

ANDROID CLIENT SDK

GETTING STARTED GUIDE

REVIEW HISTORY

DATE	VERSION	REVIEWERS	STATUS
15-JULY-2021	1.0.0	Gaurav Rihan, Pavankumar Vijapur, Nishanth Shettar	Complete
26-AUG-2021	1.1.0	Gaurav Rihan, Pavankumar Vijapur	Complete
17-SEP-2021	1.2.0	Gaurav Rihan, Pavankumar Vijapur, Nishanth Shettar	Complete
26-OCT-2021	1.3.0	Gaurav Rihan, Pavankumar Vijapur, Nishanth Shettar	Complete
30-NOV-2021	1.3.1	Gaurav Rihan, Pavankumar Vijapur, Nishanth Shettar, Prince Mathew, Prasad Sawant	Complete
25-FEB-2022	1.3.2	Gaurav Rihan, Pavankumar Vijapur, Nishanth Shettar, Prince Mathew, Prasad Sawant	Complete

Table of Contents

OVERVIEW.....	3
PRE-REQUISITE.....	3
HOW IT ALL WORKS ?	3
GENERATE A MEETING ID.....	3
INTEGRATE BLUEJEANS ANDROID CLIENT SDK	4
HOW TO BUILD?.....	4
HOW TO ADD SDK DEPENDENCY IN YOUR ANDROID PROJECT?	4
HOW TO UPGRADE FROM PREVIOUS VERSION OF SDK?	4
HOW TO USE?	4
USE CASES	5
USE OF BASIC FEATURES.....	5
SUPPORTED FEATURES	5
USE OF ADVANCED FEATURES	6
CUSTOMIZATIONS.....	7
5X5 SUPPORT IN VIDEO GALLERY LAYOUT	7
CHANGE COLOUR OF THE PARTICIPANT TILE WHEN VIDEO IS TURNED OFF	7
IMPORTANT STATEFUL OBSERVABLES.....	8
WHAT ABOUT FEATURES SUPPORTED IN DESKTOP VERSION OF BLUEJEANS?	8
LOGGING	8
SAMPLE APP	8
SAMPLE APP FOLDER	9
TRACKING & ANALYTICS	9
KNOWN CAVEATS	9
LOOKING FOR ADDITIONAL HELP?	9
CONTRIBUTING	9
LICENSE	9
LEGAL REQUIREMENTS.....	10
FREQUENTLY ASKED QUESTIONS	10

Overview

BlueJeans Android SDK (Software Development Kit) is a bundle of Audio, Video Conferencing Meetings API, with an easy-to-use sample app which works seamlessly across all your android devices and enables users to enjoy audio, video, screen sharing and many more features. With BlueJeans SDK, you can schedule, join meetings, chat, share your screen and create brand new use cases that are relevant to your industry.

Pre-requisite

OS support	Android Oreo 8.0 (API Level 26) and above
Hardware chipset	ARM 32-bit & ARM 64-bit
Supported languages	Java, Kotlin
Emulator support	Not supported

The BlueJeans Android SDK is compatible with Android version 8.0 or higher. Therefore, your Android app must have a ***minSdkVersion*** 26 or higher.

If your app runs with min SDK version below API level 26, you must override min SDK version as in the below sample.

Add the below to your AndroidManifest.xml

```
<uses-sdk android:minSdkVersion="26"
tools:overrideLibrary="com.bluejeans.bluejeanssdk"/>
```

However please note that, SDK instantiation will fail if the app runs on API level below 26, please add build check to avoid SDK instantiation on device with API level < 26.

How it all works?

You can experience BlueJeans meetings using the android client SDK in 2 ways –

Generate a meeting ID

As a pre requisite to using the BlueJeans Android Client SDK to join meetings, you need to have a BlueJeans meeting ID and passcode. If you do not have a meeting ID/passcode then you can create one using a meeting schedule option using a BlueJeans account as below:

- Sign up for a BlueJeans Account either by opting in for a [trial](#) or a [paid mode](#)



- Once account is created, you can schedule a meeting either by using the account or through the [direct API](#) calls. In order to enable API calls on your account, please reach out to [support team](#).

Integrate BlueJeans Android Client SDK

Integrate the SDK using the guidelines mentioned in README.md, under “Integration Steps:”.

How to Build?

SDK can be integrated into your android project like any other standard third-party library. If you are new to android, follow instructions [here](#) to create a new project and then integrate the BlueJeans Android Client SDK with below guidelines.

How to add SDK dependency in your android project?

BlueJeans distributes SDK from the Maven Repository. To add the SDK to your app, add the following dependency in your `build.gradle` files:

At top level project `build.gradle`

```
repositories {  
    maven {  
        url "https://swdl.bluejeans.com/bjnvideosdk/android"  
    }  
}
```

At app level `build.gradle`

```
implementation "com:bluejeans:android-client-sdk:1.3.2"
```

How to upgrade from previous version of SDK?

BlueJeans would announce upgrades to SDK versions on GitHub with change logs. You can consume it by increasing the version in the implementation code block by referring to GitHub.

How to use?

APIs are exposed through major services like Meeting Service, Video Device service, Participant Service, Moderator Controls Service, Chat Service and Permission Service. These objects can be accessed in code as –

- `blueJeansSDK.getMeetingService` : This takes care of all meeting related APIs



- `blueJeansSDK.getPermissionService` : This takes care of permission handling related APIs
- for more details, refer [here](#)

Follow following steps –

- Create the object of BlueJeans SDK in application `onCreate` with help of application context and use it to access to all the APIs
- Minimum permission needed to join a meeting is permission for `RECORD_AUDIO`. You can either use BlueJeans Permission Service or Android SDK [guide](#).
- Sample code (in java) –

```
blueJeansSDK = new BlueJeansSDK(new BlueJeansSDKInitParams(this));
```

Use Cases

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

Use of basic features

To Join meeting, user requires a combination of Meeting ID and Passcode. BlueJeans meetings are passcode enabled by default, but if your use case requires the meetings to be passcode-less, you can change the setting via Admin portal.

To view the complete list of supported features, review below heading –

Supported Features

Supported video resolution	Up to 720p for video send ^{*experimental feature} Up to 480p for video send and video receive ^{*default}
Supported Frame-rate	Up to 30 fps for video Up to 5 fps for content
Join Meeting	Join a meeting with/without moderator/participant passcode
Leave Meeting	Leave a meeting
Participant self a/v mute/unmute	Participant can mute/unmute its audio or video
Select audio/video device	Participant can select choice of audio or video devices that are connected to android device including Bluetooth devices
Initiate Screen Share	Participants can initiate screen share from their android device
Receive Screen Share	Participant can receive screen share content
List of participants & a/v states	List of all the participants who have joined the meeting and their respective audio/video local muted/remote muted states
Layout support for video stream	Ability to change video layouts in 3 different ways. Refer to “Video Layouts” section in README.md

Supported Meeting Capacity	Number of participants supported on your meeting is based on the plan and differs for Trial, E-COMM & Enterprise customers. More details here
Video rotation	Video rotation is handled automatically between landscape and portrait modes
Retrieve version of the SDK	A way for developer to retrieve current version of the SDK, for logging or support purposes
Moderator controls	As a moderator of the meeting, user can – <ul style="list-style-type: none"> a) Start/Stop recording b) Mute/Un-Mute Audio of other participants / all participants c) Mute/Un-Mute Video of other participants / all participants d) Remove a participant from the meeting e) End meeting for all immediately or after a certain configurable delay (in seconds)

Use of advanced features

Public & Private chat	Ability for meeting participants to send text messages during the meeting, either publicly or privately.
USB based audio/video devices	USB devices recognized by Android OS are supported
Control Torch	Ability to turn-on or turn-off, the device's flashlight
Camera Zoom	Ability to control Zoom-in & Zoom-out feature of the camera
Closed Captioning	Ability to turn-on or turn-off transcription of the meeting audio as it occurs
Spotlight Video Participant	Ability for moderator to turn-on or turn-off spotlight on a video participant
Waiting Room	<p>As a participant, ability to observe, that I'm being put into the waiting room and transition in-to/out-of the meeting, based on moderator's choice.</p> <p>As a moderator, ability to moderate meeting's waiting room with following functionality -</p> <ul style="list-style-type: none"> a. Turn the waiting room on/off. b. Admit a waiting room participant into the meeting. c. Admit all waiting room participants into the meeting. d. Deny a waiting room participant entry into the meeting. e. Deny all waiting room participants entry into the meeting. f. Demote a meeting participant into the waiting room.
Enable/Disable Media Stream ^{*NEW}	<p>An ability for a user to selectively disable audio, video and content streams. Once disabled, only user can enable audio, video and content streams and moderator of the meeting does not have control over it.</p> <p>This can be used to power scenarios where user is provided a choice, to move into low bandwidth consumption in case of travel or low network zone.</p>
Active Speaker ^{*NEW}	Ability to observe the current actively speaking participant.

Customizations

5x5 support in video gallery layout

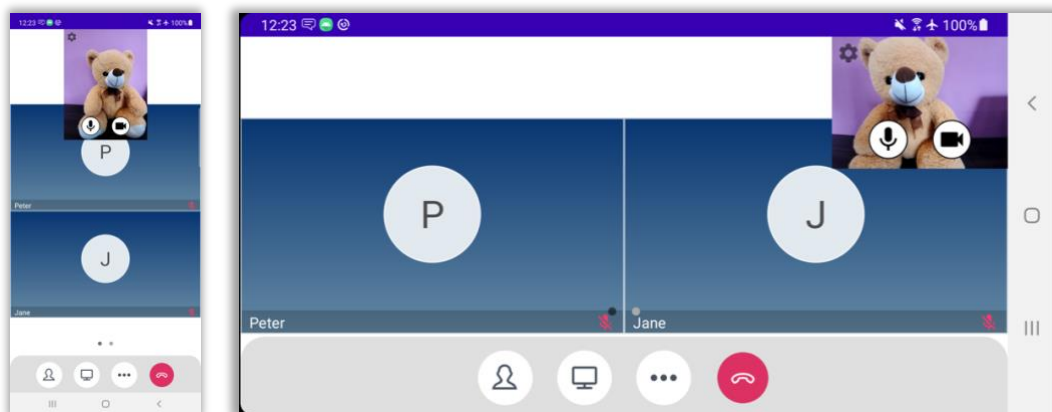
By default, 3x3 is the selected video layout, supported in Gallery view. But, if the use case is to support more than 9 video participants, BlueJeans provides an ability to customize the layout to 5x5, applicable at the initiation of SDK.

Refer to “Video Layouts” section in README.md

Change colour of the participant tile when video is turned off

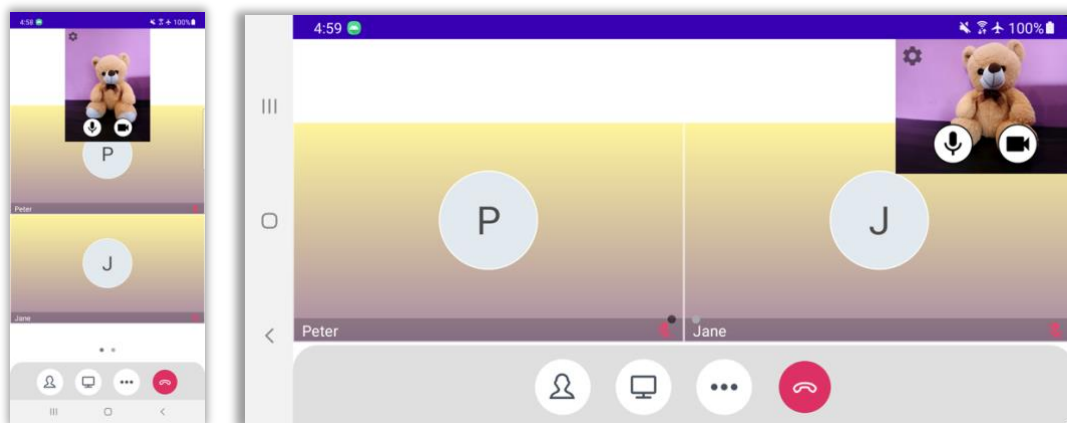
By default, the participant tile when video is turned off shows a colour gradient with Blue at 90 degrees. This gradient colour and the gradient angle can be changed by the consumer app. Refer to “Participant background colour” section in README.md

DEFAULT EXPERIENCE



Screenshot of sample app with default colour scheme in Portrait and Landscape mode
(startColor="#6589a4", endColor="#073571", angle="90")

CUSTOMIZED EXPERIENCE



Screenshot of sample app with customized colour scheme in Portrait and Landscape mode



(startColor="#a789a4", endColor="#fff59d", angle="90")

Important Stateful observables

The client must subscribe to `rx` observables to get the updates on different states.

MeetingState	Idle, Validating, WaitingRoom, Connecting, Reconnecting, Connected
VideoState	Active, Inactive (SingleParticipant, NoOneHasVideo, NeedsModerator, Disconnected)
AudioMuteState/VideoMuteState ^{*NEW}	MuteState(localMuted, remoteMuted)

What about features supported in Desktop version of BlueJeans?

Use of Android Client SDK in conjunction with other BlueJeans clients like Desktop app, BlueJeans browser client or BlueJeans Android/iOS app, may result into **limited** experience for SDK client user because, some of the advanced features that are supported on BlueJeans developed clients are not yet supported via Android Client SDK.

Following list of features are not supported via Android Client SDK –

- ❖ Breakout Session *(ability for SDK client to move in and out of Breakout Session)*
 - NOT SUPPORTED
- ❖ Restricted Meeting *(ability for SDK client to trigger unique passcode for participants to join)*
 - NOT SUPPORTED

Logging

BlueJeans SDK provides API to upload logs with user comments. 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 would need user name, time at which the upload was done.

The BlueJeans SDK also provides for an audio capture dump API to facilitate capturing audio dumps. Audio dumps will be helpful to debug audio related issues noticed on the endpoint during the meeting. These dumps get uploaded with the logs whenever the log upload API is made.

For more details, refer to “Logging Service” section under README.md

Sample App

BlueJeans Android SDK ships with 2 sample apps, one in **Java** and the other in **Kotlin**.



BlueJeans sample apps showcase the integration of BlueJeans SDK for permission flow and join flow. They have a basic UI (User Interface) functionality and orientation support.

Sample apps are Android studio projects. Importing them into Android studio and building them would generate an [apk](#).

Sample app folder

Java: <https://github.com/bluejeans/android-client-sdk/tree/main/sample-app-java>

Kotlin: <https://github.com/bluejeans/android-client-sdk/tree/main/sample-app-kotlin>

Tracking & Analytics

BlueJeans collects data from app clients who integrates with SDK to join BlueJeans meetings like Device information (ID, OS etc.), Location and usage data.

Known caveats

None

Looking for additional help?

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

Contributing

The BlueJeans Android 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 with a signed version of this agreement, before any commercial or public facing usage of this SDK.

3rd party licenses

Android Client SDK uses several open-source libraries. The document listing all the third-party libraries can be found [here](#).



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 BlueJeans SDK integrated app ?

No. The integrated app should provide facilitate their customers to join meetings.

Can I schedule a meeting using Android Client SDK?

No. But, BlueJeans provides language specific SDK [here](#) to enable application programmers, a simple method to natively invoke BlueJeans' API functions.

Can I chat the person outside the meeting?

No. Chat can only be done with meeting participants.

Will my meeting attendees be required to download anything?

No. It's not required for user to download anything from BlueJeans side. The app that you create using Android Client SDK, would only be the downloadable software.

What is the max count in a meeting or video conference?

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 BlueJeans SDK support chat bots?

No. Chat bots are not supported as of now.

Is this BlueJeans SDK to free to use?

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