Huawei Cloud Meeting

Terminal Scheme Application Integration

Issue 02

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HUAWEI

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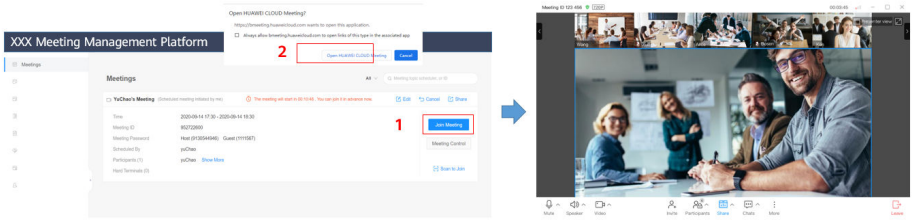
1 Overview

If the Huawei Cloud Meeting app has been installed, a third-party web application or app can perform the following operations using the URL protocol defined in the Huawei Cloud Meeting app:

- Accessing the login screen after the Huawei Cloud Meeting app is started
- Starting the Huawei Cloud Meeting app, logging in to the app, and accessing the home screen
- Joining a meeting after logging in to the Huawei Cloud Meeting app or joining a meeting anonymously
- Starting the Huawei Cloud Meeting app, logging in to the app, and joining a meeting

Figure 1-1 Starting the Huawei Cloud Meeting Windows client from a web application and joining a meeting



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2 Android App Integration

2.1 Introduction

Third-party applications can integrate audio and video meeting capabilities of Huawei by starting the Huawei Cloud Meeting app, without the need of integrating the Huawei Cloud Meeting SDK.

2.2 Change History

Table 2-1 Change history

Released On	Version	Description
2022-04-21	7.16.5	Added **Starting and Logging In to the App**.
2021-07-13	1.0.1	Added **Logging In to the App and Joining a Meeting**.
2019-04-30	1.0.0	This issue is the first official release.

2.3 Service Development

2.3.1 Starting the App

Description

If the Huawei Cloud Meeting app is installed on a user device, the user can start and log in to the app as well as create and join a meeting directly by touching a link provided by a third-party app.

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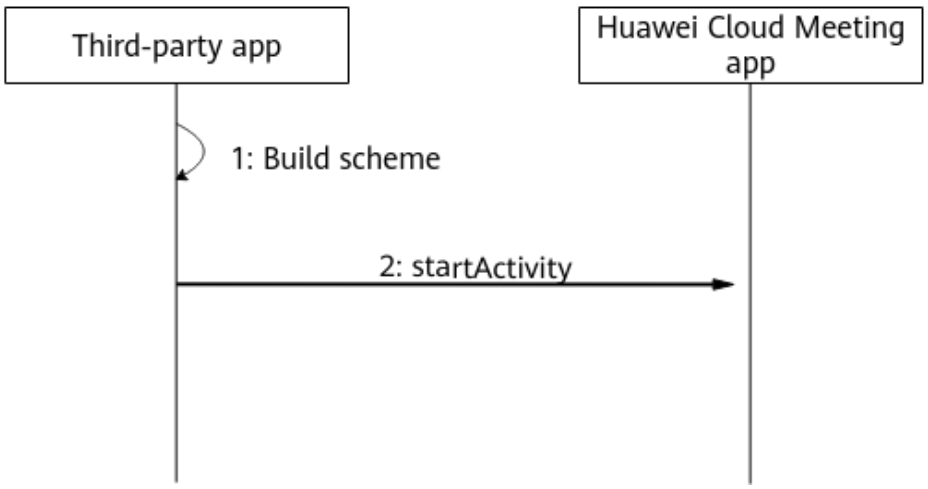
Service Process



1. Build a scheme.
2. Run the scheme.

Code Sample

```
// Start the app.
if (packageInstalled("com.huawei.CloudLink")){
    String startUrl = "cloudlink://welinksoftclient/h5page?page=launch";
    Intent intent = new Intent();
    intent.setData(Uri.parse(url));
    startActivity(intent);
}else {
        Toast.makeText(this,"App not installed",Toast.LENGTH_LONG).show();
}
```

2.3.2 Starting and Logging In to the App

Description

If the Huawei Cloud Meeting app is installed on a user device, the user can start and log in to the app in this mode. The home screen is displayed after login.

NOTE

1. If the user has not logged in when touching the link, the user will log in to the app using the account used to obtain the token and the home screen is displayed.
2. If the user has logged in, the home screen is displayed. Login is not performed again.

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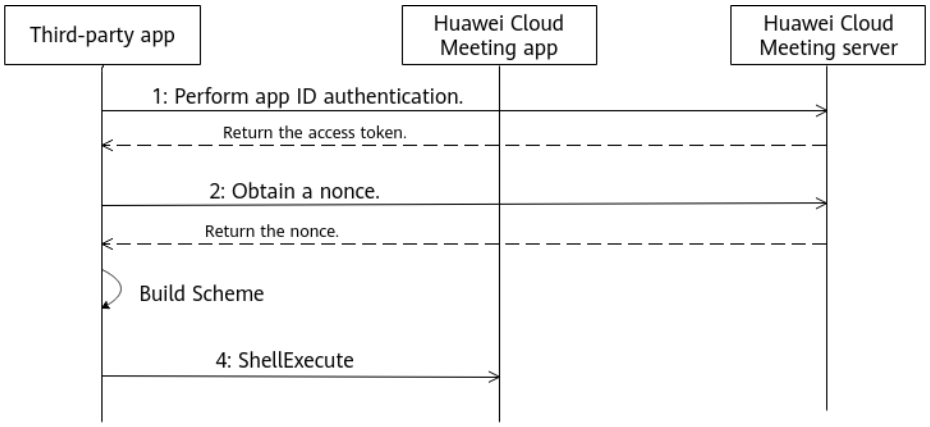
Service Process



Step 1 Perform app ID authentication. For details, see **Authenticating an App ID** in *API Reference*.

Step 2 Obtain a nonce. For details, see **Obtaining a Nonce for Redirection Without Login** in *API Reference*.

Step 3 Start the Huawei Cloud Meeting app and log in to the home screen. For details, see the following sample code.

----End

Code Sample

```
private void doNonceLinkApp(String nonce) {
    String startUrl = "cloudlink://welinksoftclient/h5page?page=launch&nonce=" + nonce;
    if (DemoUtil.packageInstalled(context, "com.huawei.CloudLink")) {
        Intent intent = new Intent();
        intent.setData(Uri.parse(url));
        intent.setFlags(Intent.FLAG_ACTIVITY_NEW_TASK);
        context.startActivity(intent);
    } else {
        showToast("App not installed.");
    }
}
```

NOTE

The preceding code is only a logical sample and cannot be directly used.

2.3.3 Joining a Meeting via a Link

Description

If the Huawei Cloud Meeting app is installed on a user device, the user can start the app and join a meeting using parameters passed when the user touches a link.

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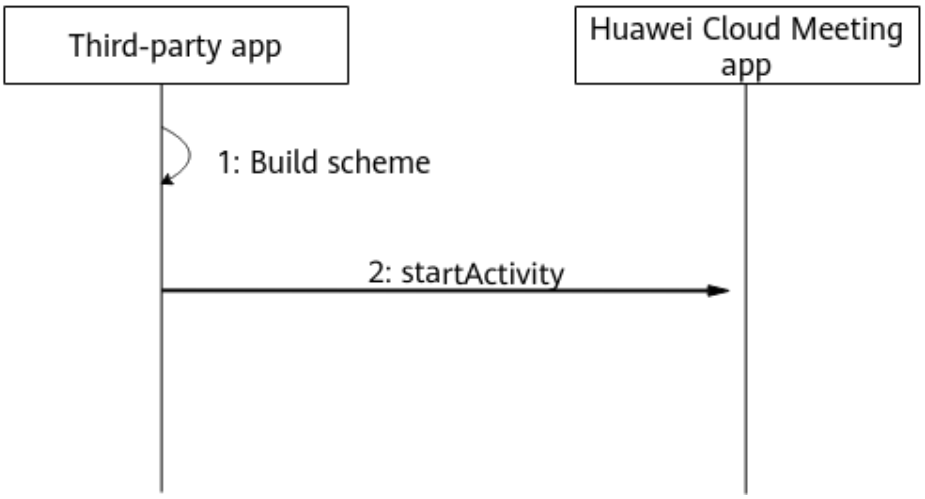
Service Process



NOTE

When the user touches the link, the app home screen is displayed. If the user has logged in, the user joins the meeting with the account name. Or, the user joins the meeting anonymously.

Code Sample

```
Uri.Builder builder = new Uri.Builder()
        .scheme("cloudlink")
        .authority("welinksoftclient")
        .path("h5page")
        .appendQueryParameter("page","joinConfByLink")
        .appendQueryParameter("server_url",serverAddress)
        .appendQueryParameter("port",portString)
        .appendQueryParameter("conf_id",confId)
        .appendQueryParameter("enter_code",enterCode)
        .appendQueryParameter("name",name)
        .appendQueryParameter("open_mic",String.valueOf(openMic))
        .appendQueryParameter("open_camera",String.valueOf(openCamera));
    Intent intent = new Intent();
    intent.setData(Uri.parse(url));
    startActivity(intent);
```

2.3.4 Logging In to the App and Joining a Meeting

Description

If the Huawei Cloud Meeting app is installed on a user device, the user can start and log in to the app and join a meeting in this mode using the passed parameters in the link. If the user is the meeting host, the user can invite others to the meeting.

NOTE

1. If the user has not logged in when touching the link, the home screen is displayed and the user joins the meeting using the login ID in the link. After the meeting ends, the login screen is displayed.

2. If the user has logged in, the home screen is displayed and the user joins the meeting using the account name. After the meeting ends, the screen displayed before the user touches the link is displayed.

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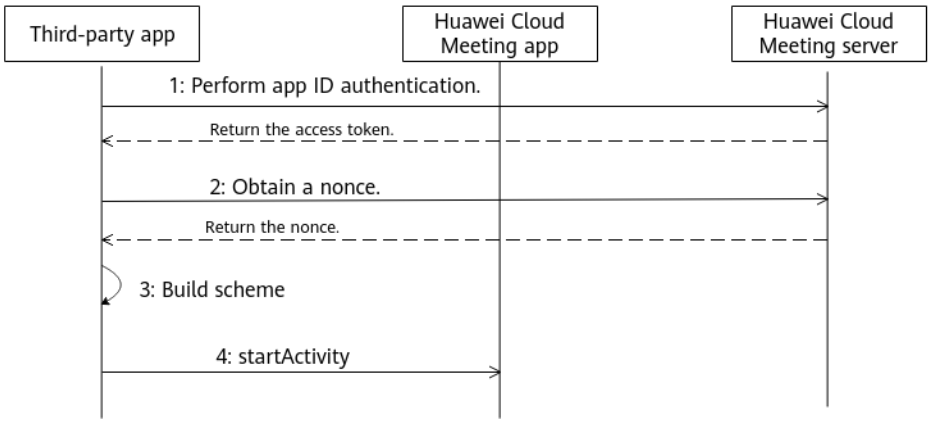
Service Process



Step 1 Perform app ID authentication. For details, see **Authenticating an App ID** in *API Reference*.

Step 2 Obtain a nonce. For details, see **Obtaining a Nonce for Redirection Without Login** in *API Reference*.

Step 3 Start and log in to the Huawei Cloud Meeting app and join a meeting. For details, see the following sample code.

----End

Code Sample

```
    Uri.Builder builder = new Uri.Builder().scheme("cloudlink")
        .authority("welinksoftclient")
        .path("h5page")
        .appendQueryParameter("page", "LoginAndJoinConf")
        .appendQueryParameter("server_url", param.serverAddress)
        .appendQueryParameter("port", param.portString)
        .appendQueryParameter("conf_id", param.confId)
        .appendQueryParameter("enter_code", param.enterCode)
        .appendQueryParameter("name", param.name)
        .appendQueryParameter("open_mic", String.valueOf(param.openMic))
        .appendQueryParameter("open_camera", String.valueOf(param.openCamera))
        .appendQueryParameter("nonce", getNonce());

        Intent intent = new Intent();
intent.setData(Uri.parse(url));
startActivity(intent);
```

2.4 Scheme Reference

2.4.1 Starting the App

Link Format

```
cloudlink://welinksoftclient/h5page?page=launch
```

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Parameter Description

Table 2-2 Scheme parameter description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **launch**.

2.4.2 Starting and Logging In to the App

Link Format

```
cloudlink://welinksoftclient/h5page?page=launch&nonce=Ey**********************************pQ
```

Parameter Description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **launch**.
nonce	Yes	String	Nonce used for meeting joining authentication.

NOTE

1. To obtain a nonce, call the server API for **authenticating an app ID** to obtain a token. Then, call the server API for **obtaining a nonce for redirection without login**. For details, see **FAQ**.
2. The nonce must be valid. Otherwise, the login fails. A nonce can be used only once.

2.4.3 Joining a Meeting via a Link

Link Format

```
cloudlink://welinksoftclient/h5page?
page=joinConfByLink&server_url=meeting.huaweicloud.com&port=8443&conf_id=12345&enter_code=12345
&name=Jerry&open_mic=true&open_camera=false
```

Parameter Description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **joinConfByLink**.

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Parameter	Mandatory	Type	Description
server_url	No	String	Server address. If this parameter is left blank, the default server address of Huawei Cloud Meeting is used. • Chinese mainland site: meeting.huaweicloud.com • International site: intl.meeting.huaweicloud.com
port	No	String	Server port. If this parameter is left blank, the default port of Huawei Cloud Meeting is used.
conf_id	Yes	String	Meeting ID.
enter_code	No	String	Meeting password.
name	Yes	String	Name displayed in the meeting when a user joins the meeting anonymously.
open_mic	No	String	Whether the microphone is enabled. Value: **true** (enabled) or **false** (disabled, default value).
open_camera	No	String	Whether the camera is enabled. Value: **true** (enabled) or **false** (disabled, default value).

NOTE

To join a meeting as the host, set **enter_code** to the host password. To join a password-protected meeting as a guest, set **enter_code** to the guest password. If the meeting is password-free, leave **enter_code** blank.

2.4.4 Logging In to the App and Joining a Meeting

Link Format

```
cloudlink://welinksoftclient/h5page?
page=LoginAndJoinConf&server_url=meeting.huaweicloud.com&port=8443&conf_id=12345&enter_code=123
45&name=Tom&open_mic=true&open_camera=false&nonce=Ey**********pQ
```

Parameter Description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **LoginAndJoinConf**.

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Parameter	Mandatory	Type	Description
server_url	No	String	Server address. If this parameter is left blank, the default server address of Huawei Cloud Meeting is used. • Chinese mainland site: meeting.huaweicloud.com • International site: intl.meeting.huaweicloud.com
port	No	String	Server port. If this parameter is left blank, the default port of Huawei Cloud Meeting is used.
conf_id	Yes	String	Meeting ID.
enter_code	No	String	Meeting password.
name	Yes	String	Name displayed in the meeting.
open_mic	No	String	Whether the microphone is enabled. Value: **true** (enabled) or **false** (disabled, default value).
open_camera	No	String	Whether the camera is enabled. Value: **true** (enabled) or **false** (disabled, default value).
nonce	Yes	String	Nonce used for meeting joining authentication.

NOTE

1. To join a meeting as the host, set **enter_code** to the host password. To join a password-protected meeting as a guest, set **enter_code** to the guest password. If the meeting is password-free, leave **enter_code** blank.
2. To obtain a nonce, call the server API for **authenticating an app ID** to obtain a token. Then, call the server API for **obtaining a nonce for redirection without login**. For details, see **FAQ**.
3. The nonce must be valid. Otherwise, meeting joining will fail. A nonce can be used only once.

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3 iOS App Integration

3.1 Introduction

Third-party applications can integrate the audio and video meeting capabilities of the Huawei Cloud Meeting app.

3.2 Change History

Table 3-1 Change history

Released On	Version	Description
2022-04-21	7.16.5	Added **Starting and Logging In to the App**.
2021-07-13	2.0.0	Added **Logging In to the App and Joining a Meeting**.
2019-04-30	1.0.0	This issue is the first official release.

3.3 Service Development

In an integrated app, add the **LSApplicationQueriesSchemes** field to the **Info.plist** file of the app and set the field to **cloudlink** to add the Huawei Cloud Meeting app to the whitelist.

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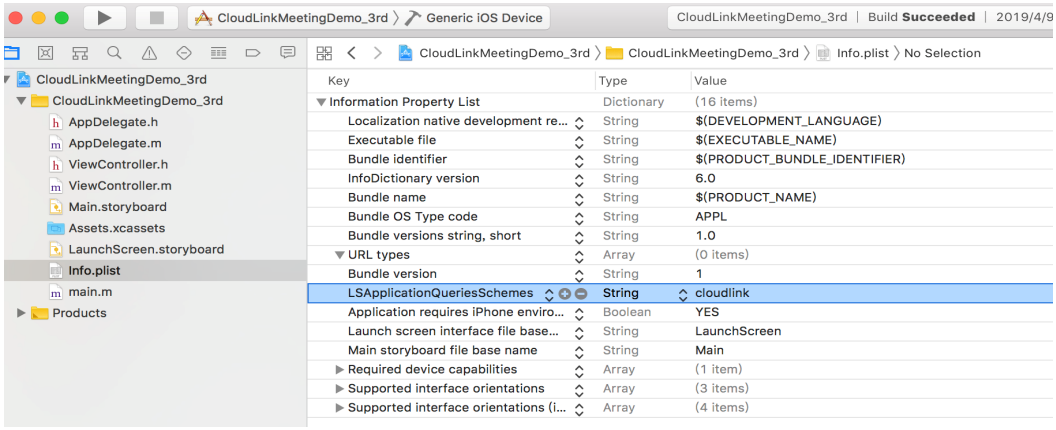


3.3.1 Starting the App

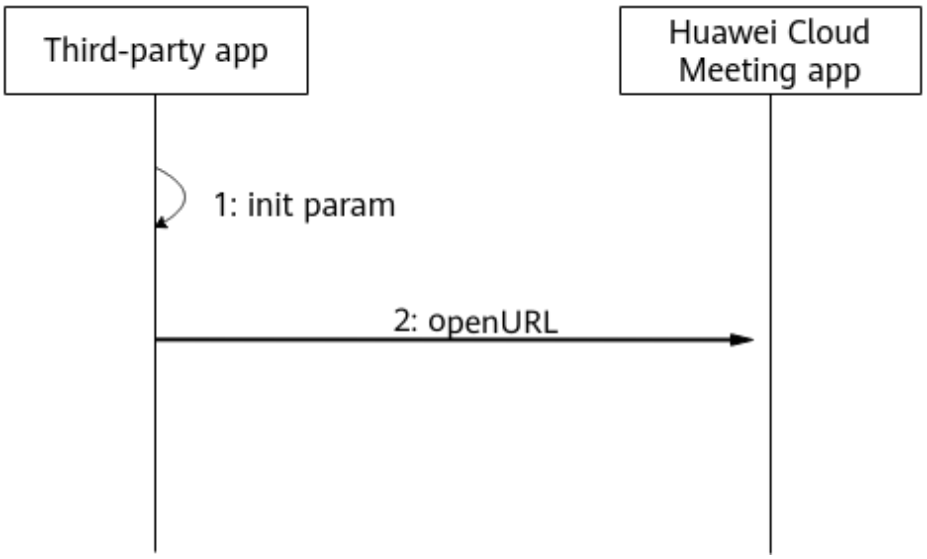
Description

Users can start the Huawei Cloud Meeting app by touching this link.

NOTE

If the Huawei Cloud Meeting app has been started, the home screen will be displayed when a user touches the link.

Service Process



1. Build a scheme.
2. Run the scheme.

Code Sample

```
// Start the app.
- (void)launchCloudLinkMeeting {
    NSURL *launchUrl = [NSURL URLWithString:@"cloudlink://welinksoftclient/h5page?page=launch"];
    [[UIApplication sharedApplication] openURL:launchUrl options:@{} completionHandler:nil];
}
```

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NOTE

The preceding code is only a logical sample and cannot be directly used.

3.3.2 Starting and Logging In to the App

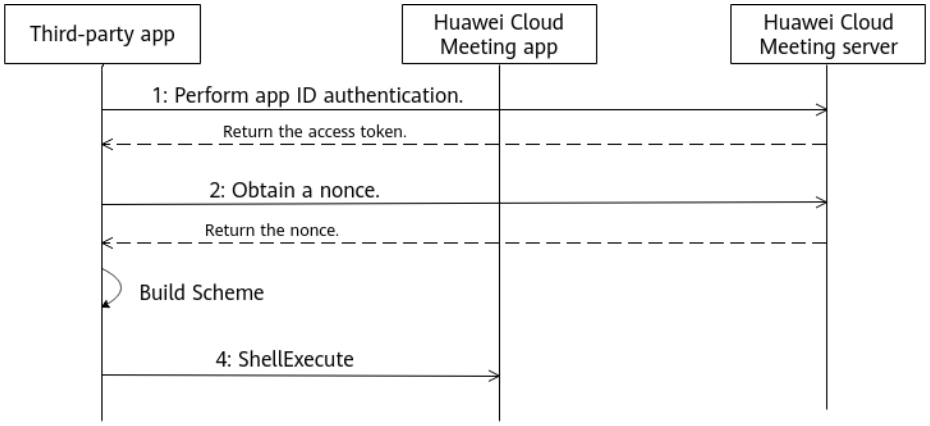
Description

If the Huawei Cloud Meeting app is installed on a user device, the user can start and log in to the app in this mode. The home screen is displayed after login.

NOTE

1. If the user has not logged in when touching the link, the user will log in to the app using the account used to obtain the token and the home screen is displayed.
2. If the user has logged in, the home screen is displayed. Login is not performed again.

Service Process



Step 1 Perform app ID authentication. For details, see **Authenticating an App ID** in *API Reference*.

Step 2 Obtain a nonce. For details, see **Obtaining a Nonce for Redirection Without Login** in *API Reference*.

Step 3 Start the Huawei Cloud Meeting app and log in to the home screen. For details, see the following sample code.

----End

Code Sample

```
- (void)handleEventWithNonce:(NSString *)nonce {
    NSString * schemeStr = [NSString stringWithFormat:@"cloudlink://welinksoftclient/h5page?page=launch&nonce=%@", nonce];
    NSLog(@"schemeStr:%@", schemeStr);
    NSURL *schemUrl = [[NSURL alloc] initWithString:[schemeStr stringByAddingPercentEncodingWithAllowedCharacters:[NSCharacterSet URLQueryAllowedCharacterSet]]];
    [[UIApplication sharedApplication] openURL:schemUrl options:@{} completionHandler:nil];
}
```

NOTE

The preceding code is only a logical sample and cannot be directly used.

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3.3.3 Joining a Meeting via a Link

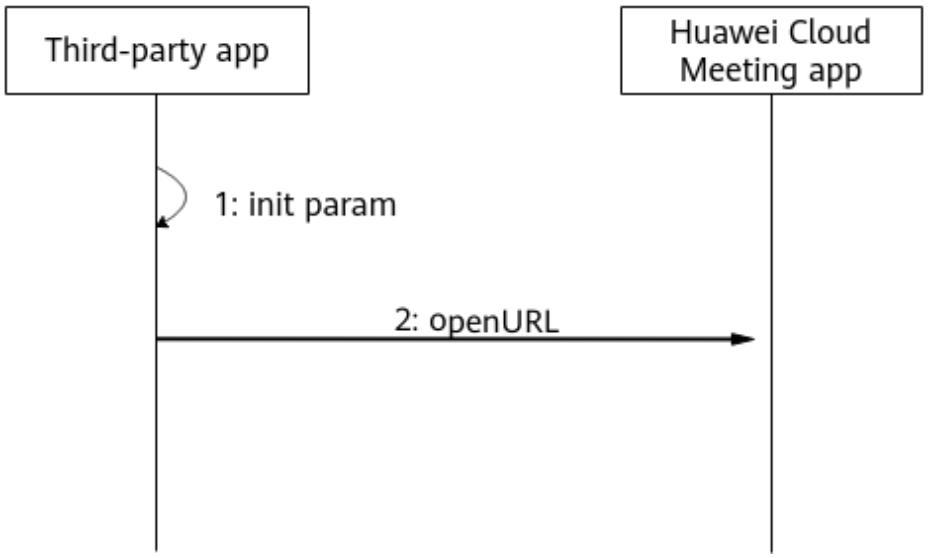
Description

Users can start the Huawei Cloud Meeting app and join a meeting by touching this link.

NOTE

When the user touches the link, the app home screen is displayed. If the user has logged in, the user joins the meeting with the account name. Or, the user joins the meeting anonymously.

Service Process



1. Build a scheme.
2. Run the scheme.

Code Sample

```
- (void)joinConfWithoutLogin:(id)sender {
// The information can be obtained from TextField on the GUI.
    NSString *server_url = Server address;
    NSString *port = Server port;
    NSString *confId = Meeting ID;
    NSString *enter_code = Meeting password;
    NSString *name = Name displayed in the meeting;
    NSString *open_mic = Microphone switch ? @"true" : @"false";
    NSString *open_camera = Camera switch ? @"true" : @"false";
    NSString * nonceStr = Nonce obtained by calling a server API;
    NSString *joinConfString = [NSString stringWithFormat:@"cloudlink://welinksoftclient/h5page?
page=joinConfByLink&server_url=%@&port=%@&conf_id=%@&enter_code=%@&name=%@&open_mic=
%@&open_camera=%@&nonce=%@", server_url, port, confId, enter_code, name, open_mic, open_camera,
nonce];
    NSURL *joinConfUrl = [NSURL URLWithString:joinConfString];
    [[UIApplication sharedApplication] openURL:joinConfUrl options:@{} completionHandler:nil];
}
```

NOTE

The preceding code is only a logical sample and cannot be directly used.

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3.3.4 Logging In to the App and Joining a Meeting

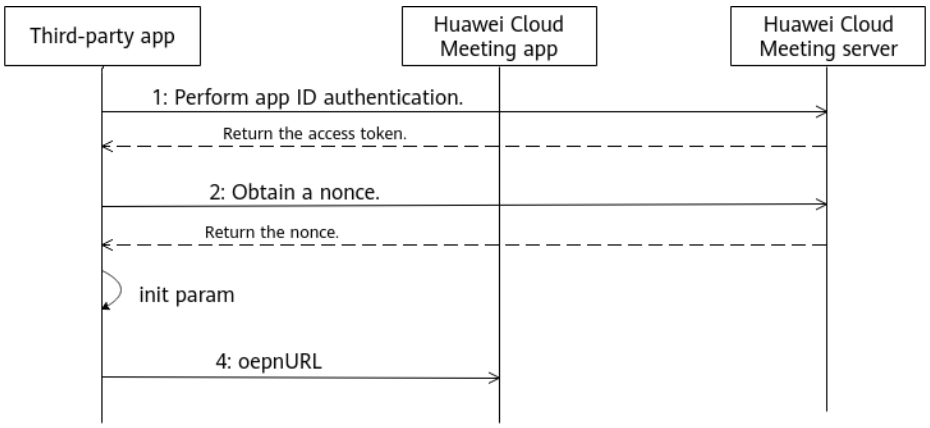
Description

If the Huawei Cloud Meeting app is installed on a user device, the user can start and log in to the app and join a meeting in this mode using the passed parameters in the link. If the user is the meeting host, the user can invite others to the meeting.

NOTE

1. If the user has not logged in when touching the link, the home screen is displayed and the user joins the meeting using the login ID in the link. After the meeting ends, the login screen is displayed.
2. If the user has logged in, the home screen is displayed and the user joins the meeting using the account name. After the meeting ends, the screen displayed before the user touches the link is displayed.

Service Process



Step 1 Perform app ID authentication. For details, see **Authenticating an App ID** in *API Reference*.

Step 2 Obtain a nonce. For details, see **Obtaining a Nonce for Redirection Without Login** in *API Reference*.

Step 3 Start and log in to the Huawei Cloud Meeting app and join a meeting. For details, see the following sample code.

----End

Code Sample

```
- (void)joinConfWithLogin:(id)sender {
// The information can be obtained from TextField on the GUI.
    NSString *server_url = Server address;
    NSString *port = Server port;
    NSString *confId = Meeting ID;
    NSString *enter_code = Meeting password;
    NSString *name = Name displayed in the meeting;
    NSString *open_mic = Microphone switch ? @"true" : @"false";
    NSString *open_camera = Camera switch ? @"true" : @"false";
    NSString *joinConfString = [NSString stringWithFormat:@"cloudlink://welinksoftclient/h5page?
page=LoginAndJoinConf&server_url=%@&port=%@&conf_id=%@&enter_code=%@&name=%@&open_mic=
```

```
%@&open_camera=%@", server_url, port, confId, enter_code, name, open_mic, open_camera];
    NSURL *joinConfUrl = [NSURL URLWithString:joinConfString];
    [[UIApplication sharedApplication] openURL:joinConfUrl options:@{} completionHandler:nil];
}
```

NOTE

The preceding code is only a logical sample and cannot be directly used.

3.4 Scheme Reference

3.4.1 Starting the App

Link Format

```
cloudlink://welinksoftclient/h5page?page=launch
```

Parameter Description

Table 3-2 Scheme parameter description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **launch**.

3.4.2 Starting and Logging In to the App

Link Format

```
cloudlink://welinksoftclient/h5page?page=launch&nonce=Ey**********************************pQ
```

Parameter Description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **launch**.
nonce	Yes	String	Nonce used for meeting joining authentication.

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NOTE

1. To obtain a nonce, call the server API for **authenticating an app ID** to obtain a token. Then, call the server API for **obtaining a nonce for redirection without login**. For details, see **FAQ**.
2. The nonce must be valid. Otherwise, the login fails. A nonce can be used only once.

3.4.3 Joining a Meeting via a Link

Link Format

```
cloudlink://welinksoftclient/h5page?
page=joinConfByLink&server_url=meeting.huaweicloud.com&port=8443&conf_id=12345&enter_code=12345
&name=Tom&open_mic=true&open_camera=false
```

Parameter Description

Table 3-3 Scheme parameter description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **joinConfByLink**.
server_url	No	String	Server address. If this parameter is left blank, the default value is used. • Chinese mainland site: meeting.huaweicloud.com • International site: intl.meeting.huaweicloud.com
port	No	String	Server port. If this parameter is left blank, the default value is used.
conf_id	Yes	String	Meeting ID.
enter_code	No	String	Meeting password.
name	Yes	String	Name displayed in the meeting.
open_mic	No	String	Whether the microphone is enabled. Value: **true** (enabled) or **false** (disabled, default value).
open_camera	No	String	Whether the camera is enabled. Value: **true** (enabled) or **false** (disabled, default value).

NOTE

To join a meeting as the host, set **enter_code** to the host password. To join a password-protected meeting as a guest, set **enter_code** to the guest password. If the meeting is password-free, leave **enter_code** blank.

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3.4.4 Logging In to the App and Joining a Meeting

Link Format

```
cloudlink://welinksoftclient/h5page?
page=LoginAndJoinConf&server_url=meeting.huaweicloud.com&port=8443&conf_id=12345&enter_code=12345&name=Tom&open_mic=true&open_camera=false&nonce=Ey**********pQ
```

Parameter Description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **LoginAndJoinConf**.
server_url	No	String	Server address. If this parameter is left blank, the default server address of Huawei Cloud Meeting is used. • Chinese mainland site: meeting.huaweicloud.com • International site: intl.meeting.huaweicloud.com
port	No	String	Server port. If this parameter is left blank, the default port of Huawei Cloud Meeting is used.
conf_id	Yes	String	Meeting ID.
enter_code	No	String	Meeting password.
name	Yes	String	Name displayed in the meeting.
open_mic	No	String	Whether the microphone is enabled. Value: **true** (enabled) or **false** (disabled, default value).
open_camera	No	String	Whether the camera is enabled. Value: **true** (enabled) or **false** (disabled, default value).
nonce	Yes	String	Nonce used for meeting joining authentication.

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NOTE

1. To join a meeting as the host, set **enter_code** to the host password. To join a password-protected meeting as a guest, set **enter_code** to the guest password. If the meeting is password-free, leave **enter_code** blank.
2. To obtain a nonce, call the server API for **authenticating an app ID** to obtain a token. Then, call the server API for **obtaining a nonce for redirection without login**. For details, see **FAQ**.
3. The nonce must be valid. Otherwise, meeting joining will fail. A nonce can be used only once.

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4 Windows Client Integration

4.1 Introduction

Third-party applications can integrate the audio and video meeting capabilities of the Huawei Cloud Meeting client.

4.2 Change History

Table 4-1 Change history

Released On	Version	Description
2021-12-16	7.12.6	Added **Starting and Logging In to the App**.
2021-07-13	2.0.0	Added **Logging In to the Client and Joining a Meeting**.
2019-04-30	1.0.0	This issue is the first official release.

4.3 Service Development

4.3.1 Starting the Client

Description

Users can click this link to start the Huawei Cloud Meeting client. The login screen is displayed after the client is started.

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NOTE

If the Huawei Cloud Meeting client has been started, the home screen will be displayed when a user clicks the link.

Code Sample (C++)

```
// Start the client.
void Cscheme_demoDlg::OnBnClickedButtonLaunch()
{
   // Assemble and execute the scheme.
   HWND hwnd=AfxGetApp()->GetMainWnd()->GetSafeHwnd();
   ShellExecute(hwnd,_T("open"),_T("cloudlink://welinksoftclient/h5page?
page=launch"),NULL,NULL,SW_SHOWNORMAL);
}
```

NOTE

1. The preceding code is only a logical sample and cannot be directly used.
2. To start the Huawei Cloud Meeting client from a web page, use href=cloudlink://welinksoftclient/h5page?page=launch for redirection.

4.3.2 Starting and Logging In to the App

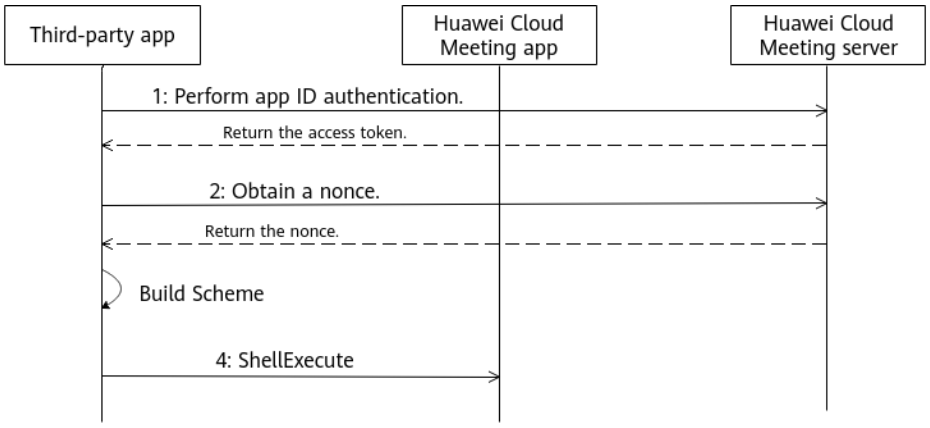
Description

If the Huawei Cloud Meeting client is installed on a user device, the user can start and log in to the client in this mode. The home screen is displayed after login.

NOTE

1. If the user has not logged in when clicking the link, the user will log in to the client using the account used to obtain the token and the home screen is displayed.
2. If the user has logged in, the home screen is displayed. Login is not performed again.

Service Process



Step 1 Perform app ID authentication. For details, see **Authenticating an App ID** in *API Reference*.

Step 2 Obtain a nonce. For details, see **Obtaining a Nonce for Redirection Without Login** in *API Reference*.

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Step 3 Start the Huawei Cloud Meeting client and log in to the home screen. For details, see the following sample code.

----End

Code Sample (C++)

```
void joinMeetingAnonymousDlg::OnBnClickedButtonJoinMeetingAnonymous()
{
    // Assemble the scheme.
    CString schemeStr = _T("cloudlink://welinksoftclient/h5page?page=launch&nonce=") + getNonce();

    HWND hwnd = AfxGetApp()->GetMainWnd()->GetSafeHwnd();
    ShellExecute(hwnd, _T("open"), schemeStr, NULL, NULL, SW_SHOWNORMAL);
}
```

NOTE

1. The preceding code is only a logical sample and cannot be directly used.
2. To start the Huawei Cloud Meeting client from a web page, use href=cloudlink://welinksoftclient/h5page?page=launch&nonce=*nonce_value* for redirection.

4.3.3 Joining a Meeting via a Link

Description

Users can start the Huawei Cloud Meeting client and join a meeting by clicking this link.

NOTE

If the client is not started, the client will be started and the user joins the meeting anonymously.

If the client is started but the user has not logged in, the home screen is displayed and the user joins the meeting anonymously.

If the client is started and the user has logged in, the home screen is displayed and the user join the meeting using the logged-in account.

Code Sample (C++)

```
// Anonymously join a meeting.
void joinMeetingAnonymousDlg::OnBnClickedButtonJoinMeetingAnonymous()
{
    CString serverAddress =  _T("address");
    CString serverPort = _T("port");
    CString meetingID = _T("id");
    CString meetingPassword = _T("password");
    CString showName = _T("name");
    CString isOpenMic = _T("true");
    CString isOpenCam = _T("true");
    // Assemble the scheme.
    CString schemeStr = _T("cloudlink://welinksoftclient/h5page?page=joinConfByLink&server_url=")
        + serverAddress + _T("&port=")
        + serverPort + _T("&conf_id=")
        + meetingID + _T("&enter_code=")
        + meetingPassword + _T("&name=")
        + showName + _T("&open_mic=")
        + isOpenMic + _T("&open_camera=")
        + isOpenCam;

    HWND hwnd = AfxGetApp()->GetMainWnd()->GetSafeHwnd();
    ShellExecute(hwnd, _T("open"), schemeStr, NULL, NULL, SW_SHOWNORMAL);
}
```

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NOTE

1. The preceding code is only a logical sample and cannot be directly used.
2. To start the Huawei Cloud Meeting client and join a meeting from a web page, use href=cloudlink://welinksoftclient/h5page?page=joinConfByLink&server_url=meeting.huaweicloud.com&port=8443&conf_id=*conf_id_value*&enter_code=*enter_code_value*&name=*name_value*&open_mic=true&open_camera=false for redirection.

4.3.4 Logging In to the Client and Joining a Meeting

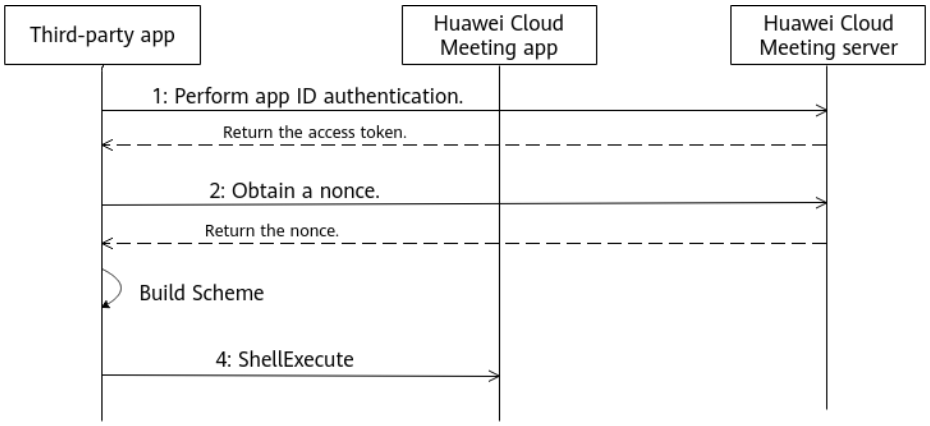
Description

If the Huawei Cloud Meeting client is installed on a user device, the user can start and log in to the client and join a meeting in this mode using the passed parameters in the link. If the user is the meeting host, the user can invite others to the meeting.

NOTE

1. If the user has not logged in when clicking the link, the home screen is displayed and the user joins the meeting using the login ID in the link. After the meeting ends, the login screen is displayed.
2. If the user has logged in, the home screen is displayed and the user joins the meeting using the account name. After the meeting ends, the screen displayed before the user clicks the link is displayed.

Service Process



Step 1 Perform app ID authentication. For details, see **Authenticating an App ID** in *API Reference*.

Step 2 Obtain a nonce. For details, see **Obtaining a Nonce for Redirection Without Login** in *API Reference*.

Step 3 Start and log in to the Huawei Cloud Meeting client and join a meeting. For details, see the following sample code.

----End

Code Sample (C++)

```
void joinMeetingAnonymousDlg::OnBnClickedButtonJoinMeetingAnonymous()
{
```

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```
    CString serverAddress =  _T("address");
    CString serverPort = _T("port");
    CString meetingID = _T("id");
    CString meetingPassword = _T("password");
    CString showName = _T("name");
    CString isOpenMic = _T("true");
    CString isOpenCam = _T("true");
    // Assemble the scheme.
    CString schemeStr = _T("cloudlink://welinksoftclient/h5page?page=LoginAndJoinConf&server_url=")
        + serverAddress + _T("&port=")
        + serverPort + _T("&conf_id=")
        + meetingID + _T("&enter_code=")
        + meetingPassword + _T("&name=")
        + showName + _T("&open_mic=")
        + isOpenMic + _T("&open_camera=")
        + isOpenCam + _T("&nonce=")
              + GetNonce();

    HWND hwnd = AfxGetApp()->GetMainWnd()->GetSafeHwnd();
    ShellExecute(hwnd, _T("open"), schemeStr, NULL, NULL, SW_SHOWNORMAL);
}
```

NOTE

1. The preceding code is only a logical sample and cannot be directly used.
2. To start and log in to the Huawei Cloud Meeting client and join a meeting from a web page, use href=cloudlink://welinksoftclient/h5page?page=LoginAndJoinConf&server_url=meeting.huaweicloud.com&port=8443&conf_id=*conf_id_value*&enter_code=*enter_code_value*&name=*name_value*&open_mic=true&open_camera=false&nonce=*nonce_value* for redirection.

4.4 Scheme Reference

4.4.1 Starting the Client

Link Format

```
cloudlink://welinksoftclient/h5page?page=launch
```

Parameter Description

Table 4-2 Scheme parameter description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **launch**.

4.4.2 Starting and Logging In to the App

Link Format

```
cloudlink://welinksoftclient/h5page?page=launch&nonce=Ey**********pQ
```

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Parameter Description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **launch**.
nonce	Yes	String	Nonce used for meeting joining authentication.

NOTE

1. To obtain a nonce, call the server API for **authenticating an app ID** to obtain a token. Then, call the server API for **obtaining a nonce for redirection without login**. For details, see **FAQ**.
2. The nonce must be valid. Otherwise, the login fails. A nonce can be used only once.

4.4.3 Joining a Meeting via a Link

Link Format

```
cloudlink://welinksoftclient/h5page?
page=joinConfByLink&server_url=meeting.huaweicloud.com&port=8443&conf_id=12345&enter_code=12345
&name=Tom&open_mic=true&open_camera=false
```

Parameter Description

Table 4-3 Scheme parameter description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **joinConfByLink**.
server_url	No	String	Server address. If this parameter is left blank, the default value is used. • Chinese mainland site: meeting.huaweicloud.com • International site: intl.meeting.huaweicloud.com
port	No	String	Server port. If this parameter is left blank, the default value is used.
conf_id	Yes	String	Meeting ID.
enter_code	No	String	Meeting password.
name	Yes	String	Name displayed in the meeting.

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Parameter	Mandatory	Type	Description
open_mic	No	String	Whether the microphone is enabled. Value: **true** (enabled) or **false** (disabled, default value).
open_camera	No	String	Whether the camera is enabled. Value: **true** (enabled) or **false** (disabled, default value).

NOTE

All the preceding parameters are passed in character strings and do not need to be encoded again. To join a meeting as the host, set **enter_code** to the host password. To join a password-protected meeting as a guest, set **enter_code** to the guest password. If the meeting is password-free, leave **enter_code** blank.

4.4.4 Logging In to the Client and Joining a Meeting

Link Format

```
cloudlink://welinksoftclient/h5page?
page=LoginAndJoinConf&server_url=meeting.huaweicloud.com&port=8443&conf_id=12345&enter_code=123
45&name=Tom&open_mic=true&open_camera=false&nonce=Ey**********pQ
```

Parameter Description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **LoginAndJoinConf**.
server_url	No	String	Server address. If this parameter is left blank, the default server address of Huawei Cloud Meeting is used. • Chinese mainland site: meeting.huaweicloud.com • International site: intl.meeting.huaweicloud.com
port	No	String	Server port. If this parameter is left blank, the default port of Huawei Cloud Meeting is used.
conf_id	Yes	String	Meeting ID.
enter_code	No	String	Meeting password.
name	Yes	String	Name displayed in the meeting.

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Parameter	Mandatory	Type	Description
open_mic	No	String	Whether the microphone is enabled. Value: **true** (enabled) or **false** (disabled, default value).
open_camera	No	String	Whether the camera is enabled. Value: **true** (enabled) or **false** (disabled, default value).
nonce	Yes	String	Nonce used for meeting joining authentication.

NOTE

1. To join a meeting as the host, set **enter_code** to the host password. To join a password-protected meeting as a guest, set **enter_code** to the guest password. If the meeting is password-free, leave **enter_code** blank.
2. To obtain a nonce, call the server API for **authenticating an app ID** to obtain a token. Then, call the server API for **obtaining a nonce for redirection without login**. For details, see **FAQ**.
3. The nonce must be valid. Otherwise, meeting joining will fail. A nonce can be used only once.

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5 macOS Client Integration

5.1 Introduction

Third-party applications can integrate audio and video meeting capabilities of the Huawei Cloud Meeting macOS client.

5.2 Change History

Table 5-1 Change history

Released On	Version	Description
2022-04-21	7.16.5	Added **Starting and Logging In to the App**.
2021-07-13	2.0.0	Added **Logging In to the Client and Joining a Meeting**.
2021-02-02	1.0.0	Added the section "macOS Client Integration."

5.3 Service Development

5.3.1 Starting the App

Description

Users can start the Huawei Cloud Meeting client by clicking this link.

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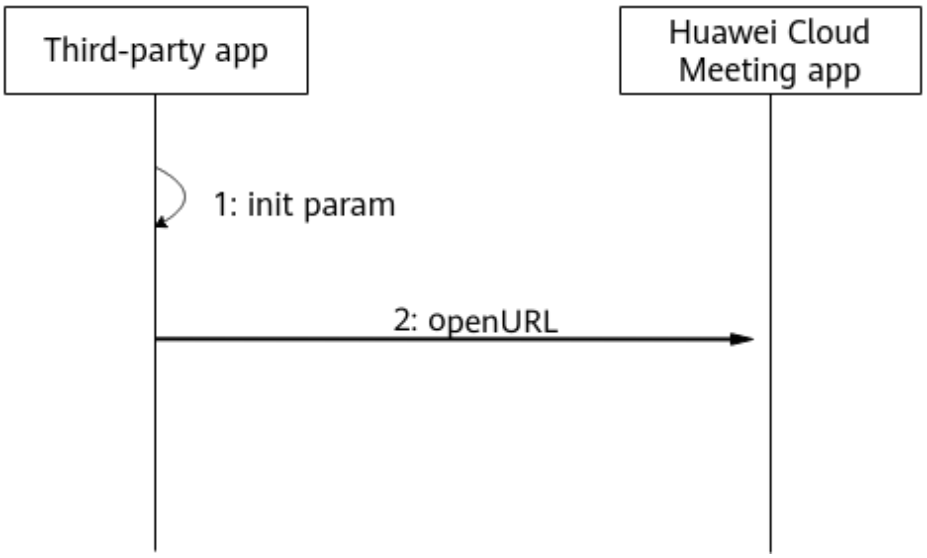
NOTE

If the Huawei Cloud Meeting client has been started, the home screen will be displayed when a user clicks the link.

Service Process



1. Build a scheme.
2. Run the scheme.

Code Sample

```
// Start the client.
- (void)launchCloudLinkMeeting {
    NSURL *launchUrl = [NSURL URLWithString:@"cloudlink://welinksoftclient/h5page?page=launch"];
    [[NSWorkspace sharedWorkspace] openURL:launchUrl];
```

NOTE

The preceding code is only a logical sample and cannot be directly used.

5.3.2 Starting and Logging In to the App

Description

If the Huawei Cloud Meeting client is installed on a user device, the user can start and log in to the client in this mode. The home screen is displayed after login.

NOTE

1. If the user has not logged in when clicking the link, the user will log in to the client using the account used to obtain the token and the home screen is displayed.
2. If the user has logged in, the home screen is displayed. Login is not performed again.

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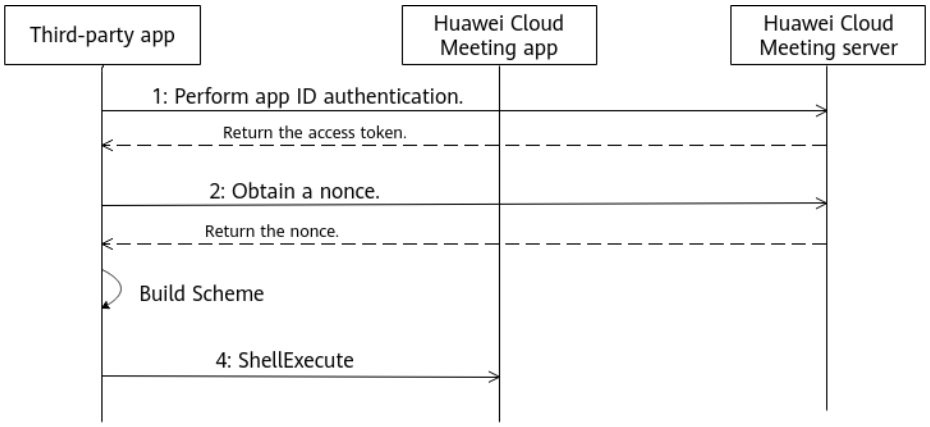
Service Process



Step 1 Perform app ID authentication. For details, see **Authenticating an App ID** in *API Reference*.

Step 2 Obtain a nonce. For details, see **Obtaining a Nonce for Redirection Without Login** in *API Reference*.

Step 3 Start the Huawei Cloud Meeting client and log in to the home screen. For details, see the following sample code.

----End

Code Sample

```
- (void)handleEventWithNonce:(NSString *)nonce {
    NSString * schemeStr = [NSString stringWithFormat:@"cloudlink://welinksoftclient/h5page?
page=launch&nonce=%@", nonce];
    NSLog(@"schemeStr:%@", schemeStr);
    NSURL *schemUrl = [[NSURL alloc] initWithString:[schemeStr
stringByAddingPercentEncodingWithAllowedCharacters:[NSCharacterSet URLQueryAllowedCharacterSet]]];
    [[NSWorkspace sharedWorkspace] openURL:schemUrl];
}
```

NOTE

The preceding code is only a logical sample and cannot be directly used.

5.3.3 Joining a Meeting via a Link

Description

Users can start the Huawei Cloud Meeting client and join a meeting by clicking this link.

NOTE

When the user clicks the link, the client home screen is displayed. If the user has logged in, the user joins the meeting with the account name. Or, the user joins the meeting anonymously.

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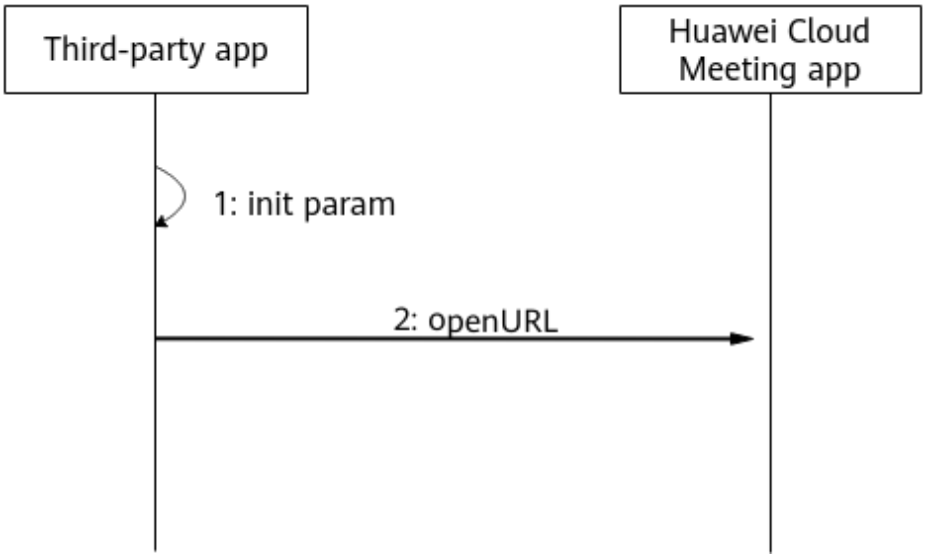
Service Process



1. Build a scheme.
2. Run the scheme.

Code Sample

```
// Anonymously join a meeting.
- (void)joinConfWithoutLogin:(id)sender {
// The information can be obtained from TextField on the GUI.
    NSString *server_url = Server address;
    NSString *port = Server port;
    NSString *confId = Meeting ID;
    NSString *enter_code = Meeting password;
    NSString *name = Name displayed in the meeting;
    NSString *open_mic = Microphone switch ? @"true" : @"false";
    NSString *open_camera = Camera switch ? @"true" : @"false";
    NSString *joinConfString = [NSString stringWithFormat:@"cloudlink://welinksoftclient/h5page?
page=joinTmpConfByLink&server_url=%@&port=%@&conf_id=%@&enter_code=%@&name=
%@&open_mic=%@&open_camera=%@", server_url, port, confId, enter_code, name, open_mic,
open_camera];
    NSURL *joinConfUrl = [NSURL URLWithString:joinConfString];
    [[NSWorkspace sharedWorkspace] openURL:joinConfUrl];
}
```

NOTE

The preceding code is only a logical sample and cannot be directly used.

5.3.4 Logging In to the Client and Joining a Meeting

Description

If the Huawei Cloud Meeting client is installed on a user device, the user can start and log in to the client and join a meeting in this mode using the passed parameters in the link. If the user is the meeting host, the user can invite others to the meeting.

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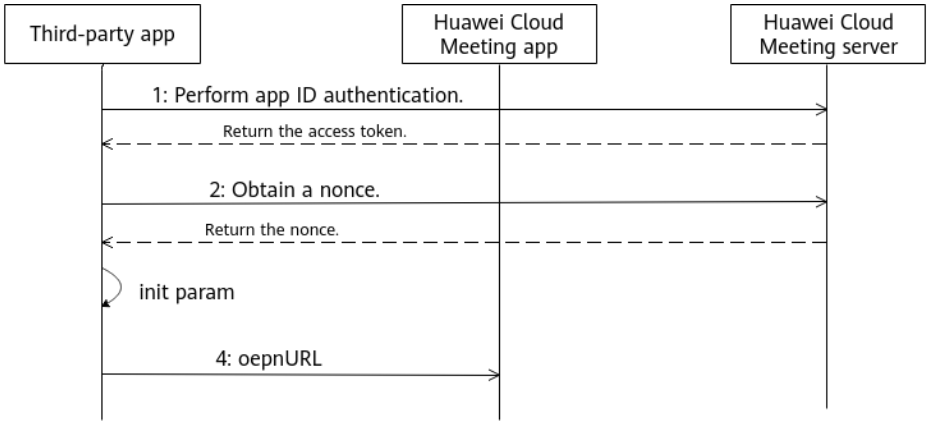
NOTE

1. If the user has not logged in when clicking the link, the home screen is displayed and the user joins the meeting using the login ID in the link. After the meeting ends, the login screen is displayed.

2. If the user has logged in, the home screen is displayed and the user joins the meeting using the account name. After the meeting ends, the screen displayed before the user clicks the link is displayed.

Service Process



Step 1 Perform app ID authentication. For details, see **Authenticating an App ID** in *API Reference*.

Step 2 Obtain a nonce. For details, see **Obtaining a Nonce for Redirection Without Login** in *API Reference*.

Step 3 Start and log in to the Huawei Cloud Meeting client and join a meeting. For details, see the following sample code.

----End

Code Sample

```
// Anonymously join a meeting.
- (void)joinConfWithoutLogin:(id)sender {
// The information can be obtained from TextField on the GUI.
    NSString *server_url = Server address;
    NSString *port = Server port;
    NSString *confId = Meeting ID;
    NSString *enter_code = Meeting password;
    NSString *name = Name displayed in the meeting;
    NSString *open_mic = Microphone switch ? @"true" : @"false";
    NSString *open_camera = Camera switch ? @"true" : @"false";
    NSString *joinConfString = [NSString stringWithFormat:@"cloudlink://welinksoftclient/h5page?
page=joinTmpConfByLink&server_url=%@&port=%@&conf_id=%@&enter_code=%@&name=
%@&open_mic=%@&open_camera=%@", server_url, port, confId, enter_code, name, open_mic,
open_camera];
    NSURL *joinConfUrl = [NSURL URLWithString:joinConfString];
    [[NSWorkspace sharedWorkspace] openURL:joinConfUrl];
}
```

NOTE

The preceding code is only a logical sample and cannot be directly used.

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5.4 Scheme Reference

5.4.1 Starting the Client

Link Format

```
cloudlink://welinksoftclient/h5page?page=launch
```

Parameter Description

Table 5-2 Scheme parameter description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **launch**.

5.4.2 Starting and Logging In to the App

Link Format

```
cloudlink://welinksoftclient/h5page?page=launch&nonce=Ey**********************************pQ
```

Parameter Description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **launch**.
nonce	Yes	String	Nonce used for meeting joining authentication.

NOTE

1. To obtain a nonce, call the server API for **authenticating an app ID** to obtain a token. Then, call the server API for **obtaining a nonce for redirection without login**. For details, see **FAQ**.
2. The nonce must be valid. Otherwise, the login fails. A nonce can be used only once.

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5.4.3 Joining a Meeting via a Link

Link Format

```
cloudlink://welinksoftclient/h5page?
page=joinConfByLink&server_url=meeting.huaweicloud.com&port=8443&conf_id=12345&enter_code=12345
&name=Tom&open_mic=true&open_camera=false
```

Parameter Description

Table 5-3 Scheme parameter description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **joinConfByLink**.
server_url	No	String	Server address. If this parameter is left blank, the default value is used.
port	No	String	Server port. If this parameter is left blank, the default value is used.
conf_id	Yes	String	Meeting ID.
enter_code	No	String	Meeting password.
name	Yes	String	Name displayed in the meeting.
open_mic	No	String	Whether the microphone is enabled. By default, it is disabled.
open_camera	No	String	Whether the camera is enabled. By default, it is disabled.

NOTE

To join a meeting as the host, set **enter_code** to the host password. To join a password-protected meeting as a guest, set **enter_code** to the guest password. If the meeting is password-free, leave **enter_code** blank.

5.4.4 Logging In to the Client and Joining a Meeting

Link Format

```
cloudlink://welinksoftclient/h5page?
page=LoginAndJoinConf&server_url=meeting.huaweicloud.com&port=8443&conf_id=12345&enter_code=123
45&name=Tom&open_mic=true&open_camera=false&nonce=Ey**********************************pQ
```

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Parameter Description

Parameter	Mandatory	Type	Description
page	Yes	String	Defines the scheme function. The value is **LoginAndJoinConf**.
server_url	No	String	Server address. If this parameter is left blank, the default server address of Huawei Cloud Meeting is used.
port	No	String	Server port. If this parameter is left blank, the default port of Huawei Cloud Meeting is used.
conf_id	Yes	String	Meeting ID.
enter_code	No	String	Meeting password.
name	Yes	String	Name displayed in the meeting.
open_mic	No	String	Whether the microphone is enabled. By default, it is disabled.
open_camera	No	String	Whether the camera is enabled. By default, it is disabled.
nonce	Yes	String	Nonce used for meeting joining authentication.

NOTE

1. To join a meeting as the host, set **enter_code** to the host password. To join a password-protected meeting as a guest, set **enter_code** to the guest password. If the meeting is password-free, leave **enter_code** blank.
2. To obtain a nonce, call the server API for **authenticating an app ID** to obtain a token. Then, call the server API for **obtaining a nonce for redirection without login**. For details, see **FAQ**.
3. The nonce must be valid. Otherwise, meeting joining will fail. A nonce can be used only once.

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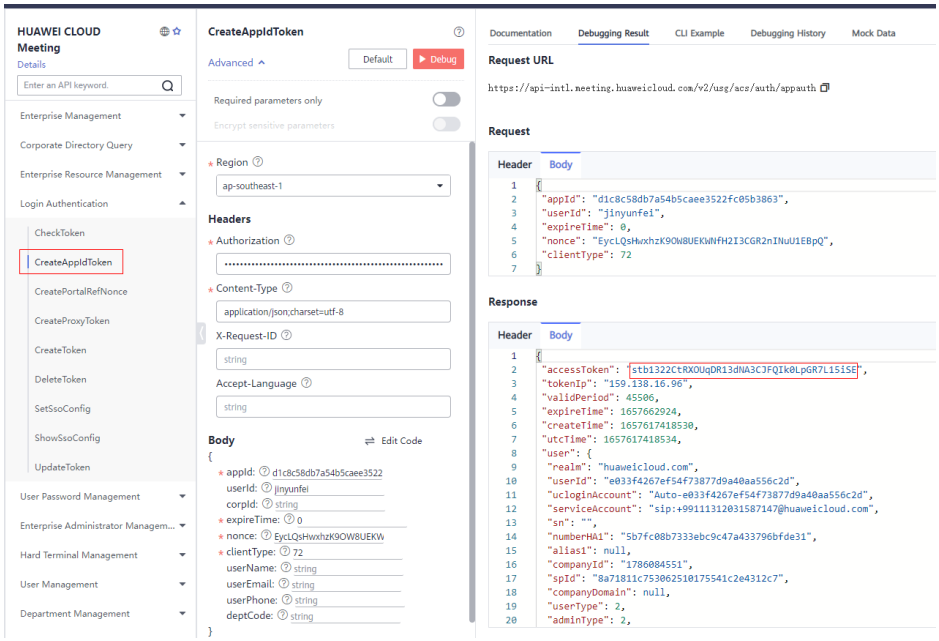
6 FAQ

6.1 How Do I Obtain a Nonce for Logging in to the App and Joining a Meeting?

App ID Scenario

1. Call the server API for **app ID authentication**, specify participant parameters, and obtain an access token.

Figure 6-1 Authenticating an app ID



2. Call the server API for **obtaining a nonce for redirection without login**.

A nonce can be used only once.

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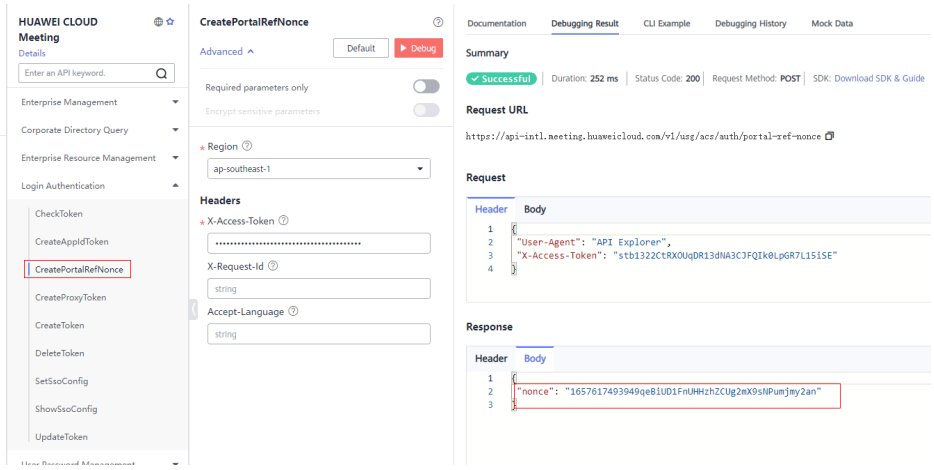
Figure 6-2 Obtaining a nonce for redirection without login



3. Enter the nonce, meeting ID, and password based on the link format and share the link with participants.

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