



SNS COLLEGE OF TECHNOLOGY



(AN AUTONOMOUS INSTITUTION)

COIMBATORE – 35

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UNIT 1

GETTING STARTED WITH MOBILITY

Syllabus:

Mobility landscape, Mobile platforms, Mobile apps development, Overview of Android platform, setting up the mobile app development environment along with an emulator, a case study on Mobile app development.

Setting up the Mobile app development

Difference between Emulator and Simulator

Emulator	Simulator	
What it mimics	Mobile device software Mobile device hardware Mobile operating system	Internal behavior of the device. It does not mimic hardware.
How to get it	It is generally provided by the device manufacturer.	It is generally provided by the device manufacturer or some other

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		company.
Internal structure	It is written in machine-level assembly language.	It is written in high-level language.
Debugging	It is more suitable for debugging.	It is not suitable for debugging purpose.
Performance	Emulators are really slow. Emulating the actual hardware usually makes the software run slower than it would natively.	Faster than emulators.
Example	Google's Android SDK	Apple's iOS Simulator

Environment Set up

Start the Android application development on either of the following operating systems

- Microsoft Windows XP or later version.
- Mac OS X 10.5.8 or later version with Intel chip.
- Linux including GNU C Library 2.7 or later.

Second point is that all the required tools to develop Android applications are freely available and can be downloaded from the Web. Following is the list of software's you will need before you start your Android application programming.

- Java JDK5 or later version
- Android Studio

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Here last two components are optional and if you are working on Windows machine then these components make easy while doing Java based application development.

Set-up Java Development Kit (JDK)

You can download the latest version of Java JDK from Oracle's Java site – [Java SE Downloads](#). You will find instructions for installing JDK in downloaded files, follow the given instructions to install and configure the setup. Finally set PATH and JAVA_HOME environment variables to refer to the directory that contains **java** and **javac**, typically `java_install_dir/bin` and `java_install_dir` respectively.

If you are running Windows and installed the JDK in `C:\jdk1.8.0_102`, you would have to put the following line in your `C:\autoexec.bat` file.

```
set PATH=C:\jdk1.8.0_102\bin;%PATH%
set JAVA_HOME=C:\jdk1.8.0_102
```

Alternatively, you could also right-click on *My Computer*, select *Properties*, then *Advanced*, then *Environment Variables*. Then, you would update the PATH value and press the OK button.

On Linux, if the SDK is installed in `/usr/local/jdk1.8.0_102` and you use the C shell, you would put the following code into your `.cshrc` file.

```
setenv PATH /usr/local/jdk1.8.0_102/bin:$PATH
setenv JAVA_HOME /usr/local/jdk1.8.0_102
```

Alternatively, if you use Android studio, then it will know automatically where you have installed your Java.

Android IDEs

There are so many sophisticated Technologies are available to develop android applications, the familiar technologies, which are predominantly using tools as follows

- [Android Studio](#)

- Eclipse IDE(Deprecated)