Practical 1

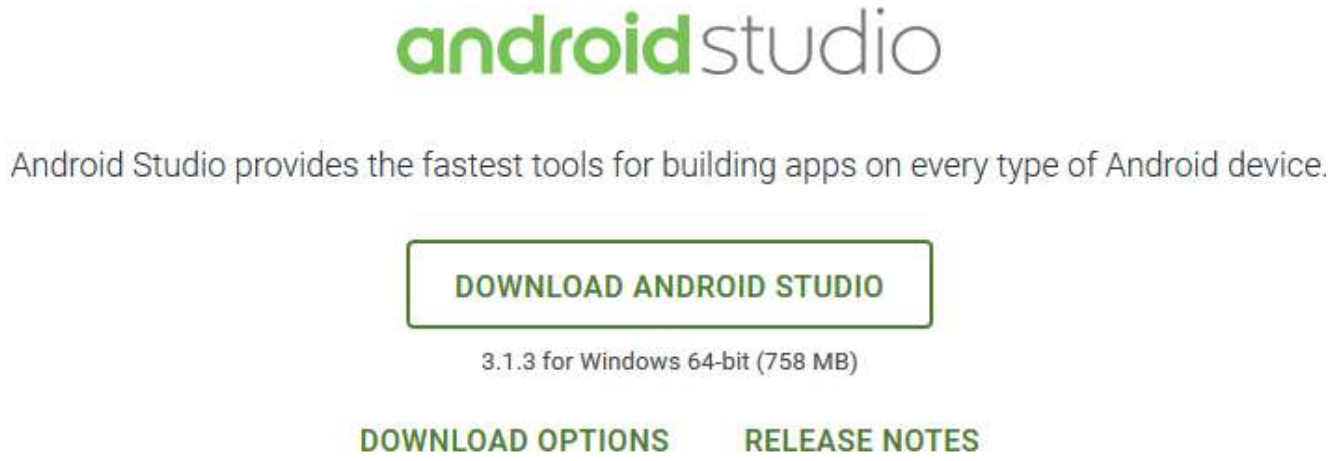
Building a simple Hello World Application

Steps to Install Android Studio

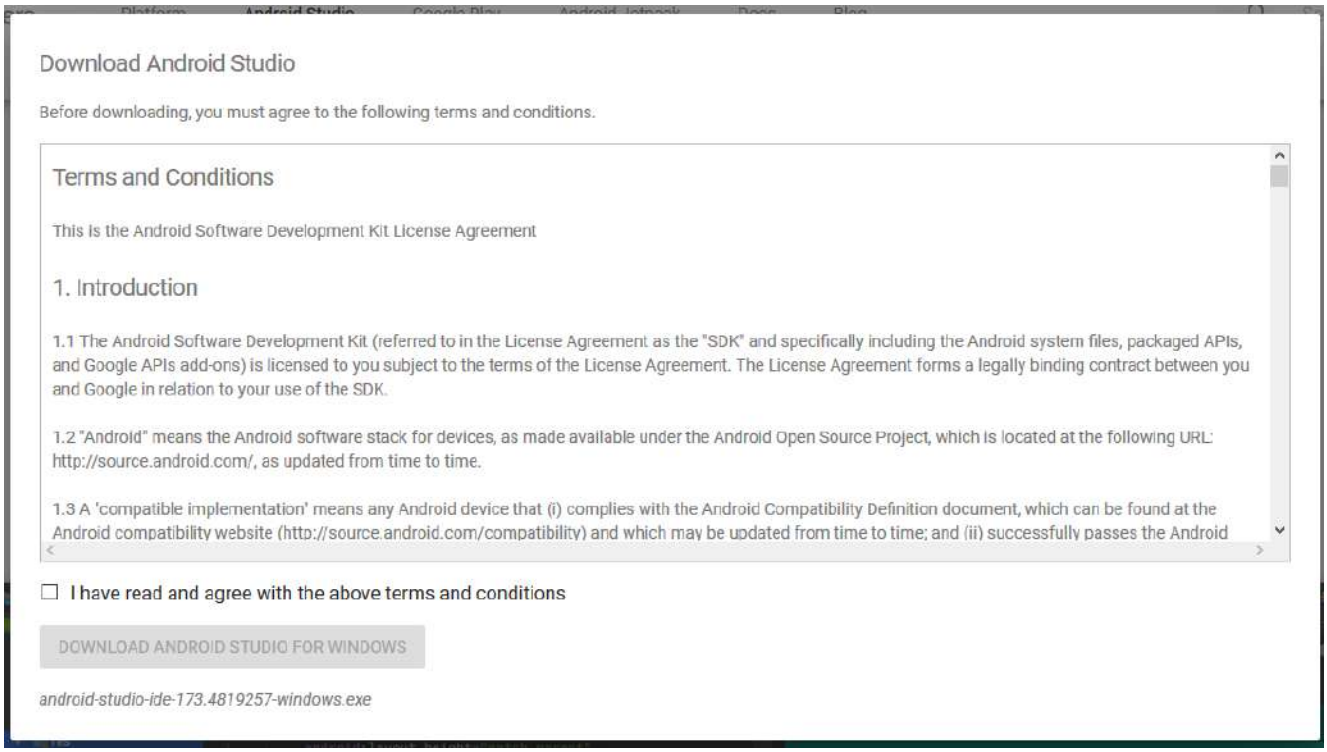
Step – 1:
Head over to bellow link to get the Android Studio executable or zip file .

https://developer.android.com/studio/#downloads

Step – 2:
Click on the download android studio button .



Click on the "I have read and agree with the above terms and conditions" checkbox followed by the download button.

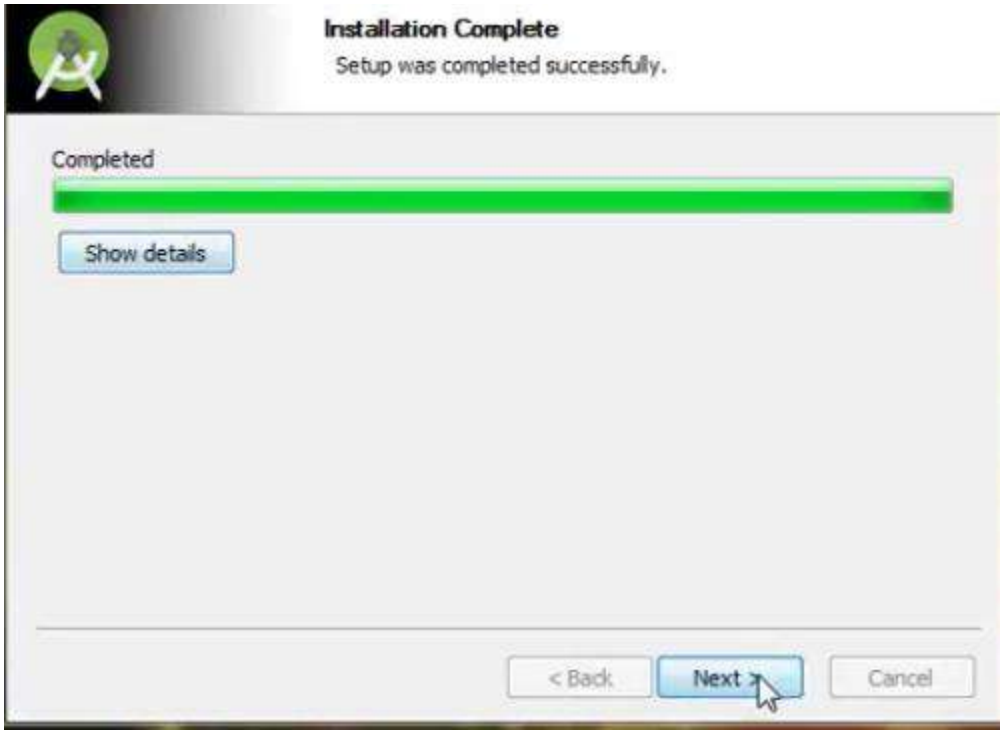


Click on save file button in the appeared prompt box and the file will start downloading.

Step – 3:
After the downloading has finished, open the file from downloads and run it .
It will prompt the following dialogue box

Click on next.
In the next prompt it'll ask for a path for installation. Choose a path and hit next.

Step – 4:
It will start the installation, and once it is completed, it will be like the image shown below



Click on next

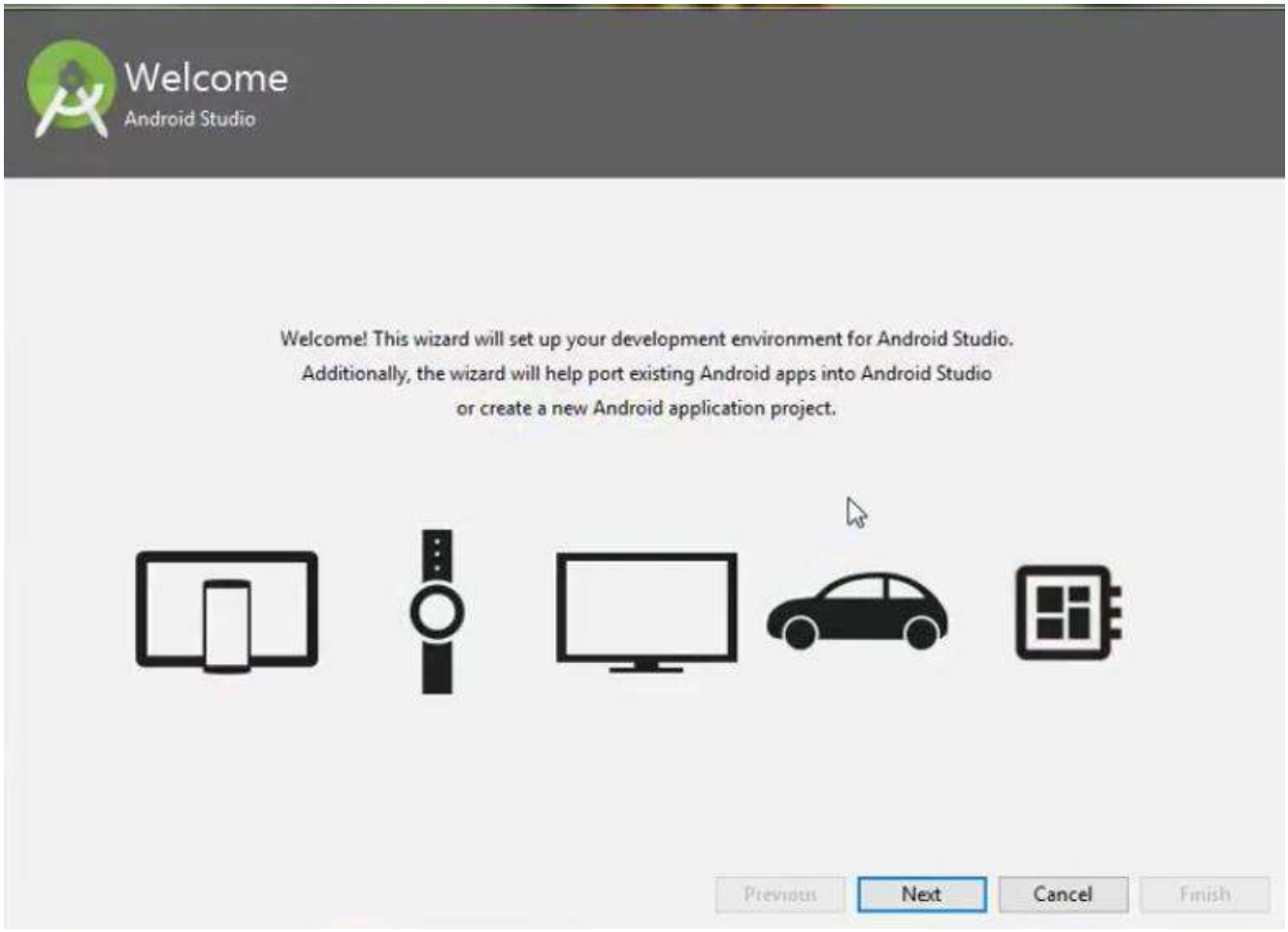
Step – 5 :

Once "Finish" is clicked, it will ask whether the previous settings needs to be imported [if android studio had been installed earlier], or not.
It is better to choose the 'Don't import Settings option' .

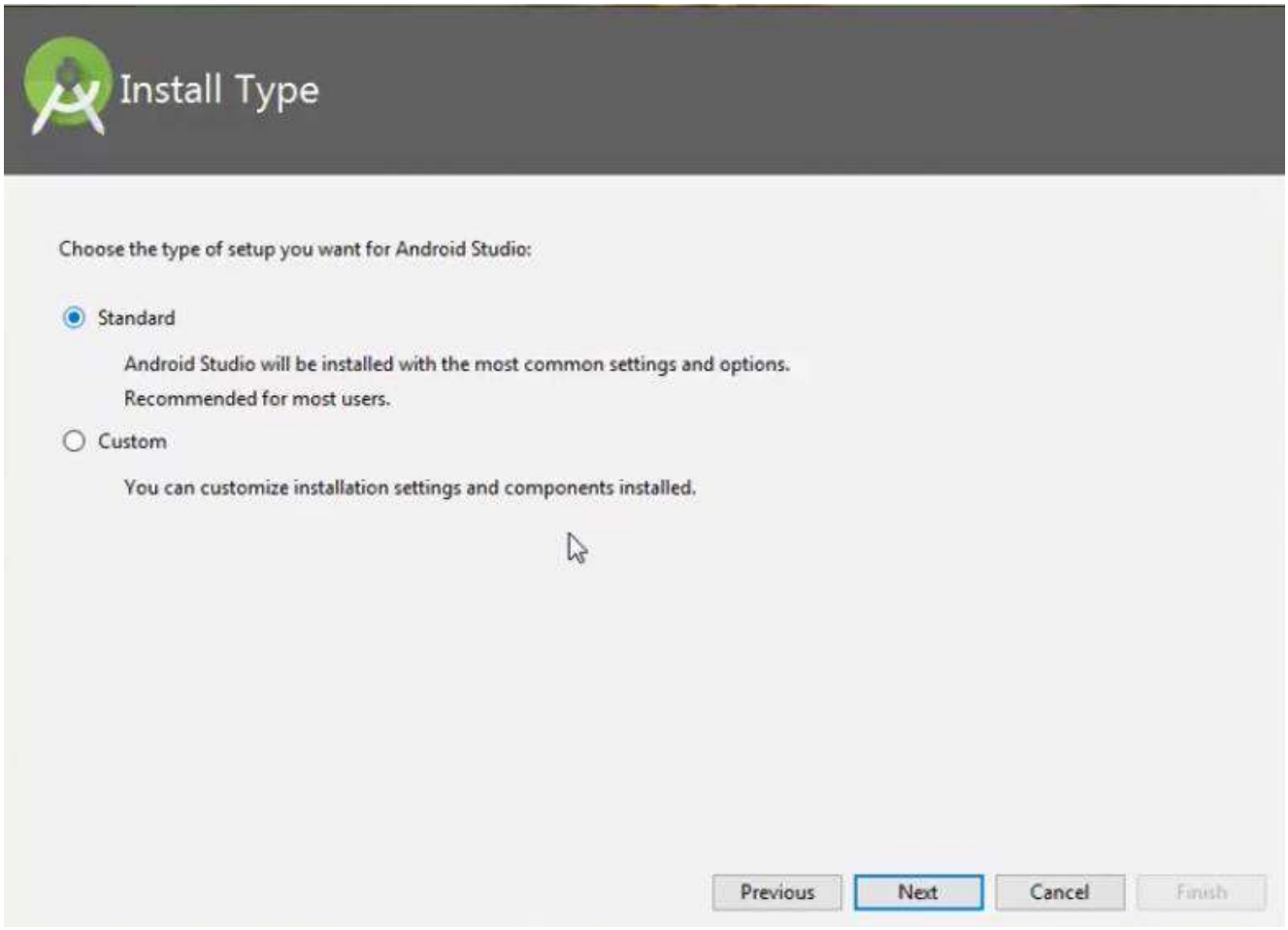
Step – 6 :
This will start the Android Studio.

Meanwhile it will be finding the available SDK components .

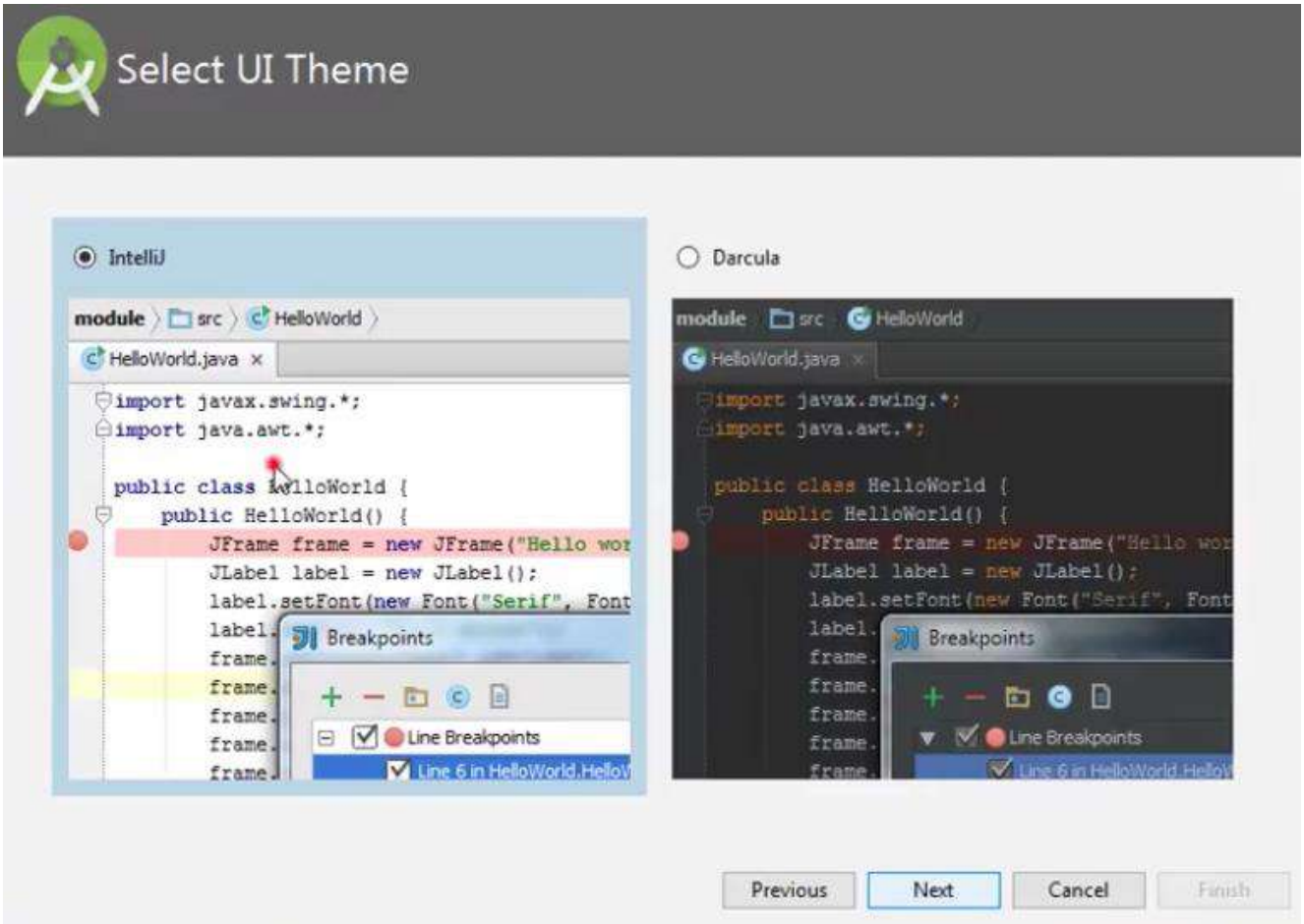
Step – 7:
After it has found the SDK components, it will redirect to the Welcome dialog box .



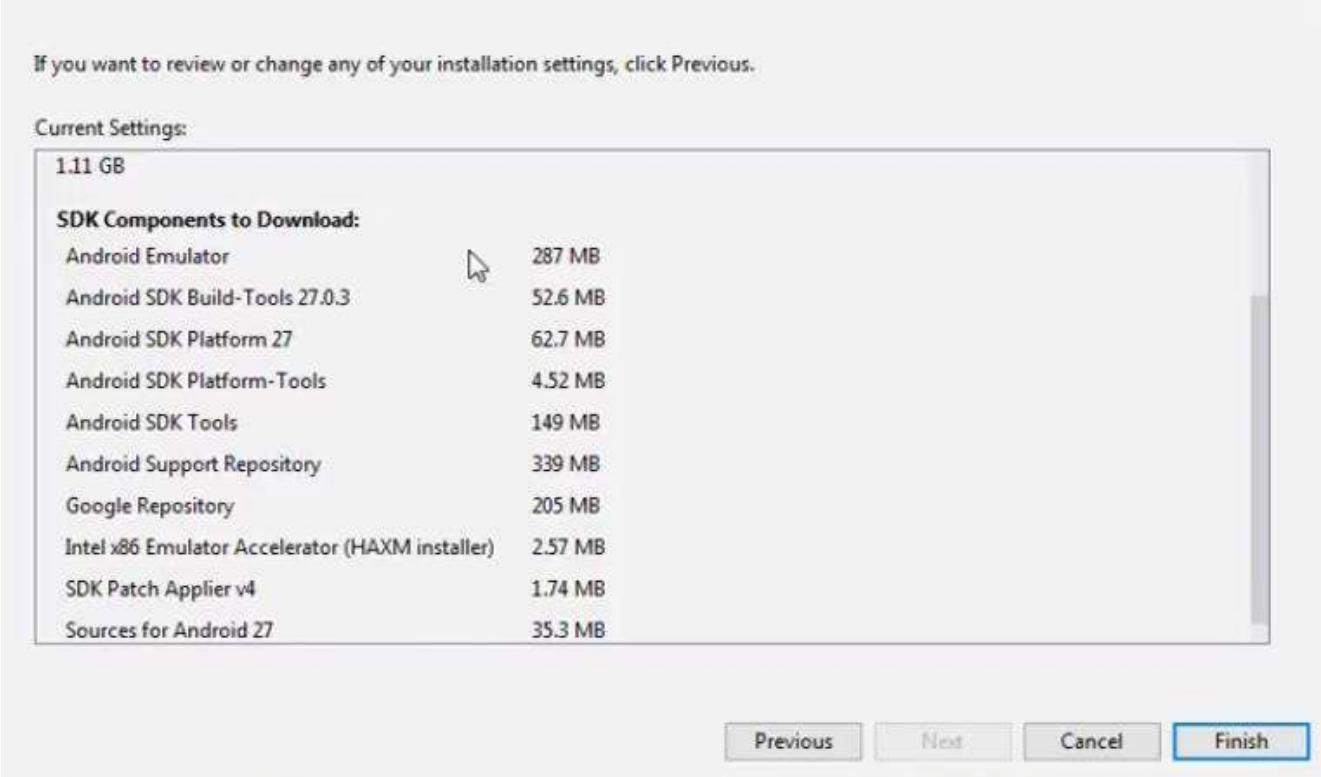
Click on next .



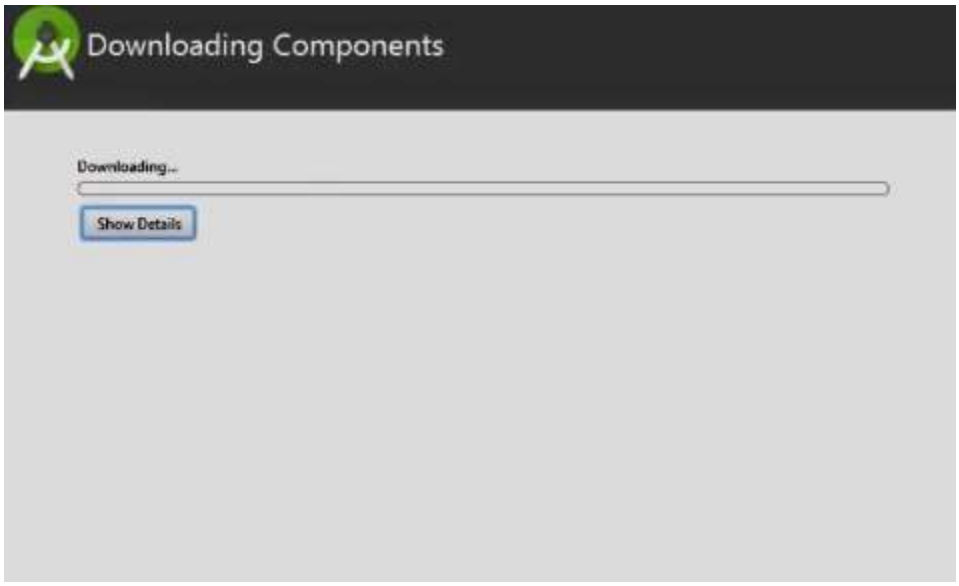
Choose Standard and click on Next.
Now choose the theme, whether Light theme or the Dark one .
The light one is called the IntelliJ theme whereas the dark theme is called Darcula .
Choose as required.



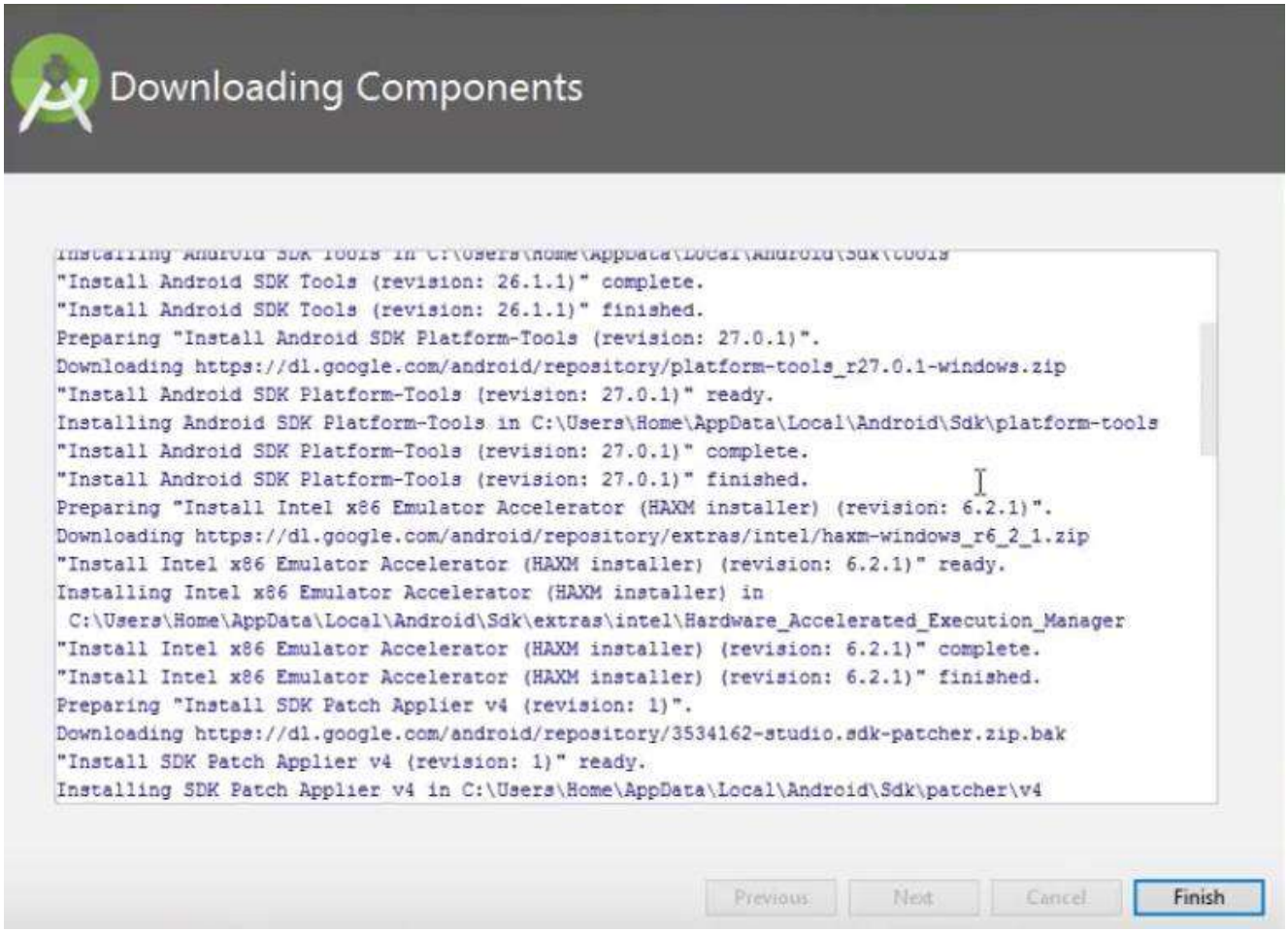
- Click on the Next button
- Step – 8 :
  Now it is time to download the SDK components .



Click on Finish .



It has started downloading the components



The Android Studio has been successfully configured.
Now it's time to launch and build apps.

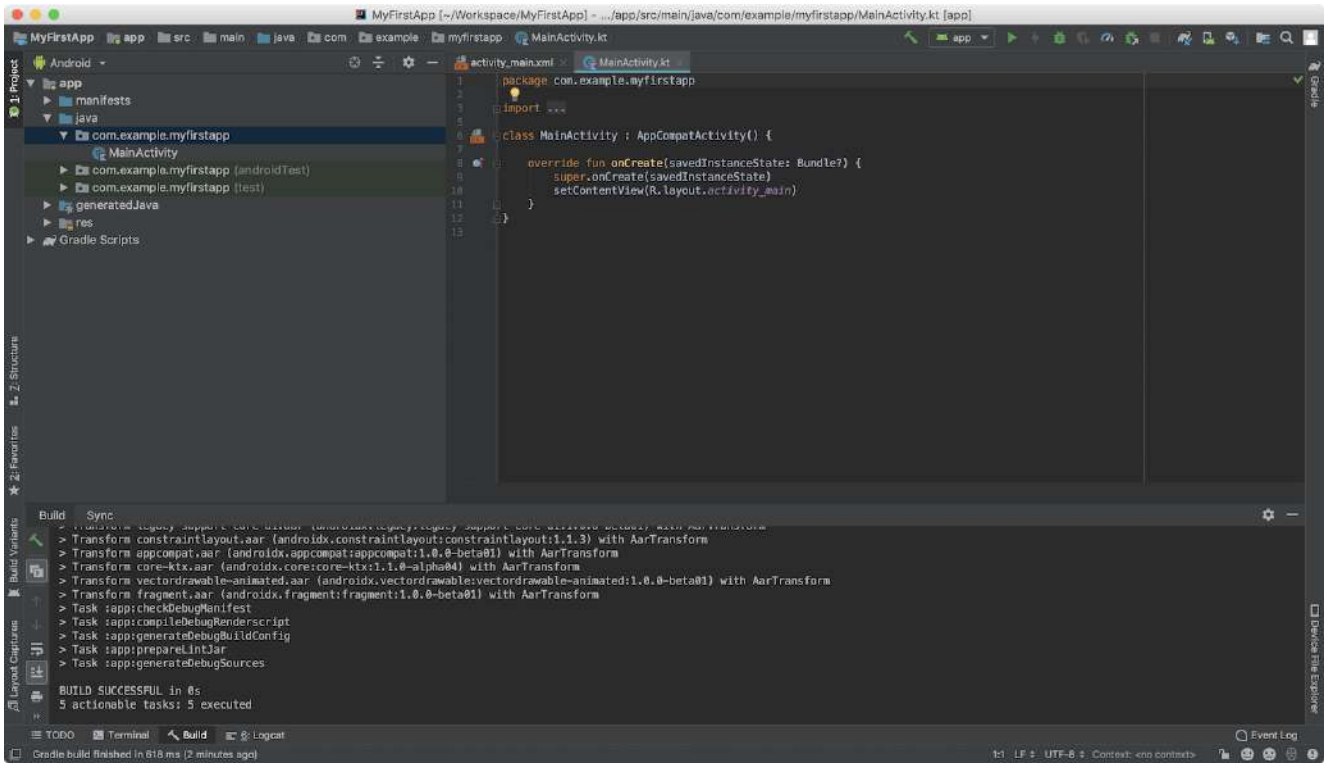
Steps to create a project in android

To create your new Android project, follow these steps:

- Install the latest version of Android Studio.
- In the Welcome to Android Studio window, click Start a new Android Studio project.

- If you have a project already opened, select File > New > New Project.
- In the Choose your project window, select Empty Activity and click Next.
- In the Configure your project window, complete the following:
    1. Enter "My First App" in the Name field.
    2. Enter "com.example.myfirstapp" in the Package name field.
    3. If you'd like to place the project in a different folder, change its Save location.
    4. Select either Java or Kotlin from the Language drop-down menu.
- Select the checkbox next to Use androidx.* artifacts.
- Leave the other options as they are.

- Click Finish.
- After some processing time, the Android Studio main window appears.



Note

To Open Project Window

select View > Tool Windows > Project

To Open MainActivity.java file

app > java > PackageName > MainActivity.java

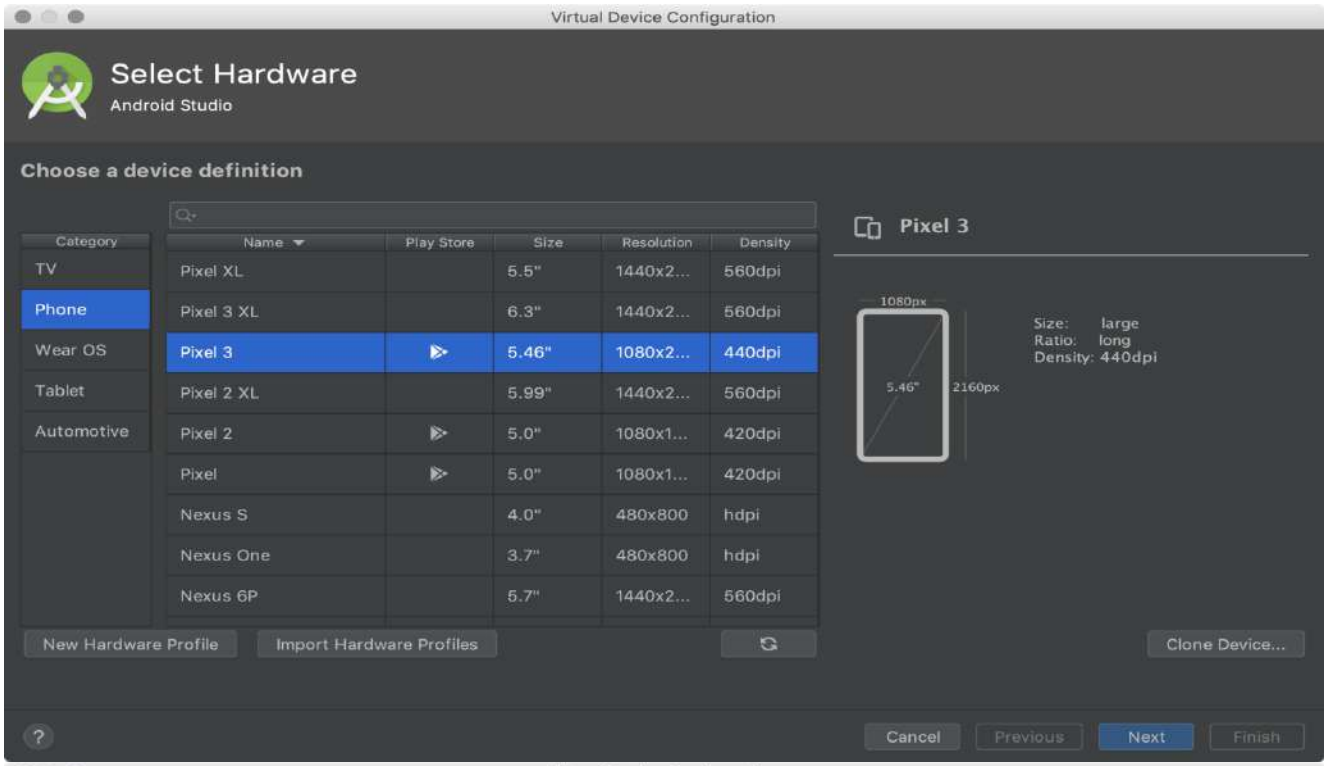
To Open Layout activity_main.xml file

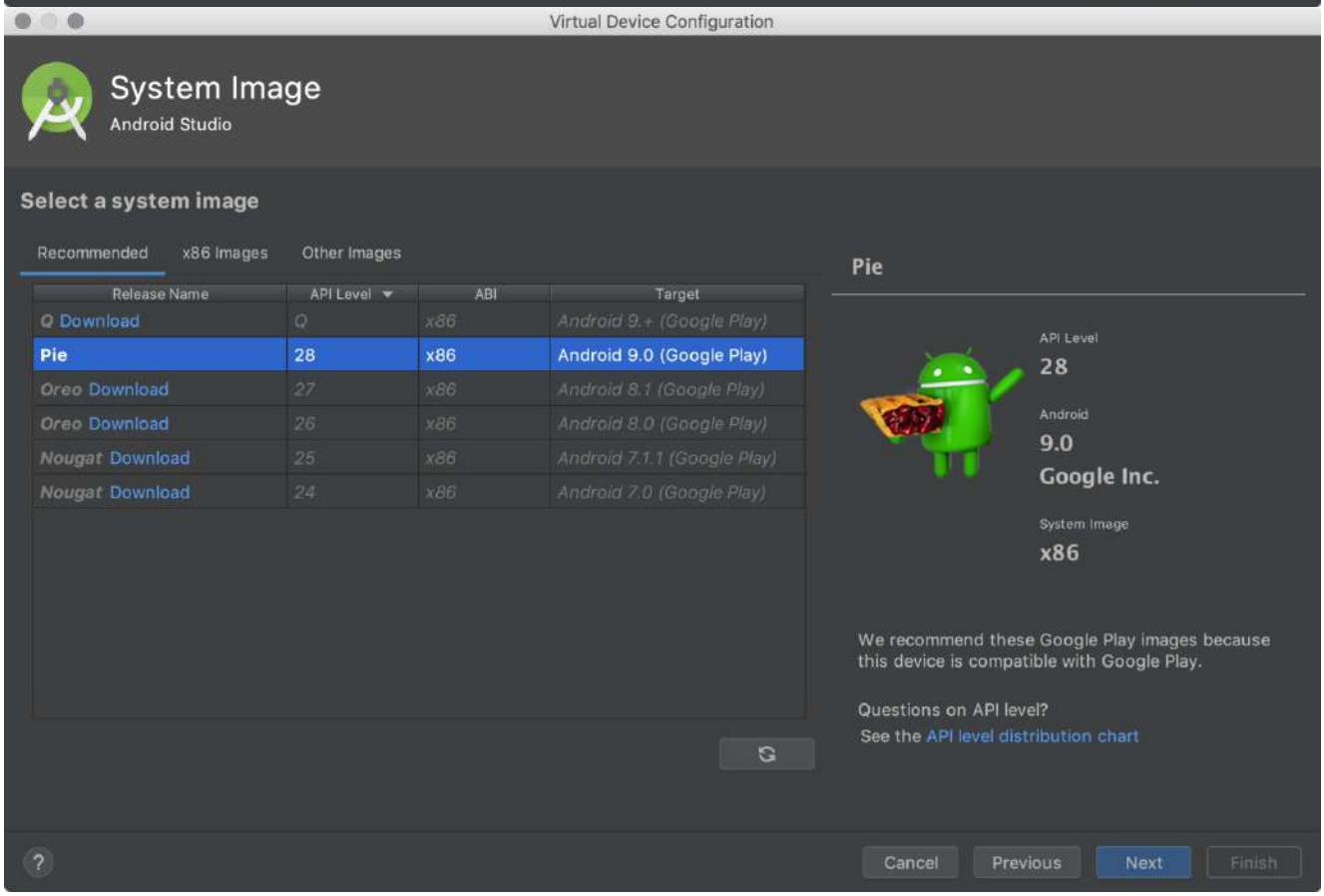
app > res > layout > activity_main.xml

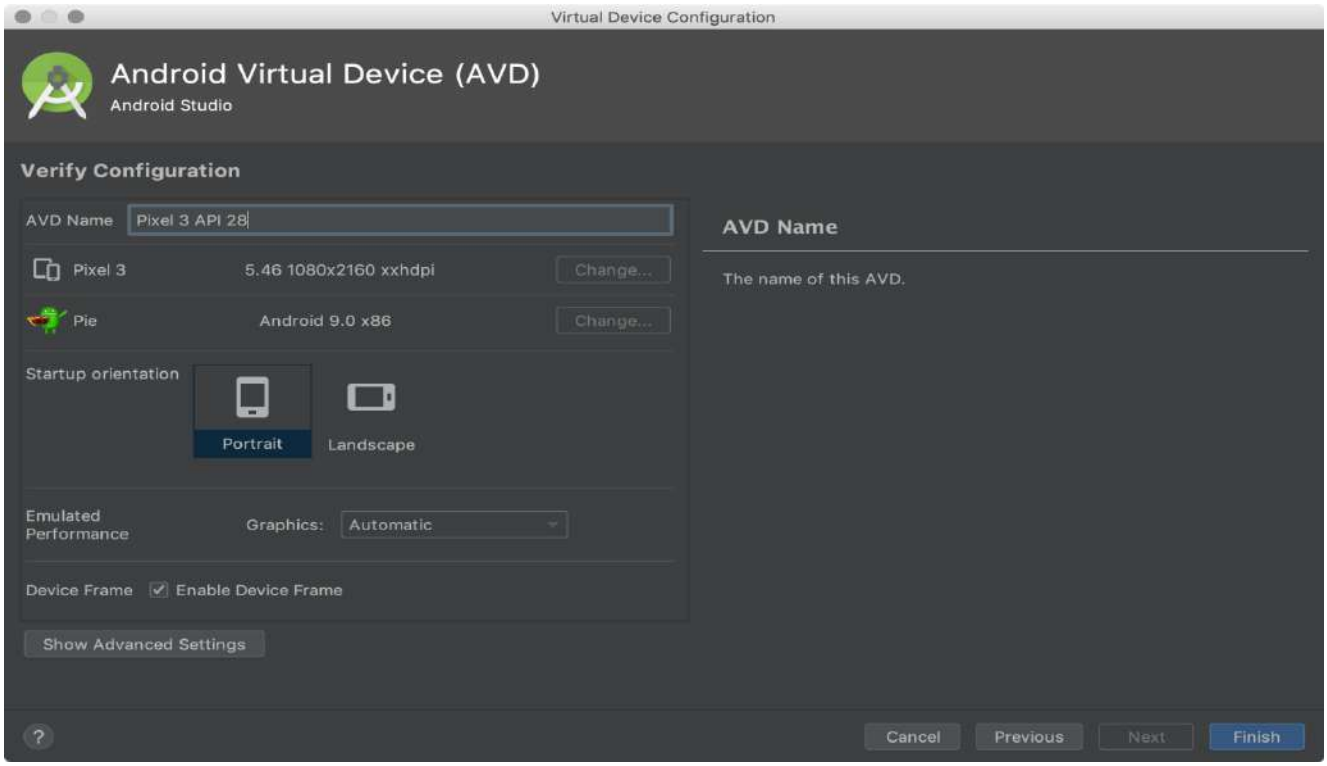
1. After the project is created, there are 2 files, **MainActivity.java and activity_main.xml**
2. Go to activity_main.xml and select **Design View**
3. In Design View, change the layout to **LinearLayout(Vertical)** select **Add TextView,** and change the text to "Hello World!"
4. Click on **Run** and select the AVD already created(if not created, first create the AVD)
5. Output screen should show "Hello World"

To create a new AVD:

1. Open the **AVD** Manager by clicking Tools > **AVD** Manager.
2. Click **Create Virtual Device**, at the bottom of the **AVD** Manager dialog. ...
3. Select a hardware profile, and then click Next.
4. Select the system image for a particular API level, and then click Next.
5. Change **AVD** properties as needed, and then click Finish.


Virtual Device Configuration
Select Hardware
Android Studio
Choose a device definition
Category
TV
Phone
Wear OS
Tablet
Automotive
Name
Play Store
Size
Resolution
Density
Pixel XL 5.5" 1440x2... 560dpi
Pixel 3 XL 6.3" 1440x2... 560dpi
Pixel 3 5.46" 1080x2... 440dpi
Pixel 2 XL 5.99" 1440x2... 560dpi
Pixel 2 5.0" 1080x1... 420dpi
Pixel 5.0" 1080x1... 420dpi
Nexus S 4.0" 480x800 hdpi
Nexus One 3.7" 480x800 hdpi
Nexus 6P 5.7" 1440x2... 560dpi
Pixel 3
1080px
5.46"
2160px
Size: large
Ratio: long
Density: 440dpi
New Hardware Profile
Import Hardware Profiles
Clone Device...
Cancel
Previous
Next
Finish


Virtual Device Configuration
System Image
Android Studio
Select a system image
Recommended
x86 Images
Other Images
Release Name
API Level
ABI
Target
Q Download Q x86 Android 9.+ (Google Play)
Pie 28 x86 Android 9.0 (Google Play)
Oreo Download 27 x86 Android 8.1 (Google Play)
Oreo Download 26 x86 Android 8.0 (Google Play)
Nougat Download 25 x86 Android 7.1.1 (Google Play)
Nougat Download 24 x86 Android 7.0 (Google Play)
Pie
API Level
28
Android
9.0
Google Inc.
System Image
x86
We recommend these Google Play images because this device is compatible with Google Play.
Questions on API level?
See the API level distribution chart
Cancel
Previous
Next
Finish


Virtual Device Configuration
Android Virtual Device (AVD)
Android Studio
Verify Configuration
AVD Name
Pixel 3 API 28
Pixel 3
5.46 1080x2160 xxhdpi
Change...
Pie
Android 9.0 x86
Change...
Startup orientation
Portrait
Landscape
Emulated Performance
Graphics:
Automatic
Device Frame
Enable Device Frame
Show Advanced Settings
AVD Name
The name of this AVD.
Cancel
Previous
Next
Finish

Output

Android Emulator - Android_Accelerated_x86_Oreo:5554
12:03
Hello World
Hello World!