



ANDROID SYLLABUS



Advanced Android

1) Introduction To Mobile Apps

- I. Why we Need Mobile Apps
- II. Different Kinds of Mobile Apps
- III. Briefly about Android

2) Introduction Android

- I. History Behind Android Development
- II. What is Android?
- III. Pre-requisites to learn Android
- IV. Brief Discussion on Java Programming

3) Android Architecture

- I. Overview of Android Stack
- II. Android Features
- III. Introduction to OS layers

4) Deep Overview in Android Stack

- I. Linux Kernel
- II. Libraries
- III. Android Runtime
- IV. Application Framework
- V. Dalvik VM

5) Installing Android Machine

- I. Configuring Android Stack
- II. Setting up Android Studio
- III. Working with Android Studio
- IV. Using Older Android Tools



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6) Creating First Android Application

- I. Creating Android Project
- II. Debugging Application
- III. Setting up environment
- IV. AVD Creation
- V. Executing Project on Android Screen

7) Android Components

- I. Activities
- II. Services
- III. Broadcast Receivers
- IV. Content Providers

8) Hello World App

- I. Creating your first project
- II. The manifest file
- III. Layout resource
- IV. Running your app on Emulator

9) Building UI with Activities

- I. Activities
- II. Views, layouts and Common UI components
- III. Creating UI through code and XML
- IV. Activity lifecycle
- V. Intents
- VI. Communicating data among Activities

10) Advanced UI

- I. Selection components (GridView, ListView, Spinner)
- II. Adapters, Custom Adapters
- III. Complex UI components
- IV. Building UI for performance
- V. Menus
- VI. Creating custom and compound Views



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11) Notifications

- I. Toast, Custom Toast
- II. Dialogs
- III. Status bar Notifications

12) Multithreading

- I. Using Java Multithreading classes
- II. AsyncTask
- III. Handler
- IV. Post

13) Styles and Themes

- I. Creating and Applying simple Style
- II. Inheriting built-in Style and User defined style
- III. Using Styles as themes

14) Resources and Assets

- I. Android Resource
- II. Using resources in XML and code
- III. Localization
- IV. Handling Runtime configuration changes

15) Intent, Intent Filters and Broadcast Receivers

- I. Role of filters
- II. Intent-matching rules
- III. Filters in your manifest
- IV. Filters in dynamic Broadcast Receivers
- V. Creating Broadcast receiver

- VI. Understanding Broadcast action, category and data
- VII. Registering Broadcast receiver through code and through XML
- VIII. Sending Broadcast



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16) Data Storage

- I. Shared Preferences
- II. Android File System
- III. Internal storage
- IV. External storage
- V. SQLite
 - a. Introducing SQLite
 - b. SQLiteOpenHelper and creating a database
 - c. Opening and closing a database
 - d. Working with cursors Inserts, updates, and deletes
- VI. Network

17) Content Providers

- I. Accessing built in content providers
- II. Content provider
- III. Searching for content
- IV. Adding, changing, and removing content
- V. Creating content provider
- VI. Working with content files

18) Services

- I. Overview of services in Android
- II. Implementing a Service
- III. Service lifecycle
- IV. Inter Process Communication

19) Multimedia in Android

- I. Multimedia Supported audio formats
- II. Simple media playback
- III. Supported video formats
- IV. Simple video playback



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20) Location Based Services and Google Maps

- I. Using Location Based Services
- II. Finding current location and listening for changes in location
- III. Working with Google Maps
 - i. Showing Google map in an Activity
 - ii. Map Overlays
 - iii. Itemized overlays
 - iv. Geocoder
 - v. Displaying route on map

21) Web Services and WebView

- I. Consuming web services
- II. Receiving HTTP Response (XML, JSON)
- III. Parsing JSON and XML
- IV. Using WebView

22) Sensors

- I. How Sensors work
- II. Using Orientation and Accelerometer sensors
- III. Best practices for performance

23) WiFi

- I. Monitoring and managing Internet connectivity
- II. Managing active connections
- III. Managing WiFi networks

24) Telephony Services

- I. Making calls
- II. Monitoring data connectivity and activity
- III. Accessing phone properties and status
- IV. Controlling the phone
- V. Sending messages



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25) Camera

- I. Taking pictures
- II. Media Recorder
- III. Rendering previews

26) Bluetooth

- I. Controlling local Bluetooth device
- II. Discovering and bonding with Bluetooth devices
- III. Managing Bluetooth connections
- IV. Communicating with Bluetooth

27) Android Web Services

- I. What is web service
- II. Web service
- III. Android Restful web service example with php
- IV. Storing data into external mysql database
- V. Verifying data in android with external mysql database

28) More

- I. Fragments
- II. Material Design
- III. Gradle
- IV. NEW TOPICS: Since each new version of Android has new features, we keep extra time for adding custom topics in every batch. You can request any Android Topic.

29) Android Application Deployment