Installing Android Studio

By Tariq Mahmood Rana (September 2019)

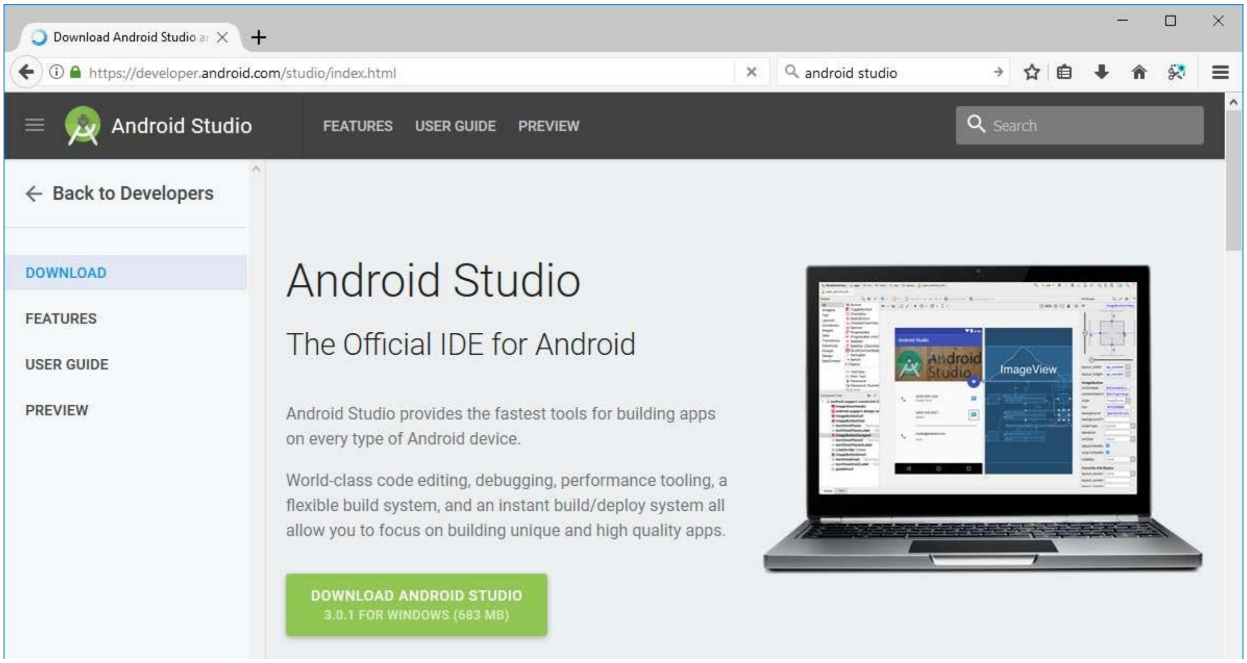
You can develop Android applications on your own computer. The steps below will guide you on downloading, installing, and configuring the needed tools. Note: The screenshots below were taken on a Windows machine, but the instructions also apply to systems running Linux or OS X.

1. Download Android Studio

To develop Android applications, you need an IDE, Android SDK tools, and Android APIs. The Android Studio bundle contains all these components. An open-source JDK is also included, so you do not need to download it separately. The Android Studio installer can be downloaded at the following URL:

https://developer.android.com/studio/index.html

Click "Download Android Studio", accept the terms and conditions, and proceed with the download. The download might take a while, as it is about 700 MB. Run the installer after the download is finished.



Android Studio

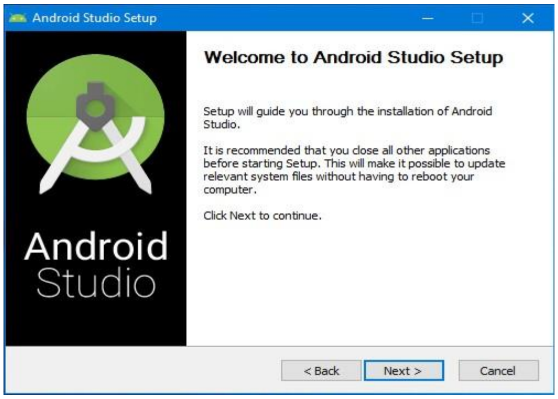
The Official IDE for Android

Android Studio provides the fastest tools for building apps on every type of Android device.

World-class code editing, debugging, performance tooling, a flexible build system, and an instant build/deploy system all allow you to focus on building unique and high quality apps.

2. Install Android Studio

When running the installer, we recommend using the default values, as shown below. Once installed, Android Studio will run, and launch a setup wizard to download additional components.

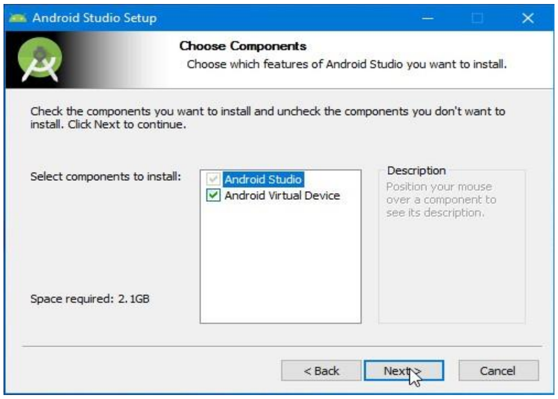


Welcome to Android Studio Setup

Setup will guide you through the installation of Android Studio.

It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.

Click Next to continue.



Choose Components

Choose which features of Android Studio you want to install.

Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.

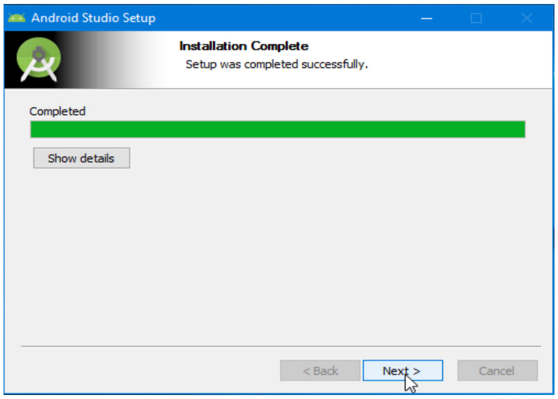
Select components to install:

☑ Android Studio
☑ Android Virtual Device

Space required: 2.1GB

Description

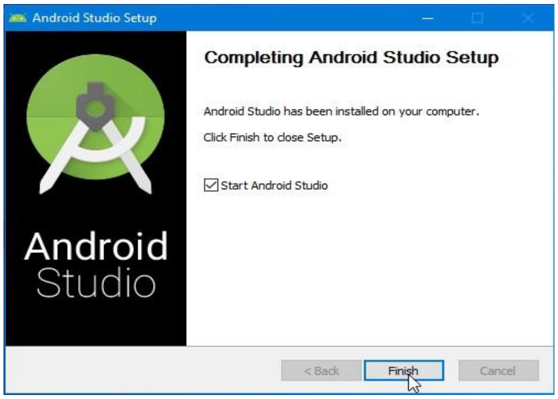
Position your mouse over a component to see its description.



Installation Complete

Setup was completed successfully.

Completed



Completing Android Studio Setup

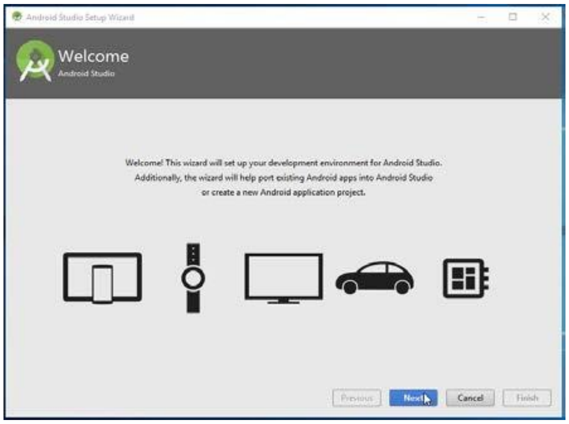
Android Studio has been installed on your computer.

Click Finish to close Setup.

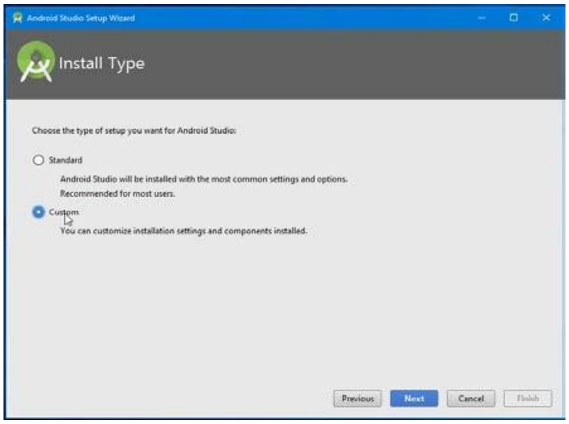
☑ Start Android Studio

3. Run Android Studio Setup Wizard

When you first start Android Studio, it will offer to import any previous settings. Since this is likely your first installation, there are no settings to import. Again, just accept the default option and continue.



Welcome! This wizard will set up your development environment for Android Studio. Additionally, the wizard will help port existing Android apps into Android Studio or create a new Android application project.



Choose the type of setup you want for Android Studio:

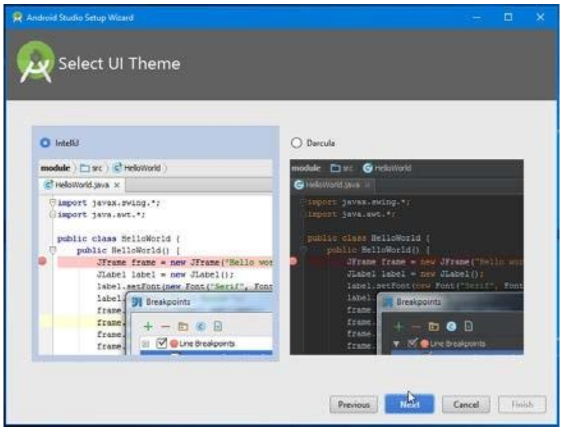
○ Standard

Android Studio will be installed with the most common settings and options. Recommended for most users.

● Custom

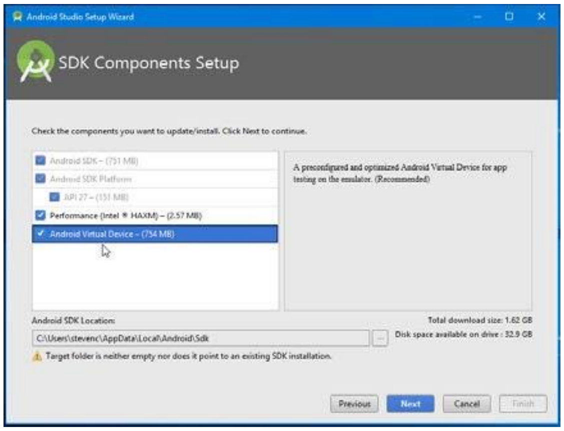
You can customize installation settings and components installed.

Next, select the UI theme. Choose whichever one you prefer -- this is simply a matter of preference. On the next screen, select the option to install an Android Virtual Device. You will need an actual Android device for this course, but this virtual device can be useful.



```
import javax.swing.*;
import java.awt.*;

public class HelloWorld {
    public HelloWorld() {
        JFrame frame = new JFrame("Hello wo
        JLabel label = new JLabel();
        label.setFont(new Font("Serif", Font
        label.
        frame.
        frame.
        frame.
        frame.
```



Check the components you want to update/install. Click Next to continue.

- ☑ Android SDK – (751 MB)
- ☑ Android SDK Platform
  - ☑ API 27 – (151 MB)
- ☑ Performance (Intel ® HAXM) – (2.57 MB)
- ☑ Android Virtual Device – (754 MB)

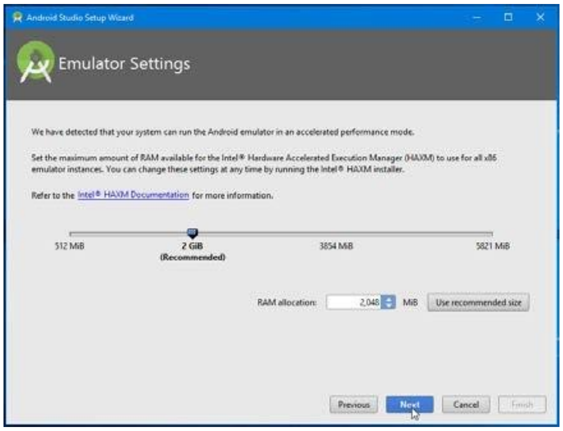
A preconfigured and optimized Android Virtual Device for app testing on the emulator. (Recommended)

Android SDK Location:
C:\Users\stevenc\AppData\Local\Android\Sdk

Total download size: 1.62 GB
Disk space available on drive : 32.9 GB

⚠ Target folder is neither empty nor does it point to an existing SDK installation.

Accept the recommended RAM size for the emulator, and click "Next" to see a summary of the components to be downloaded. The additional components total about 1.8 GB in size.

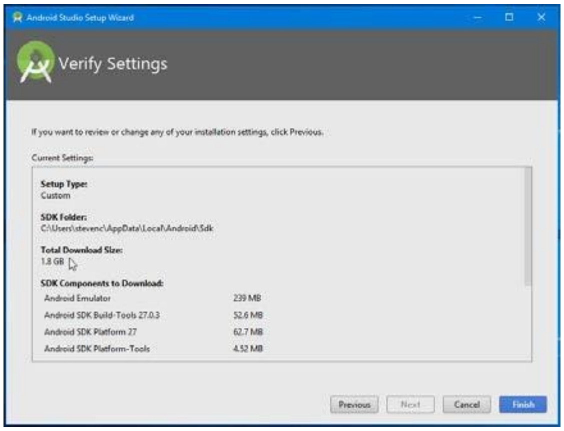


We have detected that your system can run the Android emulator in an accelerated performance mode.

Set the maximum amount of RAM available for the Intel® Hardware Accelerated Execution Manager (HAXM) to use for all x86 emulator instances. You can change these settings at any time by running the Intel® HAXM installer.

Refer to the Intel® HAXM Documentation for more information.

RAM allocation: 2,048 MiB



If you want to review or change any of your installation settings, click Previous.

Current Settings:

Setup Type:
Custom

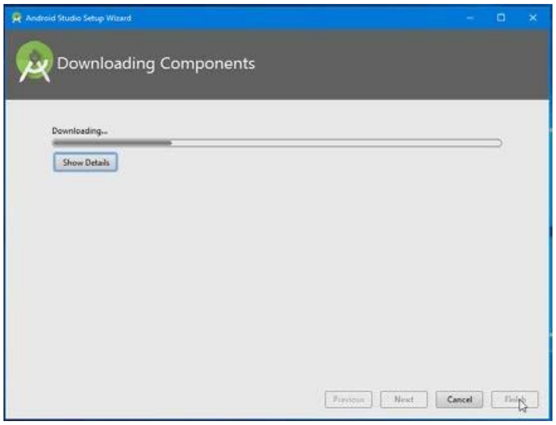
SDK Folder:
C:\Users\stevenc\AppData\Local\Android\Sdk

Total Download Size:
1.8 GB

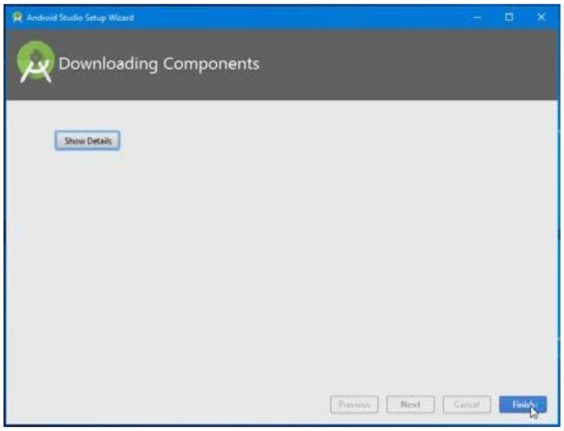
SDK Components to Download:

Android Emulator	239 MB
Android SDK Build-Tools 27.0.3	52.6 MB
Android SDK Platform 27	62.7 MB
Android SDK Platform-Tools	4.52 MB

When the download begins, the progress bar might appear to freeze, but do not worry -- the download is progressing. Once installation is complete, click "Finish".

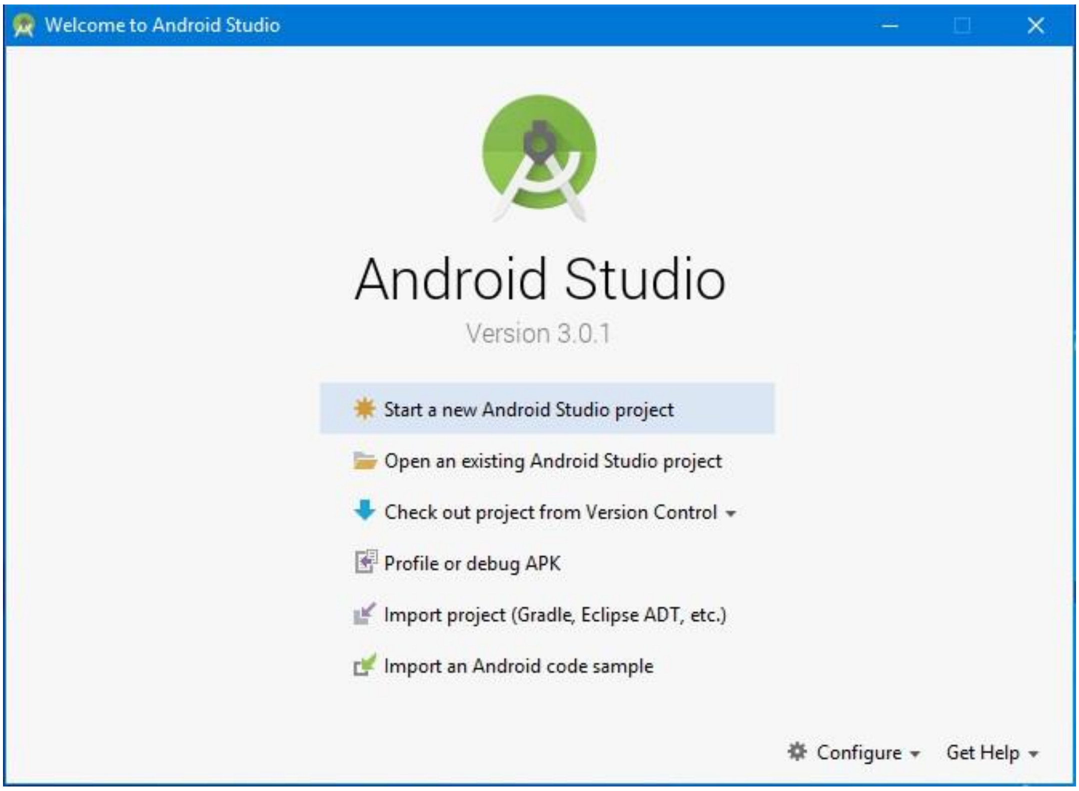


Downloading...



4. Begin Developing

With Android Studio installed, you may now develop Android applications. From here, you can continue with other course guides, tutorials, or exercises.



Welcome to Android Studio
Android Studio
Version 3.0.1
Start a new Android Studio project
Open an existing Android Studio project
Check out project from Version Control
Profile or debug APK
Import project (Gradle, Eclipse ADT, etc.)
Import an Android code sample
Configure
Get Help

Create a project

Android Studio makes it easy to create Android apps for various form factors, such as handsets, tablets, TV, and Wear devices.

This page shows you how to start a new Android app project or import an existing project.

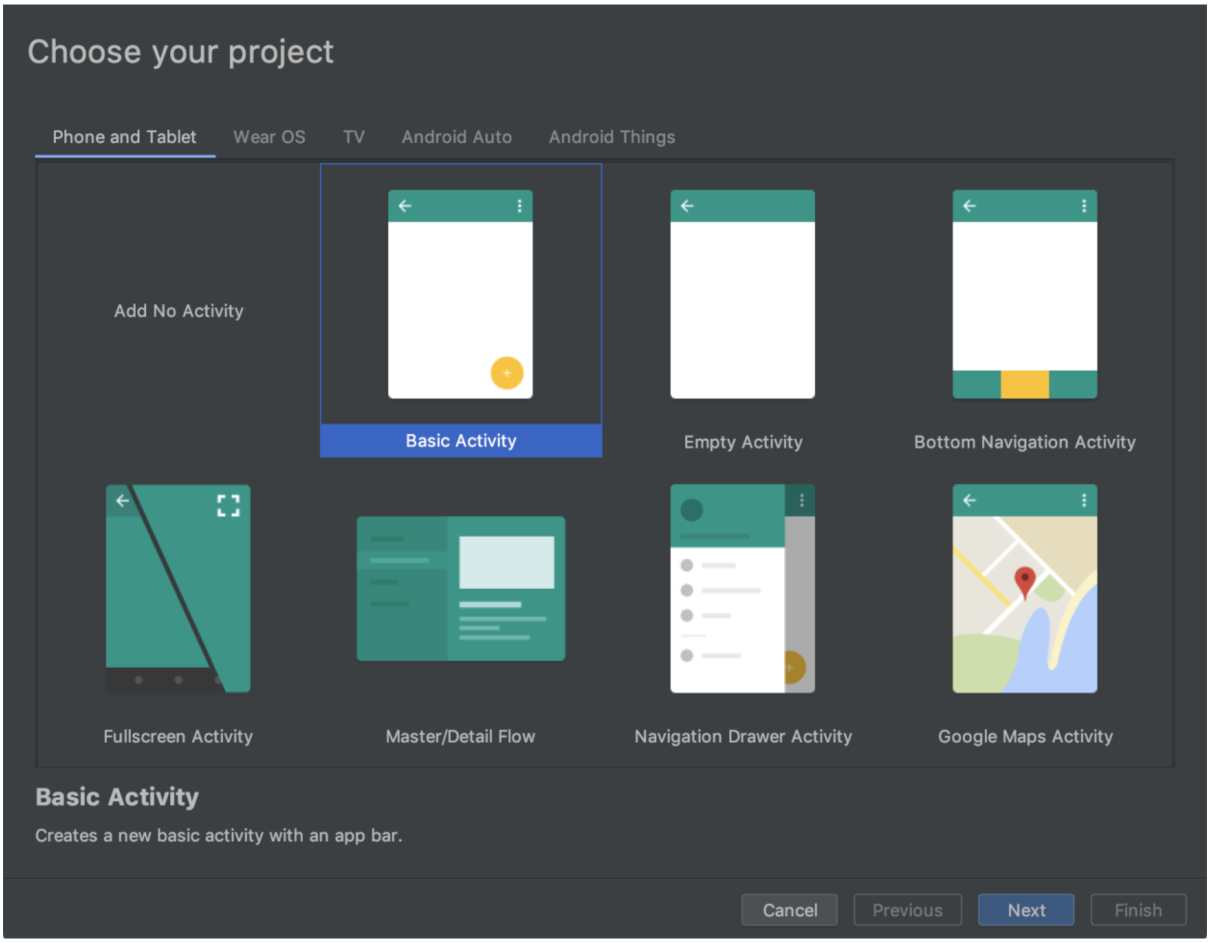
If you don't have a project opened, Android Studio shows the Welcome screen, where you can create a new project by clicking **Start a new Android Studio project**.

If you do have a project opened, you start creating a new project by selecting **File > New > New Project** from the main menu.

You should then see the **Create New Project** wizard, which lets you choose the type of project you want to create and populates with code and resources to get you started. This page guides you through creating a new project using the **Create New Project** wizard.

Choose your project

In the **Choose your project** screen that appears, you can select the type of project you want to create from categories of device form factors, which are shown as tabs near the top of the wizard. For example, figure 1 shows a project with a basic Android Activity for a phone and tablet selected.



Choose your project

Basic Activity

Creates a new basic activity with an app bar.

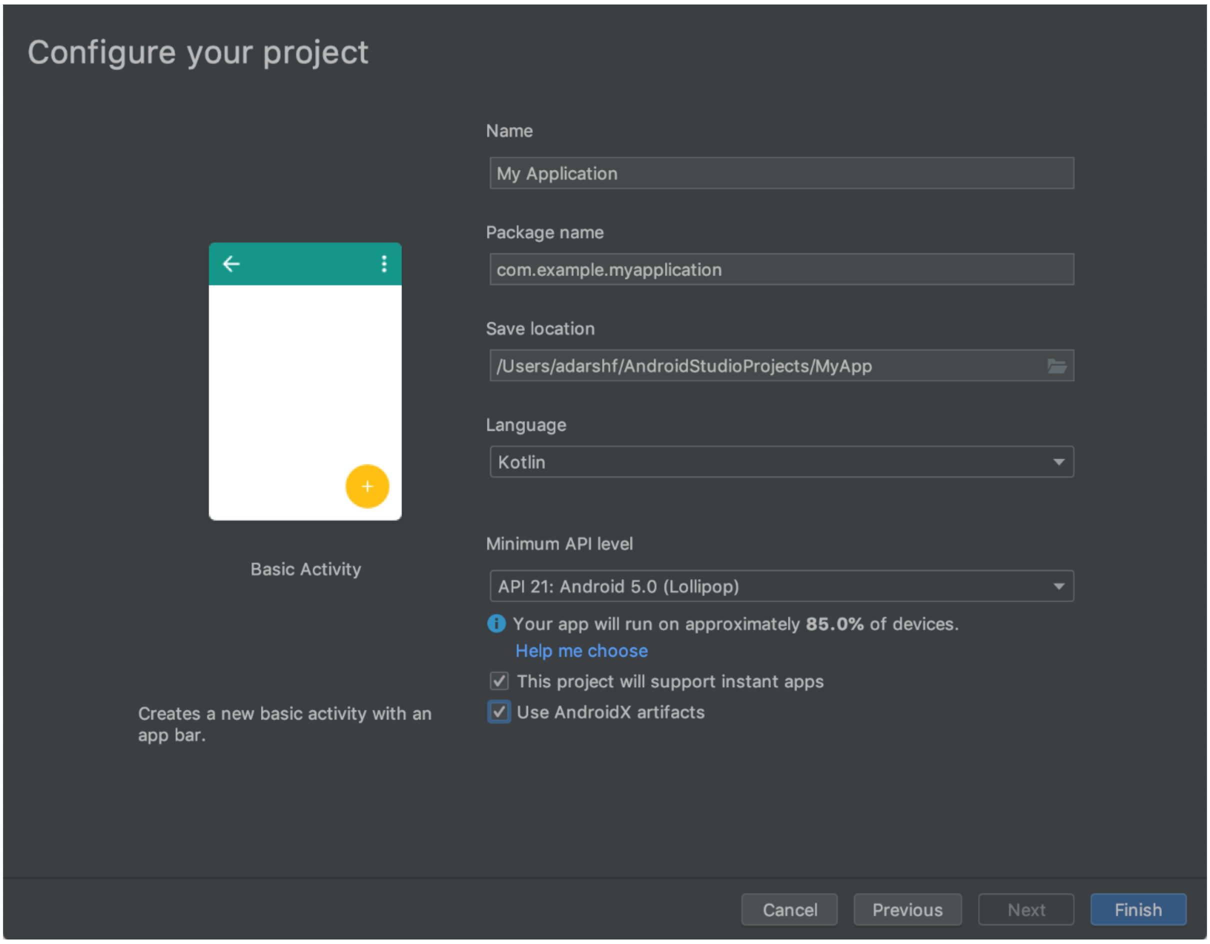
Figure 1. In the first screen of the wizard, choose the type of project you want to create.

By selecting the type of project you want to create, Android Studio can include sample code and resources to help you get started.

After you make a selection, click **Next**.

Configure your project

The next step is to configure some settings and create your new project, as described below and shown in figure 2.



Configure your project

Name

My Application

Package name

com.example.myapplication

Save location

/Users/adarshf/AndroidStudioProjects/MyApp

Language

Kotlin

Minimum API level

API 21: Android 5.0 (Lollipop)

Your app will run on approximately **85.0%** of devices.

Help me choose

☑ This project will support instant apps

☑ Use AndroidX artifacts

Basic Activity

Creates a new basic activity with an app bar.

Figure 2. Configure your new project with a few settings.

1. Specify the **Name** of your project.
2. Specify the **Package name**. By default, this package name also becomes your application ID, which you can change later.
3. Specify the **Save location** where you want to locally store your project.
4. Select the **Language** you want Android Studio to use when creating sample code for your new project. Keep in mind, you are not limited to using only that language creating the project.
5. Select the **Minimum API level** you want your app to support. When you select a lower API level, your app can rely on fewer modern Android APIs. However, a larger percentage of Android devices are able to run your app. The opposite is true when selecting a higher API level. If you want to see more data to help you decide, click **Help me choose**.

6. If the type of project you've selected supports instant experiences though Google Play Instant, and you want to enable it for your app, check the box next to **This project will support instant apps**.
7. If you want your project to use AndroidX libraries by default, which are improved replacements of the Android Support libraries, check the box next to **Use AndroidX artifacts**.
8. When you're ready to create your project, click **Finish**.

   Android Studio creates your new project with some basic code and resources to get you started.

Import an existing project

To import an existing, local project into Android Studio, proceed as follows:

1. Click **File** > **New** > **Import Project**.
2. In the window that appears, navigate to the root directory of the project you want to import.
3. Click **OK**.

   Android Studio then opens the project in a new IDE window and indexes its contents.

   If you are importing a project from version control, use the **File** > **New** > **Project from Version Control** menu.

Google Play Instant

Google Play Instant enables native apps and games to launch on devices running Android 5.0 (API level 21) without being installed. You can build these types of experiences, called *instant apps* and *instant games*, using Android Studio. By allowing users to run an instant app or instant game, known as providing an *instant experience*, you improve your app or game's discovery, which helps drive more installations and acquire more active users.

This guide presents an overview of the Google Play Instant experience.

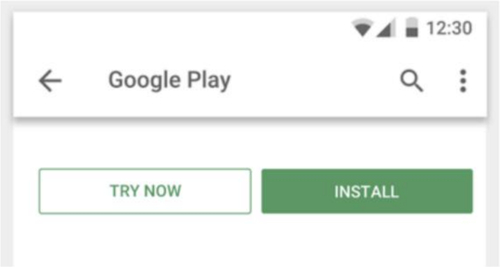


Figure 1. The **Try Now** button that appears on an instant-enabled app or game's page on Google Play

How the instant experience works

With Google Play Instant, users can tap on a **Try Now** button or a website banner to try an app or game without installing it first. Figures 1 and 2 show examples of these discovery surfaces.

When Google Play receives one of these requests for an instant app or game, it sends the necessary files to the Android device that sent the request. The device then runs the app or game.

Android Jetpack

Jetpack is a suite of libraries, tools, and guidance to help developers write high-quality apps easier. These components help you follow best practices and simplify complex tasks, so you can focus on the code you care about.

Jetpack comprises the androidx.* package libraries. This means that it offers backward compatibility and is updated more frequently than the Android platform, making sure you always have access to the latest and greatest versions of the Jetpack components.

AndroidX

AndroidX is the open-source project that the Android team uses to develop, test, package, version and release libraries within Jetpack.

AndroidX is a major improvement to the original Android Support Library. Like the Support Library, AndroidX provides backwards-compatibility across Android releases. AndroidX fully replaces the Support Library by providing feature and new libraries.