

## Syllabus: Android Training Course

### **Chapter 1: JAVA Concepts**

- OOPs Concepts
- Inheritance in detail
- Exception handling
- Packages & interfaces
- JVM & .jar file extension
- Multi threading (Thread class & Runnable Interface)

### **Chapter 2: SQL**

- DML & DDL Queries in brief

### **Chapter 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)

### **Chapter 4: Application Structure (in detail)**

- AndroidManifest.xml
- uses-permission & uses-sdk
- Resources & R.java
- Assets
- Layouts & Drawable Resources
- Activities and Activity lifecycle
- First sample Application

## **Chapter 5: Emulator-Android Virtual Device**

- Launching emulator
- Editing emulator settings
- Emulator shortcuts
- Logcat usage
- Introduction to DDMS
- Second App:- (switching between activities)
  - Develop an app for demonstrating the communication between Intents

## **Chapter 6: Basic UI design**

- Form widgets
- Text Fields
- Layouts
- [dip, dp, sip, sp] versus px
- Examples

## **Chapter 7: Preferences**

- SharedPreferences
- Preferences from xml
- Examples

## **Chapter 8: Menu**

- Option menu
- Context menu
- Sub menu
- menu from xml
- menu via code
- Examples

## **Chapter 9: Intents (in detail)**

- Explicit Intents
- Implicit intents
- Examples

## **Chapter 10: UI design**

- Time and Date
- Images and media
- Composite
- AlertDialogs & Toast
- Popup
- Examples

## **Chapter 11: Tabs and Tab Activity**

- Examples

## **Chapter 12: Styles & Themes**

- styles.xml
- drawable resources for shapes, gradients (selectors)
- style attribute in layout file
- Applying themes via code and manifest file
- Examples

## **Chapter 13: Content Providers**

- SQLite Programming
- SQLiteOpenHelper
- SQLiteDatabase
- Cursor
- 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.

## **Chapter 14: Android Debug Bridge (adb) tool**

## **Chapter 15: Linkify**

- Web URLs, Email address, text, map address, phone numbers
- MatchFilter & TransformFilter
- Examples

## **Chapter 16: Adapters and Widgets**

- Adapters:-
  - a. ArrayAdapter
  - b. BaseAdapters
- ListView and ListActivity
- Custom listview
- GridView using adapters
- Gallery using adapters
- Examples

## **Chapter 17: Notifications**

- Broadcast Receivers
- Services and notifications
- Toast
- Alarms
- Examples

## **Chapter 18: Custom components**

- Custom Tabs
- Custom animated popup panels
- Other components
- Examples

## **Chapter 19: Threads**

- Threads running on UI thread (runOnUiThread)
- Worker thread
- Handlers & Runnable
- AsyncTask (in detail)
- Examples

## **Chapter 20: Advanced**

- Live Folders
- Using sdcards
- XML Parsing
- JSON Parsing
- Maps, GPS, Location based Services
- Accessing Phone services (Call, SMS, MMS)
- Network connectivity services
- Sensors