

ICT02

In this course, we will cover some java programming and basic android app development. All the materials can be found in the following website.

<http://stanlry.github.io/ictclass>

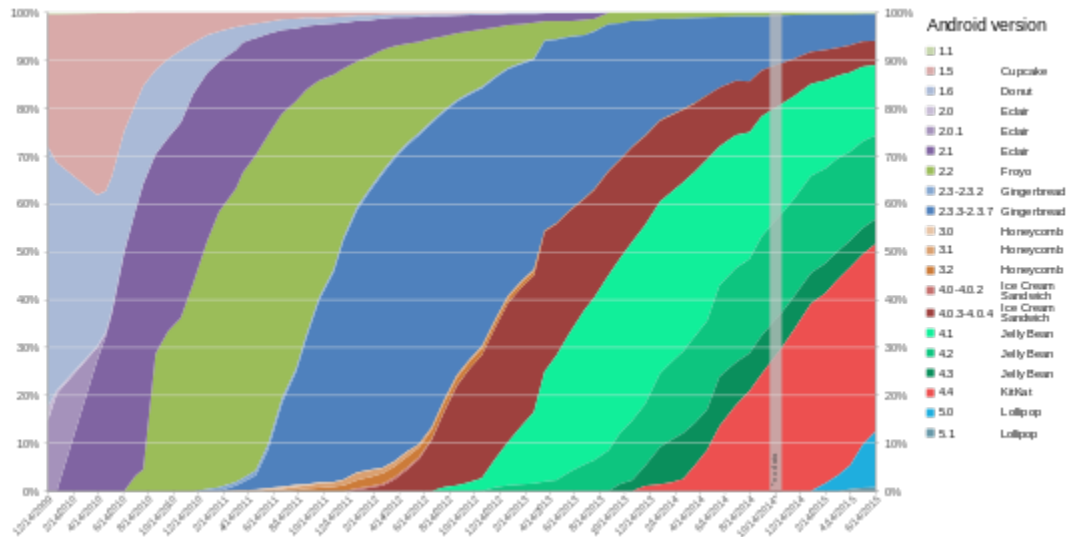
If you want to learn more about android develop, I strongly recommend you to go through the following website.

- The official android tutorial: <https://developer.android.com/training/index.html>

Introduction to Android Development

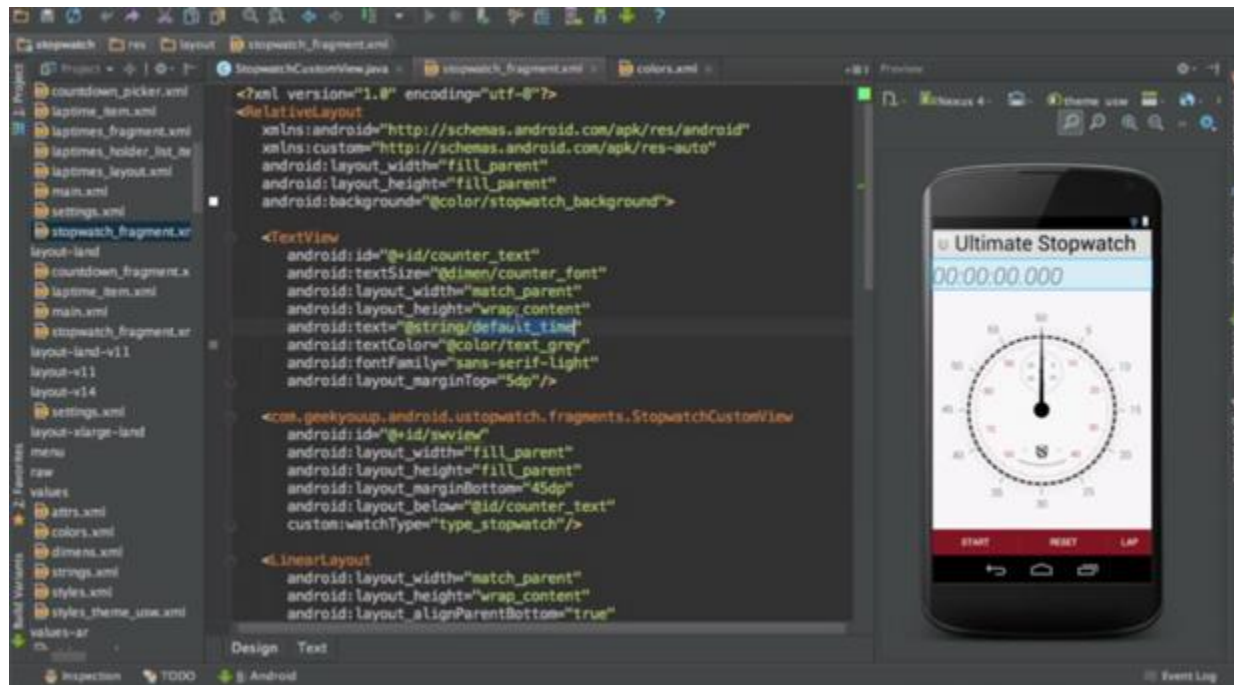
Android App

A native android app is usually written in Java. Google provides Android SDK (Standard Development Kit) which is the library for us to create android application. After generations of Android OS, the Android SDK also has different versions.



Android Studio

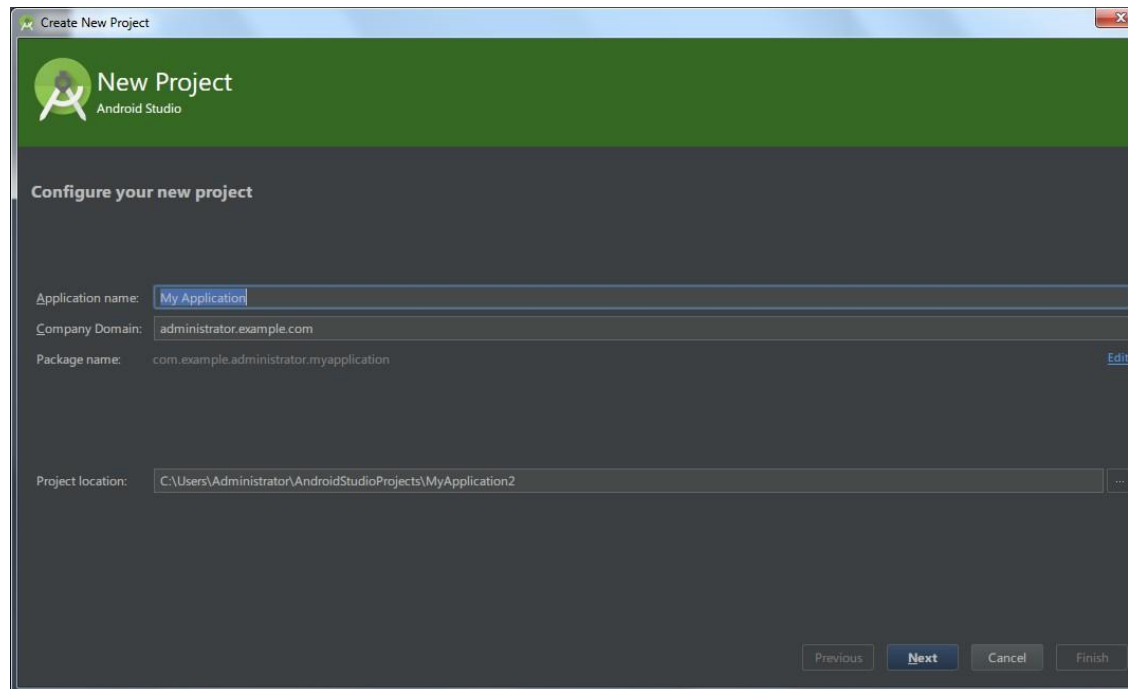
Android Studio is an official IDE (Integrated Development Environment) released by Google. It's free to use, yeah ! We can download the android studio from the [Official Website](https://developer.android.com/studio).



Create your first app

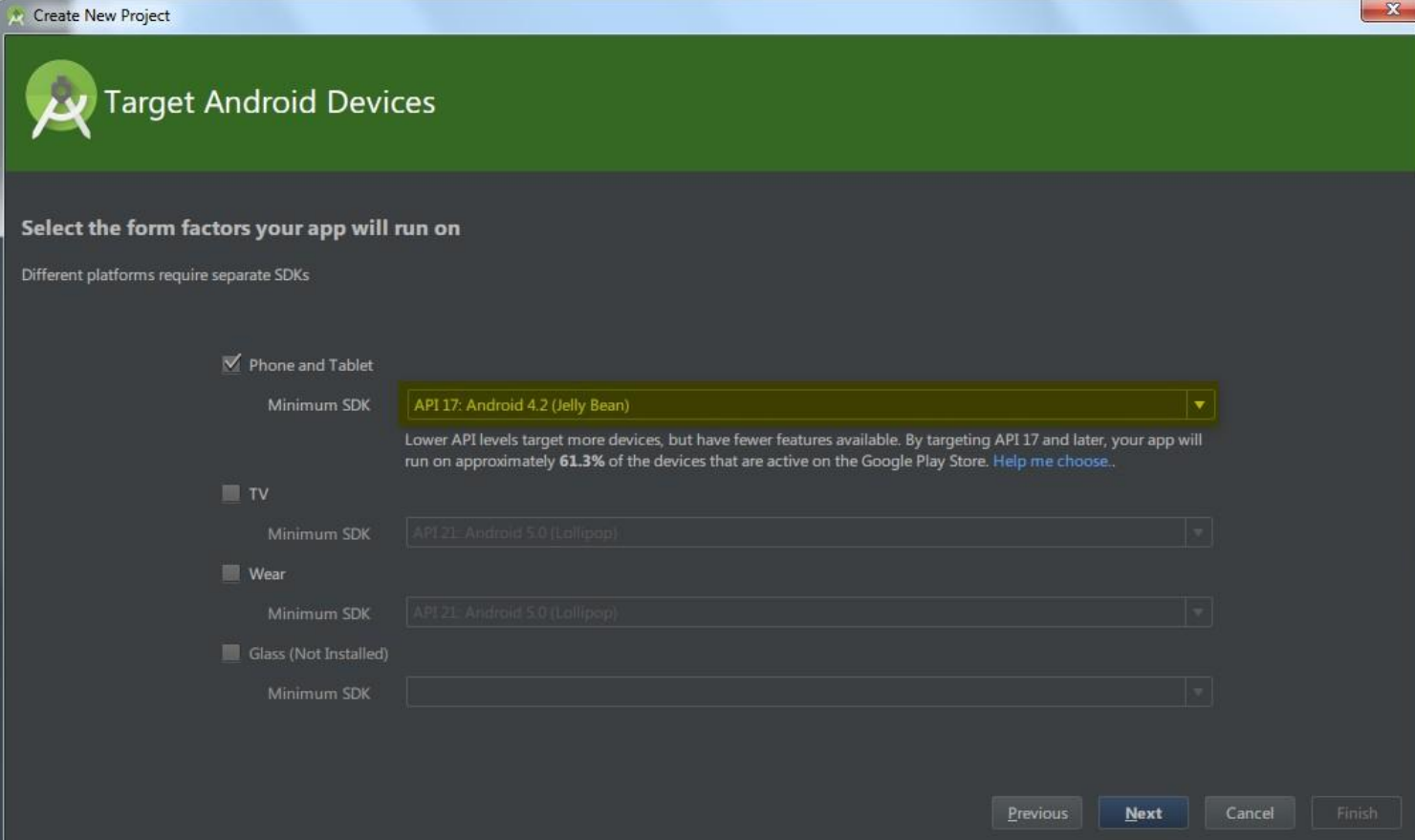
Open a new project in android studio

- If you don't have a project opened, in the Welcome screen, click New Project.
- If you have a project opened, from the File menu, select New Project



Create your first app

Select appropriate android SDK version and continue with black activity.



The screenshot shows the 'Create New Project' dialog in Android Studio. The title bar reads 'Create New Project'. The main header is 'Target Android Devices' with the Android logo. Below this, the instruction 'Select the form factors your app will run on' is displayed, followed by the note 'Different platforms require separate SDKs'. There are four sections for different form factors: 'Phone and Tablet' (checked), 'TV', 'Wear', and 'Glass (Not Installed)'. Each section has a 'Minimum SDK' dropdown menu. The 'Phone and Tablet' dropdown is highlighted and shows 'API 17: Android 4.2 (Jelly Bean)'. Below this dropdown, a note states: 'Lower API levels target more devices, but have fewer features available. By targeting API 17 and later, your app will run on approximately 61.3% of the devices that are active on the Google Play Store. [Help me choose.](#)'. The 'TV', 'Wear', and 'Glass' sections have their dropdowns set to 'API 21: Android 5.0 (Lollipop)'. At the bottom right, there are four buttons: 'Previous', 'Next' (highlighted in blue), 'Cancel', and 'Finish'.

Create New Project

Target Android Devices

Select the form factors your app will run on

Different platforms require separate SDKs

☒ Phone and Tablet

Minimum SDK: API 17: Android 4.2 (Jelly Bean)

Lower API levels target more devices, but have fewer features available. By targeting API 17 and later, your app will run on approximately 61.3% of the devices that are active on the Google Play Store. [Help me choose.](#)

☐ TV

Minimum SDK: API 21: Android 5.0 (Lollipop)

☐ Wear

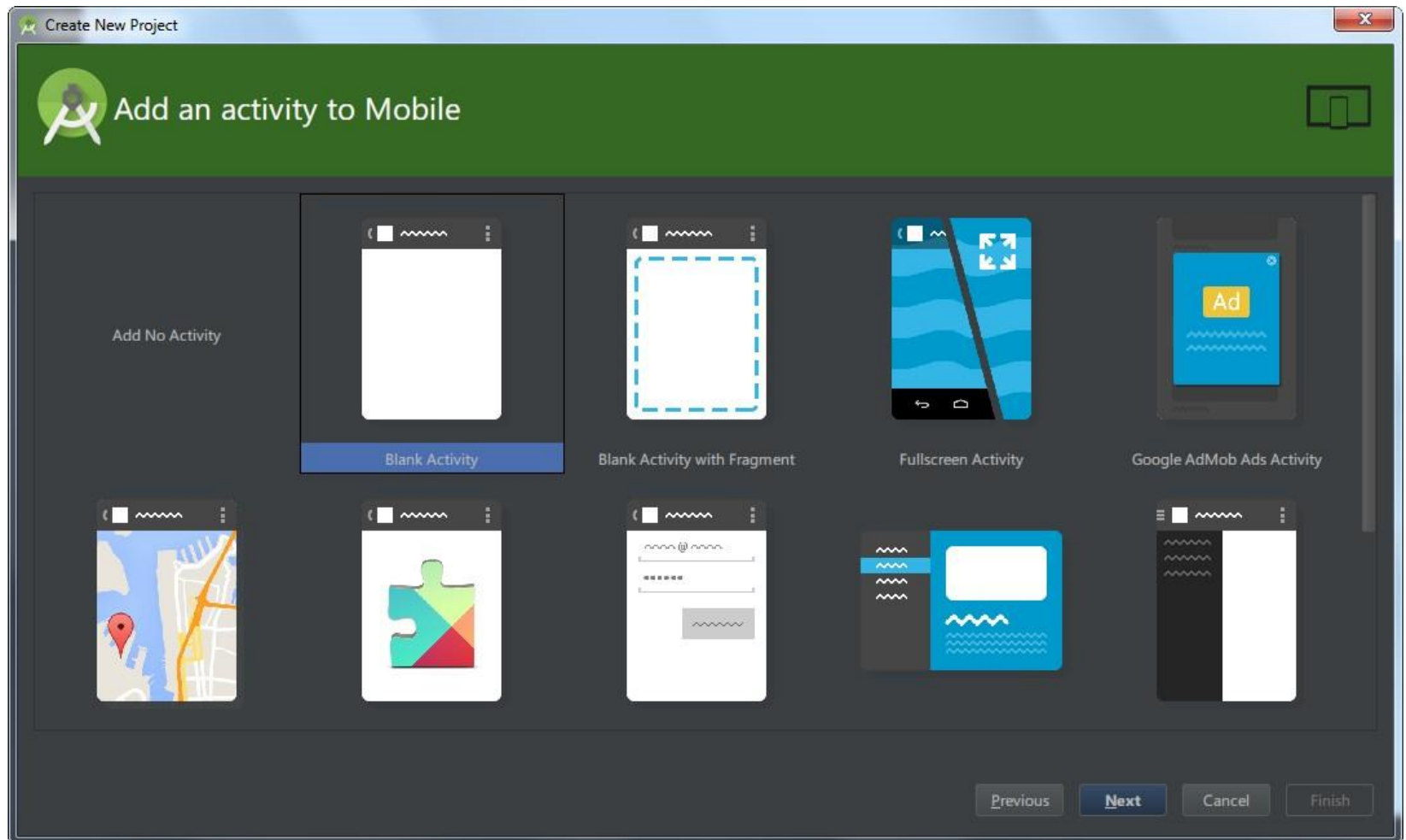
Minimum SDK: API 21: Android 5.0 (Lollipop)

☐ Glass (Not Installed)

Minimum SDK:

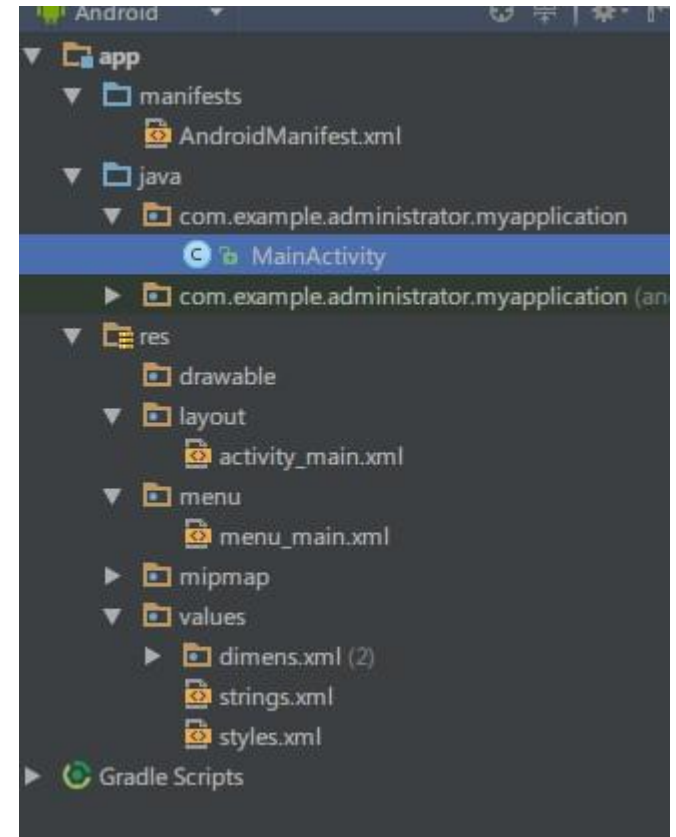
Previous Next Cancel Finish

Create your first app



Project Structure

- AndroidManifest.xml: app configuration and settings like permissions
- MainActivity.java: Java class that contains our program logics
- res: a resource folder
 - drawable: image folder
 - layout: description of user interface
 - menu: menu items
 - values: a collection of resources of strings and colors



Run your app

Before you run your app, you need to provide a platform. It's either a real android device or an emulator. The emulator in android studio is called Android Virtual Device (AVD).

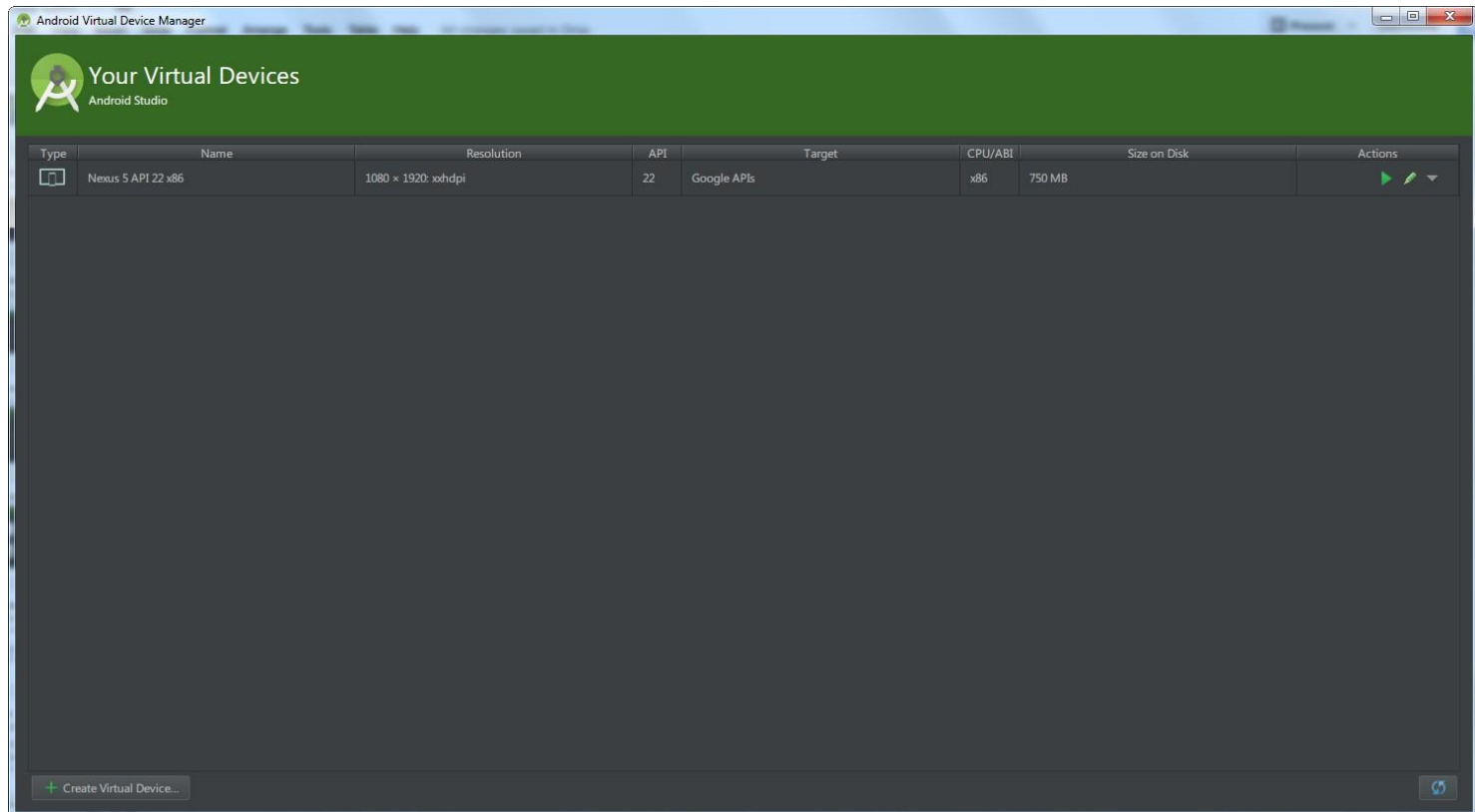
AVD is a software simulation of the android environment. It provides almost all functions you need to test your applications.

You can also install the app onto your real android device through android studio easily. It will be much much faster than a AVD.

We are going to use emulator in this tutorial.

Create AVD

In your android studio, select tools > android > android device manager



Run your app

In your android studio, click run > run “your project name”. And select an AVD if it hasn’t started yet.

