



SNS COLLEGE OF TECHNOLOGY, COIMBATORE –35  
(An Autonomous Institution)  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
(UG&PG)  
19CSB303 and Composing Mobile Apps

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UNIT 1

**Setting up the Mobile app development**

**Difference between Emulator and Simulator**

<b>Emulator</b>	<b>Simulator</b>	
<b>What it mimics</b>	Mobile device software Mobile device hardware Mobile operating system	Internal behavior of the device.  It does not mimic hardware.
<b>How to get it</b>	It is generally provided by the device manufacturer.	It is generally provided by the device manufacturer or some other company.
<b>Internal structure</b>	It is written in machine-level assembly language.	It is written in high-level language.
<b>Debugging</b>	It is more suitable for debugging.	It is not suitable for debugging purpose.
<b>Performance</b>	Emulators are really slow. Emulating the actual hardware usually makes the software run slower than it would natively.	Faster than emulators.



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<b>Example</b>	Google's Android SDK	Apple's iOS Simulator
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### 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

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.



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### 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)



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