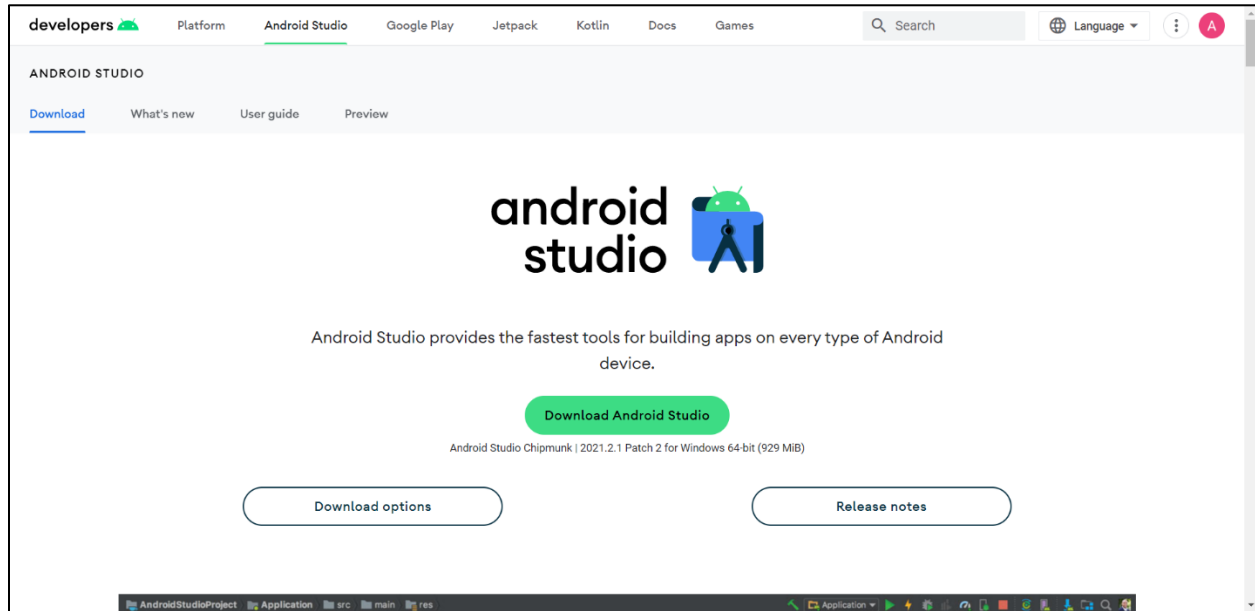# Practical 1

Aim: Install Android Studio Create a virtual device, Create and Run Hello World on emulator and device, explore project layout, Generate and view log statements, Explore manifest file.

Steps:

1. Go to https://developer.android.com/studio

2. Click on *"Download Options"* and select your desired operating system.

For Linux:

1. Go to your downloads folder (Usually located in /home/username/Downloads).

```
202103103510253@cgpit-utu:~/Downloads$ ls
android-studio-2021.2.1.16-linux.tar.gz
202103103510253@cgpit-utu:~/Downloads$
```

2. Open a terminal and untar the file by *tar xvf android-studio-2021.2.1.16-linux.tar.gz*

```
202103103510253@cgpit-utu:~/Downloads$ tar xvf android-studio-2021.2.1.16-linux.tar.gz
android-studio/
android-studio/build.txt
android-studio/plugins/
android-studio/plugins/url-assistant/
android-studio/plugins/url-assistant/lib/
android-studio/plugins/url-assistant/lib/url-assistant.jar
android-studio/plugins/hg4idea/
android-studio/plugins/hg4idea/lib/
android-studio/plugins/hg4idea/lib/hg4idea.jar
android-studio/plugins/configurationScript/
android-studio/plugins/configurationScript/lib/
android-studio/plugins/configurationScript/lib/configurationScript.jar
android-studio/plugins/yaml/
android-studio/plugins/yaml/lib/
android-studio/plugins/yaml/lib/yaml.jar
android-studio/plugins/testng/
android-studio/plugins/testng/lib/
android-studio/plugins/testng/lib/testng-rt.jar
android-studio/plugins/testng/lib/testng-plugin.jar
android-studio/plugins/testng/lib/javax.inject-1.jar
android-studio/plugins/testng/lib/testng-7.1.0.jar
android-studio/plugins/testng/lib/jcommander-1.72.jar
android-studio/plugins/testng/lib/guice-4.1.0-no_aop.jar
android-studio/plugins/testng/lib/aopalliance-1.0.jar
android-studio/plugins/c-clangdBridge/
android-studio/plugins/c-clangdBridge/lib/
android-studio/plugins/c-clangdBridge/lib/c-clangdBridge.jar
android-studio/plugins/webp/
android-studio/plugins/webp/lib/
android-studio/plugins/webp/lib/libwebp.jar
android-studio/plugins/webp/lib/webp.jar
android-studio/plugins/webp/lib/libwebp/
android-studio/plugins/webp/lib/libwebp/linux/
android-studio/plugins/webp/lib/libwebp/linux/libwebp_jni.so
android-studio/plugins/webp/lib/libwebp/linux/libwebp_jni64.so
android-studio/plugins/webp/lib/libwebp/win/
android-studio/plugins/webp/lib/libwebp/win/webp_jni64.dll
android-studio/plugins/webp/lib/libwebp/win/webp_jni.dll
android-studio/plugins/webp/lib/libwebp/mac/
android-studio/plugins/webp/lib/libwebp/mac/libwebp_jni64.dylib
android-studio/plugins/intellij-toml/
android-studio/plugins/intellij-toml/lib/
android-studio/plugins/intellij-toml/lib/searchableOptions-0.2.155.4114-212.jar
android-studio/plugins/intellij-toml/lib/common.jar
android-studio/plugins/intellij-toml/lib/intellij-toml-0.2.155.4114-212.jar
android-studio/plugins/intellij-toml/lib/core.jar
android-studio/plugins/markdown/
```
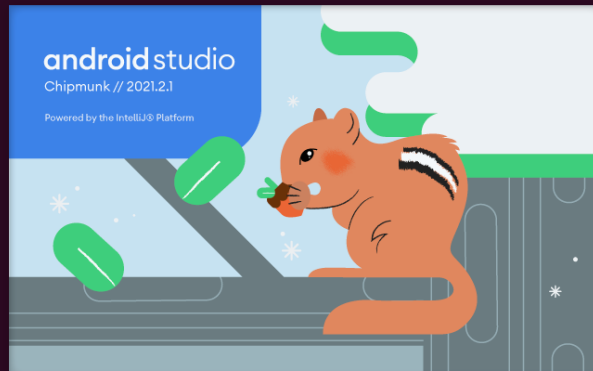
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3. You will get a folder named ***android-studio***, copy it to your home folder using ***cp -rav android-studio ~/***

```
202103103510253@cgpit-utu:~/Downloads$ mv android-studio ~/
202103103510253@cgpit-utu:~/Downloads$ 
```
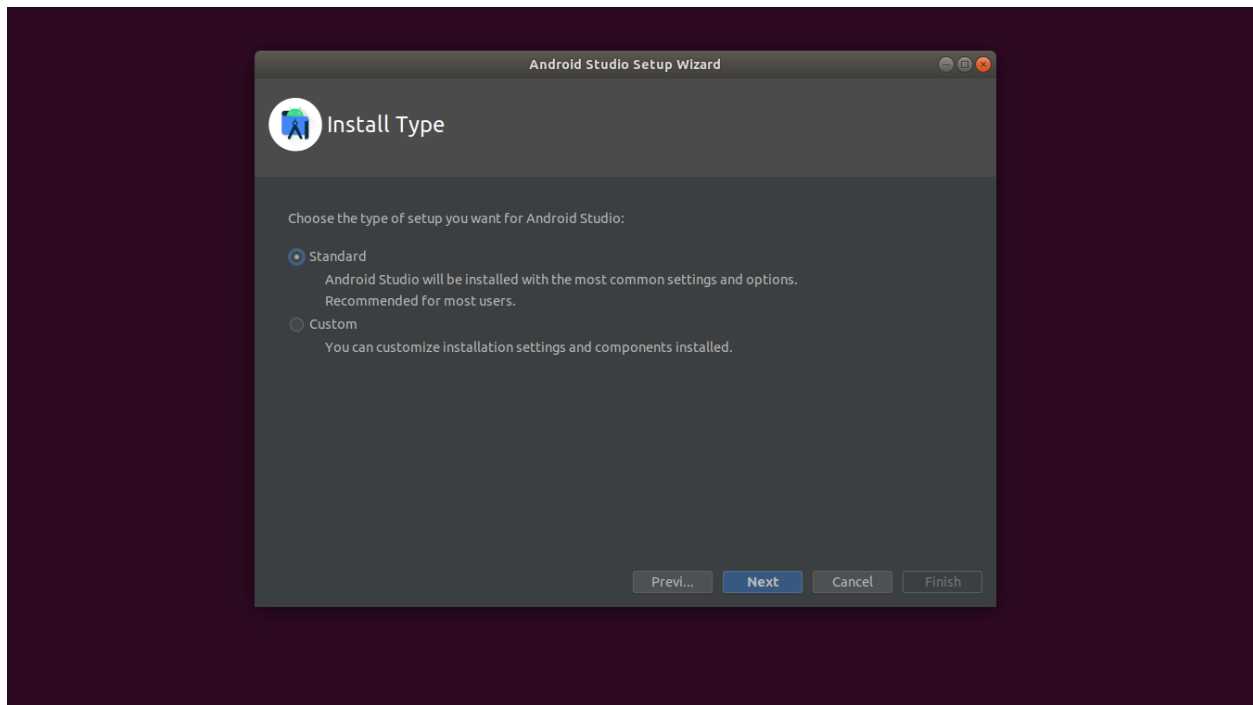
4. Start android studio for first time using ***~/android-studio/bin/studio.sh***

```
202103103510253@cgpit-utu:~/android-studio/bin$ ./studio.sh
Aug 15, 2022 8:37:59 PM java.util.prefs.FileSystemPreferences$1 run
INFO: Created user preferences directory.
```
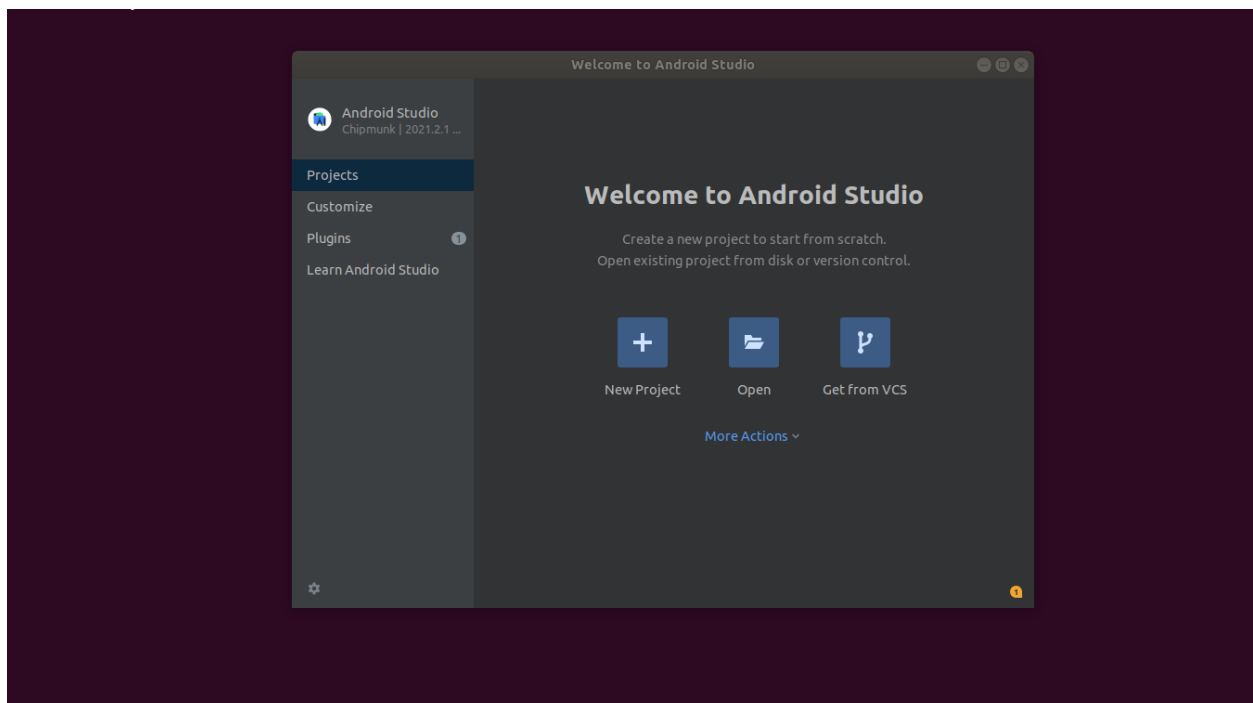
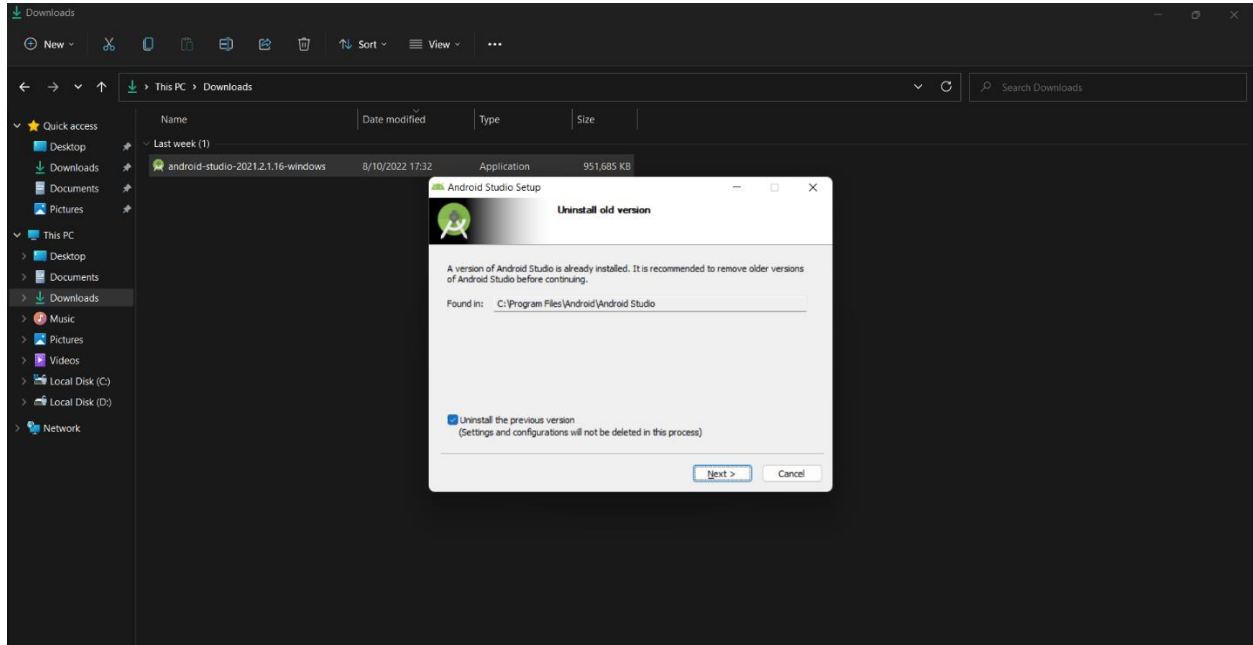5. Follow on-screen steps according to your needs.

6. You have finally installed Android Studio.
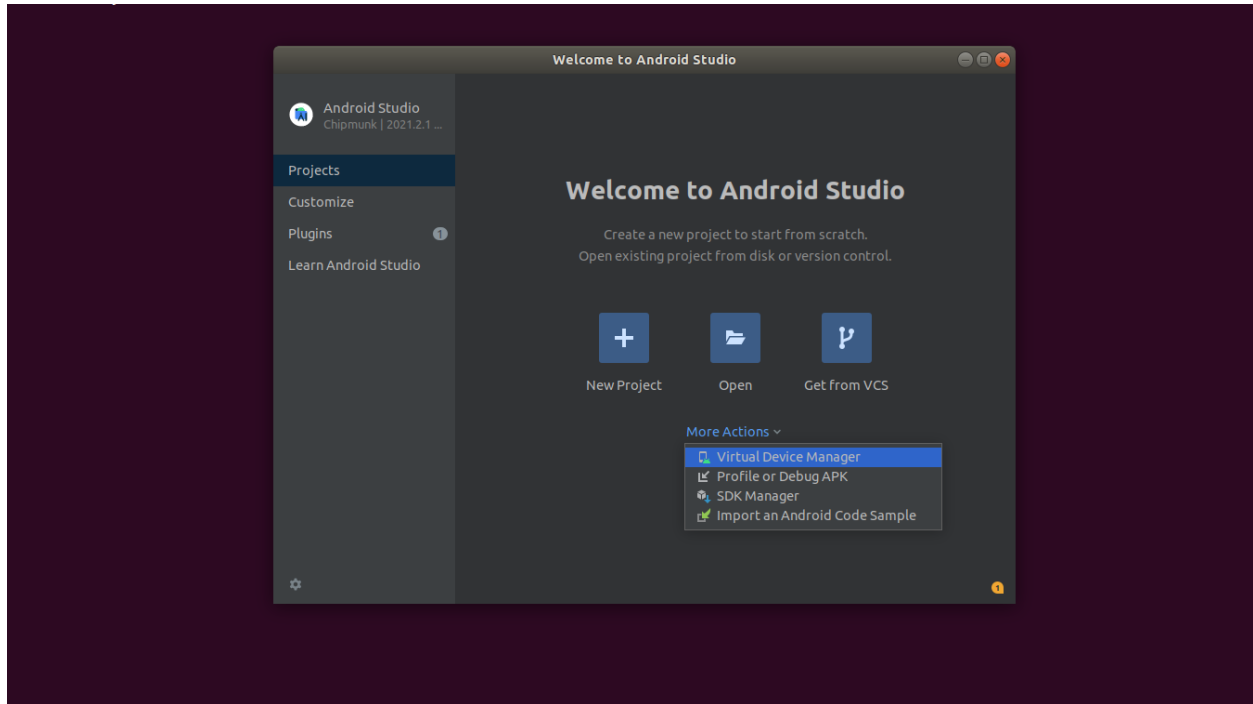

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For Windows:

1. Go to your downloads folder.
2. Run *android-studio-2021.2.1.16-windows.exe*
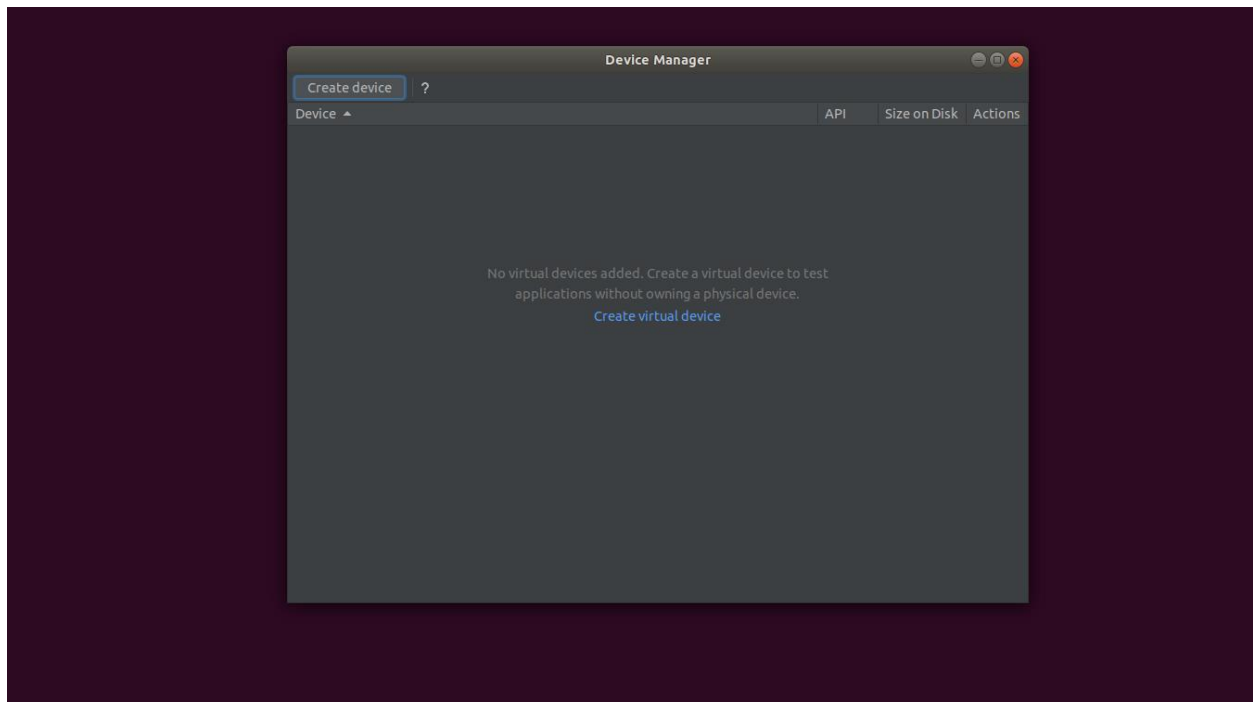3. Follow on-screen steps according to your needs.
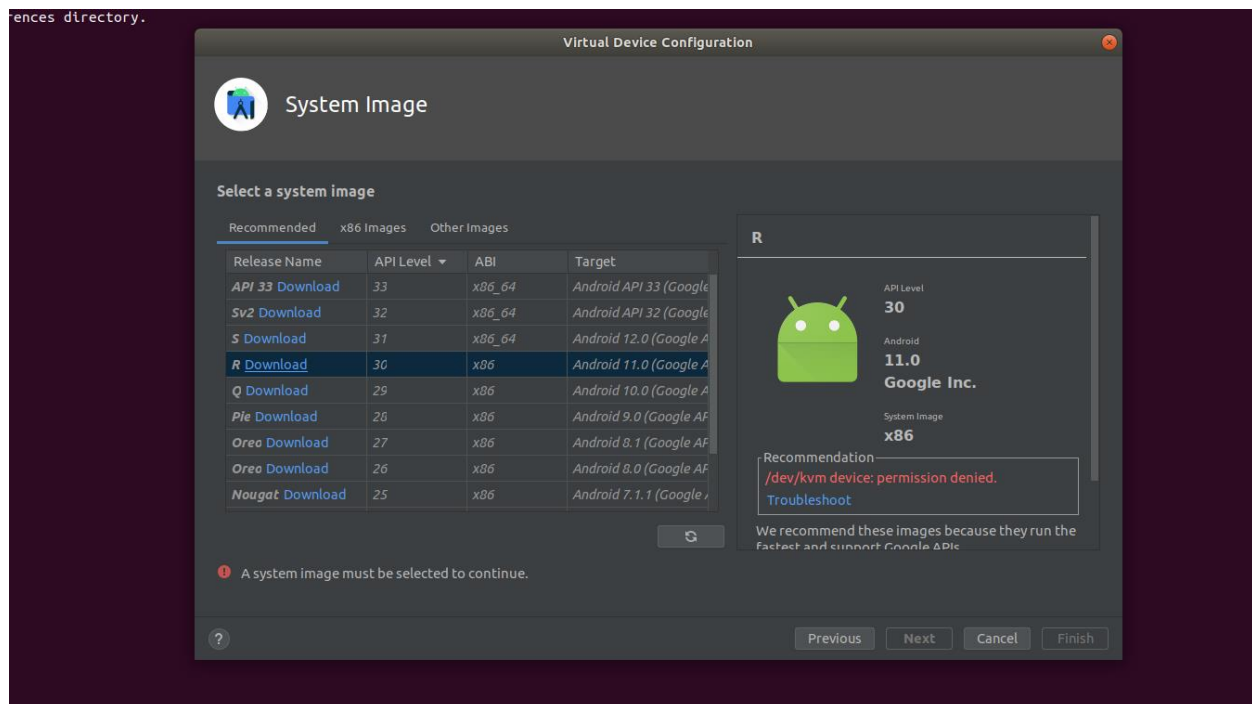
Setting up the AVD:

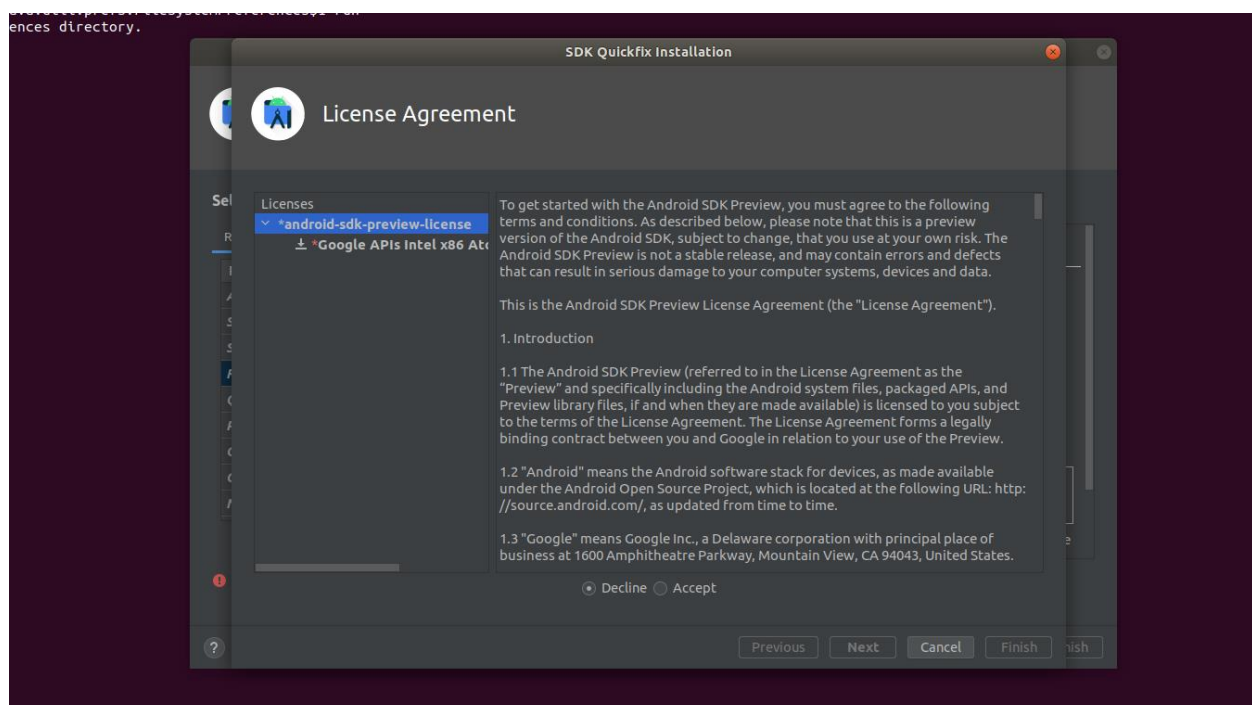1. Start android studio, from more options select *Virtual Device Manager*.

2. Click on *Create Virtual Device.*

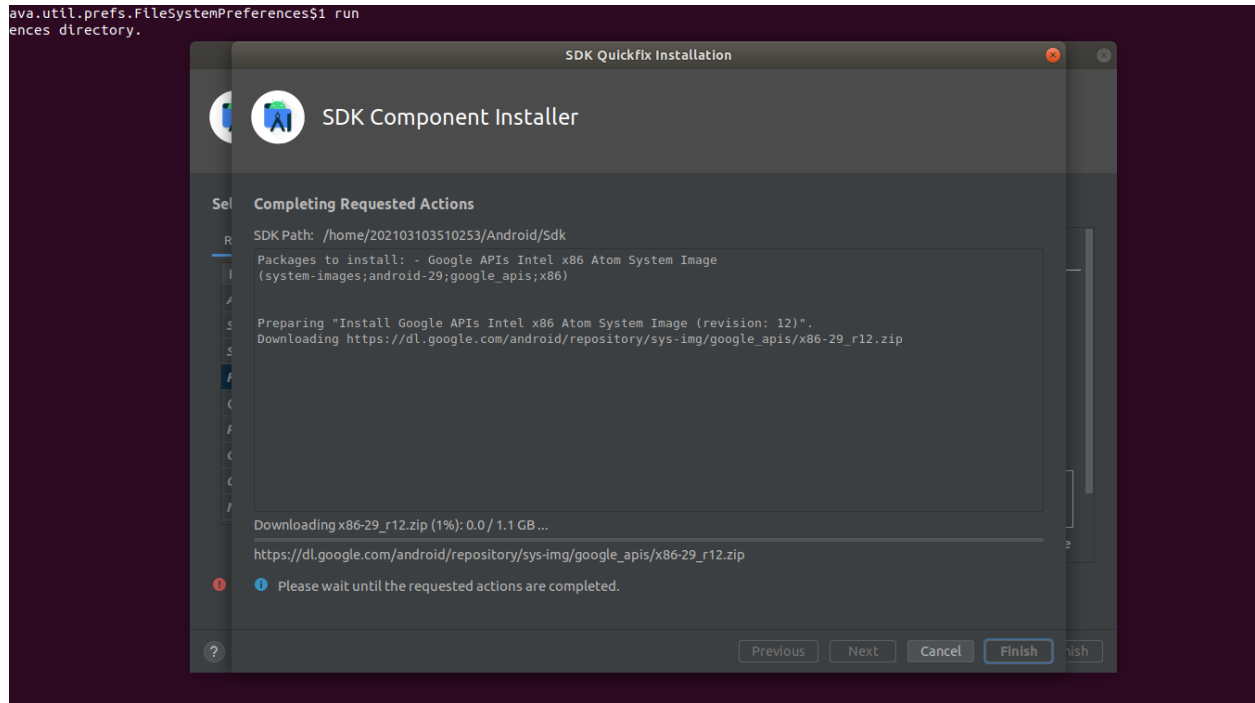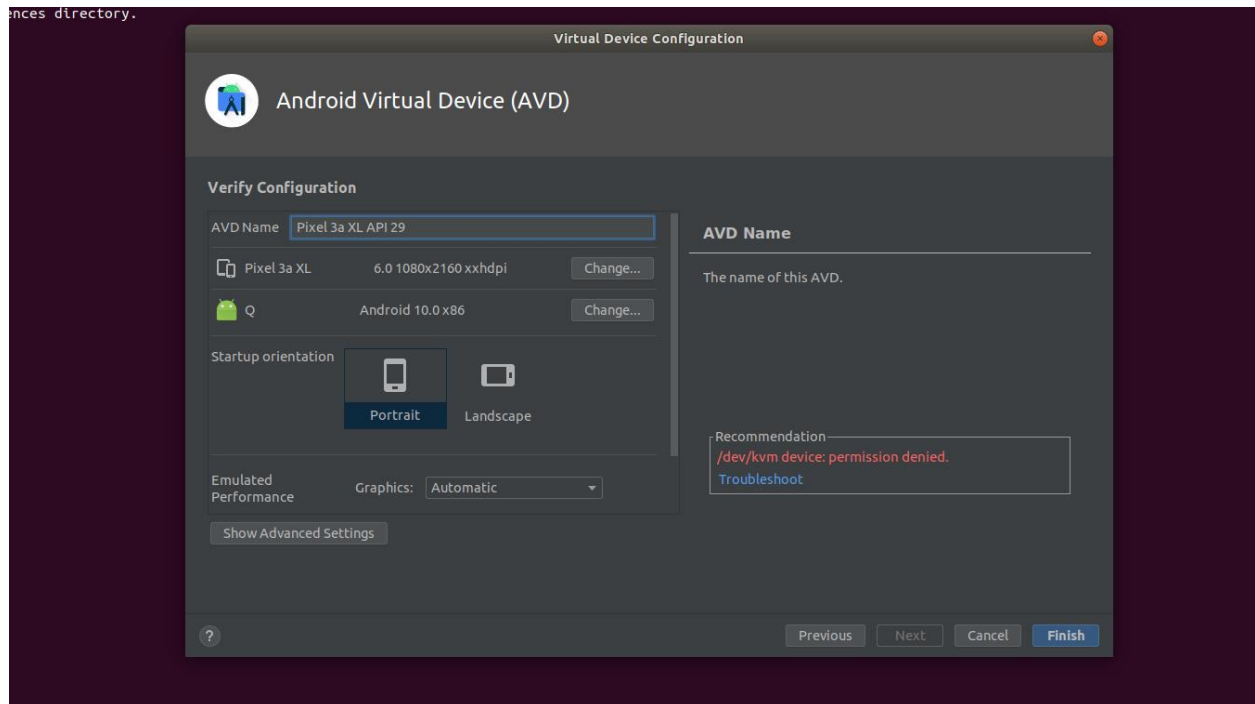3. Select your desired *device model* and *Android version*.

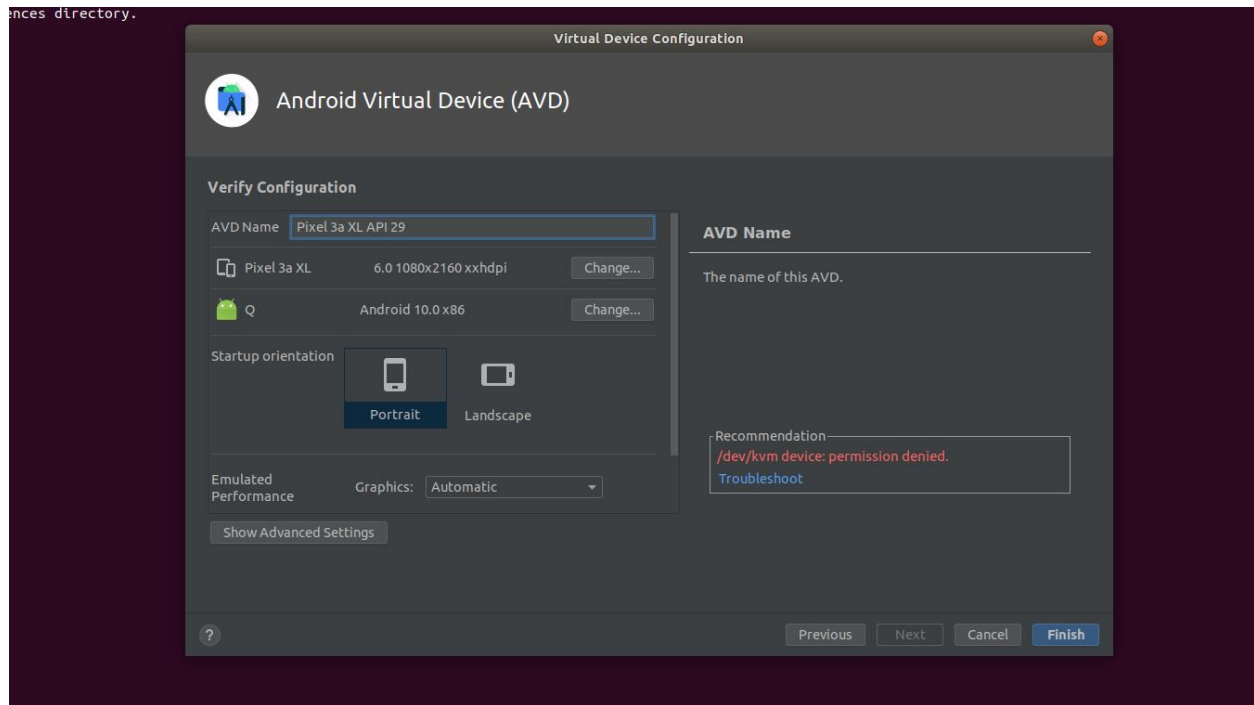4. *Accept License* and continue, *Android Image* will start downloading.

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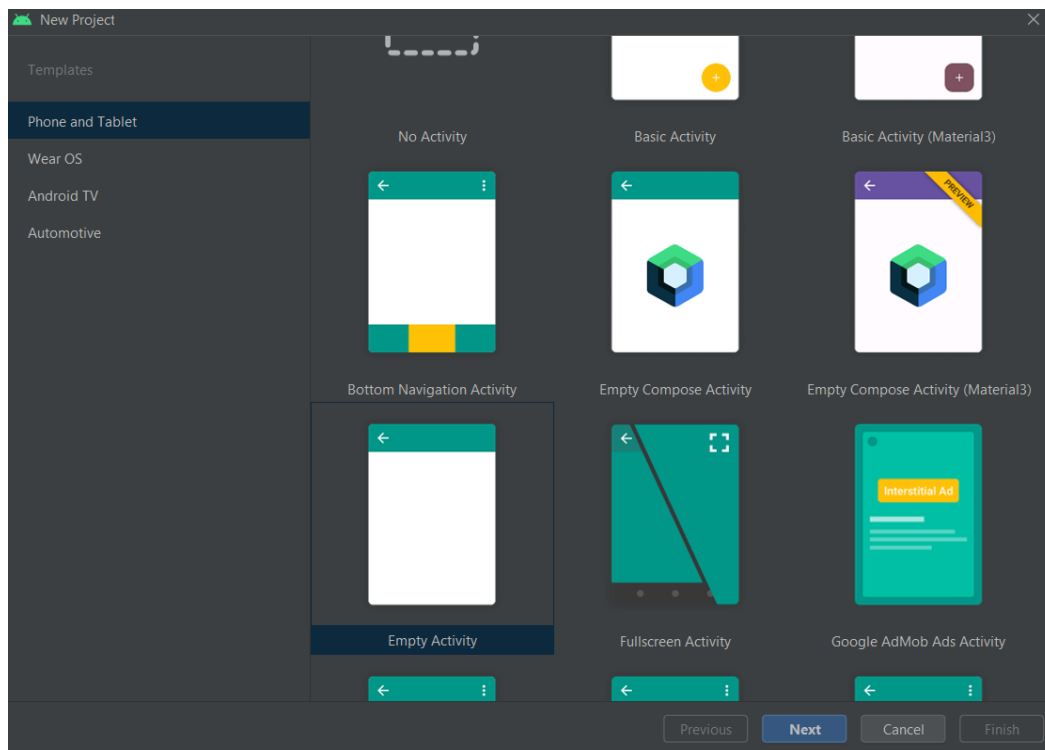5. After completion, you will see a confirmation screen.

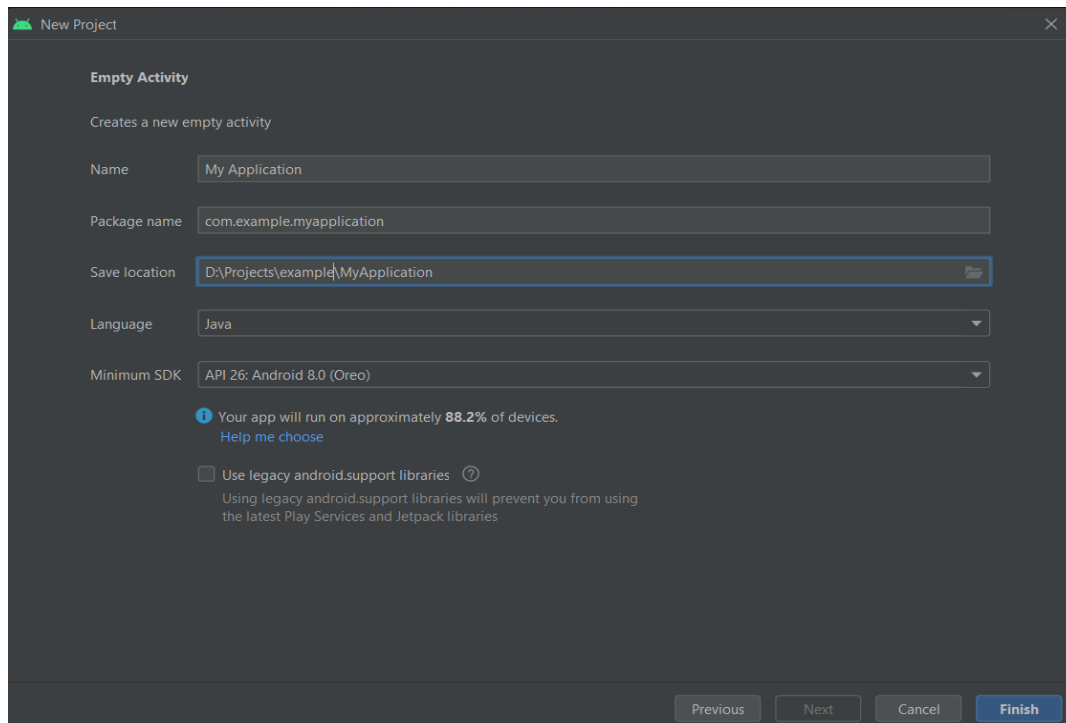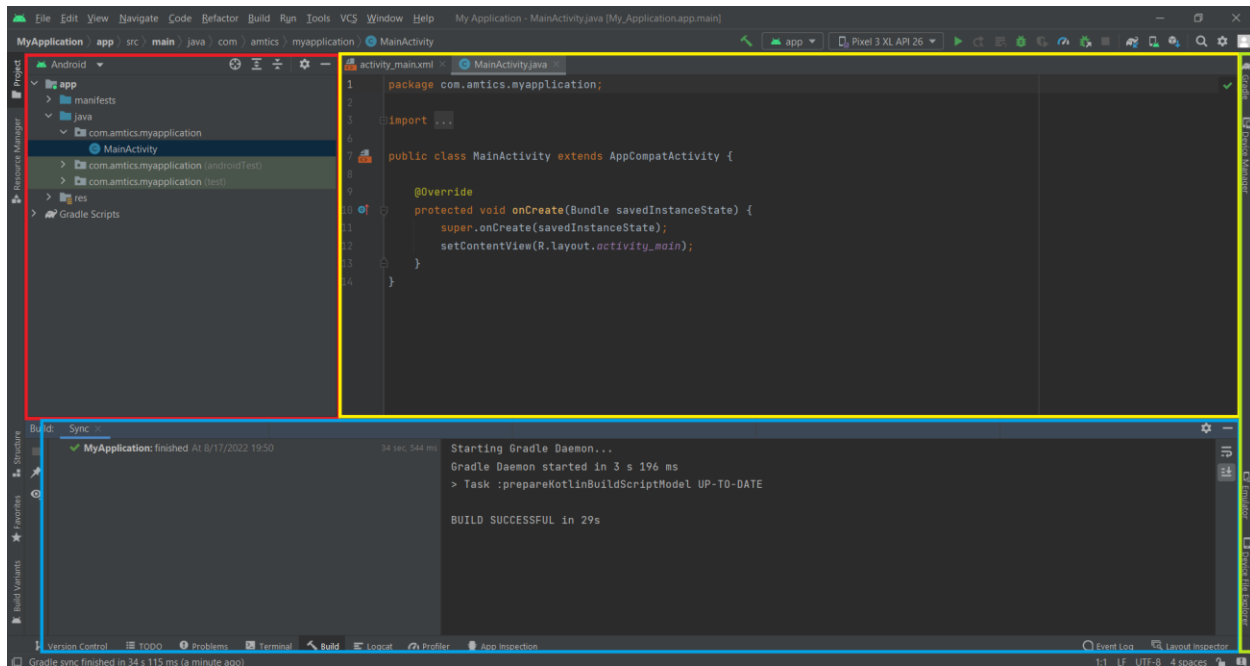6. You have finally created a *Virtual Device.*

Creating a new project:

1. Select *create new project* from the menu and select your *desired project template*.

2. Select *project name*, *path*, *package name*, *minimum supported android version* and *project language (computer language)*.

Layout of Android Studio:

File Manager (Red Section): contains project files like layouts, activities, manifests, etc.

Work Area (Yellow Section): where we actually work, like designing layouts, writing logics, defining elements, etc.

Logging Area (Blue Section): where android studio generate logs about build, connectivity, application logs.

Explore/Inspect Area (Green Section): where we can access file manager of connected android device (whether it is virtual device or real device), inspecting the layout like how your application will look like, etc.