

ANDROID

1. Introduction to Android:

- Overview of Android and Android SDK
- History of Android
- Android features

2. Android Architecture overview:

- Android Runtime
- Linux Kernel, Libraries
- Applications, Application framework

3. Setup of Android Development environment

- System requirements
- Eclipse and SDK installation, AVD creation
- Creating first Android application
- Project Structure

4. Android Application Fundamentals

- Android application building blocks
- Activating components
- Shutting down components
- Lifecycle of Application
- Development tools, Manifest File

5. Building Blocks

- Activity & Lifecycle
- Intents & Categories
- Services, Content Providers
- Broadcast Receivers

6. User interfaces

- Creating the Activity
- An Overview of User interfaces
- Using XML Layouts
- XML versus Java UI
- Selection Widgets, Using fonts
- Using Menus, Date and Time tabs
- Common UI components
- Handling user events

7. Advanced UI

- Selection components
- Adapters
- Complex UI components

- Building UI for performance
- Menus and Dialogs
- Graphics & animations

8. Resources

- Overview of Android Resources
- Creating Resources
- Using Resources
- Drawable Resources
- Animation Resources

9. Intents and services

- Working with Intent classes
- Listening in with broadcast receivers
- Building a Service
- Performing Inter-Process Communication

10. Storing and retrieving data

- Using preferences
- Using the file system
- Internal Storage – Files
- External Storage – SD Card
- Persisting data to a database

11. SQL Database

- Introducing SQLite
- SQLiteOpenHelper and creating a database
- Opening and closing a database
- Working with cursors
- Inserts, updates, and deletes

12. Basic Content Providers

- Content provider MIME types
- Searching for content
- Adding, changing, and removing content
- Working with content files

13. Web Services

- Understanding Web Services
- Integrating Web Services
- REST, SOAP – JSON based calling.

14. Networking

- An overview of networking

- Checking the network status
- Working with HTTP

15. Location Services – GPS

- Using Location Manager and Location Provider
- KML, NMEA , Track Files
- Simulation of the locations on the emulator

16. Integrating Google Maps

- User Interface – MapView
- Changing views on the Map
- Maps API Key generation
- Adding layers to the Map – Overlays
- Itemized Overlays – Adding markers on the map

17. Telephony

- Telephony background
- Accessing telephony information
- Monitoring data activity and connectivity
- Interaction with the phone
- Working with messaging SMS
- Voice Activity and Messaging Activity

18. Multimedia in Android

- Multimedia Supported audio formats
- Playing Audio & Video
- Recording Audio & Video
- Accessing Camera, Capturing Photos
- Speech Recognition

19. Bluetooth

- Controlling local Bluetooth device
- Discovering and bonding with Bluetooth devices
- Managing Bluetooth connections
- Communicating with Bluetooth