

# Syllabus: Android Training Course

## **Chapter 1: Introduction to Android**

- What is Android?
- Setting up development environment
- Dalvik Virtual Machine vs Art

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 2: 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 3: Basic UI design**

- Form widgets
- Text Fields
- Layouts

- [dip, dp, sip, sp] versus px
- Examples

## **Chapter 4: Preferences**

- SharedPreferences
- Preferences from xml
- Examples

## **Chapter 5: Menu**

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

## **Chapter 6: Intents (in detail)**

- Explicit Intents
- Implicit intents
- Examples

## **Chapter 7: UI design**

Time and Date

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

## **Chapter 8: Tabs and Tab Activity**

- Examples of Support Library

## **Chapter 9: Styles & Themes**

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

## **Chapter 10: 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 11: Adapters**

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

## **Chapter 12: Notifications**

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

## **Chapter 13: Threads**

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