



android

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**Android Training Course Syllabus**

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## Syllabus: Android Training Course

### 1. JAVA Concepts

OOPs Concepts

Inheritance in detail

Exception handling

Packages & interfaces

JVM & .jar file extension

Collections – HashTable, Vector, List, ArrayList, HashMap

Multi threading(Thread class & Runnable Interface)

### 2. SQL

DML & DDL Queries in brief

### 3. Introduction to Android

What is Android?

Setting up development environment

Dalvik Virtual Machine & .apk file

extension Fundamentals :

- a) Basic Building blocks – Activities, Services, Broadcast Receivers & Content providers
- b) UI Components- Views & notifications
- c) Components for communication -Intents & Intent Filters  
Android API levels(versions & version names)

### 4. Application Structure(in detail)

AndroidManifest.xml

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- uses-permission & uses-sdk
- Activity/services/receiver declarations

Resources & R.java

Assets

Values – strings.xml

Layouts & Drawable Resources

Activities and Activity lifecycle

First sample Application

Deploying sample application on a real device

## **5. Emulator-Android Virtual Device**

Launching emulator

Editing emulator settings

Emulator shortcuts

Logcat usage

Introduction to DDMS

File explorer

Second App :- (switching between activities)

– Develop an app for demonstrating the communication between Intents

## **6. Basic UI design Form**

widgets

Text Fields

Layouts

- RelativeLayout ,TableLayout, FrameLayout, LinearLayout

- Nested layouts

[dip,dp,sip,sp] versus px

Examples

## 7. Preferences

SharedPreferences

Preferences from xml

Examples

## 8. Menu Option menu

Context menu

Sub menu

menu from xml

menu via code

Examples

## 9. Intents (in detail)

Explicit

Intents

Implicit intents

Examples

## 10. UI design Time and Date

Images and media

Composite

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AlertDialogs & Toast

Popup

Examples

## 11. Tabs and TabActivity

Examples

12. **Styles & Themes** styles.xml colors.xml- declaring colors and drawables Drawable resources for shapes,gradients(selectors)

- Shapes drawables
- State drawables
- Transition drawables
- 9 Patch drawables

style attribute in layout file

Applying themes via code and manifest file

Examples

## 13. SQLite Programming

SQLite

Programming

SQLiteOpenHelper

er

SQLiteDatabase

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Cursor

Content providers

- Defining and using content providers
- Example- Sharing database among two different applications using content providers

Reading and updating Contacts

Reading bookmarks

Example :

- Develop an App to demonstrate database usage. CRUD operations must be implemented. Final details should be viewed in GridView as well as in ListView.
- Do the same application with database operations in a single class(As a Model class) and do the CRUD operations with this class object

#### **14. Android Debug Bridge(adb) tool**

#### **15. Linkify**

Web URLs,Email address,text,map address,phone numbers

MatchFilter & TransformFilter

Examples

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## **16. Adapters and Widgtes**

Adapters :-

a) ArrayAdapters

b) BaseAdapters

Example - Efficient Adapter

ListView and ListActivity

Custom listview

GridView using adapters

Gallery using adapters

Examples

## **17. Notifications**

Broadcast Receivers

Services and notifications

Toast

Alarms

Examples

## **18. Custom components**

Custom

Toast

Custom dialogs

Custom Tabs

Custom animated popup panels

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Other components

Examples

## **19. Threads**

Threads running on UI thread(runOnUiThread)

Worker thread

Handlers & Runnable

AsyncTask(in detail)

Examples

## **20. Advanced Live**

Folders

Using sdcards – Reading and writing

XML Parsing

JSON Parsing

Including external libraries in our application

Maps via intent and MapActivity

GPS,Location based Services

Accessing Phone services(Call,SMS,MMS)

Network connectivity services

Sensors

Using Wifi & Bluetooth

Action bar tabs and custom views on Action bars

Introduction to fragments

A brief introduction to Ice Cream Sandwich





## 21. Assignment



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