



JAVA TRAINING CENTER

Java Training Center - Android Application Development

Android Syllabus and Course Content (3 months , 2 hour Daily)

Introduction to Android

- Android and it's feature
- Android releases and Versions
- Introduction to Android Architecture
- Dalvik virtual machine and ART
- Android Play Store
- Learn Development environment setup - Android Studio
- Build your first Android App
- Android Application project structure
- Android Manifest
- Gradle Build
- Gradle files introduction
- configure AVD and Run your Application
- Basic introduction to how to make Application for multiple Screens / Languages etc.

User-Interface and Activity

- Android Application components

- Activity and Activity life cycle
- Starting and Activity
- Activity life cycle
- Debugging
- Log
- Toast
- User Interface Design
- Button
- TextView
- EditText
- ImageView
- ImageButton
- ToggleButton
- CheckBox
- RadioButton
- RatingBar
- Switch
- Event Handling
- Common Event Listeners

Intents

- Introduction to Intent
- Explicit Intent
- Implicit Intent
- Verify There is an App to Receive the Intent
- Getting a Result from an Activity
- Receive the Result
- Built-in Standard Intent Actions

- Introduction to Data Passing
- Intent Data Passing - Using an explicit bundle
- Intent Data Passing - Directly using putExtra
- Pending Intent
- Allowing Other Apps to Start Your Activity
- Handle the Intent in your Activity
- Return a Result

Adapters

- Adapter
- AdapterView
- Types of Adapters
- Steps To Implement Simple ListView/GridView
- DatePicker
- TimePicker
- Spinner
- Listview
- Custom View
- Custom Adapters

Fragment in ANdroid

- Introduction To Fragment
- Fragment Life Cycle
- Building a Flexible UI
- Fragments Example
- Types of Fragments
- How to use Fragments ?
- Communicating with Other Fragments

- Tab Layout Implementation with Swipes
- Add Tabs to the Action Bar

Storage and SQLite , SharedPreferences

- Introduction to Preferences
- To Save And Retrieve Preferences Through Code
- Common Types of Preferences
- Steps to Create Settings Preferences
- Introduction to Data Storage
- Internal & External Storage
- SQLite Database
- Create a Database & Tables
- Upgrading Database
- Inserting a New Record
- Updating a Record
- Deleting a Record
- Reading Records

Menus and Dialog Boxes

- Introduction To Menus
- Options Menu
- Creating An Options Menu
- Context Menu
- Popup Menu
- Toolbar
- Snippet
- Introduction to Dialog Box

- Types of Dialog Box
- DialogFragment
- Steps to Create Dialog Using DialogFragment

Permission in Android

- Saving Data
- Internal or External Storage
- Permissions for Storage
- Save a File on Internal Storage
- Cache Files
- Save a File on External Storage
- Query Space & Delete File
- Working with System Permissions
- Permission Flow Chart
- Check for Permissions at Run Time
- Request Permissions
- Handle the permissions request response

Material Design in Android

- Introduction to Material Design
- RecyclerView
- CardView
- Creating Lists & Cards
- Swipe refresh Layout
- Material Design Color Customization

- Toolbar
- Floating Action Button
- Snackbar
- Palette
- Navigation Drawer
- Adding Dependencies

Animations . Thread and AsyncTask

- Animations in Android
- Types of Animations
- Animation Implementation
- Introduction to Thread
- The Application Main Thread
- Application Not Responding
- Handling Threads
- Asynchronous Methods - AsyncTask
- Example For AsyncTask
- Schedule To The UI Thread Using Android Built-in Methods

Notification and Broadcast Receiver

- Introduction to Broadcast Receiver
- Ways to Register Broadcast Receiver
- Broadcast Messages
- Steps to Implement Broadcast Receiver In Dynamic Way
- Introduction to Notification

- Structure of Notification
- Showing Notification to the user
- Heads-up Notifications
- Lock Screen Notifications
- Expanded Layout Notifications
- Inbox Style Notification
- Big Text Style Notification
- Big Picture Style Notification

Content Provider and Service

- Introduction to ContentProvider
- ContentResolver & ContentProvider
- Use of Content Providers
- TrueCaller App
- Client Sever Work Model
- Client Response Format
- Android Core Concept
- Introduction To Services
- Types Of Services
- Service Life Cycle

WebServices

- Anatomy of Client - Server
- Introduction To Web Services
- REST and SOAP WebServices
- Formats to Exchange Data
- XML Format

- Types of XML Parsing
- JSON Format
- HTTP Calls In Android
- HTTP Methods
- HttpGet Example
- HttpPost Example
- Network Connectivity
- OK Http Library

Google MApps

- Introduction to Google Maps
- Download and configure
- Adding Google Map
- Customizing Google Map
- Location Manager
- Fused Location Provider
- CLustering
- Marking
- Distance Calculation between two Locations

Facebook , Google Analytics , Google Plus Integrations

- Introduction to Google Sign in
- Prerequisites & Set Up
- Configuration File & Gradle Settings
- Integration of Google Sign in
- Introduction to Facebook Login
- Add Facebook Logi

- Introduction to Google Analytics
- Add Google Analytics to Android Project
- Add Screen Tracking
- Send an event
- Introduction to Google AdSense
- Add AdSense

Firebase Cloud Messaging and Integration

- Introduction to FCM
- Prerequisites & Set Up
- Manifest Setting
- FCM Integration
- Migrate a GCM Client App for Android to FCM
- Migrate your listener service
- InstanceIDListenerService Updation

Distribution ANd Deployment of Android Applicaiton

- Debug Your App
- Steps to debug an Application in Android
- Debugger View
- Debug when App is already running
- Use the System Log
- View the system log
- Work with Breakpoints
- Add Break Points
- Examine Break Points
- Capture Screenshots

- Capture Videos
- Deployment of Android App
- Gathering Materials and Resources
- Configuring Your Application for Release
- Address compatibility issues
- Publish Your App
- Releasing Your Application to Users
- Distribution Options
- Distribution via Email
- Distributing Through a Website