**Android Development:**

**Quick Start Guide**

Author:

Ryan Chadwick

1. **Minimum System Requirements**

Before we get started with installing everything you need to make sure your development environment meets certain requirements.

Operating Systems:

* Windows XP (32-bit), Vista (32- or 64-bit), or Windows 7 (32- or 64-bit)
* Mac OS X 10.5.8 or later (x86 only)
* Linux (tested on Linux Ubuntu Hardy Heron)
	+ 64-bit distributions must be capable of running 32-bit applications. For information about how to add support for 32-bit applications, see the [Ubuntu Linux installation notes](http://developer.android.com/sdk/installing.html%22%20%5Cl%20%22troubleshooting).

Eclipse IDE:

* Eclipse 3.4 (Ganymede) or 3.5 (Galileo)
* 3.6 distributions are not yet supported
* Eclipse [JDT](http://www.eclipse.org/jdt) plugin (included in most Eclipse IDE packages)
* If you need to install or update Eclipse, you can download it from <http://www.eclipse.org/downloads/>.

Several types of Eclipse packages are available for each platform. For developing Android applications, we recommend that you install one of these packages:

* + - Eclipse IDE for Java EE Developers
		- Eclipse IDE for Java Developers
		- Eclipse for RCP/Plug-in Developers
		- Eclipse Classic (versions 3.5.1 and higher)
* [JDK 5 or JDK 6](http://java.sun.com/javase/downloads/index.jsp) (JRE alone is not sufficient)
* [Android Development Tools plugin](http://developer.android.com/sdk/eclipse-adt.html) (optional)
* **Not** compatible with Gnu Compiler for Java (gcj)

SVN for Eclipse:

Our code is stored under SVN source control and Subversion for Eclipse is required to access it. Eclipse has no native SVN capabilities but we can download the Subversion plug-in though Eclipse’s update manager.

To do this, follow these steps:

* In Eclipse select Help from the menu bar
* In the Available Software dialog click the Add button next to the Work With field
* In the name field put Subversion, and in the Location field put <http://subclipse.tigris.org/update_1.6.x>
* Hit ok and it will return you to the Available Software Dialog
* In the work with field select your new entry
* In the center of the dialog select the checkbox labeled Subclipse and hit the Next button
* Click through the rest of the dialogs and the plug in will be installed
1. **The SDK starter package**

Once the minimum system requirements have been met you will start by installing the base SDK. Once this is installed you can use this in conjunction with the Eclipse to download all subsequent development materials.

Navigate to <http://developer.android.com/sdk/index.html> and download the appropriate distribution of the starter SDK. Here you will also find instructions for installing it.

1. **The SDK and AVD Manager**

Once the starter SDK is installed we can move onto installing all the required materials for our project. First enter Eclipse and then follow these steps:

* Click ‘Window’ in the top bar followed by ‘Android SDK and AVD manager’
* Click Available Packages on the left of the new dialog
* Expand the repository view in the center of the new dialog
* Select the following Packages
* Click the ‘Install Selected’ button in the bottom right of the dialog
* Click the Accept all radio button on the next dialog and then click Next
* All the plug ins will install

Next we have to create a new emulator to run and test our application on. This can be accomplished by following these steps:

* In Eclipse click ‘Window’ and then ‘Android SDK and AVD manager’
* Select ‘Virtual Devices’ in the new dialog
* Click ‘New’ on the right side of the screen which will display a new dialog
* Enter a name
* As the Target select Android 2.2 – API Level 8
* Click ‘Create AVD’

**4. Setup Tomcat for running a local Test Server**

Our FACETs Mobile Server requires a JSP compatible HTTPS server to run. We used Tomcat for this since it was already installed on the development and live machines.

To setup Tomcat in eclipse you must first download and install the appropriate version on your development computer. We recommend Tomcat 6.0. Once it is installed you can follow the below steps to use it in Eclipse:

* In Eclipse click ‘Window’ then ‘Preferences’
* Expand ‘Server’ and select ‘Runtime Environment’
* Click ‘New’ and a New Server Runtime Environment dialog will appear
* Select the version of Apache Tomcat you installed and click ‘Next’
* Enter a name for your server instance and then browse to the directory where it was installed.
* Click ‘Finish’

**5. Getting the Code**

Assuming Subversion is installed and working in Eclipse this will help you check out the code for editing in eclipse.

* Open an SVN repository view by clicking ‘Window’ then ‘Open Perspective’ and then ‘Other’
* In the new dialog, select ‘SVN Repository Exploring’ and click ‘Ok’
* In the SVN repository list right click and select ‘New’ then ‘Repository Location’
* In the new dialog enter the URL: <https://designedge.rit.edu/dav/Android>
* Expand the view of the location in the list
* Right click each project in the SVN repository location and select ‘Check out’

This will place all the projects into the Java view perspective.

**6. Building the Server and Common Libraries**

There exist two Ant build scripts for the Server and the Common Libraries. Just run these Ant build scripts in order to prepare them. The Main client package for the phone will be automatically built by Eclipse.

**7. Extra Wisdom**