



## ANDROID

### Introduction to Android

- History of Android
- What is OHA?
- Architecture of Android
- Android Play Store
- Features of Android
- Android API Levels
- Working of DVM
- Application Components
- Manifest File

### Installation and Configuration

- Introduction to Android Studio
- Configuring SDK
- Creation of new AVD
- Application Structure
- Running the Application on AVD
- Activity LifeCycle

### Android Layouts

- Constraint Layout
- RelativeLayout
- FrameLayout
- TableLayout
- GridLayout
- LinearLayout
- Working with Units

### Android Widgets

- Button,TextView,EditText
- ToggleButton,Switch
- Checkbox,RadioButton
- CustomCheckbox and CustomRadioButton
- RatingBar,SeekBar
- DatePicker,TimePicker
- Toast/CustomToast
- Spinner, ImageView
- AutoCompleteTextView, MultiAutoCompleteTextView
- ListView/Customized ListView
- ExpandableListView
- WebView

- ImageSwitcher/View Flipper
- ViewAnimator
- GridView
- Adapter Classes
- ViewStub
- TabHost
- Firing Events
- Decoding Bitmaps

### Dialogs

- AlertDialog
- DatePickerDialog/TimePickerDialog
- Dialog Layout resource
- Passing Data to Activity
- ProgressDialog

### Fragments

- What is Fragment
- Fragment LifeCycle
- FragmentManager
- FragmentTransaction
- Passing Data to Fragment
- DialogFragment

### Introduction to Menu

- How to create menus?
- Types of Menus
- OptionMenu
- ContextMenu
- ContextActionBar
- PopUpMenu
- Menu Groups
- SubMenu

### Navigation

- NavigationDrawer
- NavigationView
- DrawerLayout
- Handling Drawer Events

### Intents

- What is an Intent?
- Types of Intents
- Intent Filters



- Using Intents to handle Pictures
- Explicit Intent
- Implicit Intent
- Sending UserData to Another App
- Getting a result from an activity
- Allowing another apps to start activity

### **Notifications**

- Creating a Notification Channel
- Notification Builder
- Expandable Notification using Images
- Expandable Notification using text
- Notification Groups

### **Handling Background Tasks**

- AsyncTask
- Loader
- AsyncTaskLoader

### **Broadcast and Receivers**

- Sending Broadcast
- Registering Receiver
- Broadcasting Custom Intents
- LocalBroadcast Manager
- Broadcast with Permissions

### **Database Operations**

- Save Data using SQLite
- SQLiteOpenHelper
- CRUD Operations

**ADVANCED ANDROID****Services**

- Start/Stop Service
- IntentService
- Bound Service

**Application Data and Files**

- Internal Storage
- Cache Files
- External Storage
- Public/Private Directory
- Shared Preferences
- Preferences
- Saved Instance State

**Content Provider**

- Custom ContentProvider
- Content Resolver
- Authority
- Content URI
- CRUD Operation using ContentProvider

**Loaders**

- Explaining Loaders
- LoaderManager
- LoaderCallback
- CursorLoader

**Camera**

- Capture Image
- Capture Video
- VideoView

**Telephony**

- TelephonyManager
- Read Call State
- Phone Call
- SMS Message
- Message Delivery Broadcast
- Send Email

**Styles and Themes**

- Providing Resources
- Handling Runtime Changes

- Applying styles and themes
- Material Design

**Handling Events**

- Responding to different events like
- OnClick()
- OnLongClick()
- onFocusChange()
- onTouch()
- OnKeyUp()
- OnKeyDown()

**Animation**

- Clockwise
- Blink
- Fade
- SlideIn
- SlidOut
- Zoom

**JSON**

- Introduction to JSON
- Advantage of JSON over XML
- Syntax and structure of JSON
- Sending and Parsing JSON

**WebServices**

- Installation of web server
- Connecting android with webserver
- Web Service architecture
- Parsing JSON with web
- CRUD operations using JSON
- with web server

**Google Cloud Messaging**

- What is GCM?
- GCM Architecture
- GCM Services

**Integration**

- Facebook Integration
- Twitter Integration
- Google/Gmail Integration



### **Working with Sensors**

- Introducing Sensors
- Working with sensor manager
- Finding and using sensors
- Introducing accelerometers

### **Volley Library**

- Introduction to volley library
- Advantages
- Handling different types of requests
- Volley library components

### **Firestore**

- Realtime database
- Cloud Storage
- Authentication
- Cloud Messaging
- Admob

### **Kotlin**

- Introduction to kotlin
- Variables
- Operators
- Decision Making and Looping
- Collections
- Strings
- Functions
- Classes and Objects
- Multithreading
- Kotlin with android

### **Debugging of an Application**

- Logcat