# Configuring Android Application Development Environment

## What is Android SDK ?

✓ The Android SDK includes a complete set of development tools. It includes a debugger, libraries, a handset emulator.
✓ Software written in Java can be compiled to be executed in the Dalvik virtual machine, which is a specialized VM implementation designed for mobile device use.
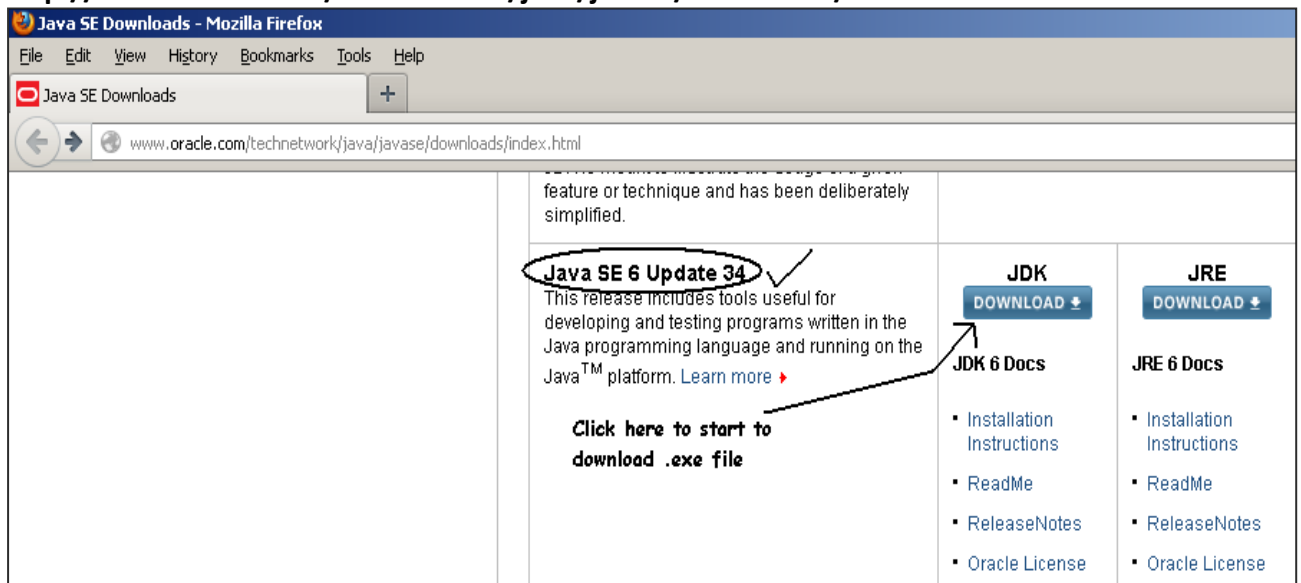
## Required Software to Install Android ?

1. JDK6 Version
2. Android SDK for Windows (if you have Windows OS)
3. Eclipse IDE

## Installing JDK6 (Java Development Kit)

The latest version of jdk is 6, at the time of writing my java tutorial. We can download thejdk from:
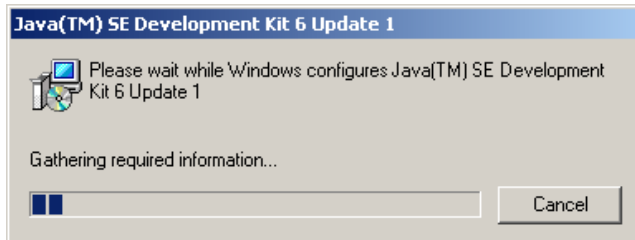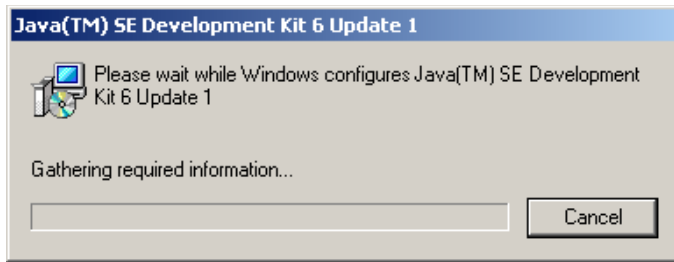**http://www.oracle.com/technetwork/java/javase/downloads/index.html.**



**Step 1.** Once we download the exe file we can now install it. Just follow what i mentioned below: To install the jdk, double click on the downloaded exe file (jdk-6u1-windows-i586-p.exe) Double Click the icon of downloaded exe from the downloaded location.
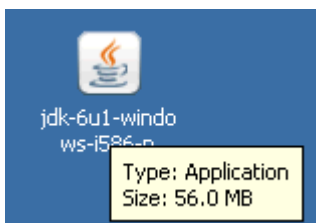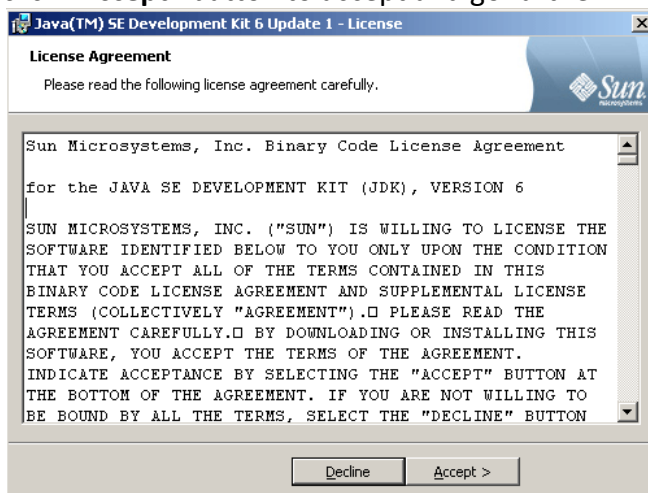


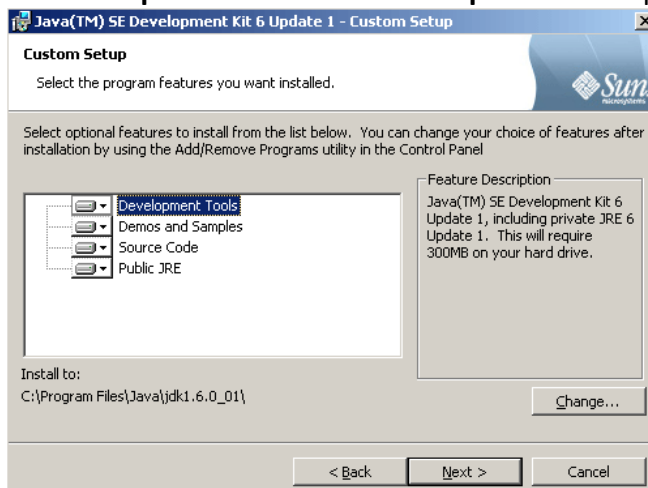You will see jdk 6 update 1 window as shown below.

**Step 2:** Now a "**License Agreement**" window opens. Just read the agreement and click "**Accept**" button to accept and go further.
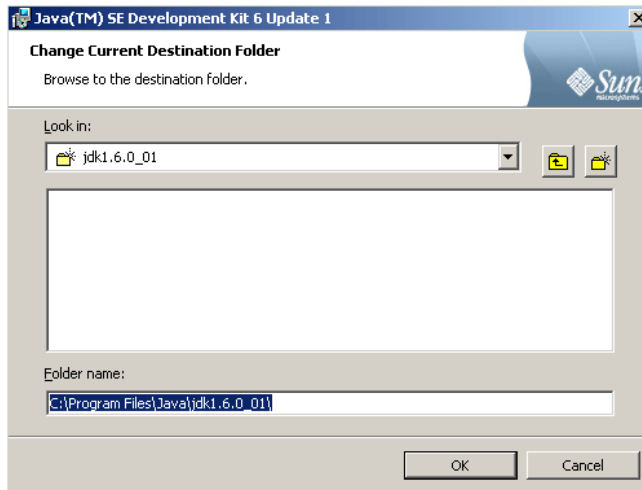


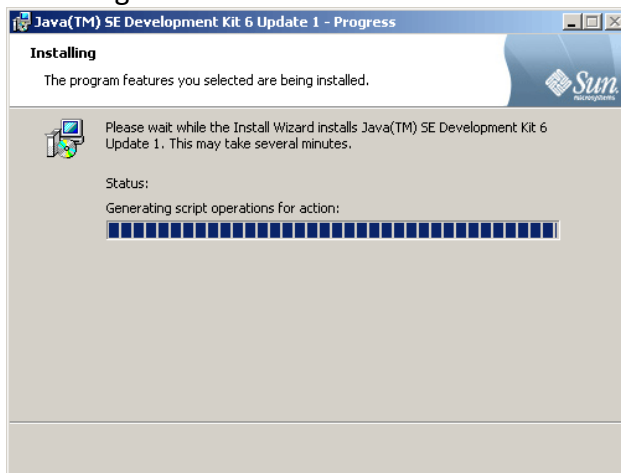**Step 3:** Now a **"Custom Setup"** window opens.



**Step 4:** Click on **"Change"** button to choose the installation directory. Here it is **"C:\Program Files\ Java\jdk1.6.0_01"**. Now click on **"OK"** button.
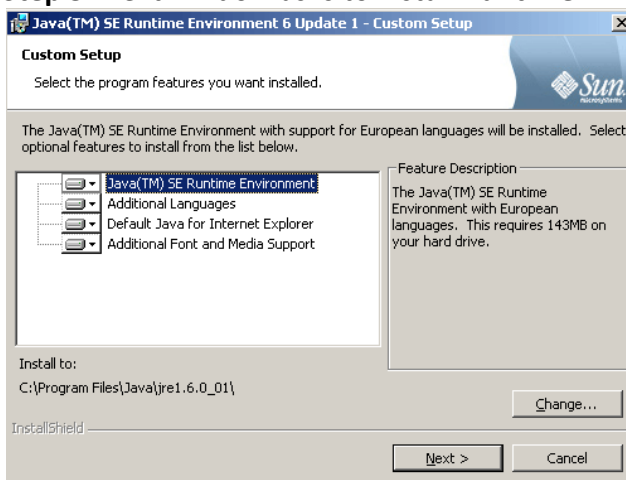
Clicking the **"OK"** button starts the installation. It is shown in the following figure.
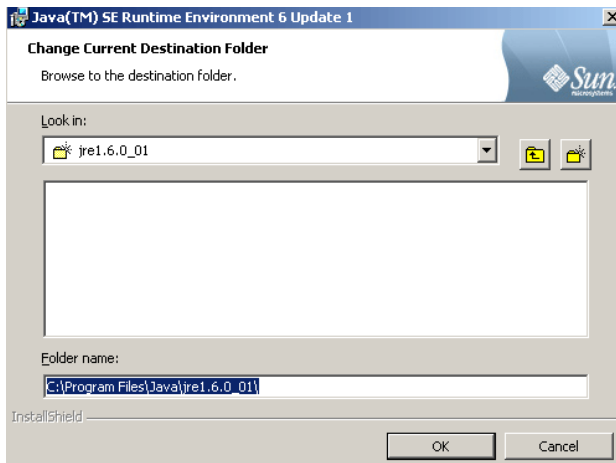


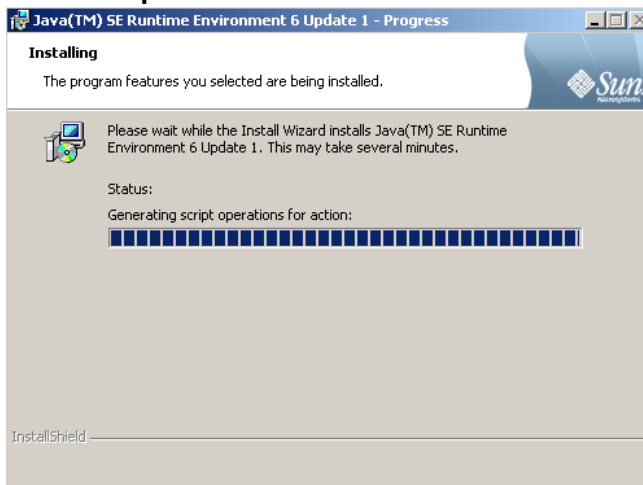**Step 5:** Next window asks to install **Runtime Environment**.



Click the **"Change"** button to choose the installation directory of Runtime Environment. We prefer not to change it. So click **"OK"** button.
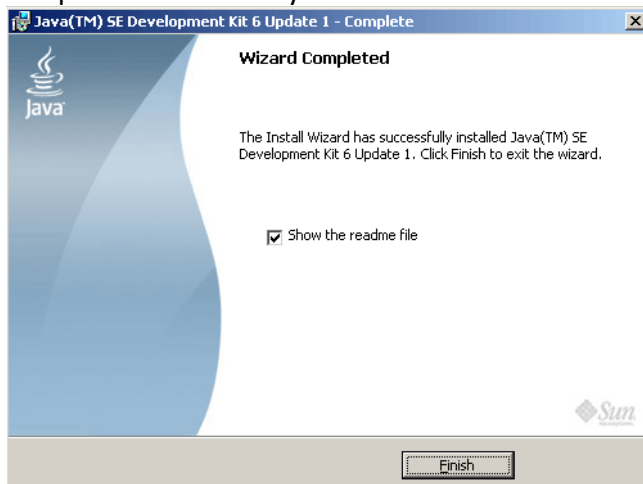
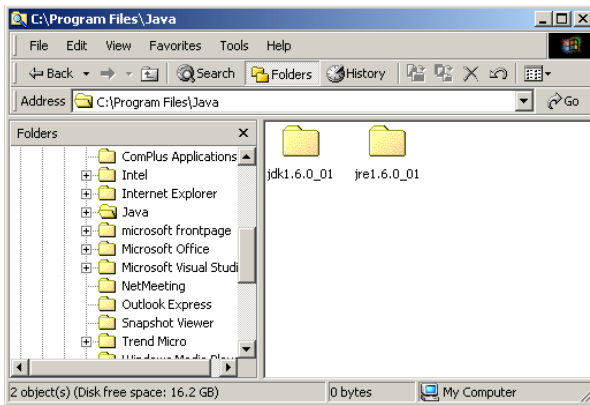**Step 6: Click "OK"** button starts the installation.



**Step 7:** Now **"Complete"** window appears indicating that installation of jdk 1.6 has completed successfully. Click **"Finish"** button to exit from the installation process.
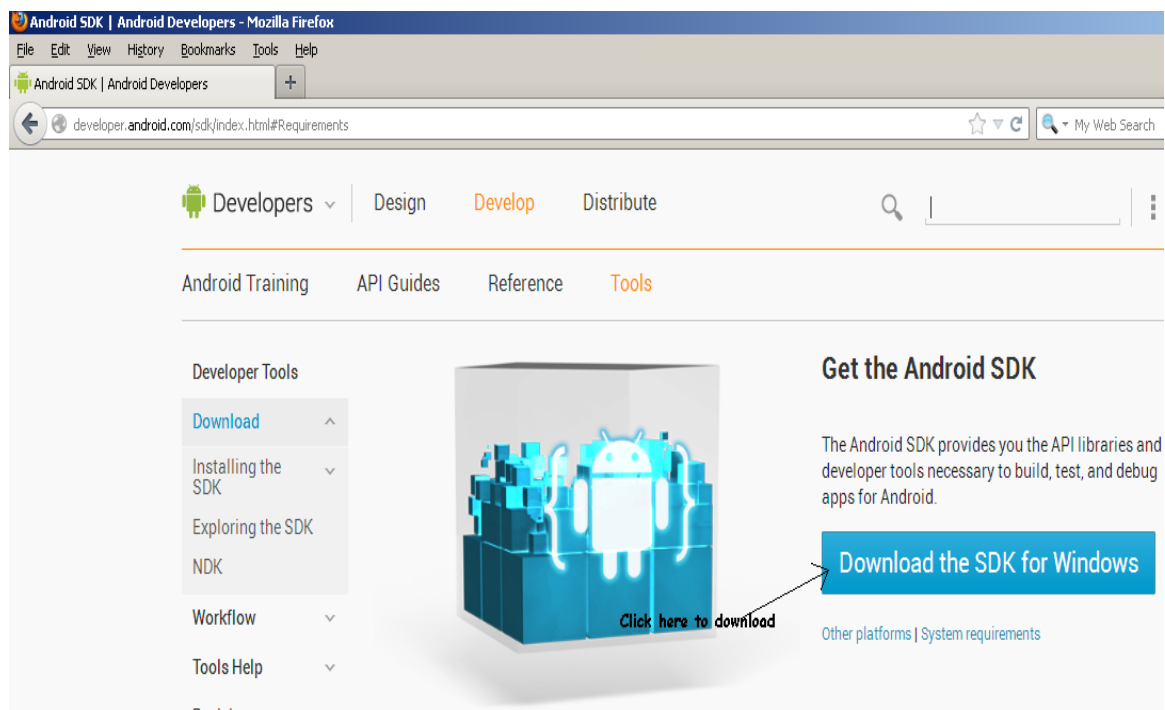


**Step 8:** The above installation will create two folders **"jdk1.6.0_01"** and **"jre1.6.0_01"** in **"C:\ Program Files\ java"** folder.

## Installing Android SDK Tools &API ?

**Step-1)** Download Android SDK from http://developer.android.com/sdk/index.html, as I shown below.



We will get the downloaded exe file , as
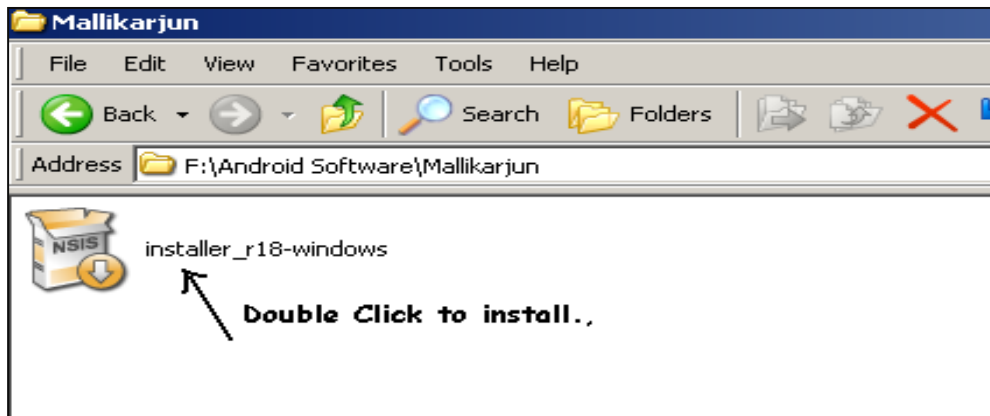
**Step-2)** Double click on SDK Installer.exe file to install





Click on **Next** button
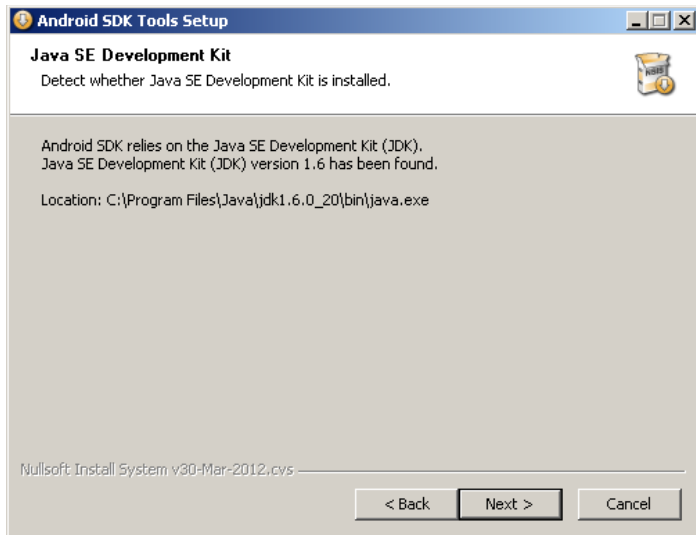
Click on **Next** button
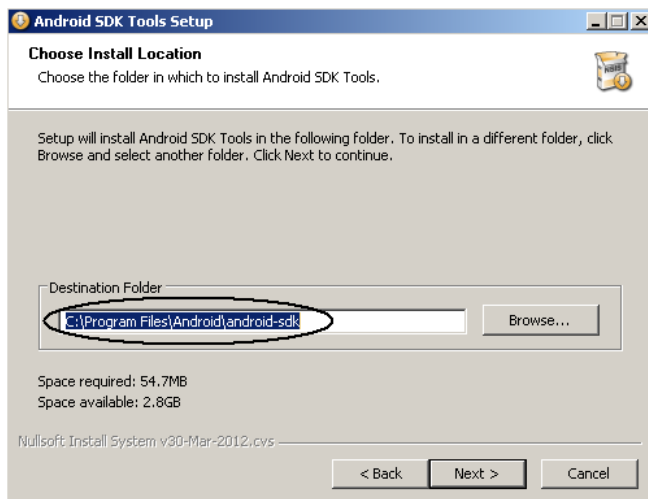


**Step-3)** Ensure Destination Folder, and click on Next button
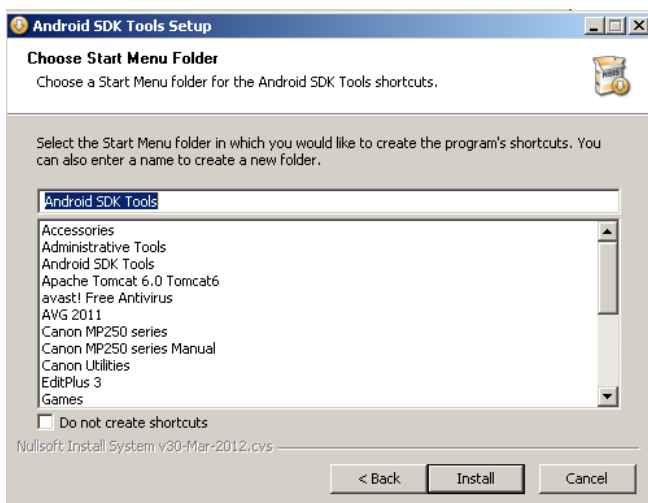
Click on **Install** Button
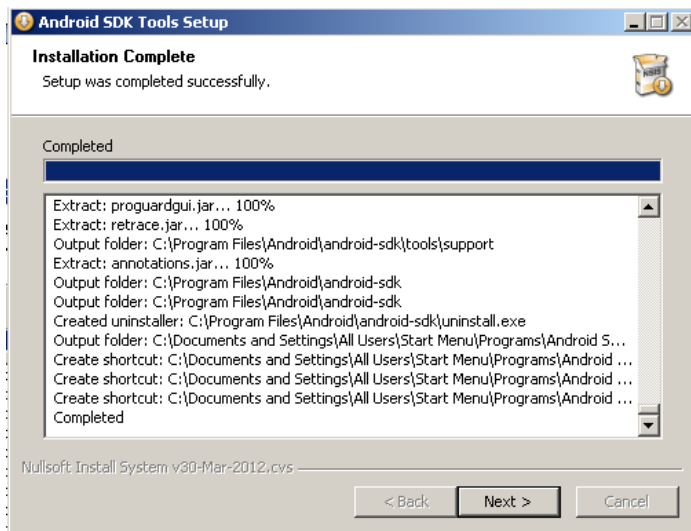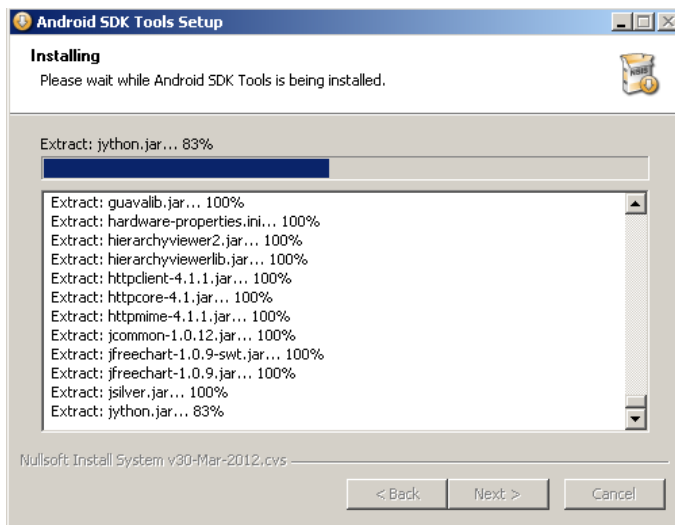




Click on **Next** button
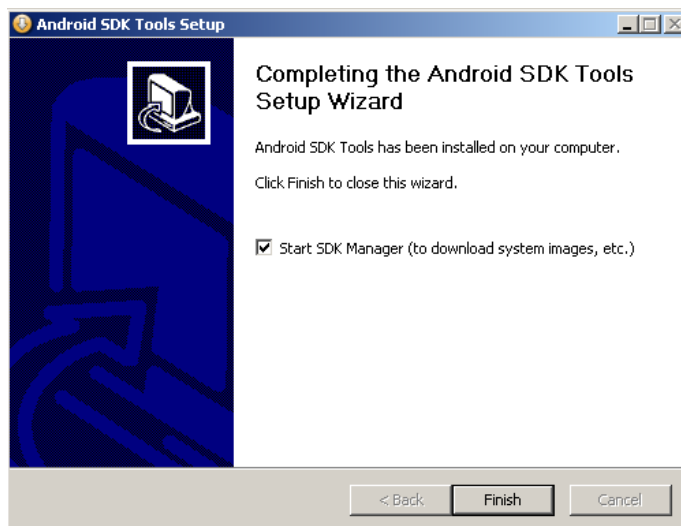
Click on **Finish** button

**Step-4)**Installing Android SDK tools and Android API Levels.

Ensure the following installed Android SDK location in file system, and click on SDK manager from the **android-sdk** directory.
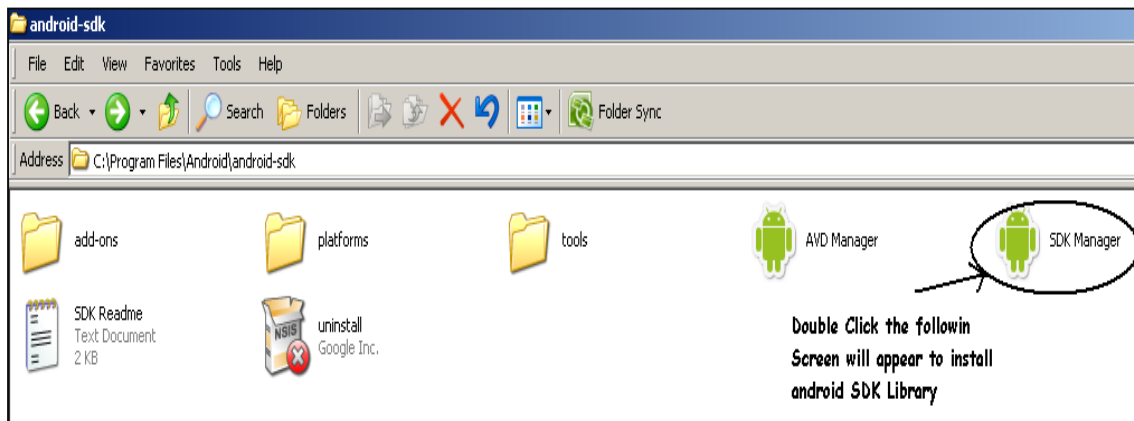


It opens the following window,

**Step-5)** This step is very important , from the following Window, select tools, API Levels like API15, API 10, ..etc , and also select  Extras-> Google USB Driver package for USB Connections with real device.
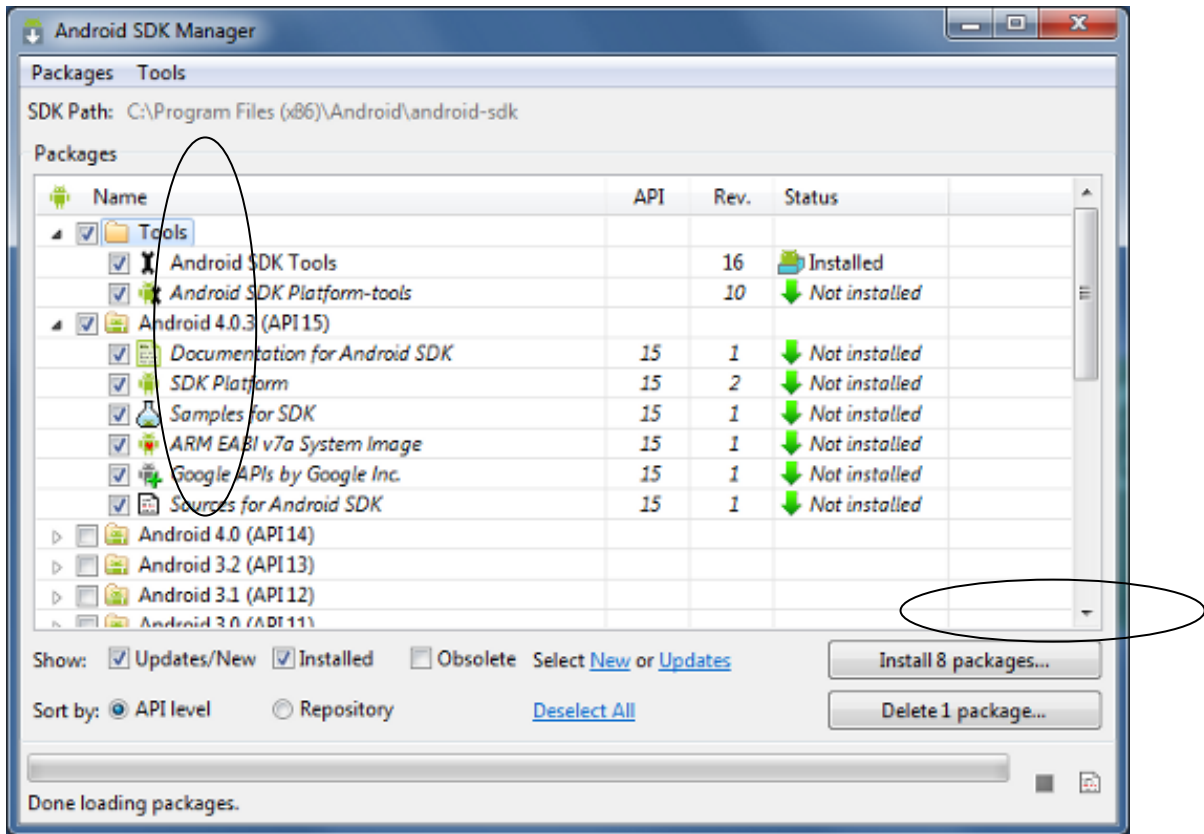
Click on **Install** XX Packages button.
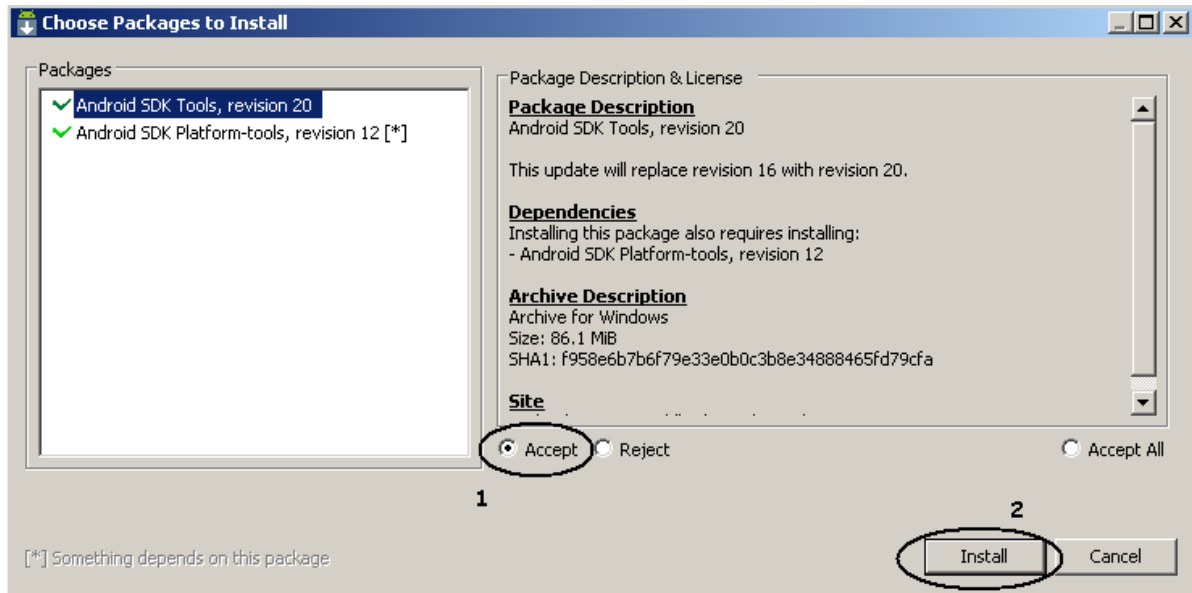


Be patient Installation will start will take more time..

## Installing Eclipse & Configuring Android Plugin for Eclipse :

## Configuring Android Tools for Eclipse:

**Step-1)** Download eclipse software from **www.eclipse.org\downloads**location.



**Step-2)** Confirm the downloaded .zip file location, and decompress using either winzip (or) winrar software.
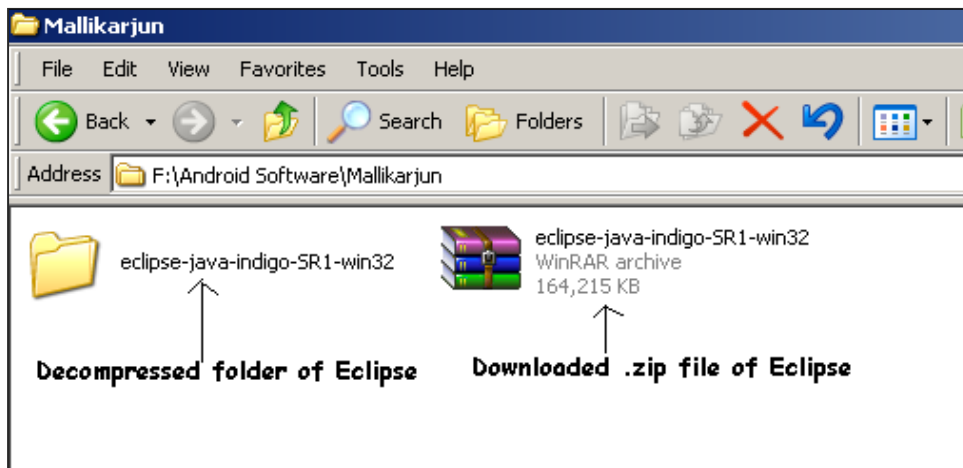


**Step-3)** Open Eclipse.exe file, from the file system location.

**Step-4)** Configruing the ADT Plugin :

- Start Eclipse, then select **Help**>**Install New Software**.
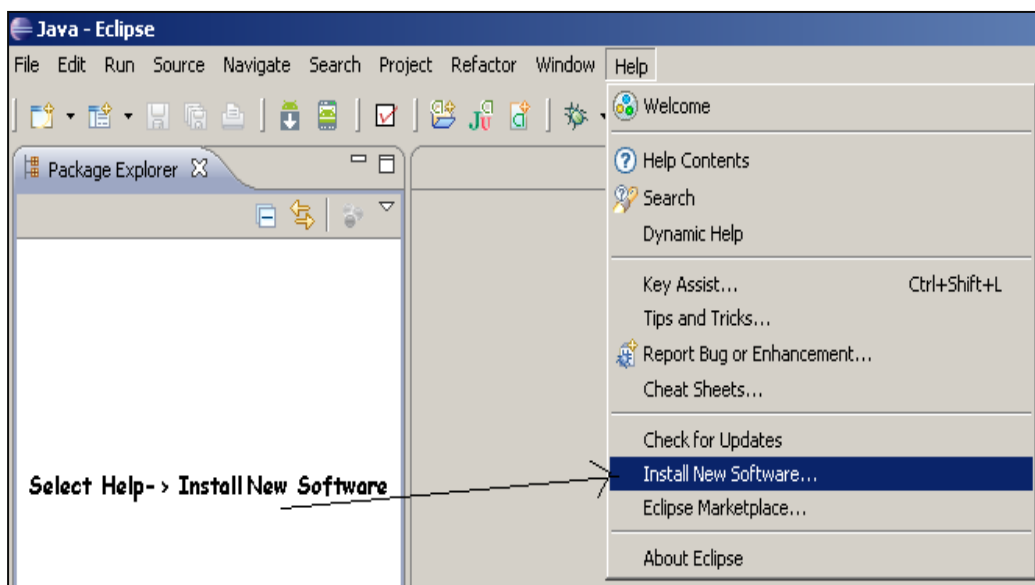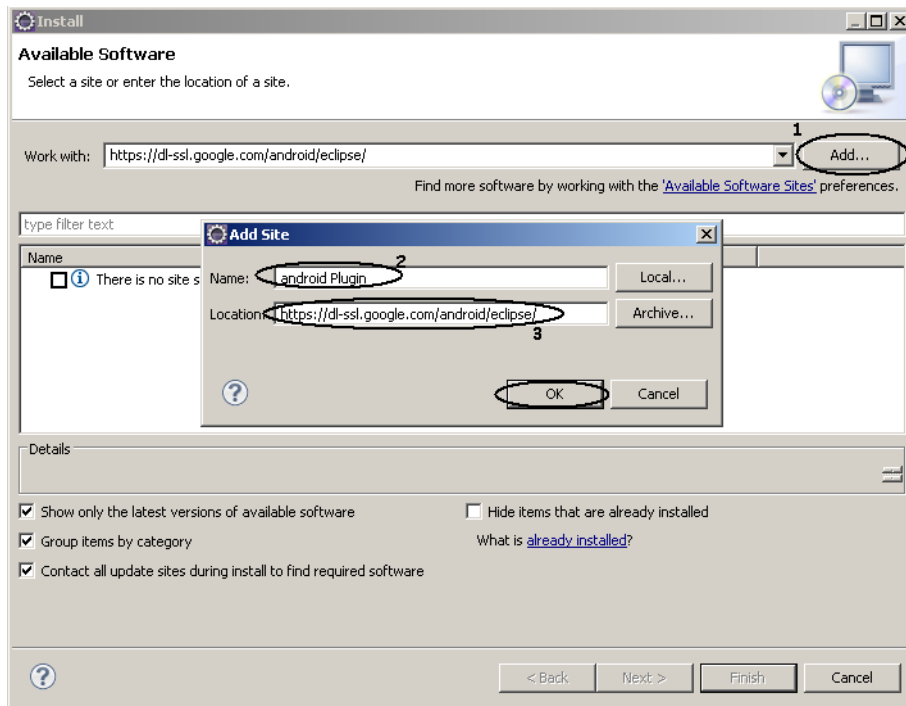
- Click **Add**, in the top-right corner.
- In the Add Repository dialog that appears, enter "ADT Plugin" for the *Name* and the following URL for the *Location*:

https://dl-ssl.google.com/android/eclipse/

- Click **OK**.

If you have trouble for the plugin, try using "http" in the Location URL, instead of "https" (https is preferred for security reasons).
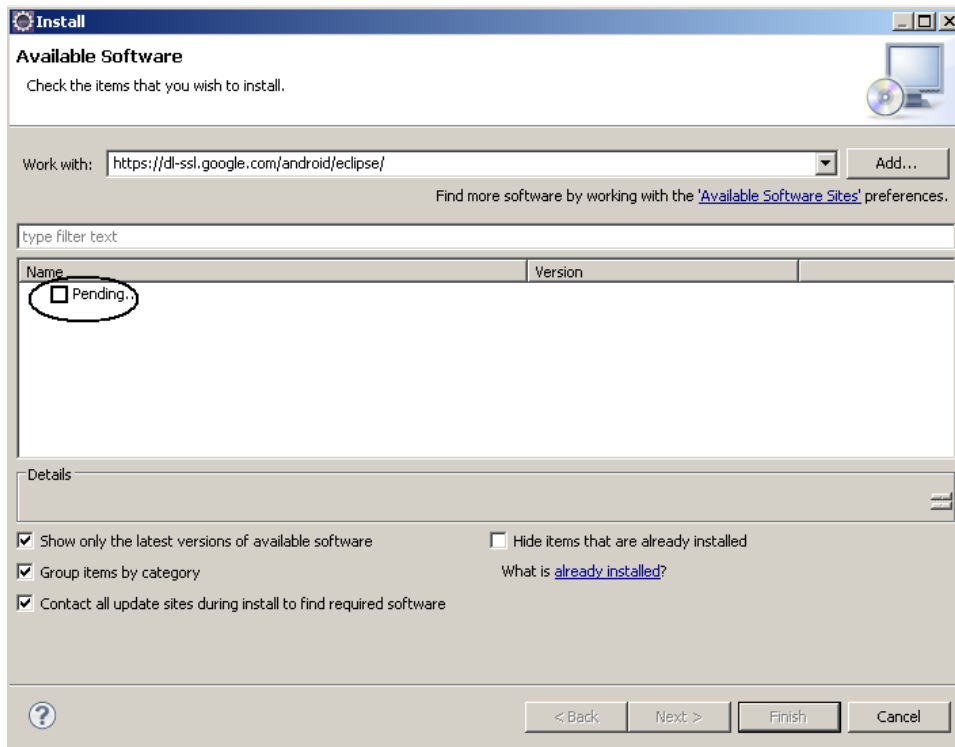
- In the Available Software dialog, select the checkbox next to Developer Tools and click **Next**.
- In the next window, we'll see a list of the tools to be downloaded. Click **Next**.
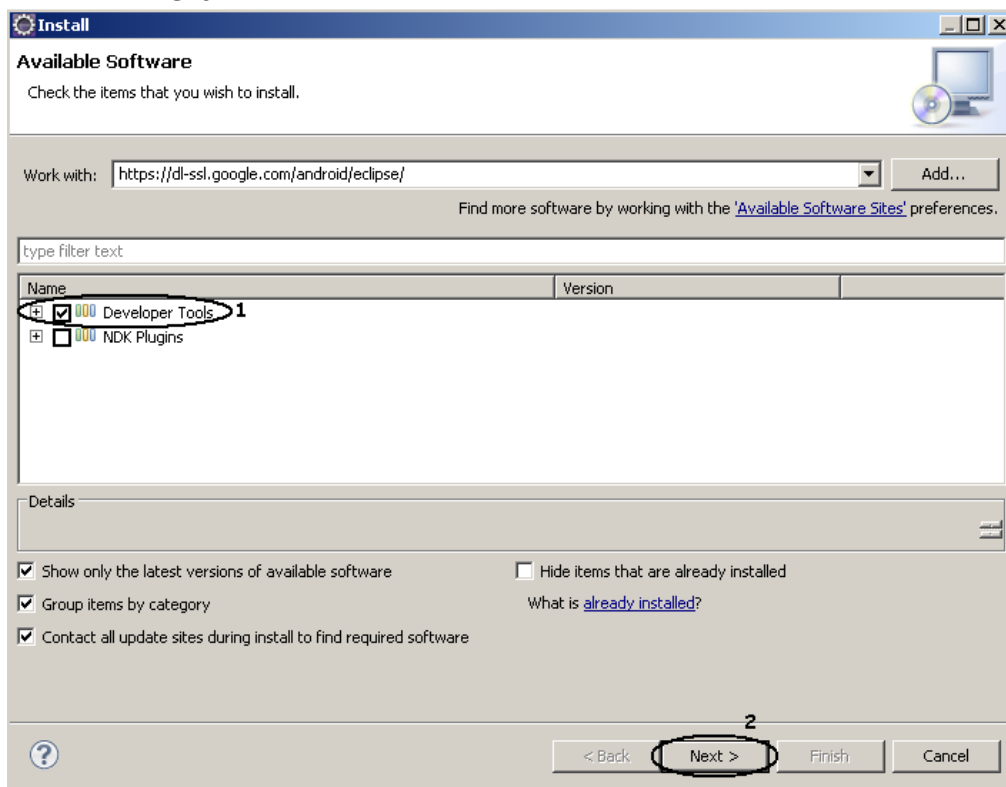
- Click on "Next" button
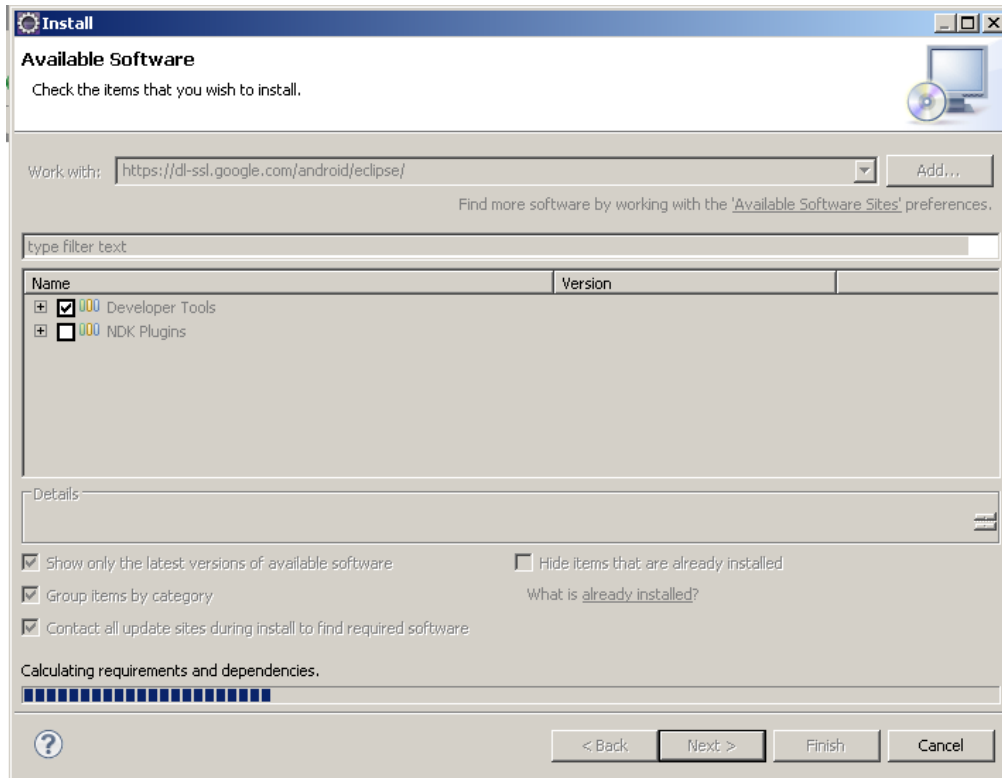


- Read and accept the license agreements, then click **Finish**.
- If you get a security warning saying that the authenticity or validity of the software can't be established, click **OK**.
- When the installation completes, restart Eclipse.

## Configuring the ADT Plugin for Eclipse :

After we've installed ADT and restarted Eclipse, we must specify the location of our Android SDK directory:

1. Select **Window**>**Preferences...** to open the Preferences panel (on Windows OS X, select **Eclipse**>**Preferences**).
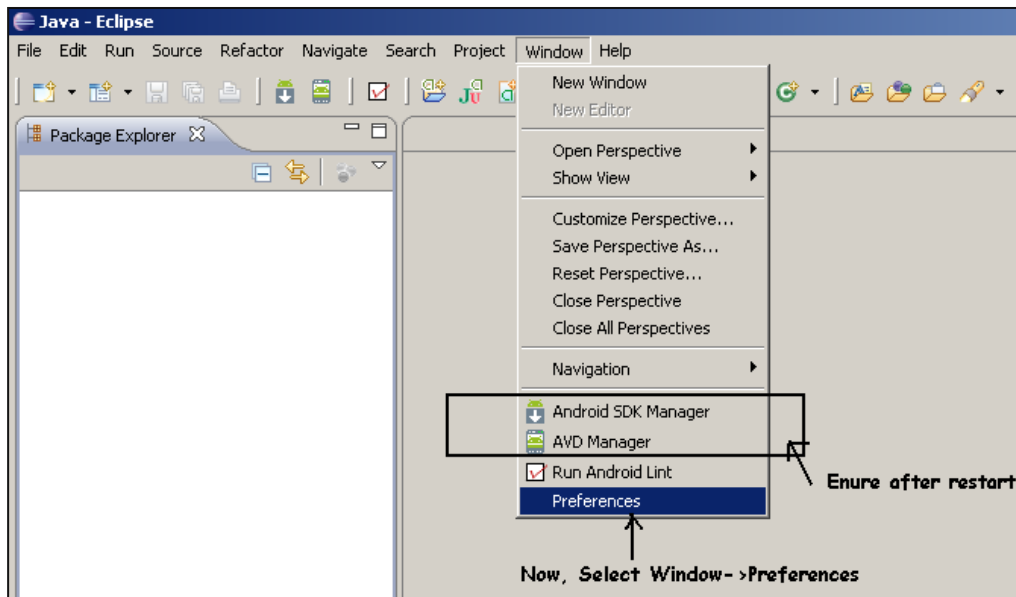
2. Select **Android** from the left panel.
   You may see a dialog asking whether you want to send usage statistics to Google. If so, make your choice and click **Proceed**.

3. For the *SDK Location* in the main panel, click **Browse...** and locate your downloaded Android SDK directory (such as android-sdk-windows).

4. Click **Apply**, then**OK**.
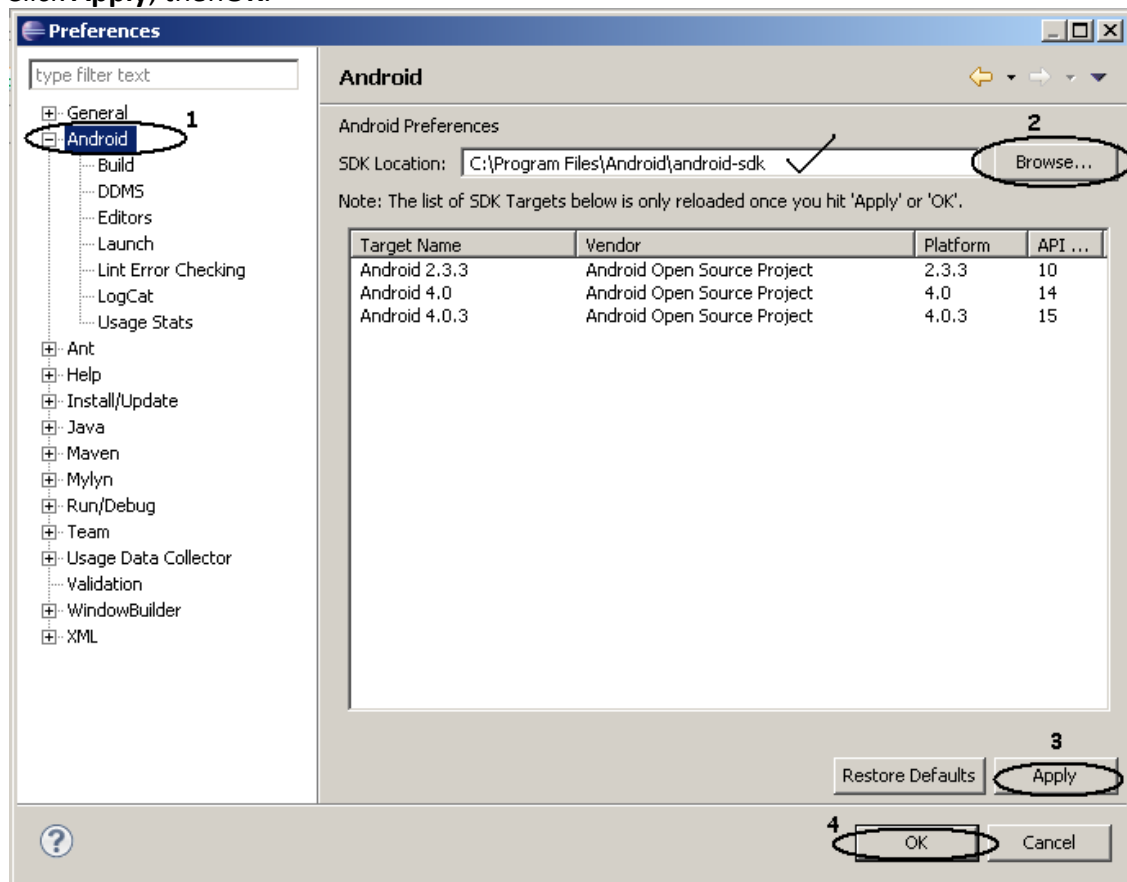
**Note** :"With this your Android Installation part is completed, we can configure Android plugin for other IDE's like Netbeans, IntelliJ IDE also. "

## What is AVD ? How to Configure AVD?

✓ AVD, stands Android Virtual Device, AVD's are used to start emulator. When we launch the emulator, we should specify the AVD configuration that we want to load..
✓ Before Configuring AVD, first confirm SDK tools and API levels are installed or not !
✓ Then select AVD Manager from **Window -> AVD Manager**.
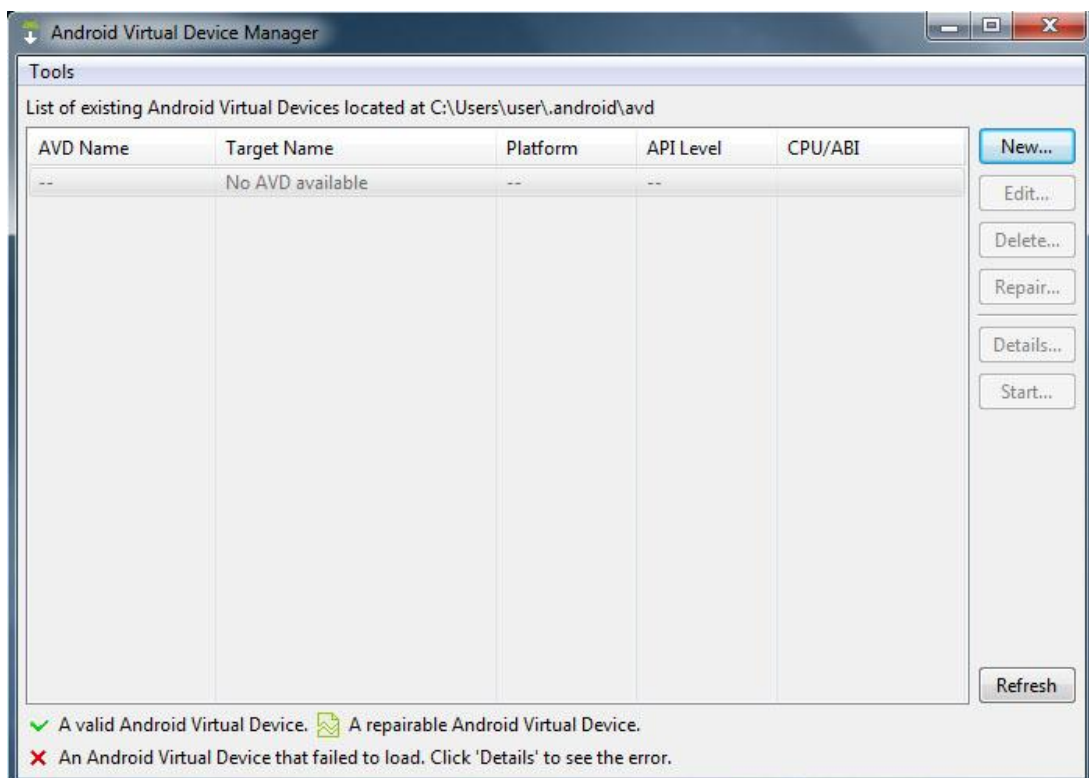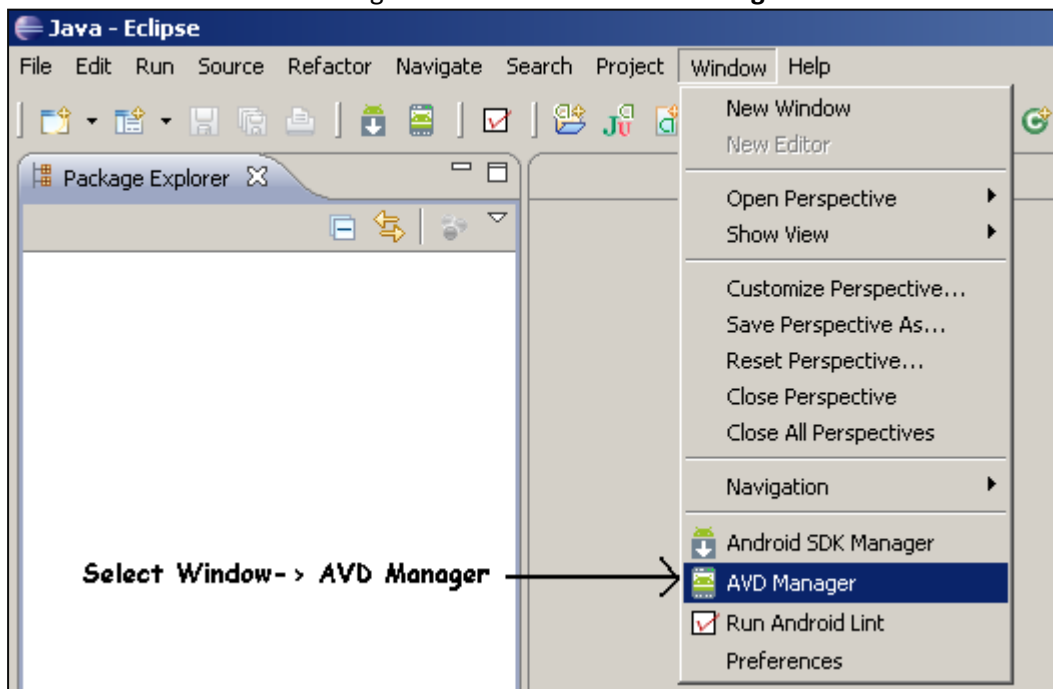
✓ Click **New...** button, name your new AVD, select API target, SD Card size, then click **Create AVD** button.



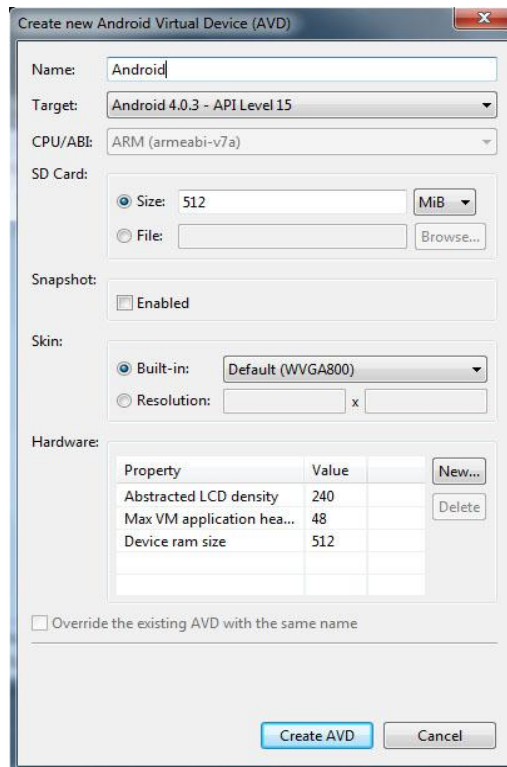✓ Click **Start...** button to start your new AVD. It will takes a few minutes for creating new AVD.
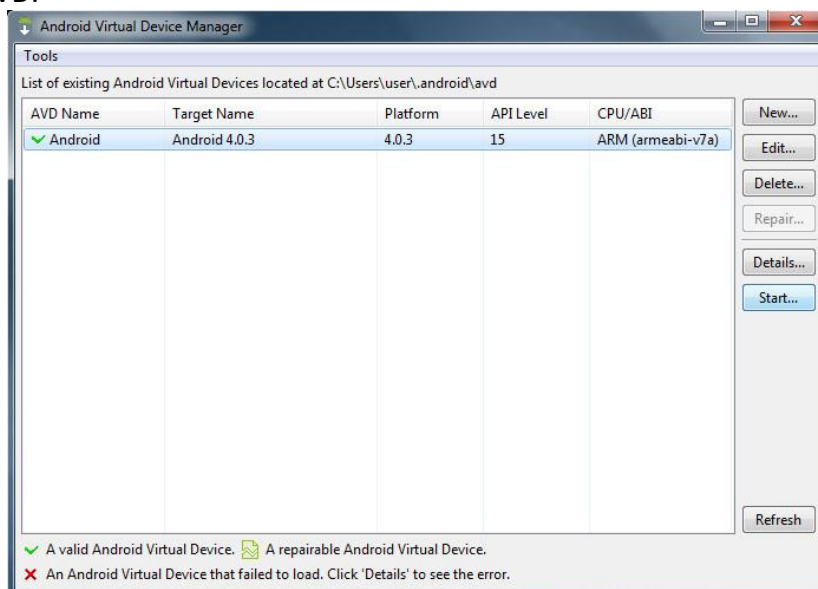


# What is Emulator ? How to Start ?

✓ The emulator lets you prototype, develop and test Android applications without using a physical device.

- ✓ To use the emulator, first we must create AVD configuration, Remember, If project is used with Android API15 level , then we should use AVD API level also 15.
- ✓ Every Emulator needs one AVD support, because the AVD configuration provides both software and hardware support for Emulator, like it can use the services of the Android platform to invoke other applications, access the network, play audio and video, store and retrieve data, notify the user, and render graphical transitions and themes.
- ✓ The emulator also includes a variety of debug capabilities.
- ✓ The emulator provides dynamic binary translation of device machine code to the OS and processor architecture of your development machine.
- ✓ The Android emulator contains all of the hardware and software features of a real mobile device, except that it cannot place actual phone calls, can't carry.
- ✓ Emulator provides a screen like as real device to display output of our testing application, using this we can easily test our applications.