PRACTICAL – 1.1

AIM:
Installation & Configuration of Android Studio. Along with its all major Gradle, SDK, AVD etc.

THEORY:

1. **Android Studio**
   - As we know Android world is increasing day by day. Billions of Android apps has been published on Google Play store. So it is the need of time that we should learn some basics of Android development. Android Studio is an IDE (Integrated Development Environment) for Android application development.
2. **Features of Android Studio**
   - Following are some interesting features of Android Studio:
   - It provides a flexible Gradle-based build system.
   - It also support C++ and NDK
   - Run your app without building a new APK.
   - Provides a virtual device to run and test your app
3. **Installation**
   - Follow steps below for complete installation and configuration of Android Studio.
     Step 1) Download Android Studio
     You can download Android Studio from this link or go to developer.android.com homepage and search for downloads. Choose appropriate platform either for Windows, Mac or Linux. Following are the pre requirements for windows operating system.
     ->Pre-requirements
     Microsoft windows 7/8/10 (32 or 64 bits)
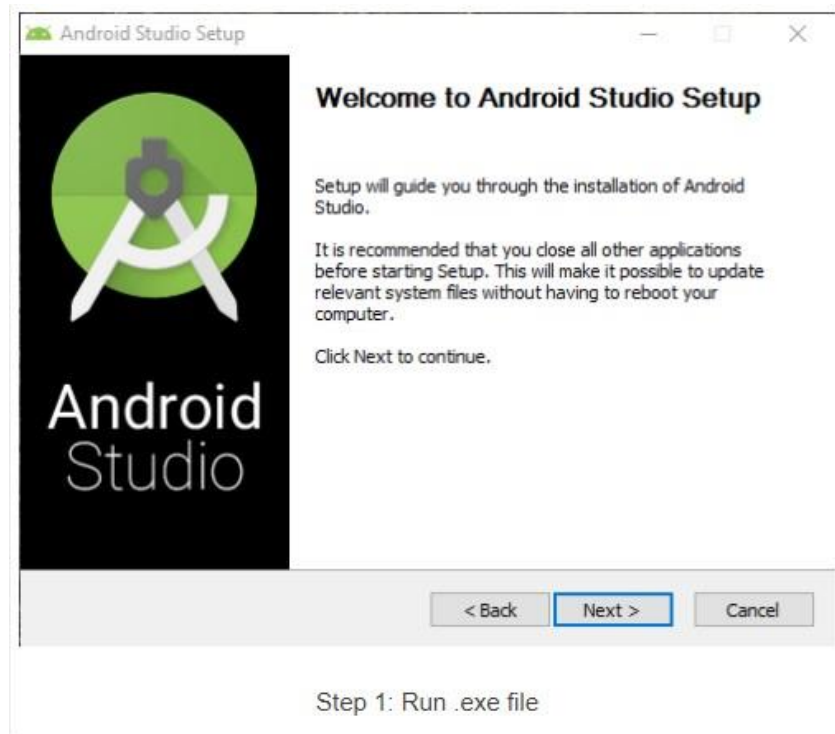   Minimum 3GB RAM (recommended 8GB)
     2GB disk space
     1280 x 800 minimum screen resolution size
     Intel processor for accelerated emulator
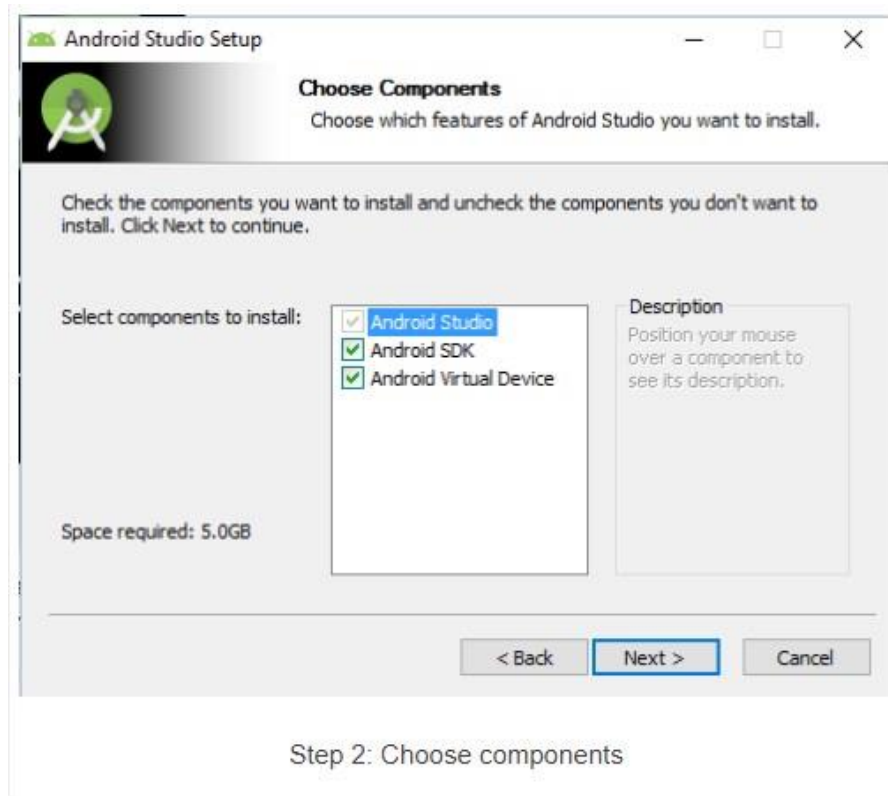   Android SDK
     Step 2) Run .exe file
     Now the next step is to launch .exe file you just download. Following screen will appear
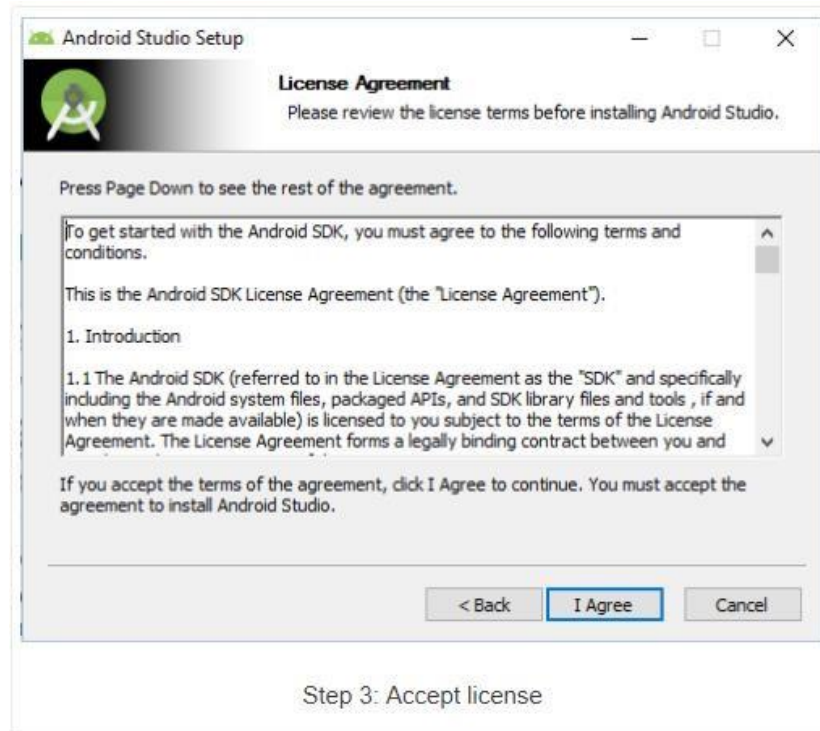
Step 1: Run .exe file

Click next and select Android SDK checked if you dont have it already. Better is to leave the default settings.

Make sure Android virtual device is also checked.
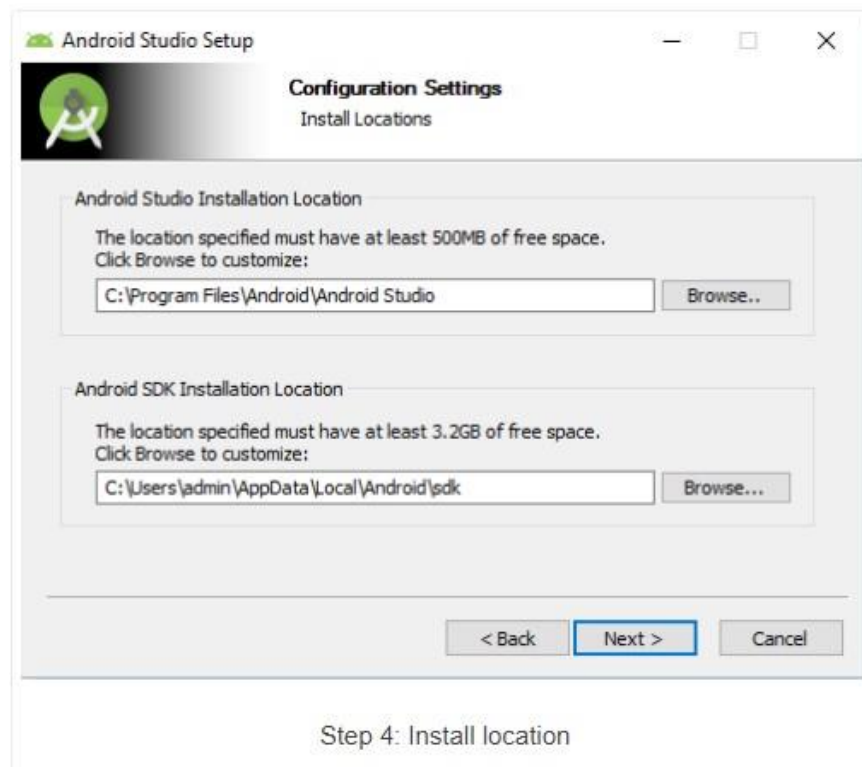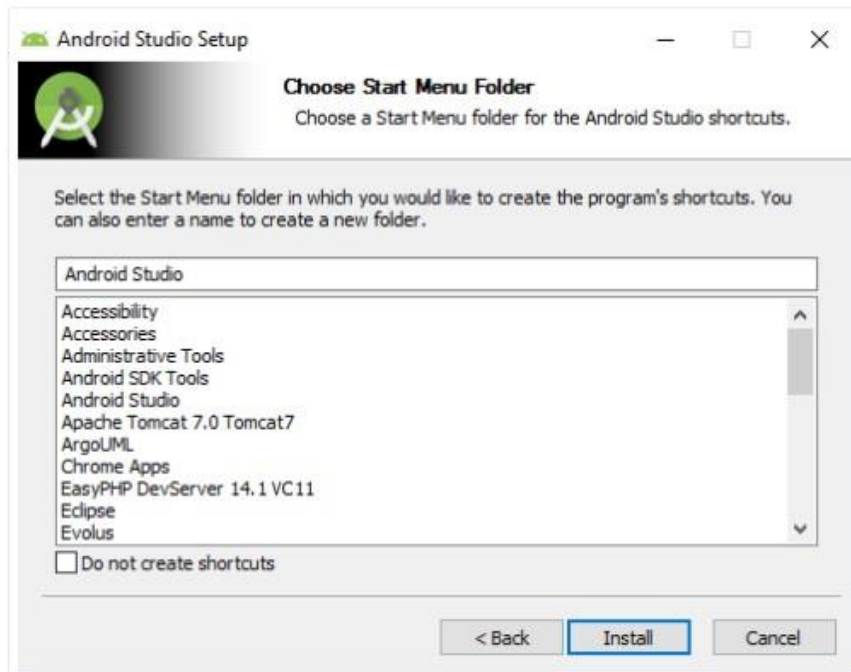

Step 2: Choose components

Next step is to accept license and agreement. Click on I Agree

Android Studio Setup   —   □   ×

License Agreement
Please review the license terms before installing Android Studio.

Press Page Down to see the rest of the agreement.

To get started with the Android SDK, you must agree to the following terms and
conditions.

This is the Android SDK License Agreement (the "License Agreement").

1. Introduction

1.1 The Android SDK (referred to in the License Agreement as the "SDK" and specifically
including the Android system files, packaged APIs, and SDK library files and tools , if and
when they are made available) is licensed to you subject to the terms of the License
Agreement. The License Agreement forms a legally binding contract between you and

If you accept the terms of the agreement, click I Agree to continue. You must accept the
agreement to install Android Studio.

< Back   I Agree   Cancel

Step 3: Accept license

Next step is to set location of installation. Please make sure your disk has minimum
required space before clicking on Next. For Android Studio installation location must have
at least 500MB free space. For Android SDK installation, selected location must have at
least 3.25GB free space.

Android Studio Setup   —   □   ×

Configuration Settings
Install Locations

Android Studio Installation Location

The location specified must have at least 500MB of free space.
Click Browse to customize:

C:\Program Files\Android\Android Studio   Browse..

Android SDK Installation Location

The location specified must have at least 3.2GB of free space.
Click Browse to customize:

C:\Users\admin\AppData\Local\Android\sdk   Browse...

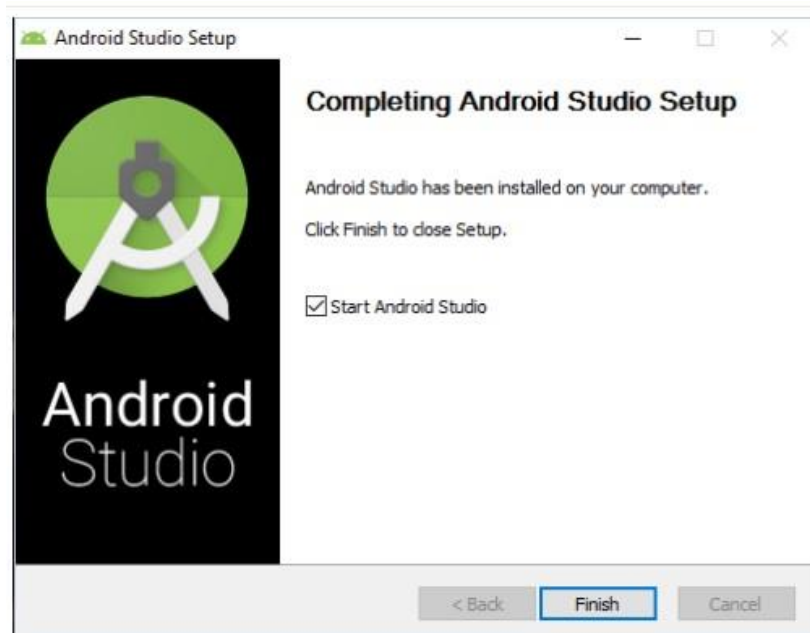< Back   Next >   Cancel

Step 4: Install location

Next step is to choose the start menu folder, where you want to create shortcut. If you dont want to create a shortcut just mark Do not create shortcut.

Step 5: Choose start menu folder

And hit Install button.
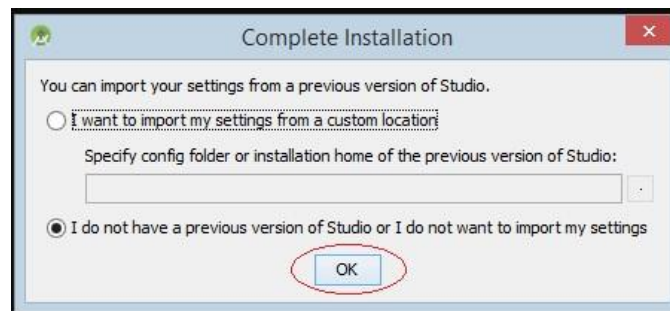It will start installation. Once its done following window will appear.

Step 6: Finish

This informs you installation has completed. Click Finish. Make sure Start Android Studio is checked. Following splash screen of Android Studio will appear.
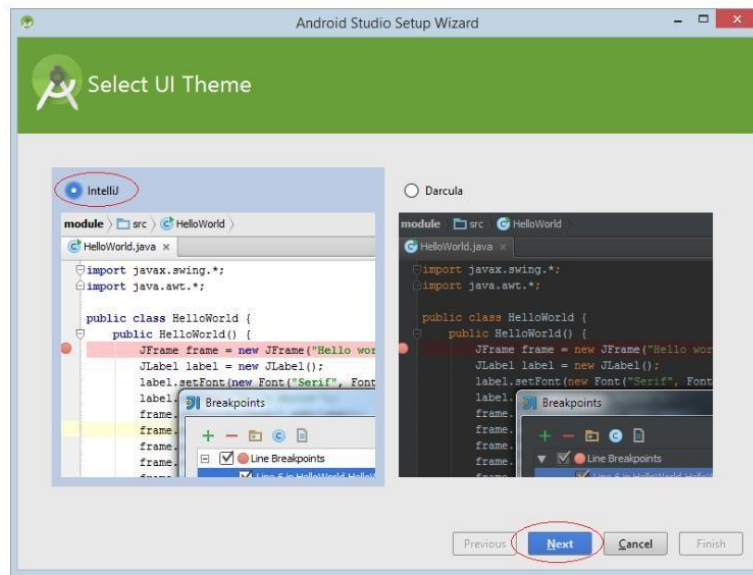
Step 7: Android Studio Splash Screen

Step 3) Configure Android Studio
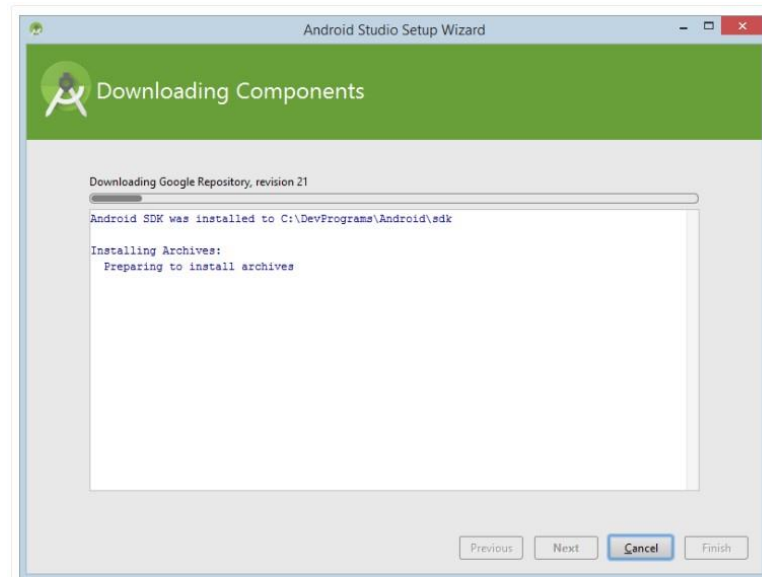When you run it for the first time it will ask for Android Studio settings.

If you don't have any previous settings click on the second option Select a theme and click next.
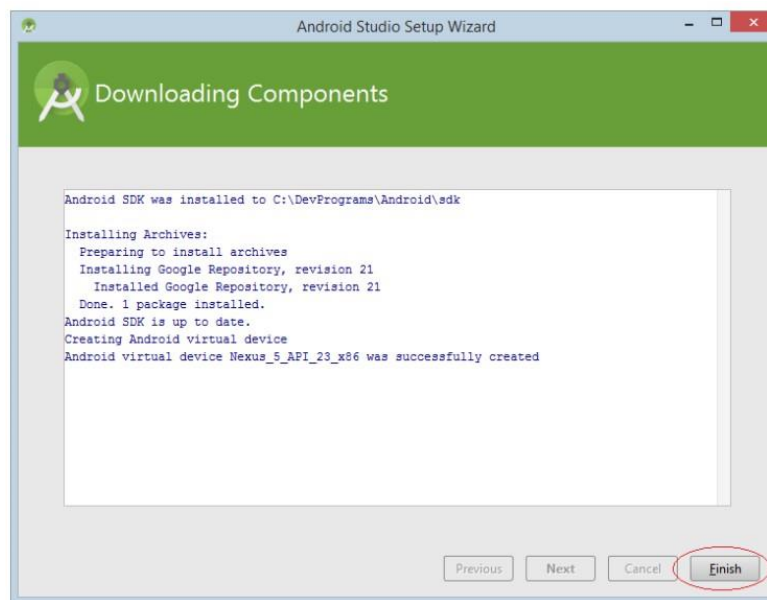
Step 9: Select theme

At the very first run it needs to download some necessary components, wait till it completes. And its all done.

Step 10: Download components

Step 11: Done

Click on Finish and start building your Android apps.

4. Gradle

   • Gradle implements a concept referred to as convention over configuration. This simply means that Gradle has a pre-defined set of sensible default configuration settings that will be used unless they are overridden by settings in the build files. This means that builds can be performed with the minimum of configuration required by the developer. Changes to the build files are only needed when the default configuration does not meet your build needs.

5. SDK

- The Android SDK (software development kit) is a set of development tools used to develop applications for Android platform. The Android SDK includes the following:
  - o Required libraries o Debugger o An emulator
  - o Relevant documentation for the Android application program interfaces (APIs) o Sample source code
  - o Tutorials for the Android OS

6. AVD
  - An Android Virtual Device (AVD) is a configuration that defines the characteristics of an Android phone, tablet, Wear OS, Android TV, or Automotive OS device that you want to simulate in the Android Emulator. The AVD Manager is an interface you can launch from Android Studio that helps you create and manage AVDs.