

Android Training - Complete

Android History

- Brief introduction
- History of Mobile OS
- Understanding why Smartphones are better
- History of Android
- Enterprise and Industry use cases of using Android applications

Install SDK & Platforms

- Setting up Android Development Environment
 - Installing the Software Development Kit.
 - Navigating Javadocs. Getting an overview of the SDK tools and sample code.
 - Using the Eclipse Android Developer Tools (ADT) plugin: Eclipse' relation to the underlying SDK tools, using different perspectives and Eclipse views.

Android AVD & Debugging

- Android Application Development Launch
 - Using SDK emulator.
 - Runtime configurations, Android Virtual Devices (AVDs).
 - Using Android Debug Bridge (adb) and the Dalvik Debug Monitoring System (DDMS).
 - Accessing the Android file system, pushing and pulling files, accessing and filtering system logs.

Basic Ecosystem

- Android Architecture
- Base Components
 - Activity
 - Services
 - Broadcast Receivers
 - Content Providers
 - Resources
 - Intents
- Detailed study of each of the above components by creating Sample Apps using Eclipse.

Android GUI

- User Interface and Building a View
- Android GUI architecture.
- Assembling a GUI
 - Design by declaration.
 - Design by Java
- Wiring up the controller with UI.
- Opening screen design.
- Using Alternate Resources (for alternate languages and configurations)
- Applying Styles and Themes.
- Adding a menu
- Widgets – Practice by Example

Advanced UI Concepts

- Navigating between Activities/Screens
- User Interface and Building a View
- Using Fragments
- Action Bar concepts
- Navigation bar
- Creating effective navigation system

Storage APIs

- Files
- Data Storage - External & Internal
- Shared Preferences
- Content Providers
- SQLite Database

Network APIs

- Fetching data from Internet using Apache Http Client
- Calling Web Services –
 - SOAP
 - RESTful
- Security with HTTPS and SSL
- Using AsyncTasks & Threads

Location APIs

- Using GPS Location in the application
- Fetching current and past locations
- Brief introduction on Google Maps with Example

Media APIs

- Playing Media (audio/video)
- Recording Media
- Voice recognition

Using Phone Features

- Various Phone APIs
 - Camera
 - Sending SMS
 - Sending Email
 - Initiating phone calls
- Hardware & Sensors
 - GPS
 - Bluetooth
 - Accelerometer
 - Gyro

Deep dive into res/

- Creating XML files for adding animations
- Changing button states using XML
- Localizations for various languages.

Security Features in Android

- Using Security APIs
- Using Enterprise Policies by utilizing Device Admin features
- Using MDM/MAM solutions in Organizations

Best Practices

- For using Networking operations
- For User Interface – tips for making tablet friendly UI
- For instrumentation & testing applications
- For designing app navigation
- Tips on how to divide the Mobile app requirements between developers

App Distribution

- Packaging & Deploying App
- Preparing for Distribution
- Distribution of App in Google Play Store