_DTO object is required.                          |
| CMS_CUSTOM_LANGUAGE_NUM_OVER_RANGE              | 111071096 | More custom languages than allowed.                               |
| CMS_ORG_NOT_SUPPORT_SIMULTANEOUS_INTERPRETATION | 111071097 | This enterprise does not support simultaneous interpretation.     |
| CMS_NEED_SET_INTERPRETER_GROUPS                 | 111071098 | Interpreter group information needs to be set.                    |
| CMS_INTERPRETER_LANGUAGE_ILLEGAL                | 111071099 | The language of the interpreter group is invalid.                 |
| CMS_CONF_LANGUAGE_NUM_UP_TO_MAX                 | 111071100 | A meeting supports up to 16 languages.                            |
| CMS_INTERPRETER_GROUP_ID_REPEATED               | 111071101 | Duplicate interpreter group IDs.                                  |
| CMS_INTERPRETER_NUM_IN_ONE_GROUP_UP_TO_MAX      | 111071102 | The maximum number of interpreters in the group has been reached. |
| CMS_INTERPRETER_REPEATED                        | 111071103 | The interpreter has already been added to a group.                |
| CMS_INVALID_INTERPRETER                         | 111071104 | The interpreter account does not exist.                           |
| CMS_GUEST_PWD_CONFLICT_WITH_CHAIR_PWD           | 111071105 | The guest password conflicts with the host password.              |
| CMS_ONLINE_CONF_IN_COMMUNAL                     | 111071106 | A meeting is being held in the cloud meeting room.                |
| CMS_AUDIENCE_PWD_ILLEGAL                        | 111071107 | Invalid attendee password.  |
| CMS_AUDIENCE_PWD_CONFLICT_WITH_CONF_ID          | 111071108 | The attendee password conflicts with the meeting ID.              |
| CMS_AUDIENCE_PWD_CONFLICT_WITH_CHAIR_PWD        | 111071109 | The attendee password conflicts with the host password.           |
| CMS_ONLY_RTC_CONF_SUPPORT_E2E_ENCRYPT           | 111071110 | Non-RTC meetings do not support end-to-end encryption.            |

| Variable   | Value     | Description  |
|--|-----------|--|
| CMS_AUDIENCE_PWD_CONFLICT_WITH_GUEST_PWD           | 111071111 | The attendee password conflicts with the guest password.   |
| CMS_VMRIDTYPE_CANNOT_MODIFY                        | 111071112 | The meeting ID type cannot be changed.   |
| CMS_VMRID_CANNOT_MODIFY                            | 111071113 | The cloud meeting room type cannot be changed.   |
| CMS_VMR_FLAG_CANNOT_MODIFY                         | 111071114 | The cloud meeting room ID cannot be changed.   |
| CMS_CONF_NUM_OVER_MAX_ALLOWED                      | 111071116 | The maximum number of ongoing meetings has been reached.   |
| CMS_SUB_CYCCONF_MODIFY_TIME_OVER_RANGE             | 111071119 | The new time of the recurring meeting series is invalid.   |
| CMS_CONF_MANAGER_SERVER_REGION_CHANGING            | 111071147 | Server site changed.   |
| CMS_CONF_MANAGER_SHARE_VMR_NOT_ENOUGH              | 111071151 | No shared cloud meeting rooms are available.   |
| CMS_CONF_MANAGER_NOT_ALLOW_JOIN_EXTERNAL_CROP_CONF | 111071152 | The enterprise to which the called participant belongs restricts members from joining external meetings. |
| CMS_CONF_APPLY_RESOURCE_FAILED                     | 111072001 | Failed to request resources.   |
| CMS_CONF_RELEASE_RESOURCE_FAILED                   | 111072002 | Failed to release resources.   |
| CMS_CONF_IS_CLOSING                                | 111072003 | The meeting is being ended.  |
| CMS_CONF_IS_STARTING                               | 111072004 | The meeting is being started.  |
| CMS_CONF_NOT_STARTED                               | 111072005 | The meeting has not started.   |
| CMS_CONF_IS_CLOSED                                 | 111072006 | The meeting has ended.   |
| CMS_CONF_INVITE_PARTICIPANT_FAILED                 | 111072007 | Failed to invite the participant.  |
| CMS_CONF_PARTICIPANT_NOT_EXIST                     | 111072008 | The participant does not exist.  |

| Variable                                | Value     | Description  |
|---|-----------|--|
| CMS_CONF_PARTICIPANT_HANG_UP_FAILED     | 111072009 | Failed to disconnect the participant.                        |
| CMS_CONF_NOT_SUPPORT                    | 111072010 | This function is coming soon...                              |
| CMS_CONF_STATUS_ILLEGAL                 | 111072011 | Invalid meeting status.                                      |
| CMS_CONF_GENERIC_CTL_PARTICIPANT_FAILED | 111072012 | Meeting control on the participant failed.                   |
| CMS_VMR_CURRENT_CONF_NOT_GOAL_CONF      | 111072013 | The cloud meeting room is used by another meeting.           |
| CMS_VMR_CONF_IS_EXPIRED                 | 111072014 | The meeting has expired.                                     |
| CMS_VMR_CONF_IS_NOT_ARRIVE_START_TIME   | 111072015 | The meeting has not started.                                 |
| CMS_VMR_CONF_WITH_SCHEDULE_NOT_EXIST    | 111072016 | The reservation record does not exist.                       |
| CMS_CONF_HAS_NO_ATTENDEE                | 111072017 | The participant does not exist.                              |
| CMS_CONF_CHAIRMAN_PWD_EXCEPTION         | 111072018 | Incorrect host password.                                     |
| CMS_CONF_NOT_FIND_CANMOVESITE_EXCEPTION | 111072019 | No participant can be moved.                                 |
| CMS_CONF_NOT_SUPPORT_RECORD             | 111072020 | The meeting does not support recording.                      |
| CMS_RECORD_RESOURCE_NOT_ENOUGH          | 111072021 | Recording scheduling failed.                                 |
| CMS_RECORD_SCHEDULE_FAIL                | 111072022 | Insufficient recording resources.                            |
| CMS_CONF_NOT_HAVE_PART                  | 111072023 | No participant exists in the meeting.                        |
| CMS_CONF_NO_PARTICIPANT_JOINED          | 111072024 | Ensure that at least one participant has joined the meeting. |
| CMS_AUDIO_CONF_NOT_SUPPORT              | 111072025 | Voice meetings do not support this function.                 |

| Variable                                    | Value     | Description   |
|---|-----------|---|
| CMS_AUDIO_SITE_NOT_SUPPORT                  | 111072026 | Voice-only participants do not support this operation.  |
| CMS_AUDIO_SITE_IN_MULTI_PIC                 | 111072027 | Voice-only participants cannot be displayed in the manually set continuous presence.  |
| CMS_NO_SITE_IN_MULTI_PIC                    | 111072028 | At least one participant must be set in the manually set continuous presence.   |
| CMS_ASSISTANT_PIC_NUM_MORE_THAN_ONE         | 111072029 | At most one presentation screen is allowed in the manually set continuous presence.   |
| CMS_VAS_SUB_PIC_CONTAINS_USER_MORE_THAN_ONE | 111072030 | In voice activated continuous presence mode, each screen displays only one participant.                                       |
| CMS_SITE_CALL_NUMBER_IS_EMPTY               | 111072031 | The participant number cannot be empty.   |
| CMS_SITE_CALL_NUMBER_LENGTH_TOO_LONG        | 111072032 | The participant number is too long.   |
| CMS_SITE_CALL_NUMBER_ILLEGAL_URI            | 111072033 | The format of the number used for the participant to join the meeting is invalid. (SIP and tel number formats are supported.) |
| CMS_SITE_NAME_LENGTH_TOO_LONG               | 111072034 | The participant name is too long.   |
| CMS_SITE_ROLE_NOT_IN_RANGE                  | 111072035 | The participant role type is invalid.   |
| CMS_SITE_EMAIL_LENGTH_TOO_LONG              | 111072036 | The participant's email address is too long.  |
| CMS_SITE_SMS_LENGTH_TOO_LONG                | 111072037 | The participant's mobile number is too long.  |
| CMS_SITE_MUTE_NOT_IN_RANGE                  | 111072038 | The value of whether to mute a participant after the participant joins the meeting is invalid.                                |
| CMS_SITE_AUTO_INVITE_NOT_IN_RANGE           | 111072039 | The value of whether to automatically invite participants is invalid.   |
| CMS_VIEW_TYPE_NOT_IN_RANGE                  | 111072040 | The host focus type is invalid.   |

| Variable                                  | Value     | Description  |
|---|-----------|--|
| CMS_SET_MULTI_PIC_MANUAL_SET_NOT_IN_RANGE | 111072041 | The continuous presence mode is invalid.   |
| CMS_SWITCH_TIME_NOT_IN_RANGE              | 111072042 | The time for displaying participants is invalid.   |
| CMS_SET_MULTI_PIC_IMAGE_TYPE_IS_EMPTY     | 111072043 | The screen type cannot be empty.   |
| CMS_SET_MULTI_PIC_IMAGE_TYPE_IS_NOT_MATCH | 111072044 | Invalid screen type.   |
| CMS_ON_OFF_NOT_IN_RANGE                   | 111072045 | The value of the switch item is invalid.   |
| CMS_SITE_NAME_IS_EMPTY                    | 111072046 | The participant name cannot be empty.  |
| CMS_SITE_NEW_NAME_LENGTH_TOO_LONG         | 111072047 | The participant name is too long.  |
| CMS_MCU_NOT_SUPPORT_SET_MULTI_PIC         | 111072048 | Continuous presence is not supported. Contact the administrator to enable the related function on the MCU. |
| CMS_RESPONSE_TIME_OUT                     | 111072049 | Response timed out.  |
| CMS_CONF_LOCKED                           | 111072050 | The meeting is locked.   |
| CMS_CONF_MODE_IS_EMPTY                    | 111072051 | The meeting display mode is empty.   |
| CMS_CONF_MODE_NOT_IN_RANGE                | 111072052 | The meeting display mode is invalid.   |
| CMS_CONF_IMAGE_TYPE_NOT_IN_RANGE          | 111072053 | The meeting screen type is invalid.  |
| CMS_TEXT_TYPE_IS_EMPTY                    | 111072054 | The banner or caption type is empty.   |
| CMS_TEXT_IS_EMPTY                         | 111072055 | The banner or caption content is empty.  |
| CMS_TEXT_IS_TOO_LONG                      | 111072056 | The banner or caption content contains more than 2000 bytes.   |
| CMS_REQUEST_BODY_IS_NULL                  | 111072057 | Empty request body.  |

| Variable                               | Value     | Description   |
|--|-----------|---|
| CMS_SUB_PIC_INDEX_MORE_THAN_PIC_NUMBER | 111072058 | The screen index is greater than the total number of screens.   |
| CMS_CONF_NO_CHAIR_SITE                 | 111072059 | There is no host in the meeting.  |
| CMS_NORMAL_SITE_NOT_SUPPORT_VIEW       | 111072060 | Common participants cannot perform this operation.  |
| CMS_CHAIR_POLLING_FORBIDDEN_VIEW       | 111072061 | The host is viewing participants in turn and cannot be set to view a specific participant or continuous presence. |
| CMS_SVC_SITE_NOT_SUPPORT_VIEW          | 111072062 | The host cannot perform this operation.   |
| CMS_RSE_RESREAPPLY                     | 111072063 | The recording resource has been requested. Wait for the recording resource to access the meeting.                 |
| CMS_CONF_CTRL_LOGIN_LOCKED             | 111072064 | Too many failed meeting control login attempts.   |
| CMS_CONF_NOT_FOUND_OR_AUTH_FAILED      | 111072065 | The meeting does not exist or the password is incorrect.  |
| CMS_ORG_NOT_BUY_RECSPACE               | 111072066 | The enterprise has not purchased the recording storage space.   |
| CMS_ORG_RECSPACE_NOT_ENOUGH            | 111072067 | Insufficient recording storage space in the enterprise.   |
| CMS_CONF_SETLIVE_FAILED                | 111072068 | Failed to start live broadcast.   |
| CMS_CONF_CHAIR_FORBIDDEN_HAND          | 111072069 | The host is not allowed to raise hands to speak.  |
| CMS_GUEST_NO_PERMISSION_OPERATION      | 111072070 | Guests are not allowed to perform this operation.   |
| CMS_NO_PERMISSION_OPERATE_OTHERS       | 111072071 | You can only perform this operation on yourself.  |
| CMS_NO_CONF_CTRL_CAP_NO_CHAIR          | 111072072 | A participant without the meeting control capability cannot be the host.  |
| CMS_NOTIFY_MSG_IS_EXPIRED              | 111072073 | The message has expired.  |
| CMS_TRUNK_APPLY_CHAIR_FORBID           | 111072074 | An on-premises meeting participant cannot be the host.  |



| Variable  | Value     | Description  |
|---|-----------|--|
| CMS_CONF_CLOSE_HUNG_UP                          | 111072075 | The meeting ends. The participant is disconnected.   |
| CMS_CHAIR_HUNG_UP                               | 111072076 | The participant is disconnected by the host.   |
| CMS_CHAIR_DEL_SITE_HUNG_UP                      | 111072077 | The host deletes the meeting. The participant is disconnected.                             |
| CMS_RECREATE_CONF_HUNG_UP                       | 111072078 | The meeting is re-created. The participant is disconnected.                                |
| CMS_MOVE_SITE_FAIL_HUNG_UP                      | 111072079 | Failed to move the participant. The participant is disconnected.                           |
| CMS_CROSS_REGION_INVITE_SITE_FAIL_HUNG_UP       | 111072080 | Failed to invite the participant across regions. The participant is disconnected.          |
| CMS_INVITE_EXCEPTION_HUNG_UP                    | 111072081 | Failed to invite the participant. The participant is disconnected.                         |
| CMS_REPEAT_JOIN_HUNG_UP                         | 111072082 | The participant joins the meeting again. The original session is disconnected.             |
| CMS_LOCK_SHARE_FAILED                           | 111072083 | Failed to lock sharing.  |
| CMS_TRUNK_SET_ONE_MULTIPIC_FORBID               | 111072084 | On-premises participants cannot be added to continuous presence of one-screen layout.      |
| CMS_CONF_NOT_SUPPORT_REALTIME_SUBTITLE          | 111072085 | The meeting does not support live captions.  |
| CMS_CONF_REALTIME_SUBTITLE_PID_NULL             | 111072086 | The list of speakers specified for live captions is empty.                                 |
| CMS_CONF_REALTIME_SUBTITLE_PID_WRONG            | 111072087 | The speaker ID specified for live captions is invalid or the speaker has left the meeting. |
| CMS_CONF_REALTIME_SUBTITLE_SET_FAIL             | 111072088 | Failed to configure live captions.   |
| CMS_CONF_NOT_ALLOW_CHANGE_AUDIENCE_SPEAK_STATUS | 111072089 | Attendees cannot unmute.   |
| CMS_CONF_SPEAKABLE_ONLY_FOR_AUDIENCE            | 111072090 | This operation can be performed only on attendees.   |

| Variable   | Value     | Description   |
|--|-----------|---|
| CMS_CONF_NOT_SUPPORT_SIMULTANEOUS_INTERPRETATION | 111072091 | The meeting does not support simultaneous interpretation.               |
| CMS_CONF_INTERPRETER_GROUP_IS_EMPTY              | 111072092 | No interpreter groups available. Configure one first.                   |
| CMS_CONF_NOT_ENABLED_SIMULTANEOUS_INTERPRETATION | 111072093 | Simultaneous interpretation is not enabled for the meeting.             |
| CMS_PARTICIPANT_IS_NOT_INTERPRETER               | 111072094 | The participant is not an interpreter.                                  |
| CMS_PARTICIPANT_NOT_CONFIRM_INTERPRETER          | 111072095 | The interpreter has not confirmed the identity.                         |
| CMS_PARTICIPANT_LANGUAGE_ILLEGAL                 | 111072096 | The language selected by the participant is invalid.                    |
| CMS_PARTICIPANT_IS_CONFIRMED_INTERPRETER         | 111072097 | The participant is already an interpreter.                              |
| CMS_PARTICIPANT_LISTEN_NOT_EQUAL_SPEAK           | 111072098 | Channels to listen and speak of common participants are inconsistent.   |
| CMS_SET_CONF_LANGUAGE_CHANNEL_LIST_FAILED        | 111072099 | Failed to configure language channels for the meeting.                  |
| CMS_SET_PARTICIPANT_LANGUAGE_CHANNEL_FAILED      | 111072100 | Failed to configure a language channel for the participant.             |
| CMS_OVER_MAX_PARTICIPANT_NUMBER                  | 111072101 | More participants than allowed.   |
| CMS_OVER_MAX_ALLOWED_HAND_NUMBER                 | 111072102 | Too many attendees allowed to raise hands.                              |
| CMS_OVER_MAX_ALLOWED_SPEAK_NUMBER                | 111072103 | Too many attendees allowed to speak.                                    |
| CMS_SET_VIRTUAL_AUDIO_CSD_SITE_FAILED            | 111072104 | Failed to configure the virtual language site in the cascading channel. |
| CMS_CONF_NOT_SUPPORT_COHOST                      | 111072105 | The co-host function is not enabled for the meeting.                    |
| CMS_PARTICIPANT_NOT_SUPPORT_COHOST               | 111072106 | The meeting does not support co-hosts.                                  |

| Variable                                      | Value     | Description   |
|---|-----------|---|
| CMS_CHAIR_CANNOT_BE_COHOST                    | 111072107 | The host cannot be set as a co-host.  |
| CMS_AUDIENCE_CANNOT_BE_COHOST                 | 111072108 | Attendees cannot be set as co-hosts.  |
| CMS_NEED_CHECK_COHOST_PERMISSION              | 111072109 | Check whether the participant is a co-host in the meeting.  |
| CMS_COHOST_CANNOT_OPERATE_CHAIR               | 111072110 | Co-hosts cannot perform operations on the host.   |
| CMS_PARTICIPANT_NOT_SUPPORT_INVITESHARE       | 111072111 | The participant does not support sharing invitation.  |
| CMS_REQUEST_INCLUDE_SPECIAL_CHARACTER         | 111072126 | The request parameter contains special characters.  |
| CMS_HEART_BEAT_FAILING_UP                     | 111072201 | The heartbeat connection of the device is interrupted. The participant is disconnected.                             |
| CMS_AUDIENCE_VMR_LOGIC_RESOURCE_NOT_ENOUGH    | 111072202 | The number of participants exceeds the maximum number of concurrent participants in the cloud meeting room package. |
| CMS_PARTICIPANT_VMR_LOGIC_RESOURCE_NOT_ENOUGH | 111072203 | The number of the host and panelists has reached the quota of the cloud meeting room package.                       |
| CMS_STARTED_FAIL_WEBINAR_RESOURCE_NOT_ENOUGH  | 111072204 | Failed to activate the meeting because another meeting is using the webinar package.                                |
| CMS_ONLY_RTC_CONF_SUPPORT_LOCAL_RECORD        | 111072205 | Non-RTC meetings do not support local recording.  |
| CMS_E2E_PARAMETER_ILLEGAL                     | 111072206 | The end-to-end encryption parameter is invalid.   |
| CMS_DISABLE_ROLE_SWITCH_OVER                  | 111072207 | Role switch is not allowed in webinars.   |
| CMS_TERMINAL_NOT_SUPPORT_LOCAL_RECORD         | 111072208 | The client does not support local recording.  |
| CMS_CONF_IS_UNDER_AR_ASSIST                   | 111072211 | AR collaboration is already ongoing in the meeting.   |

| Variable                                   | Value     | Description  |
|--|-----------|--|
| CMS_AUDIENCE_CANNOT_BE_CHAIRMAN            | 111072213 | Attendees cannot be set as the host.   |
| CMS_RENAME_CONTAINS_SENSITIVETWORDS        | 111072214 | The new name contains a sensitive word.  |
| CMS_RECORD_START_EXCEPTION                 | 111072222 | Failed to start cloud recording. Contact the administrator.  |
| CMS_RECORD_PAUSED_EXCEPTION                | 111072223 | Failed to pause cloud recording. Contact the administrator.  |
| CMS_RECORD_STOP_EXCEPTION                  | 111072224 | Failed to stop cloud recording. Contact the administrator.   |
| CMS_LIVE_START_EXCEPTION                   | 111072225 | Failed to start live broadcast. Contact the administrator.   |
| CMS_LIVE_STOP_EXCEPTION                    | 111072226 | Failed to stop live broadcast. Contact the administrator.  |
| CMS_LIVE_STOP_SENSITIVE_WORDS              | 111072227 | The information contains sensitive words.  |
| CMS_NOT_SUPPORT_AUX_CONF                   | 111072403 | Meetings with the new presentation architecture are not supported.   |
| CMS_MMR_PARTICIPANT_REACH_MAX_NUM          | 111072504 | Maximum number of participants in a single meeting has been reached.   |
| CMS_WAITING_ROOM_USER_LEAVE                | 111072507 | The waiting room user has left the meeting.  |
| CMS_WAITING_ROOM_USER_JOIN                 | 111072508 | The waiting room user has been admitted.   |
| CMS_PARTICIPANT_NOT_SUPPORT_SCREENSHOTS    | 111072512 | Screenshot capturing cannot be disabled for this participant.  |
| CMS_APPLY_REFRESH_MMRID_LIMIT              | 111072516 | Too many mmrId change requests.  |
| CMS_FORBIDDEN_MOBILE_INVITE_SHARE          | 111072520 | Mobile app users are not allowed to view shared content. Therefore, they cannot be invited to share content. |
| CMS_ONLY_ALLOW_INVITATIONS_FROM_BELONG_ORG | 111072521 | The user is not allowed to join external meetings.   |
| CMS_NOT_ALLOW_JOIN_EXTERNAL_CONF           | 111072531 | Your enterprise restricts members from joining external meetings. Contact the enterprise administrator.      |

| Variable                                    | Value     | Description  |
|---|-----------|--|
| CMS_ONLY_ALLOW_INVITATIONS_FROM_BELONG_CROP | 111072532 | The enterprise to which the invited user belongs restricts members from joining external meetings.   |
| CMS_NOT_ALLOW_OFFLINE_OPERATION             | 111072599 | Management plane is normal and offline operations are not allowed.                                   |
| CMS_USER_DATA_USER_INFO_NOT_EXIST           | 111073001 | The user does not exist.   |
| CMS_USER_DATA_ORG_INFO_NOT_EXIST            | 111073002 | The organization does not exist.   |
| CMS_USER_DATA_USER_INFO_ILLEGAL             | 111073003 | Invalid user.  |
| CMS_USER_DATA_ORG_INFO_ILLEGAL              | 111073004 | Invalid organization.  |
| CMS_USER_DATA_ORG_INFO_QUERY_FAILED         | 111073005 | Failed to query the organization.  |
| CMS_ASSIGN_ANONYMOUS_FAILED                 | 111073006 | Failed to request an anonymous user.   |
| CMS_VMR_DATA_STATUS_ILLEGAL                 | 111073007 | The status of the cloud meeting room package is invalid.   |
| CMS_RELEASE_ANONYMOUS_FAILED                | 111073008 | Failed to release the anonymous user.  |
| CMS_WELINK_C_NOT_SUPPORT_CYCLE_CONF         | 111073009 | WeLinkC does not support scheduling of recurring meetings.   |
| CMS_WELINK_C_NOT_SUPPORT_VMR_CONF           | 111073010 | WeLinkC does not support scheduling of meetings held using cloud meeting rooms.                      |
| CMS_GET_WELINK_TOKEN_FAILED                 | 111073011 | Failed to obtain WeLink Proxy Token.   |
| CMS_GET_MACHINE_TO_MACHINE_TOKEN_FAILED     | 111073012 | Failed to obtain the token of a machine-machine account.   |
| CMS_WEBINAR_VMR_DATA_STATUS_ILLEGAL         | 111073013 | The status of the webinar cloud meeting room package is invalid.                                     |
| CMS_PROLONG_TIMES_OVER_LIMIT                | 111073014 | The number of meeting extension times has reached the quota of the cloud meeting room trial package. |
| CMS_PROLONG_DURATION_OVER_LIMIT             | 111073015 | The meeting extension time has reached the quota of the cloud meeting room trial package.            |

| Variable  | Value     | Description   |
|---|-----------|---|
| CMS_RFEE_VMR_NOT_SUPPORT_AUTO_PROLONG                     | 111073016 | The cloud meeting room trial package does not support automatic extension.  |
| CMS_IDO_CONF_CHAIR_EXIST                                  | 111074001 | The IDO host already exists.  |
| CMS_IDO_NOT_CONF_CHAIR                                    | 111074002 | No IDO host permissions.  |
| CMS_IDO_OVER_CONF_MAX_DURATION                            | 111074003 | Failed to extend the meeting. The meeting duration has reached the maximum. |
| CMS_IDO_SET_CONF_DURATION_FAIL                            | 111074004 | Failed to extend the meeting due to a service processing error.             |
| CMS_START_TIMER_FAIL                                      | 111075001 | Failed to start the timer.  |
| CMS_MODIFY_TIMER_FAIL                                     | 111075002 | Failed to stop the timer.   |
| CMS_JSON_PARSE_FAIL                                       | 111075003 | JSON conversion error.  |
| CMS_CONF_PORTAL_PARTICIPANT_HANGUP_BY_CHAIR_IDO           | 111076001 | The participant is disconnected by the host on the device.                  |
| CMS_CONF_PORTAL_PARTICIPANT_HANGUP_BY_CHAIR_REST          | 111076002 | The participant is disconnected by the host on the Management Platform.     |
| CMS_CONF_PORTAL_PARTICIPANT_VMR_LOGIC_RESOURCE_NOT_ENOUGH | 111076003 | More participants in the cloud meeting room than allowed.                   |
| CMS_CONF_PORTAL_PARTICIPANT_RESOURCE_NOT_ENOUGH           | 111076004 | Concurrent participants in the enterprise are insufficient.                 |
| CMS_CONF_PORTAL_PARTICIPANT_NO_RESPONSE                   | 111076005 | The participant does not respond.   |
| CMS_CONF_PORTAL_PARTICIPANT_NOT_EXIST                     | 111076006 | The participant does not exist.   |
| CMS_CONF_PORTAL_PARTICIPANT_UNAVAILABLE                   | 111076007 | The participant is offline.   |

| Variable  | Value     | Description  |
|---|-----------|--|
| CMS_CONF_PORTAL_PARTICIPANT_BUSY                      | 111076008 | The participant is busy.   |
| CMS_CONF_PORTAL_PARTICIPANT_REFUSED                   | 111076009 | The participant rejects the meeting.   |
| CMS_CONF_PORTAL_PARTICIPANT_LEAVE                     | 111076010 | The participant is disconnected.   |
| CMS_CONF_PORTAL_PARTICIPANT_MEDIA_RESOURCE_NOT_ENOUGH | 111076011 | Media resources are insufficient.  |
| CMS_PSTN_SERVICE_UNAVAILABLE                          | 111076012 | The PSTN service is not enabled.   |
| CMS_CONF_APPLY_ADDRESS_TOKEN_FAILED                   | 111076013 | Failed to request corporate directory authentication information.  |
| CMS_CONF_PORTAL_PARTICIPANT_TIMEOUT                   | 111076014 | SIP call timed out.  |
| CMS_CONF_PORTAL_OVER_MAX_PARTICIPANT_NUMBER           | 111076015 | More participants than allowed.  |
| CMS_CONF_USER_EXPIRATION                              | 111076017 | Invalid user.  |
| CMS_CONF_ORG_EXPIRATION                               | 111076018 | Invalid enterprise.  |
| CMS_CONF_SP_EXPIRATION                                | 111076019 | Invalid SP.  |
| CMS_CONF_GUEST_INVITE_NOT_ALLOWED                     | 111076022 | Guests are not allowed to scan the QR code to invite hard terminals to the meeting.  |
| CMS_CONF_NOT_ALLOWED_CONFCTRL                         | 111076028 | AR collaboration is in progress in the meeting. Meeting control operations such as sharing, group discussion, and releasing the host role are not allowed. |
| CMS_CONF_NOT_ALLOWED_AR_ASSIST                        | 111076029 | Sharing or group discussion is in progress. AR collaboration is not allowed.   |
| CMS_CONF_NETWORK_ERR_NEED_RESTART_SHARE               | 111076040 | A network exception occurred. Initiate sharing again.  |

| Variable                                     | Value     | Description   |
|--|-----------|---|
| CMS_CONF_INVITE_USER_EXPIRATION              | 111076045 | The called participant is invalid.  |
| CMS_CONF_PORTAL_PARTICIPANT_COMMO<br>N_ERROR | 111076099 | Common error.   |
| CMS_RSE_SERVER_INFO_NOT_EXIST                | 111077001 | RSE recording error.  |
| CMS_CONF_NOT_SUPPORT_AI_RECORD               | 111077101 | AI meeting minutes are not supported.   |
| CMS_CONF_RE_APPLY_AI_RECORD_RES              | 111077102 | The system is requesting meeting minutes resources again.                               |
| CMS_AI_RECORD_RESOURCE_NOT_ENOUGH            | 111077103 | AI meeting minutes resources are insufficient.  |
| CMS_CONF_IS_IN_AI_RECORD                     | 111077104 | Recording or live broadcast cannot be stopped because AI meeting minutes are enabled.   |
| CMS_RECORD_FILE_NOT_EXIST_OR_HAVE_NO_RIGHT   | 111077201 | The recording file has been deleted or you do not have the permission for accessing it. |
| CMS_RSE_AUTH_FAILED                          | 111077202 | RSE machine-to-machine authentication failed.   |
| CMS_MULTI_REGION_NO_AVAILABLE_REGION         | 111078000 | No Region site available.   |
| CMS_MULTI_REGION_NO_AVAILABLE_GLOBAL         | 111078001 | No Global site is available.  |
| CMS_MULTI_REGION_DISPATCH_REGION_ERROR       | 111078002 | Failed to distribute regions in multi-region mode.                                      |
| CMS_DATA_PARAM_QUERY_XML_FAILED              | 111079000 | Failed to parse the XML file.   |
| CMS_ANONYMOUS_ASSIGN_XML_FAILED              | 111079001 | Failed to parse the XML file for anonymous account allocation.                          |
| CMS_PARTICIPANT_BAD_REQUEST                  | 111080001 | Incorrect parameters in the request message.  |
| CMS_PARTICIPANT_INSUFFICIENT_PERMISSIONS     | 111080002 | The user has no permission to perform this operation.                                   |



| Variable                                    | Value     | Description   |
|---|-----------|---|
| CMS_PARTICIPANT_DATA_NOT_FOUND              | 111080004 | The participant does not exist or has been removed. |
| CMS_IM_COMMON_EXCEPTION                     | 111080090 | Common IM error.                                    |
| CMS_IM_SENDER_INFO_ILLEGAL                  | 111080096 | Invalid IM sender information.                      |
| CMS_CONF_BASE_MISSING                       | 111080097 | Basic meeting details are missing.                  |
| CMS_USER_PARTICIPANT_MISSING                | 111080098 | Participant information is missing.                 |
| CMS_IM_CHANNEL_ILLEGAL                      | 111080099 | Invalid IM channel.                                 |
| CMS_IM_CHAT_FORBIDDEN                       | 111080100 | Chatting is not allowed.                            |
| CMS_IM_CHAT_TARGET_ILLEGAL                  | 111080101 | Invalid chat target.                                |
| CMS_IM_PUBLIC_CHAT_ONLY                     | 111080102 | Only public chat is allowed.                        |
| CMS_IM_QUERY_MSG_ID_ILLEGAL                 | 111080104 | Invalid msgId for query.                            |
| CMS_IM_MSG_TYPE_ILLEGAL                     | 111080105 | Invalid message type.                               |
| CMS_IM_MSG_CONTENT_ILLEGAL                  | 111080106 | Message is too long.                                |
| CMS_IM_CHAT_MSG_ISS_CONTROLLED              | 111080205 | Rate limiting is performed on message sending.      |
| CMS_PARTICIPANT_IS_INVITING                 | 111081001 | The participant is in a call.                       |
| CMS_PARTICIPANT_CONF_NOT_EXIST              | 111081002 | The meeting does not exist or has ended.            |
| CMS_PARTICIPANT_APPLY_RESOURCE_FAILED       | 111081003 | Failed to request participant resources.            |
| CMS_PARTICIPANT_RELEASE_RESOURCE_FAILED     | 111081004 | Failed to release participant resources.            |
| CMS_PARTICIPANT_APPLY_MEDIA_RESOURCE_FAILED | 111081005 | Failed to request participant media resources.      |

| Variable                                   | Value     | Description  |
|--|-----------|--|
| CMS_PARTICIPANT_AUTHENTICATION_FAILED      | 111081006 | Authentication failed.   |
| CMS_PARTICIPANT_CONF_IS_LOCKED             | 111081007 | The meeting has been locked.   |
| CMS_PARTICIPANT_CONF_LOGIN_LOCKED          | 111081009 | Too many failed meeting authentication attempts. The user is locked. |
| CMS_WAITING_USER_LIMIT                     | 111081010 | The maximum number of users in the waiting room has been reached.    |
| CMS_PARTICIPANT_CONTROL_NOT_SUPPORTED      | 111082001 | The meeting control operation is not supported.                      |
| CMS_PARTICIPANT_NO_RESPONSE                | 111082002 | No response.   |
| CMS_PARTICIPANT_NOT_EXIST                  | 111082003 | The participant does not exist.                                      |
| CMS_PARTICIPANT_UNAVAILABLE                | 111082004 | The participant is offline.  |
| CMS_PARTICIPANT_BUSY                       | 111082005 | The participant is busy.   |
| CMS_PARTICIPANT_REFUSED                    | 111082006 | The participant rejects the call.                                    |
| CMS_PARTICIPANT_DISCONNECTED               | 111082007 | The participant is disconnected.                                     |
| CMS_PSTN_SERVICE_CLOSED                    | 111082008 | The PSTN service is disabled.  |
| CMS_PARTICIPANT_INVITE_TIMEOUT             | 111082009 | SIP call timed out.  |
| CMS_PARTICIPANT_RSE_NOT_EXIST              | 111083001 | The RSE device does not exist.                                       |
| CMS_PARTICIPANT_EXECUTE_DTMF_FAILED        | 111084001 | Failed to execute DTMF.  |
| CMS_PARTICIPANT_GET_STARTED_CONF_EXCEPTION | 111084002 | An exception occurred when starting the meeting.                     |
| CMS_PARTICIPANT_CALL_MCUSIDE_EXCEPTION     | 111084003 | An exception occurred when calling the MCU.                          |

| Variable   | Value     | Description  |
|--|-----------|--|
| CMS_PARTICIPANT_JOIN_CALL_EXCEPTION              | 111084004 | Meeting joining exception.   |
| CMS_PARTICIPANT_INVITE_EXCEPTION                 | 111084005 | Invitation exception.  |
| CMS_PARTICIPANT_CALL_TERMINALSIDE_EXCEPTION      | 111084006 | An exception occurred on the caller side.                                |
| CMS_PARTICIPANT_ANSWER_EXCEPTION                 | 111084007 | Response exception.  |
| CMS_PARTICIPANT_GENERIC_CTL_EXCEPTION            | 111084008 | Common CTL exception.  |
| CMS_PARTICIPANT_HANGUP_EXCEPTION                 | 111084009 | Hang-up exception.   |
| CMS_PARTICIPANT_INFORMATION_CAPABILITY_EXCEPTION | 111084010 | Notification capability exception.                                       |
| CMS_PARTICIPANT_UPDATE_MT_EXCEPTION              | 111084011 | An exception occurred when updating the MT.                              |
| CMS_PARTICIPANT_NEGOTIATE_EXCEPTION              | 111084012 | Negotiation exception.   |
| CMS_PARTICIPANT_CONF_NOT_SUPPORT                 | 111084013 | The meeting is not supported.  |
| CMS_RTC_INVITE_NOT_ALLOWED_JOIN_CONF             | 111084014 | The guest is not invited to the RTC meeting and cannot join the meeting. |
| CMS_URI_JOIN_XML_FAILED                          | 111089002 | Failed to parse the XML file for joining a meeting through a link.       |
| CMS_DATA_JOIN_FAIL                               | 111090001 | Failed to join the data meeting.   |
| CMS_DATA_JOIN_OVERTIME                           | 111090002 | Joining the data meeting timed out.                                      |
| CMS_AUTH_SLIDE_GET_IMAGE_FAILED                  | 111100001 | Failed to obtain the CAPTCHA image.                                      |
| CMS_AUTH_SLIDE_VERIFY_CHECK_FAILED               | 111100002 | CAPTCHA verification failed.   |
| CMS_AUTH_INVALID_RANDOM                          | 111100003 | Invalid random number.   |
| CMS_AUTH_INVALID_SLIDER_TOKEN                    | 111100004 | Invalid CAPTCHA token.   |

| Variable                               | Value     | Description  |
|--|-----------|--|
| CMS_AUTH_NEED_CHECK_SLIDER             | 111100005 | CAPTCHA verification is required.  |
| CMS_AUTH_INVALID_SMS                   | 111100006 | Invalid mobile number.   |
| CMS_SEND_VERIFY_CODE_FAIL              | 111100007 | Failed to send the verification code.  |
| CMS_AUTH_VERIFY_CODE_EXPIRED           | 111100008 | The verification code has expired.   |
| CMS_AUTH_VERIFY_CODE_FAIL              | 111100009 | Incorrect verification code.   |
| CMS_AUTH_VERIFY_CODE_FAIL_CNT_EXCEEDED | 111100010 | Too many failed verification code attempts.  |
| CMS_AUTH_INVALID_UUID                  | 111100011 | Invalid UUID. Verify the mobile number again.  |
| CMS_CONF_NOT_ON_LOCAL_STATION          | 111100012 | The meeting is not held at this site.  |
| CMS_AUTH_NEED_MOBILE_VERIFY            | 111100013 | Mobile number verification is required when an International site user joins a meeting held by a free enterprise on the Chinese mainland site. |
| CMS_IM_ADD_GROUP_FAILED                | 111110001 | Failed to add the group.   |
| CMS_IM_DISBAND_GROUP_FAILED            | 111110002 | Failed to delete the group.  |
| CMS_IM_ADD_MEMBER_FAILED               | 111110003 | Failed to add the member.  |
| CMS_IM_REMOVE_MEMBER_FAILED            | 111110004 | Failed to delete the member.   |
| CMS_CTRL_HANGUP_MMR_REJOIN_FAILED      | 111111007 | Disconnected. Failed to join the MMR meeting again.  |
| CMS_CTRL_HANGUP_CONF_CONFLICT          | 111111008 | Another device has joined this meeting using your account.   |
| CMS_WAITING_ROOM_ADD_MEMBER_FAILED     | 111112001 | Failed to move the participant to the waiting room.  |

| Variable                                | Value     | Description  |
|---|-----------|--|
| CMS_WAITING_ROOM_MOVE_MEMBER_FAILED     | 111112002 | Failed to remove the participant from the waiting room.                                      |
| CMS_WAITING_ROOM_CACHE_OPT_FAILED       | 111112003 | Failed to operate the waiting room cache.  |
| CMS_NOT_ALLOW_COHOST_TO_WAITING_ROOM    | 111112004 | Co-hosts cannot be moved to the waiting room.  |
| CMS_NOT_ALLOW_ENABLE_WAITING_ROOM       | 111112005 | The waiting room cannot be enabled.  |
| CMS_CLIENT_NOT_SUPPORT                  | 111112008 | The client does not support this feature.  |
| CMS_APPLICATION_NOT_FOUND               | 111113001 | Failed to find the app information.  |
| CMS_APPLICATION_EXISTS                  | 111113002 | The app already exists. Currently, one meeting can be associated with only one app.          |
| CMS_APPLICATION_CREATE_FORBIDDEN        | 111113003 | Insufficient permission to create an app.  |
| CMS_APPLICATION_NEED_REAL_NAME          | 111113004 | Real-name authentication is required for app operations. (You need to bind a mobile number.) |
| CMS_APPLICATION_GET_USER_TOKEN_FAILED   | 111113005 | Failed to obtain the app user token.   |
| CMS_APPLICATION_URL_INVALID             | 111113006 | Invalid URL of the app service.  |
| CMS_APPLICATION_SHIMO_DOC_NOT_ENABLED   | 111113101 | Shimo Docs is not enabled.   |
| CMS_APPLICATION_SHIMO_DOC_CALL_FAILED   | 111113102 | Failed to invoke the Shimo Docs service.   |
| CMS_APPLICATION_SHIMO_GET_TOKEN_FAILED  | 111113103 | Failed to obtain the app-level token of Shimo Docs.  |
| CMS_APPLICATION_SHIMO_NOT_IN_CONFERENCE | 111113104 | The user is not in the meeting and cannot apply for the permission.                          |

| Variable                                   | Value     | Description  |
|--|-----------|--|
| CMS_LOGIN_ACCOUNT_DISABLED                 | 111113105 | The enterprise account is suspended.                         |
| CMS_SMS_SEND_FREQUENCY                     | 111113106 | Too many SMS messages sent. Try again later.                 |
| CMS_SMS_EXCEEDED_DAILY_LIMIT_OF_ENTERPRISE | 111113107 | Max. daily SMS messages to send reached for your enterprise. |
| CMS_PROJECTION_LINK_VERIFY_FAILED          | 111114001 | Verify projection link failed.                               |
| CMS_CONTENT_MOTIVATION_FAILED              | 111114020 | The content is rejected.                                     |
| CMS_BREAKOUT_CONF_SUB_OVER_LIMIT           | 111500301 | More breakout rooms than allowed.                            |
| CMS_BREAKOUT_CONF_NAME_ERROR               | 111500302 | The breakout room name is incorrect.                         |
| CMS_BREAKOUT_CONF_START_FAILED             | 111500303 | Failed to open the breakout room.                            |
| CMS_BREAKOUT_CONF_NOT_EXIST_WHEN_DELETE    | 111500304 | The breakout room to delete does not exist.                  |
| CMS_BREAKOUT_CONF_NOT_EXIST_WHEN_START     | 111500305 | The breakout room to open does not exist.                    |
| CMS_BREAKOUT_CONF_CLOSING                  | 111500306 | The breakout room is closing.                                |
| CMS_BREAKOUT_CONF_END_OR_NOT_START         | 111500307 | The breakout room to join has closed or is not open.         |
| CMS_BREAKOUT_CONF_ATTENDEE_IN_TARGET_CONF  | 111500308 | The user to move is already in the target breakout room.     |
| CMS_BREAKOUT_CONF_CHAIR_IN_CURRENT_CONF    | 111500309 | The host is already in the breakout room.                    |
| CMS_BREAKOUT_CONF_NOT_SUPPORT_BREAKOUT     | 111500310 | Breakout rooms are not supported.                            |
| CMS_BREAKOUT_CONF_STARTING_OR_STARTED      | 111500311 | The breakout room has already opened or is opening.          |

| Variable                                     | Value     | Description   |
|--|-----------|---|
| CMS_BREAKOUT_CONF_NOT_EXIST                  | 111500312 | The breakout room does not exist.   |
| CMS_BREAKOUT_CONF_NOT_SUPPORT_IN_MAIN_CONF   | 111500313 | Users in the main session cannot request help.  |
| CMS_BREAKOUT_CONF_STATE_ILLEGAL              | 111500314 | The breakout room status is abnormal (the cache is deleted by mistake).                     |
| CMS_BREAKOUT_CONF_ACTION_FORBIDDEN_BY_STATUS | 111500315 | This operation is not supported in the current state.                                       |
| CMS_BREAKOUT_CONF_APPLY_CHAIR_FAILED         | 111500316 | The host is in a breakout room. Cannot request the host role.                               |
| CMS_BREAKOUT_CONF_APPLY_CONF_ID_FAILED       | 111500317 | Failed to apply for a breakout room ID.   |
| CMS_BREAKOUT_CONF_QUERY_MAIN_CONF_FAILED     | 111500318 | Failed to obtain the main session information.  |
| CMS_BREAKOUT_CONF_ATTENDEE_NOT_FOUND         | 111500319 | No user information is found.   |
| CMS_BREAKOUT_CONF_STOP_FAILED                | 111500320 | Failed to close the breakout room.  |
| CMS_SUBJECT_FAIL_TO_LEAVE_CONF_START         | 111502000 | Subscription failed. The start value of the error code for leaving the meeting is required. |
| CMS_SUBJECT_FAIL_TO_LEAVE_CONF_END           | 111502099 | Subscription failed. The end value of the error code for leaving the meeting is required.   |
| CMS_FAILED                                   | 112010001 | Common error.   |
| CMS_NULL_PARAM                               | 112010002 | The parameter is empty.   |
| CMS_PARTICIPANT_NOT_FOUND                    | 112010003 | No participant found.   |
| CMS_CONFERENCE_NOT_FOUND                     | 112010004 | The meeting does not exist.   |
| CMS_SIP_INVITE_TIMEOUT_NO_RCV                | 112010005 | The invite message timed out.   |

| Variable                              | Value     | Description  |
|---------------------------------------|-----------|--|
| CMS_SIP_INVITE_FAILED                 | 112010006 | The invite message fails to be sent.                 |
| CMS_SIP_INFO_TIMEOUT                  | 112010007 | Info response timed out.                             |
| CMS_SIP_INFO_FAILED                   | 112010008 | Info response failed.                                |
| CMS_WAIT_FIRST_CALL_FAILED            | 112010009 | System processing failed.                            |
| CMS_PARTICIPANT_DIALOG_FAILED         | 112010010 | System processing failed.                            |
| CMS_INVITE_MRS_FAILED                 | 112010011 | Failed to call the MRS.                              |
| CMS_INVITE_PARTICIPANT_FAILED         | 112010012 | Failed to call the terminal.                         |
| CMS_INFORM_CONF_INFO_FAILED           | 112010013 | The Info process of joining the data meeting failed. |
| CMS_START_CONF_FAILED                 | 112010014 | Failed to hold the meeting.                          |
| CMS_MEDIA_NEGOTIATION_FAILURE         | 112010015 | Media negotiation failed.                            |
| CMS_USER_REJECTED                     | 112010016 | The user rejects the call or meeting.                |
| CMS_USER_BUSY                         | 112010017 | The user is busy.                                    |
| CMS_NO_CALL_RIGHT                     | 112010018 | No call permission.                                  |
| CMS_UNKNOWN_CALLER                    | 112010019 | Unknown called participant.                          |
| CMS_NO_USER_RESPONDING                | 112010020 | No user response.                                    |
| CMS_JOIN_CONF_TIMEOUT                 | 112010021 | Joining the meeting timed out.                       |
| CMS_SESSION_RELEASED                  | 112010022 | The session has been released.                       |
| CMS_CALLEE_NOT_REGISTERED             | 112010023 | The called participant is not registered.            |
| CMS_SIP_INVITE_TIMEOUT_RCV1XX         | 112010024 | SIP invitation timed out.                            |
| CMS_USER_SESSION_TIMER_TIMEOUT_HANGUP | 112010025 | The user session timer timed out. The user hangs up. |



| Variable                             | Value     | Description   |
|--------------------------------------|-----------|---|
| CMS_RCV_USER_BYE_MRS_HANGUP          | 112010026 | The participant is disconnected by the MRS.                           |
| CMS_RCV_USER_BYE_PART_HANGUP         | 112010027 | The participant is disconnected by the device.                        |
| CMS_NO_RTP_STREAM_HUNG_UP            | 112010028 | No stream received. The meeting or call is disconnected.              |
| CMS_CONF_MANAGER_NO_UPSCALE_VMR      | 112030001 | There are no cloud meeting rooms of higher specifications.            |
| CMS_CONF_MOVE_BC_FAILED              | 112051005 | Failed to move the participant to the room due to network exceptions. |
| CMS_SYSPORTAL_EXCEPTION              | 112100000 | System exception.   |
| CMS_BAD_REQUEST                      | 112100001 | Request error.  |
| CMS_ILLEGAL_REQUEST                  | 112100002 | Invalid request.  |
| CMS_DATA_NOT_FOUND                   | 112100003 | The data is not obtained.   |
| CMS_DATA_DUPLICATE                   | 112100004 | Duplicate data.   |
| CMS_APPLY_TYPE_NOT_SUPPORT           | 112100006 | The request type is not supported.                                    |
| CMS_SAVE_NOTICE_MODEL_FAILED         | 112100007 | Failed to save the notification template.                             |
| CMS_SAVE_DATA_FAILED                 | 112100008 | Failed to save the data.  |
| CMS_QUERY_DATA_FAILED                | 112100009 | Failed to query the data.   |
| CMS_DELETE_DATA_FAILED               | 112100010 | Failed to delete the data.  |
| CMS_NEED_RESET_PASSWORD              | 112100011 | The password needs to be reset.                                       |
| CMS_AUTH_FAILED                      | 112100012 | Incorrect old password.   |
| CMS_NEW_PASSWORD_EQUALS_OLD_PASSWORD | 112100013 | The new password cannot be the same as the old password.              |
| CMS_PASSWORD_TOO_SIMPLE              | 112100014 | The password is too weak.   |

| Variable                                | Value     | Description  |
|---|-----------|--|
| CMS_LEHGTH_NOTMET_STANDARD              | 112100015 | Invalid length.  |
| CMS_RSE_IS_IN_CONFERENCE                | 112100016 | RSE is in the meeting.   |
| CMS_RSE_IS_DELETING                     | 112100017 | RSE is to be deleted.  |
| CMS_RSE_LIST_CONF_FAILED                | 112100018 | Failed to query the meeting list.  |
| CMS_AUTH_LOCKED                         | 112100019 | The user has been locked. Log in again later.  |
| CMS_LIVE_CHANNEL_NAME_EXISTED           | 112100022 | The channel name already exists.   |
| CMS_CONFID_PREFIX_CANNOT_DECREASE       | 112100023 | Failed to modify the system configuration item because the meeting ID prefix already exists. |
| CMS_CONFID_PREFIX_DUPLICATE             | 112100024 | You can add CONFID prefixes but cannot modify or delete them.                                |
| CMS_LIVE_CHANNEL_URL_EXISTED            | 112100025 | The live broadcast room address already exists.  |
| CMS_LIVE_ROOM_ISUSED                    | 112100026 | The live broadcast room has been occupied.   |
| CMS_LIVE_ROOM_NOT_EXIST                 | 112100027 | The live broadcast room does not exist.  |
| CMS_LIVE_ROOM_RELEASE_FAIL              | 112100028 | Failed to release the live broadcast room.   |
| CMS_REQUEST_MISSING_HEADER_OR_PARAMETER | 112100029 | The request header field is missing.   |
| CMS_LIVE_MAIN_URL_EXISTED               | 112100030 | The audio and video stream push address already exists.                                      |
| CMS_LIVE_AUX_URL_EXISTED                | 112100031 | The presentation stream push address already exists.   |
| CMS_PWD_IS_WEAK_PASSWORD                | 112100032 | Weak password.   |
| CMS_LIVE_ROOM_ISUSED_FAIL               | 112100033 | The live broadcast room has been occupied.   |
| CMS_SAVE_PART_ATTENDEES_SINCE_TOO_MANY  | 112100034 | More participants than allowed. Only some participants are saved.                            |

| Variable                                       | Value     | Description   |
|--|-----------|---|
| CMS_EXPORT_DATA_FAIL                           | 112100035 | Failed to export the data.  |
| CMS_IMPORT_DATA_FAIL                           | 112100036 | Failed to import the data.  |
| CMS_FILE_EXCEEDS_MAXIMUM_SIZE                  | 112100037 | The file size exceeds the upper limit.  |
| CMS_LVS_TARGET_ADDRESS_ALREADY_EXISTS          | 112100038 | The target address of LVS already exists.   |
| CMS_LVS_PORT_EXISTS                            | 112100039 | Duplicate LVS ports.  |
| CMS_NOT_ALLOWED_TO_MODIFY_GLOBAL_STANDBY       | 112100040 | Only hosts can modify the Global configuration.   |
| CMS_MCU_ISOLATE_IP_ADDRESS_ALREADY_EXISTS      | 112100041 | The MCU isolation IP address already exists.  |
| CMS_MCU_ISOLATE_IP_ADDRESS_CANNOT_BE_CHANGED   | 112100042 | The MCU isolation IP address cannot be changed.   |
| CMS_SBC_ADDRESS_ALREADY_EXISTS                 | 112100043 | The SBC address already exists.   |
| CMS_INTERNAL_EXCEPTION                         | 112100044 | Internal error.   |
| CMS_SYS_CONFIG_CANNOT_BE_DELETED               | 112100045 | The system configuration cannot be deleted.   |
| CMS_NO_ISBC_ADDRESS_OBTAINED                   | 112100046 | Failed to obtain the SBC address based on the enterprise ID.  |
| CMS_MEDIA_TYPE_NOT_SUPPORTED                   | 112100047 | The enterprise has enabled the full HD function. The media configuration cannot be lower than 1080p nor 8 Mbit/s.           |
| CMS_INTERPRETER_LANGUAGE_ABBREVIATION_REPEATED | 112100061 | Duplicate language abbreviations.   |
| CMS_INTERPRETER_LANGUAGE_NAME_REPEATED         | 112100062 | Duplicate language names.   |
| CMS_MODIFY_MCU_WARNING                         | 112100063 | MCU type is <b>MIXED</b> and isolation is not configured, or an MCU meeting exists when you modify MCU connection settings. |

| Variable                                    | Value     | Description  |
|---|-----------|--|
| CMS_ADD_MCU_WARNING                         | 112100064 | The MCU type is <b>MIXED</b> and isolation is not configured when you add MCU connection settings. |
| CMS_MODIFY_MCUINSULATE_WARNING              | 112100065 | MCU type is <b>MIXED</b> when modifying MCU insulation configuration or unbinding the enterprise.  |
| CMS_DEL_MCUINSULATE_WARNING                 | 112100066 | MCU type is <b>MIXED</b> when deleting MCU insulation configuration.                               |
| CMS_MCU_TYPE_INCOMPATIBLE                   | 112100067 | The MCU is incompatible with the gateway type.   |
| CMS_MEDIARES_MEDIA_RESOURCE_NOT_ENOUGH      | 115021001 | Media resources are insufficient.  |
| CMS_MEDIARES_CONFIG_NOT_EXIST               | 115021002 | The meeting does not exist.  |
| CMS_MEDIARES_MEDIA_RESOURCE_NOT_EXIST       | 115021003 | The media resource does not exist.   |
| CMS_MEDIARES_BANDWIDTH_RESOURCE_NOT_ENOUGH  | 115021005 | Insufficient network bandwidth.  |
| CMS_MEDIARES_DEVICE_FAULT                   | 115021006 | The device is faulty.  |
| CMS_LOGIC_RESOURCES_NOT_ENOUGH              | 115022000 | Common logical resources are insufficient.   |
| CMS_LOGICRES_PNUM_RESOURCE_NOT_ENOUGH       | 115022001 | Concurrent participants in the enterprise are insufficient.  |
| CMS_LOGICRES_PORT_RESOURCE_NOT_ENOUGH       | 115022002 | Logical port resources are insufficient.   |
| CMS_LOGICRES_LSNUM_RESOURCE_NOT_ENOUGH      | 115022003 | Live broadcast resources in the enterprise are insufficient.                                       |
| CMS_MEDIARES_DEVICE_NOT_EXIST               | 115022004 | The media device does not exist.   |
| CMS_LOGICRES_RECORD_NUM_RESOURCE_NOT_ENOUGH | 115022005 | Cloud recording ports purchased by your enterprise have been used up.                              |

| Variable                                    | Value     | Description  |
|---|-----------|--|
| CMS_ID_RESOURCE_NOT_ENOUGH                  | 115023001 | Insufficient ID resources.   |
| CMS_RMS_SERVICE_ERROR                       | 115024001 | The RMS service is abnormal.   |
| CMS_LIVE_ROOM_IN_USE                        | 115025001 | The live broadcast room has been occupied.                                   |
| CMS_LIVE_ROOM_NOT_EXISTED                   | 115025002 | The live broadcast room does not exist.                                      |
| CMS_LIVE_ROOM_RELEASE_FAILED                | 115025003 | Failed to release the live broadcast room.                                   |
| CMS_MCU_HAS_CONF                            | 115026001 | An MCU meeting exists.   |
| CMS_COMMON_INVALID_PARAMS                   | 115029001 | Invalid common parameter.  |
| CMS_COMMON_NULL_PARAMS                      | 115029002 | The parameter value is empty.  |
| CMS_COMMON_SERVICE_INVALID                  | 115029003 | The service is unavailable.  |
| CMS_CONFIG_ERROR                            | 115029004 | The configuration is abnormal.   |
| CMS_DUPLICATE_APPLY_RESOURCE                | 115029005 | A resource request already exists.   |
| CMS_WAIT_APPLY_RESOURCE                     | 115029006 | Resources are being requested.   |
| CMS_COMMON_UNKNOWN                          | 115029999 | Unknown error.   |
| CMS_USER_AUTHENTICATION_FAILED              | 118000000 | Authentication failed.   |
| CMS_USER_TOKEN_AUTH_FAILED                  | 118000001 | USG token authentication failed.   |
| CMS_USER_AUTHENTICATION_LOCKED              | 118000002 | The account has been locked.   |
| CMS_RESTRICT_GUEST_INVITE_WHEN_WAITING_ROOM | 112051003 | Guests cannot invite others to the meeting when the waiting room is enabled. |
| CMS_MULTI_SHARE_IS_NOT_SUPPORT              | 112051006 | To join this meeting, upgrade the client to the latest version.              |
| USG_SERVER_BUSY                             | 200000001 | The server is busy. Try again later.   |
| USG_INTERNAL_ERR                            | 200000002 | The server is busy. Contact SRE.   |

| Variable                                  | Value     | Description   |
|---|-----------|---|
| USG_PARAM_ERR                             | 200000003 | Incorrect request parameter. Check whether the parameter is valid.  |
| USG_ILLEGAL_REQ                           | 200000004 | Invalid request. Check the value of <b>X-Auth-Token</b> or <b>X-Access-Token</b> in the request header.               |
| USG_UPGRADING                             | 200000005 | The system is being upgraded and is temporarily inaccessible. Sorry for any inconvenience.                            |
| USG_NO_DEPARTMENT_PERMISSIONS             | 200000026 | Insufficient permissions to call APIs by domain.  |
| USG_URL_PERMISSION_VALID_FAILED           | 200000030 | Insufficient department permissions.  |
| USG_OTHER_CORP_OWNER                      | 201020023 | The user is already the owner of an enterprise. New enterprises cannot be created for the user.                       |
| USG_CORP_USER_NUMBER_MAX                  | 201040005 | The number of users has reached the upper limit. Check the user quantity allowed by the resources you have purchased. |
| USG_PASSWORD_SECURITY_LOW                 | 201040016 | Weak password. Set another password.  |
| USG_ACTIVE_CODE_OVERDUE                   | 201040031 | The activation code has expired.  |
| USG_DEVICE_CANNOT_BE_REACTIVATED          | 201040033 | This device has already been activated in your enterprise.  |
| USG_DEVICE_ACTIVATED_IN_OTHERS_ENTERPRISE | 201040034 | This device has already been activated in another enterprise.   |
| USG_ACTIVE_CODE_REACHED_RESOURCE_LIMIT    | 201040037 | The maximum number of activation codes has been reached.  |
| USG_USER_NOT_ACTIVATED                    | 201040041 | The user is not activated.  |
| USG_PRE_VERIFY_EXPIRE                     | 201040042 | Pre-verification failed.  |
| USG_NO_INVITE_OTHER_CORP_OWNER            | 201040043 | The user is the owner of another enterprise and cannot be invited.  |
| USG_INVITE_LINK_INVALID                   | 201040044 | Invalid invitation connection.  |

| Variable                                    | Value     | Description  |
|---|-----------|--|
| USG_USER_IN_WAIT_LIST                       | 201040045 | The user is already in the waiting list.   |
| USG_USER_EXIST                              | 201040046 | The user already exists.   |
| USG_NOT_ALLOW_MOD_ACCOUNT                   | 201040047 | The account cannot be modified.  |
| USG_IDEAHUB_RESOURCE_EXCEEDS_INACTIVE_LIMIT | 201040049 | The maximum number of inactive IdeaHubs has been exceeded.                             |
| USG_NOT_CANNOT_CONTAIN_SENSITIVE_WORDS      | 201040063 | Username cannot contain sensitive words.   |
| USG_DEVICE_NOT_SUPPORT_ACTIVE_CODE          | 201050004 | Devices of this type do not support the activation code.                               |
| USG_ACTIVE_CODE_RESET_REACH_MAXIMUM         | 201050010 | The number of device activation code reset times in a day has reached the maximum (5). |
| USG_ACTIVE_CODE_NOT_EXIST                   | 201050012 | The activation code does not exist.  |
| USG_ACTIVE_INVALID_ACTIVE_CODE              | 201050015 | Incorrect activation code.   |
| USG_TRIAL_ACTIVE_CODE_CANNOT_BE_DELETED     | 201050016 | Trial activation codes cannot be deleted.  |
| USG_ACTIVE_FAIL                             | 201050021 | Activation failed.   |
| USG_CAN_NOT_UNBOUND                         | 201050022 | The terminal cannot be unbound.  |
| USG_IDEA_MANAGER_NOT_ENABLED                | 201050027 | IdeaManager is not enabled.  |
| USG_VMR_RESOURCE_UNAVAILABLE                | 201080000 | Cloud meeting resources are unavailable.   |
| USG_VMR_PWD_SAME_AS_CHAIRMAN_PWD            | 201080006 | The host password and guest password cannot be the same. Check the parameters.         |
| USG_VMR_PWM_SAME_AS_MEETING_PWD             | 201080017 | Same as the meeting password.  |
| USG_INVITATION_ENABLE_INVALID               | 201510001 | You do not have the permission to obtain an invitation code.                           |
| USG_CORP_APPLICANT_INVALID                  | 201510003 | The request is invalid.  |

| Variable                      | Value     | Description   |
|-------------------------------|-----------|---|
| USG_DEVICE_TYPE_NOT_EXIST     | 205030005 | The device type does not exist.   |
| USG_ERR_PASSWORD              | 206010000 | The name or password is incorrect.  |
| USG_APPID_ACCOUNT_DISABLED    | 206010007 | The account is not activated and cannot be used for login.                |
| USG_USER_INFORMATION_DISABLED | 206010008 | The user does not exist or is not activated and cannot be used for login. |
| USG_SEND_SLIDER_FAILED        | 206010010 | Failed to obtain the verification code. Contact SRE.                      |
| USG_NEED_VERIFY_CODE          | 206010011 | The verification code cannot be empty.                                    |
| USG_CHECK_SLIDER_FAILED       | 206010012 | Incorrect verification code.  |
| USG_JUMP_LOGIN_FAILED         | 206010013 | Failed to redirect to the login page. Contact SRE.                        |
| USG_DOMAIN_NOT_EXIST          | 206010014 | The enterprise domain name does not exist.                                |
| USG_SSO_AUTH_FAILED           | 206010022 | SSO login failed. Contact SRE.  |
| USG_AUTH_NOT_SUPPORT_SSO      | 206010023 | SSO login is not supported.   |
| USG_INVALID_AUTH_TYPE         | 206010024 | Invalid authentication type.  |
| USG_APPID_AUTH_FAILED         | 206010025 | Failed to verify the app ID.  |
| USG_AUTH_TYPE_ERR             | 206010027 | Verification type error.  |
| USG_NETWORK_ERROR             | 206010029 | Network error.  |
| USG_APPID_NOT_ALLOW_AUTO_REG  | 206010030 | Automatic app ID registration is not allowed.                             |
| USG_APPID_AUTO_REG_FAILED     | 206010031 | Automatic app ID registration failed.                                     |
| USG_NORMAL_USER_CANNOT_LOGIN  | 206010036 | Common users cannot log in.   |
| USG_HWACCOUNT_AUTH_FAILED     | 206010042 | HUAWEI ID authentication failed.  |



| Variable                                   | Value     | Description  |
|--|-----------|--|
| USG_APPID_AUTH_EXPIRE                      | 206010057 | The app ID authentication has expired.   |
| USG_APPID_ACCOUNT_NOT_BIND                 | 206010058 | The mobile number is not registered.   |
| USG_SITE_MISMATCHED                        | 206010064 | The site does not match.   |
| USG_CONFLICT_PHONE                         | 206010065 | Mobile number conflicts.   |
| USG_CONFLICT_EMAIL                         | 206010066 | Email address conflicts.   |
| USG_USER_NUM_EXCEEDED                      | 206010070 | More users than allowed.   |
| AUTH_WECHAT_LOGIN_FAILED                   | 206010071 | WeChat authentication failed.  |
| USG_CHANGE_SITE_AND_NEXT_REQUEST           | 206010074 | The International site supports re-login after site change.  |
| USG_ACCOUNT_IS_UNBOUND                     | 206010075 | The account has been unbound.  |
| USG_OFFLINE_PAIR_AUTH_FIXED_LINK_UNFOUNDED | 206010079 | No fixed link is established between the device and the large screen.  |
| USG_OFFLINE_PAIR_AUTH_JWT_INVALID          | 206010080 | The JWT token is invalid.  |
| USG_NEED_AGREED_SIGN_PRIVACY               | 206010090 | The privacy statement needs to be signed. The returned data contains the key of third-party user cache information.        |
| USG_THIRD_USER_INFO_HAS_INVALID            | 206010091 | The third-party user cache information is invalid.   |
| USG_INVALID_TOKEN                          | 206020000 | Invalid authentication information. Check the value of <b>X-Auth-Token</b> or <b>X-Access-Token</b> in the request header. |
| USG_TOKEN_IS_CREATED_BY_OTHERSITE          | 206020001 | The token is created at the DR site.   |
| USG_TOKEN_IS_INVALID_BY_KICKOFF            | 206020002 | The token is invalid because you are kicked out.   |
| USG_USER_NOT_EXIST                         | 206030000 | The user does not exist.   |
| USG_FIND_VERIFY_CODE_FAIL                  | 206030001 | The verification code is incorrect or has expired. Obtain a new one.   |

| Variable                          | Value     | Description   |
|-----------------------------------|-----------|---|
| USG_VERCODE_ERR                   | 206030002 | Incorrect verification code.  |
| USG_NOT_PHONE_AND_EMAIL           | 206030003 | Failed to send the verification code.   |
| USG_RESEND_NOT_ALLOWED            | 206030004 | Resend a code 180s later.   |
| USG_NOT_SUPPORT_MODIFY_PWD        | 206030005 | The system does not support password change.                                    |
| USG_OLD_PWD_WRONG                 | 206030006 | Incorrect old password.   |
| USG_INVALID_NEW_PASSWORD_LEN      | 206030007 | The length of the new password does not meet the requirements.                  |
| USG_INVALID_PWD_LEVEL             | 206030008 | The password complexity does not meet the requirements.                         |
| USG_CANNOT_SAME_WITH_HISTROY_PWD  | 206030009 | The new password must be different from any of the previous old passwords.      |
| USG_REPEAT_CHARACTER_NUM_TOO_MUCH | 206030010 | The password cannot contain three or more of the same characters consecutively. |
| USG_PWD_TOO_FREQUENTLY            | 206030011 | The password cannot be changed within 5 minutes upon the last password change.  |
| USG_CANNOT_CONTAIN_ACCOUNT        | 206030012 | The password cannot be the account or the account spelled backwards.            |
| USG_MANY_SAME_WITH_OLD_PWD        | 206030013 | At least two characters must be different between the new and old passwords.    |
| USG_CONTAINS_INVALID              | 206030014 | Invalid password format.  |
| USG_USER_LOCKED                   | 206030015 | The user has been locked. Try again after 60 seconds.                           |
| USG_NO_RIGHT_TO_RESET_PWD         | 206030016 | You do not have the permissions to reset the password.                          |
| USG_FORGET_PWD_OVER_10_TIMES      | 206030018 | The number of password retrieval times in a day has reached the maximum (10).   |

| Variable                                | Value     | Description  |
|---|-----------|--|
| USG_USG_VERIFY_CODE_CHECK_EXCCED_MAX    | 206030019 | The maximum number of incorrect verification code inputs has been reached. Obtain a new verification code. |
| USG_SEND_VERIFY_CODE_FAILED             | 206030023 | Failed to send the verification code. Contact SRE.   |
| USG_AUTO_USER_NOT_ALLOW_MOD_PWD         | 206030028 | The system has enabled SSO login. The password cannot be changed. Disable SSO login and try again.         |
| USG_HUAWEI_MODIFY_PWD                   | 206030031 | The password of the HUAWEI ID was forgotten.   |
| USG_NO_CORRESPOND_TERMINAL_TYPE         | 206040000 | No corresponding terminal type.  |
| USG_SEND_VERIFY_CODE_IS_LOCKED          | 206060008 | The function of sending verification codes is locked.  |
| USG_NEED_SLIDER_VERIFY                  | 206060009 | CAPTCHA verification is required.  |
| USG_SLIDER_TOKEN_INVALID                | 206060010 | Invalid CAPTCHA token.   |
| USG_REQUEST_PARAMETER_ERROR             | 206060011 | Incorrect request parameter.   |
| USG_NOT_SUPPORT_SEND_SMS                | 206060012 | SMS message delivery is not supported.   |
| USG_NOT_ALLOW_REPEAT_SEND               | 206060013 | Repeated delivery is not supported.  |
| USG_LOGINVERIFY_CODE_INVALID            | 206060014 | Invalid verification code.   |
| USG_LOGINVERIFY_CODE_EXCCED_MAX         | 206060015 | Too many failed verification code attempts.  |
| USG_HWACCOUNT_BIND_FAILED               | 206060017 | Failed to bind the HUAWEI ID.  |
| USG_VERIFY_ACTIVATION_CREDENTIAL_FAILED | 211000062 | The QR code has expired.   |
| USG_NOT_ALLOW_ACTIVATE_DEVICE           | 211000092 | Enterprises in this operations mode restrict users from activating devices via QR code.                    |
| USG_ACTIVE_NOT_IDEAHUB_CODE             | 211030046 | Incorrect IdeaHub activation code.   |

| Variable  | Value     | Description   |
|---|-----------|---|
| USG_AUTH_FAIL_TOO_MANY_TIMES_LOCKED             | 211030050 | Too many failed identity authentication attempts. The account is locked.                        |
| USG_AUTH_FAIL_TOO_MANY_TIMES_PERMANENTLY_LOCKED | 211030052 | Too many failed identity authentication attempts. The account is locked permanently.            |
| USG_LOG_UPLOAD_TIMES_EXCEED                     | 211060003 | The maximum number of log uploads has been reached.   |
| USG_NOT_ALLOW_PAIR_CROSS_CORP                   | 222020001 | Cross-enterprise pairing is not allowed.  |
| USG_OFFLINE_PAIR_HAS_BEEN_BOUND                 | 222020002 | Another device has been bound to this large screen.   |
| USG_OFFLINE_PAIR_DOUBLE_CHECK_FAILED            | 222020003 | The secondary verification code is invalid.   |
| USG_OFFLINE_PAIR_CODE_INVALID                   | 222020004 | The pairing code is invalid.  |
| USG_OFFLINE_PAIR_ALREADY_EXISTS                 | 222020005 | An offline temporary link already exists.   |
| USG_OFFLINE_FIXED_PAIR_ALREADY_EXISTS           | 222020006 | An offline fixed link already exists.   |
| USG_PROJECTION_CODE_ILLEGAL                     | 222020010 | Invalid projection code.  |
| USG_PROJECTION_IP_BEEN_LOCKED                   | 222020011 | The IP address has been locked.   |
| USG_PROJECTION_CROSS_CORP                       | 222020012 | The projection code is not generated by the device of the enterprise to which the user belongs. |
| USG_PROJECTION_DOUBLE_CHECK_REACH_MAX_TIME      | 222020013 | The maximum number of incorrect secondary verification code inputs has been reached.            |
| USG_OBS_UPLOAD_IMAGE_NOT_EXIST                  | 225020001 | The image object cannot be found in OBS.  |
| USG_OBS_UPLOAD_IMAGE_IS_REPETITION              | 225030002 | The image with this unique identifier is already under review.                                  |
| USG_SLIDER_NOT_SUPPORTED                        | 230010001 | The current service is not supported.   |
| USG_SLIDER_VERIFY_CODE_AND_BUSINESS_MISMATCH    | 230010002 | The verification code does not match the service.   |

| Variable                       | Value     | Description  |
|--------------------------------|-----------|--|
| USG_SLIDER_USER_NOT_EXIST      | 230010003 | The user does not exist.   |
| USG_SLIDER_TRY_AGAIN_LATER     | 230010004 | Try again later.   |
| USG_SLIDER_VERIFY_CODE_INVALID | 230010005 | The verification code has expired.   |
| USG_SLIDER_VERIFY_CODE_ERROR   | 230010006 | Incorrect verification code.   |
| USG_SLIDER_GET_NEW_VERIFY_CODE | 230010007 | The maximum number of incorrect verification code inputs has been reached. Obtain a new verification code. |
| SDK_COMMON_FAIL                | 411000001 | Failed.  |
| SDK_PARAM_ERROR                | 411000002 | Parameter error.   |
| SDK_CONF_NOT_EXIST             | 411000003 | The meeting does not exist.  |
| SDK_CONF_EXIST                 | 411000004 | A meeting already exists.  |
| SDK_CONF_STATE_ERROR           | 411000005 | The meeting status is abnormal.  |
| SDK_CALL_GET_DEVICE_FAILED     | 411000006 | Failed to obtain the device.   |
| SDK_CALL_SET_DEVICE_FAILED     | 411000007 | Failed to configure the device.  |
| SDK_NO_DEVICE_CAN_USED         | 411000008 | No device is available.  |
| SDK_ONLY_MOBILE_SUPPORT        | 411000009 | Only mobile devices support this operation.  |
| SDK_ACCESS_ERROR               | 411000010 | Network access error.  |
| SDK_SERVICE_DOING              | 411000011 | Another supplementary service is in progress.  |
| SDK_ERR_MEM_ERROR              | 411000012 | Memory allocation error.   |
| SDK_ERR_INITIALIZE_FAILED      | 411000013 | Initialization failed.   |
| SDK_USER_DOES_NOT_EXIST        | 411000014 | The user does not exist.   |
| SDK_DATACONF_NOT_JOIN          | 411000015 | The user is not in the data meeting.   |

| Variable                               | Value     | Description   |
|--|-----------|---|
| SDK_CALL_AND_CONF_NOT_EXIST            | 411000016 | The meeting and call do not exist.                                |
| SDK_SVN_DETECT_FAILED                  | 411000017 | SVN port detection failed.  |
| SDK_ERR_WRITE_FILE_FAILED              | 411000018 | Failed to write the file.   |
| SDK_ERR_RTC_NOT_SUPPORT_STG            | 411000019 | RTC does not support the STG mode.                                |
| SDK_ERR_RTC_LIB_LOAD_FAILED            | 411000020 | Failed to load the RTC library. RTC meetings are not supported.   |
| SDK_ERR_SWITCH_ROLE_CONF_PAUSE         | 411000021 | Attendee view is paused when the role is switched.                |
| SDK_CONF_NOT_IN_CALL                   | 411000022 | The user is not in a call.  |
| SDK_CONF_OR_CALL_NOT_EXIST             | 411000023 | The meeting or call does not exist.                               |
| SDK_CONF_PAIR_STATUS_NOT_ALLOW         | 411000024 | The pairing status is not allowed.                                |
| SDK_CONF_PAIR_QUEURY_FAIL              | 411000025 | Pairing request failed.   |
| SDK_CONF_PAIR_OVER_LIMIT               | 411000026 | More pairing connections than allowed.                            |
| SDK_CONF_PAIR_ERROR_COMMON             | 411000027 | Common pairing error.   |
| SDK_CONF_PAIR_ENTRER_FAILED            | 411000028 | Failed to join the meeting after pairing.                         |
| SDK_CONF_PAIR_ENTRER_BUSY              | 411000029 | The device is already in a meeting.                               |
| SDK_CONF_PAIR_ENTRER_INVALID           | 411000030 | Invalid pairing for joining a meeting.                            |
| SDK_CONF_PAIR_ENTRER_MULTI             | 411000031 | A pairing request is being processed. Do not re-initiate pairing. |
| SDK_CONF_PAIR_UNESTABLISHED_OR_PRIRING | 411000032 | Pairing has not been set up or is being set up.                   |
| SDK_CONF_EXTERN_INPUT_CAMERA_NOT_OPEN  | 411000033 | The camera is not enabled in third-party collection mode.         |

| Variable                                 | Value     | Description   |
|--|-----------|---|
| SDK_CONF_CREAT_RTC_ENGINE_FAILED         | 411000034 | Failed to create the RTC engine.  |
| SDK_CONF_NOT_IN_CONF                     | 411000035 | The user is not in the meeting.   |
| SDK_CONF_MUTE_SELECT_FAILED              | 411000036 | Failed to mute the microphone and protection is enabled.                |
| SDK_CONF_IN_SETTING_LANGUAGE_CHANNEL     | 411000037 | Switching channels... Try again later.                                  |
| SDK_NO_STREAM_END_CONF_NET_BREAK         | 411000100 | No stream was received. The network was disconnected.                   |
| SDK_NO_STREAM_END_CONF_REJOIN_FAIL       | 411000101 | Failed to join the meeting again.                                       |
| SDK_CHECK_PARAM_NULL_POINTER             | 411000102 | Null pointer.   |
| SDK_CHECK_PARAM_NOT_ALLOW_NULL           | 411000103 | The parameter cannot be empty.  |
| SDK_ENCRYPT_DECRYPT_FUNC_NOT_MATCH       | 411000104 | The encryption and decryption algorithms do not match.                  |
| SDK_LOAD_USER_DEFINED_DLL_FAILED         | 411000105 | Failed to load the custom DLL.  |
| SDK_APPLICATION_NOT_SUPPORT_SHIMODOCS    | 411000106 | Shimo Docs cannot be opened in the enterprise.                          |
| SDK_DATACONF_SCREEN_RENDER_FAIL          | 411000107 | Failed to render the data meeting UI.                                   |
| SDK_CONF_END_MMR_REJOIN_FAIL             | 411000108 | Failed to join the MMR meeting again.                                   |
| SDK_AUDIO_DISCONNECTED                   | 411000109 | Disconnecting audio...  |
| SDK_DATACONF_SECOND_MONITOR_DISCONNECT   | 411000110 | The secondary display is disconnected during secondary display sharing. |
| SDK_DATACONF_PREPARE_DATA_SHARE_CANCELED | 411000111 | The preparation before sharing is canceled.                             |
| SDK_DATACONF_ALREADY_IN_CONTROL          | 411000112 | You are remotely controlling a participant's desktop.                   |

| Variable                                       | Value     | Description  |
|--|-----------|--|
| SDK_DATACONF_ALRE<br>ADY_BE_CONTROLLED         | 411000113 | Your desktop is being controlled by a participant.   |
| SDK_LOGIN_MSG_THR<br>EAD_UNINIT                | 412100001 | The message processing thread is not initialized.  |
| SDK_LOGIN_PARAM_E<br>RROR                      | 412100002 | Parameter error.   |
| SDK_LOGIN_TIMEOUT                              | 412100003 | Timeout.   |
| SDK_LOGIN_MEM_ERR<br>OR                        | 412100004 | Memory allocation error.   |
| SDK_LOGIN_XML_ERR<br>OR                        | 412100005 | XML parsing error.   |
| SDK_LOGIN_DNS_ERR<br>OR                        | 412100006 | DNS resolution exception.  |
| SDK_LOGIN_REQUEST_<br>FAILED                   | 412100007 | The request message is abnormal.   |
| SDK_LOGIN_AUTH_FAI<br>LED                      | 412100008 | Authorization failed.  |
| SDK_LOGIN_SERVICE_E<br>RROR                    | 412100009 | Server exception.  |
| SDK_LOGIN_ACCOUNT_<br>LOCKED                   | 412100010 | The account is locked.   |
| SDK_LOGIN_TIMER_ER<br>ROR                      | 412100011 | An error occurred during timer creation.   |
| SDK_LOGIN_CA_VERIF<br>Y_FAILED                 | 412100012 | Failed to verify the server CA certificate.  |
| SDK_LOGIN_NETWORK_<br>ERROR                    | 412100013 | Network error.   |
| SDK_LOGIN_SERVER_R<br>EDIRECT                  | 412100014 | The server returns a redirection address.  |
| SDK_LOGIN_AUTH_AC<br>COUNT_DIACTIVE            | 412100015 | The account is not activated.  |
| SDK_LOGIN_JSON_ERR<br>OR                       | 412100016 | Failed to parse the JSON file.   |
| SDK_LOGIN_CURLE_EX<br>TERN_CONNECT_TIME<br>OUT | 412100017 | The proxy communication times out and the TCP connection fails to be set up. Proxy configuration may be incorrect. |



| Variable   | Value     | Description   |
|--|-----------|---|
| SDK_LOGIN_CURLE_EX<br>TERN_CLOSED_BY_PROXY               | 412100018 | The connection is disconnected by the proxy. Server address may be incorrect.   |
| SDK_LOGIN_CURLE_EX<br>TERN_PROXY_ADDR_OR<br>R_PORT_ERROR | 412100019 | TCP connection setup times out. Proxy domain name or port number may be incorrect.  |
| SDK_LOGIN_CURLE_EX<br>TERN_PROXY_PERMISSION_DENIED       | 412100020 | Authentication failed. The user does not have the proxy permission and needs to request the proxy permission.   |
| SDK_LOGIN_CURLE_EX<br>TERN_USER_OR_PWD_ERROR             | 412100021 | Authentication failed. The proxy username or password is incorrect.   |
| SDK_LOGIN_CURLE_EX<br>TERN_AUTH_TYPE_ERROR               | 412100022 | Authentication failed. The authentication type is incorrect. The username and password are required.  |
| SDK_LOGIN_CURLE_EX<br>TERN_AUTH_ERROR                    | 412100023 | Authentication failed due to other unknown errors. The possible cause is that the authentication mode is not supported. It is recommended that a dialog box be displayed to prompt the user to initiate the authentication again. |
| SDK_LOGIN_CURLE_C<br>OULDNT_RESOLVE_PROXY                | 412100024 | Authentication failed. The gateway cannot be parsed.  |
| SDK_LOGIN_CURLE_C<br>OULDNT_RESOLVE_HOST                 | 412100025 | Authentication failed. The host cannot be parsed.   |
| SDK_LOGIN_CURLE_C<br>OULDNT_CONNECT                      | 412100026 | Authentication failed. Connection failed.   |
| SDK_LOGIN_CURLE_OPERATION_TIMEDOUT                       | 412100027 | Authentication failed. Operation timed out.   |
| SDK_LOGIN_MSG_TOO_LARGE                                  | 412100028 | The message is too long.  |
| SDK_LOGIN_BASE64_ENCODING_ERROR                          | 412100029 | Base64 encryption failed.   |
| SDK_LOGIN_XML_PARSE_ERROR                                | 412100030 | XML parsing error.  |
| SDK_LOGIN_SECURE_LIB_ERROR                               | 412100031 | Secure function error.  |

| Variable                                    | Value     | Description   |
|---|-----------|---|
| SDK_LOGIN_FIREWALL_DETECT_PARAM_ERROR       | 412100032 | Firewall detection parameters are incorrect.  |
| SDK_LOGIN_BUILD_STG_TUNNEL_FAIL             | 412100033 | Failed to create the STG tunnel.  |
| SDK_LOGIN_UPDATE_STG_SERVER_ERROR           | 412100034 | Failed to update the STG service.   |
| SDK_LOGIN_TUP_CRYPT_ENCRYPT_ERROR           | 412100035 | Encryption failed.  |
| SDK_LOGIN_IN_DOWNLOAD_CANNOT_DOWNLOAD_AGAIN | 412100036 | Repeated download is not allowed.   |
| SDK_LOGIN_FILE_OPERATION_FAIL               | 412100037 | Failed to operate the file.   |
| SDK_LOGIN_RSP_BODY_NULL                     | 412100038 | The returned request message is empty.  |
| SDK_LOGIN_PROBE_SERVER_NUMBER_ZERO_ERROR    | 412100039 | The number of detected servers is 0.  |
| SDK_LOGIN_GET_BEST_LOCAL_IP_FAIL            | 412100040 | Failed to obtain the local IP address.  |
| SDK_LOGIN_E_ERR_LOGIN_NO_INIT               | 412100041 | The login module message is not initialized.  |
| SDK_LOGIN_E_ERR_HTTP_BUSY                   | 412100042 | An HTTP error 429 is returned.  |
| SDK_LOGIN_E_ERR_NOT_LOGINED                 | 412100043 | The service is available only after login.  |
| SDK_LOGIN_E_ERR_MNG_FAILED                  | 412100044 | Server degraded. After receiving this error code, you can continue to call the API for joining a meeting offline. |
| SDK_LOGIN_E_ERR_CANCEL_DOWNLOAD             | 412100045 | The download is canceled during the version upgrade.  |
| SDK_LOGINLOGIC_GENERAL                      | 412200001 | Internal error.   |
| SDK_LOGINLOGIC_PARAMETER_ERROR              | 412200002 | Parameter error.  |
| SDK_LOGINLOGIC_REQUEST_TIMEOUT              | 412200003 | Network timeout.  |

| Variable  | Value     | Description  |
|---|-----------|--|
| SDK_LOGINLOGIC_NETWORK_ERROR                      | 412200004 | Network error.   |
| SDK_LOGINLOGIC_NEEDED_MOBILEBIND                  | 412200005 | Bind a mobile phone.                                     |
| SDK_LOGINLOGIC_NEEDED_MAILBIND                    | 412200006 | Bind an email address.                                   |
| SDK_LOGINLOGIC_HAS_INITED                         | 412200007 | The resource cannot be re-initialized.                   |
| SDK_LOGINLOGIC_STATE_MACHINE_RUN_FAILED           | 412200008 | Failed to run the state machine.                         |
| SDK_LOGINLOGIC_START_TIMER_ERROR                  | 412200009 | Failed to start the timer.                               |
| SDK_LOGINLOGIC_NEEDED_MODIFY_PASSWORD             | 412200010 | Change your password upon the first login.               |
| SDK_LOGINLOGIC_UNKNOWN_AUTH_TYPE                  | 412200011 | Unknown authentication type.                             |
| SDK_LOGINLOGIC_NEEDED_REPAIR_CONTROLLER           | 412200012 | Re-pairing is required.                                  |
| SDK_LOGINLOGIC_NEEDED_REPAIR_WITH_CREDENTIAL      | 412200013 | Send a request again after verification.                 |
| SDK_LOGINLOGIC_NEEDED_REPAIR_FAILED               | 412200014 | Failed to obtain the credential. Re-pairing is required. |
| SDK_LOGINLOGIC_NOT_SUPPORT_MEDIA_SEPARATE         | 412200015 | The environment does not support media separation.       |
| SDK_LOGINLOGIC_MEDIA_SEPARATE_PLUGIN_DISCONNECT   | 412200016 | The media separation plug-in is not connected.           |
| SDK_LOGINLOGIC_REQUEST_MEDIA_SEPARATE_LOG_TIMEOUT | 412200017 | Media separation log collection timed out.               |
| SDK_LOGINLOGIC_REQUEST_MEDIA_SEPARATE_LOG_FAILED  | 412200018 | Failed to collect media separation logs.                 |

| Variable  | Value     | Description  |
|---|-----------|--|
| SDK_LOGINLOGIC_REQUEST_MEDIA_SEPARATE_LOG_ALREADY_START | 412200019 | Media separation log collection has started.                       |
| SDK_LOGINLOGIC_REQUEST_MEDIA_SEPARATE_LOG_NOT_SUPPORT   | 412200020 | The TC plug-in does not support media separation log collection.   |
| SDK_CALL_GENERAL_ERROR                                  | 413000001 | Common error.  |
| SDK_CALL_PARAMETER_ERROR                                | 413000002 | Parameter error.   |
| SDK_CALL_MEMORY_ERROR                                   | 413000003 | Memory allocation error.   |
| SDK_CALL_SYSTEM_ERROR                                   | 413000004 | System error.  |
| SDK_CALL_MESSAGE_ERROR                                  | 413000005 | Message delivery error.  |
| SDK_CALL_CONFIG_ERROR                                   | 413000006 | An error occurred when obtaining the system configuration.         |
| SDK_CALL_NETWORK_ERROR                                  | 413000007 | Physical network error.  |
| SDK_CALL_ACCESS_ERROR                                   | 413000008 | Network access error.  |
| SDK_CALL_TIMER_ERROR                                    | 413000009 | An error occurred during timer creation.                           |
| SDK_CALL_STATE_ERROR                                    | 413000010 | Call status error.   |
| SDK_CALL_OPERATION_ERROR                                | 413000011 | Another operation is in progress.                                  |
| SDK_CALL_REQUEST_MASTER_ERROR                           | 413000012 | An error occurred when requesting the master to make a call start. |
| SDK_CALL_REQUEST_AUDIO_ERROR                            | 413000013 | An error occurred when requesting audio resources.                 |
| SDK_CALL_SERVICE_DURING                                 | 413000014 | Another supplementary service is in progress.                      |
| SDK_CALL_CALLRECORD_ERROR                               | 413000015 | An error occurred when recording call records.                     |
| SDK_CALL_MEDIA_PROCESS_ERROR                            | 413000016 | Error returned by the media process.                               |

| Variable                               | Value     | Description  |
|--|-----------|--|
| SDK_CALL_MAX_CALL_ERROR                | 413000017 | Too many calls.  |
| SDK_CALL_SIPID_NOTE_EXIT_ERROR         | 413000018 | The SIP account ID does not exist.                         |
| SDK_CALL_CALLID_NO_EXIT_ERROR          | 413000019 | The call ID does not exist.                                |
| SDK_CALL_REGISTERING_ERROR             | 413000020 | An error occurred because the registration is in progress. |
| SDK_CALL_REGISTRATION_FAILED_ERROR     | 413000021 | Registration failed.                                       |
| SDK_CALL_DEREGISTRATION_FAILED_ERROR   | 413000022 | Deregistration failed.                                     |
| SDK_CALL_SET_SIP_INFO_ERROR            | 413000023 | An error occurred when setting the account information.    |
| SDK_CALL_SETACCOUNT_ERROR              | 413000024 | Failed to set the SIP account.                             |
| SDK_CALL_NOTIFY_SIP_ACCOUNT_ERROR      | 413000025 | Failed to report SIP account information.                  |
| SDK_CALL_SIP_SERVER_ERROR              | 413000026 | Incorrect server information.                              |
| SDK_CALL_SIP_ACCOUNT_INFO_ERROR        | 413000027 | Incorrect account information.                             |
| SDK_CALL_SIP_ERROR                     | 413000028 | SIPC execution error.                                      |
| SDK_CALL_UNREGISTER_ERROR              | 413000029 | Not registered.  |
| SDK_CALL_SUBSCRIPTION_FAILED_ERROR     | 413000030 | Failed to call the SIP API for subscription.               |
| SDK_CALL_UNSUBSCRIPTION_ERROR          | 413000031 | An error occurred in unsubscription.                       |
| SDK_CALL_SUBSCRIPTION_ERROR            | 413000032 | An error occurred in subscription.                         |
| SDK_CALL_LOCAL_MAX_CONFERENCE_ERROR    | 413000033 | Only one local meeting is allowed.                         |
| SDK_CALL_LOCAL_CONFERENCE_NOEXIT_ERROR | 413000034 | The local meeting is not created.                          |

| Variable                            | Value     | Description   |
|-------------------------------------|-----------|---|
| SDK_CALL_LOCAL_CONFER_NOMATCH_ERROR | 413000035 | The participant line and host account do not match. |
| SDK_CALL_CONF_STATE_ERROR           | 413000036 | The local meeting status is incorrect.              |
| SDK_CALL_JOINTSTATE_NOTIFY_ERROR    | 413000037 | The IP phone failed to report its linkage status.   |
| SDK_CALL_CONFID_NOTEXIST_ERROR      | 413000038 | The meeting ID does not exist.                      |
| SDK_CALL_CONF_VIDEO_HOLD_ERROR      | 413000039 | Failed to place the video on hold.                  |
| SDK_CALL_CONF_VIDEO_UNHOLD_ERROR    | 413000040 | Failed to resume the video.                         |
| SDK_CALL_MAX_SERVER_CONF_ERROR      | 413000041 | Too many server meetings.                           |
| SDK_CALL_AA_REQRANDOMNUM_ERROR      | 413000042 | Failed to obtain a random number from AA.           |
| SDK_CALL_AA_LOGIN_ERROR             | 413000043 | Failed to log in to AA.                             |
| SDK_CALL_CONF_VIDEO_TYPE_NO_MATCH   | 413000044 | The meeting type does not match.                    |
| SDK_CALL_CONF_VIDEO_START_ERROR     | 413000045 | Failed to start the video meeting.                  |
| SDK_CALL_AA_PRIMARY_SERVER_ERROR    | 413000046 | The AA primary server does not exist.               |
| SDK_CALL_AA_PASSWORD_ERROR          | 413000047 | Incorrect password.                                 |
| SDK_CALL_AA_USERNAME_ERROR          | 413000048 | Incorrect username.                                 |
| SDK_CALL_AA_USER_LOGGED_IN_ERROR    | 413000049 | The user has logged in.                             |
| SDK_CALL_AA_ACCOUNT_LOCKED_ERROR    | 413000050 | The account has been locked.                        |
| SDK_CALL_AA_TERMINAL_TYPE_ERROR     | 413000051 | The device type does not match.                     |
| SDK_CALL_AA_XML_PARSING_ERROR       | 413000052 | XML parsing error.                                  |

| Variable   | Value     | Description   |
|--|-----------|---|
| SDK_CALL_AA_CONNECT_ERROR                          | 413000053 | Server connection error.                              |
| SDK_CALL_MEDIA_CFG_ERROR                           | 413000054 | Failed to obtain the media configuration.             |
| SDK_CALL_AA_GETSRINFO_ERROR                        | 413000055 | Failed to obtain service permissions.                 |
| SDK_CALL_AA_LACKSR_ERROR                           | 413000056 | Insufficient service permissions.                     |
| SDK_CALL_NETWORKENV_ERROR                          | 413000057 | Network environment error.                            |
| SDK_CALL_SERVICE_CONFLICT_ERROR                    | 413000058 | Service conflict.                                     |
| SDK_CALL_AA_TIMEOUT_ERROR                          | 413000059 | Connection timed out.                                 |
| SDK_CALL_AA_UNKNOWN_ERROR                          | 413000060 | Unknown error.  |
| SDK_CALL_PICKUP_ADDTIP_ERROR                       | 413000061 | Failed to add ring tone information.                  |
| SDK_CALL_PICKUP_REMOVE_TIP_ERROR                   | 413000062 | Failed to delete ring tone information.               |
| SDK_CALL_PICKUP_CREATE_RINGINGNUM_ERROR            | 413000063 | Failed to create the ringing number.                  |
| SDK_CALL_VVM_PARAMETER_ERROR                       | 413000064 | VVM parameter error.                                  |
| SDK_CALL_GET_REGISTERED_SERVICES_ERROR             | 413000065 | An error occurred when obtaining registered services. |
| SDK_CALL_VVM_GET_VOICE_MAILBOX_ERROR               | 413000066 | An error occurred when obtaining the voice mailbox.   |
| SDK_CALL_ATTENDEE_ALREADY_EXISTS                   | 413000067 | The participant already exists.                       |
| SDK_CALL_ATTENDEE_NOT_EXISTS                       | 413000068 | The participant does not exist.                       |
| SDK_CALL_CREATE_SERVER_VIDEO_MEETING_WINDOW_ERROR  | 413000069 | Failed to create a server video meeting window.       |
| SDK_CALL_CREATE_SERVER_VIDEO_MEETING_WINDOW_EXISTS | 413000070 | The video window already exists.                      |

| Variable   | Value     | Description   |
|--|-----------|---|
| SDK_CALL_GET_CONF_LIST_INFO_ERROR                                    | 413000071 | Failed to obtain the meeting list.  |
| SDK_CALL_NEED_CHAIRMAN_TO_OPERATE                                    | 413000072 | Only the host can perform the operation.  |
| SDK_CALL_NO_VIDEO_DEVICE_TO_OPERATE                                  | 413000073 | No video device to operate.   |
| SDK_CALL_NOT_STOP_REFRESHREG   | 413000074 | Registration status refresh is not disabled.  |
| SDK_CALL_NOTIFY_ONLINE_STATE_ERROR                                   | 413000075 | Failed to report the online status.   |
| SDK_CALL_NOTIFY_NETWORK_ADDRESS_BOOK_SUBSCRIPTION_NOTIFICATION_ERROR | 413000076 | Failed to report the network address book subscription notification.                                |
| SDK_CALL_INFO_FORCE_UNREG_ERROR                                      | 413000077 | The telepresence account is kicked out. The information fails to be reported.                       |
| SDK_CALL_TLS_ROOT_CERTIFICATE_ERROR                                  | 413000078 | TLS root certificate error.   |
| SDK_CALL_AD_AUTH_FAILED  | 413000079 | AD authentication failed.   |
| SDK_CALL_GET_CONF_LIST_INFO_DOING                                    | 413000080 | The meeting list is being obtained.   |
| SDK_CALL_CALL_FORBIDDEN  | 413000081 | Calling is forbidden.   |
| SDK_CALL_CALL_NUMBER_UPPER_LIMIT                                     | 413000082 | The maximum number of calls has been reached.   |
| SDK_CALL_ENCRYPT_CALL_UPPER_LIMIT                                    | 413000083 | The maximum number of encrypted calls has been reached.   |
| SDK_CALL_SHOULD_DEGRADE_TO_AUDIO                                     | 413000084 | The maximum number of video calls has been reached. The call needs to be degraded to an audio call. |
| SDK_CALL_H323_ID_DOES_NOT_EXIST_ERROR                                | 413000085 | The H.323 account ID does not exist.  |
| SDK_CALL_H323_ACCOUNT_INFORMATION_ERROR                              | 413000086 | Incorrect H.323 account information.  |
| SDK_CALL_NOTIFY_H323_ACCOUNT_INFORMATION_ERROR                       | 413000087 | Failed to report H.323 account information.   |
| SDK_CALL_LOCAL_RESOURCES_NOT_ENOUGH                                  | 413000088 | Local resources are insufficient.   |



| Variable                                    | Value     | Description  |
|---|-----------|--|
| SDK_CALL_CALL_PROT<br>OCOL_NOT_SUPPORT      | 413000089 | The call protocol is not supported.  |
| SDK_CALL_SET_H323_I<br>NFO_ERROR            | 413000090 | An error occurred when setting the H.323 account information.  |
| SDK_CALL_NOTIFY_AC<br>CESSNUM_ERROR         | 413000091 | An error occurred when reporting the MediaX meeting access number to the GUI.  |
| SDK_CALL_NOTIFY_VM<br>RINFO_ERROR           | 413000092 | Failed to report the cloud meeting room information of MediaX to the GUI.  |
| SDK_CALL_NOTIFY_CO<br>NFLIST_INFO_ERROR     | 413000093 | Failed to report the IMS meeting list information to the GUI.  |
| SDK_CALL_TUP_INIT_B<br>LOCK                 | 413000094 | TUP initialization is not complete.  |
| SDK_CALL_MSG_RETU<br>RN_VALUE_ERROR         | 413000095 | The message return value is incorrect.   |
| SDK_CALL_MSG_TOO<br>LARGE_ERROR             | 413000096 | The message content is too large.  |
| SDK_CALL_SECURE_FU<br>NC_RETURN_ERROR       | 413000097 | The security function returns an error.  |
| SDK_CALL_MSG_RESP_<br>NULL_ERROR            | 413000098 | The message response is empty.   |
| SDK_CALL_ACCOUNTI<br>D_NOT_ENABLE_ERRO<br>R | 413000099 | The account is not enabled.  |
| SDK_CALL_CREAT_CAL<br>L_IMPL_ERROR          | 413000100 | An error occurred when creating a call control class.  |
| SDK_CALL_ALREADY_I<br>N_CALL_ERROR          | 413000101 | The user is already in a call.   |
| SDK_CALL_NO_CALL_E<br>XIST_ERROR            | 413000102 | The call does not exist.   |
| SDK_CALL_GET_MEDIA<br>_CONFIG_FAILED        | 413000103 | Failed to obtain the media configuration information.  |
| SDK_CALL_CAPTURE_I<br>NPUTDATA_FAILED       | 413000104 | Failed to configure third-party collection. A failure message is returned after HME_V_Capture_InputData_MCU is called. |

| Variable  | Value     | Description  |
|---|-----------|--|
| SDK_CALL_NOT_CONFIG_BASIC_CALL_ABILITY              | 413000105 | The P2P capability is not configured for your enterprise.  |
| SDK_CALL_NOT_SUPPORT_MCU_CALL_AND_CONF              | 413000106 | The MCU call and meeting capabilities are not supported.   |
| SDK_CONFCTRL_GENERAL                                | 414100001 | Common error.  |
| SDK_CONFCTRL_PARAMETER_ERROR                        | 414100002 | Parameter error.   |
| SDK_CONFCTRL_TIMEOUT                                | 414100003 | Timeout.   |
| SDK_CONFCTRL_MEMORY_ERROR                           | 414100004 | Memory allocation error.   |
| SDK_CONFCTRL_DNS_ERROR                              | 414100005 | DNS resolution exception.  |
| SDK_CONFCTRL_REQUEST_FAILED                         | 414100006 | The request message is abnormal.   |
| SDK_CONFCTRL_AUTH_FAILED                            | 414100007 | Authorization failed.  |
| SDK_CONFCTRL_SERVICE_ERROR                          | 414100008 | Server exception.  |
| SDK_CONFCTRL_TIMER_ERROR                            | 414100009 | An error occurred during timer creation.   |
| SDK_CONFCTRL_START_TIMER_ERROR                      | 414100010 | An error occurred during timer startup.  |
| SDK_CONFCTRL_CONF_BLOCK_FULL                        | 414100011 | Meeting control blocks are full. Release unused control blocks.  |
| SDK_CONFCTRL_CURL_E_EXTERN_CONNECT_TIMEOUT          | 414100012 | The proxy communication times out and the TCP connection fails to be set up. Proxy configuration may be incorrect. |
| SDK_CONFCTRL_CURL_E_EXTERN_CLOSED_BY_PROXY          | 414100013 | The connection is disconnected by the proxy. Server address may be incorrect.                                      |
| SDK_CONFCTRL_CURL_E_EXTERN_PROXY_ADDR_OR_PORT_ERROR | 414100014 | TCP connection setup times out. Proxy domain name or port number may be incorrect.                                 |

| Variable  | Value     | Description   |
|---|-----------|---|
| SDK_CONFCTRL_CURL<br>E_EXTERN_PROXY_PER<br>MISSION_DENIED | 414100015 | Authentication failed. The user does not have the proxy permission and needs to request the proxy permission.   |
| SDK_CONFCTRL_CURL<br>E_EXTERN_USER_OR_P<br>WD_ERROR       | 414100016 | Authentication failed. The proxy username or password is incorrect.   |
| SDK_CONFCTRL_CURL<br>E_EXTERN_AUTH_TYPE<br>_ERROR         | 414100017 | Authentication failed. The authentication type is incorrect. The username and password are required.  |
| SDK_CONFCTRL_CURL<br>E_EXTERN_AUTH_ERR<br>OR              | 414100018 | Authentication failed due to other unknown errors. The possible cause is that the authentication mode is not supported. It is recommended that a dialog box be displayed to prompt the user to initiate the authentication again. |
| SDK_CONFCTRL_CURL<br>E_COULDNT_RESOLVE<br>_PROXY          | 414100019 | cURL proxy exception.   |
| SDK_CONFCTRL_CURL<br>E_COULDNT_RESOLVE<br>_HOST           | 414100020 | cURL host exception.  |
| SDK_CONFCTRL_CURL<br>E_COULDNT_CONNEC<br>T                | 414100021 | cURL connection error.  |
| SDK_CONFCTRL_CURL<br>E_OPERATION_TIMED<br>OUT             | 414100022 | cURL operation timed out.   |
| SDK_CONFCTRL_MSG_<br>TOO_LARGE                            | 414100023 | The meeting control message is too large.   |
| SDK_CONFCTRL_PTHR<br>EAD_CREAT_ERROR                      | 414100024 | Failed to create the thread.  |
| SDK_CONFCTRL_SEC_F<br>UNC_RETURN_ERROR                    | 414100025 | The security function returns an error.   |
| SDK_CONFCTRL_JSON_<br>PARSE_FAILED                        | 414100026 | Failed to parse the JSON body.  |
| SDK_CONFCTRL_TOKE<br>N_IS_NULL_ERROR                      | 414100027 | The WebSocket token value is empty.   |
| SDK_CONFCTRL_RETU<br>RN_JSON_ERROR                        | 414100028 | The returned JSON data is abnormal.   |

| Variable                                     | Value     | Description  |
|--|-----------|--|
| SDK_CONFCTRL_CREAT_CONF_BASIC_ERROR          | 414100029 | Failed to create the meeting control block.                        |
| SDK_CONFCTRL_GET_CONF_BASIC_BY_HANDLE_ERROR  | 414100030 | Failed to obtain the meeting control block.                        |
| SDK_CONFCTRL_GET_CONF_BASIC_BY_CALLID_ERROR  | 414100031 | Failed to obtain the meeting control block based on the call ID.   |
| SDK_CONFCTRL_DESTROY_CONF_BASIC_ERROR        | 414100032 | Failed to destroy the meeting control block.                       |
| SDK_CONFCTRL_CREAT_CONF_TMP_INFO_NOT_FOUND   | 414100033 | Failed to find the temporary information for creating the meeting. |
| SDK_CONFCTRL_GET_PARTICIPANT_ID_FAILED       | 414100034 | Failed to obtain the participant ID.                               |
| SDK_CONFCTRL_GET_MT_BY_PARTICIPANT_ID_FAILED | 414100035 | Failed to obtain the MT using the participant ID.                  |
| SDK_CONFCTRL_GET_SELFINFO_ERROR              | 414100036 | Failed to obtain <b>selfinfo</b> using participant ID.             |
| SDK_CONFCTRL_GET_PARTICIPANT_BY_MT_FAILED    | 414100037 | Failed to obtain meeting member information through the MT.        |
| SDK_CONFCTRL_NEED_MANUAL_INVITE_ERROR        | 414100038 | Manual invitation is required.                                     |
| SDK_CONFCTRL_HAD_NOTIFY_CONFINFO_BEFORE      | 414100039 | The major parameters of the meeting have been reported.            |
| SDK_CONFCTRL_NOT_SUPPORT_SUBTITLE            | 414100040 | Captions are not supported.  |
| SDK_CONFCTRL_CONF_END_TIMEOUT                | 414100041 | The meeting ends because connection times out.                     |
| SDK_CONFCTRL_CONF_END_NOSTREAM               | 414100042 | The meeting ends because no stream received.                       |
| SDK_CONFCTRL_CONF_END_CHAIR_HANGUP           | 414100043 | The meeting ends by the host.                                      |
| SDK_CONFCTRL_CONF_END_STOP_CONF              | 414100044 | The meeting has ended.   |

| Variable  | Value     | Description   |
|---|-----------|---|
| SDK_CONFCTRL_CONF_END_LEAVE_CONF                | 414100045 | The user leaves the meeting. The meeting ends.  |
| SDK_CONFCTRL_MSG_PROC_FUN_REG_FAIL              | 414100046 | Failed to register the message queue processing function.   |
| SDK_CONFCTRL_MSG_PROC_FUN_UNREG_FAIL            | 414100047 | Failed to deregister the message queue processing function.   |
| SDK_CONFCTRL_CONF_END_REJECT_CONF               | 414100048 | The meeting ends because the meeting is rejected.   |
| SDK_CONFCTRL_CONF_END_SELF_END                  | 414100049 | The meeting is ended by the user.   |
| SDK_CONFCTRL_VIEWER_EXCEEDS_LIMIT               | 414100050 | The meeting control module is not initialized.  |
| SDK_CONFCTRL_SPECIAL_WATCH_EXCEEDS_LIMIT        | 414100051 | Too many special sites allowed to focus on.   |
| SDK_CONFCTRL_WATCH_HD_EXCEEDS_LIMIT             | 414100052 | Too many HD sites allowed to focus on.  |
| SDK_CONFCTRL_WATCH_SD_EXCEEDS_LIMIT             | 414100053 | Too many SD sites allowed to focus on.  |
| SDK_CONFCTRL_WATCH_SPECIFICATIONS_EXCEEDS_LIMIT | 414100054 | The number or resolution of videos to focus on exceeds the limit.   |
| SDK_CONFCTRL_WATCH_INNER_ERROR                  | 414100055 | An internal error of video focus occurred.  |
| SDK_CONFCTRL_WATCH_RENDER_REPEATS               | 414100056 | Duplicate handles to focus on.  |
| SDK_CONFCTRL_HTTP_RECV_FAILED                   | 414100057 | HTTP request error.   |
| SDK_CONFCTRL_TRACK_REQUEST_TIMEOUT              | 414100058 | WebSocket request timed out.  |
| SDK_CONFCTRL_TRACK_LOAD_FAILED                  | 414100059 | Loading error.  |
| SDK_CONFCTRL_CONF_END_TIMEOUT_HANGUP            | 414100061 | The meeting ends because waiting before the meeting times out or the meeting control heartbeat times out. |
| SDK_CONFCTRL_CONF_END_CONCLUDE                  | 414100062 | The meeting ends because the meeting is canceled.   |

| Variable  | Value     | Description  |
|---|-----------|--|
| SDK_CONFCTRL_CONF_END_NETWORK_FAILED                    | 414100063 | The meeting ends due to network exceptions on the waiting page before the meeting. |
| SDK_CONFCTRL_E_ERR_HTTP_BUSY                            | 414100064 | An HTTP error 429 is returned.   |
| SDK_CONFCTRL_E_ERR_SELF_IS_CHAIRMAN                     | 414100065 | The user is already the host.  |
| SDK_CONFCTRL_E_ERR_SELF_IS_COHOST                       | 414100066 | The user is already the co-host.   |
| SDK_CONFCTRL_E_ERR_NO_COHOST_AND_CHAIRMAN               | 414100067 | No host or co-host exists.   |
| SDK_CONFCTRL_E_ERR_UNUPPORT_COHOST_AND_CHAIRMAN         | 414100068 | No host or co-host available.  |
| SDK_CONFCTRL_E_ERR_END_EXPIRATION                       | 414100069 | Invalid user, enterprise, or SP.   |
| SDK_CONFCTRL_E_ERR_NOT_SUPPORT_OFFLINE_JOIN             | 414100070 | Cannot join a meeting offline.   |
| SDK_CONFCTRL_E_ERR_START_CONFCTRL_WSS_FAILED            | 414100071 | Failed to connect the meeting control WebSocket.                                   |
| SDK_CONFCTRL_E_ERR_OFFLINE_JOIN_QUERY_USER_TOKEN_FAILED | 414100072 | Failed to obtain the user token when joining a meeting offline.                    |
| SDK_CONFCTRL_E_ERR_OFFLINE_JOIN_QUERY_CONF_INFO_FAILED  | 414100073 | Failed to obtain meeting details when joining a meeting offline.                   |
| SDK_CONFCTRL_E_ERR_CHAIR_END_CONF                       | 414100074 | The host ended the meeting.  |
| SDK_CONFCTRL_E_ERR_TIMEOVER_END_CONF                    | 414100075 | The scheduled end time arrived.  |
| SDK_CONFCTRL_E_ERR_CALLEE_REFUSED_END_CONF              | 414100076 | The called participant rejects the call.   |
| SDK_CONFCTRL_E_ERR_CALLEE_TIMEOUT_END_CONF              | 414100077 | The call times out.  |

| Variable   | Value     | Description  |
|--|-----------|--|
| SDK_CONFCTRL_E_ERR_END_FORCE_OPEN_CAMERA_HANGUP                | 414100078 | The video meeting was forcibly ended.  |
| SDK_CONFCTRL_E_ERR_NO_MATCHED_SIGNAL_PROXY_WITH_SITE_URL       | 414100079 | The signaling proxy does not match the site address.                             |
| SDK_CONFCTRL_E_ERR_END_PROJECTION_FAILED                       | 414100080 | Projection failed.   |
| SDK_CONFCTRL_E_ERR_END_PROJECTION_ENDED                        | 414100081 | Projection ended.  |
| SDK_CONFCTRL_E_ERR_END_PROJECTION_CANCEL                       | 414100082 | The large screen canceled the projection during negotiation.                     |
| SDK_CONFCTRL_E_ERR_END_PROJECTION_BY_SENDER_WITH_TWO_MEMBERS   | 414100083 | The projection initiator in this two-participant meeting ended the projection.   |
| SDK_CONFCTRL_E_ERR_END_PROJECTION_BY_RECEIVER                  | 414100084 | The large screen ended the projection.   |
| SDK_CONFCTRL_E_ERR_END_PROJECTION_BY_SENDER_WITH_MULTI_MEMBERS | 414100085 | The projection initiator in this multi-participant meeting ended the projection. |
| SDK_CONFCTRL_E_ERR_CONF_END_PEER_HANGS_UP                      | 414100086 | The peer participant has ended the call.   |
| SDK_COMMON_SQLITE_E_NOT_INITED                                 | 415000001 | The database is not initialized.   |
| SDK_COMMON_E_FAIL  | 415000002 | Failed.  |
| SDK_COMMON_E_ERR_PROXY_UNFINISH                                | 415000003 | The proxy detection is not complete.   |
| SDK_TRACK_E_INVALID_PARAMETER                                  | 416000001 | Parameter error.   |
| SDK_TRACK_E_NOT_INITED   | 416000002 | The track module is not initialized.   |
| SDK_TRACK_E_EVENT_NOT_EXIST                                    | 416000003 | The track event does not exist.  |

| Variable                     | Value     | Description                             |
|------------------------------|-----------|---|
| SDK_TRACK_E_NOT_LOGINED      | 416000004 | The user has not logged in yet.         |
| SDK_TRACK_E_NO_UPLOAD        | 416000005 | Upload is not enabled.                  |
| SDK_SIP_INVALIDPARAM         | 419100001 | Incorrect parameter.                    |
| SDK_SIP_WRONGURI             | 419100002 | Incorrect number.                       |
| SDK_SIP_MEMALLOCATIONFAILURE | 419100003 | Memory allocation fails.                |
| SDK_SIP_SDPFAILURE           | 419100004 | SDP error.                              |
| SDK_SIP_NOCONNECTION         | 419100005 | The connection does not exist.          |
| SDK_SIP_CONNECTION_EXPIRED   | 419100006 | Connection failed.                      |
| SDK_SIP_FORBIDDEN            | 419100007 | Forbidden operation.                    |
| SDK_SIP_WRONGSTATE           | 419100008 | Incorrect status.                       |
| SDK_SIP_NOLINE_DATA          | 419100009 | No corresponding line data.             |
| SDK_SIP_NOREGISTER           | 419100010 | No corresponding registered instance.   |
| SDK_SIP_NODIALOG             | 419100011 | No corresponding call instance.         |
| SDK_SIP_NOSUBSCRIPTION       | 419100012 | No corresponding subscription instance. |
| SDK_SIP_NOREFER              | 419100013 | No corresponding Refer instance.        |
| SDK_SIP_NODIM                | 419100014 | No corresponding DIM instance.          |
| SDK_SIP_CREATEHEADER         | 419100015 | Failed to create the header.            |
| SDK_SIP_PARSEHEADER          | 419100016 | Failed to parse the header.             |
| SDK_SIP_FIELD_EXISTS         | 419100017 | No header is found.                     |
| SDK_SIP_NOSDPBODY            | 419100018 | No SDP message body.                    |
| SDK_SIP_GETCAP               | 419100019 | Failed to obtain the capability.        |
| SDK_SIP_COMPARECAP           | 419100020 | Failed to compare capabilities.         |
| SDK_SIP_OPENLCFAILED         | 419100021 | Failed to open the logical stream.      |



| Variable                      | Value     | Description                                   |
|-------------------------------|-----------|---|
| SDK_SIP_ENCODESDP             | 419100022 | Failed to encode SDP.                         |
| SDK_SIP_DECODESDP             | 419100023 | Failed to decode SDP.                         |
| SDK_SIP_UNSUPPORTS<br>DP      | 419100024 | The negotiated SDP is not supported.          |
| SDK_SIP_TPTDINIT              | 419100025 | TPTD initialization failed.                   |
| SDK_SIP_TPTINIT               | 419100026 | TPT initialization failed.                    |
| SDK_SIP_TXNINIT               | 419100027 | TXN initialization failed.                    |
| SDK_SIP_UAINIT                | 419100028 | UA initialization failed.                     |
| SDK_SIP_GLUEINIT              | 419100029 | GLUE initialization fails.                    |
| SDK_SIP_HLLMINIT              | 419100030 | HLLM initialization failed.                   |
| SDK_SIP_VCOMINIT              | 419100031 | VCOM initialization failed.                   |
| SDK_SIP_SDPINIT               | 419100032 | SDP initialization failed.                    |
| SDK_SIP_MULTIINS              | 419100033 | Multi-instance error.                         |
| SDK_SIP_NOREGCB               | 419100034 | Registration control blocks are insufficient. |
| SDK_SIP_NOSUBCB               | 419100035 | Subscription control blocks are insufficient. |
| SDK_SIP_NODIACB               | 419100036 | Call control blocks are insufficient.         |
| SDK_SIP_NODIMCB               | 419100037 | IM control blocks are insufficient.           |
| SDK_SIP_PARSEURITOS<br>TR     | 419100038 | Failed to parse the URI in the XML file.      |
| SDK_SIP_ENCRYPTNEG<br>OERR    | 419100039 | Encryption negotiation failed.                |
| SDK_SIP_NOLOCALCAP            | 419100040 | Local capabilities are not configured.        |
| SDK_SIP_BFCPTOKENE<br>RR      | 419100041 | BFCP token error.                             |
| SDK_SIP_DNSERR                | 419100042 | DNS resolution error.                         |
| SDK_SIP_GET_SUB_STA<br>TE_ERR | 419100043 | Failed to obtain the subscription status.     |
| SDK_SIP_NOT_SUPPOR<br>T_IPV4  | 419100044 | IPv4 is not supported.                        |
| SDK_SIP_NOT_SUPPOR<br>T_IPV6  | 419100045 | IPv6 is not supported.                        |

| Variable                       | Value     | Description                           |
|--------------------------------|-----------|---------------------------------------|
| SDK_SIP_NOT_SUPPORT_HOST_TYPE  | 419100046 | The host type is not supported.       |
| SDK_SIP_GET_TIMER_ERROR        | 419100047 | Failed to obtain the timer.           |
| SDK_VTOP_ERR_MSG_NOMEM         | 419200001 | The memory is insufficient.           |
| SDK_VTOP_ERR_MSG_NULLPTR       | 419200002 | The message pointer is null.          |
| SDK_VTOP_ERR_MSG_INVALID       | 419200003 | Invalid message.                      |
| SDK_VTOP_ERR_MSG_BADRECV       | 419200004 | Receive message failed.               |
| SDK_VTOP_ERR_MSG_TIMEOUT       | 419200005 | Message processing timed out.         |
| SDK_VTOP_ERR_MSG_NOINIT        | 419200006 | The message is not initialized.       |
| SDK_VTOP_ERR_MSG_NODESTR       | 419200007 | There is no receiving end.            |
| SDK_VTOP_ERR_MSG_NOAPPNAME     | 419200008 | There is no application name.         |
| SDK_VTOP_ERR_MSG_REHANDLE      | 419200009 | The message has already been handled. |
| SDK_VTOP_ERR_MSG_TRACE         | 419200010 | Trace message failed.                 |
| SDK_VTOP_ERR_MSG_SENDEERR      | 419200011 | Send message failed.                  |
| SDK_VTOP_ERR_MSG_BADFUNC       | 419200012 | Abnormal function.                    |
| SDK_VTOP_ERR_MSG_NOTIFY        | 419200013 | Message notification failed.          |
| SDK_VTOP_ERR_MSG_NOTFIND       | 419200014 | Message not found.                    |
| SDK_VTOP_ERR_MSG_NOMSG         | 419200015 | There is no message.                  |
| SDK_VTOP_ERR_MSG_NOTFINDMID    | 419200016 | The module ID cannot be found.        |
| SDK_VTOP_ERR_MSG_TAG_NOT_EXIST | 419200017 | The tag does not exist.               |

| Variable                           | Value     | Description  |
|------------------------------------|-----------|--|
| SDK_VTOP_ERR_MSG_QUEUE_FULL        | 419200018 | Queue overflow.  |
| SDK_VTOP_ERR_MSG_TAG_ALREADY_EXIST | 419200019 | The tag already exists.                                      |
| SDK_VTOP_ERR_MSG_UNKOWN            | 419200020 | Unknown error.   |
| APP_CANNOT_ACCEPT_INVITE_SHARE     | 420000001 | Failed to receive the sharing invitation.                    |
| APP_REPORT_CHECK_PARAMETERS_FAILED | 420000002 | ReportDTO parameter verification failed.                     |
| APP_REPORT_FOLDER_CREATE_FAILED    | 420000003 | Failed to create the report folder.                          |
| APP_REPORT_COMPRESS_FAILED         | 420000004 | Failed to compress the report folder.                        |
| APP_REPORT_ZIP_PATH_EMPTY          | 420000005 | The path of the ZIP file to be uploaded is empty.            |
| APP_REPORT_ZIP_SIZE_EXCEED_LIMIT   | 420000006 | The ZIP file to be uploaded is too large.                    |
| APP_REPORT_EXCEED_LIMIT_DAILY      | 420000007 | The same person reports more than 100 times within 24 hours. |
| APP_DIGITAL_HUMAN_ERROR            | 420000008 | Virtual human service error.                                 |
| APP_SCREEN_LOCK                    | 420000009 | Screen has been locked.                                      |
| UISDK_COMMON_ERROR                 | 430100001 | Common error.  |
| UISDK_API_INVALID_PARAMETERS       | 430100002 | Parameter error.   |
| UISDK_SIP_CHECK_TIMEOUT            | 430100003 | SIP connection check failed.                                 |
| UISDK_TIMEOUT                      | 430100004 | Timeout.   |
| UISDK_IN_PROCESS                   | 430100005 | The API is being processed.                                  |
| UISDK_NOT_INITIATED_END            | 430100006 | The initialization is not started or not completed.          |
| UISDK_NOT_SUPPORTED_END            | 430100007 | Not supported in this version.                               |
| UISDK_OPERATION_INTERRUPT          | 430100008 | The operation is interrupted.                                |

| Variable                               | Value     | Description  |
|--|-----------|--|
| UISDK_CONTACT_NOT_FOUND                | 430100009 | The contact does not exist.  |
| UISDK_ARGS_LENGTH_OVERRUN              | 430100010 | The parameter value is too long.                                     |
| UISDK_APPID_INFO_ILLEGAL               | 430100011 | Invalid app ID.  |
| UISDK_E2EENCRYPT_ALGORITHM_ERROR       | 430100012 | The end-to-end encryption algorithm is asymmetric.                   |
| UISDK_UNLOGIN_ERROR                    | 430200001 | The user has not logged in yet.                                      |
| UISDK_REPEATED_LOGIN_ERROR             | 430200002 | Repeated login.  |
| UISDK_SIP_CONNECTION_TIMEOUT           | 430200003 | SIP connection timed out.  |
| UISDK_LOGIN_INVALID_PASSWORD_PARAMETER | 430200004 | The login password is invalid.                                       |
| UISDK_PASSWORD_OR_ACCOUNT_EMPTY        | 430200005 | The account and password cannot be both empty.                       |
| UISDK_CALL_INVALID_ACCOUNT_PARAMETER   | 430300001 | The calling number, account, or third-party account cannot be empty. |
| UISDK_CALL_ACCOUNT_EMPTY               | 430300002 | The point-to-point call account is empty.                            |
| UISDK_CALL_NICKNAME_EMPTY              | 430300003 | The point-to-point call name is empty.                               |
| UISDK_JOINCONF_NEED_PASSWORD           | 430400001 | A password is required for joining the meeting.                      |
| UISDK_INVALID_TIMEZONE_PARAMETER       | 430400002 | Incorrect time zone.   |
| UISDK_INVALID_CONF_DURATION_PARAMETER  | 430400003 | The meeting duration is less than 1.                                 |
| UISDK_CONF_INTERRUPTED                 | 430400004 | Meeting joining is interrupted.                                      |
| UISDK_JOINCONF_INPUT_INVALID_PASSWORD  | 430400005 | The password must contain at least four characters.                  |

| Variable  | Value     | Description   |
|---|-----------|---|
| UISDK_JOINCONF_USE<br>R_CANCEL                  | 430400006 | The user cancels meeting joining.                             |
| UISDK_INVALID_GUES<br>T_PASSWORD_PARAM<br>ETER  | 430400007 | Invalid guest password.                                       |
| UISDK_NOT_IN_CONF_<br>OR_CALL                   | 430400008 | The user is not in a meeting or call.                         |
| UISDK_ALREADY_EXIST<br>_CONF_OR_CALL            | 430400009 | A meeting or call already exists.                             |
| UISDK_CONFID_EMPT<br>Y                          | 430400010 | The meeting ID cannot be empty.                               |
| UISDK_SUBJECT_TOO_<br>LONG                      | 430400011 | The meeting topic can contain up to 50 characters.            |
| UISDK_VMR_HOST_PA<br>SSWORD_LENGTH_LEG<br>AL    | 430400012 | The length of the host password is invalid.                   |
| UISDK_VMR_NAME_E<br>MPTY                        | 430400013 | The cloud meeting room name is empty.                         |
| UISDK_CONF_STARTTI<br>ME_EARLY                  | 430400014 | The start time of a meeting is earlier than the current time. |
| UISDK_SHARE_LOCKED                              | 430400015 | The sharing is locked.  |
| UISDK_NOT_IN_DATA<br>CONF                       | 430400016 | The user is not in the data meeting.                          |
| UISDK_ROLE_NOT_SUP<br>PORT_OPERATION            | 430400017 | The role does not support this operation.                     |
| UISDK_SCAN_CODE_EX<br>PIRED                     | 430400018 | The QR code expired.  |
| UISDK_SCAN_CODE_N<br>OT_SUPPORT                 | 430400019 | The QR code not supported.                                    |
| UISDK_SCAN_CODE_O<br>UTDATED_VERSION            | 430400020 | The large screen version is too early.                        |
| UISDK_HTTP_SERVER_<br>ERROR                     | 430500001 | Server exception for the HTTP request.                        |
| UISDK_HTTP_CONNEC<br>T_SERVER_TIMEOUT_E<br>RROR | 430500002 | Connecting to the server timed out for the HTTP request.      |
| UISDK_NO_NETWORK_<br>_ERROR                     | 430500003 | The network is unavailable.                                   |

| Variable                                | Value     | Description   |
|---|-----------|---|
| UISDK_FILE_TYPE_ILLEGAL                 | 430500004 | Invalid file type.  |
| UISDK_COPY_FILE_ERROR                   | 430500005 | Copy file failed.   |
| UISDK_FROZEN_LEAVE_CONF                 | 430600001 | You left the meeting because the app was frozen in the backend. |
| SDK_DATACONF_NO_MEMORY                  | 440001401 | The memory is insufficient.                                     |
| SDK_DATACONF_OPERATE_NOT_PERMIT         | 440001402 | Insufficient permissions.                                       |
| SDK_DATACONF_INVALID_VAL                | 440001403 | Invalid parameter.  |
| SDK_DATACONF_ERROR                      | 440001404 | I/O error.  |
| SDK_DATACONF_TIMEOUT                    | 440001405 | Timeout.  |
| SDK_DATACONF_UNKNOWN                    | 440001406 | Unknown error.  |
| SDK_DATACONF_SERVICE_DIED               | 440001407 | The media service is unavailable.                               |
| SDK_DATACONF_INVALID_STATE              | 440001408 | Invalid state.  |
| SDK_DATACONF_UNSUPPORTED                | 440001409 | The API is not supported.                                       |
| UISDK_VIDEO_LAYOUT_MODE_NOT_SUPPORTED   | 600000001 | The video layout mode is not supported.                         |
| UISDK_CONTROLLER_PAIR_ERROR             | 600000002 | Pairing error.  |
| UISDK_CONTROLLER_PAIR_LINK_IS_NOT_EXIST | 600000003 | The paired link does not exist.                                 |
| UISDK_CONTROLLER_CMD_IS_NOT_SUPPORTED   | 600000004 | The command is not supported.                                   |
| UISDK_ACTION_IS_RUNNING                 | 600000005 | Executing...  |
| UISDK_MCU_IS_NOT_SUPPORTED              | 600000006 | MCU is not supported.   |

| Variable  | Value     | Description   |
|---|-----------|---|
| UISDK_OPERATE_NOT_IN_CONF                                       | 600000007 | The user is not in the meeting.   |
| UISDK_OPERATE_MIC_ERROR_NO_PERMISSION                           | 600000008 | No permission to operate the microphone.  |
| UISDK_OPERATE_MIC_ERROR_NOT_ALLOWED_UNMUTE                      | 600000009 | Unmuting is not allowed.  |
| UISDK_OPERATE_MIC_ERROR_AUDIENCE_NOT_ALLOWED_SPEAK              | 600000010 | Muting is not allowed.  |
| UISDK_OPERATE_CAMERA_ERROR_NO_PERMISSION                        | 600000011 | Attendees do not have the permission to enable the camera.                                  |
| UISDK_OPERATE_CAMERA_ERROR_NOT_ALLOWED_OPEN                     | 600000012 | The camera cannot be enabled.   |
| UISDK_OPERATE_CAMERA_ERROR_NOT_ALLOWED_OPEN_LOW_VIDEO_BW        | 600000013 | The camera cannot be enabled when the bandwidth is low.                                     |
| UISDK_PARAM_IS_INCORRECT  | 600000014 | The volume parameter is incorrect.  |
| UISDK_OPERATE_CAMERA_ERROR_REQUIRE_ALL_ATTENDEES_TO_OPEN_CAMERA | 600000015 | Disable camera failed. The camera is forcibly enabled in this meeting.                      |
| UISDK_OPERATE_MIC_ERROR_LOW_PERFORMANCE_CLOUD_DESKTOP           | 600000016 | The camera cannot be enabled when you join a meeting using a low-performance cloud desktop. |
| UISDK_OPERATE_SPK_ERROR_SYSTEM_API                              | 600000017 | An error occurred when calling the speaker system API.                                      |
| SDK_CALL_REASON_CODE_403_FORBIDDEN                              | 510000403 | Forbidden.  |
| SDK_CALL_REASON_CODE_404_NOT_FOUND                              | 510000404 | Not found.  |
| SDK_CALL_REASON_CODE_480_TEMP_UNAVAILABLE                       | 510000480 | Temporarily unavailable.  |

| Variable                                      | Value     | Description  |
|---|-----------|--|
| SDK_CALL_REASON_CODE_486_BUSYHERE             | 510000486 | Busy here.   |
| SDK_CALL_REASON_CODE_487_REQ_TERMINATED       | 510000487 | Request terminated.                                      |
| SDK_CALL_REASON_CODE_488_NOT_ACCEPTABLE_HERE  | 510000488 | The request is unacceptable.                             |
| SDK_CALL_REASON_CODE_603_DECLINE              | 510000603 | Declined.  |
| SDK_CALL_REASON_CODE_841_HANGUP_WITHOUT_TOAST | 510000841 | Hang-up without toast.                                   |
| SDK_CALL_REASON_CODE_842_CONFERENCE_IS_LOCKED | 510000842 | The meeting is locked.                                   |
| SDK_HTTP_ERROR_START                          | 710000000 | This is the first HTTP error code.                       |
| SDK_HTTP_INIT_FAIL                            | 710000001 | Initialization failed.                                   |
| SDK_HTTP_UNINIT                               | 710000002 | Initialization is not performed.                         |
| SDK_HTTP_INVALID_PARAMETER                    | 710000003 | Invalid parameter.                                       |
| SDK_HTTP_INVALID_HANDLE                       | 710000004 | Invalid handle.  |
| SDK_HTTP_HANDLE_INUSE                         | 710000005 | The handle is in use.                                    |
| SDK_HTTP_HANDLE_STATE_ERROR                   | 710000006 | This operation is not allowed for handles in this state. |
| SDK_HTTP_ALLOC_MEMORY_FAIL                    | 710000007 | Apply for memory failed.                                 |
| SDK_HTTP_CREATE_HANDLE_FAIL                   | 710000008 | Apply for handle failed.                                 |
| SDK_HTTP_INVALID_TLS_MODE                     | 710000009 | TSL mode error.  |
| SDK_HTTP_INVALID_URL                          | 710000010 | Invalid URL.   |
| SDK_HTTP_INVALID_HEADER_TYPE                  | 710000011 | Invalid header type.                                     |



| Variable                         | Value     | Description                                  |
|----------------------------------|-----------|--|
| SDK_HTTP_OPEN_LOG_FAIL           | 710000012 | An error occurred when opening the log file. |
| SDK_HTTP_WRITE_LOG_FAIL          | 710000013 | An error occurred when writing the log file. |
| SDK_HTTP_INVALID_FILEPATH        | 710000014 | Invalid file path.                           |
| SDK_HTTP_HANDLE_RELEASED         | 710000015 | The handle has already been released.        |
| SDK_HTTP_CREATE_MUTEX_FAIL       | 710000016 | Create mutex failed.                         |
| SDK_HTTP_LOCK_MUTEX_FAIL         | 710000017 | Lock failed.                                 |
| SDK_HTTP_UNLOCK_MUTEX_FAIL       | 710000018 | Unlock failed.                               |
| SDK_HTTP_CREATE_THREAD_FAIL      | 710000019 | Create thread failed.                        |
| SDK_HTTP_NOT_SUPPORTED           | 710000020 | This function is not supported.              |
| SDK_HTTP_SVN_SOCKET_CREATE_FAIL  | 710000021 | Create SVN socket failed.                    |
| SDK_HTTP_SVN_SOCKET_CONNECT_FAIL | 710000022 | SVN socket connection failed.                |
| SDK_HTTP_SVN_SOCKET_SELECT_FAIL  | 710000023 | Select SVN socket failed.                    |
| SDK_HTTP_SVN_SOCKET_SEND_FAIL    | 710000024 | Send SVN socket failed.                      |
| SDK_HTTP_SVN_SOCKET_RECV_FAIL    | 710000025 | Receive SVN socket failed.                   |
| SDK_HTTP_GETHOSTNAME_FAIL        | 710000026 | Obtain host name failed.                     |
| SDK_HTTP_NET_NTOA_FAIL           | 710000027 | IP network transmission failed.              |
| SDK_HTTP_RESPONSE_PARSE_ERR      | 710000028 | Parse response failed.                       |
| SDK_HTTP_INVALID_AUTH_MODE       | 710000029 | Invalid authentication mode.                 |
| SDK_HTTP_NOT_LOGGED_IN           | 710000030 | You have not logged in yet.                  |

| Variable                              | Value     | Description   |
|---------------------------------------|-----------|---|
| SDK_HTTP_LOGINING                     | 710000031 | Logging in...   |
| SDK_HTTP_UPLOAD_DOWNLOAD_TIMEOUT      | 710000032 | Timeout.  |
| SDK_HTTP_LOGINED                      | 710000033 | You have already logged in.   |
| SDK_HTTP_INITED                       | 710000034 | Initialization has already been performed.  |
| SDK_HTTP_LOGPATH_TOOLONG              | 710000035 | The log path is too long.   |
| SDK_HTTP_LOGPATH_EMPTY                | 710000036 | The log path is empty.  |
| SDK_HTTP_CURLE_UNSUPPORTED_PROTOCOL   | 710000101 | The URL you passed to libcurl used a protocol that this libcurl does not support.   |
| SDK_HTTP_CURLE_FAILED_INIT            | 710000102 | Early initialization code failed.   |
| SDK_HTTP_CURLE_URL_MALFORMAT          | 710000103 | The URL was not properly formatted.   |
| SDK_HTTP_CURLE_NOT_BUILT_IN           | 710000104 | A requested feature, protocol or option was not found built into this libcurl due to a build-time decision.                                     |
| SDK_HTTP_CURLE_COULDNT_RESOLVE_PROXY  | 710000105 | Could not resolve proxy.  |
| SDK_HTTP_CURLE_COULDNT_RESOLVE_HOST   | 710000106 | Could not resolve host.   |
| SDK_HTTP_CURLE_COULDNT_CONNECT        | 710000107 | Failed to connect() to host or proxy.   |
| SDK_HTTP_CURLE_FTP_WEIRD_SERVER_REPLY | 710000108 | The server sent data libcurl could not parse.   |
| SDK_HTTP_CURLE_REMOTE_ACCESS_DENIED   | 710000109 | We were denied access to the resource given in the URL.   |
| SDK_HTTP_CURLE_FTP_ACCEPT_FAILED      | 710000110 | While waiting for the server to connect back when an active FTP session is used, an error code was sent over the control connection or similar. |

| Variable                             | Value     | Description   |
|--------------------------------------|-----------|---|
| SDK_HTTP_CURLE_FTP_WEIRD_PASS_REPLY  | 710000111 | After having sent the FTP password to the server, libcurl expects a proper reply. This error code indicates that an unexpected code was returned.   |
| SDK_HTTP_CURLE_FTP_ACCEPT_TIMEOUT    | 710000112 | During an active FTP session while waiting for the server to connect, the <b>CURLOPT_ACCEPTTIMEOUT_MS</b> (or the internal default) timeout expired.  |
| SDK_HTTP_CURLE_FTP_WEIRD_PASV_REPLY  | 710000113 | libcurl failed to get a sensible result back from the server as a response to either a PASV or an EPSV command.   |
| SDK_HTTP_CURLE_FTP_WEIRD_227_FORMAT  | 710000114 | FTP servers return a 227-line as a response to a PASV command. If libcurl fails to parse that line, this return code is passed back.  |
| SDK_HTTP_CURLE_FTP_CANT_GET_HOST     | 710000115 | An internal failure to look up the host used for the new connection.  |
| SDK_HTTP_CURLE_OBSOLETE16            | 710000116 | This code is kept for future use.   |
| SDK_HTTP_CURLE_FTP_COULDNT_SET_TYPE  | 710000117 | Received an error when trying to set the transfer mode to binary or ASCII.  |
| SDK_HTTP_CURLE_PARTIAL_FILE          | 710000118 | A file transfer was shorter or larger than expected. This happens when the server first reports an expected transfer size, and then delivers data that does not match the previously given size.    |
| SDK_HTTP_CURLE_FTP_COULDNT_RETR_FILE | 710000119 | This was either a weird reply to a RETR command or a zero byte transfer complete.   |
| SDK_HTTP_CURLE_OBSOLETE20            | 710000120 | This code is kept for future use.   |
| SDK_HTTP_CURLE_QUOTE_ERROR           | 710000121 | When sending custom QUOTE commands to the remote server, one of the commands returned an error code that was 400 or higher (for FTP) or otherwise indicated unsuccessful completion of the command. |
| SDK_HTTP_CURLE_HTTP_RETURNED_ERROR   | 710000122 | This is returned if <b>CURLOPT_FAILONERROR</b> is set to <b>TRUE</b> and the HTTP server returns an error code that is greater than or equal to 400.  |

| Variable                              | Value     | Description  |
|---------------------------------------|-----------|--|
| SDK_HTTP_CURLE_WRITE_ERROR            | 710000123 | An error occurred when writing received data to a local file, or an error was returned to libcurl from a write callback. |
| SDK_HTTP_CURLE_OBSOLETE24             | 710000124 | This code is kept for future use.  |
| SDK_HTTP_CURLE_UPLOAD_FAILED          | 710000125 | Failed to start the upload.  |
| SDK_HTTP_CURLE_READ_ERROR             | 710000126 | There was a problem reading a local file or an error returned by the read callback.                                      |
| SDK_HTTP_CURLE_OUT_OF_MEMORY          | 710000127 | A memory allocation request failed.  |
| SDK_HTTP_CURLE_OPERATION_TIMEOUT      | 710000128 | Operation timeout.   |
| SDK_HTTP_CURLE_OBSOLETE29             | 710000129 | This code is kept for future use.  |
| SDK_HTTP_CURLE_FTP_PORT_FAILED        | 710000130 | The FTP PORT command returned error.   |
| SDK_HTTP_CURLE_FTP_COULDNT_USE_REST   | 710000131 | The FTP REST command returned error.   |
| SDK_HTTP_CURLE_OBSOLETE32             | 710000132 | This code is kept for future use.  |
| SDK_HTTP_CURLE_RANGE_ERROR            | 710000133 | The server does not support or accept range requests.  |
| SDK_HTTP_CURLE_HTTP_POST_ERROR        | 710000134 | HTTP POST error.   |
| SDK_HTTP_CURLE_SSL_CONNECT_ERROR      | 710000135 | A problem occurred somewhere in the SSL/TLS handshake.   |
| SDK_HTTP_CURLE_BAD_DOWNLOAD_RESUME    | 710000136 | The download could not be resumed because the specified offset was out of the file boundary.                             |
| SDK_HTTP_CURLE_FILE_COULDNT_READ_FILE | 710000137 | A file given with <b>FILE://</b> could not be opened.  |
| SDK_HTTP_CURLE_LDAP_CANNOT_BIND       | 710000138 | LDAP bind operation failed.  |
| SDK_HTTP_CURLE_LDAP_SEARCH_FAILED     | 710000139 | LDAP search failed.  |

| Variable                                | Value     | Description   |
|---|-----------|---|
| SDK_HTTP_CURLE_OBS_OLETE40              | 710000140 | This code is kept for future use.   |
| SDK_HTTP_CURLE_FUNCTION_NOT_FOUND       | 710000141 | Function not found.   |
| SDK_HTTP_CURLE_ABORTED_BY_CALLBACK      | 710000142 | Aborted by callback.  |
| SDK_HTTP_CURLE_BAD_FUNCTION_ARGUMENT    | 710000143 | A function was called with a bad parameter.                               |
| SDK_HTTP_CURLE_OBS_OLETE44              | 710000144 | This code is kept for future use.   |
| SDK_HTTP_CURLE_INTERFACE_FAILED         | 710000145 | Interface error.  |
| SDK_HTTP_CURLE_OBS_OLETE46              | 710000146 | This code is kept for future use.   |
| SDK_HTTP_CURLE_TOO_MANY_REDIRECTS       | 710000147 | Too many redirects.   |
| SDK_HTTP_CURLE_UNKNOWN_OPTION           | 710000148 | An option passed to libcurl is not recognized/known.                      |
| SDK_HTTP_CURLE_TELNET_OPTION_SYNTAX     | 710000149 | Incorrect Telnet option format.   |
| SDK_HTTP_CURLE_OBS_OLETE50              | 710000150 | This code is kept for future use.   |
| SDK_HTTP_CURLE_PEER_FAILED_VERIFICATION | 710000151 | The remote server's SSL certificate or SSH fingerprint was deemed not OK. |
| SDK_HTTP_CURLE_GOT_NOTHING              | 710000152 | Nothing was returned from the server.                                     |
| SDK_HTTP_CURLE_SSL_ENGINE_NOTFOUND      | 710000153 | The specified SSL crypto engine was not found.                            |
| SDK_HTTP_CURLE_SSL_ENGINE_SETFAILED     | 710000154 | Failed to set the selected SSL crypto engine as default.                  |
| SDK_HTTP_CURLE_SEND_ERROR               | 710000155 | Failed to send network data.  |
| SDK_HTTP_CURLE_RECV_ERROR               | 710000156 | Failed to receive network data.   |
| SDK_HTTP_CURLE_OBS_OLETE57              | 710000157 | This code is kept for future use.   |

| Variable                             | Value     | Description   |
|--------------------------------------|-----------|---|
| SDK_HTTP_CURLE_SSL_CERTPROBLEM       | 710000158 | There is a problem with the local client certificate.   |
| SDK_HTTP_CURLE_SSL_CIPHER            | 710000159 | Could not use specified cipher.   |
| SDK_HTTP_CURLE_SSL_CACERT            | 710000160 | There is a problem with the CA certificate (or path).   |
| SDK_HTTP_CURLE_BAD_CONTENT_ENCODING  | 710000161 | Unrecognized transfer encoding.   |
| SDK_HTTP_CURLE_LDAP_INVALID_URL      | 710000162 | Invalid LDAP URL.   |
| SDK_HTTP_CURLE_FILE_SIZE_EXCEEDED    | 710000163 | Maximum file size exceeded.   |
| SDK_HTTP_CURLE_USE_SSL_FAILED        | 710000164 | Requested FTP SSL level failed.   |
| SDK_HTTP_CURLE_SEND_FAIL_REWIND      | 710000165 | When doing a send operation, curl had to rewind the data to retransmit, but the rewinding operation failed. |
| SDK_HTTP_CURLE_SSL_ENGINE_INITFAILED | 710000166 | Initiating the SSL Engine failed.   |
| SDK_HTTP_CURLE_LOGIN_DENIED          | 710000167 | The remote server denied curl to login.   |
| SDK_HTTP_CURLE_TFTP_NOTFOUND         | 710000168 | File not found on TFTP server.  |
| SDK_HTTP_CURLE_TFTP_PERMISSION       | 710000169 | Permission problem on TFTP server.  |
| SDK_HTTP_CURLE_REMOTE_DISK_FULL      | 710000170 | Out of disk space on the server.  |
| SDK_HTTP_CURLE_TFTP_ILLEGAL          | 710000171 | Illegal TFTP operation.   |
| SDK_HTTP_CURLE_TFTP_UNKNOWNID        | 710000172 | Unknown TFTP transfer ID.   |
| SDK_HTTP_CURLE_REMOTE_FILE_EXISTS    | 710000173 | File already exists and is not overwritten.   |
| SDK_HTTP_CURLE_TFTP_NO_SUCH_USER     | 710000174 | User not found.   |
| SDK_HTTP_CURLE_CONV_FAILED           | 710000175 | Conversion failed.  |

| Variable                               | Value     | Description  |
|--|-----------|--|
| SDK_HTTP_CURLE_CO NV_REQD              | 710000176 | The caller must use the curl_easy_setopt option to register the conversion callback.               |
| SDK_HTTP_CURLE_SSL _CACERT_BADFILE     | 710000177 | Failed to load the CA certificate file. The file is missing or in its format is incorrect.         |
| SDK_HTTP_CURLE_RE MOTE_FILE_NOT_FOU ND | 710000178 | The resource referenced in the URL does not exist.   |
| SDK_HTTP_CURLE_SSH                     | 710000179 | An unspecified error occurred during the SSH session.  |
| SDK_HTTP_CURLE_SSL _SHUTDOWN_FAILED    | 710000180 | Failed to shut down the SSL connection.  |
| SDK_HTTP_CURLE_AG AIN                  | 710000181 | Socket is not ready for sending/ receiving. Wait until it is ready and try again.                  |
| SDK_HTTP_CURLE_SSL _CRL_BADFILE        | 710000182 | Failed to load CRL file (Added in 7.19.0).   |
| SDK_HTTP_CURLE_SSL _ISSUER_ERROR       | 710000183 | Issuer check failed.   |
| SDK_HTTP_CURLE_FTP _PRET_FAILED        | 710000184 | The FTP server does not understand the PRET command at all or does not support the given argument. |
| SDK_HTTP_CURLE_RTS P_CSEQ_ERROR        | 710000185 | Mismatch of RTSP CSeq numbers.   |
| SDK_HTTP_CURLE_RTS P_SESSION_ERROR     | 710000186 | Mismatch of RTSP Session Identifiers.  |
| SDK_HTTP_CURLE_FTP _BAD_FILE_LIST      | 710000187 | Unable to parse FTP file list.   |
| SDK_HTTP_CURLE_CH UNK_FAILED           | 710000188 | Chunk callback reported error.   |
| SDK_HTTP_CURL_RSP_ 200                 | 710000200 | HTTP/HTTPS 200 OK.   |
| SDK_HTTP_CURL_CREA TE_HANDLE_FAIL      | 710000201 | Create handle failed.  |
| SDK_HTTP_CURL_SET_ HEAD_FAIL           | 710000202 | Set header failed.   |

| Variable   | Value     | Description   |
|--|-----------|---|
| SDK_HTTP_CURLE_EXT<br>ERN_CONNECT_TIMEO<br>UT          | 710000300 | The proxy communication times out and the TCP connection fails to be set up. Proxy configuration may be incorrect.  |
| SDK_HTTP_CURLE_EXT<br>ERN_CLOSED_BY_PROX<br>Y          | 710000301 | The connection is disconnected by the proxy. Server address may be incorrect.   |
| SDK_HTTP_CURLE_EXT<br>ERN_PROXY_ADDR_OR<br>_PORT_ERROR | 710000302 | TCP connection setup times out. Proxy domain name or port number may be incorrect.  |
| SDK_HTTP_CURLE_EXT<br>ERN_PROXY_PERMIS<br>SION_DENIED  | 710000303 | Authentication failed. The user does not have the proxy permission and needs to request the proxy permission.   |
| SDK_HTTP_CURLE_EXT<br>ERN_USER_OR_PWD_E<br>RROR        | 710000304 | Authentication failed. The proxy username or password is incorrect.   |
| SDK_HTTP_CURLE_EXT<br>ERN_AUTH_TYPE_ERR<br>OR          | 710000305 | Authentication failed. The authentication type is incorrect. The username and password are required.  |
| SDK_HTTP_CURLE_EXT<br>ERN_AUTH_ERROR                   | 710000306 | Authentication failed due to other unknown errors. The possible cause is that the authentication mode is not supported. It is recommended that a dialog box be displayed to prompt the user to initiate the authentication again. |
| SDK_HTTP_CURLE_EXT<br>ERN_ACTIVE_ERROR                 | 710000400 | Activation failed.  |
| RTC_SDK_LEAVE_REAS<br>ON_SERVER_ERROR                  | 910000001 | Server exception.   |
| RTC_SDK_LEAVE_REAS<br>ON_BREAKDOWN                     | 910000002 | The SFU service is faulty.  |
| RTC_SDK_LEAVE_REAS<br>ON_SERVICE_UNREAC<br>HABLE       | 910000003 | Service unavailable 503.  |
| RTC_SDK_LEAVE_REAS<br>ON_INTERNAL_ERROR                | 910000004 | Internal error.   |
| RTC_SDK_LEAVE_REAS<br>ON_KICKED_OFF                    | 910000005 | Kicked out.   |



| Variable                               | Value     | Description                                     |
|--|-----------|---|
| RTC_SDK_LEAVE_REASON_SIGNATURE_EXPIRED | 910000006 | The signature has expired.                      |
| RTC_SDK_LEAVE_REASON_RECONNECT_FAILED  | 910000007 | Reconnection timed out.                         |
| RTC_SDK_LEAVE_REASON_NETWORK_TEST      | 910000008 | Network detection.                              |
| RTC_SDK_LEAVE_REASON_USER_REMOVED      | 910000009 | The user is removed.                            |
| RTC_SDK_LEAVE_REASON_ROOM_DISMISSED    | 910000010 | The room is dismissed.                          |
| RTC_SDK_LEAVE_REASON_USER_LOGINED      | 910000013 | The app is in hibernation mode for a long time. |
| RTC_SDK_LEAVE_REASON_AUTH_FAILED       | 910000014 | Authorization failed.                           |
| RTC_SDK_LEAVE_REASON_AUTH_RETRY        | 910000015 | Authentication retried.                         |
| RTC_SDK_LEAVE_REASON_AUTH_CLOCK_SYNC   | 910000016 | Clock synchronization required.                 |
| RTC_SDK_LEAVE_REASON_URL_NOT_RIGHT     | 910000017 | Incorrect URL.                                  |
| RTC_SDK_SHARE_USER_EXCEEDS_MAX         | 934000021 | Maximum number of sharers has been exceeded.    |
| RTC_SDK_SDK_INTERNAL_ERROR             | 990000001 | Internal error.                                 |
| RTC_SDK_MSG_TOOLARGE                   | 990000002 | The message is too long.                        |
| RTC_SDK_MEM_NOT_ENOUGH                 | 990000003 | The memory is insufficient.                     |
| RTC_SDK_SYSEND_MESSAGE_ERR             | 990000004 | Failed to send the message synchronously.       |
| RTC_SDK_PARAM_ERROR                    | 990000005 | Parameter error.                                |
| RTC_SDK_API_CALLED_IN_WRONG_ORDER      | 990000006 | The call ID order is incorrect.                 |

| Variable                              | Value     | Description   |
|---------------------------------------|-----------|---|
| RTC_SDK_SETUP_LOCAL_VIEW_FAIL         | 990000007 | Failed to set the local screen.   |
| RTC_SDK_START_REMOTE_STREAM_VIEW_FAIL | 990000008 | Failed to enable the remote screen.   |
| RTC_SDK_SET_DEVICE_FAIL               | 990000009 | Failed to configure the device.   |
| RTC_SDK_INITIALIZING                  | 990000010 | Initializing...   |
| RTC_SDK_UN_INITIALIZING               | 990000011 | Deinitializing...   |
| RTC_SDK_LOG_UPLOADING                 | 990000012 | Uploading logs...   |
| RTC_SDK_MEDIA_PORT_ERROR              | 990000013 | Failed to obtain the media port.  |
| RTC_SDK_WATCH_VIEWS_TOO_MUCH          | 990000014 | The number or resolution of screens to focus on exceeds the allowed specifications. |
| RTC_SDK_MEDIA_COMPRESSION_ERR         | 990000015 | Media negotiation failed.   |
| RTC_SDK_SERVER_NO_RESPONSE            | 990000016 | The server does not respond.  |
| RTC_SDK_USER_ROLE_CHANGE_FAIL         | 990000017 | Failed to switch the role.  |
| RTC_SDK_JOIN_ROOM_FAIL                | 990000018 | Failed to join the room.  |
| RTC_SDK_JOIN_ROOM_STATUS_BUSY         | 990000019 | The status is busy.   |
| RTC_SDK_JOIN_ROOM_SERVER_ERROR        | 990000020 | Failed to join the room. Server error.  |
| RTC_SDK_JOIN_ROOM_SERVICE_UNREACHABLE | 990000021 | Failed to join the room. The service is unavailable.                                |
| RTC_SDK_JOIN_ROOM_AUTH_FAIL           | 990000022 | Failed to join the room. Authentication failed.                                     |
| RTC_SDK_JOIN_ROOM_AUTH_RETRY          | 990000023 | Failed to join the room. Retry authentication.                                      |
| RTC_SDK_JOIN_ROOM_AUTH_CLOCK_SYNC     | 990000024 | Failed to join the room. Synchronize the clock.                                     |

| Variable                              | Value     | Description  |
|---------------------------------------|-----------|--|
| RTC_SDK_JOIN_ROOM_URL_NOT_RIGHT       | 990000025 | Failed to join the room. Incorrect URL.  |
| RTC_SDK_KICKED_OFF                    | 990000026 | Kicked out.  |
| RTC_SDK_SCREEN_CAPTURE_FAIL           | 990000027 | Sharing failed.  |
| RTC_SDK_EXT_MEDIA_OUTPUT              | 990000028 | This operation is not allowed because the external media output mode is used.  |
| RTC_SDK_RECONNECT_FAILED              | 990000029 | Reconnection failed.   |
| RTC_SDK_SERVER_BREAK_DOWN             | 990000030 | The server is broken down.   |
| RTC_SDK_SIGNATURE_EXPIRED             | 990000031 | The signature has expired.   |
| RTC_SDK_SET_REMOTE_RENDER_MODE_FAIL   | 990000032 | Failed to set the remote window mode.  |
| RTC_SDK_SET_REMOTE_AUDIO_MUTE_FAIL    | 990000033 | Failed to subscribe to or unsubscribe from the audio.                          |
| RTC_SDK_CONNECT_OTHER_ROOM_FAIL       | 990000034 | Failed to connect to another room.   |
| RTC_SDK_DISCONNECT_OTHER_ROOM_FAIL    | 990000035 | Failed to disconnect from other rooms.   |
| RTC_SDK_SET_ROLE_NOT_ALLOWED          | 990000036 | Role switch is not allowed.  |
| RTC_SDK_EXT_MEDIA_CAPTURE_INPUT       | 990000037 | This operation is not allowed because the third-party collection mode is used. |
| RTC_SDK_SET_EXTAUDIO_CAPTURE_FAIL     | 990000038 | Failed to set third-party audio collection.                                    |
| RTC_SDK_SET_EXTVIDEO_CAPTURE_FAIL     | 990000039 | Failed to set third-party video collection.                                    |
| RTC_SDK_SET_SHARE_COMPUTER_SOUND_FAIL | 990000040 | Failed to set the audio sharing switch.  |
| RTC_SDK_SET_LOCAL_AUDIO_MUTE_FAIL     | 990000041 | Failed to start or stop the uplink audio stream.                               |
| RTC_SDK_SET_LOCAL_VIDEO_MUTE_FAIL     | 990000042 | Failed to start or stop the uplink video stream.                               |

| Variable                                  | Value     | Description                                 |
|---|-----------|---|
| RTC_SDK_USER_REMOVED                      | 990000043 | The user is removed.                        |
| RTC_SDK_ROOM_DISMISSED                    | 990000044 | The room is dismissed.                      |
| RTC_SDK_SETUP_REMOTE_VIEW_FAIL            | 990000045 | Failed to set the remote view.              |
| RTC_SDK_ROOM_FULL                         | 990000052 | Failed to join the room because it is full. |
| RTC_SDK_NETWORK_FAILED                    | 990000053 | MMR network exception.                      |
| RTC_SDK_START_WHITEBOARD_MAX_COUNT_EXCEED | 990000060 | Maximum allowed quantity has been exceeded. |

## 10.6 Remarks

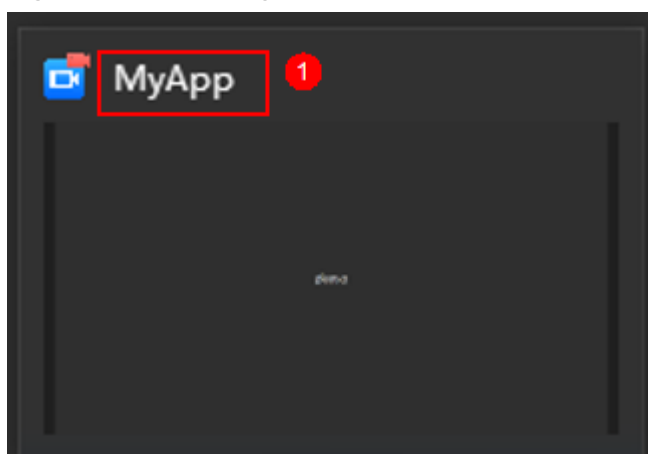
### 10.6.1 JSON Description for UI Configuration

Some in-meeting UI elements are customized through the **config** API. UI elements that can be customized are as follows:

- **Meeting window name (only for the Windows platform).**

After a meeting starts, a meeting icon is generated on the task bar of the Windows. When you point to the icon, a thumbnail window is displayed. You can customize the name of the window.

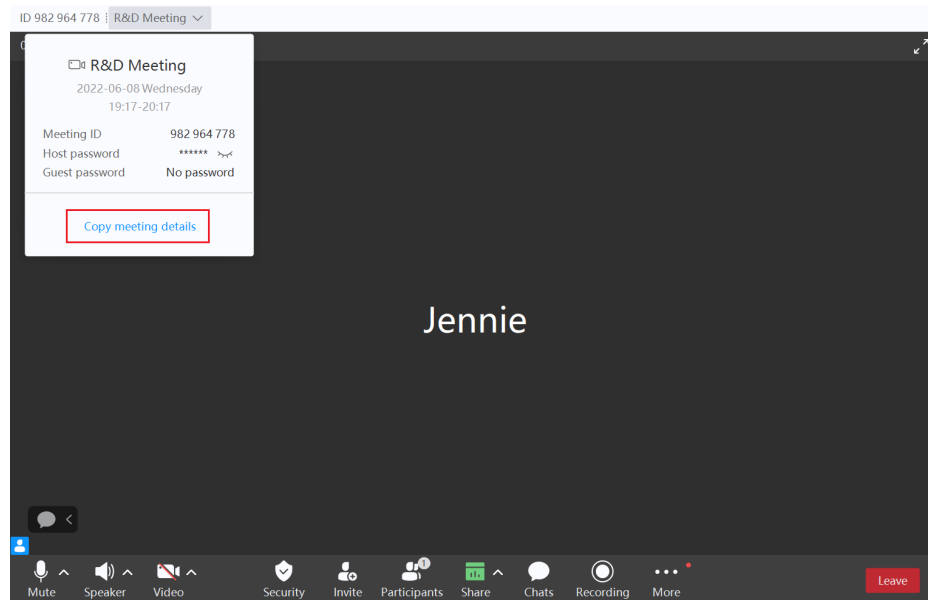
**Figure 10-3** Meeting window name



- **Meeting details copied after the copy button is clicked on the meeting details screen**

The default domain name prefix of the meeting link (for example, <https://bmeeting.huaweicloud.com/#/j/982989574>) is <https://bmeeting.huaweicloud.com/>. If the portal for joining a meeting is developed by you, customize the meeting details copied after a user clicks the copy button on the meeting details screen.

**Figure 10-4 Meeting details**



- **Meeting control buttons**
  1. Delete or modify meeting control buttons provided by the SDK. For details about buttons that can be deleted and modified, see [Table 10-446](#).
  2. Add custom buttons. For details, see [Customizing Meeting Control Buttons](#).

**Figure 10-5 Bottom toolbar and More menu**

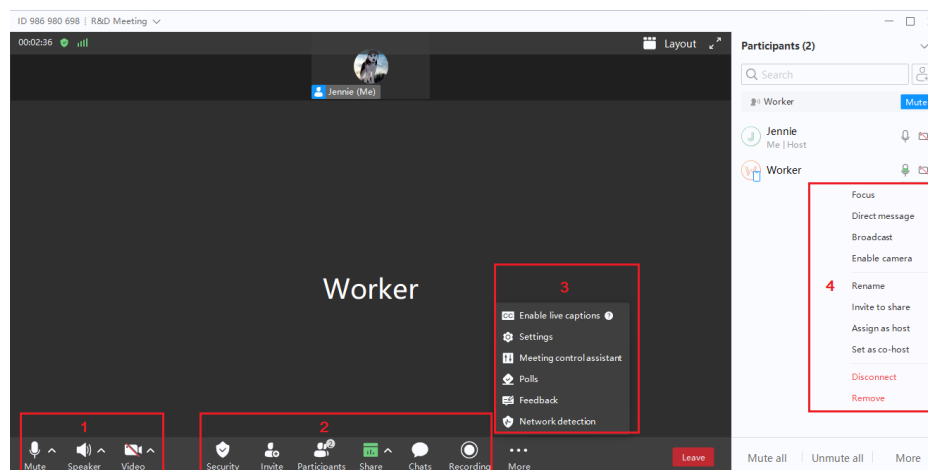


Figure 10-6 Sharing toolbar and More menu

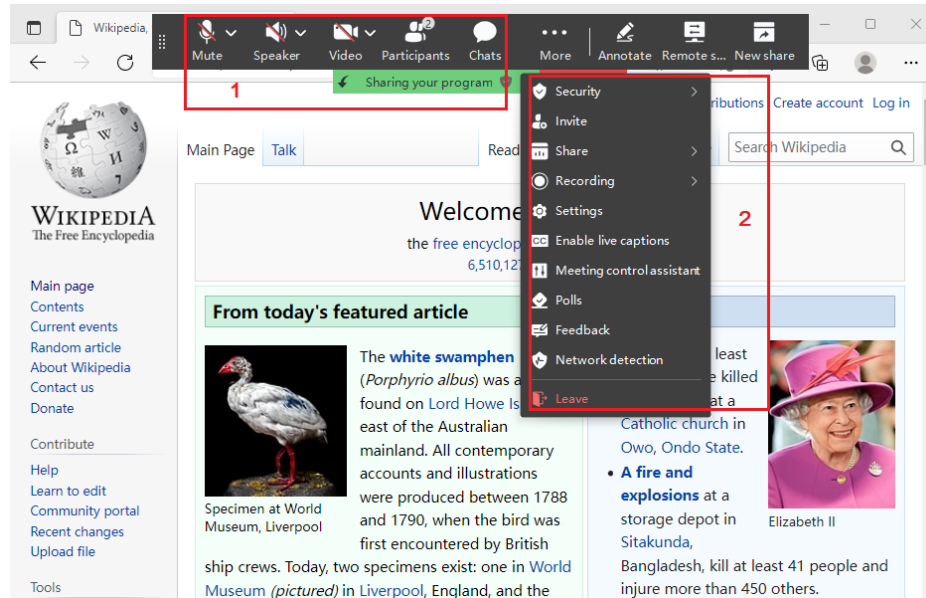
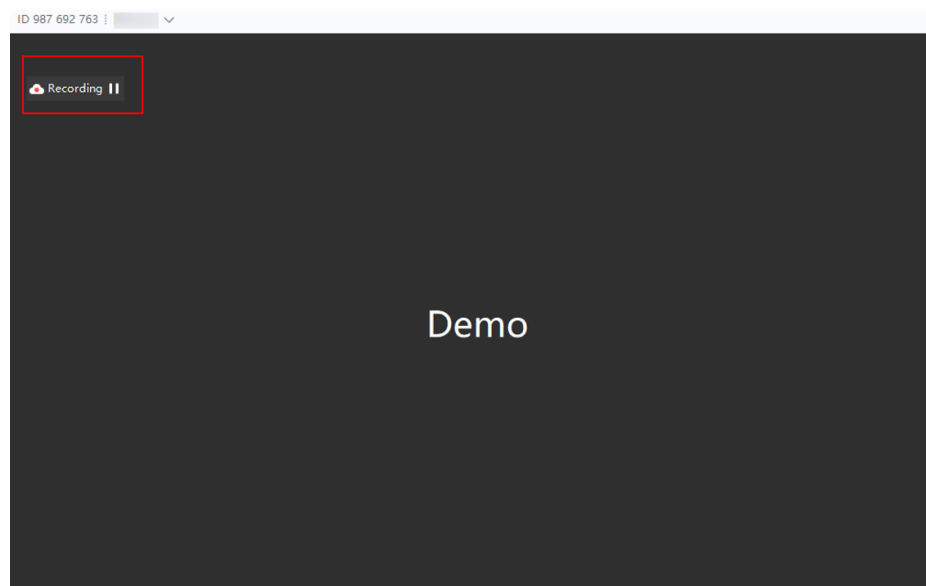


Figure 10-7 Status toolbar



Parameter description of the **config** API

**Table 10-437** Parameter description

| Parameter | Mandatory | Type   | Description  |
|-----------|-----------|--------|--|
| uiConfig  | Yes       | string | JSON object character string <code>"{"frame":object}"</code> . The object has format requirements. If the format does not meet the requirements, the configuration does not take effect. For detailed rules, see Table 2, 3, 4, and 5. |

**Table 10-438** frame object description

| Key      | Type   | Description   |
|----------|--------|---|
| name     | string | Meeting window name, for example, <b>MyApp</b> shown in <a href="#">Figure 10-3</a> .                           |
| confMenu | object | Button objects in the meeting window, as shown in <a href="#">Figure 10-5</a> and <a href="#">Figure 10-6</a> . |

**Table 10-439** confMenu object description

| Key       | Type   | Description  |
|-----------|--------|--|
| toolBar   | object | Button objects in the meeting window, as shown in <a href="#">Figure 10-5</a> and <a href="#">Figure 10-6</a> .                      |
| titleBar  | object | Configuration object of the title bar in the meeting window, for example, the meeting details shown in <a href="#">Figure 10-4</a> . |
| statusBar | object | Configuration object of the status bar in the upper left corner of the meeting window, as shown in <a href="#">Figure 10-7</a> .     |

**Table 10-440** toolBar object description

| Key          | Type     | Description  |
|--------------|----------|--|
| button       | object[] | Button objects in the meeting window, for example, buttons and menus shown in <a href="#">Figure 10-5</a> and <a href="#">Figure 10-6</a> .  |
| customButton | object[] | Configuration object of the third-party custom buttons in the meeting window, for example, 2 and 3 shown in <a href="#">Figure 10-5</a> and 1 and 2 shown in <a href="#">Figure 10-6</a> . |

**Table 10-441** statusBar object description

| key    | Type     | Description   |
|--------|----------|---|
| button | object[] | Button configuration object of the status bar in the upper left corner of the meeting window, as shown in <a href="#">Figure 10-7</a> . |

**Table 10-442** titleBar Object Description

| Key        | Type     | Description   |
|------------|----------|---|
| confDetail | object[] | for example, the meeting details shown in <a href="#">Figure 10-4</a> . |

**Table 10-443** confDetail object description

| Key    | Type     | Description                                   |
|--------|----------|---|
| button | object[] | Button objects in the meeting details window. |

**Table 10-444** Description of the button object in the toolBar and confDetail objects

| Key               | Type   | Description  |
|-------------------|--------|--|
| buttonId          | string | Unique ID of a button. For details about the mapping between <b>buttonId</b> and buttons, see <a href="#">Table 10-446</a> .   |
| showAsAction      | string | Whether to display the button. The value can be <b>never</b> (not displayed) or <b>ifRoom</b> (displayed).   |
| isCustomizedClick | bool   | Whether to inject content if the button is clicked. <b>true</b> : yes. When a user clicks the button, a notification is sent, and the SDK does not process the click response. |

**Table 10-445** customButton object description

| Key      | Type   | Description   |
|----------|--------|---|
| buttonId | string | Custom button ID, for example, <b>customMenu</b> .      |
| title    | string | Custom button name, for example, <b>Custom button</b> . |



| Key       | Type   | Description   |
|-----------|--------|---|
| buttonImg | string | Icon path of the custom button. Use an absolute path. For example, <b>to/path/image.svg</b> . SVG and PNG formats are supported.<br>UTF-8 encoding is required. |
| buttonPos | int    | Position of the custom button. <b>0: More</b> menu on the toolbar; <b>1: bottom toolbar</b> ; <b>2: sharing toolbar</b> .                                       |

**Table 10-446** Introduction to buttonId

| Button Name  | Button ID        | Description  |
|--|------------------|--|
| Microphone   | "microphone"     | Can be hidden.                                       |
| Speaker  | "speaker"        | Can be hidden.                                       |
| Camera   | "camera"         | Can be hidden.                                       |
| Invite   | "invite"         | Can be hidden and injected.                          |
| Leave  | "leave"          | Can be hidden and injected.                          |
| Share  | "share"          | Can be hidden and injected.                          |
| Participants   | "attendee"       | Can be hidden and injected.                          |
| Feedback   | "feedback"       | Can be hidden and injected.                          |
| Annotation   | "annotation"     | Can be hidden (valid only for the Windows platform). |
| Give control   | "remote_control" | Can be hidden (valid only for the Windows platform). |
| Stop sharing   | "stop_share"     | Can be hidden.                                       |
| Chat   | "chat"           | Can be hidden and injected.                          |
| Live captions (enabling live captions and caption translation) | "subtitle"       | Can be hidden.                                       |
| Security   | "security"       | Can be hidden.                                       |

| Button Name         | Button ID                 | Description  |
|---------------------|---------------------------|--|
| Network detection   | "network_detection"       | Can be hidden.   |
| Allow unmute        | "allow_unmute"            | Can be hidden (valid only for the Windows platform).         |
| Dual screen         | "dual_screen"             | Can be hidden (valid only for the Windows platform).         |
| Recording           | "record"                  | Can be hidden.   |
| Copy meeting info   | "copy_conf_info"          | Can be injected.   |
| Participant details | "participant_detail"      | Can be injected. (The macOS SDK does not require injection.) |
| Copy attendee link  | "copy_audience_conf_info" | Can be injected.   |

According to the preceding definition, the complete configuration items in JSON format of the customizable UI elements are as follows:

```
{
  "frame": {
    "name": "demo",
    "confMenu": {
      "titleBar": {
        "confDetail": {
          "button": [
            {
              "buttonId": "copy_conf_info",
              "isCustomizedClick": true
            }
          ]
        }
      },
      "statusBar": {
        "button": [
          {
            "buttonId": "record",
            "showAsAction": "never"
          }
        ]
      },
      "toolBar": {
        "customButton": [
          {
            "buttonId": "customMenu",
            "title": "Custom button",
            "buttonPos": 1,
            "buttonImg": "imagePath",
            "subMenu": ""
          },
          {
            "buttonId": "customMore",
            "title": "Custom more",
            "buttonPos": 0,
            "buttonImg": "imagePath"
          }
        ]
      }
    }
  }
}
```

```
    },  
    {  
      "buttonId": "customShare",  
      "title": " Custom sharing",  
      "buttonPos": 2,  
      "buttonImg": "imagePath"  
    }  
  ],  
  "button": [  
    {  
      "buttonId": "microphone",  
      "showAsAction": "never"  
    },  
    {  
      "buttonId": "speaker",  
      "showAsAction": "never"  
    },  
    {  
      "buttonId": "camera",  
      "showAsAction": "never"  
    },  
    {  
      "buttonId": "invite",  
      "showAsAction": "never",  
      "isCustomizedClick": true  
    },  
    {  
      "buttonId": "leave",  
      "showAsAction": "never",  
      "isCustomizedClick": true  
    },  
    {  
      "buttonId": "attendee",  
      "showAsAction": "never",  
      "isCustomizedClick": true,  
      "dialogPos": "center"  
    },  
    {  
      "buttonId": "share",  
      "showAsAction": "never",  
      "isCustomizedClick": true  
    },  
    {  
      "buttonId": "chat",  
      "showAsAction": "never",  
      "isCustomizedClick": true,  
      "dialogPos": "center"  
    },  
    {  
      "buttonId": "annotation",  
      "showAsAction": "never"  
    },  
    {  
      "buttonId": "stop_share",  
      "showAsAction": "never"  
    },  
    {  
      "buttonId": "feedback",  
      "showAsAction": "ifRoom",  
      "isCustomizedClick": true  
    },  
    {  
      "buttonId": "dual_screen",  
      "showAsAction": "never"  
    },  
    {  
      "buttonId": "remote_control",  
      "showAsAction": "never"  
    }  
  ],  
}
```

```
{
  "buttonId": "record",
  "showAsAction": "never"
},
{
  "buttonId": "subtitle",
  "showAsAction": "never"
},
{
  "buttonId": "security",
  "showAsAction": "never"
},
{
  "buttonId": "network_detection",
  "showAsAction": "never"
},
{
  "buttonId": "vote",
  "showAsAction": "never"
}
]
}
}
```

#### NOTE

The **uiConfig** of the **config** function is of the string type. Therefore, you need to convert the preceding JSON string into a character string. For details, see the following sample code.

#### Sample Code

```
/**
 * UI configurations
 */
async setInvite(){
  let param = {
    "frame": {
      "confMenu": {
        "toolBar": {
          "button": [{
            "buttonId": "invite",
            "showAsAction": "ifRoom",
            "isCustomizedClick": true
          }]
        }
      }
    }
  }
  const apiService = new ApiService();
  // Convert JSON into a string and pass the string.
  let setResult = await apiService.config(JSON.stringify(param));
  if(setResult.ret != 0){
    window.electron.ipcRenderer.send("show-error-alert", "config error = " + setResult.ret);
  }
}
```

## 10.6.2 Customizing Meeting Control Buttons

1. Add custom buttons. You can add buttons on the bottom toolbar, sharing toolbar, and **More** menus. Currently, you can customize one button on the bottom or sharing toolbar and the button is displayed before the **More** menu. More custom buttons are displayed in the **More** menu. Custom buttons in the **More** menu take effect on the bottom and sharing toolbars. Custom buttons in the **More** menu on the bottom toolbar are displayed at the end of the

**More** menu. Custom buttons in the **More** menu on the sharing toolbar are displayed before the **Leave** button.

2. Delete custom buttons. Call the **Config** API to delete the button configuration in **customButton**. If **customButton:[]** is passed, all custom buttons are cleared. If a position is specified under **customButton** but no specific custom button is specified, all custom buttons in the position are cleared.

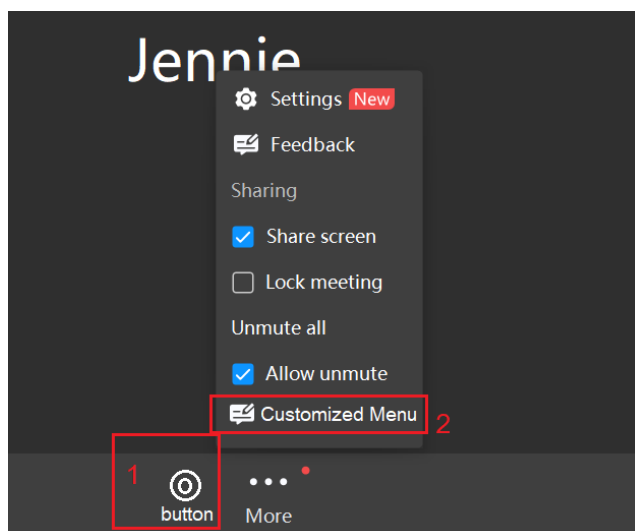
 **NOTE**

When calling the **Config** API to add, delete, or modify custom buttons, pass all custom buttons in the corresponding position. The bottom and sharing toolbars can be dynamically refreshed. **More** menus can only be refreshed when they are regenerated.

- **Add custom buttons.**

The following describes how to add a custom button with submenus on the bottom toolbar, sharing toolbar, and **More** menus.

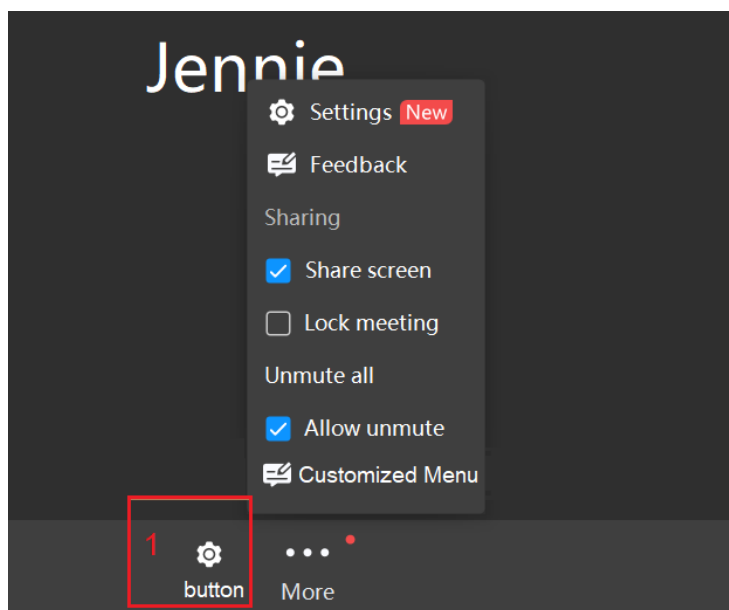
```
{
  "frame":{
    "confMenu":{
      "toolBar":{
        "customButton": [
          {
            "buttonId": "customMenu",
            "title": "Custom button",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 1
          },
          {
            "buttonId": "customMore",
            "title": "Custom more",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 0
          },
          {
            "buttonId": "customShare",
            "title": "Custom sharing",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 2
          }
        ]
      }
    }
  }
}
```



- **Update custom buttons.**

The following describes how to rename a button on the bottom toolbar.

```
{
  "frame": {
    "confMenu": {
      "toolBar": {
        "customButton": [
          {
            "buttonId": "customMenu",
            "title": "Renamed button",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 1
          },
          {
            "buttonId": "customMore",
            "title": "Custom more",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 0
          },
          {
            "buttonId": "customShare",
            "title": "Custom sharing",
            "buttonImg": "D:/demoResource/icon-whiteboard.svg",
            "buttonPos": 2
          }
        ]
      }
    }
  }
}
```



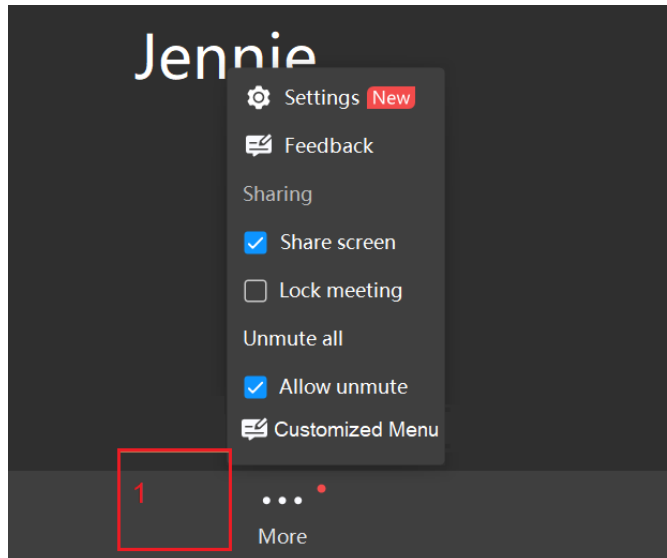
- **Delete some custom buttons.**

Buttons defined in **customButton** are deleted and other custom buttons are retained. The following describes how to delete custom buttons on the bottom toolbar.

```
{
  "frame": {
    "confMenu": {
      "toolBar": {
        "customButton": [
          {
            "buttonId": "customMore",
            "title": "Custom more",

```

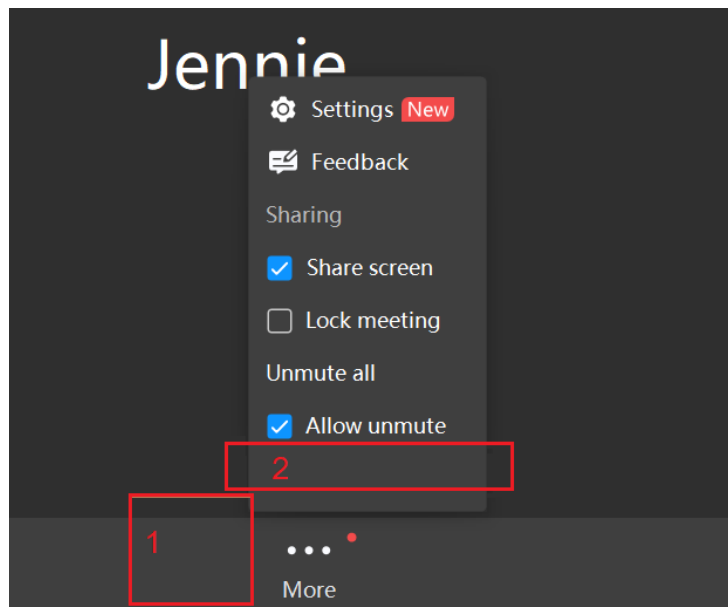




- **Clear all custom buttons.**

If an empty array is passed for **customButton**, custom buttons in all positions are cleared. The following is an example:

```
{  
  "frame":{  
    "confMenu":{  
      "toolBar":{  
        "customButton": [  
          ]  
      }  
    }  
  }  
}
```





## 10.6.3 Common Error Codes

**Table 10-447** Enumerated values of SDKError

| Variable                            | Value     | Description  |
|-------------------------------------|-----------|--|
| UISDK_COMMON_ERROR                  | 43010001  | Common error.  |
| UISDK_API_INVALID_PARAMETERS        | 43010002  | Invalid parameter.   |
| USG_ERR_PASSWORD                    | 20601000  | Incorrect account or password.   |
| SDK_LOGIN_ACCOUNT_LOCKED            | 41210010  | The account is locked.   |
| SDK_LOGIN_AUTH_ACCOUNT_DIACTIVE     | 41210015  | The account or enterprise is not activated.                              |
| USG_APPID_AUTH_EXPIRE               | 20601057  | The app ID authentication has expired.                                   |
| USG_APPID_ACCOUNT_DISABLED          | 20601007  | The account is not activated and cannot be used for login.               |
| CMS_CONF_AUTHEN_NEED_PASSWORD       | 11107009  | The meeting password cannot be empty.                                    |
| CMS_CONF_NOT_FOUND_OR_AUTH_FAILED   | 111072065 | The meeting does not exist or the password is incorrect.                 |
| CMS_CONF_LOCKED                     | 111072050 | The meeting is locked.   |
| UISDK_NOT_IN_CONF_OR_CALL           | 43040008  | You are not in a meeting or call.  |
| CMS_VMR_ONLY_ALLOW_CHAIR_START_CONF | 111071004 | Guests are not allowed to join the cloud meeting room ahead of the host. |
| UISDK_SHARE_LOCKED                  | 43040015  | The sharing is locked.   |
| UISDK_NOT_IN_DATACONF               | 43040016  | You are not in a data meeting.   |
| CMS_CONF_ONLY_ALLOW_USER_IN_ORG     | 111071074 | Only corporate users are allowed to join the meeting.                    |

| Variable  | Value     | Description  |
|---|-----------|--|
| CMS_CONF_ONLY_ALLOW_USER_INVITED                          | 111071075 | Only invited users are allowed to join the meeting.                            |
| UISDK_ALREADY_EXIST_CONF_OR_CALL                          | 430400009 | A meeting or call already exists.  |
| CMS_CONF_ANONYMOUS_LOGIN_LOCKED                           | 111071052 | Anonymous login is locked. Try again later.                                    |
| CMS_CONF_LINK_LOGIN_LOCKED                                | 111071053 | Login using the link is locked. Try again later.                               |
| CMS_CONF_IS_CLOSED  | 111072006 | The meeting has ended.   |
| USG_VMR_PWD_SAME_AS_CHAIRMAN_PWD                          | 201080006 | The host password and guest password cannot be the same. Check the parameters. |
| CMS_CONF_PORTAL_PARTICIPANT_VMR_LOGIC_RESOURCE_NOT_ENOUGH | 111076003 | More participants in the cloud meeting room than allowed.                      |
| CMS_CONF_PORTAL_PARTICIPANT_RESOURCE_NOT_ENOUGH           | 111076004 | Concurrent participants in the enterprise are insufficient.                    |
| CMS_CONF_NOT_ON_LOCAL_STATION                             | 111100012 | The meeting is not held at this site.  |
| CMS_LOGICRES_PNUM_RESOURCE_NOT_ENOUGH                     | 115022001 | Concurrent participants in the enterprise are insufficient.                    |
| CMS_CONF_DATA_NOT_FOUND                                   | 111070005 | The meeting does not exist.  |
| CMS_VMR_DATA_NOT_FOUND                                    | 111070006 | The personal cloud meeting room does not exist.                                |
| CMS_CONF_ROLE_AUTHENTICATION_FAILED                       | 111070010 | You do not have the permissions required to view the meeting.                  |
| CMS_ONLINE_CONF_IN_COMMUNAL                               | 111071106 | A meeting is being held in the cloud meeting room.                             |
| CMS_CONF_MODIFY_FAIL_AS_CONF_ALREADY_STARTED              | 111071065 | The meeting is in progress and cannot be edited.                               |

| Variable                                       | Value     | Description  |
|--|-----------|--|
| CMS_ORG_CONCURRENT_PARTICIPANTS_NUMBER_IS_ZERO | 111071060 | The enterprise has no concurrent participant resources configured and cannot use the personal meeting ID or random meeting ID to initiate a meeting. |
| CMS_CONF_USER_NOT_VMR_OWNER                    | 111071063 | The user is not the owner of the cloud meeting room.   |
| CMS_CONF_CANCEL_FAIL_AS_CONF_STARTED           | 111071067 | The meeting is in progress and cannot be canceled.   |
| CMS_CONF_START_TIME_LESS_THAN_CURRENT_TIME     | 111071013 | The meeting start time cannot be earlier than the current system time.   |
| CMS_CONF_START_TIME_OVER_MAX_SCHEDULE_TIME     | 111071014 | The start time exceeds the allowed range.  |
| USG_VMR_PWM_SAME_AS_MEETING_PASSWORD           | 201080017 | Same as the meeting password.  |
| CMS_PARTICIPANT_CONF_NOT_SUPPORTED             | 111084013 | The meeting is not supported.  |
| CMS_CONF_ATTENDEES_NUMBER_EXCEED_LIMIT         | 111071066 | The number of participants exceeds the upper limit.  |
| CMS_VMR_DATA_STATUS_ILLEGAL                    | 111073007 | Invalid status of the cloud meeting room package.  |
| CMS_WAIT_APPLY_RESOURCE                        | 115029006 | Resources are being requested.   |
| SDK_SVN_DETECT_FAILED                          | 411000017 | SVN port detection failed.   |
| SDK_ERR_RTC_NOT_SUPPORT_STG                    | 411000019 | RTC does not support the STG mode.   |
| CMS_OVER_MAX_PARTICIPANT_NUMBER                | 111072101 | More participants than allowed.  |
| CMS_AUDIENCE_VMR_LOGIC_RESOURCE_NOT_ENOUGH     | 111072202 | The number of attendees exceeds the maximum number of concurrent participants in the cloud meeting room package.                                     |

| Variable                                      | Value     | Description  |
|---|-----------|--|
| CMS_PARTICIPANT_VMR_LOGIC_RESOURCE_NOT_ENOUGH | 111072203 | The number of the host and panelists exceeds the maximum number of concurrent participants in the cloud meeting room package.                        |
| CMS_PARTICIPANT_CONF_NOT_EXIST                | 111081002 | The meeting does not exist or has ended.   |
| USG_VMR_RESOURCE_UNAVAILABLE                  | 201080000 | Cloud meeting resources are unavailable.   |
| USG_ACCOUNT_IS_UNBOUND                        | 206010075 | The account has been unbound.  |
| RTC_SDK_JOIN_ROOM_FAIL                        | 990000018 | Failed to join the room.   |
| RTC_SDK_JOIN_ROOM_STATUS_BUSY                 | 990000019 | The status is busy.  |
| RTC_SDK_JOIN_ROOM_SERVER_ERROR                | 990000020 | Failed to join the room. Server error.   |
| RTC_SDK_JOIN_ROOM_AUTH_FAIL                   | 990000022 | Failed to join the room. Authentication failed.  |
| RTC_SDK_JOIN_ROOM_URL_NOT_RIGHT               | 990000025 | Failed to join the room. Incorrect URL.  |
| SDK_LOGIN_CA_VERIFY_FAILED                    | 412100012 | Failed to verify the server CA certificate.  |
| SDK_LOGIN_CURLE_EXTERN_CONNECT_TIMEOUT        | 412100017 | The proxy communication times out, and the TCP connection fails to be set up. There is a high probability that the proxy configuration is incorrect. |
| SDK_LOGIN_CURLE_EXTERN_CLOSED_BY_PROXY        | 412100018 | The link is disconnected by the proxy. There is a high probability that the configured server address is incorrect.                                  |
| SDK_LOGIN_CURLE_COULDNT_RESOLVE_PROXY         | 412100024 | Authentication failed. The gateway cannot be parsed.   |
| SDK_LOGIN_CURLE_COULDNT_RESOLVE_HOST          | 412100025 | Authentication failed. The host cannot be parsed.  |

| Variable                               | Value     | Description   |
|--|-----------|---|
| UISDK_TIMEOUT                          | 430100004 | Timeout.  |
| UISDK_IN_PROCESS                       | 430100005 | The API is being processed.                           |
| UISDK_UNLOGIN_ERROR                    | 430200001 | You have not logged in yet.                           |
| UISDK_NOT_INITED_END                   | 430100006 | The initialization is not started or not completed.   |
| UISDK_NOT_SUPPORT_END                  | 430100007 | This version is not supported.                        |
| UISDK_OPERATION_INTERRUPT              | 430100008 | The operation is interrupted.                         |
| UISDK_CONTACT_NOT_FOUND                | 430100009 | The contact does not exist.                           |
| UISDK_ARGS_LENGTH_OVERRUN              | 430100010 | The parameter value is too long.                      |
| UISDK_APPID_INFO_ILLEGAL               | 430100011 | Invalid app ID.                                       |
| UISDK_E2EENCRYPT_ALGORITHM_ERROR       | 430100012 | The end-to-end encryption algorithm is asymmetric.    |
| UISDK_REPEATED_LOGIN_ERROR             | 430200002 | Repeated login.                                       |
| UISDK_PASSWORD_OR_ACCOUNT_EMPTY        | 430200005 | The account and password cannot be both empty.        |
| UISDK_CALL_ACCOUNT_EMPTY               | 430300002 | The point-to-point call account is empty.             |
| UISDK_CALL_NICKNAME_EMPTY              | 430300003 | The point-to-point call name is empty.                |
| UISDK_INVALID_GUEST_PASSWORD_PARAMETER | 430400007 | Invalid guest password.                               |
| UISDK_CONFID_EMPTY                     | 430400010 | The meeting ID cannot be empty.                       |
| UISDK_SUBJECT_TOO_LONG                 | 430400011 | The meeting topic cannot contain up to 50 characters. |
| UISDK_VMR_HOST_PASSWORD_LENGTH_ILLEGAL | 430400012 | The length of the host password is invalid.           |

| Variable             | Value         | Description                           |
|----------------------|---------------|---------------------------------------|
| UISDK_VMR_NAME_EMPTY | 430400<br>013 | The cloud meeting room name is empty. |

## 10.7 Version Updates

### 10.7.1 100.10.7 Updates

1. Fixed issues and provided more stable experience.

### 10.7.2 100.10.6 Updates

1. Fixed issues and provided more stable experience.

### 10.7.3 100.10.5 Updates

1. Added the Electron SDK for Mac devices with Apple-developed M-series chips. For details, see [Getting Started](#).
2. Added the API for automatically hiding the meeting control bar (for Windows only). For details, see [Automatically Hiding the Meeting Control Bar](#).
3. Added the API for customizing the text for a specific scenario. For details, see [Customizing the Text for a Specific Scenario](#).
4. Added the API for customizing an icon for a specific scenario (for Windows only). For details, see [Customizing the Icon for a Specific Scenario](#).

### 10.7.4 100.9.7 Updates

1. Fixed issues and provided more stable experience.

### 10.7.5 100.9.5 Updates

1. Added the **startTimeStamp** (meeting start time) and **endTimeStamp** (meeting end time) fields and discarded the **startTime** and **endTime** fields. For details, see [Creating a Meeting](#) and [Obtaining the Meeting List](#).
2. Added the **OnAddAttendeeNotify** notification to notify you of participant addition results. For details, see [Subscribing to Participant Addition Result Notifications](#).
3. Added the **OnClickInjectCallAllBtnNotify** notification to notify you when the **Call all** button in the participant list is clicked. For details, see [Subscribing to Click Injection Notifications of the Call all Button](#).
4. Added the **OnUserSavePathChanged** notification to notify you when the user data path is changed. For details, see [Subscribing to Notifications of User Data Path Changes](#).
5. Added the **thirdUserId** field (third-party user ID) to the incoming meeting information. For details, see [Subscribing to Incoming Call Notifications](#).

6. Added **HWM\_CLICK\_INJECT\_BTN\_CALL\_ALL** (calling all absent participants) to **ClickInjectBtn** (click injection button types). For details, see [Subscribing to Click Injection Notifications](#).

## 10.7.6 100.7.13 Updates

1. Fixed issues and provided more stable experience.

## 10.7.7 100.7.8 Updates

1. Fixed issues and provided more stable experience.

## 10.7.8 100.7.6 Updates

1. Fixed issues and provided more stable experience.

## 10.7.9 100.7.5 Updates

1. Added the **setServerAddress** API for setting login server information. For details, see [Setting Login Server Information](#).
2. Added the **setProxy** API for setting proxy information. For details, see [Setting Proxy Information](#).
3. Added the **setCAVerifyInfo** API for setting certificate verification information. For details, see [Setting Certificate Verification Information](#).
4. Added the **setTransparentWnd** API for making windows transparent during screen sharing. For details, see [Making Windows Transparent During Screen Sharing](#).
5. Added the **startProjection** API for starting projection. For details, see [Starting Projection](#).
6. Added **onMeetingInfoChanged** for notifications of ongoing meeting information changes. For details, see [Subscribing to Notifications of Ongoing Meeting Information Changes](#).
7. Added the **handle** field to the main window information. For details, see [Obtaining Information About the Main Window](#).
8. Added fields **autoMuteMode** (whether to automatically mute soft client guests when they join the meeting), **hardTerminalAutoMuteMode** (whether to automatically mute hard terminal guests when they join the meeting), and **defaultSummaryState** (whether the cloud recording contains minutes) to the APIs for scheduling, editing, creating, and querying a meeting. For details, see [Scheduling a Meeting](#), [Editing a Meeting](#), [Creating a Meeting](#), and [Obtaining Meeting Details](#).
9. Added the **isP2pConf** field (whether the meeting is an instant meeting) to the incoming meeting call information. For details, see [Subscribing to Incoming Call Notifications](#).
10. Added the **corpEnableSummary** parameter (whether minutes are supported) to the enterprise configuration notification. For details, see [Subscribing to Enterprise Configuration Notifications](#).

## 10.7.10 100.5.5 Updates

1. Added the **onAudioFrameNotify** notification to notify you of the audio stream frame data. For details, see [Subscribing to Notifications of Reporting Audio Stream Frame Data](#).
2. Added the **setAudioRawDataOutputConfig** API for enabling or disabling audio streams. For details, see [Enabling or Disabling Audio Streams](#).
3. Added the **userUUID** parameter to the basic participant information. For details, see [AttendeeBaseInfo](#).

## 10.7.11 100.3.7 Updates

1. Fixed an issue where custom profile pictures are not displayed in meetings on the macOS platform, improving user experience.

## 10.7.12 100.3.6 Updates

1. Added the enumerated value **HWM\_CAPABILITY\_SUPPORT\_GUEST\_INVITE** (participant invitation) to the **enableCapability** API. For details, see [Enabling or Disabling Functions](#).
2. Fixed issues and provided more stable experience.

## 10.7.13 90.12.7 Updates

1. Fixed issues and provided more stable experience.

## 10.7.14 90.12.5 Updates

1. Added the **showToast** API for displaying a toast message. For details, see [Displaying a Toast Message](#).
2. Added the **getMainWindowInfo** API for obtaining the main window information. For details, see [Obtaining Information About the Main Window](#).
3. Added the **confResType** parameter (meeting resource type) for creating and scheduling a meeting. For details, see [Creating a Meeting](#) and [Scheduling a Meeting](#).
4. Added **onShareVmrlInfoNotify** to notify you when information about shared cloud meeting rooms was changed. For details, see [Subscribing to Shared Cloud Meeting Room Changes](#).
5. Added the **getErrorMessage** API for obtaining an error message, which can be used for prompt. For details, see [Obtaining an Error Message](#).
6. Added the **setGuaranteedIpAddresses** API for setting guaranteed IP addresses for meeting control to keep on-premises data within your enterprise or support network interruption survival. For details, see [Setting Guaranteed IP Addresses for Meeting Control](#).
7. Added the **copy\_audience\_conf\_info** parameter to the **config** API to support the injection of the button used to copy the link to a webinar for attendees. For details, see [JSON Description for UI Configuration](#).



## 10.7.15 90.10.8 Updates

1. Fixed issues and provided more stable experience.

## 10.7.16 90.10.5 Updates

1. Added the **onP2PConfRecordNotify** callback of MMR instant meeting records. For details, see [Subscribing to the Callback of Instant Meeting Records](#).
2. Decoupled .node files from the Electron version. You do not need to recompile the .node files.
3. Deleted the script for compiling .node files from the Electron SDK project package.

## 10.7.17 90.9.5 Updates

1. Added the **concurrentParticipants** parameter (maximum number of participants in a meeting) to **CreateConfInfo**, **BookConfParam**, **EditConfParam**, and **ConfDetail**. For details, see [Scheduling a Meeting](#), [Editing a Meeting](#), [Creating a Meeting](#), and [Obtaining Meeting Details](#).
2. Added the **setLogPath** API for setting a log path. For details, see [Setting the Path for Saving Logs](#).
3. Added the **onConfIncomingNotify** notification to notify you of incoming meeting calls. For details, see [Subscribing to Incoming Call Notifications](#).

## 10.7.18 90.7.5 Updates

1. Added the **startP2pConf** API for starting an instant meeting. For details, see [Starting an Instant Meeting](#).
2. Added the **getUserSavePath** API for obtaining the save path of a user (supported only by Windows). For details, see [Obtaining the Save Path](#).
3. Added the **domain** parameter to the API for joining a meeting using a random code. For details, see [Joining a Meeting Using a Random Code](#).

## 10.7.19 90.6.5 Updates

1. Deprecated the **StartCall** API.
2. Added the **customInfo** parameter to the APIs for scheduling, editing, creating, and querying a meeting and meeting details notifications. For details, see [Scheduling a Meeting](#), [Editing a Meeting](#), [Creating a Meeting](#), [Obtaining Meeting Details](#), and [Subscribing to Meeting Details Notifications](#).
3. Added the **isSupportMultiAppLogin** parameter (whether to support login to multiple applications on the same device) to the **Init** API. For details, see [Initializing the SDK](#).
4. Added **OnPoorNetworkQualityInfoNotify** for notifications about poor network connection. For details, see [Subscribing to Poor Network Connection Notifications](#).

5. Added error code 412100044 indicating that the server is degraded. After receiving this error code, you can continue to call the API to join a meeting offline. (For details about the adaptation mode of this error code, see the demo.)

## 10.7.20 80.15.21 Updates

1. Fixed issues and provided more stable experience.

## 10.7.21 80.15.5 Updates

1. Added the **isForcedVpn** parameter to the **setNetworkMode** API for setting the network mode. For details, see [Setting the Network Mode](#).

## 10.7.22 80.13.6 Updates

1. Fixed issues and provided more stable experience.

## 10.7.23 80.13.5 Updates

1. Added the language customization function (supported only by Windows) to the **setLanguage** API for setting the language. For details, see [Setting the Language](#).

## 10.7.24 80.12.7 Updates

1. Fixed issues and provided more stable experience.

## 10.7.25 80.12.6 Updates

1. Added the enumerated value **HWM\_CAPABILITY\_CONFIRM\_RECORD** (whether to display the recording security prompt) to the **enableCapability** API. For details, see [Enabling or Disabling Functions](#).
2. Fixed issues and provided more stable experience.

## 10.7.26 80.12.5 Updates

1. Changed the conditions for uploading profile pictures (to check the type and size of profile pictures). The Windows supports the API for uploading a profile picture. For details, see [Uploading a Profile Picture](#).
2. Fixed issues and provided more stable experience.

## 10.7.27 80.10.5 Updates

1. Added the **confAllowJoinUser** and **isOpenWaitingRoom** parameters to the APIs for obtaining the cloud meeting room list and modifying cloud meeting room information.

For details, see [Obtaining the Cloud Meeting Room List](#) and [Modifying Cloud Meeting Room Information](#).

2. Added the **SetShareScreenPermission** API for setting the sharing permission. For details, see [Setting the Sharing Permission](#).

3. Added the **isStopConflictConf** parameter to the API for joining a meeting. For details, see [Joining a Meeting](#).
4. Added the **vmrConfIdType** parameter to the API for obtaining meeting details. For details, see [Obtaining Meeting Details](#).
5. Added the **deptCode** parameter to the API for login using an app ID. For details, see [App ID Login](#).

## 10.7.28 80.9.5 Updates

1. Added the **allowLive** parameter to the APIs for obtaining meeting details and editing a meeting for the macOS platform. For details, see [Obtaining Meeting Details](#) and [Editing a Meeting](#).
2. Added APIs related to recurring meetings. For details, see [Scheduling a Recurring Meeting Series](#), [Editing a Recurring Meeting Series](#), [Editing a Recurring Meeting](#), [Canceling a Recurring Meeting Series](#), and [Canceling a Recurring Meeting](#).
3. Added the enumerated value **HWM\_CAPABILITY\_BREAKOUT\_CONF** (whether the breakout room function is enabled) to the API for enabling a function. For details, see [Enabling or Disabling Functions](#).
4. Added the **isInBreakoutSubConf** parameter to the meeting details notification. For details, see [Subscribing to Meeting Details Notifications](#). The macOS SDK will support this change in the next version.
5. Added common error codes for the Electron SDK. For details, see [Common Error Codes](#).

## 10.7.29 80.8.5 Updates

1. Added the **allowLive** parameter to the APIs for obtaining meeting details and editing a meeting. For details, see [Obtaining Meeting Details](#) and [Editing a Meeting](#). The macOS SDK will support this change in the next version.
2. Added the **isCreator** parameter to the meeting details notification. For details, see [Subscribing to Meeting Details Notifications](#).
3. Added the **allowGuestStartConf** parameter for allowing guests to join the meeting at the time you specify before the start time (**allowGuestStartConfTime**) when you schedule or edit a meeting. For details, see [Scheduling a Meeting](#) and [Editing a Meeting](#).

## 10.7.30 80.7.5 Updates

1. Added the **showSettingWindow** API for displaying the settings window. For details, see [Displaying the Settings Window](#).
2. Added the **isOtherCorpConf** parameter to the meeting details notification **OnConfInfoNotify**. For details, see [Subscribing to Meeting Details Notifications](#).
3. Added the participant details button type **HWM\_CLICK\_INJECT\_PARTICIPANT\_ITEM\_BTN\_PARTICIPANT\_DETAIL** to the **OnClickInjectParticipantItemBtnNotify** notification and added the Huawei Cloud

Meeting account parameter **accountId**. For details, see [Subscribing to Click Injection Notifications of Participant List Subitems](#).

4. Added the **participant\_detail** parameter to the **Config** API to support participant profile picture injection. For details, see [JSON Description for UI Configuration](#).

### 10.7.31 80.5.11 Updates

1. Added the **statusBar** parameter for hiding the button on the recording status bar to the **config** API. For details, see [JSON Description for UI Configuration](#).

2. Added the **disableVoicePrompts** API for disabling prompt tones. For details, see [Disabling Prompt Tones](#).

### 10.7.32 80.5.5 Updates

1. Added the **exit** API for macOS. For details, see [Exiting the SDK](#).

2. Added the waiting room switch to the APIs for creating, scheduling, editing, and querying a meeting for macOS. For details, see [Creating a Meeting](#), [Scheduling a Meeting](#), [Editing a Meeting](#), and [Obtaining Meeting Details](#).

3. Added the configuration of hiding non-video participants to the API for configuring function statuses. For details, see [Enabling or Disabling Functions](#).

4. Added the server exception error code to the meeting end notification. For details, see [Subscribing to Meeting End Notifications](#).

## 10.8 Change History

Table 10-448 Change history

| Released On | Version  | Change Description  |
|-------------|----------|---|
| 2024-12-03  | 100.10.7 | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.10.7 Updates</a> . |
| 2024-11-27  | 100.10.6 | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">100.10.6 Updates</a> . |

| Released On | Version  | Change Description  |
|-------------|----------|---|
| 2024-11-18  | 100.10.5 | <ol style="list-style-type: none"> <li>1. Added the Electron SDK for Mac devices with Apple-developed M-series chips.</li> <li>2. Added the API for automatically hiding the meeting control bar (for Windows only).</li> <li>3. Added the API for customizing the text for a specific scenario.</li> <li>4. Added the API for customizing an icon for a specific scenario (for Windows only).</li> </ol> For details, see <a href="#">100.10.5 Updates</a> .   |
| 2024-10-31  | 100.9.7  | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">100.9.7 Updates</a> .   |
| 2024-10-12  | 100.9.5  | <ol style="list-style-type: none"> <li>1. Added the <b>startTimeStamp</b> (meeting start time) and <b>endTimeStamp</b> (meeting end time) fields and discarded the <b>startTime</b> and <b>endTime</b> fields.</li> <li>2. Added the <b>OnAddAttendeeNotify</b> notification to notify you of participant addition results.</li> <li>3. Added the <b>OnClickInjectCallAllBtnNotify</b> notification to notify you when the <b>Call all</b> button in the participant list is clicked.</li> <li>4. Added the <b>OnUserSavePathChanged</b> notification to notify you when the user data path is changed.</li> <li>5. Added the <b>thirdUserId</b> field (third-party user ID) to the incoming meeting information.</li> <li>6. Added <b>HWM_CLICK_INJECT_BTN_CALL_ALL</b> (calling all absent participants) to <b>ClickInjectBtn</b> (click injection button types).</li> </ol> For details, see <a href="#">100.7.8 Updates</a> . |
| 2024-10-12  | 100.7.13 | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">100.7.13 Updates</a> .  |
| 2024-08-23  | 100.7.8  | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> For details, see <a href="#">100.7.8 Updates</a> .   |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2024-08-16  | 100.7.6 | <p>1. Fixed issues and provided more stable experience.</p> <p>For details, see <a href="#">100.7.6 Updates</a>.</p>  |
| 2024-08-05  | 100.7.5 | <p>1. Added the <b>setServerAddress</b> API for setting login server information.</p> <p>2. Added the <b>setProxy</b> API for setting proxy information.</p> <p>3. Added the <b>setCAVerifyInfo</b> API for setting certificate verification information.</p> <p>4. Added the <b>setTransparentWnd</b> API for making windows transparent during screen sharing.</p> <p>5. Added the <b>startProjectionWithParam</b> API for starting projection.</p> <p>6. Added <b>onMeetingInfoChanged</b> to notify you of ongoing meeting information changes.</p> <p>7. Added the <b>handle</b> field to the main window information.</p> <p>8. Added fields <b>autoMuteMode</b> (whether to automatically mute soft client guests when they join the meeting), <b>hardTerminalAutoMuteMode</b> (whether to automatically mute hard terminal guests when they join the meeting), and <b>defaultSummaryState</b> (whether the cloud recording contains minutes) to the APIs for scheduling, editing, creating, and querying a meeting.</p> <p>9. Added the <b>isP2pConf</b> field (whether the meeting is an instant meeting) to incoming meeting call information.</p> <p>10. Added the <b>corpEnableSummary</b> parameter (whether minutes are supported) to the enterprise configuration notification.</p> <p>For details, see <a href="#">100.7.5 Updates</a>.</p> |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2024-06-13  | 100.5.5 | <ol style="list-style-type: none"><li>1. Added the <b>onAudioFrameNotify</b> notification to notify you of the audio stream frame data.</li><li>2. Added the <b>setAudioRawDataOutput-Config</b> API for enabling or disabling audio streams.</li><li>3. Added the <b>userUUID</b> parameter to the basic participant information.</li></ol> For details, see <a href="#">100.5.5 Updates</a> . |
| 2024-05-09  | 100.3.7 | <ol style="list-style-type: none"><li>1. Fixed an issue where custom profile pictures are not displayed in meetings on the macOS platform, improving user experience.</li></ol> For details, see <a href="#">100.3.7 Updates</a> .  |
| 2024-04-23  | 100.3.6 | <ol style="list-style-type: none"><li>1. Added the enumerated value <b>HWM_CAPABILITY_SUPPORT_GUEST_INVITE</b> (participant invitation) to the <b>enableCapability</b> API.</li><li>2. Fixed issues and provided more stable experience.</li></ol> For details, see <a href="#">100.3.6 Updates</a> .   |
| 2024-02-17  | 90.12.7 | <ol style="list-style-type: none"><li>1. Fixed issues and provided more stable experience.</li></ol> For details, see <a href="#">90.12.7 Updates</a> .   |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2024-01-05  | 90.12.5 | <ol style="list-style-type: none"> <li>1. Added the <b>showToast</b> API for displaying a toast message.</li> <li>2. Added the <b>getMainWindowInfo</b> API for obtaining the main window information.</li> <li>3. Added the <b>confResType</b> parameter for creating and scheduling a meeting.</li> <li>4. Added the <b>onShareVmrInfoNotify</b> notification to notify you when information about shared cloud meeting rooms was changed.</li> <li>5. Added the <b>getErrorMessage</b> API for obtaining an error message, which can be used for prompt.</li> <li>6. Added the <b>setGuaranteedIpAddresses</b> API for setting guaranteed IP addresses for meeting control to keep on-premises data within your enterprise or support network interruption survival.</li> <li>7. Added the <b>copy_audience_conf_info</b> parameter to the <b>config</b> API to support the injection of the button used to copy the link to a webinar for attendees.</li> </ol> <p>For details, see <a href="#">90.12.5 Updates</a>.</p> |
| 2023-12-13  | 90.10.8 | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">90.10.8 Updates</a>.</p>  |
| 2023-11-23  | 90.10.5 | <ol style="list-style-type: none"> <li>1. Added the <b>onP2PConfRecordNotify</b> callback of MMR instant meeting records.</li> <li>2. Decoupled .node files from the Electron version. You do not need to recompile the .node files.</li> <li>3. Deleted the script for compiling .node files from the Electron SDK project package.</li> </ol> <p>For details, see <a href="#">90.10.5 Updates</a>.</p>   |



| Released On | Version  | Change Description  |
|-------------|----------|---|
| 2023-10-09  | 90.9.5   | <ol style="list-style-type: none"> <li>1. Added the <b>concurrentParticipants</b> parameter (maximum number of participants in a meeting).</li> <li>2. Added the <b>setLogPath</b> API for setting a log path.</li> <li>3. Added the <b>onConflncomingNotify</b> notification to notify you of incoming meeting calls.</li> </ol> <p>For details, see <a href="#">90.9.5 Updates</a>.</p>   |
| 2023-08-24  | 90.7.5   | <p>Fixed Windows issues and provided more stable experience.</p>  |
| 2023-08-10  | 90.7.5   | <ol style="list-style-type: none"> <li>1. Added the <b>startP2pConf</b> API for starting an instant meeting.</li> <li>2. Added the <b>getUserSavePath</b> API for obtaining the save path of a user.</li> <li>3. Added the <b>domain</b> parameter to the API for joining a meeting using a random code.</li> </ol> <p>For details, see <a href="#">90.7.5 Updates</a>.</p>   |
| 2023-06-01  | 90.6.5   | <ol style="list-style-type: none"> <li>1. Deprecated the <b>StartCall</b> API.</li> <li>2. Added the <b>customInfo</b> field to the APIs for scheduling, editing, creating, and querying a meeting.</li> <li>3. Added the <b>isSupportMultiAppLogin</b> parameter (whether to support login to multiple applications on the same device) to the <b>Init</b> API.</li> <li>4. Added <b>OnPoorNetworkQualityInfo-Notify</b> for notifications about poor network connection.</li> <li>5. Added error code 412100044 indicating that the server is degraded. After receiving this error code, you can continue to call the API to join a meeting offline. (For details about the adaptation mode of this error code, see the demo.)</li> </ol> <p>For details, see <a href="#">90.6.5 Updates</a>.</p> |
| 2023-05-11  | 80.15.21 | <ol style="list-style-type: none"> <li>1. Fixed issues and provided more stable experience.</li> </ol> <p>For details, see <a href="#">80.15.21 Updates</a>.</p>  |

| Released On | Version | Change Description   |
|-------------|---------|--|
| 2023-03-29  | 80.15.5 | 1. Added the <b>isForcedVpn</b> parameter to the <b>setNetworkMode</b> API for setting the network mode.<br>For details, see <a href="#">80.15.5 Updates</a> .   |
| 2023-02-23  | 80.13.6 | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">80.13.6 Updates</a> .   |
| 2023-02-07  | 80.13.5 | 1. Added the language customization function to the <b>setLanguage</b> API for setting the language.<br>For details, see <a href="#">80.13.5 Updates</a> .   |
| 2023-01-17  | 80.12.7 | 1. Fixed issues and provided more stable experience.<br>For details, see <a href="#">80.12.7 Updates</a> .   |
| 2023-01-09  | 80.12.6 | 1. Added the enumerated value <b>HWM_CAPABILITY_CONFIRM_RECORD</b> (whether to display the recording security prompt) to the <b>enableCapability</b> API.<br>2. Fixed issues and provided more stable experience.<br>For details, see <a href="#">80.12.6 Updates</a> .                |
| 2022-12-24  | 80.12.5 | 1. Changed the conditions for uploading profile pictures (to check the type and size of profile pictures). The Windows supports the API for uploading a profile picture.<br>2. Fixed issues and provided more stable experience.<br>For details, see <a href="#">80.12.5 Updates</a> . |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2022-11-16  | 80.10.5 | <ol style="list-style-type: none"> <li>1. Added the <b>confAllowJoinUser</b> and <b>isOpenWaitingRoom</b> parameters to the APIs for obtaining the cloud meeting room list and modifying cloud meeting room information.</li> <li>2. Added the <b>SetShareScreenPermission</b> API for setting the sharing permission.</li> <li>3. Added the <b>isStopConflictConf</b> parameter to the API for joining a meeting.</li> <li>4. Added the <b>vmrConfIdType</b> parameter to the API for obtaining meeting details.</li> <li>5. Added the <b>deptCode</b> parameter to the API for login using an app ID.</li> </ol> <p>For details, see <a href="#">80.10.5 Updates</a>.</p> |
| 2022-10-08  | 80.9.5  | <ol style="list-style-type: none"> <li>1. Added the <b>allowLive</b> parameter to the APIs for obtaining meeting details and editing a meeting for the macOS platform.</li> <li>2. Added APIs related to recurring meetings.</li> <li>3. Added the enumerated value <b>HWM_CAPABILITY_BREAKOUT_CONF</b> (whether the breakout room function is enabled) to the API for enabling a function.</li> <li>4. Added the <b>isInBreakoutSubConf</b> parameter to the meeting details notification.</li> <li>5. Added common error codes for the Electron SDK.</li> </ol> <p>For details, see <a href="#">80.9.5 Updates</a>.</p>   |
| 2022-09-02  | 80.8.5  | <ol style="list-style-type: none"> <li>1. Added the <b>allowLive</b> parameter to the APIs for obtaining meeting details and editing a meeting.</li> <li>2. Added the <b>isCreator</b> parameter to the meeting details notification.</li> <li>3. Added the <b>allowGuestStartConf</b> parameter for allowing guests to join the meeting at the time you specify before the start time (<b>allowGuestStartConf-Time</b>) when you schedule or edit a meeting.</li> </ol> <p>For details, see <a href="#">80.8.5 Updates</a>.</p>  |

| Released On | Version | Change Description  |
|-------------|---------|---|
| 2022-07-30  | 80.7.5  | <p>1. Added the <code>showSettingWindow</code> API for displaying the settings window.</p> <p>2. Added the <code>isOtherCorpConf</code> parameter to the meeting details notification <code>OnConfInfoNotify</code>.</p> <p>3. Added the participant details button type <code>HWM_CLICK_INJECT_PARTICIPANT_ITEM_BTN_PARTICIPANT_DETAIL</code> to the <code>OnClickInjectParticipantItemBtnNotify</code> notification and added the Huawei Cloud Meeting account parameter <code>accountId</code>.</p> <p>4. Added the <code>participant_detail</code> parameter to the <code>Config</code> API to support participant profile picture injection.</p> <p>For details, see <a href="#">80.7.5 Updates</a>.</p> |
| 2022-06-17  | 80.5.11 | <p>1. Added the <code>statusBar</code> parameter for hiding the button on the recording status bar to the <code>config</code> API.</p> <p>2. Added the <code>disableVoicePrompts</code> API for disabling prompt tones.</p> <p>For details, see <a href="#">80.5.11 Updates</a>.</p>  |
| 2022-05-18  | 80.5.5  | <p>1. Added the <code>exit</code> API for macOS.</p> <p>2. Added the waiting room switch to the APIs for creating, scheduling, editing, and querying a meeting for macOS.</p> <p>3. Added the configuration of hiding non-video participants to the API for configuring function statuses.</p> <p>4. Added the server exception error code to the meeting end notification.</p> <p>For details, see <a href="#">80.5.5 Updates</a>.</p>   |
| 2022-04-16  | 70.16.5 | This issue is the first official release.   |

# 11 Known Security Vulnerabilities of SDKs

**Table 11-1** Known SDK security vulnerabilities and rectification versions

| Security Vulnerability   | Involved SDKs  | Rectification Version | Release Time |
|--|--|-----------------------|--------------|
| Updated the OpenSSL version to 3.0.7 to fix the following vulnerabilities:<br>CVE-2023-0215<br>CVE-2023-2650<br>CVE-2023-0216<br>CVE-2022-4304<br>CVE-2023-0217<br>CVE-2023-1255<br>CVE-2023-0286<br>CVE-2023-0465<br>CVE-2023-0401<br>CVE-2023-0466<br>CVE-2023-0464<br>CVE-2023-2975<br>CVE-2023-5363<br>CVE-2023-3446<br>CVE-2022-3996<br>CVE-2023-3817<br>CVE-2022-4450<br>CVE-2022-4203 | Android SDK/iOS SDK/<br>Windows SDK/Mac SDK/<br>Electron SDK | 90.9.5                | 2023-9-26    |

| Security Vulnerability  | Involved SDKs  | Rectification Version | Release Time |
|---|--|-----------------------|--------------|
| Updated the curl version to 8.1.2 to fix the following vulnerabilities:<br>CVE-2023-27533<br>CVE-2023-27534<br>CVE-2023-27535<br>CVE-2023-27536<br>CVE-2023-27537<br>CVE-2023-27538 | Android SDK/iOS SDK/<br>Windows SDK/Mac SDK/<br>Electron SDK | 90.7.5                | 2023-8-4     |
| Updated the wxSQLite3 version to 4.8.2 to fix the following vulnerability:<br>CVE-2022-35737  | Android SDK/iOS SDK/<br>Windows SDK/Mac SDK/<br>Electron SDK | 80.9.5                | 2022-10-15   |

# 12 FAQs

---

## 12.1 Huawei Cloud Meeting Resource Types

Huawei Cloud Meeting resources are classified into two types:

1. Concurrent participant resources: If an enterprise purchases concurrent participant resources, users in the enterprise can flexibly hold meetings as long as the total number of online participants in all meetings does not exceed the number of concurrent participant resources of the enterprise. In a single meeting, the number of video participants cannot exceed 500.
2. Cloud meeting rooms: If an enterprise purchases cloud meeting rooms, the number of participants in each meeting room is fixed, which can be 10, 50, 100, 200, 300, 400, or 500. For example, if an enterprise purchases three 100-participant cloud meeting rooms, up to three meetings can be held at the same time, even if the number of participants in each meeting is less than 100.

The two types of resources can be purchased at the same time. When creating a meeting, you need to specify the resources used for holding the meeting. If you do not specify the resources, the meeting is held using concurrent participant resources by default. For details, see [Recommended Subscription Plans](#).

## 12.2 How Do I Collect SDK Logs?

### Collecting Android SDK Logs

If the log storage path has not been changed during SDK initialization, the default log path is `/sdcard/Android/data/Application_package_name/files/log`. You can use the file management tool on your device to pack the entire log directory. You can also use adb to obtain log files. The procedure is as follows:

- Step 1** Connect your mobile phone to a computer using a USB cable, enable the developer mode on the mobile phone, open the **Command Prompt** window, type **adb devices**, and press **Enter** to check whether your mobile phone is connected to the computer.

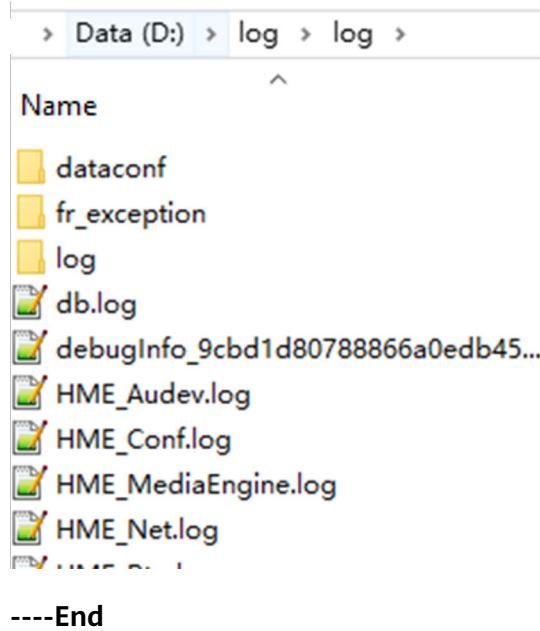
**Step 2** Enter the `adb pull Log path Target path`, and press **Enter**.

**Figure 12-1** Obtaining log using the CLI

```
C:\Users\pwx178217>adb pull /storage/sdcard0/Android/data/.../files/log d:/log
/storage/sdcard0/Android/data/.../files/log/: 46 files pulled. 33.1 MB/s (28781983 bytes in 0.830s)
```

**Step 3** Find the SDK logs in the `D:\log\log` directory.

**Figure 12-2** Log directory

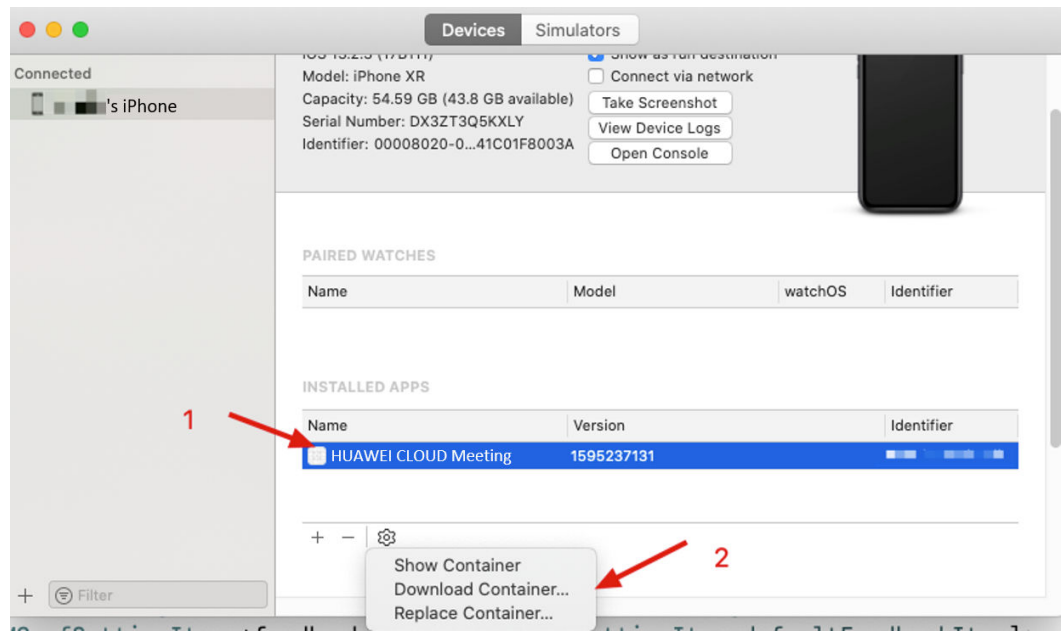


## Obtaining iOS SDK Logs

**Step 1** Open the Xcode, and choose **Window > Devices and Simulators** from the menu bar.

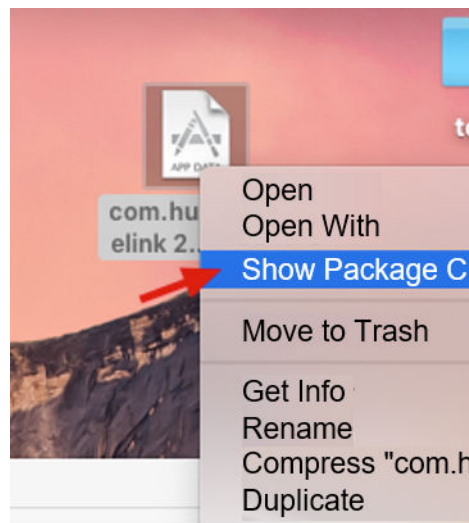


**Figure 12-3** Downloading the file



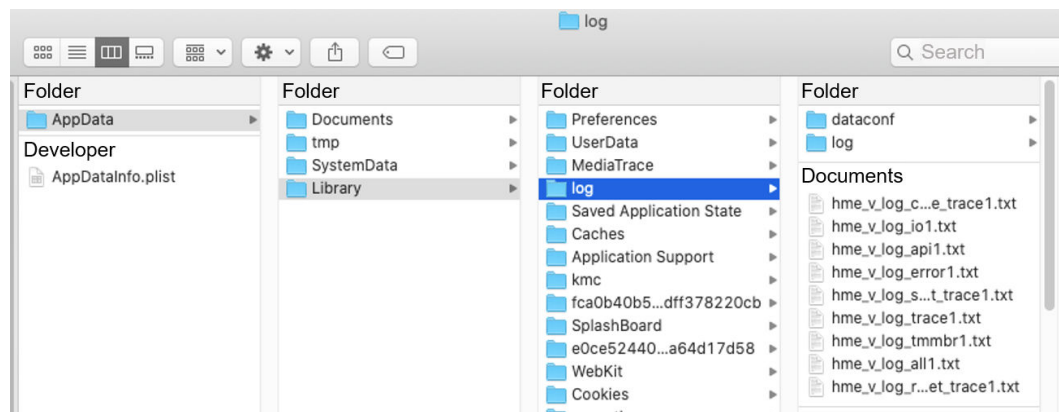
**Step 2** Right-click the file downloaded in **Step 1** and choose **Show Package Contents** from the shortcut menu.

**Figure 12-4** Choosing Show Package Contents



**Step 3** View logs in the displayed package contents.

Figure 12-5 Log path



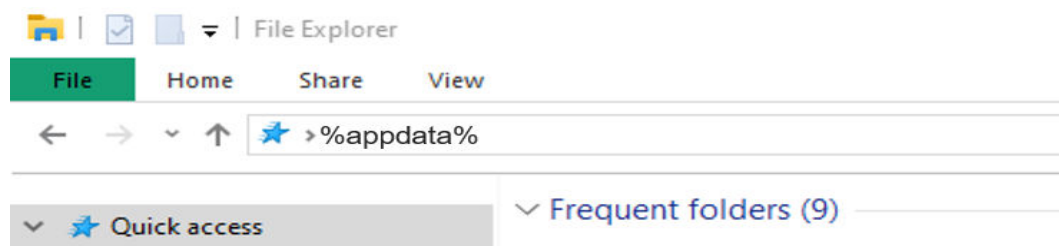
----End

## Obtaining Windows SDK Logs

If you have customized a log storage path, obtain logs from that path. If the default log path is used, perform the following steps to obtain logs:

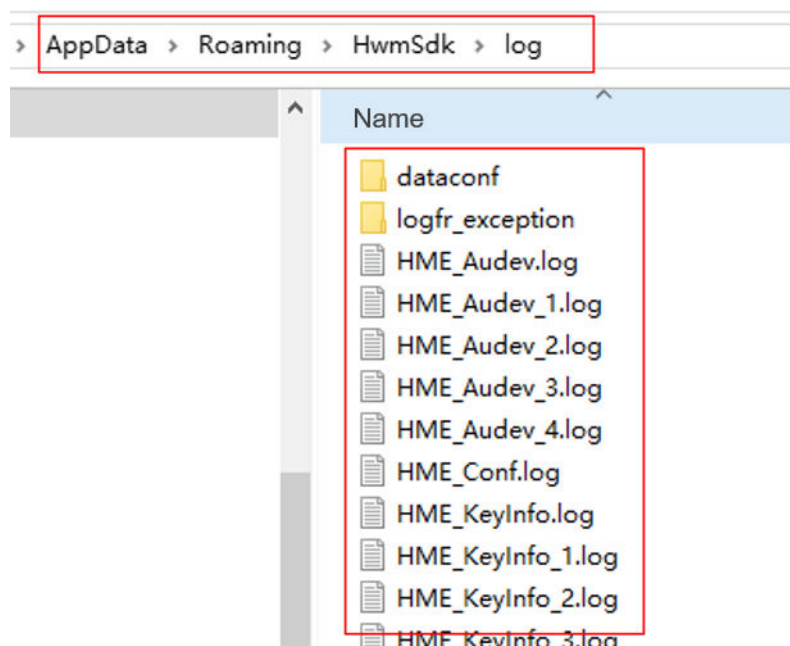
**Step 1** Open **File Explorer**, enter **%appdata%** in the address bar, and press **Enter**.

Figure 12-6 File Manager



**Step 2** Find the **HwmSdk** directory. The SDK logs are stored in **HwmSdk\log**.

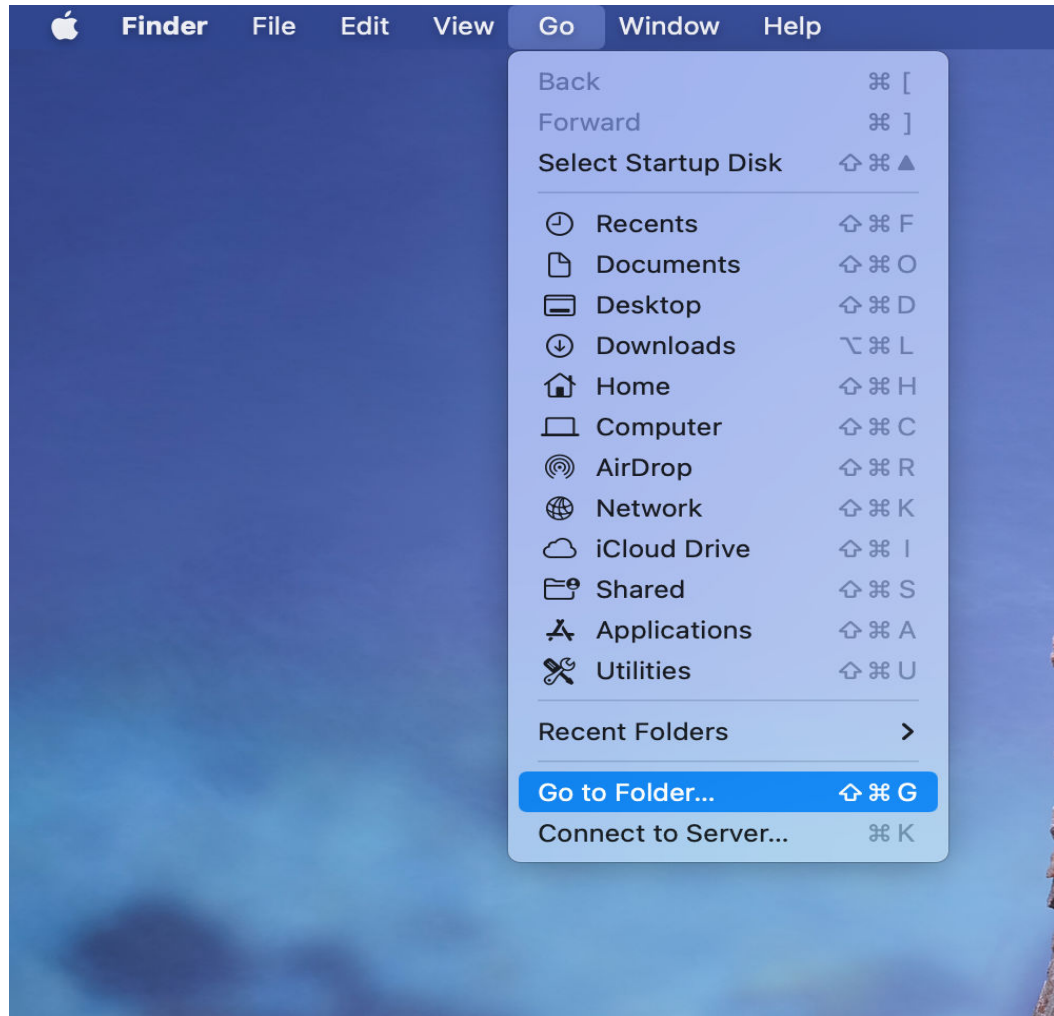
**Figure 12-7** HwmSdk directory



----End

## Obtaining macOS SDK Logs

**Step 1** Go to **Finder** and choose **Go > Go to Folder**.



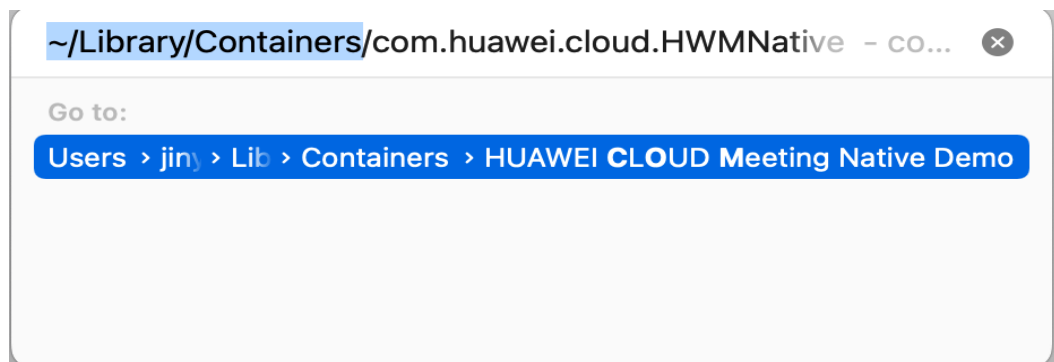
**Step 2** Enter the path.

If App Sandbox is enabled, the log path is:

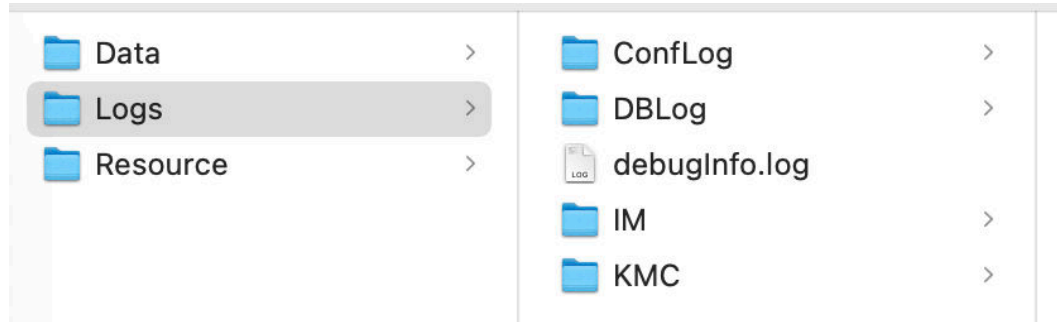
```
~/Library/Containers/com.huawei.cloud.welinkdemo/Data/Library/Application Support/HWMUISDKNativeDemo
```

If App Sandbox is disabled, the log path is:

```
~/Library/Application Support/HWMUISDKNativeDemo
```



**Step 3** Open the **Logs** folder and find the logs of the corresponding module.



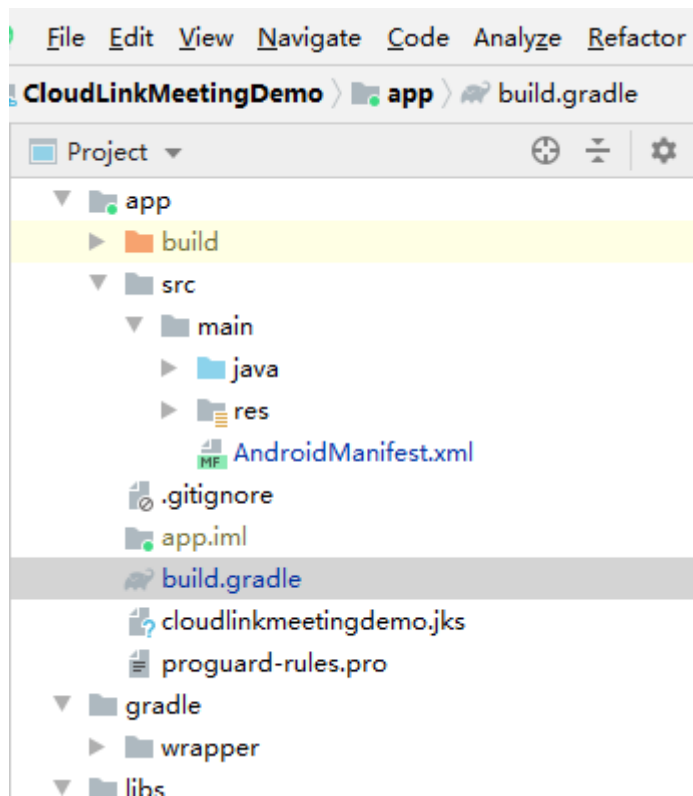
----End

## 12.3 Android SDK

### 12.3.1 How Do I Configure 64-bit Libraries?

**Step 1** Open the **build.gradle** file in the project directory.

**Figure 12-8** Project directories



**Step 2** Add the following information to the **build.gradle** file:

```
ndk {  
    abiFilters "armeabi-v7a", "arm64-v8a"  
}
```

**Figure 12-9** Supporting 32-bit and 64-bit libraries

```
defaultConfig {  
    applicationId "com.huawei.cloudlinkmeetingdemo"  
    minSdkVersion 21  
    targetSdkVersion 26  
    versionCode 1  
    versionName "1.0.0"  
    multiDexEnabled true  
    ndk {  
        abiFilters "armeabi-v7a", "arm64-v8a"  
    }  
}
```

**Figure 12-10** Supporting only 32-bit libraries

```
defaultConfig {  
    applicationId "com.huawei.cloudlinkmeetingdemo"  
    minSdkVersion 21  
    targetSdkVersion 26  
    versionCode 1  
    versionName "1.0.0"  
    multiDexEnabled true  
    ndk {  
        abiFilters "armeabi-v7a"  
    }  
}
```

**Figure 12-11** Supporting only 64-bit libraries

```
defaultConfig {  
    applicationId "com.huawei.cloudlinkmeetingdemo"  
    minSdkVersion 21  
    targetSdkVersion 26  
    versionCode 1  
    versionName "1.0.0"  
    multiDexEnabled true  
    ndk {  
        abiFilters "arm64-v8a"  
    }  
}
```

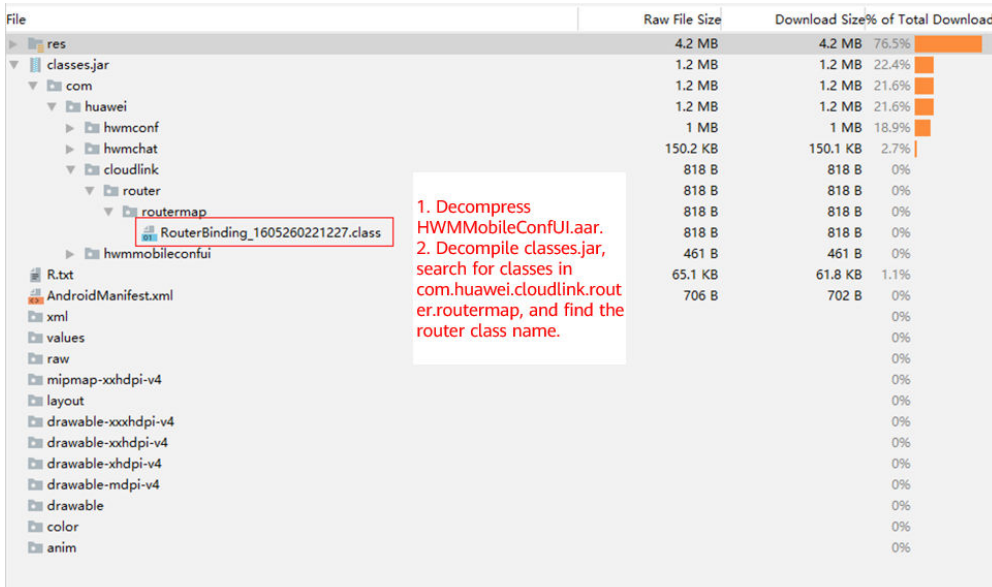
----End

### 12.3.2 What Do I Do If a Route Redirection Error Occurs After I Use a Third-Party Security Software?

A route scheme similar to ARouter is used in the SDK. If a route redirection error occurs after security hardening, the solutions are as follows:

- **Permanent solution:** Contact the technical support engineers of the third-party security software to ignore the package of the class automatically generated by the router. The package path is **com.huawei.cloudlink.router.routermap**.
- **Workaround:** For details, see the following figure. If this solution is used, you need to set the parameters each time an SDK version is released.

Figure 12-12 Workaround



| File                              | Raw File Size | Download Size | % of Total Download |
|-----------------------------------|---------------|---------------|---------------------|
| res                               | 4.2 MB        | 4.2 MB        | 76.5%               |
| classes.jar                       | 1.2 MB        | 1.2 MB        | 22.4%               |
| com                               | 1.2 MB        | 1.2 MB        | 21.6%               |
| huawei                            | 1.2 MB        | 1.2 MB        | 21.6%               |
| hwmconf                           | 1 MB          | 1 MB          | 18.9%               |
| hwmchat                           | 150.2 KB      | 150.1 KB      | 2.7%                |
| cloudlink                         | 818 B         | 818 B         | 0%                  |
| router                            | 818 B         | 818 B         | 0%                  |
| routermap                         | 818 B         | 818 B         | 0%                  |
| RouterBinding_1605260221227.class | 818 B         | 818 B         | 0%                  |
| hwmmobileconfui                   | 461 B         | 461 B         | 0%                  |
| R.txt                             | 65.1 KB       | 61.8 KB       | 1.1%                |
| AndroidManifest.xml               | 706 B         | 702 B         | 0%                  |
| xml                               |               |               | 0%                  |
| values                            |               |               | 0%                  |
| raw                               |               |               | 0%                  |
| mipmap-xxhdpi-v4                  |               |               | 0%                  |
| layout                            |               |               | 0%                  |
| drawable-xxhdpi-v4                |               |               | 0%                  |
| drawable-xxhdpi-v4                |               |               | 0%                  |
| drawable-xhdpi-v4                 |               |               | 0%                  |
| drawable-mdpi-v4                  |               |               | 0%                  |
| drawable                          |               |               | 0%                  |
| color                             |               |               | 0%                  |
| anim                              |               |               | 0%                  |

```
try {
    HashMap<String, String> map = new HashMap<>();
    Set<String> classNames = new HashSet<>();
    classNames.add("com.huawei.cloudlink.router.routermap.RouterBinding_1605258662203");
    for (String className : classNames) {
        Class bindViewClass = Class.forName(className);
        Method method = bindViewClass.getMethod("bind");
        Object object = method.invoke(bindViewClass.newInstance());
        if (object instanceof HashMap) {
            HashMap tempMap = (HashMap) object;
            map.putAll(tempMap);
        }
    }

    Field privateMapField = RouterMap.class.getDeclaredField("map");
    privateMapField.setAccessible(true);
    privateMapField.set(null, map);
} catch (NoSuchFieldException | ClassNotFoundException | NoSuchMethodException e) {
    e.printStackTrace();
} catch (IllegalAccessException e) {
    e.printStackTrace();
} catch (InstantiationException e) {
    e.printStackTrace();
} catch (InvocationTargetException e) {
    e.printStackTrace();
}
```

### 12.3.3 What Should I Do If the SDK Prompts a Message Indicating that It Cannot Switch Between Chinese and English?

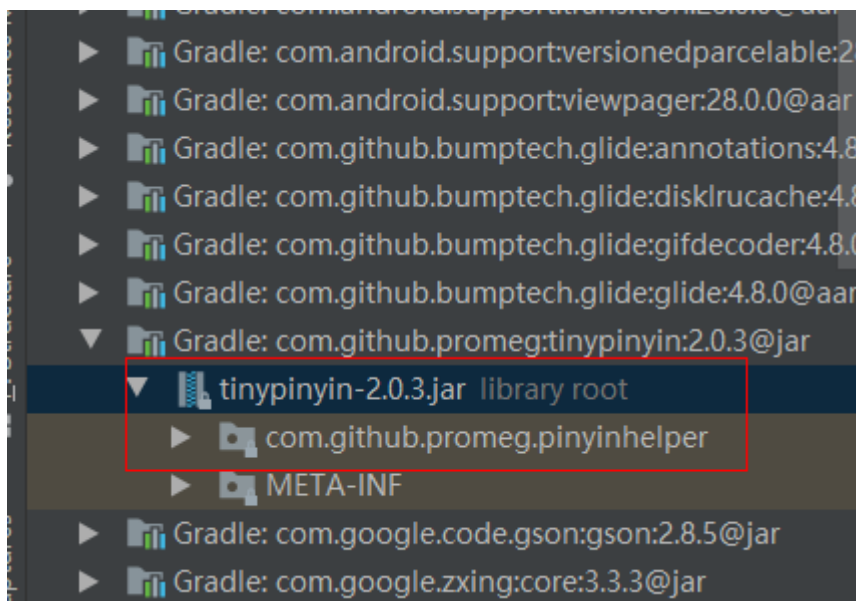
**Solution:** Check whether `resConfigs` is enabled. If enabled, configure `resConfigs("zh", "zh-rCN", "en")`.

### 12.3.4 What Should I Do If SDK Initialization Fails and No Callback or Message Is Displayed When the Meeting Creation or Joining API Is Called

**Solution:** Check whether the `tinypinyin-2.0.3.jar` package is successfully downloaded. If not, download it to the local computer and reference it to the project.



Figure 12-13 tinypinyin-2.0.3.jar file

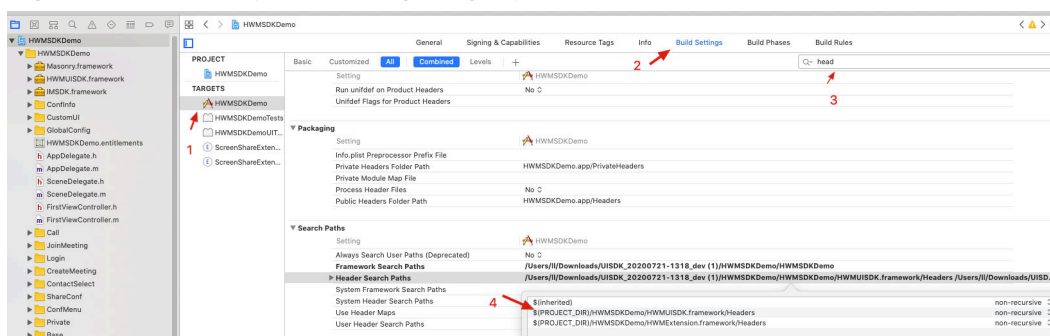


## 12.4 iOS SDK

### 12.4.1 How Do I Use #import"xxx.h" to Import Files in the iOS SDK?

Configure the real path of `HWMUISDK.framework`. You can use `#import"xxxx.h"` to import files.

Figure 12-14 Example of configuring a path



### 12.4.2 What Should I Do If Notification Methods Cannot Be Implemented?

Solve the issue by referring to [precautions](#).

If the precautions cannot solve the issue, print the information before using the delegate method. If the delegate method cannot be printed, find the cause in the code.

```
// Sample code. View the corresponding object as required.
id <HWMNotifyHandler> globalHandler = [HWM SDK getSdkConfig].globalHandler;
```

```
// Print the delegate.  
NSLog(@"Check whether the delegate exists:%@", globalHandler);  
// Check whether the delegate method exists.  
if(globalHandler && [globalHandler respondsToSelector:@selector(onKickedOut:)]){\n    NSLog(@"The delegate method exists.");  
}
```

### 12.4.3 What Should I Do If an Error Is Reported When AFNetworking Is Imported?

Add the following items under **General > HWMSDKDemo > Frameworks, Libraries, and Embedded Content**:

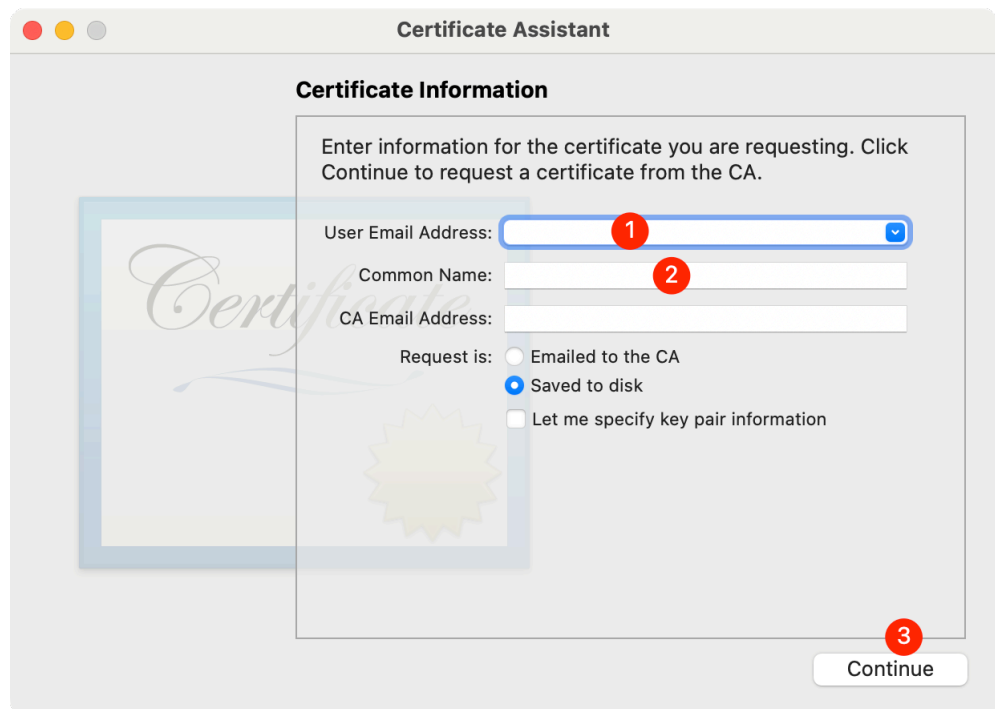
**CFNetwork, SystemConfiguration, MobileCoreServices, and libz.**

### 12.4.4 How Do I Apply for a Certificate for iOS?

**Step 1** Create a developer certificate.

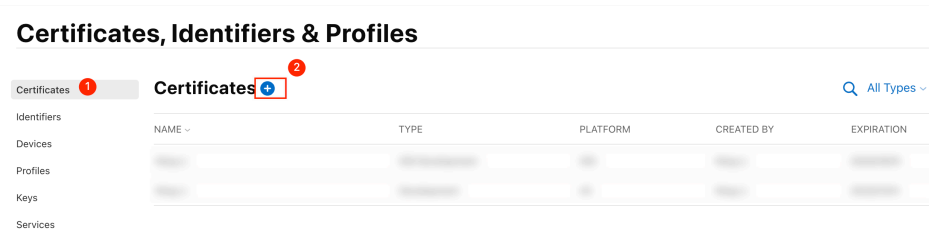
1. Launch Keychain Access. From the **Keychain Access** dropdown, select **Certificate Assistant > Request a Certificate from an existing CA**. Create a certificate request and save the request to the disk.

**Figure 12-15** Requesting a certificate



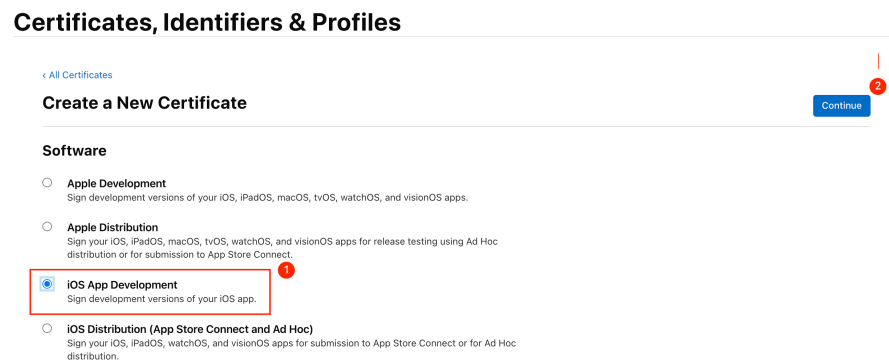
2. Create a developer certificate on the **Certificates** page.

Figure 12-16 Certificates



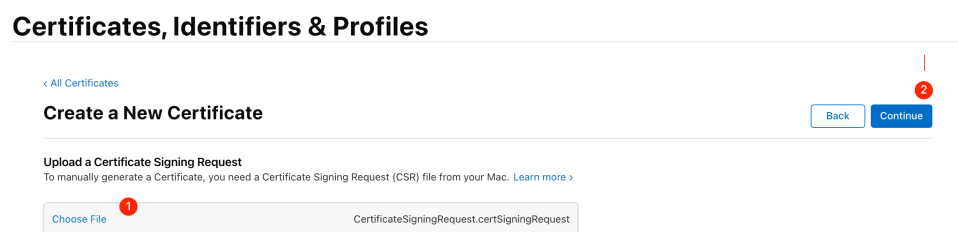
3. Select **iOS App Development** under **Software**.

Figure 12-17 Selecting a certificate type



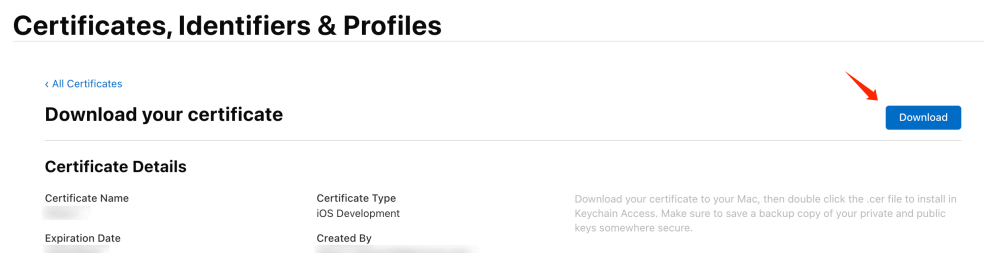
4. Upload the Certificate Signing Request (CSR) file created in [Step 1.1](#).

Figure 12-18 Uploading the CSR file



5. After the certificate is created, download it to the local computer and install it in Keychain Access.

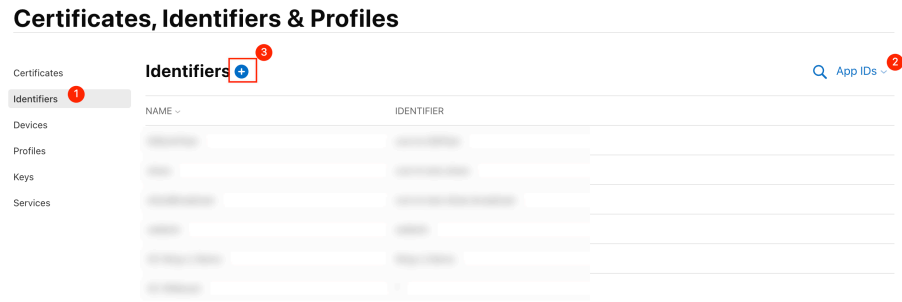
Figure 12-19 Certificate created



## Step 2 Create bundle IDs.

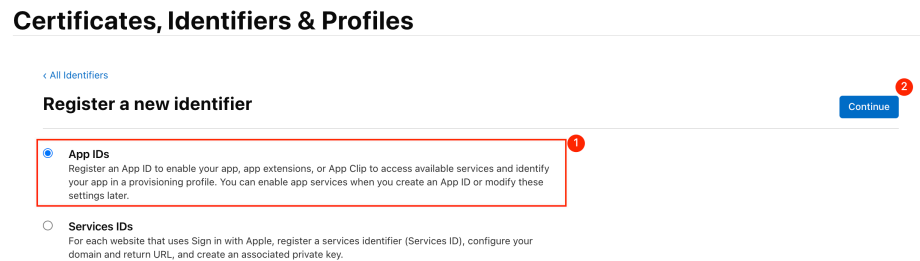
1. Create a bundle ID for HWMSDKDemo on the **Identifiers** page.

**Figure 12-20** Identifiers

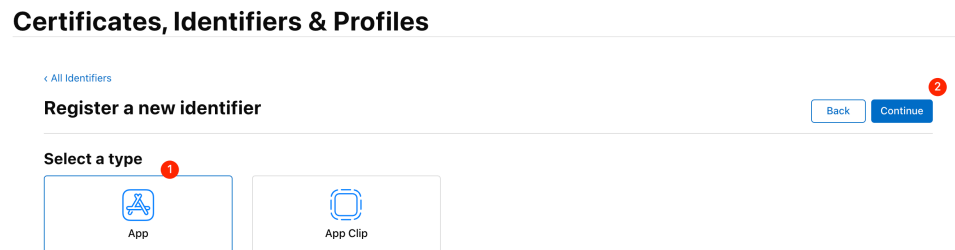


2. Select **App IDs** as the identifier type.

**Figure 12-21** Selecting the identifier type



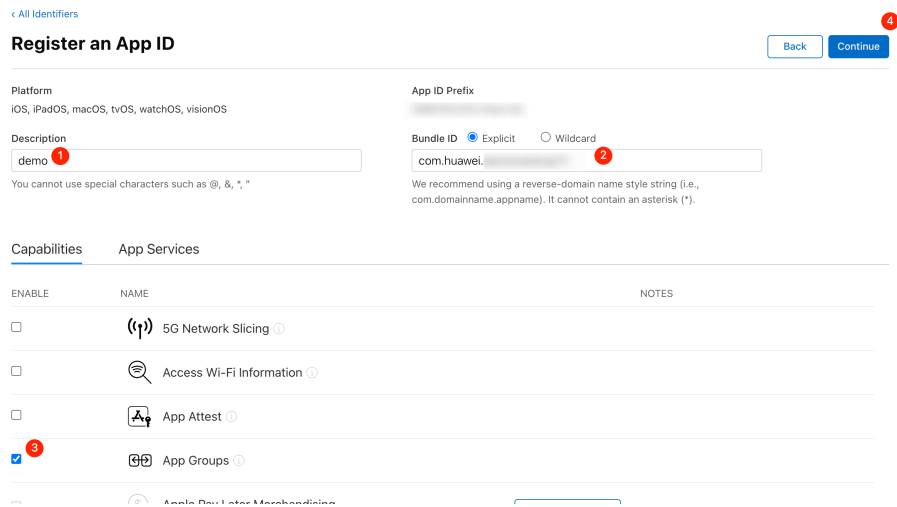
**Figure 12-22** Selecting App



3. Set **Description** and **Bundle ID** and select **App Groups** under **Capabilities**.

**Figure 12-23 Configuration**

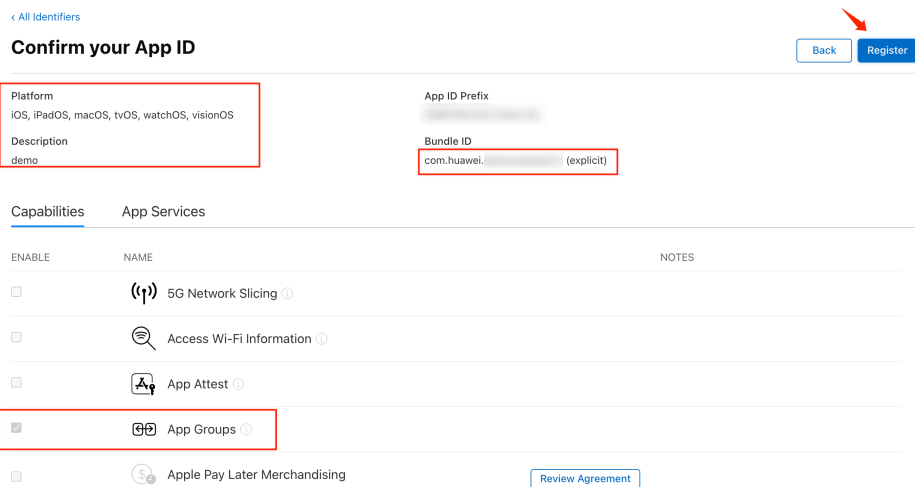
**Certificates, Identifiers & Profiles**



4. Confirm the bundle ID and click **Register**.

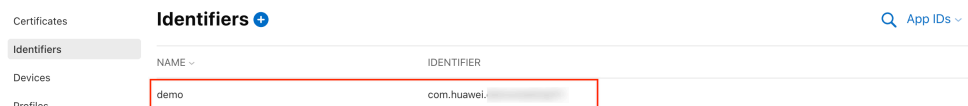
**Figure 12-24 Confirming the bundle ID**

**Certificates, Identifiers & Profiles**



**Figure 12-25 Registration completed**

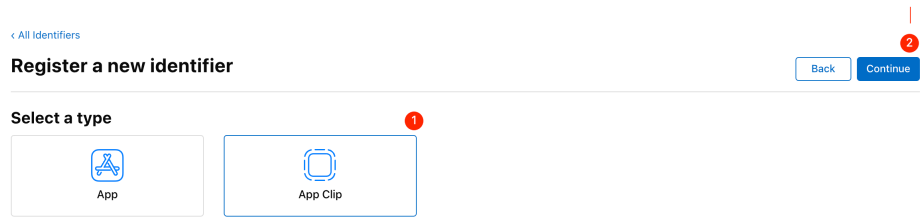
**Certificates, Identifiers & Profiles**



5. Create a bundle ID for ScreenShareExtension and select **App Clip** as the type.

**Figure 12-26** Selecting App Clip

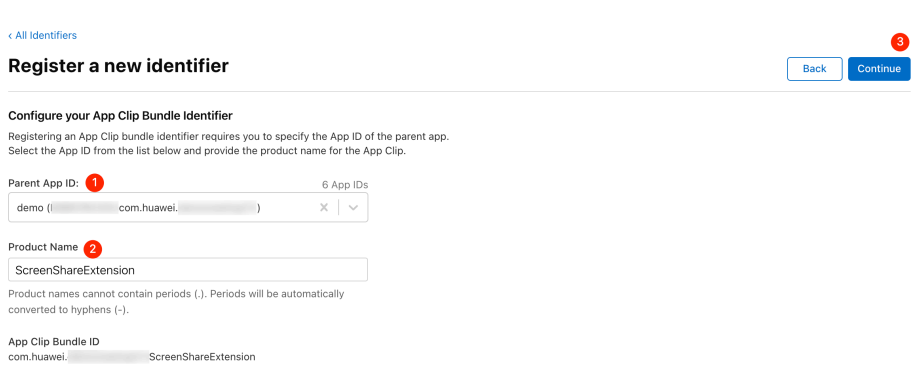
**Certificates, Identifiers & Profiles**



- When setting the bundle ID information of ScreenShareExtension, set **Parent App ID** to the bundle ID of HWMSDKDemo and customize a product name.

**Figure 12-27** Setting the bundle ID information

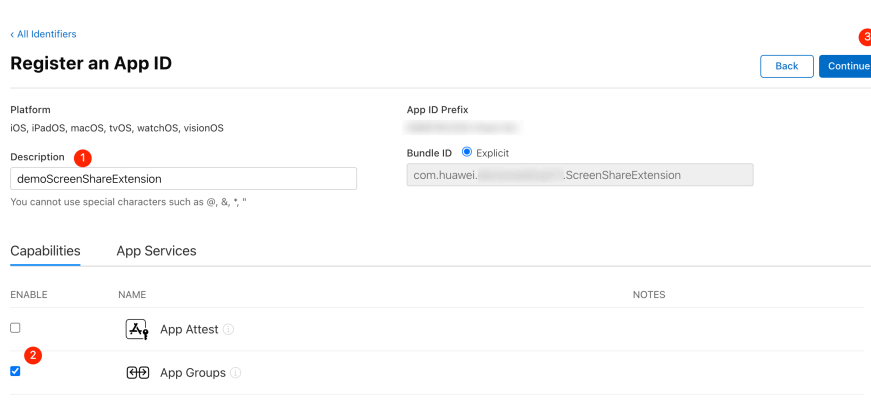
**Certificates, Identifiers & Profiles**



- Set **Description** and select **App Groups** under **Capabilities**.

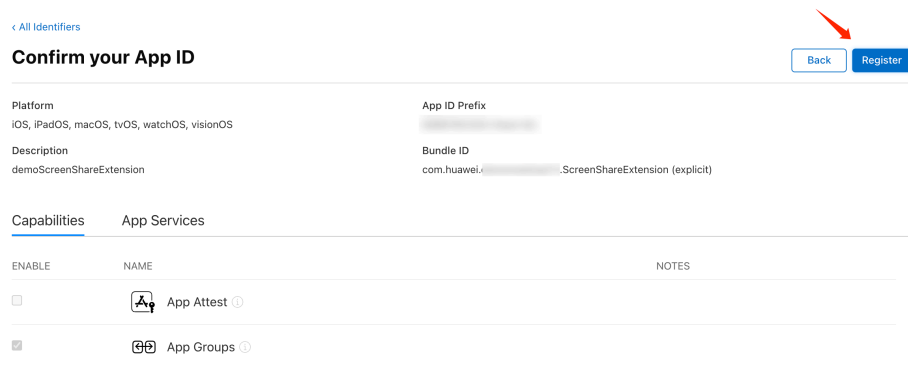
**Figure 12-28** Configuration

**Certificates, Identifiers & Profiles**

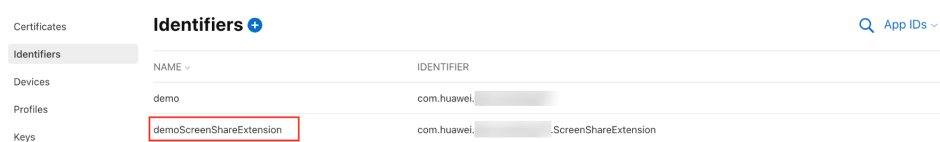


- Confirm the bundle ID of ScreenShareExtension and click **Register**.

**Figure 12-29** Confirming the bundle ID  
**Certificates, Identifiers & Profiles**

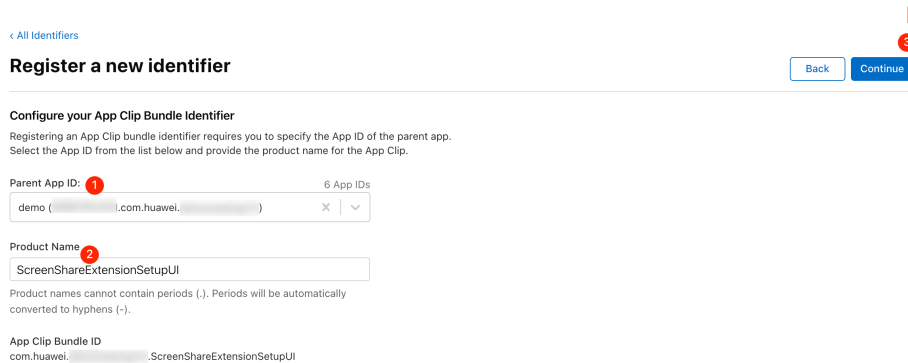


**Figure 12-30** Registration completed  
**Certificates, Identifiers & Profiles**



9. Create a bundle ID for ScreenShareExtensionSetupUI and select **App Clip** as the type. When setting the bundle ID information, set **Parent App ID** to the bundle ID of HWMSDKDemo and customize a product name.

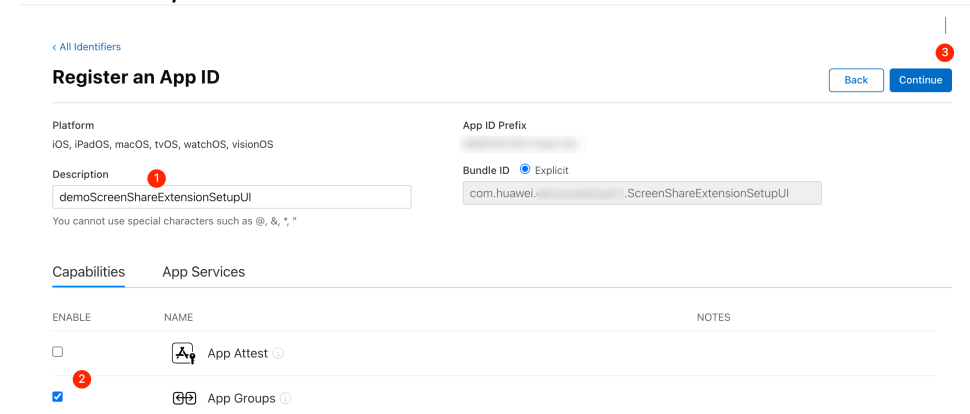
**Figure 12-31** Setting the bundle ID information  
**Certificates, Identifiers & Profiles**



10. Set **Description** and select **App Groups** under **Capabilities**.

Figure 12-32 Configuration

Certificates, Identifiers & Profiles



11. Confirm the bundle ID of ScreenShareExtensionSetupUI and click **Register**.

Figure 12-33 Confirming the bundle ID

Certificates, Identifiers & Profiles

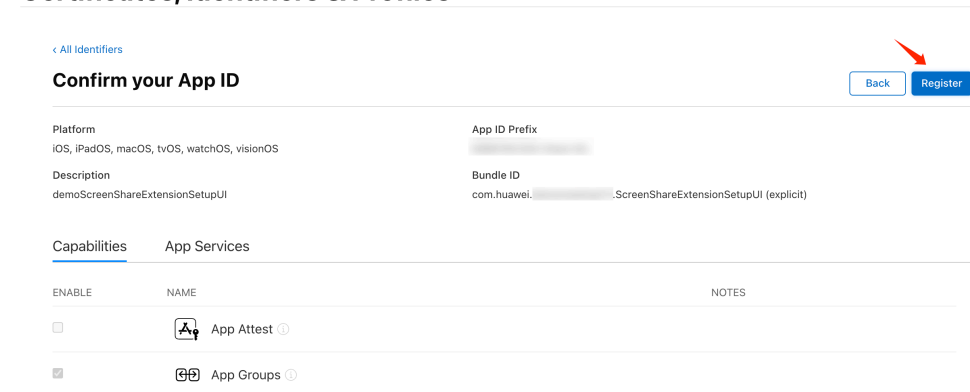
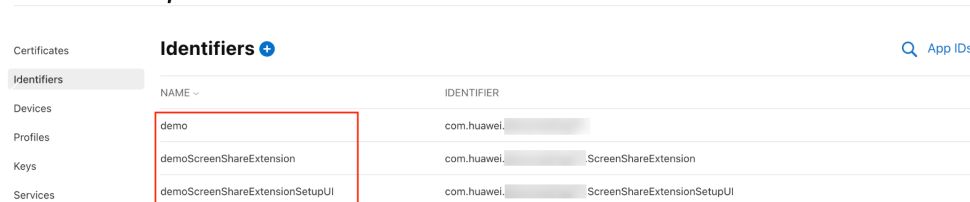


Figure 12-34 Registration completed

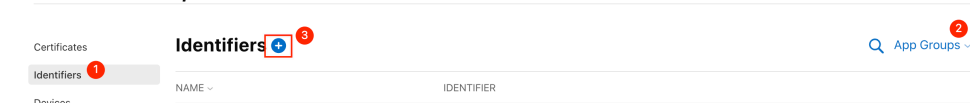
Certificates, Identifiers & Profiles



12. Create an app group.

Figure 12-35 Identifiers

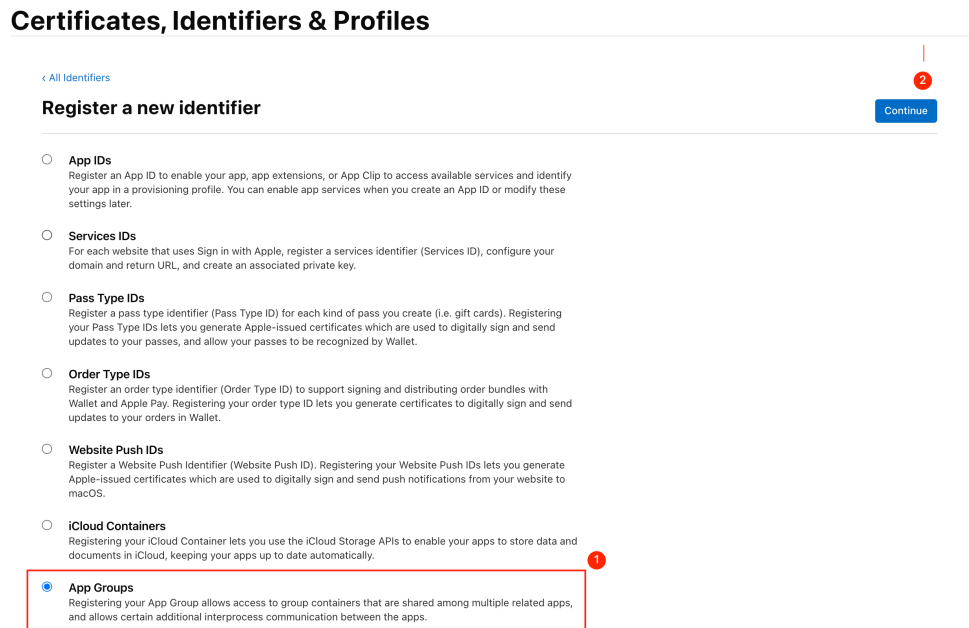
Certificates, Identifiers & Profiles



13. Select **App Groups** as the identifier type.

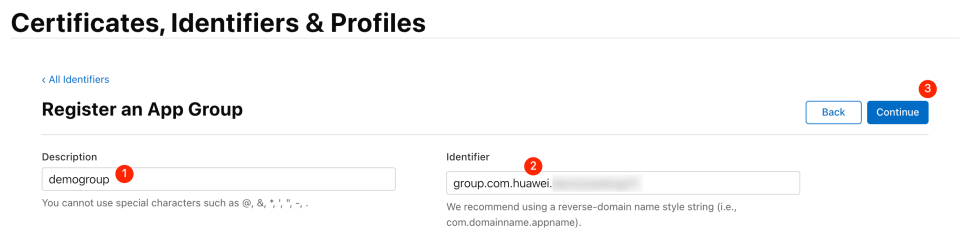


Figure 12-36 Selecting the identifier type



14. Set **Description** and **Bundle ID**.

Figure 12-37 Configuration



15. Confirm the bundle ID and click **Register**.

Figure 12-38 Confirming the bundle ID

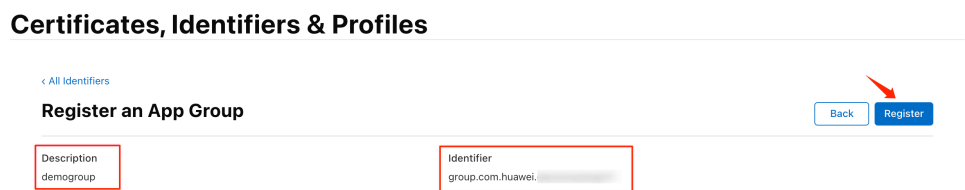
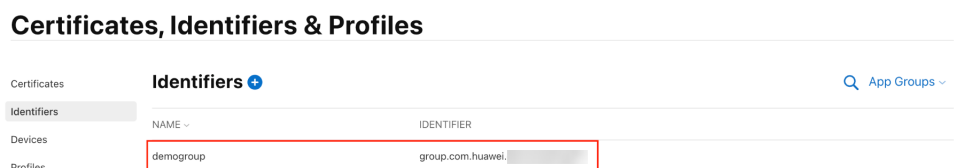


Figure 12-39 Registration completed



16. Edit the bundle ID of HWMSDKDemo, click **Configure** next to **App Groups**, select the created app group, and save the settings.

Figure 12-40 Editing the bundle ID

### Certificates, Identifiers & Profiles

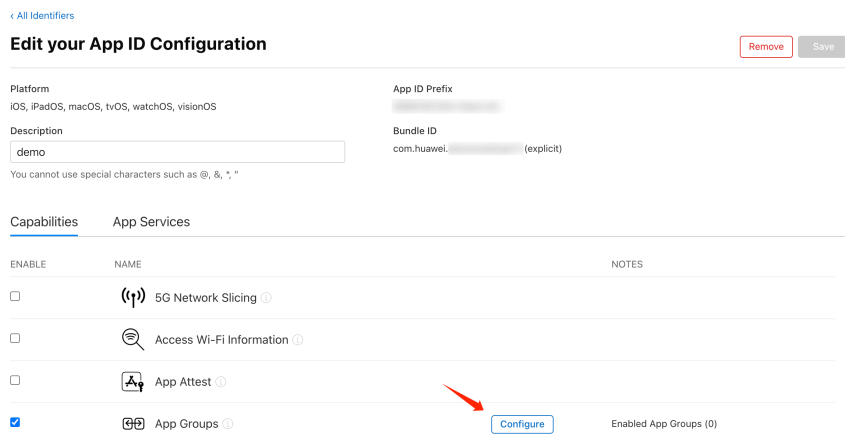
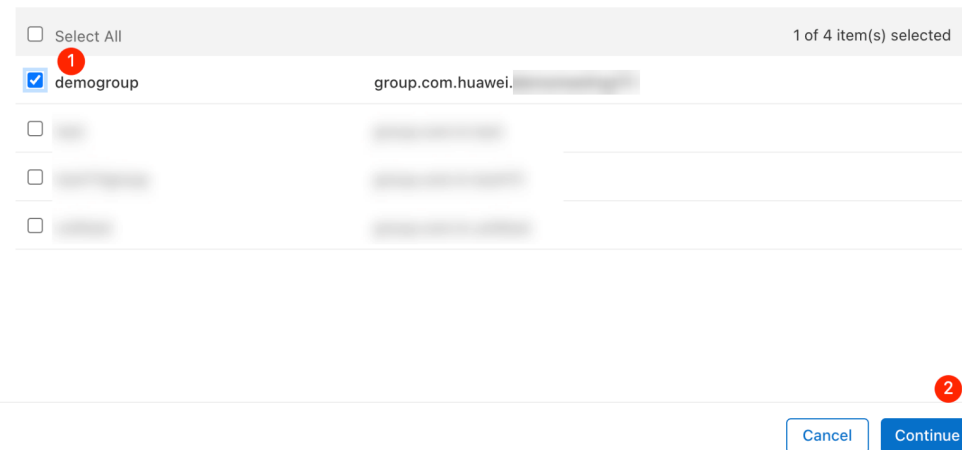


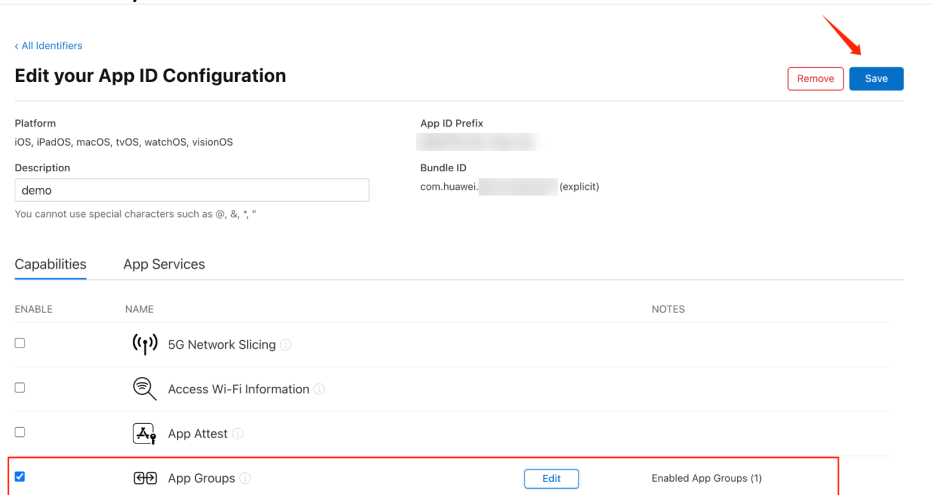
Figure 12-41 Selecting an app group

### App Group Assignment

Select the App Groups you wish to assign to the bundle.

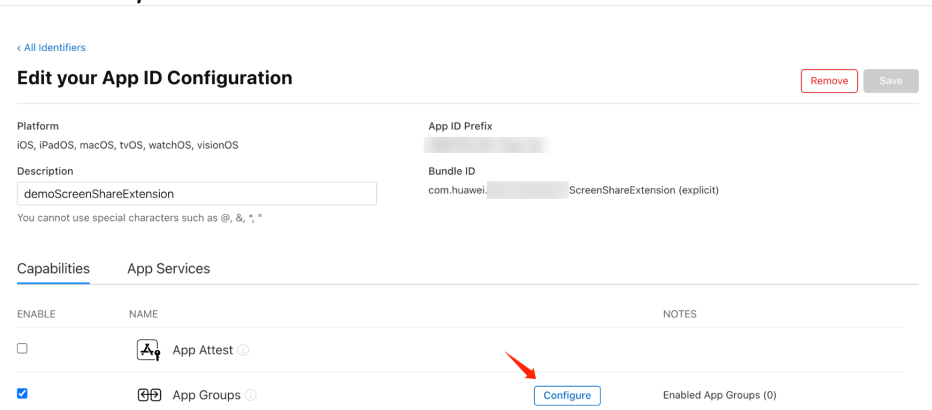


**Figure 12-42** Page displayed after the selection  
**Certificates, Identifiers & Profiles**



17. Edit the bundle ID of ScreenShareExtension, click **Configure** next to **App Groups**, select the created app group, and save the settings.

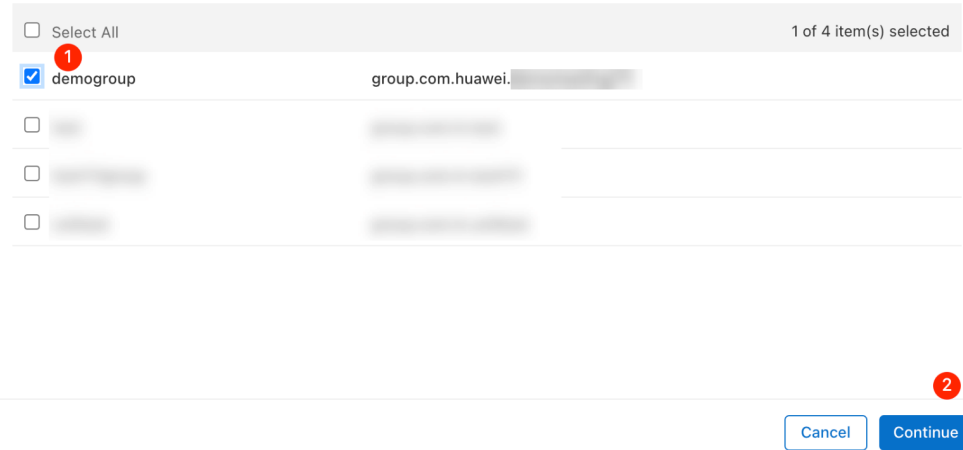
**Figure 12-43** Editing the bundle ID  
**Certificates, Identifiers & Profiles**



**Figure 12-44** Selecting an app group

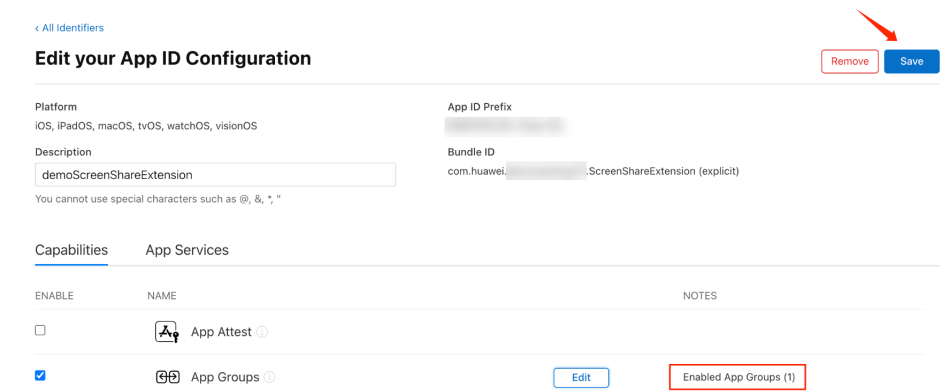
### App Group Assignment

Select the App Groups you wish to assign to the bundle.



**Figure 12-45** Page displayed after the selection

### Certificates, Identifiers & Profiles



18. Edit the bundle ID of ScreenShareExtensionSetupUI, click **Configure** next to **App Groups**, select the created app group, and save the settings.

**Figure 12-46** Editing the bundle ID

### Certificates, Identifiers & Profiles

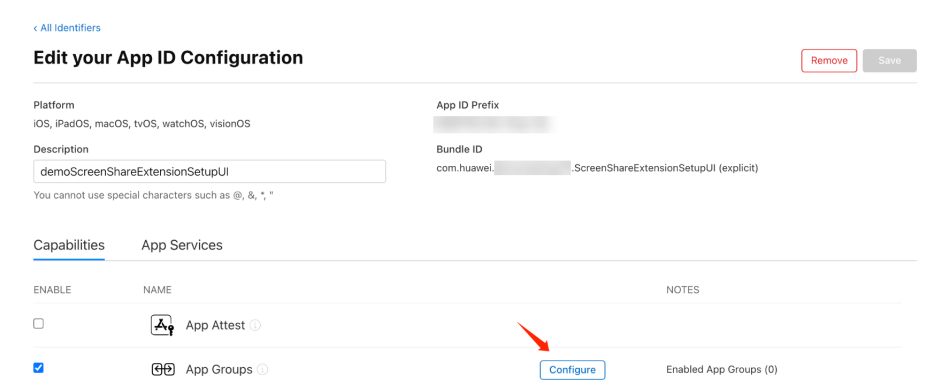


Figure 12-47 Selecting an app group

### App Group Assignment

Select the App Groups you wish to assign to the bundle.

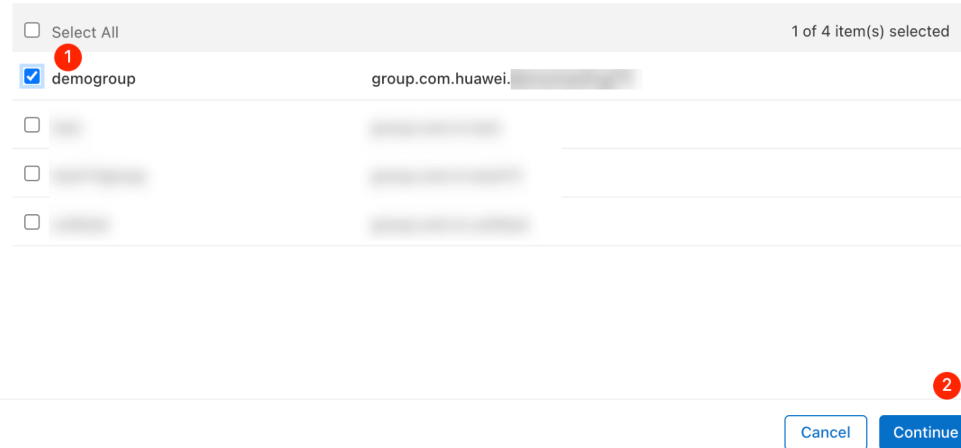
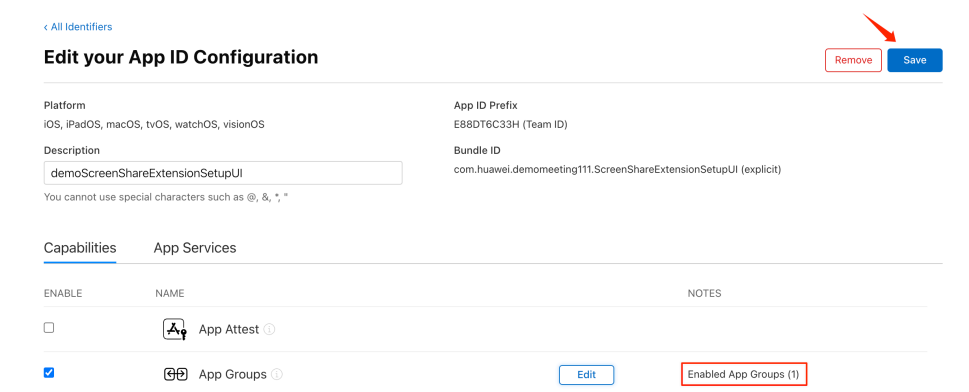


Figure 12-48 Page displayed after the selection

### Certificates, Identifiers & Profiles

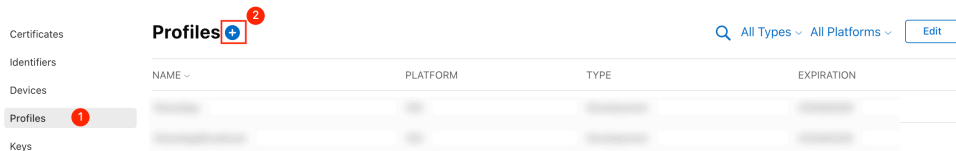


### Step 3 Create description files.

1. Create a description file for HWMSDKDemo on the [Profiles](#) page.

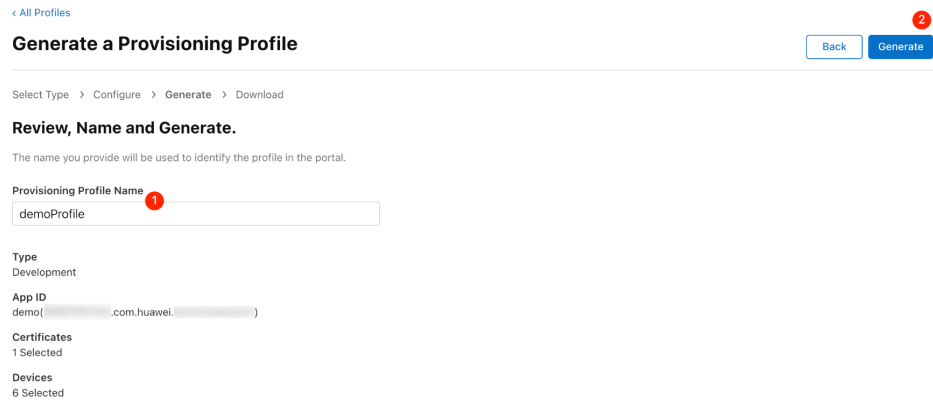
Figure 12-49 Profiles

### Certificates, Identifiers & Profiles



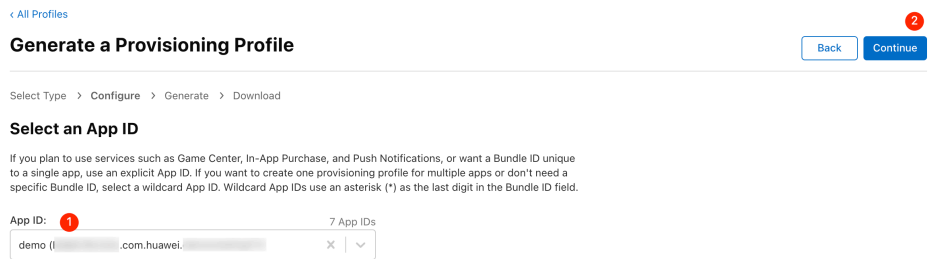
2. Select **iOS App Development** as the profile type.

**Figure 12-50** Selecting a profile type  
**Certificates, Identifiers & Profiles**



3. Select the bundle ID, certificate, and devices to be included.

**Figure 12-51** Selecting a bundle ID  
**Certificates, Identifiers & Profiles**



**Figure 12-52** Selecting a certificate  
**Certificates, Identifiers & Profiles**

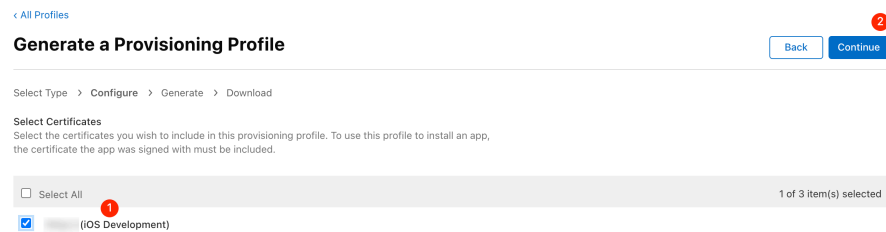
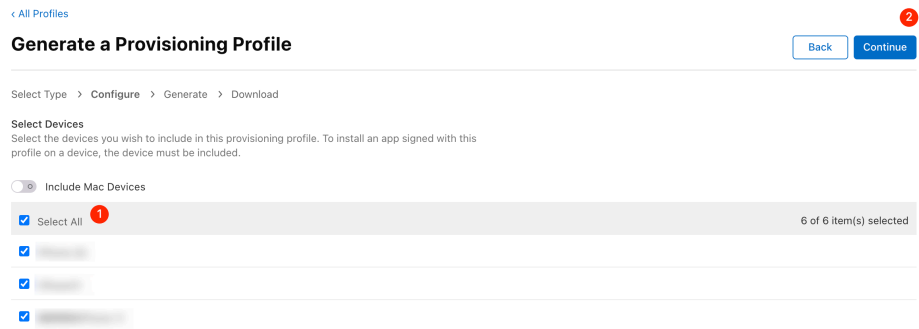


Figure 12-53 Selecting devices

### Certificates, Identifiers & Profiles



4. Configure the profile information, click **Generate**, and download the profile to the computer.

Figure 12-54 Configuring information

### Certificates, Identifiers & Profiles

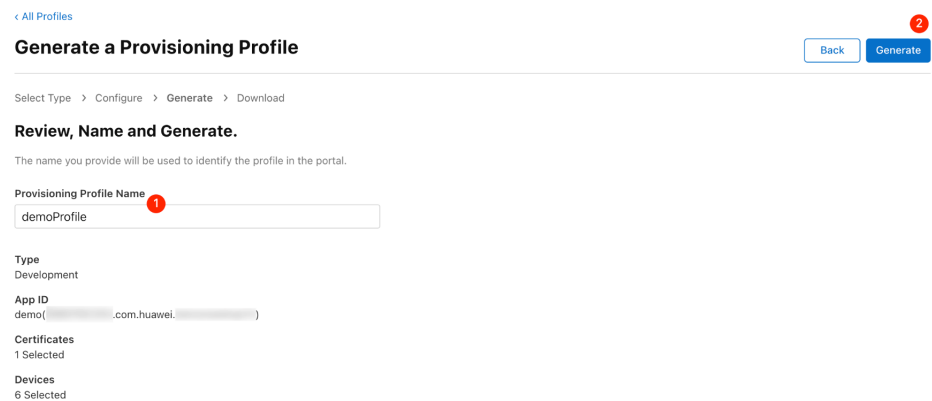
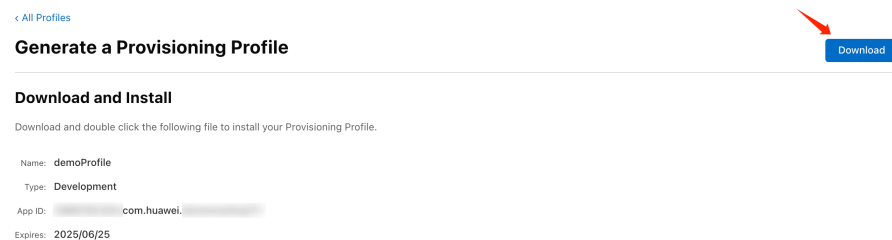


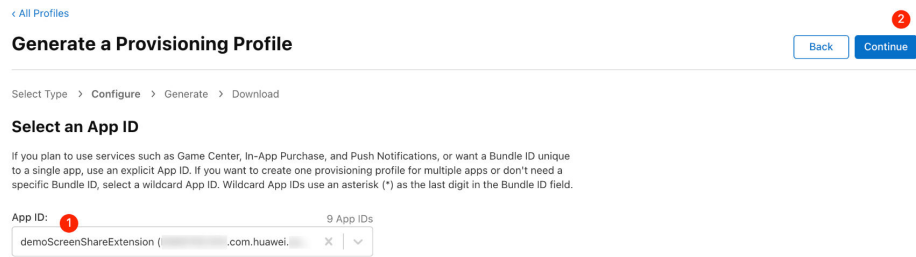
Figure 12-55 Profile created

### Certificates, Identifiers & Profiles

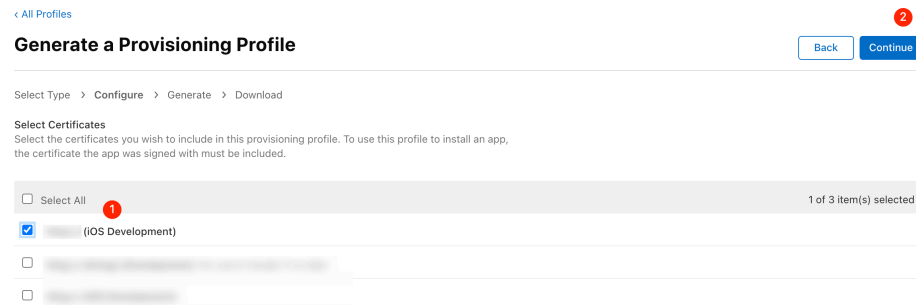


5. Create a profile for ScreenShareExtension. Set the profile type to **iOS App Development**, and select the bundle ID, certificate, and devices to be included.

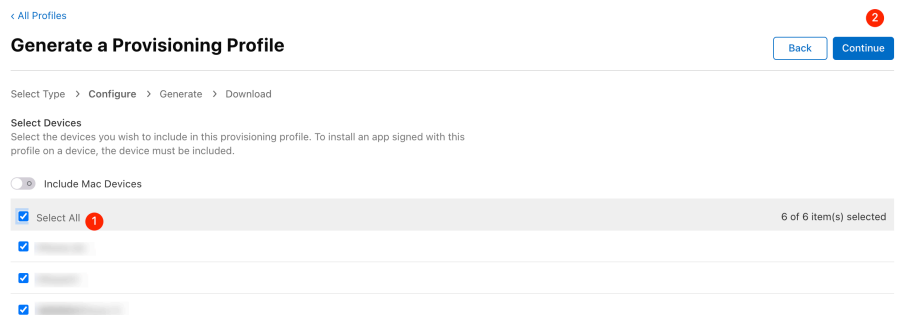
**Figure 12-56** Selecting a bundle ID  
**Certificates, Identifiers & Profiles**



**Figure 12-57** Selecting a certificate  
**Certificates, Identifiers & Profiles**



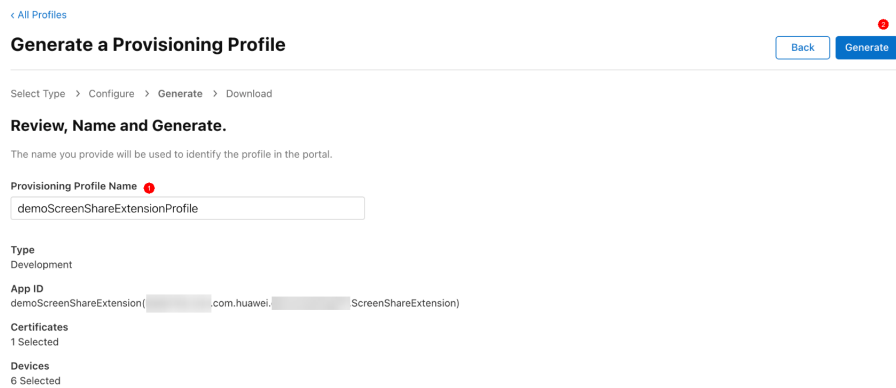
**Figure 12-58** Selecting devices  
**Certificates, Identifiers & Profiles**



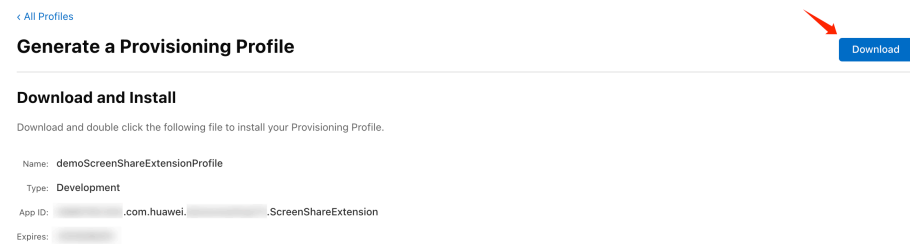
6. Configure the profile information, click **Generate**, and download the profile to the computer.



**Figure 12-59** Configuring information  
**Certificates, Identifiers & Profiles**



**Figure 12-60** Profile created  
**Certificates, Identifiers & Profiles**



7. Create a profile for ScreenShareExtensionSetupUI. Set the profile type to **iOS App Development**, and select the bundle ID, certificate, and devices to be included.

**Figure 12-61** Selecting a bundle ID  
**Certificates, Identifiers & Profiles**

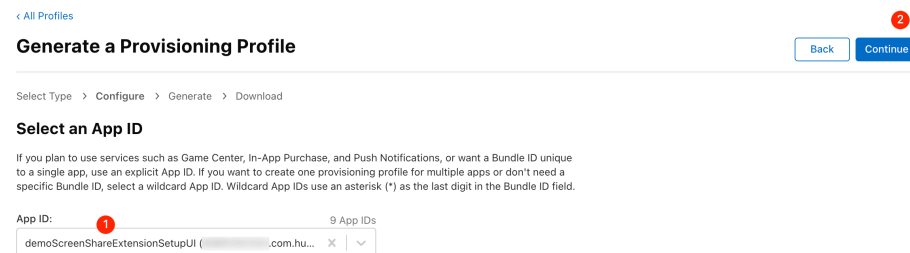


Figure 12-62 Selecting a certificate

### Certificates, Identifiers & Profiles

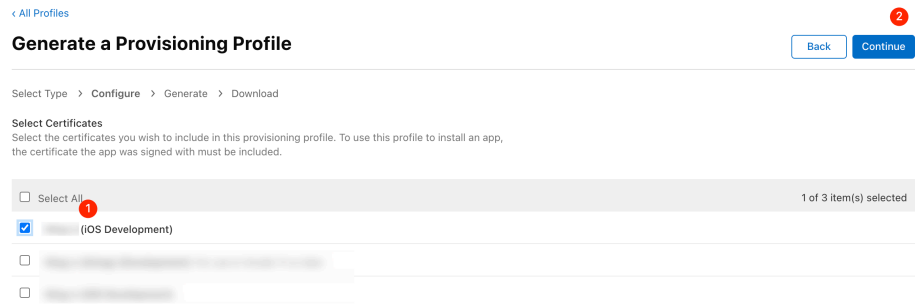
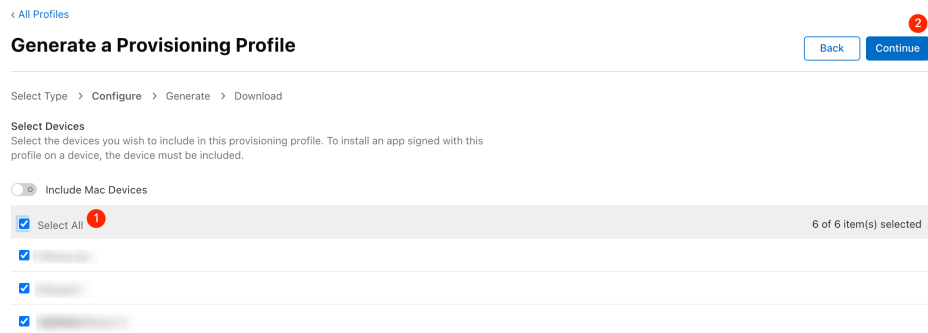


Figure 12-63 Selecting devices

### Certificates, Identifiers & Profiles



8. Configure the profile information, click **Generate**, and download the profile to the computer.

Figure 12-64 Configuring information

### Certificates, Identifiers & Profiles

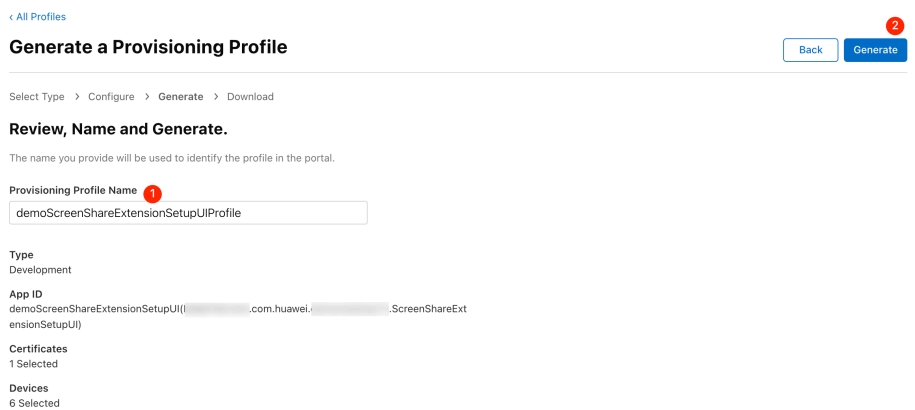
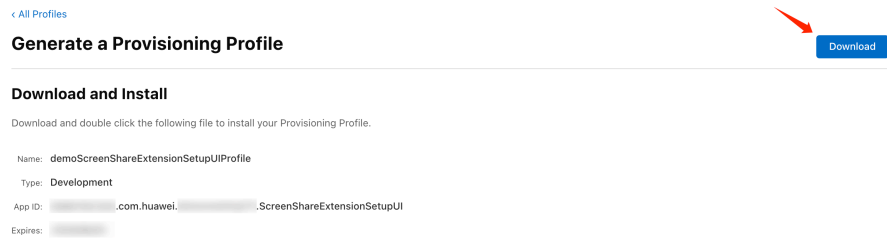


Figure 12-65 Profile created

Certificates, Identifiers & Profiles



----End

## 12.5 Windows SDK

### 12.5.1 What Should I Do If a Third-Party Client Needs to Wait for a Period of Time Before Exit When the Exit API Is Called?

#### Customer Case

A customer integrates the Windows SDK with their application. When the customer exits the application, the meeting process is still running, and the exit callback takes a long time.

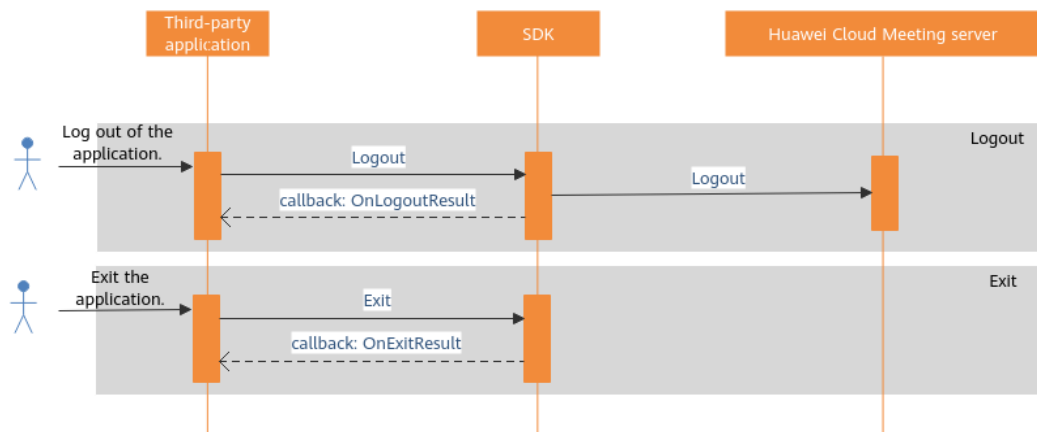
#### Cause Analysis

The customer calls the exit API in the logout callback. The exit API destroys resources only after the logout callback is complete, but the logout callback will be complete after the exit API exits the application. As a result, a thread deadlock occurs, causing the preceding issue.

#### Solution

Call the exit API after the logout callback is complete, as shown in the following figure. For details about more API calling sequence, see [API Call in Typical Scenarios](#).

Figure 12-66 API calling sequence diagram



## 12.6 Electron SDK

### 12.6.1 What Should I Do If the Message "electron failed to install correctly" Is Displayed When I Start the Electron Demo?

#### Customer Case

A customer has integrated the Electron SDK. When the Electron SDK is started, the message "electron failed to install correctly" is displayed.

```
> electron . --auto

/Users/p00576758/mac/222/hwmsdk-electron/demo/node_modules/electron/index.js:17
  throw new Error('Electron failed to install correctly, please delete node_modules/electron and try installing again');
  ^

Error: Electron failed to install correctly, please delete node_modules/electron and try installing again
    at getElectronPath (/Users/p00576758/mac/222/hwmsdk-electron/demo/node_modules/electron/index.js:17:11)
    at Object.<anonymous> (/Users/p00576758/mac/222/hwmsdk-electron/demo/node_modules/electron/index.js:21:18)
    at Module._compile (node:internal/modules/cjs/loader:1103:14)
    at Object.Module._extensions..js (node:internal/modules/cjs/loader:1157:10)
    at Module.load (node:internal/modules/cjs/loader:981:32)
    at Function.Module._load (node:internal/modules/cjs/loader:822:12)
    at Module.require (node:internal/modules/cjs/loader:1005:19)
    at require (node:internal/modules/cjs/helpers:102:18)
    at Object.<anonymous> (/Users/p00576758/mac/222/hwmsdk-electron/demo/node_modules/electron/cli.js:3:18)
    at Module._compile (node:internal/modules/cjs/loader:1103:14)
```

#### Cause Analysis

The local Node.js version does not match the installed Electron version.

#### Solution

Download Node.js of the version recommended by the Electron version from the official website of Node.js (for details about the mapping, see <https://www.electronjs.org/docs/latest/tutorial/electron-timelines>), install Node.js, and recompile and start the project.

### 12.6.2 What Should I Do If the Error Message "permission denied" Is Displayed When I Install an Environment on macOS?

#### Customer Case

A customer has integrated the Electron SDK. When the required environment is installed, the message "permission denied" is displayed.

```
> node install.js

Downloading electron-v13.6.9-darwin-x64.zip: [=====] 100% ETA: 0.0 seconds
Error: EACCES: permission denied, mkdir '/Users/p00576758/Library/Caches/electron/8236d1ab05b110f7e0f9e48b467a10a2fe06a46765fceab593d4e085ca7001e'
npm WARN @babel/plugin-bugfix-v8-spread-parameters-in-optional-chaining@7.16.7 requires a peer of @babel/core@^7.13.0 but none is installed. You must install peer dependencies yourself.
npm WARN @babel/plugin-proposal-class-static-block@7.17.6 requires a peer of @babel/core@^7.12.0 but none is installed. You must install peer dependencies yourself.
npm WARN tsutils@3.21.0 requires a peer of typescript@>=2.8.0 || >= 3.2.0-dev || >= 3.3.0-dev || >= 3.4.0-dev || >= 3.5.0-dev || >= 3.6.0-dev || >= 3.6.0-beta || >= 3.7.0-dev || >= 3.7.0-beta but none is installed. You must install peer dependencies yourself.
npm WARN hwmsdk-electron-demo@0.1.0 No repository field.
npm WARN hwmsdk-electron-demo@0.1.0 No license field.

npm ERR! code ELIFECYCLE
npm ERR! errno 1
npm ERR! electron@13.6.9 postinstall: `node install.js`
npm ERR! Exit status 1
npm ERR!
npm ERR! Failed at the electron@13.6.9 postinstall script.
npm ERR! This is probably not a problem with npm. There is likely additional logging output above.

npm ERR! A complete log of this run can be found in:
npm ERR!   /Users/p00576758/.npm/_logs/2022-04-07T12_13_03_860Z-debug.log
```

### Cause Analysis

File permission issue.

### Solution

Run the **chmod** command, for example, **chmod 777 XXX**, to modify the permission of the error file. Alternatively, add the **--unsafe-perm=true --allow-root** parameter when installing the dependency package.

For example, **npm install -electron@13.6.7 -g --unsafe-perm=true --allow-root**.

## 12.6.3 What Should I Do If the Error Message "no template named 'remove\_cv\_t'" Is Displayed When I Compile a .node File on macOS?

### Customer Case

A customer has integrated the Electron SDK. When a .node file is compiled, the message "no template named 'remove\_cv\_t'" is displayed.

```
/Users/p00576758/Library/Caches/node-gyp/13.6.7/include/node/v8-internal.h:454:38: error: no template named 'remove_cv_t' in namespace 'std';  
did you mean 'remove_cv'?  
    !std::is_same<Data, std::remove_cv_t<T>>::value>::Perform(data);  
                                ~~~~~^~~~~~  
                                remove_cv  
/Applications/Xcode.app/Contents/Developer/Toolchains/XcodeDefault.xctoolchain/usr/bin/./include/c++/v1/type_traits:697:50: note: 'remove_cv'  
declared here  
template <class _Tp> struct _LIBCPP_TEMPLATE_VIS remove_cv  
                                ^
```

### Cause Analysis

The cause is that **remove\_cv\_t** is supported from C++14, but **binding.gyp** that Node.js depends on requires C++11.

### Solution

It is recommended that the Node.js version match the Electron version. Download Node.js of the version recommended by the Electron version from the official website of Node.js. For details about the mapping, see <https://www.electronjs.org/docs/latest/tutorial/electron-timelines>. If the problem persists, use either of the following methods to resolve the issue:

1. In the error file **v8-internal.h**, change **remove\_cv\_t** to **remove\_cv**.
2. In the **binding.gyp** file, change **-std=c++11** to **-std=c++14** in the **OTHER\_CPLUSPLUSFLAGS** configuration item.

## 12.6.4 What Should I Do If the Error Message "Could not find any Python installation to use" Is Displayed When I Compile a .node File on Windows?

### Customer Case

When a .node file is compiled on the Windows platform, the message "Could not find any Python installation to use" is displayed.

```
Error: Could not find any Python installation to use

Error: node-gyp failed to rebuild 'D:\js uisdk\hwmsdk-electron-70.16.5-src-x64\hwmsdk-electron'.
For more information, rerun with the DEBUG environment variable set to "electron-rebuild".

Error: Could not find any Python installation to use

    at NodeGyp.rebuildModule (D:\js uisdk\hwmsdk-electron-70.16.5-src-x64\hwmsdk-electron\node_modules\electron-rebuild\
lib\src\module-type\node-gyp.js:117:19)
    at processTicksAndRejections (internal/process/task_queues.js:93:5)
    at async ModuleRebuilder.rebuildNodeGypModule (D:\js uisdk\hwmsdk-electron-70.16.5-src-x64\hwmsdk-electron\node_mod
ules\electron-rebuild\lib\src\module-rebuilder.js:94:9)
    at async ModuleRebuilder.rebuild (D:\js uisdk\hwmsdk-electron-70.16.5-src-x64\hwmsdk-electron\node_modules\electron-
rebuild\lib\src\module-rebuilder.js:124:14)
    at async Rebuilder.rebuildModuleAt (D:\js uisdk\hwmsdk-electron-70.16.5-src-x64\hwmsdk-electron\node_modules\electr
on-rebuild\lib\src\rebuild.js:145:13)
    at async Rebuilder.rebuild (D:\js uisdk\hwmsdk-electron-70.16.5-src-x64\hwmsdk-electron\node_modules\electron-rebuil
d\lib\src\rebuild.js:108:17)
    at async D:\js uisdk\hwmsdk-electron-70.16.5-src-x64\hwmsdk-electron\node_modules\electron-rebuild\lib\src\cli.js:15
4:9
```

### Cause Analysis

The Python environment variables are not properly configured.

### Solution

1. Configure Python environment variables in the system.
2. Alternatively, reinstall Python, select **Customize Installation**, and select **Add Python to PATH** and **Install launcher for all users**.

## 12.6.5 What Should I Do If the Error Message "Could not find any Visual Studio installation to use" Is Displayed When I Compile a .node File on Windows?

### Customer Case

When a .node file is compiled on the Windows platform, the message "Could not find any Visual Studio installation to use" is displayed.

```
An unhandled error occurred inside electron-rebuild
node-gyp failed to rebuild 'D:\jsuisdk\hwmsdk-electron-70.16.5-src\hwmsdk-electron'.
For more information, rerun with the DEBUG environment variable set to "electron-rebuild".

Error: Could not find any Visual Studio installation to use

Error: node-gyp failed to rebuild 'D:\jsuisdk\hwmsdk-electron-70.16.5-src\hwmsdk-electron'.
For more information, rerun with the DEBUG environment variable set to "electron-rebuild".

Error: Could not find any Visual Studio installation to use

    at NodeGyp.rebuildModule (D:\jsuisdk\hwmsdk-electron-70.16.5-src\hwmsdk-electron\node_modules\electron-rebuild\lib\s
rc\module-type\node-gyp.js:117:19)
    at processTicksAndRejections (internal/process/task_queues.js:93:5)
    at async ModuleRebuilder.rebuildNodeGypModule (D:\jsuisdk\hwmsdk-electron-70.16.5-src\hwmsdk-electron\node_modules\
electron-rebuild\lib\src\module-rebuilder.js:94:9)
    at async ModuleRebuilder.rebuild (D:\jsuisdk\hwmsdk-electron-70.16.5-src\hwmsdk-electron\node_modules\electron-rebu
ild\lib\src\module-rebuilder.js:124:14)
    at async Rebuilder.rebuildModuleAt (D:\jsuisdk\hwmsdk-electron-70.16.5-src\hwmsdk-electron\node_modules\electron-re
build\lib\src\rebuild.js:145:13)
    at async Rebuilder.rebuild (D:\jsuisdk\hwmsdk-electron-70.16.5-src\hwmsdk-electron\node_modules\electron-rebuild\lib
\src\rebuild.js:108:17)
    at async D:\jsuisdk\hwmsdk-electron-70.16.5-src\hwmsdk-electron\node_modules\electron-rebuild\lib\src\cli.js:154:9
```

### Cause Analysis

Visual Studio is not installed or the environment variable **GYM\_MSVS\_VERSION** does not match the installed Visual Studio version.

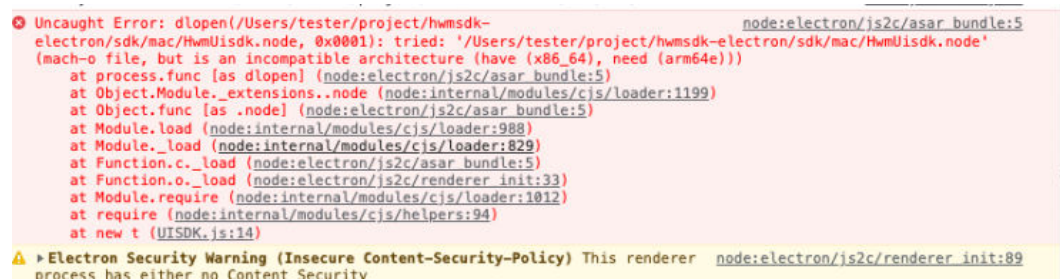
### Solution

Reinstall Visual Studio or change the value of the environment variable `GYM_MSVS_VERSION` to the corresponding Visual Studio version.

## 12.6.6 What Should I Do If an Error Message Indicating that the Arm64 Architecture Is Required Is Displayed When I Run the Electron SDK on My MacBook?

### Customer Case

After the Electron SDK is integrated with macOS, when the SDK is started, the error message `have(x86_64), need(arm64)` is displayed, indicating that the architecture is incorrect.



```
Uncaught Error: dlopen(/Users/tester/project/hwmsdk-electron/sdk/mac/HwMUsdk.node, 0x0001): tried: '/Users/tester/project/hwmsdk-electron/sdk/mac/HwMUsdk.node' (mach-o file, but is an incompatible architecture (have (x86_64), need (arm64e)))
    at process.func [as dlopen] (node:electron/js2c/asar_bundle:5)
    at Object.Module._extensions..node (node:internal/modules/cjs/loader:1199)
    at Object.func [as .node] (node:electron/js2c/asar_bundle:5)
    at Module.load (node:internal/modules/cjs/loader:988)
    at Module._load (node:internal/modules/cjs/loader:829)
    at Function.c._load (node:electron/js2c/asar_bundle:5)
    at Function.o._load (node:electron/js2c/renderer_init:33)
    at Module.require (node:internal/modules/cjs/loader:1012)
    at require (node:internal/modules/cjs/helpers:94)
    at new t (UITSdk.js:14)
Electron Security Warning (Insecure Content-Security-Policy) This renderer process has either no Content Security Policy
```

### Cause Analysis

The native UI SDK of macOS does not support Arm64. It supports only x86\_64.

### Solution

1. Set `export npm_config_arch` to `x64` to specify the x64 platform for Node.js.
2. Delete the downloaded `node_modules` folder.
3. Run the project again. To debug the demo, run the `run_demo_mac.sh` script.

## 12.6.7 Why Does My Application Crash When I Join a Meeting After Integrating the Electron SDK with macOS and Packaging My Application?

### Customer Case

After the Electron SDK is integrated on the macOS, the locally compiled application runs properly, but the packaged application crashes unexpectedly when the customer joins a meeting.

### Cause Analysis

The Electron SDK library is not signed during packaging.

### Solution

Sign the library by referring to the signature script in the demo.

```

1 {
2   "name": "hwmsdk-electron-demo",
3   "version": "0.1.0",
4   "main": "main.js",
5   "homepage": ".",
6   "scripts": {
7     "copy-enum-win": "xcopy /y .\\..\\hwmsdk-electron\\js\\Api\\enum.js .\\src\\Constants\\ && xcopy /y .\\..\\hwmsdk-electron\\types\\Api\\enum.d.ts .\\src\\Constants\\",
8     "copy-enum-mac": "cp -RF ./.\\hwmsdk-electron\\js\\Api\\enum.js .\\src\\Constants && cp -RF ./.\\hwmsdk-electron\\types\\Api\\enum.d.ts .\\src\\Constants",
9     "build": "vite build",
10    "build:watch": "vite build --watch",
11    "auto": "electron ./dist/main.js",
12    "modifyElectronPlist": "node ./scripts/patch-electronRenderPlist.js",
13    "modifyElectronPackagePlist": "node ./scripts/patch-electronPackagePlist.js",
14    "copy-sdk-win32": "xcopy /y /s .\\..\\sdk\\win32\\*. * .\\app\\hwmsdk-electron-demo-win32-ia32\\resources\\sdk\\win32\\",
15    "copy-sdk-x64": "xcopy /y /s .\\..\\sdk\\x64\\*. * .\\app\\hwmsdk-electron-demo-win32-x64\\resources\\sdk\\x64\\",
16    "copy-sdk-mac": "mkdir -p .\\app\\hwmsdk-electron-demo-darwin-x64\\hwmsdk-electron-demo.app\\Contents\\Resources\\sdk\\mac && rsync -a ./.\\sdk\\mac\\hwmsdk.node .\\app\\hwmsdk-electron-demo-darwin-x64\\hwmsdk-electron-demo-win32",
17    "electronpackage-win32": "electron-packager ./dist --win32metadata.ProductName='HUAWEI CLOUD Meeting Demo' --win32metadata.FileDescription='HUAWEI CLOUD Meeting Demo' --win32metadata.OriginalFilename=''",
18    "electronpackage-x64": "electron-packager ./dist --win32metadata.ProductName='HUAWEI CLOUD Meeting Demo' --win32metadata.FileDescription='HUAWEI CLOUD Meeting Demo' --win32metadata.OriginalFilename=''",
19    "electronpackage-mac": "electron-packager ./dist --platform=darwin --arch=x64 --out ./app --electronVersion 13.6.7 --overwrite --no-prune",
20    "package-win32": "npm run electronpackage-win32 && npm run copy-sdk-win32",
21    "package-x64": "npm run electronpackage-x64 && npm run copy-sdk-x64",
22    "package-mac": "npm run electronpackage-mac && npm run copy-sdk-mac",
23    "copy_app_json": "cp -RF ./appmg.json ./app/appmg.json",
24    "demo_dev": "node .\\app\\index.mjs .\\hwmsdk-electron-demo",
25    "codesign-mac": "electron-osx-sign .\\app\\hwmsdk-electron-demo-darwin-x64\\hwmsdk-electron-demo.app --hardenedRuntime true --entitlements=./public/entitlements.mac.plist --entitlements-inherit=./public/entit
26  },
27  "browserslist": {
28    "production": [
29      ">0.2%",
30      "not dead",
31      "not op_mini all"
32    ],
33    "development": [
34      "last 1 chrome version",
35      "last 1 firefox version",
36      "last 1 safari version"
37    ]
38  }
39 }

```

File path: `hwmsdk-electron\packages\hwmsdk-electron-demo\package.json`

Replace the certificate in the script with that of your application.

## 12.6.8 What Should I Do When the Electron SDK Fails to Be Run on Windows and the Message "HwmUisdk.node is not a valid Win32 application" Is Displayed?

### Customer Case

After integrating the Electron SDK with Windows, the SDK cannot be run and the message **HwmUisdk.node is not a valid Win32 application** is displayed.

```

D:\Downloads\hwmsdk-electron-win-80.5.11-20220610-1322-Release220430\hwmsdk-electron-demo-   getNodePath.js:10
win-x64-80.5.11\hwmsdk-electron-x64\sdk\x64\HwmUisdk.node

NotifyService nodePath D:\Downloads\hwmsdk-electron-win-80.5.11-20220610-1322-   NotifyService.js:8
Release220430\hwmsdk-electron-demo-win-x64-80.5.11\hwmsdk-electron-x64/resources\sdk\x64\HwmUisdk.node

Uncaught Error: \\?\D:\Downloads\hwmsdk-electron-win-80.5.11-20220610-1322-   electron\js2c\asar_bundle.js:5
Release220430\hwmsdk-electron-demo-win-x64-80.5.11\hwmsdk-electron-x64/resources\sdk\x64\HwmUisdk.node is not a
valid Win32 application.
\\?\D:\Downloads\hwmsdk-electron-win-80.5.11-20220610-1322-Release220430\hwmsdk-electron-demo-win-x64-
80.5.11\hwmsdk-electron-x64/resources\sdk\x64\HwmUisdk.node
at process.func [as dlopen] (electron\js2c\asar_bundle.js:5)
at Object.Module._extensions..node (internal/modules/cjs/loader.js:1138)
at Object.func [as .node] (electron\js2c\asar_bundle.js:5)
at Module.load (internal/modules/cjs/loader.js:935)
at Module._load (internal/modules/cjs/loader.js:776)
at Function.f._load (electron\js2c\asar_bundle.js:5)
at Function.o._load (electron\js2c\renderer_init.js:33)
at Module.require (internal/modules/cjs/loader.js:959)
at require (internal/modules/cjs/helpers.js:88)
at new t (UISDK.js:14)

```

### Cause Analysis

- The system lacks the required runtime library.
- The number of bits in .dll files is different from that in .node files.

### Solution

Download the [Windows C++ demo installation package](#) on the official website and run it to identify the cause.

1. If the C++ demo fails to run and error **0xc000007b** is reported indicating that the application cannot be started, the fault is caused by the first cause. In this case, you need to download the runtime library of the corresponding version.



2. If the C++ demo runs successfully, re-integrate the Electron SDK by referring to [Getting Started](#) to ensure that the number of bits in .ddl files is the same as that in .node files.

## 12.6.9 What Should I Do When the Electron SDK Fails to Be Run on Windows and the Message "The specified module could not be found" Is Displayed?

### Customer Case

After integrating the Electron SDK with Windows, the SDK cannot be run and the message **The specified module could not be found** is displayed.

```
✖ Uncaught (in promise) Error: The specified module could not be found.      electron/js2c/asar_bundle.js:5
  \\?\D:\jieheMeeting-win32-x64\resources\sdk\x64\HwmUisdk.node
    at process.func [as dlopen] (electron/js2c/asar_bundle.js:5)
    at Object.Module._extensions..node (internal/modules/cjs/loader.js:1104)
    at Object.func [as .node] (electron/js2c/asar_bundle.js:5)
    at Module.load (internal/modules/cjs/loader.js:935)
    at Module._load (internal/modules/cjs/loader.js:776)
    at Function.f._load (electron/js2c/asar_bundle.js:5)
    at Function.o._load (electron/js2c/renderer_init.js:33)
    at Module.require (internal/modules/cjs/loader.js:959)
    at require (internal/modules/cjs/helpers.js:88)
    at new t (UISDK.js:14)
```

### Cause Analysis

DLL files are missing when the UI SDK library is integrated. As a result, an error is reported during **HwmUisdk.node** loading.

### Solution

Re-integrate the SDK by referring to [Getting Started](#), or re-integrate the library in the **hwmsdk-electron-ia32\resources\sdk\win32** directory (Win32) or the **\hwmsdk-electron-x64\resources\sdk\x64** directory (x64) of the Electron demo.

# 13 Terms

---

## 13.1 Account-related Terms

- **Huawei Cloud account**

Tenant identity on Huawei Cloud, which is used to subscribe to Huawei Cloud Meeting or use tools (such as API Explorer) provided by Huawei Cloud. Account authentication is performed on Identity and Access Management (IAM) of Huawei Cloud.
- **Huawei Cloud Meeting account**

User identity on Huawei Cloud Meeting. Account authentication is performed on the USG of Huawei Cloud Meeting. Huawei Cloud Meeting accounts are classified into the following types:

  - **SP account**

A Huawei Cloud Meeting SP account is used by an SP administrator to manage multiple enterprises in the multi-tenant scenario, including enterprise provisioning and enterprise resource allocation.
  - **Enterprise administrator account**

A Huawei Cloud Meeting enterprise administrator account is used by an enterprise administrator to manage the enterprise, including departments, contacts, and cloud meeting rooms.
  - **Standard user account**

A Huawei Cloud Meeting standard user account is used by a meeting user to log in to the Huawei Cloud Meeting client or Huawei Cloud Meeting Management Platform, create meetings, and join meetings.

## 13.2 Meeting ID Terms

Terms related to meeting IDs are as follows:

- **Meeting ID:** generated by the system for a meeting created using concurrent participant resources or using a cloud meeting room resource and a random ID. Users can use this ID to join the meeting.

- **Cloud meeting room meeting ID:** ID of meetings held using a cloud meeting room or personal meetings created by an account. If the ID is fixed, users can use it to join the meetings.
- **Meeting UUID:** UUID generated by the system after a meeting starts. If a meeting with the same ID is held multiple times before the scheduled time (or before the host ends the meeting), multiple meeting UUIDs are generated. This ID is invisible to users.
- **Cloud meeting room ID:** unique ID of a cloud meeting room or personal meetings. This ID is required in the meeting creation API when a meeting is created using a cloud meeting room or a personal meeting with a fixed ID is created using concurrent participant resources. This ID is invisible to users.

The following figure shows the relationship between these IDs.

**Figure 13-1** Relationships between meeting IDs

