

Android Application Development with Kotlin - Foundation

Duration: 5 Days

Description

Although Kotlin is a free programming language with open source code developed under the Apache 2.0 license, it works 100% compatible with Java and Android. Google announced that the development language for Android in the new period will be Kotlin. Kotlin supports developing applications using Java libraries, making changes to the core parts of the main parts of different operating systems, making on Perl-Linux Shell script strings, and developing server and client based web applications.

What Will You Learn?

- You will be able to program having comprehensive knowledge of Kotlin language.
- You will have comprehensive knowledge of the details of Android programming world.
- You will be able to develop applications in a fully professional way.
- You will be able to turn all your ideas into mobile applications.
- You will be able to deliver your application to many people with platforms such as Google Play.

Outline

KOTLIN Section

Part 1: Introduction to Kotlin

- Introduction to Kotlin
- Android Studio Setup and First Project Creation
- Introducing the Work Environment and Running the First Program
- Opening a Project in Android Studio

Section 2: Variables and Data Types

- Creating Variables
- Constants
- Type Conversion

Section 3: Standard Programming Structures

- If Structure
- When Working Structure
- For and While
- Break - Continue
- Sequence

Section 4: Object Oriented Programming

- Login
- Nullable Type
- Functions
- Overloading
- Extension Functions
- Initialization - Constructor
- Packages and Import
- Visibility Modifier
- Data Class
- Static Variable and Methods
- Enumeration
- Composition
- Introduction to Inheritance
- Inheritance Constructor Relationship
- Inheritance (Override)
- Inheritance (Polymorphism)
- Type Conversion of Objects
- Using Interface

Section 5: Collections

- ArrayList Operations
- Set Work
- Map Study

Part 6: Advanced Kotlin

- Try Catch
- Thread Usage

Android Section

Part 1: Introduction to Android

- Android Login
- Android Studio Setup and First Project Creation (in Section "Introduction to Java")

- Project Creation
- Emulator Setup
- HAXM Installation
- Emulator Introduction
- Running Android Studio Project on Emulator

Part 2: Android Design

- Introduction to Design
- Linear Layout
- Relative Layout
- Constraint Layout - Fixing
- Constraint Layout - Sizing
- Constraint Layout - Alignment
- Constraint Layout - Average
- Constraint Layout - Guide Lines
- Constraint Layout - Chaining
- Multiple Display Support
- Multilanguage support
- Application: Login Screen
- Creating a Logo or Icon for the Application

Part 3: Android Operating Structure

- Creating a New Page
- Lifecycle
- Transition Between Activities
- Data Migration Between Activities
- Data Migration Between Activities - Using a Visual Object
- Back Stack and Back Key
- finish () method
- Fragment Working Structure
- Creating the Application APK
- Using Android App Bundle
- Uploading the Application to Google Play

Part 4: Android Widgets

- Button - TextView - EditText
- Using Toggle Button - Switch
- Using Checkbox and RadioButton
- Using ProgressBar, Seekbar and Ratingbar

- ImageView
- VideoView
- ScrollView
- Using TimePicker and DatePicker
- Using Spinner

Section 5: User Interaction

- Toast Post
- Creating AlertView
- AlertView Customization
- CreatingSnackBar
- Taking SnackBar Return
- SnackBar Customization

Section 6: Material Design

- Material Design Introduction
- Floating Action Button
- Floating Labels
- Toolbar Usage and Customization
- Adding Toolbar Options Menu
- Adding Toolbar Search Feature
- RecyclerView and CardView Introduction
- CardView Design
- Adding RecyclerView Structure to Android Page
- Creating Adapters for RecyclerView
- Showing Data in RecyclerView
- Changing the RecyclerView Listing View
- Adding a PopUp Menu on RecyclerView
- Application: RecyclerView Detailed Design
- Using Bottom Navigation View
- Using Tab Layout
- Navigation Drawer Entry and Menu Creation
- Creating the Design of the Navigation Drawer
- Opening the Navigation Drawer
- Closing with the Navigation Drawer Back Button
- Clicking on the Navigation Drawer Menu Items
- Displaying Fragments on the Navigation Drawer
- Adding a Title to Navigation

Part 7: Android Storage Operations

- Using SharedPreferences
- SharedPreferences: Entry Counter Application
- External Storage - External Storage
- Internal Storage - Internal Storage
- Introduction to Database
- SQL statements with DB Browser
- FOREIGN KEY queries with DB Browser
- Data recording and Reading with SQLite
- Deleting and Updating Data with SQLite
- SELECT Queries with SQLite
- SQLite Ready Database Copy - Table Operations with Foreign Keys
- People Application - Design
- People App - SQLite

Part 8: Advanced Android

- Broadcast Receiver: Charge Level
- Broadcast Receiver: SMS Capture
- Creating Notifications
- Push Notification - Internet Based

Section 9: Internet-Based Operations

- Restful Architecture
- Mysql Database on the Internet
- Writing Web Services with PHP
- Host a PHP Web Service
- Json Parse Process
- Volley Library Introduction - Insert Process with Volley
- Update - Delete Process with Volley
- The Select Process with Volley
- Retrofit 2 Library Installation
- Select Operation with Retrofit 2
- Insert - Update - Delete Operation with Retrofit 2
- Using Picasso Library
- Firebase Realtime Database Login and Installation
- Firebase Realtime Database Insert - Delete and Update Operations
- Firebase Realtime Database Select Operations
- Firebase Realtime Database Child Event Listener

- People App - Volley
- Contacts App - Retrofit 2
- Contacts Application - Firebase Realtime Database

Section 10: Location Operations

- Using Android Permission Controls
- GPS positioning
- Using Google Maps

Prerequisites

To have basic computer skills.