

Android / Mobile App Development

Duration: 70 Hours

Prerequisites

- Knowledge of Basic Programming

Core Java Concepts (20 Hrs)

1. Introduction to Java

- History of Java
- Features of Java

2. Overview of Java

- OOP's Concept
- Data types and Variables
- Operators
- Control Structures
- Strings
- Arrays

3. Objects and Classes

- Object, Classes and Methods
- Method Overloading
- Constructors
- Garbage Collection

4. Inheritance

- Types of Inheritance
- Method Overriding
- Dynamic method dispatch

5. Packages and Interfaces

- Defining Packages
- Extending Interfaces

6. Exception Handling

- Fundamentals of Exception Handling
- Exception types
- Try and Catch and finally
- Multiple Catch
- Nested Try Statements
- Throw , throws
- Custom Exception

7. Collections Framework

- Collection Interfaces and Classes
- Iterators
- Comparators

8. Multithreading

- Life cycle of Thread
- Thread priority

Android / Mobile Application Development (50 Hrs)

1. Android Basics

- Android Overview
- Android Environment Setup
- Android Architecture
- Simple Hello World Example
- Explain Android Application Folder Structures

2. Android User Interface

- Android SDK Overview
 - Explain the Application structure
 - different folders created for simple Android Application Project
 - Explain about different xml files used in Android Application
 - Explain AndroidManifest.xml file
 - Configuring the Android Manifest File
 - Managing your App Identity
 - Registering Activities and other App Component
 - Use of Permissions
 - Other Manifest settings
 - Android UI Layout
 - Linear Layout
 - Grid Layout
 - Relative Layout
 - Frame Layout
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- Android UI Controls
 - Text View
 - Edit Text
 - Auto Complete Text View
 - Button
 - Image Button
 - Check Box
 - Toggle Button
 - Radio Button
 - Progress Bar
 - Spinner
 - Time Picker
 - Date Picker

3. Android Advanced Concepts

- Use of Camera
- Use of Bluetooth

4. Some Useful Examples

- How you can make your app to support multiple devices 3
 - Android Best Practices 25
 - Android styles
 - Use of Styles
 - Style Inheritance
 - Android Themes
 - Creating Custom Component
 - Explain how to create Custom Component.
 - Drag and Drop
 - Drawing and working with Animation
 - Drawing on the Screen
 - Working with Canvas and Paints
 - Working with Text
 - Working with Bitmaps
 - Working with Shapes
 - Working with Animation
 - Android Data Storage API
 - Storing data using SQLite Storage API
 - Working with File and Directories
 - Sharing Data between Application
 - Android Built-In Content Providers
 - Modifying Content Providers
 - Enhancing Applications by using Content Providers
 - Make your application to Act as a Content Provider.
 - Location Based Services
 - Use of GPS
 - Geocoding Locations
 - Mapping Locations
 - Android Multimedia API
 - Working with Images
 - Working with Videos
 - Working with Audio
 - Android Telephony API
 - Sending SMS
 - Making and Receiving Phone Call
 - Sending Email
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