

# INFOSOFT IT SOLUTIONS

## Training | Projects | Placements

Revathi Apartments, Ameerpet, 1<sup>st</sup> Floor, Opposite Annapurna Block, Info

soft it solutions Software Training& Development 905968394,918254087

### KOTLIN ANDROID APP DEVELOPMENT TRAINING

#### **1: Introduction to Kotlin**

1. Kotlin Overview
2. Setting up Kotlin for Android Development
3. Kotlin Basics: Variables, Data Types, Control Structures
4. Functions and Lambdas in Kotlin
5. Null Safety and Optionals in Kotlin

#### **2: Android App Fundamentals**

1. Introduction to Android Development
2. Android Studio IDE Overview
3. Activities and Intents
4. Layouts and Views
5. Resources and Assets Management

#### **3: Kotlin and Android Views**

1. Working with XML Layouts in Kotlin
2. Handling UI Events with Kotlin
3. RecyclerView and Adapter Implementation
4. Fragment Basics and Navigation

#### **4: Data Persistence**

1. Shared Preferences for Simple Data Storage
2. SQLite Database with Room Persistence Library
3. Working with Content Providers

## **5: Networking and APIs**

1. Making HTTP Requests with Retrofit
2. Parsing JSON with Kotlin
3. Handling Network State and Connectivity

## **6: Advanced Topics**

1. MVVM Architecture with Live Data and View Model
2. Dependency Injection with Dagger Hilt
3. Background Processing with Coroutines
4. Testing Kotlin Android Applications

## **7: Publishing and Monetization**

1. Preparing for Release: Signing and Pro Guard
2. Uploading to Google Play Store
3. Monetization Strategies

## **ADVANCE TOPICS :-**

### **1: Advanced Kotlin Features**

1. Coroutines and Asynchronous Programming
2. Advanced Functions: Inline Functions, Higher-Order Functions
3. Sealed Classes and Enumerations
4. Delegated Properties and Lazy Initialization

### **2: Advanced Android Components**

1. Custom Views and View Groups
2. Advanced RecyclerView View Techniques: Item Animations, Drag and Drop
3. Customizing Toolbars and Navigation Components
4. Using Motion Layout for Complex Animations

### **3: Advanced Architecture Patterns**

1. Reactive Programming with Rx Java or Kotlin Flow
2. Implementing Clean Architecture with Kotlin
3. Using Android Jetpack: Work Manager, Paging Library
4. Data Binding and Two-Way Data Binding

### **4: Advanced Data Handling**

1. Offline Data Sync with Room and Retrofit
2. Managing App Data with Firebase Realtime Database or Fire store
3. Integrating Graph QL with Apollo Android

### **5: Advanced Networking and Security**

1. Securing Network Communication: HTTPS, SSL Pinning
2. Handling Authentication and Authorization
3. Using WebSocket for Real-Time Communication
4. Implementing OAuth and JWT Authentication

### **6: Performance Optimization**

1. Memory Management and Leak Detection
2. Profiling and Benchmarking Tools
3. Optimizing RecyclerView Performance
4. Background Optimization Techniques

### **7: Testing and Debugging**

1. Unit Testing with JUnit and Mock K
2. UI Testing with Espresso
3. Debugging and Error Handling Strategies
4. Performance Testing and Profiling

## **8: Advanced Topics in Mobile Development**

1. Augmented Reality (AR) Integration
2. Integrating Machine Learning Models (TensorFlow Lite)
3. IoT Integration with Android Things or Jetpack Compose
4. Advanced App Monetization Strategies