

# TRON SOFTECH – IT Training

## ANDROID PROGRAMMING AND APPLICATION DEVELOPMENT

### ●▶ 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

uses-permission & uses-sdk

Activity/services/receiver declarations

Resources & R.java

Assets

Android Training Course Syllabus

Values – strings.xml

# TRON SOFTECH – IT Training

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  
Android Training Course Syllabus  
menu from xml  
menu via code  
Examples

## ●▶ 9. Intents (in detail)

# TRON SOFTECH – IT Training

Explicit Intents  
Implicit intents  
Examples

## ●▶ 10. UI design

Time and Date  
Images and media  
Composite  
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  
Android Training Course Syllabus  
SQLiteOpenHelper  
SQLiteDatabase  
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.

# TRON SOFTECH – IT Training

> 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

## ●▶ 16. Adapters and Widgets

Adapters :-  
a) ArrayAdapter  
b) BaseAdapters  
Example - Efficient Adapter  
ListView and ListActivity  
Custom listview  
GridView using adapters  
Gallery using adapters  
Examples  
Android Training Course Syllabus

## ●▶ 17. Notifications

Broadcast Receivers  
Services and notifications  
Toast  
Alarms  
Examples

## ●▶ 18. Custom components

Custom Toast  
Custom dialogs  
Custom Tabs  
Custom animated popup panels  
Other components  
Examples

## ●▶ 19. Threads

Threads running on UI thread(runOnUiThread)  
Worker thread  
Handlers & Runnable

# TRON SOFTECH – IT Training

AsynTask(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