

## Lab 2 – Mobile Software Development DT228/3 -

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The overall purpose of today is to get your first Android project up and running.

Note : You are dealing with big files, and applications *that run slowest first time through – so be prepared for that during this session!*.

### Part 1 - Environment set up

#### If you are using your own machine (preferred for flexibility):

Download Studio (which includes the SDK) from <https://developer.android.com/studio/install.html> and follow the install instructions.

Watch out for 32Bit versus 64bit systems

The install file is about **1.2Gb - big!**

Once installed, open the Studio (or studio64) exe from the “bin” directory.

#### If you have to use a lab machine:

Android environments are already installed. Studio is installed on the C: drive, linking to the Android SDK which is install on the D: drive. If when you open Studio, it prompts you to install Android SDK – **DO NOT install it** – it simply means that it is not pointed to it on the machine.

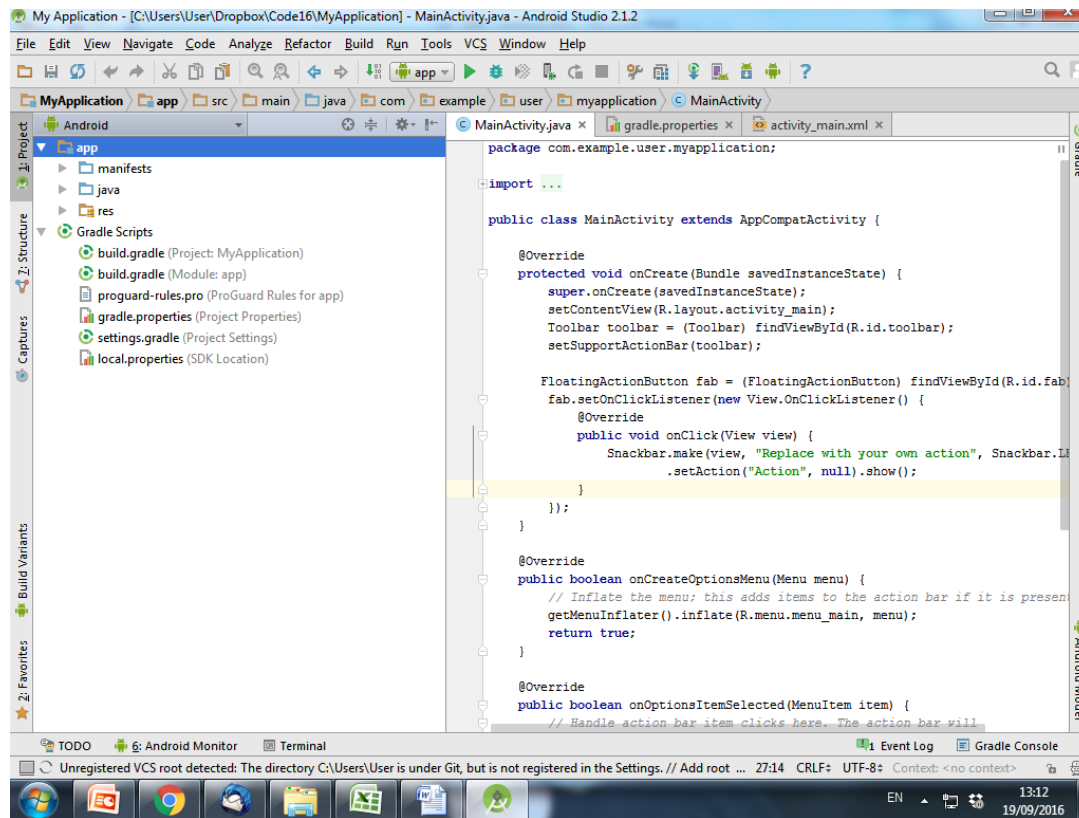
Open up Studio to ensure it opens correctly.

### Part 2 – Android Studio and Android Virtual Devices

Once you have Studio open, it will prompt you to set up a new project ( or use the File menu). **Choose “Blank Activity”** when you are prompted during project setup. **Choose NOT to have backward compatibility** when offered.

Once the project has been setup, you have be default a simple “helloWorld” app ready to run (more on the code later). Click the “projects” tab on the Left Hand Side to expand out the code view/ directory as shown below.

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To see the project running as a “real” app on a phone, you need to run it. Click “RUN” from the menu – this will activate the option to set up an Android Virtual Device (AVD) as discussed in class.

You can use

- the inbuilt Android Virtual Device
- an external one like BlueStacks or Genymotion.
- Your own phone. You will need your phone to USB cable, and you may need to install a USB driver to enable this depending on your machine.

### Part 3 – Look inside the project

Investigate the directory structure.

- Find the “java” directory – open up the .java Activity file(s) within the package your created.
  - What is the superclass being used?
  - What methods are in the class?

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- Find the “res” (resources) directory – Look at the layout directory, at the XML layout file(s)
- Find the manifest .xml file – what is in here?

### **Part 4 – Android Studio – Change the project**

- At the moment, the app just displays “Hello World” on a screen
  - Find where the “Hello World” is coming from (Res/Layout) and modify the code to change the default “HelloWorld” text to display different text.
  - Re-run the project to see if your change happens
  - Play around with other layout changes e.g. Add widgets such as a button, label and edit field to the layout.
  - Look in the resources/ values directory – look in **strings.xml**. See if you can where these variables are being used in your project.
  - Re run it and test it.
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