# Android SDK under Linux

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**Abstract**

This is a tutorial about installing the various components required to have an actual Android development station under Linux. The commands are simple ones and are written to be as independent as possible of your flavour of Linux. All commands and other scripts are in a set of files that will be available on-line. Some processes that would usually require user attendance have been scripted to run unattended and are pre-downloaded. The entire set of files (a couple of gigs) can be copied after the tutorial for those with a portable USB key or hard disk.

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**Agenda**

- Introduction
- Hardware and software components
- Installation Process

# Introduction

- My background
- My use of Android devices
- Quick on the slideshow – Then, the demo
- All files are available online:
  - http://1529.ca/android
- Questions are welcome

# We need some hardware

- Lots of RAM and disk space

- Fast processor(s).

- Multiple monitor is helpful

  – IDE and virtual device together

- Real Android device is a good idea !

# The components

- Some compatibility libraries – maybe !

- Everything is Java

- Eclipse is your friend

- Android SDK and Eclipse Integration

- Those virtual devices

# 32-bit compatibility libraries

```
sudo apt-get install ia32-libs
```

or (maybe)

```
yum install glibc.i686
```

# Everything is Java

- The tools for Android development are using Java

- The applications use another JVM for Android.

- Should be Oracle Java Development Kit (JDK)

- Get it from

  http://www.oracle.com/technetwork/java/javase/downloads

# Java (continued)

- My quick script (3 + 2 lines):

```
tar -zxf jdk-7u2-linux-x64.tar.gz
sudo mv ./jdk1.7.0_02 /opt
sudo ln -s /opt/jdk1.7.0_02/bin/java /usr/bin/java

which java
java -version
```

# Eclipse is your friend

- In my installations, Eclipse is the main tool to edit and manage the source files. It has the integration for the Android libraries and tools.

- I use *Eclipse Classic*

- Get it here:

**http://www.eclipse.org/downloads/?
osType=linux**

# My script for Eclipse

- Download the version you need, then:

```
tar -zxf eclipse-SDK-XXX-linux-gtk.tar.gz
sudo mv ./eclipse /opt
sudo ln -s /opt/eclipse/eclipse /usr/bin/eclipse
which eclipse
```

- Try to start from the command line or otherwise

- Create the shortcut as you see fit

```
(ubuntu) sudo apt-get -y install gnome-panel
```

```
(ubuntu) gnome-desktop-item-edit ~/Desktop --create-new
```

# Setup the Android SDK

- Get the file, unzip and move it:

- The script:

```
wget
http://dl.google.com/android/android-
sdk_r20-linux.tgz

tar -zxf android-sdk_r20-linux.tgz

sudo mv android-sdk-linux/ /opt
```

# Eclipse vs Android

- Now, we have to setup Eclipse so that it knows Android
- Help → Install New Software. Click Add...
- Enter a name and enter the URL:

  http://dl.google.com/android/eclipse
- Click OK→ (wait) Select All → Next (x2) → Accept all licenses
- Click Finish → (wait) OK on the Security Warning
- Restart Eclipse

# Eclipse vs Android (2)

- Upon restart, Eclipse will configure the SDK.
- Select *Use existing SDKs*, enter the target location:
- /opt/android-sdk-linux
- Click Next, Opt in or out of stats, Click Finish
- Click *Open SDK Manager* to Acknowledge the warning to open the Android SDK Manager

# Eclipse vs Android (3)

Here, we select the platform(s) where our apps will work.

- Select the platform(s), the tools and the extras.

- The more platforms you select, the longer it takes !

- Only select those you need.

- Accept all licenses, etc...

- Then, we have to run:

  sudo chmod -R 777 /opt/android-sdk/tools

# Offline install

- There are scripts to download and install the files directly, instead of downloading through the SDK.

- The whole set of files is over 2GB.

- The ZIPs  are to be unzipped in different directories, based on their names.

- Scripts are available at my web site

# Let's get virtual !

- Next, we create a Virtual Machine. It will run the Android environment for the app we will develop.

- Click Window → AVD Manager →  New...

- Give it a name, and select a target. Target depends on installation we just did.

- You can also specify options such as:

  – SD Card, Snapshots, Skin, etc

- Click Create AVD

# Hello World !

- Small test program

- Test it on the VM

- Transfer and Test on a real Android Device

# Questions

?

# Contact info

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