

Android Studio Setup

Prepare your environment for Android

Overview

- Install Android Studio IDE
- Basic setup of Android Studio - Editor settings, Android SDKs and tools
- Download sample app using Git and import it into Android Studio
- Setting up the official Android emulator to run different Android OSes
- Run Sample App

Android Studio -- Why?

Android Studio is the latest development environment Google recommends for Android. It is based on the JetBrains IntelliJ IDEA editor.

When developing apps for Android, we will need **Java SDK**, **Android SDK** as well as the **Android Studio IDE**.

Installing Android Studio

Download Android Studio which includes everything needed to get started.

1. Download Android Studio

<https://developer.android.com/studio>

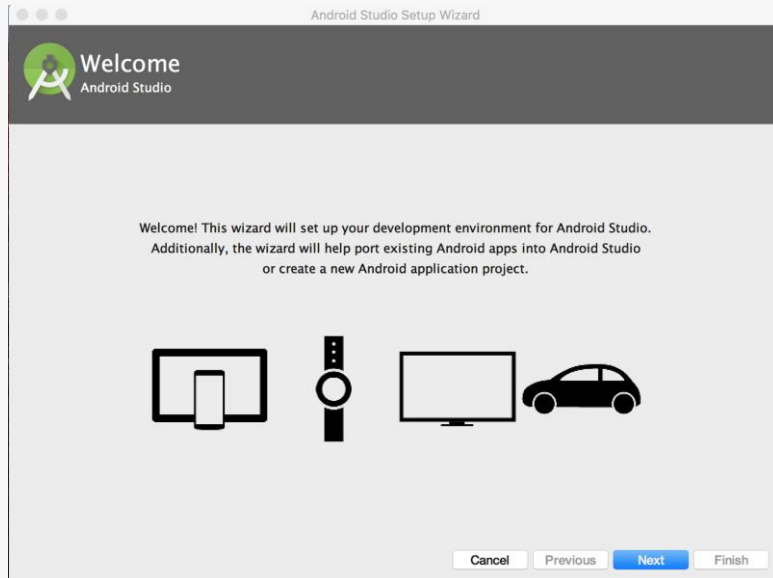
2. For OS-specific instructions, follow:

<https://developer.android.com/studio/install.html?pkg=studio>

3. Launch **Android Studio** Application

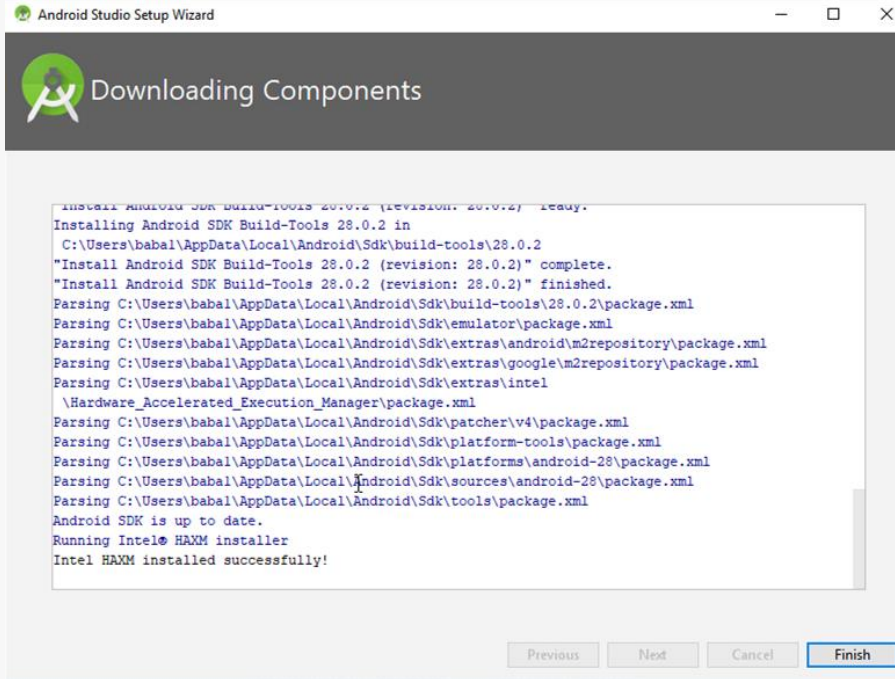
Setting up Android Studio I

A newly installed Android Studio should now prompt you to use the wizard to setup the Android Studio.



1. Click “**Next**” to continue through the wizard.
2. Select the “**Standard**” installation.
3. Click “**Finish**”

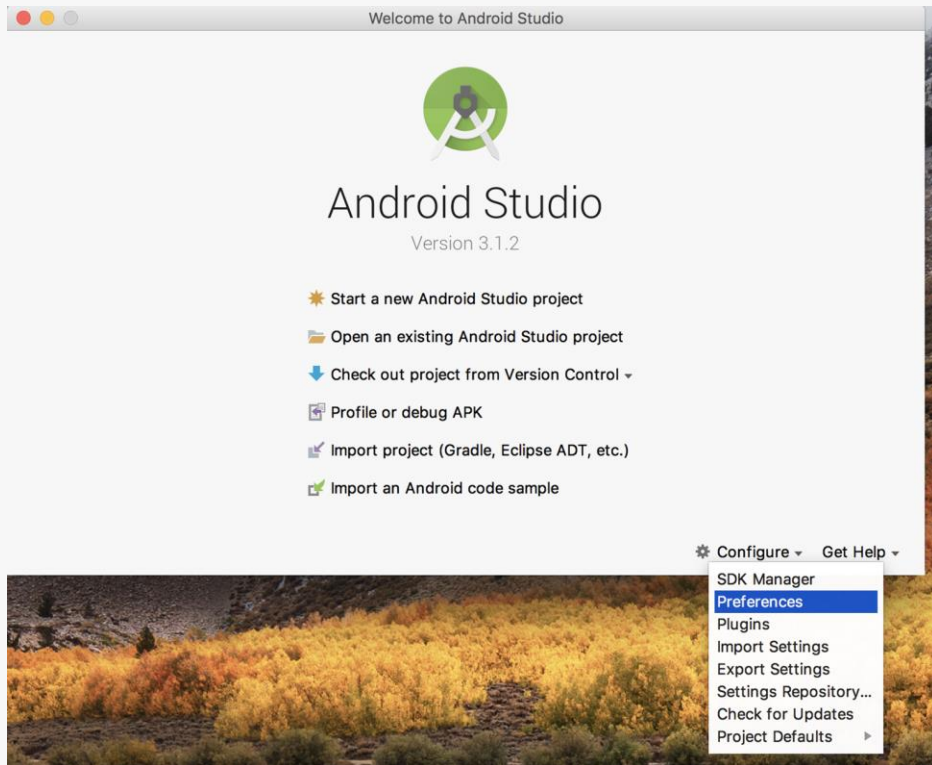
Setting up Android Studio II



If installation succeeds, you should see the **“Silent Installation Pass!”** in **“Show Details”**

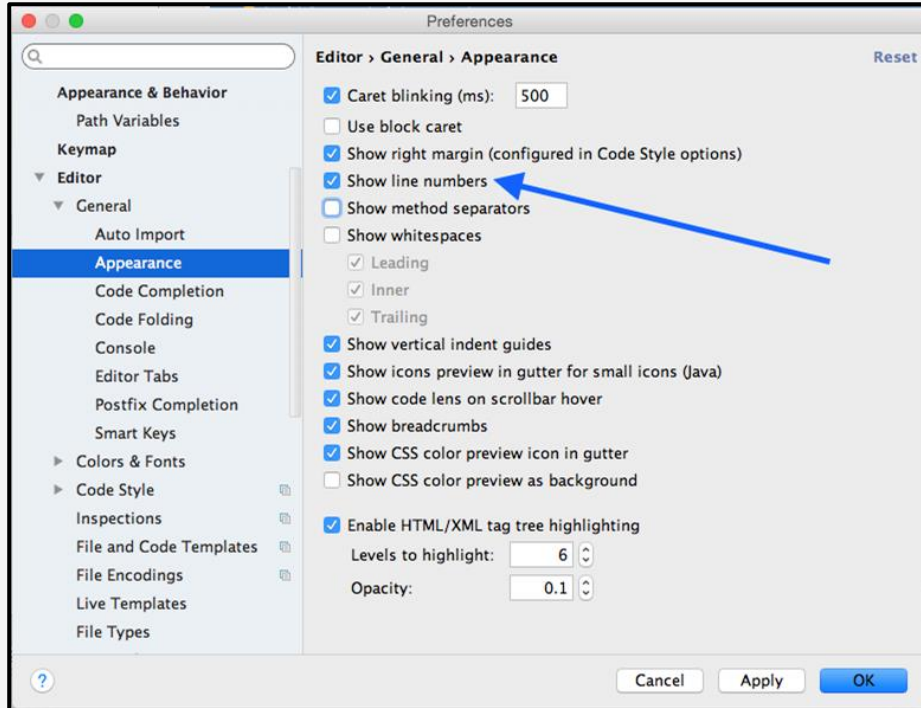
Click **“Finish”**

Configure



Select **“Configure”**
and then
“Preferences” in the
bottom menu.

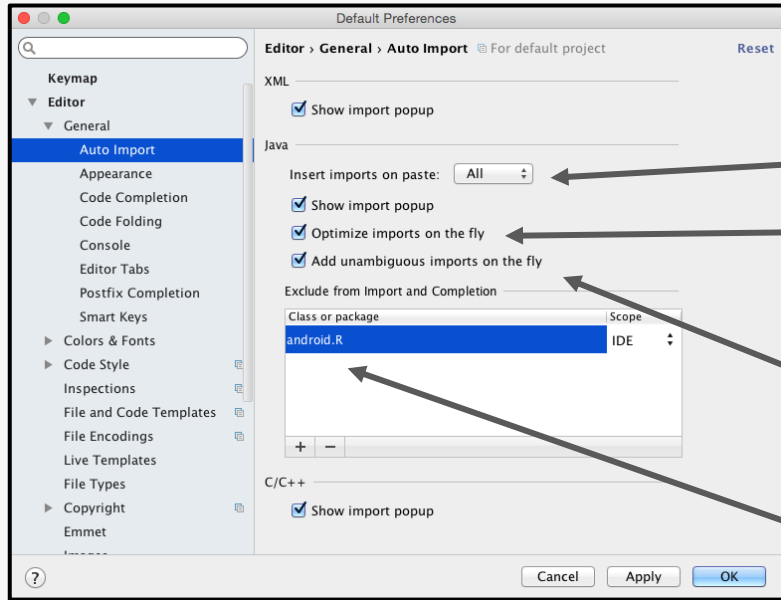
Configure Line Numbers



1. Find Editor → General
→ Appearance

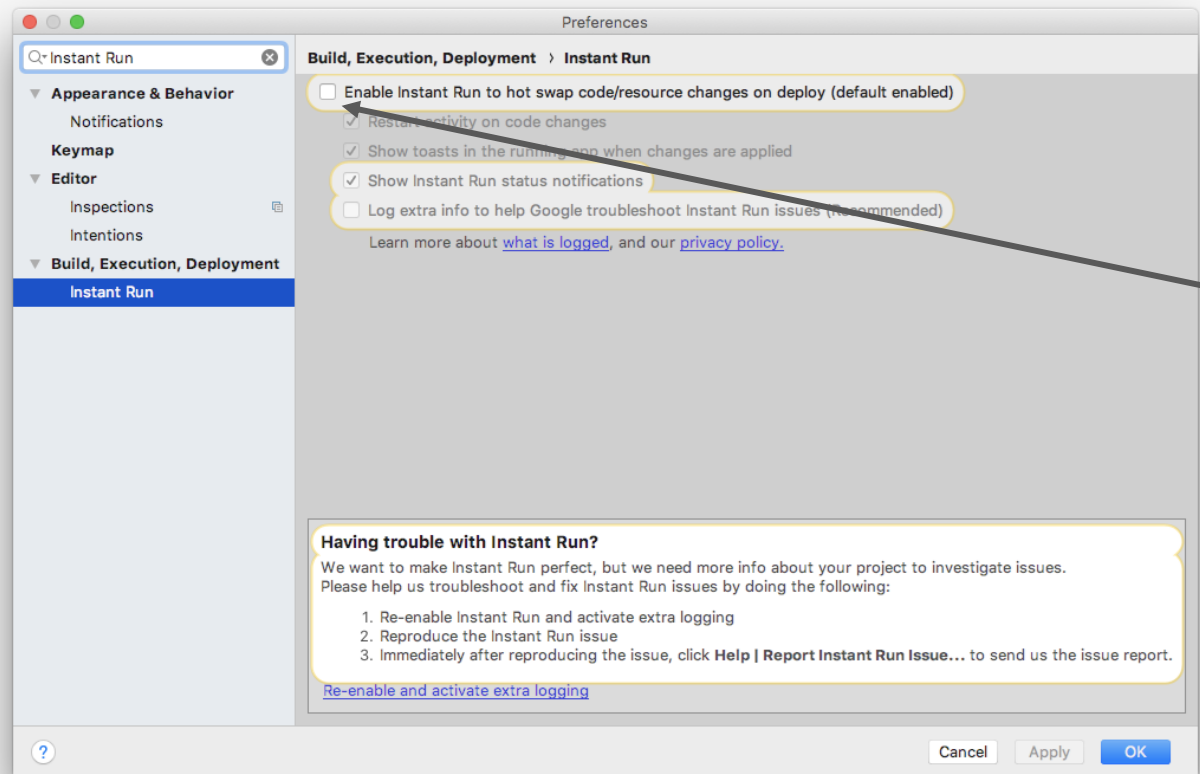
2. Enable “**Show line numbers**”

Configure Imports



1. Find Editor → General → Auto Import
2. Set “Imports on Paste” to “All”
3. Click “Optimize imports on the fly”
4. Check “Add unambiguous imports on the fly”
5. Exclude **android.R** from auto-imports

Disable Instant Run



1. Choose Preferences menu
2. Type “Instant Run”
3. Uncheck “**Enable Instant Run to hot swap code/resource changes on deploy**”

(You may need to build a project first before this option is no longer greyed out.)

Android Emulator

Running Android Apps in Android Studio

Emulator -- Why?

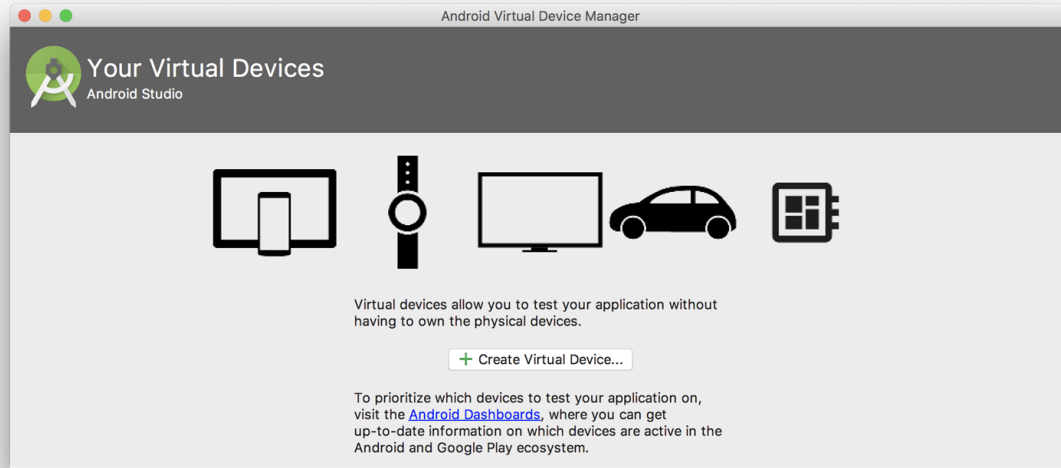
Android Development requires us to **try the apps** we are building while they are being built.

While this can be done by plugging in an Android device, usually it is easier to use an **Emulator**.

An **Emulator** runs the app in a virtual Android on your computer through **Android Studio**.

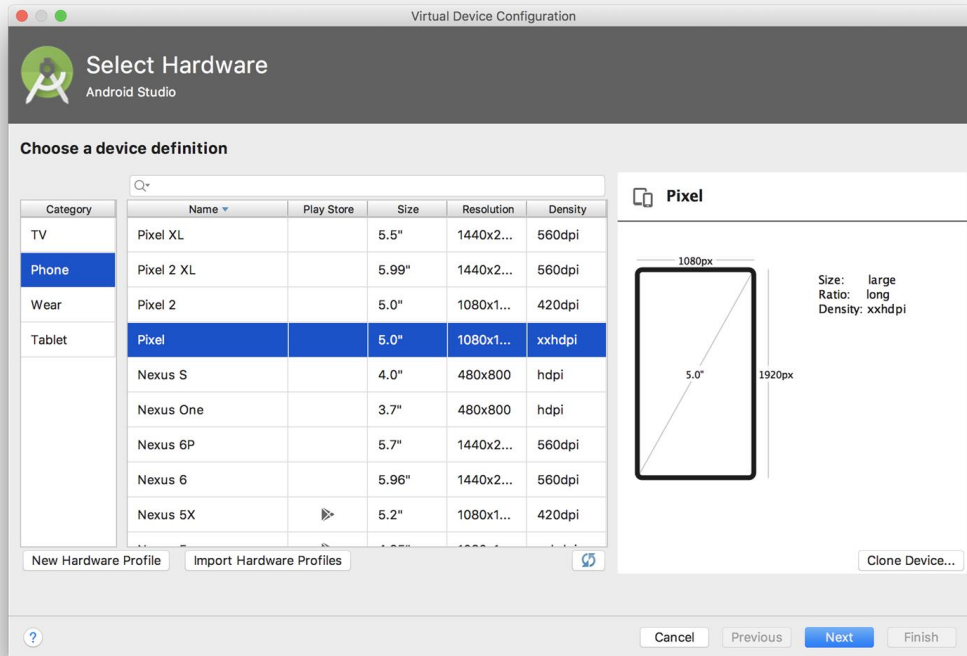
Android now includes an emulator that works well. The previous third-party emulator called Genymotion no longer is needed.

Create Virtual Device



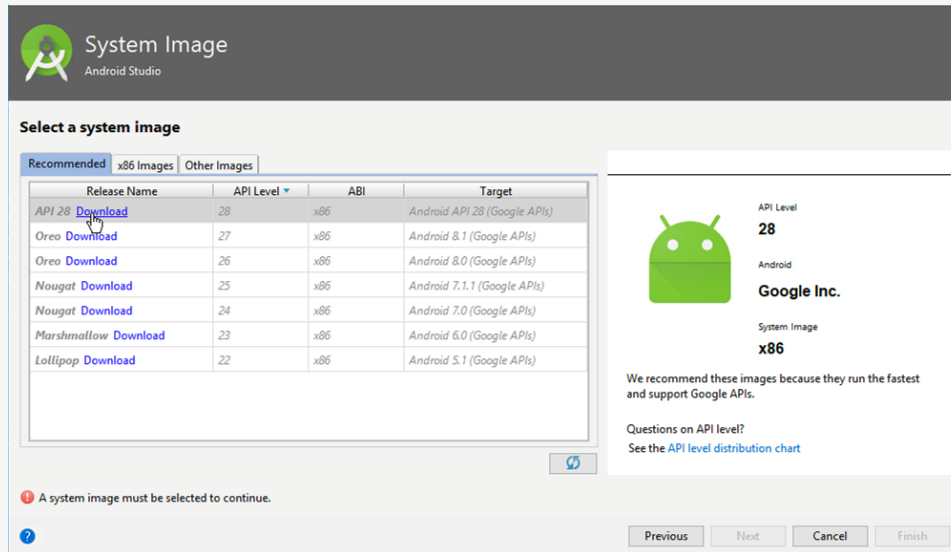
Select **Create Virtual Device** to add new virtual device

Setup Virtual Device I



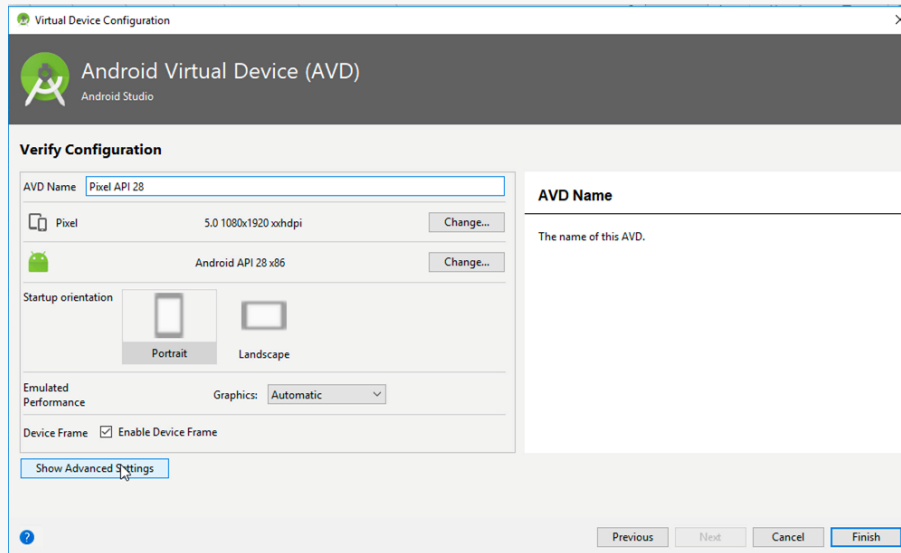
Select **Pixel** as
the device to run
the Android OS
on

Setup Virtual Device II



Select
Recommended tab.
Then select **API 28**.
If you haven't
downloaded, click
the **Download** link.

Setup Virtual Device III

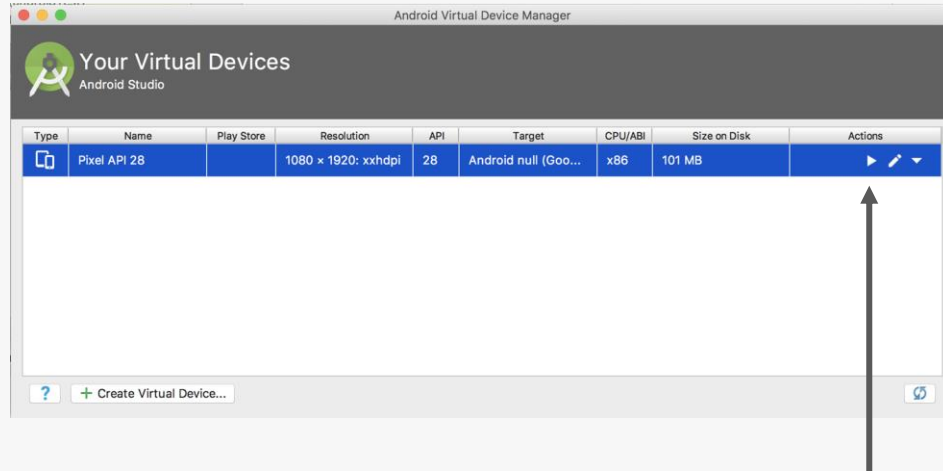


Verify the configuration. It is ok to leave the default configuration as is.

Click on **Show Advanced Settings** to know more about the configuration.

Then click **Finish**

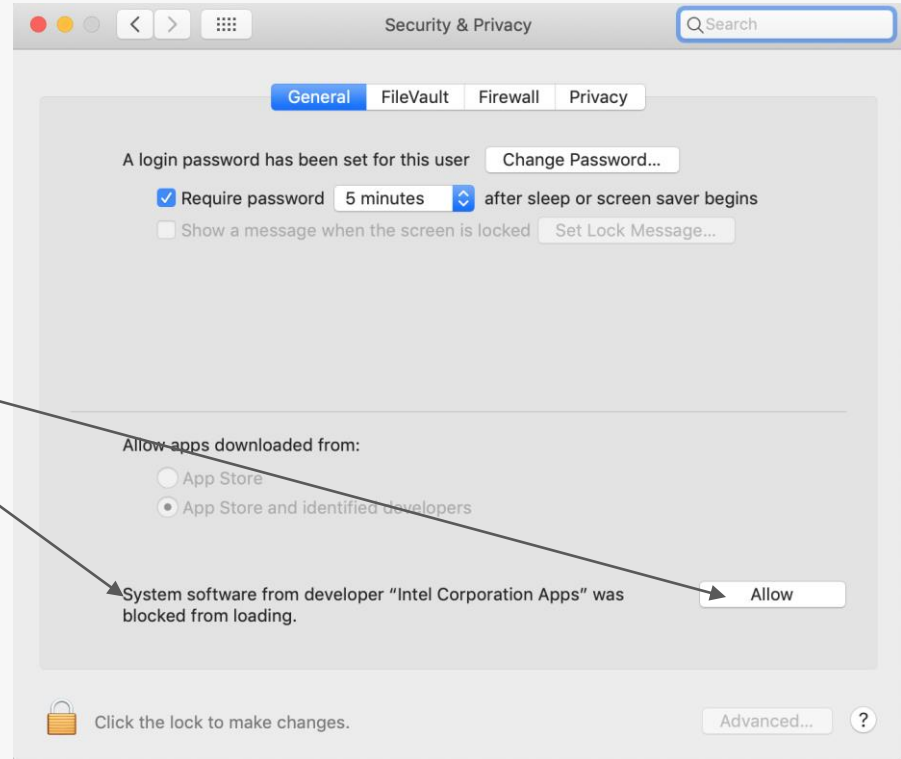
Launch Android Emulator



For the virtual device that you create, click on the "**Green Play Icon**" to launch in the emulator. Starting the emulator for the first time may take a few minutes. **Don't close** the window once it has booted.

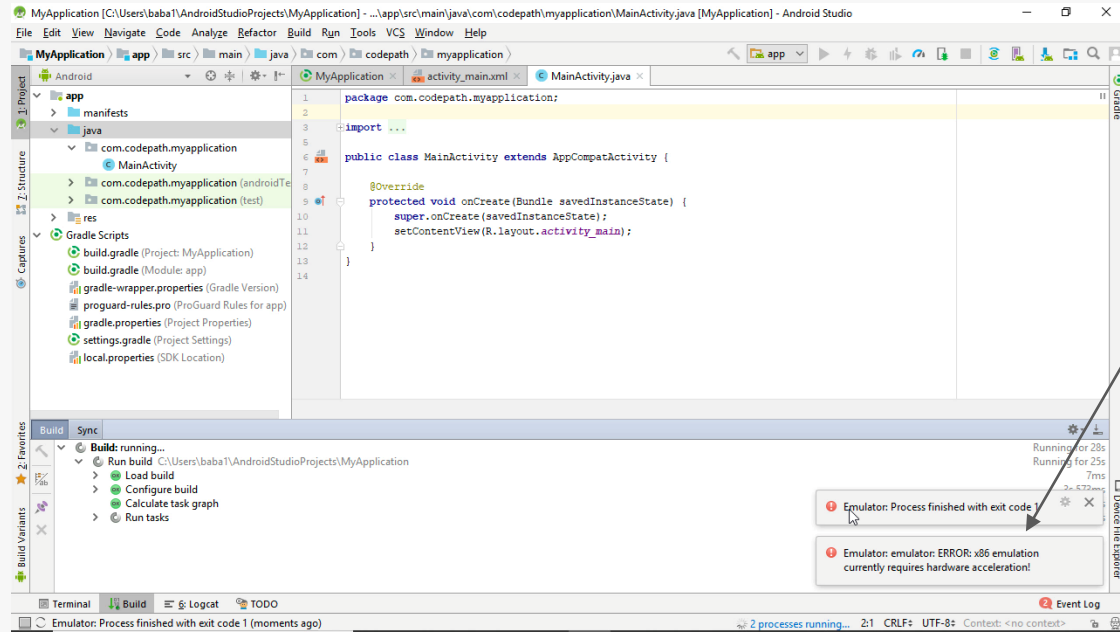
Troubleshoot: Intel HAXM (1)

For OS-X machines, make sure to go to System Preferences -> Security & Privacy and click Allow button if system software from “Intel Corporation Apps” is shown.



Troubleshoot: Intel HAXM (2)

Error message: “X86 emulation currently requires hardware acceleration” requires you to enable virtualization technology (VTx) in the computer’s BIOS menu.



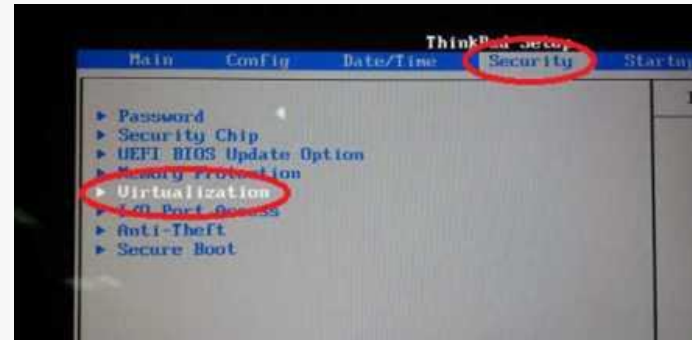
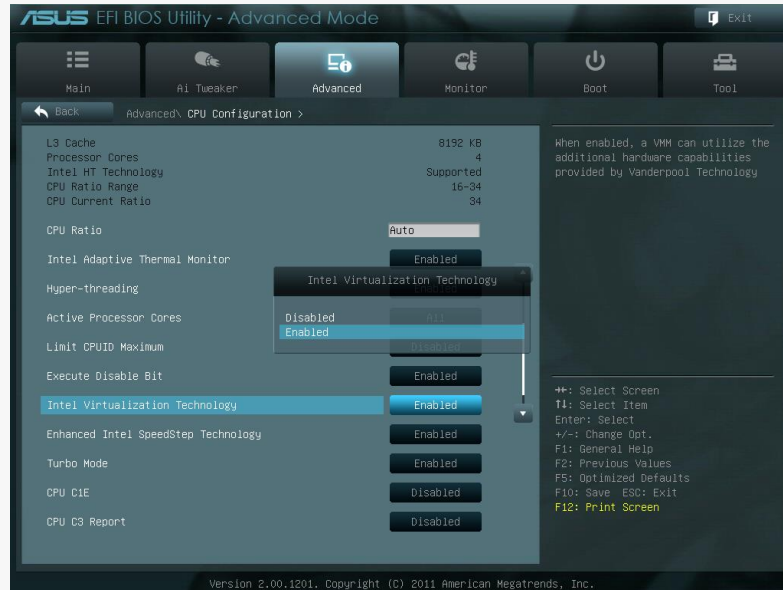
Troubleshoot: Intel HAXM (3)

Enabling VTx requires entering the BIOS menu by restarting the machine and enabling the option.

Here are the specific vendor instructions for booting in BIOS:

- [Asus/Dell](#)
- [HP](#)
- [Lenovo](#)

Don't forget to save after making the change!



Troubleshoot: Intel HAXM (4)

OSX machines usually have virtualization support already enabled.

For more information/help you can refer to
<https://developer.android.com/studio/run/emulator-acceleration.html>

Testing on a Physical Device

We can also test an app on a physical device. This requires connecting the physical device to the computer using USB cable and performing additional setup. See link below for details:

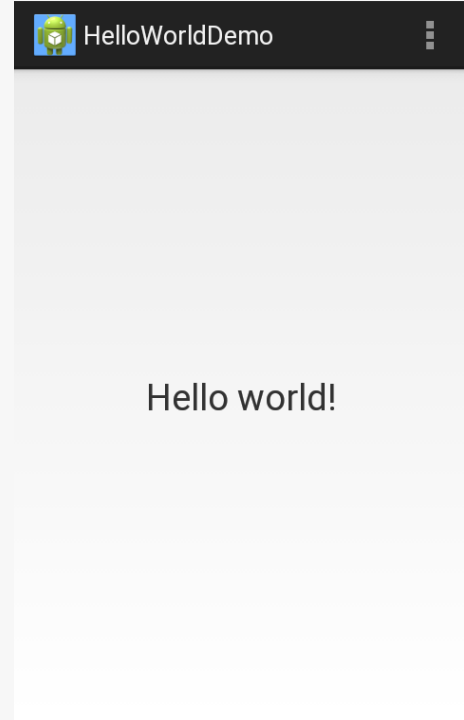
<http://bit.ly/2rZTIs1>

It is a must to test an app on a physical device before releasing it as the emulator is only a simulation of a device and can not replicate all the internal workings of a physical device

Confirm Installation

1. Launch official emulator
2. In Android Studio, click on **Run** → **Run**
'android_hello_world'
3. Wait for Gradle to build
4. App should eventually **load** in emulator window
5. You should now see the application **running** in the **emulator**!

Note: If this doesn't run, try creating a new project instead with File → New → New Project and clicking "Next" and "Finish"



Git

Version control with Android Studio

Git -- Why?

When developing software, we should always use **version control** to **manage our code**.

Version control with Git is a way to backup our code, create a version history as we make changes and collaborate on code with other developers.

For our purposes, we will be using **GitHub** to store our code. GitHub is a **free service** for managing our code and saving a **backup** in the cloud.

We will also **download** and **run** our first Android application using Git.

Setup Git Client and Github

It is recommended to use the Git command-line tool. If you don't have it, you can download it from <https://git-scm.com/downloads>

The course will be using Github to store projects. Setup your account on <https://github.com>

Learn basics of Git using:-

- <https://try.github.io> (interactive tutorial)
- <http://rogerdudler.github.io/git-guide/>

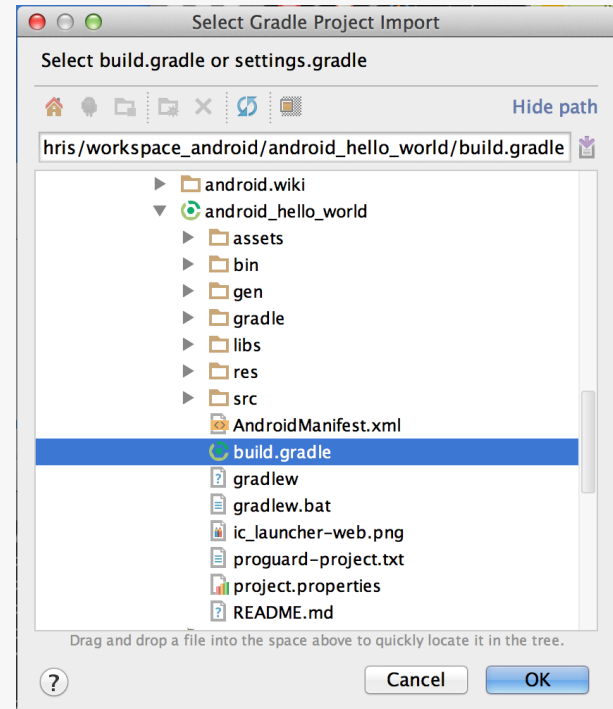
Clone HelloWorldDemo

In your terminal perform the following actions:-

1. **cd** to the directory you want to download the sample project
2. Run **git clone**
https://github.com/codepath/android_hello_world.git

Import HelloWorldDemo

1. Switch to Android Studio and close any open projects.
2. In Android Studio dialog, select **Open Existing Project...**
3. In that dialog, find the android_hello_world project just downloaded.
4. Select build.gradle under the android_hello_demo path
5. Click "**Ok**" to Load the Project



Wrapping Up

Ensuring Setup is Complete

In Review

We have now finished setting up our Android environment including:

- **Android Studio IDE**
- **Android SDK**
- **Git**
- Setup Our First Android **Application**
- Android **Emulator**