

# Developing Android Applications to Digitize Your Life!

## Getting started

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**Matthieu Deru, Jens Haupt, Dominikus Heckmann,  
Alexander Kröner, Tim Schwartz**



German Research Center for Artificial Intelligence  
Saarbrücken/Kaiserslautern/Bremen/Berlin  
Tel.: (0681) 58775-5395  
Email: [Alexander.Kroener@dfki.de](mailto:Alexander.Kroener@dfki.de)  
[www.dfki.de/~kroener](http://www.dfki.de/~kroener)

# Requirements

1. Installing the JDK
2. Installing the IDE/Eclipse
3. Installing the SDK / AVD
4. Configuration of the AVD
5. Launching the Emulator
6. Connecting your mobile phone
7. „Hello World“ !
8. Sensor Simulation

# Step 1: Installing a JDK

- Do you have a JDK installed on your computer?
  - Yes! You're ready to install Eclipse
  - No? Install the JDK from  
<http://www.oracle.com/technetwork/java/javase/downloads/>



# Step 2: Installing the IDE / Eclipse

- <http://www.eclipse.org/>  
Choose the latest Eclipse built
- Eclipse Classic 3.6.1
- or RCP Version will also fit



The screenshot shows the Eclipse Downloads page for Eclipse Helios (3.6.1) Packages for Windows. The page is divided into two tabs: 'Packages' and 'Projects'. The 'Packages' tab is active, and the page title is 'Eclipse Helios (3.6.1) Packages for Windows'. Below the title, there are four rows of download links for different Eclipse IDEs. Each row includes an icon, the name of the IDE, its size, the number of times it has been downloaded, a 'Details' link, and download links for Windows 32 Bit and Windows 64 Bit.

Package Name	Size	Downloaded Times	Details	Windows 32 Bit	Windows 64 Bit
Eclipse IDE for Java Developers	99 MB	471,816	<a href="#">Details</a>	<a href="#">Download</a>	<a href="#">Download</a>
Eclipse Classic 3.6.1	170 MB	355,882	<a href="#">Details</a> <a href="#">Other Downloads</a>	<a href="#">Download</a>	<a href="#">Download</a>
Eclipse IDE for Java EE Developers	206 MB	298,180	<a href="#">Details</a>	<a href="#">Download</a>	<a href="#">Download</a>
Eclipse IDE for C/C++ Developers	88 MB	135,572	<a href="#">Details</a>	<a href="#">Download</a>	<a href="#">Download</a>

# Step 3: Installing the SDK/ AVD

- Installing the SDK (Android SDK and AVD Manager)
- Three versions (Mac/Win/Linux)
- Download the latest SDK (r07)

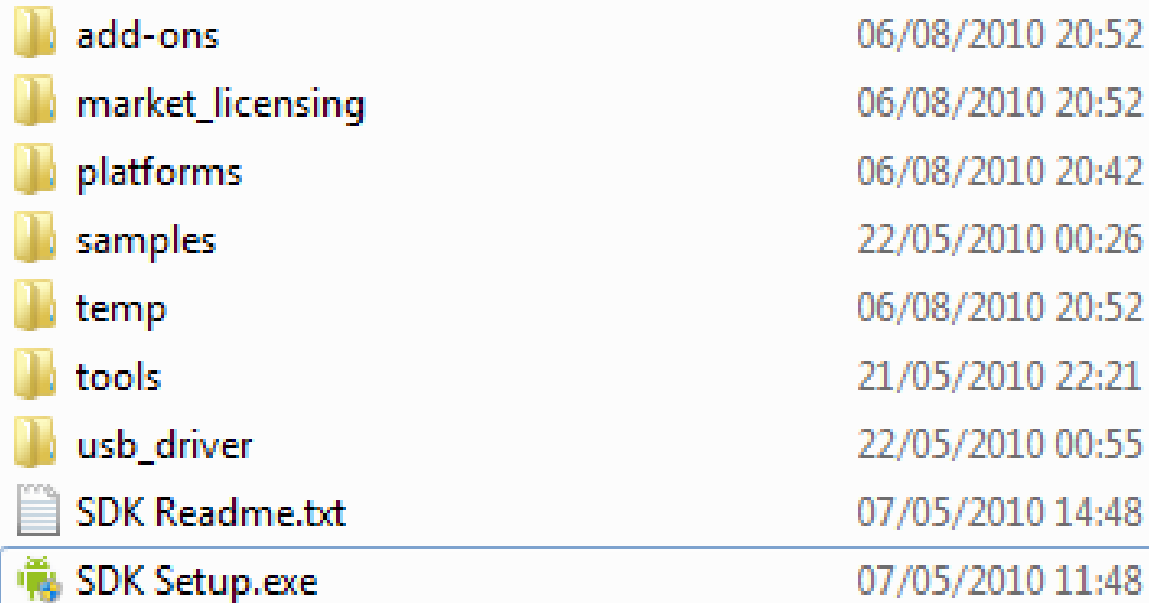
[http://dl.google.com/android/android-sdk\\_r07-windows.zip](http://dl.google.com/android/android-sdk_r07-windows.zip)

- Unpack it to a directory of your choice

<http://developer.android.com/sdk/installing.html>

# Step 3-1: Installing the SDK/ AVD

- After unpacking it, you should see the following structure

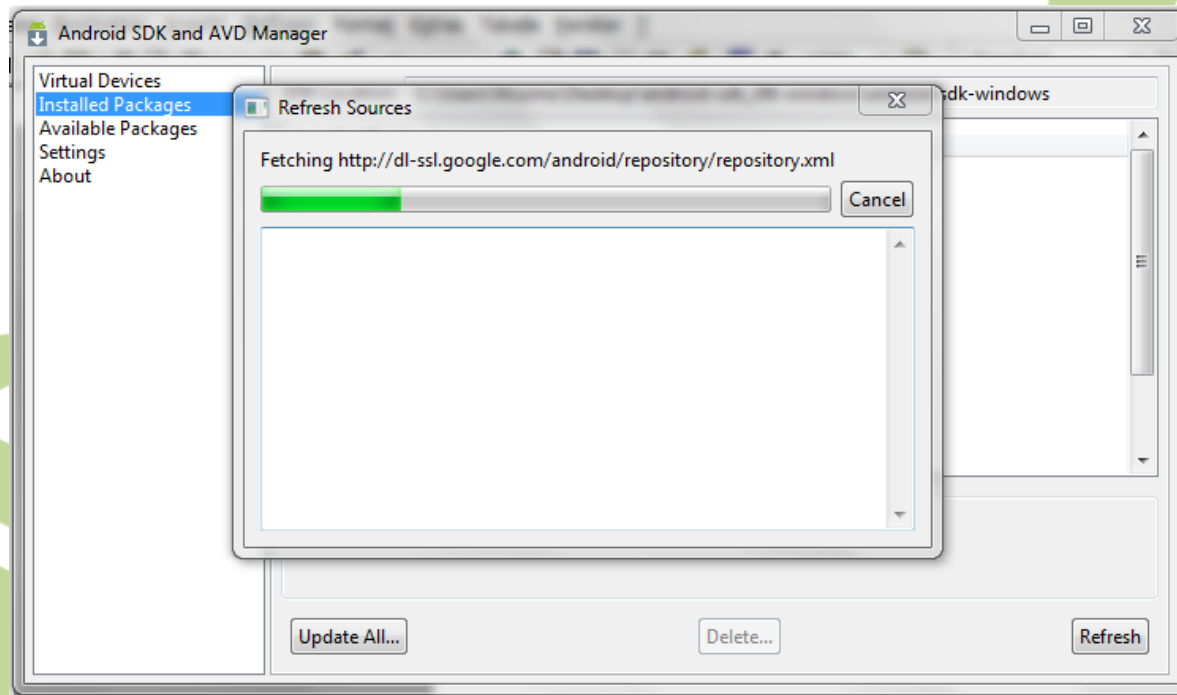


add-ons	06/08/2010 20:52
market_licensing	06/08/2010 20:52
platforms	06/08/2010 20:42
samples	22/05/2010 00:26
temp	06/08/2010 20:52
tools	21/05/2010 22:21
usb_driver	22/05/2010 00:55
SDK Readme.txt	07/05/2010 14:48
<b>SDK Setup.exe</b>	<b>07/05/2010 11:48</b>

- Click on „**SDK Setup.exe**“

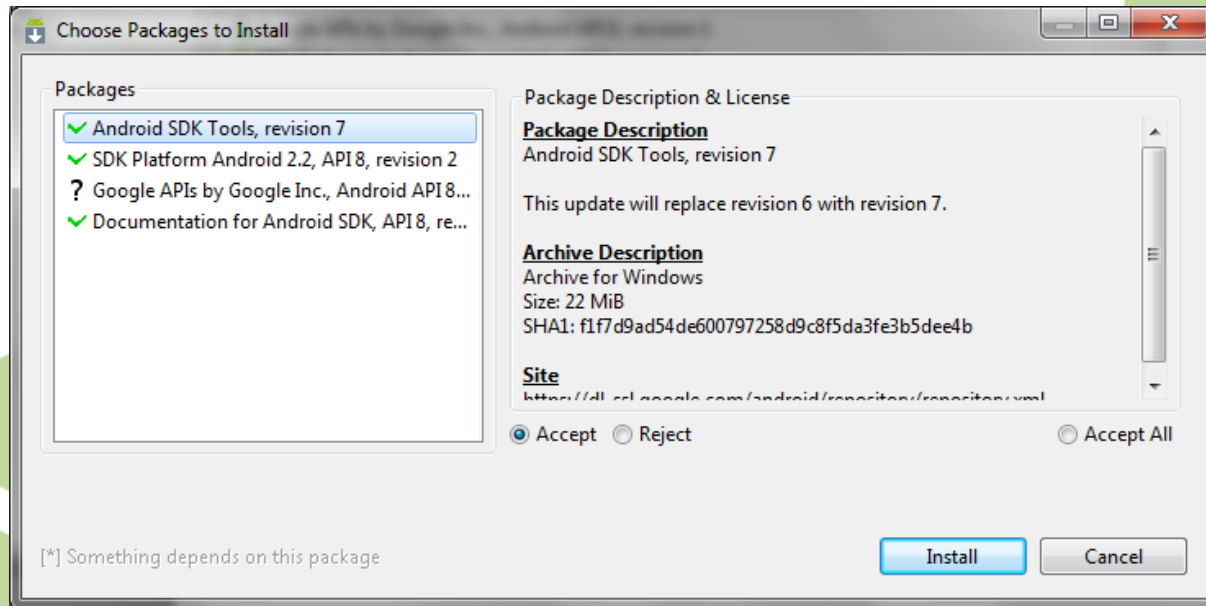
# Step 3-2: Installing the SDK/ AVD

- AVD and SDK will fetch the latest sources from the Google servers



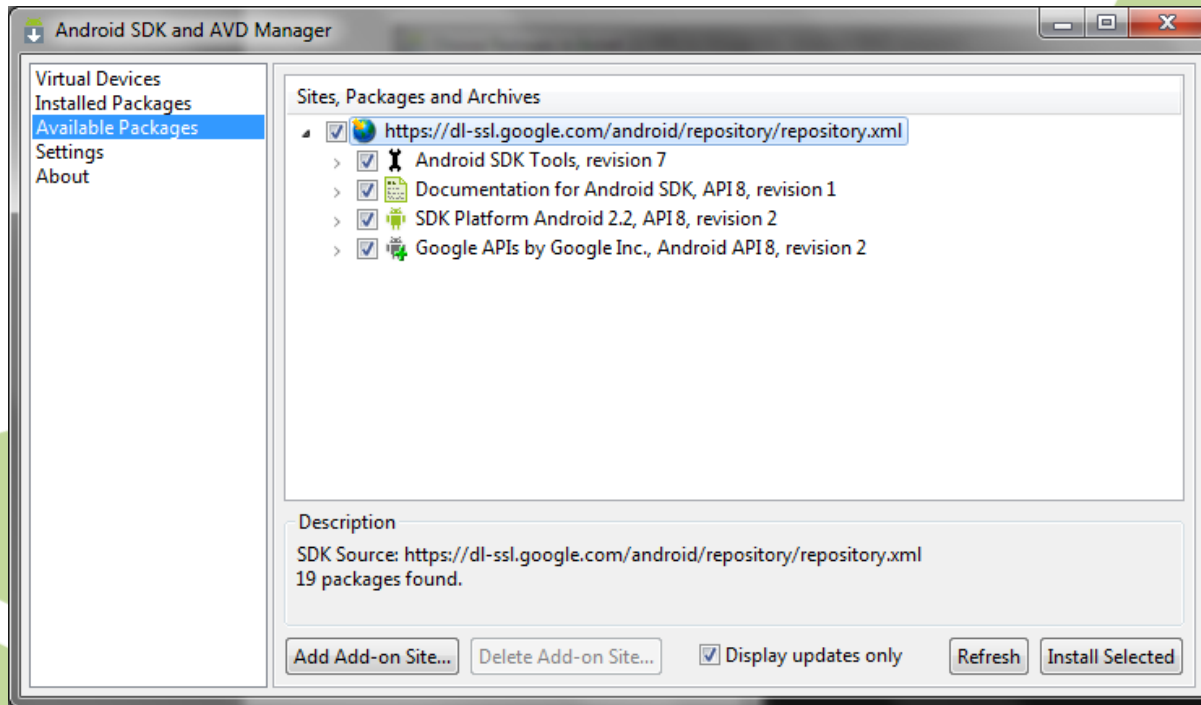
# Step 3-3: Installing the SDK/ AVD

- You can choose packages. For Nexus One target development we recommend „**Android SDK Tools revision 7**“ and „**SDK Platform Android 2.2 API 8, rev 8**“



# Step 3-4: Installing the SDK/ AVD

- Select the checkboxes matching your target configuration and press „Install Selected“



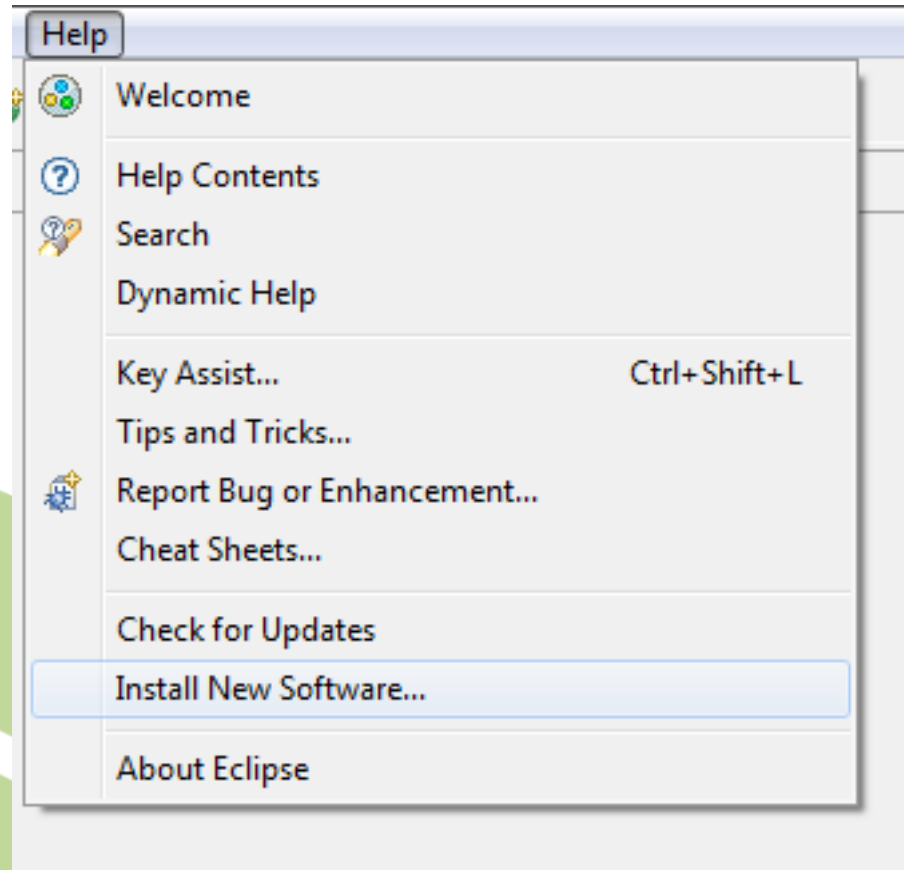
- Once it's done you can close the window

# Step 4-1: Installing the ADT ( Android Development Tools)


- It's a small plugin, that will help you to better organize your Android projects with Eclipse
- Newest is ADT 0.9.9
- *<http://developer.android.com/sdk/eclipse-adt.html>*

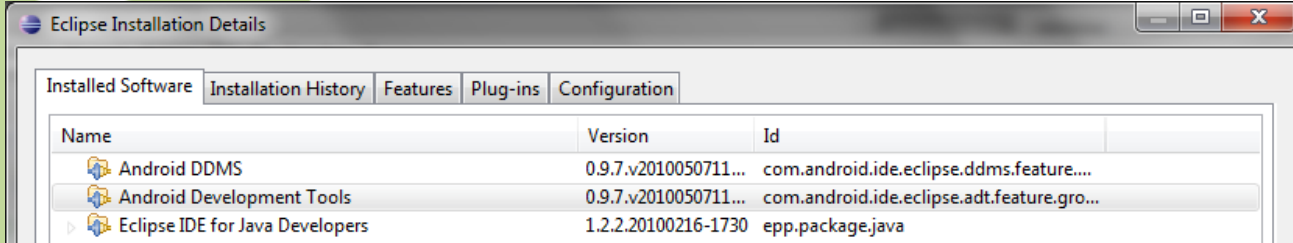
# Step 4-2: Installing the ADT ( Android Development Tools)

- Go to : Help -> **Install New Software**



# Step 4-3: Installing the ADT ( Android Development Tools)

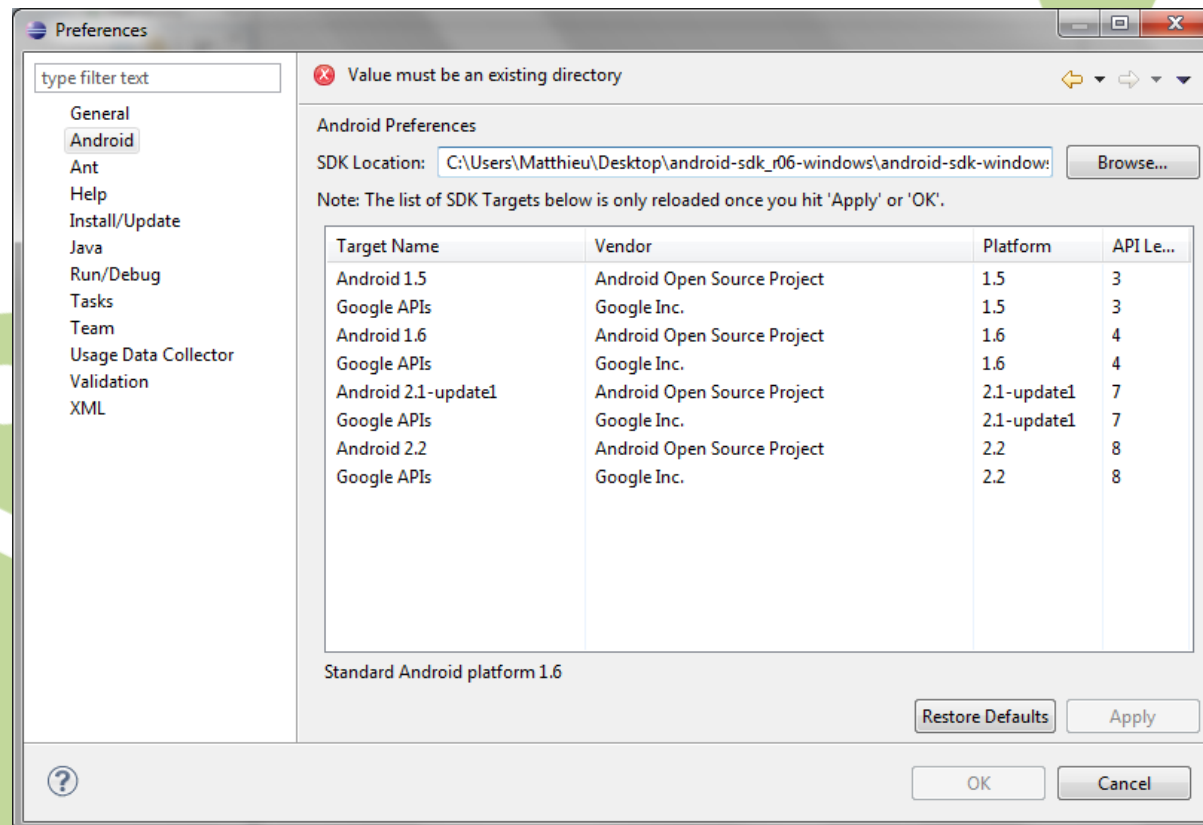
- Add Site : <https://dl-ssl.google.com/android/eclipse/>
- The download starts and after a few minutes the tools should be installed
- Restart Eclipse
- You will notice this new bar:
- Under Installation Details: DDMS+ Android Development Tools



Name	Version	Id
Android DDMS	0.9.7.v2010050711...	com.android.ide.eclipse.ddms.feature....
Android Development Tools	0.9.7.v2010050711...	com.android.ide.eclipse.adt.feature.gro...
Eclipse IDE for Java Developers	1.2.2.20100216-1730	epp.package.java

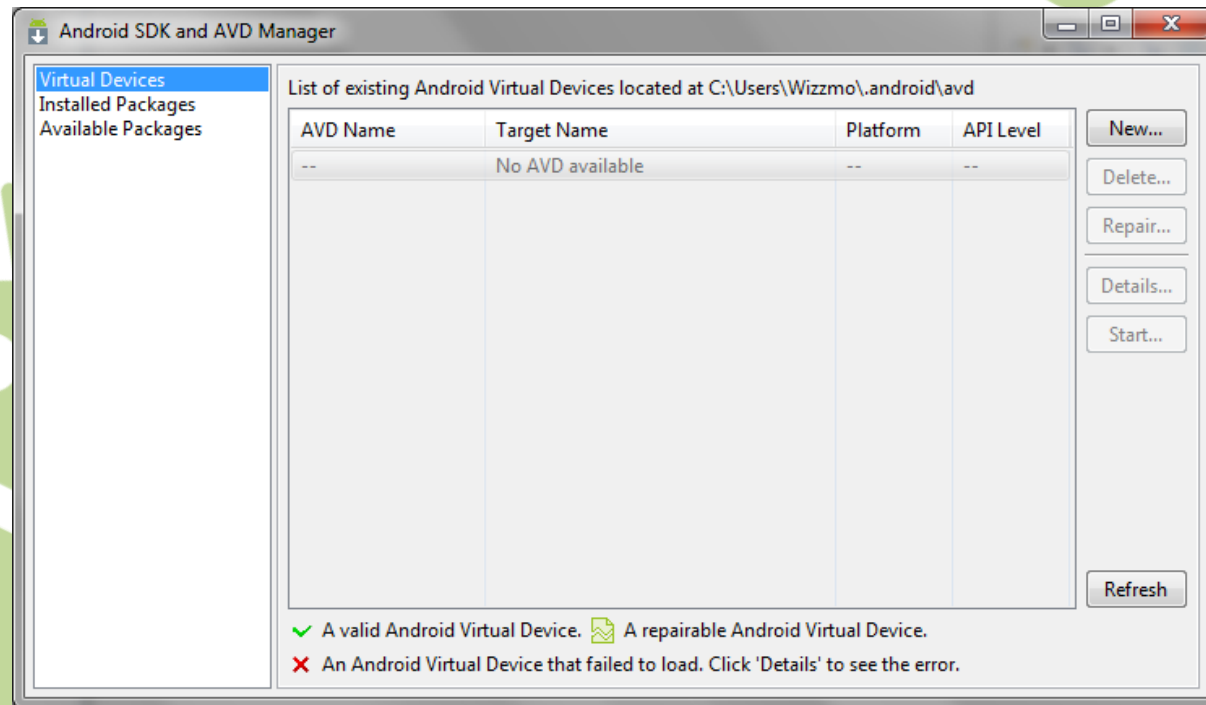
# Step 5-1: Configuration of the AVD and SDK

- You have already downloaded the SDK.
- In Eclipse under **Preferences** check that your **SDK** location points to the directory on which you downloaded the SDK.

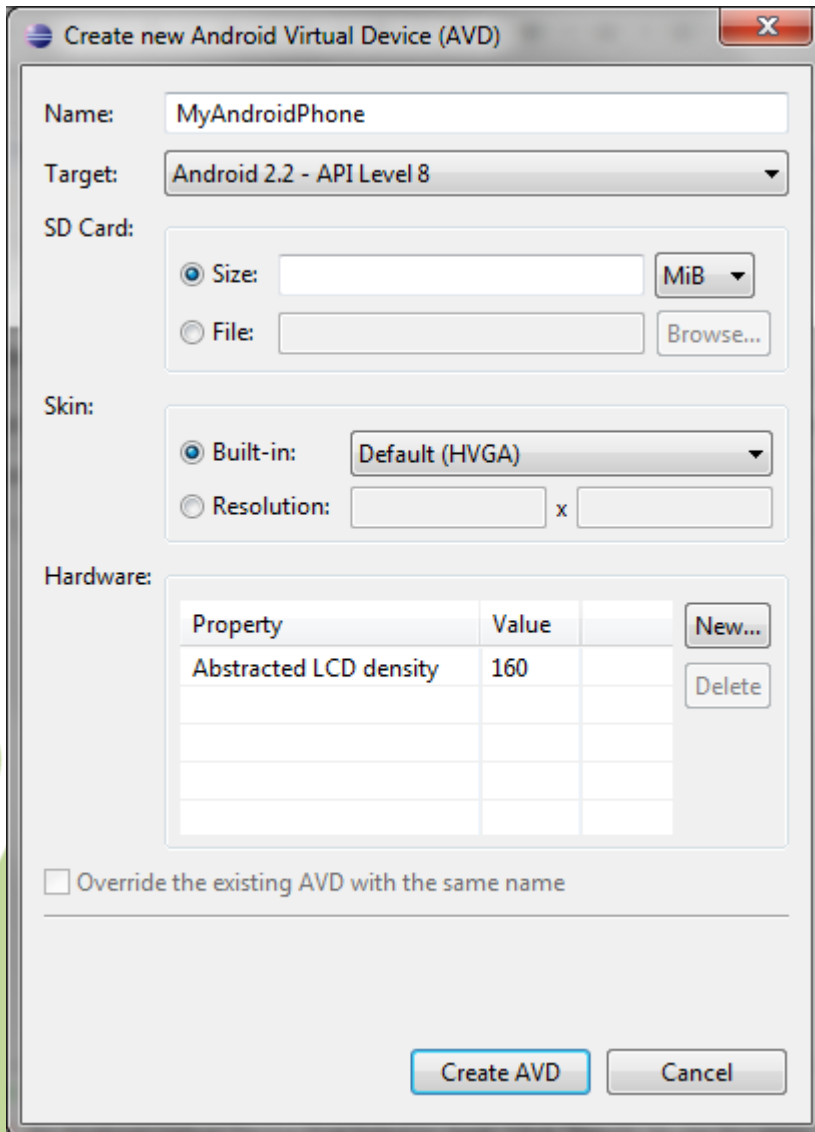


# Step 5-2: Configuration of the AVD and SDK

- Click on this icon
- AVD Manager opens

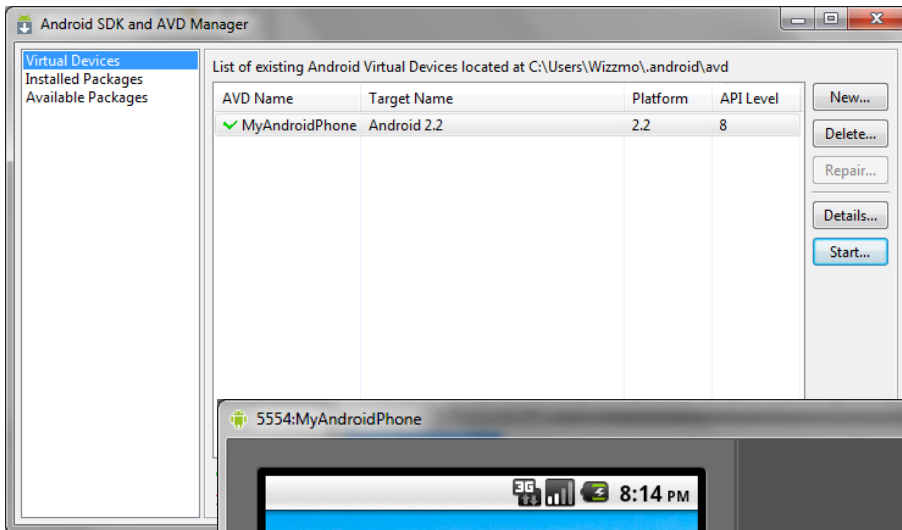


# Step 5-3: Configuration your AVD



- Click on **New...**
- Give a name to your Phone (“**MyAndroidPhone**”) and select a target. The target is the OS platform you’d like to simulate.
- In our case we want to simulate the **Nexus One** so we are choosing 2.2.
- Once finished you can Click on **Create AVD** (Android Virtual Device)

# Step 5-4: Configuration your AVD

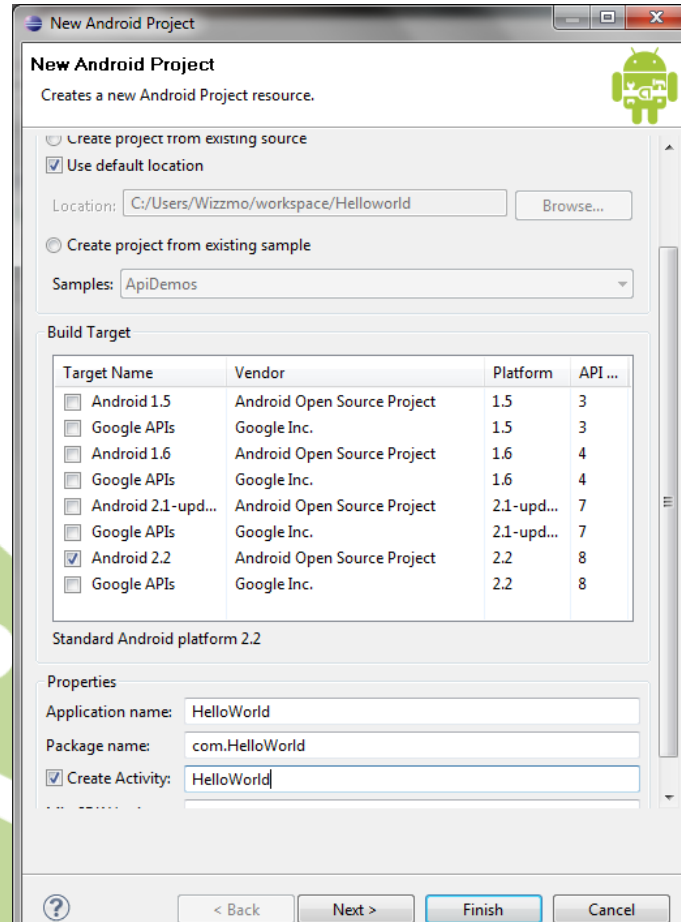


- New virtual phone appears in the list. Click on **Start**
- The **emulator** starts

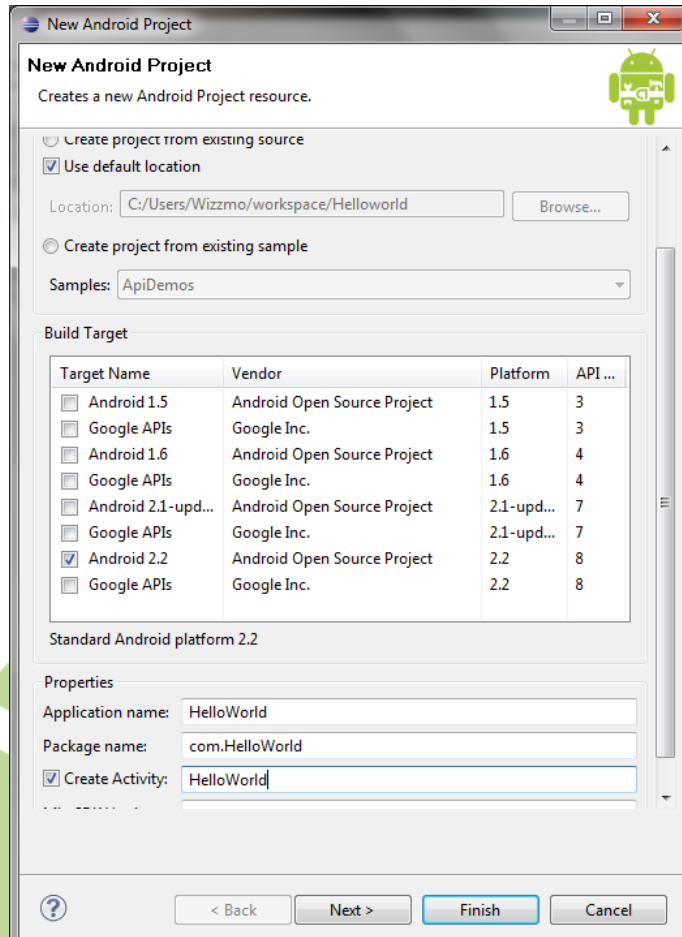


# Hello World 1/4

- In Eclipse : New -> Android Project

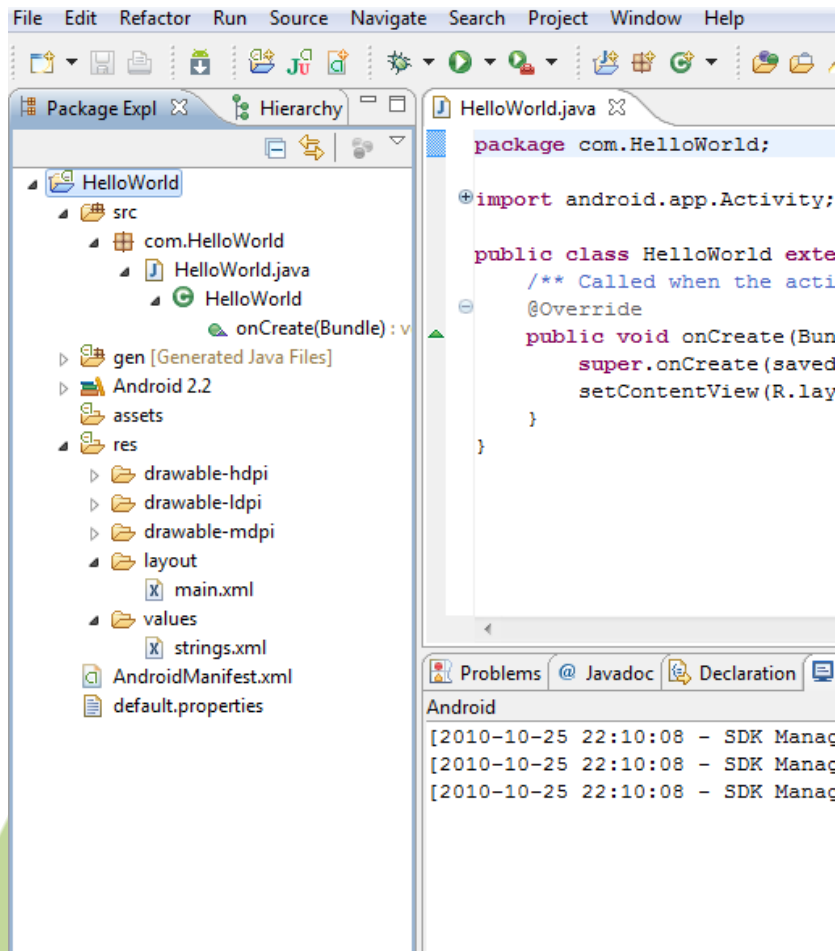


# Hello World 2/4



- In Eclipse : **New** -> Android Project
- Select 2.2 as target platform

# Hello World 3/4



- HelloWorld Project Structure

# Hello World 4/4



- Now we need to start our “HelloWorld” app through the emulator

Highly recommend **NOT** to close the emulator each time you'd like to test or debug your application.

# Connecting your Nexus One / Android Device

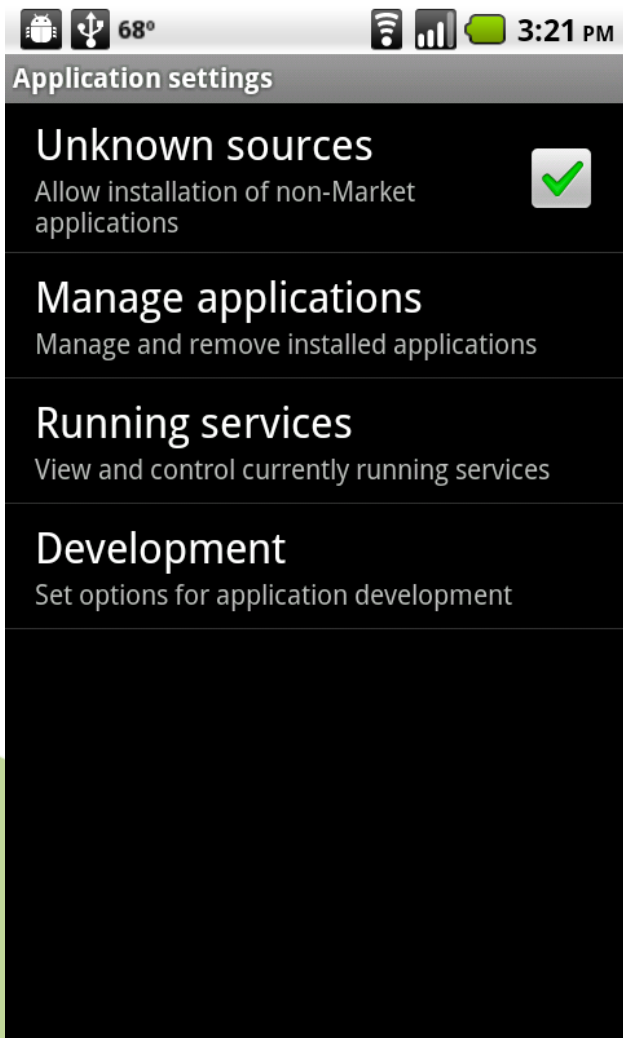
- Once you have connected your mobile phone, Eclipse will automatically launch and install the Application on the mobile phone
- If not :  
ADB (Android Debug Bridge) commands

`adb devices`

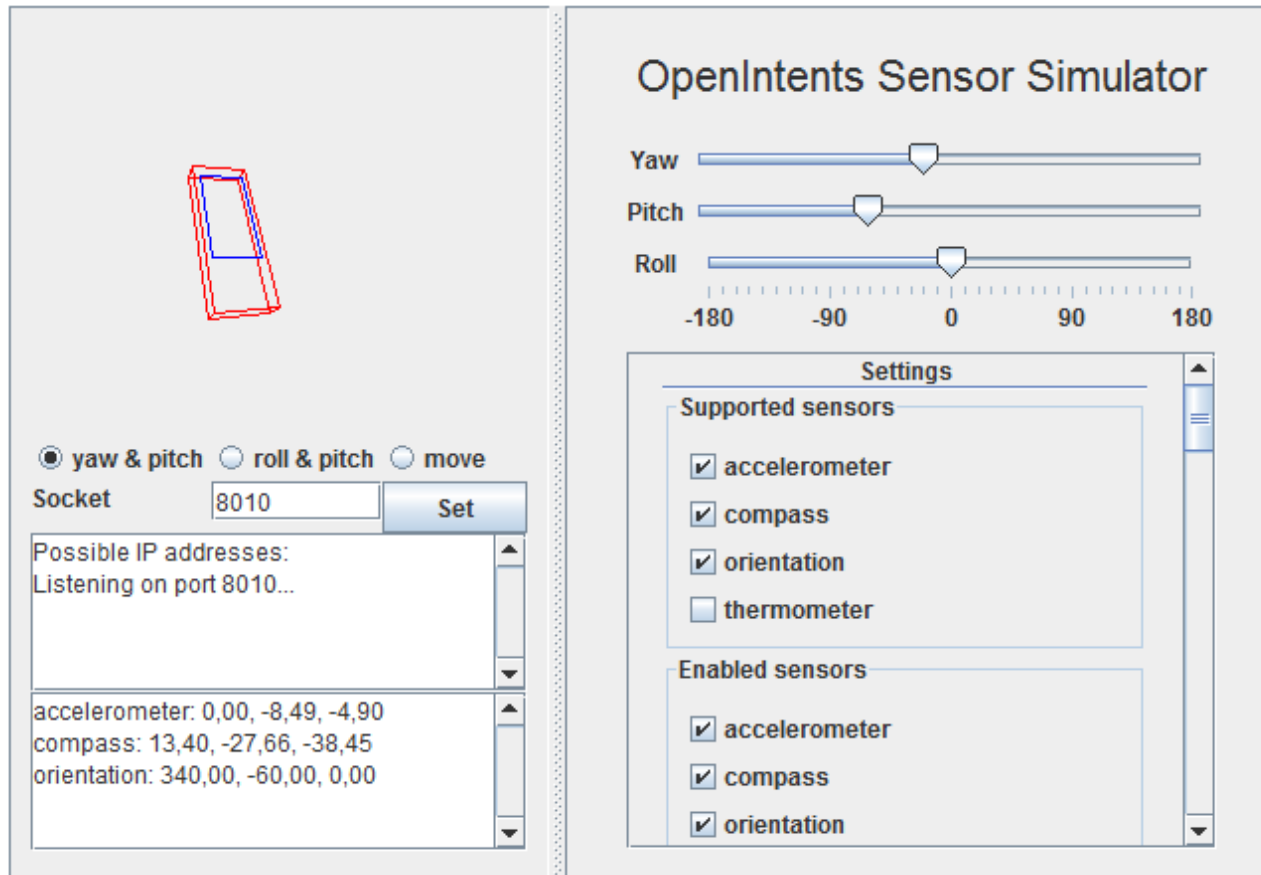
Installing the USB driver

- <http://developer.android.com/sdk/win-usb.html>

# Connecting your Nexus One / Android Device, 2



# Sensor simulation



- <http://code.google.com/p/openintents/wiki/SensorSimulator>

# It's your turn !

The screenshot shows the Android Developers website. At the top, there is a navigation bar with tabs for Home, SDK, Dev Guide, Reference, Resources (highlighted), Videos, and Blog. A search bar is located in the top right corner. On the left side, there is a sidebar menu with categories like Community, Device Dashboard, Technical Articles, Tutorials, and Sample Code. The 'List of Sample Apps' page is displayed in the main content area, featuring a list of sample applications with brief descriptions and links to their source code. The list includes API Demos, Backup and Restore, Bluetooth Chat, BusinessCard, Contact Manager, Home, JetBoy, Live Wallpaper, Lunar Lander, Multiple Resolutions, Note Pad, Sample Sync Adapter, Searchable Dictionary v2, Snake, Soft Keyboard, Spinner, SpinnerTest, TicTacToeLib, TicTacToeMain, and Wiktionary.

<http://developer.android.com/resources/tutorials/>

