

Mobile Application Development

Course Duration: 18 Days

Java Fundamentals for Android Application Development (2Days)

Lesson 1: Java Basics

- Introduction
- Java Programming Language
- Java Virtual Machine
- JDK and JRE
- Setting up your machine for Java programming
- Hello World in Java
- Using a text Editor
- Using an IDE
- Java Primitive Data Type
- Naming
- Arrays
- Control Flow
- If/Else and Switch
- Switch statement
- While loop
- For Loop

Lesson 2: Object Oriented Programming

- Introduction
- Object Oriented Programming
- Objects
- Classes
- Getters and setters
- Inheritance
- Keywords this and super
- Interface
- Access Modifiers
- Constructors
- Method overriding and overloading

- Polymorphism

Lesson 3: More Java Programming

- Introduction
- Exceptions
- Java Collections
- Interfaces
- Implementations
- Introduction Nested Classes
- Benefits of inner classes
- Class Variables (static)
- Class Methods
- Enumerated types
- Serialization
- Deserializing

Android Application Development

Lesson 4: Android Framework and Android Studio

- Introduction
- Android Software Layers
- Android Libraries
- Components of an Android Application
- Application Life-cycle
- Pre-requisites for Android Application Development
- Android Studio
- Gradle

Lesson 5: Android SDK Tools and Activity Class

- Android Project Structure
- The Android Manifest File
- Structure of the Manifest File
- Android SDK Tools
- Activity

Lesson 6: Fragments, Views, and List View

- Introduction
- Fragments
- Views
- List Views and List Activity

Lesson 7: Intents and Intent filters

- Introduction
- Intents
- Native Android Actions
- Data Transfer

- Intent to Call Activities
- Register an Intent Filter

Lesson 8: Android Layouts and Custom Views

- Introduction
- Views
- Layouts
- Customized Views
- Modify Existing Views

Lesson 9: Android Resources, Themes, and Material Design

- Introduction
- Android Resources
- Android Themes and Styles
- Android Material Design

Lesson 10: Android UI – Dialogs, Menus, and WebView

- Introduction
- User Interaction through Messages
- Dialogs
- Activities with Dialog Theme
- Toasts
- Menus
- Context Menus
- Additional Menu Item Options
- Popup Menus
- Web View

Lesson 11: Android Storage and Background Processing

- Android Storage Options

- File I/O
- Shared Preferences
- Connecting to the internet
- Background Processing

Lesson 12: Android Storage: SQLite and Content Providers

- Introduction
- Databases in Android
- Content Providers
- Native Android Content Providers
- Custom Content Provider
- Sync Adapters

Lesson 13: Android Notifications

- Introduction
- Creating a notification
- Notification actions
- Expandable Notifications
- Notifications Layouts
- Notification Priority
- Notifications in Android 5.0 (Lollipop)

IOS Application Development Using Objective C

14. Objective C

- Introduction to Objective C
- Data types & Variables
- @ Interface & @Implementation Section
- @ property & @synthesize accessor Method
- Protocols

15. Introduction to iOS Application Development

- Introduction of iOS
- What's different about coding for iOS ?

16. iOS Stack and Setting development Environment

- A top down tour of the layers
- About UIKIT, Cocoa Touch
- Setting up your project in XCODE

17. Getting Familiar with XCODE (IDE)

- The XCODE workspace window
- The Toolbar
- The Navigator View
- Project Navigator
- Symbol Navigator
- Search Navigator
- Debug Navigator
- Break- Point Navigator
- Log Navigator
- The Jump Bar
- The Utility Pane
- Closer look to Project

18. MVC and User Interfaces

- View Controller
- Outlets and Actions

- Button and Action Methods
- Image View and Text Fields
- Closing Keypad
- Slider and Label
- Tags,
- Checkbox and Radio
- Alert Controller
- Switches and Segment Controls
- Web View
- More UI Components

19. Auto rotation, Auto sizing

- Mechanics of Autorotation
- Points, Pixels and Retina display
- Autorotation Approaches
- View Orientation
- Auto sizing with different apple devices

20. Multi view Application

- Architecture of Multi View Application
- Root controller
- Navigation Controller
- Tab Bar Controller
- Segues

21. Working with Pickers

- Date Picker
- Single Component picker
- Multi Component picker
- Custom picker with images
- Delegates and Data sources

22. Table view with Navigation Controllers

- Working with Table View
- Working with Table View Controller
- Grouped and Indexed Section
- Header and Footer
- Custom Table View
- Connecting View controller with Table View Controller

23. Basic Data Persistence

- Store data in file
- Core Data
- SQLite Databases
- Accessing remote database (Web Services)

24. Grand Central Dispatch

- Overview of Grand Central Dispatch
- Slow worker
- GCD: Playing with queues
- Background processing

25. Deploy your application

- Overview on deployment of application
- Generating Certificate Request
- Provision Profile
- App ID Creation
- Deploy Application

Cross Platform – Phone gap

26. Phonegap Introduction

- Introduction
- History
- Architecture

27. Introduction to HTML & CSS

- Basics
- Simple website making
- Styling using CSS

28. Adding functionalities using jQuery/JavaScript

29. Setting up of environment

- Downloading and installing PhoneGap
- Installing PhoneGap in eclipse
- Making hello world

30. Introduction and usage of Phonegap Build Services

31. User Interface Development with jQuery Mobile

- Introduction
- Creating Pages
- GUI making
- Navigation bar, buttons, grids and Other Controls
- Persisting data between jQuery Mobile pages

32. PhoneGap API

- **Movement and Location**
 - Detecting device movement using the accelerometer
 - Obtaining device geolocation sensor information
 - Retrieving map data through geolocation coordinates
- **File System, Storage, and Local Databases**
 - Saving a file to device storage
 - Opening a local file from device storage
 - Displaying the contents of a directory
 - Creating a local SQLite database
- **Working with Audio, Images, and Video**
 - Recording audio within your application

- Playing audio files from the local filesystem
- Capturing video using the devices video recording application
- Loading a photograph from the devices camera roll/library
- **Working with Your Contacts**
 - Listing all available contacts
 - Displaying contact information for a specific individual
 - Creating and saving a new contact
- **Work with Native Events**
 - Pausing your application
 - Resuming your application
 - Displaying the status of the device battery levels
 - Displaying network connection status

33. Extending PhoneGap with Plugins

- Extending your Cordova application with a native plugin
- Extending your Cordova iOS application with a native plugin
- The plugin repository

34. Deploying and testing

- Compiling it to APK files
- Exporting to android device
- Testing app on Emulator
- Testing app on Device

35. App Store Submission

- Signing Android applications
- Submitting the app to Google Play Store