

# iOS CLIENT SDK

## GETTING STARTED GUIDE

### REVIEW HISTORY

| DATE         | VERSION | REVIEWERS                                    | STATUS   |
|--------------|---------|--|----------|
| 20-SEPT-2021 | 1.0.0   | George Sealy, Gaurav Rihan, Nishanth Shettar | Complete |
|              |         |  |          |
|              |         |  |          |

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## Overview

The BlueJeans iOS Client SDK provides a collection of frameworks that expose APIs for audio and video conferencing meetings, together with easy to follow sample apps and extensive documentation. With this SDK you can bring audio, video, chat, screen share and much more to your native iOS apps and create brand new use cases for your customers.

## Pre-requisites

|                     |  |
|---------------------|--|
| SDK Version         | 1.0.0                                  |
| OS Support          | iOS 13 and later                       |
| Hardware Support    | Any iOS device running iOS 13 or later |
| Supported Languages | Swift 5.4                              |
| Simulator Support   | Yes. M1 Macs need to run under Rosetta |

XCode 12.5 / Swift 5.4 are required to build an app using this SDK.

## Where do I start?

To get going, you need two things; this SDK and a valid BlueJeans meeting ID / passcode. If you do not yet have a meeting, you can:

- Sign up for a BlueJeans account, either a [trial](#) or [paid](#) account.
- Once you have an account, you can schedule a meeting through <https://bluejeans.com> or using [direct API calls](#). To enable API calls on your account, please reach out to our [support team](#).

## Integrating the SDK

- Once you have a meeting ID, the latest version of the BlueJeans iOS SDK can be found on GitHub [here](#).
- This GitHub repository contains full documentation and sample apps to get you started.
- The binary `xcframeworks` themselves can be downloaded from [here](#).
- To integrate the SDK, simply embed the BlueJeans SDK frameworks in your app – a step by step example is given in the README file.

Some additional setup that you must be aware of:

- Bitcode must be disabled in your build settings.
- Permission strings for microphone and camera access must be added to your `Info.plist` file.
- Additionally, if you require your app to remain active while in the background, you need to add the Background Modes -> Audio capability.
- To add simulator support, one of the frameworks will need to be conditionally added only to your app only for device builds. Details are in the README file and a helper script for this is also available in the Scripts folder of the SDK (*Scripts/embed-device-only-framework.sh*).



## How to upgrade from a previous version of the SDK

Updates about new versions of this SDK will be published on GitHub with change logs. Upgrading is as simple as replacing the frameworks with newer versions.

## Exploring the SDK

### Use Cases

- Inheriting BlueJeans Meeting experience inside your iOS app.
- Allowing users with or without a BlueJeans account to join meetings on your iOS app.

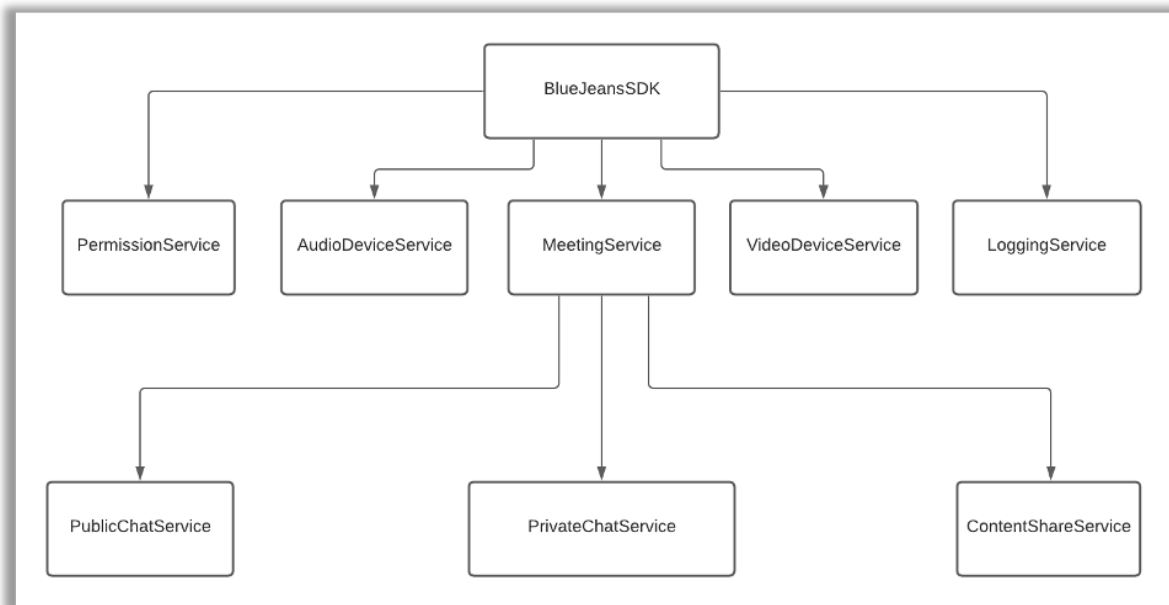
### Supported Features

|                                 |  |
|---------------------------------|--|
| Supported Video Resolution      | Up to 480p video send and receive.   |
| Supported Frame Rate            | Up to 30fps for video,<br>5fps for content.  |
| Join Meeting                    | Join a meeting with meeting id and moderator/participant passcode.   |
| Leave Meeting                   | Leave a meeting (and optionally end the meeting as a moderator).   |
| Self Audio/Video Mute           | Participant can mute / unmute either their audio or video.   |
| Select Audio/Video Device       | Toggle between front and back camera. Audio devices can be selected through standard iOS UI, including Bluetooth and standard external microphones / headphones. |
| Initiate Screen Share           | Participants can share their screen.   |
| Receive Content/Screen Share    | Content / Screen shares received from other end points can be displayed.   |
| List of Participants            | A list of all participants currently in the meeting and their current audio/video states.  |
| Layout Support for Remote Video | Ability to change between different styles of layout. See “Accessing Video Streams” below.   |
| Supported Meeting Capacity      | Number of participants supported in a meeting is based on the plan and differs for Trial, E-COMM & Enterprise customers. More details <a href="#">here</a> .     |
| Video Rotation                  | Video rotation between portrait and landscape orientations is handled automatically.   |
| Retrieve SDK Version            | Allows a developer to programmatically retrieve the SDK version, for logging or support purposes.  |
| Public & Private Chat           | Ability for meeting participants to send text messages during the meeting, either publicly or privately.   |

The SDK provides a single top-level class, *BlueJeansSDK*, that provides access to all available functionality. Within this class, APIs are grouped into Service objects for convenience.

*BlueJeansSDK* exposes an *initialize()* method that can be used to configure options such as support for 5x5 remote video views in Gallery layout (see below). Note that it is *not* necessary to call *BlueJeansSDK.initialize()*, but if you wish to alter the default

configuration this must be done by calling `BlueJeansSDK.initialize()` before any other SDK methods. See the Customizations section below for more detail.



SDK Architecture and listing of various services

APIs are exposed through service objects like `MeetingService`, `LoggingService`, `PermissionService` and so on.

Properties or methods of these service objects can be accessed directly, for example:

```
if BlueJeansSDK.meetingService.meetingState == ...
```

It may also be convenient to maintain local references to these objects, for example:

```
let meetingService = BlueJeansSDK.meetingService
...
if meetingService.meetingState == ...
```

## Observing SDK State

The current state of your BlueJeans meeting is exposed as a collection of properties that are observable. Some examples include:

- `MeetingService.meetingState` // Reflects the connection status of a meeting
- `MeetingService.audioMuted` // Is the user's microphone muted?



- `PublicChatService.chatHistory` // An array of chat messages received
- `LoggingService.loggingMode` // How much detail are we logging?

App level logic or UX can subscribe to changes in this state as follows:

```
meetingService.videoMuted.onChange {  
    print("Video muted changed to ",meetingService.videoMuted.value)  
}
```

More examples can be found in the detailed README and sample apps.

### Accessing Video Streams

Video Streams can be requested from the `VideoDeviceService`:

- `VideoDeviceService.getSelfViewInstance()` returns a `UIView` containing the local camera view.
- `VideoDeviceService.getContentShareInstance()` returns a `UIView` containing any received content (screen shares) from other participants.
- `VideoDeviceService.getRemoteVideoController()` returns a `UIViewController` containing remote video views. It supports several layouts:
  - **Speaker** – just the currently active speaker is shown.
  - **People** – one large video for the active speaker and up to 5 smaller views for recently active or pinned participants.
  - **Gallery** – 9 views (or 25 if enabled) of recently active participants.

For more details, check out the README file.

### Customizations

Calling `BlueJeansSDK.initialize()` before any other SDK methods allows a developer to override default behaviour.

#### 5x5 Support

- Enabling up to 25 remote video endpoints to be visible at one time in gallery layout. The default is set to 9. Function `initialize` takes a Boolean argument for enabling 5x5 support.

#### Screen Share behaviour

- Configure screen share behaviour in the following ways:
  - Specify if a participant can begin screen sharing while another participant is already screen sharing (called as “hijacking” the screen share), or if an App level confirmation is needed first.



- Customize the message shown to a user if their screen share is stopped for any reason (*reasons could be “hijacking by another participant” or “moderator removing the screen share privilege” etc*).
- Refer to ReadMe for specific steps.

## What about features supported in the Desktop/Mobile version of BlueJeans?

Use of the iOS Client SDK in conjunction with other BlueJeans clients like Desktop app, BlueJeans browser client or BlueJeans Mobile apps, may result in a limited experience for SDK client users as some of the advanced features that are supported on BlueJeans developed clients are not yet supported via the iOS Client SDK.

Following is a list of features that are not supported via the IOS Client SDK:

- ❖ **Waiting Room** (*SDK client joining a meeting which is Waiting Room enabled*)
- ❖ **Breakout Sessions** (*ability for SDK client to move in and out of Breakout Session*)
- ❖ **Restricted Meetings** (*ability for SDK client to trigger unique passcode for participants to join*)
- ❖ **Telehealth Meetings** (*ability for SDK client to join Telehealth enabled meetings*)

## Logging

The SDK records logs that are kept for approximately a week (less if logging is set to verbose). *LoggingService* exposes a method to upload these logs to BlueJeans. Once uploaded, logs will be available to the BJN team in the private log server under the username folder.

In order to trace the logs corresponding to an upload, BJN SDK team will need the username and time at which the upload was done.

## Sample Apps

The SDK includes two sample apps:

- **Hello BlueJeans** – a simple app designed to guide you through the basics of using the SDK; joining a meeting, observing meeting state, displaying video views and leaving a meeting.
- **Screen Share** – an app that shows how to create an iOS Broadcast Extension to allow screen sharing in a BlueJeans meeting.



## Tracking & Analytics

BlueJeans collects data from app clients who integrate the SDK to join BlueJeans meetings like Device information (Model ID, OS etc.), coarse location and usage data.

## Known caveats

None

## Looking for additional help?

For any queries or issues related to iOS Client SDK, you can raise support case via our [Contact Support page](#).

## Contributing

The BlueJeans iOS Client SDK is closed source and proprietary. As a result, we cannot accept pull requests. However, we enthusiastically welcome feedback on how to make our SDK better.

If you think you have found a bug, or have an improvement or feature request, please file a GitHub issue or raise a support case via [this page](#) and we will get back to you. Thanks in advance for your help!

## License

Copyright © 2021 BlueJeans Network. All usage of the SDK is subject to the Developer Agreement that can be found [here](#).

Download the agreement and send an email to [api-sdk@bluejeans.com](mailto:api-sdk@bluejeans.com) with a signed version of this agreement, before any commercial or public facing usage of this SDK.

## Legal Requirements

Use of this SDK is subject to our [Terms & Conditions](#) and [Privacy Policy](#).

## Frequently Asked Questions

[Do my customers need to have BlueJeans account to use a BlueJeans SDK integrated app?](#)

No. The integrated app should allow customers to join meetings without needing a BlueJeans account.





Can I schedule a meeting using the iOS Client SDK?

No, scheduling a meeting can be achieved through our public RESTful API functions, more detail can be found [here](#).

Can I chat to a person outside of a meeting?

No. Chat can only be done within a meeting.

Will my meeting attendees be required to download anything?

No. It's not required for the user to download anything from BlueJeans. The app that you create using the iOS Client SDK is all that is needed.

What is the maximum participant count in a meeting or video conference?

The maximum number of participants supported on your meeting is based on the plan and differs for Trial plan, various E-COMM plans & Enterprise plans. More details [here](#).

Does the BlueJeans SDK support chat bots?

No. Chat bots are not supported as of now.

Is this BlueJeans SDK free to use?

BlueJeans iOS Client SDK can only be used with an active BlueJeans subscription. There are no extra charges for using the SDK.

Am I able to customize the look of the remote video views?

Not currently. This support will be added in a future release.