Overview

> **Warning**
>
> Android SDK 1.1 is intended to use on Android 8 and newer devices

Resources

Use Android SDK to develop mobile applications for streaming video and calls.

Download full WCS Android SDK build including examples and API documentation: Release notes

Read API documentation online: API docs

Download the source code of the examples: GitHub

The source code of the examples is located at GitHub and is used to comment the examples in the present documentation. For instance, this link line 34 refers to the thirty fourth line in the `TwoPlayersActivity.java` class of the 2players example, the revision with the hash of 4ed4c6d77.

To test compiled applications, download the full build bundle with the examples and install the `...-debug.apk` file to your Android device.

Differences between Android SDK versions

In Android SDK 1.1 WebRTC library `libjingle_peerconnection.jar` is updated to actual version. So Android SDK 1.1 requires Android API 26, i.e. application built with Android SDK 1.1 will run only on Android 8 and higher. Use Android SDK 1.0 only to support previous Android versions.

When publishing in Google Play, two APKs can be deployed - one for each of the Android SDK versions - for compatibility with devices with API lower and higher than 26.

Preparing examples for building

If you have some experience in developing Android apps, you can simply download the aar-library and link it to the project manually, then configure building.

Below is how to do this automatically using the `export.sh` script:

1. Download the examples

```
git clone -b 1.1 git@github.com:flashphoner/wcs-android-sdk-samples.git
```

2. Download the aar library

Download the aar library and put it to the `export` folder

Example (replace `x` by the actual build number):

```
wget http://flashphoner.com/downloads/builds/flashphoner_client/wcs-android-
sdk/1.0/wcs-android-sdk-1.1.0.x.aar
cp wcs-android-sdk-1.1.0.x.aar export
```

3. Execute the `export.sh` script

Open the `export` folder and execute the `export.sh` script.

The `export.sh` script will prepare configs for further building. The result is placed into the `output` folder.

> **Warning**
>
> This step is very important because application examples source code is the same for different versions of Android SDK. `export.sh` script automatically sets minimal required Android API version for building examples depending on Android SDK version

```
cd export
./export.sh wcs-android-sdk-1.1.0.x.aar
```

4. Edit the `local.properties` file

Edit the `local.properties` file and specify paths to Android SDK and NDK.

Linux environment example:

```
ndk.dir=/opt/android-ndk-r12b
sdk.dir=/opt/android-sdk-linux
```

Building examples with Gradle

Prepare examples for building, then go to the `output` folder and start building:

```
cd output
gradle build
```

Since Android SDK build 1.1.0.55,it is necessary to use Gradle 7 and above, or build examples with Gradle wrapper

```
cd output
gradlew build
```

Also, JDK 11 should be installed.

Building examples in Android Studio

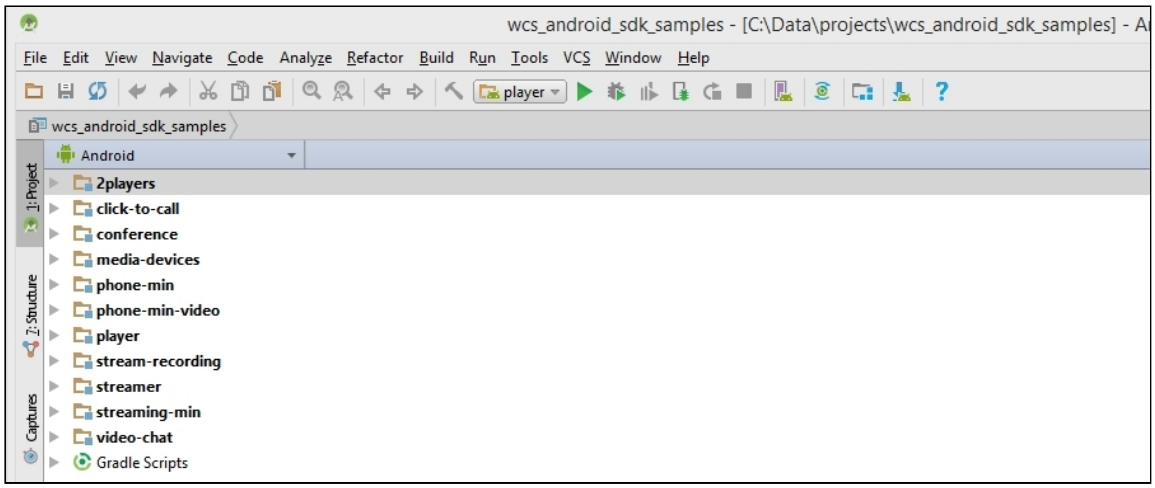
Prepare examples for building, then rename the `output` folder to `wcs_android_sdk_samples`, for instance.

1. Install the necessary programs

- Android Studio with Android SDK
- Android NDK

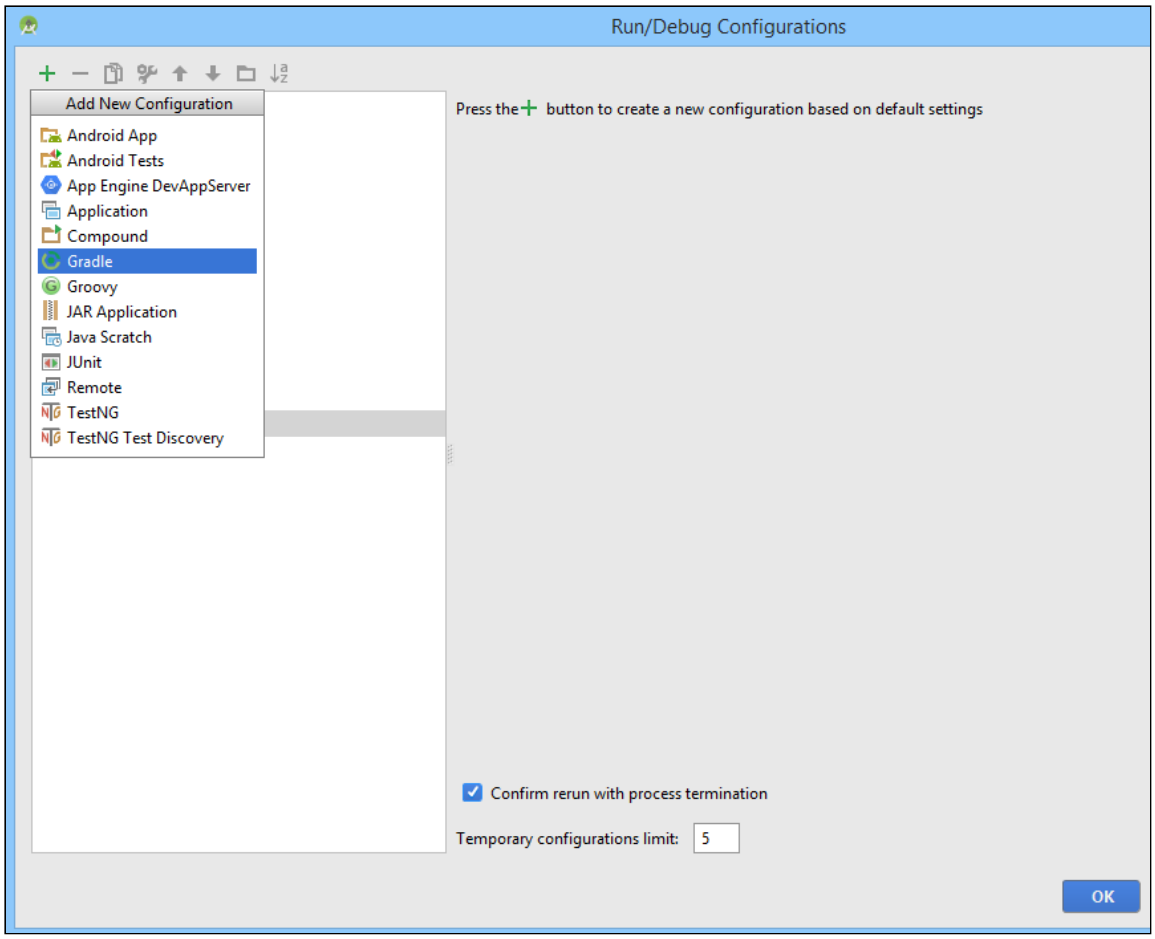
2. Open the project in Android Studio

Open the project from the `output` folder in Android Studio



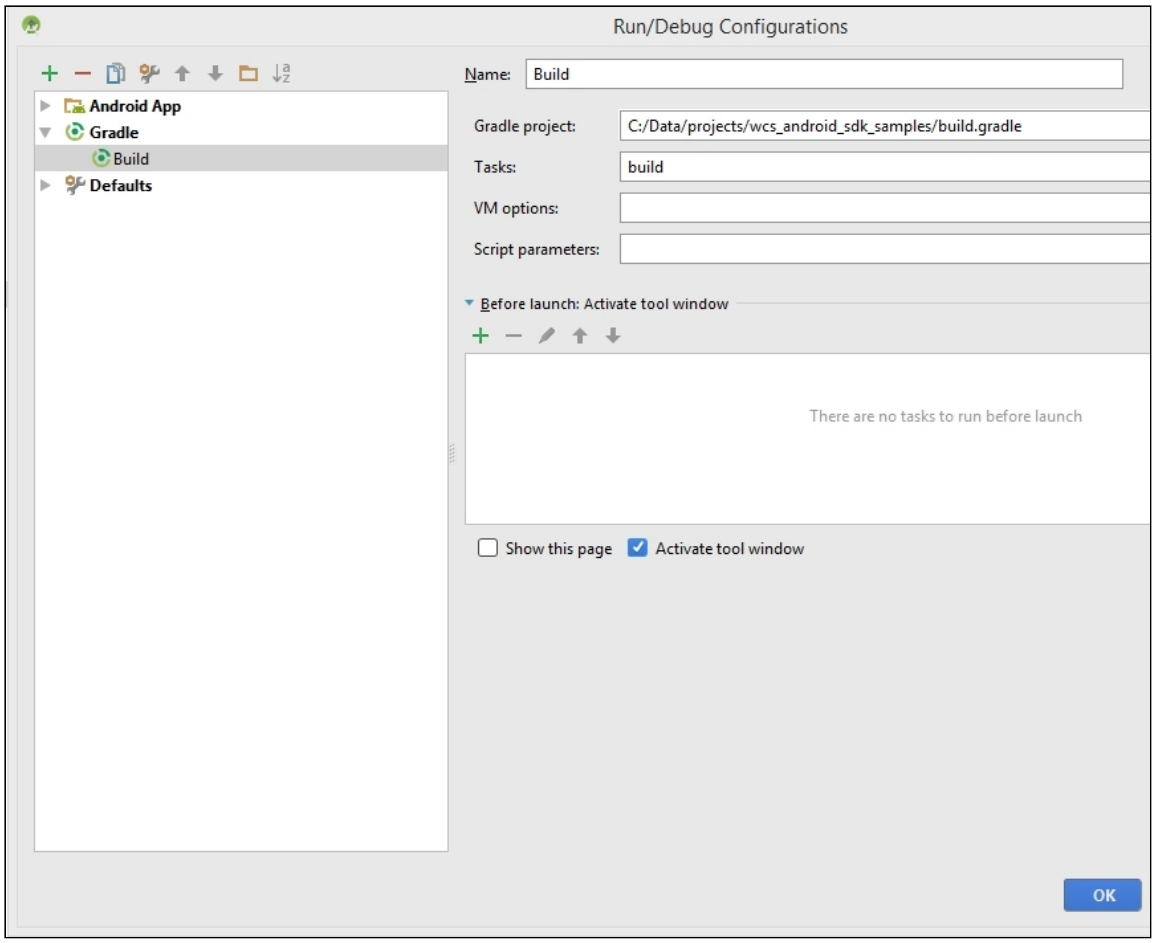
3. Add Gradle run configuration

Add Gradle run configuration to the `Run / Debug Configurations` menu

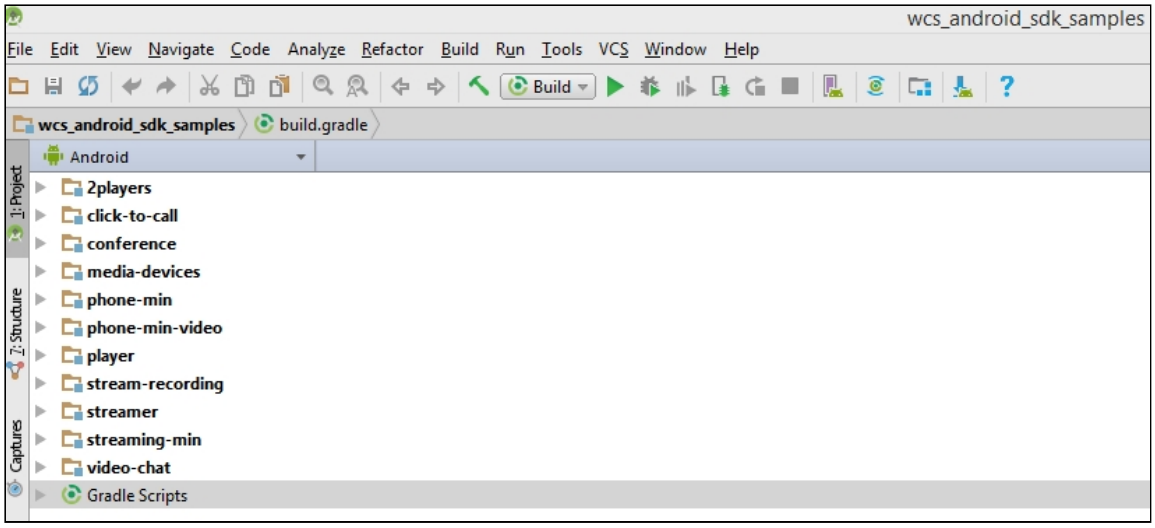


4. Configure the build

In the run configuration specify the `build.gradle` file, the name of the build and set the purpose to `build`



5. Run building of examples



The building result is `.apk` files located in the corresponding folders: `2players/build`, `click-to-call/build`, and so on. The Android SDK file is located in the following path in the project: `libs/wcs-android-sdk-1.1.0.x.aar`

Building a separate example

If you cannot run export script for all the examples, or wish to build a separate example, it can be prepared for building as follows:

1. Download examples source code

```
git clone -b 1.1 https://github.com/flashphoner/wcs-android-sdk-samples.git
```

2. Copy an example needed to a separate folder

```
cd wcs-android-sdk-samples
cp streaming-min gradle.properties ~/streaming-min
```

3. Download aar library and put it to `libs` subfolder

Download aar library and put it to `libs` subfolder in the example folder

```
wget https://flashphoner.com/downloads/builds/flashphoner_client/wcs-android-
sdk/1.1/wcs-android-sdk-1.1.0.x.aar
mkdir ~/streaming-min/libs
cp wcs-android-sdk-1.1.0.x.aar ~/streaming-min/libs
```

4. Add the `buildscript` section to the `build.gradle` file

Add the `buildscript` section to the beginning of `build.gradle` file in the example folder:

```
buildscript {
    repositories {
        jcenter()
        mavenCentral()
        maven { url 'https://maven.google.com' }
        google()
    }
    dependencies {
        classpath 'com.android.tools.build:gradle:7.0.0'
        classpath 'com.github.triplet.gradle:play-publisher:1.1.5'
    }
}
```

5. Add the `repositories` section to the `build.gradle` file

Add the `repositories` section to the `build.gradle` file in the example folder:

```
repositories {
    jcenter()
```

```
    mavenCentral()
    maven { url 'https://maven.google.com' }
    google()
    flatDir{
        dirs 'libs'
    }
}
```

6. Replace the string in `dependencies` section of the `build.gradle` file

Replace the string in `dependencies` section of the `build.gradle` file in the example folder

```
implementation project(':fp_wcs_api')
```

to

```
implementation 'com.flashphoner.fpwcsapi:wcs-android-sdk-1.1.0.x@aar'
```

where `wcs-android-sdk-1.1.0.x` is the aar file name downloaded at step 3.

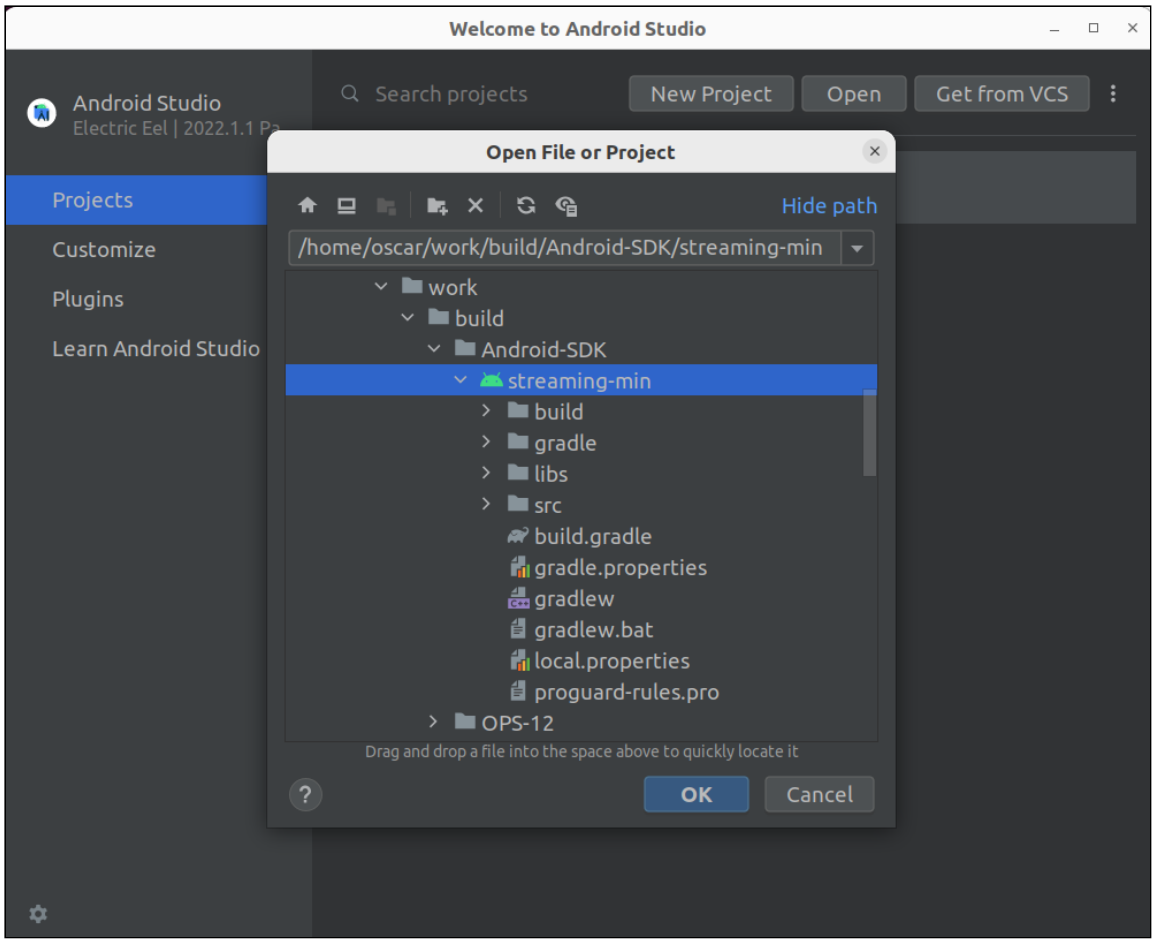
7. The `build.gradle` file example

build.gradle Expand source

build.gradle

8. Building the example in Android Studio

Open the example folder in Android Studio to build the example. Android Studio will do Gradle sync and install gradle version needed



9. Building the example with Gradle

To build the example with Gradle install Gradle wrapper and run

```
gradlew build
```

Known issues

1. It is impossible now to set microphone gain in Android SDK while publishing stream.