Android with Kotlin Training Curriculum

STRUCTURE

Android with Kotlin Training Curriculum

Course Objectives:

- Learn Android and Kotlin from scratch for building apps
- Learn how to make your own app in Kotlin.
- Prepare yourself for global certification exam and get hired.
- Earn credentials to your resume and acquire higher salary packages.
- Get 100 percent placement assistance and learn to apply for jobs.

Course Description:

Kotlin is expressive, concise, and powerful official language on Android. It can interoperate with our existing Android languages and run-time. It is an open source project under Apache 2.0 and adopted by the largest global companies Google. It has safety features for nullability and immutability which make Android apps healthy and performant by default.

In this course, you will learn to programme in Kotlin. The course will start with the fundamentals of Kotlin that is completely suitable for beginners. You will put what you learn into practice in various coding challenges so that after completion of this course you could make your own mobile application in Kotlin.

Course Content Overview:

- Introduction to Kotlin
- Control Flow Statements
- Function & Object-Oriented Programming (OOP)
- Android Framework and Android studio
- Creating user interface UI
- Android Layouts, Styles, Themes and Menus
- Toasts, Activities, Navigation and Views
- Android Dialogs, Snack Bar, Menus, Web View and notification
- Android Storage, SQLite and Content Providers
- Location –Aware Apps: Using GPS and Google Maps
- Placement Guide

Course Content:

Module 1: Introduction

- Kotlin History
- Kotlin Advantages
- How Kotlin Program Work?
- Kotlin software Prerequisites
- Installing Java JDK and JRE
- Installing Android Studio
- Creating Kotlin Project using Android Studio
- Creating a Kotlin Program
- Running a Kotlin Program
- Writing comments
- Kotlin Variables
- Kotlin Data Types
- Input of Information to Kotlin Program

Module 2: Control Flow Statements

- Introduction
- If statement
- If-else- statement
- When Statement and expression
- For Loops
- While Loops
- Do- While loops
- Jump Expressions
- Break Statement
- Continue Statement
- Return statement

Module 3: Function & Object-Oriented Programming (OOP)

- Function
- Function Structure
- Creating a Function
- Function and variable scope
- Object –Oriented Programming (OOP)
- Object and Classes
    - Creating a class
    - Providing Constructors for your classes
    - Class inheritance
    - Overloading constructors
    - Overriding Properties
    - Abstract Class
    - Interface Class

- Generic Class
- Enum Class
- Class Variables
- Member Variables
- Kotlin collection
  - Class Hash maps
  - Class Array List
  - Method mutuableListof

Module 4: Android Framework & Android Studio

- Introduction
- Android Platform Architecture
- Android Libraries
- Components of Android application
- Types of Android processes and their properties
- Android Application Development
  - Android SDK platform
  - Integrated Development Environment (IDE)
  - Android Studio
  - Gradle
  - Instant Run
- Create your first android application

Module 5: Creating UI

- Introduction
- Android Project Structure
- View
- Creating user interface
  - Add a text box
  - Add an Image
  - Add Check Box
  - Add Radio Button
- Create your application user interface
- Configure the Android application code
- Run your application

Module 6: Android Layouts, Styles, Themes and Menus

- Introduction
- Views
- Layouts
- Constraint layout
  - Linear Layout
  - Relative Layout
  - Table Row Layout
  - Frame Layout

- - Screw view Layout
  - Android Styles and Themes
    - Android Styles
    - Android Themes
  - App manifest
  - Adaptive Icons
  - Create your application layout
  - Configure your styles and themes
  - Configure your app icon

Module 7: Toasts, Activities, Navigation and Views

- Toasts
  - Context Class
  - Toast Class
  - Positioning your toast
- What is an Activity?
  - Activity Lifecycle
  - Managing the activity life cycle
- Android Intent
  - Navigation between activities
  - Passing data between activities
- Android Views
  - List View
  - Recycler view
- Configuring Android Recycler view
  - Adding a Recycler View to an Activity
  - Creating a Card View
  - Creating your recycler view adapter
  - Adding Data to your recycler view
  - Adding Event Listeners to each Recycler View Row

Module 8: Android Dialogs, Snack Bar, Menus, Web View & Notification

- Introduction
  - Android Dialogs
  - Alert Dialog
  - Progress Bar
  - Seek Bar
  - Date Picker Dialog
  - Time Picker Dialog
- Snack Bar
- Menus
- Web View
- Android Notifications
  - Creating an Android notification
  - Notification channel
- Configuring Android Web Browser, Menu and notification

- Configuring Android Web Browser
- Adding Android Menu
- Creating a notification channel and a notification message

Module 9: Android Storage, SQLite and Content Providers

- Android Storage Options
  - Shared Preferences
  - Internal Storage
  - External Storage
  - Network Connection
- SQLite Databases
  - SQLite Database in your application
  - SQLite Library
  - Creating an adapter class for SQLite Database
- Content Providers
- Creating a Content Provider
- Sync Adapters
- How Sync Adapters work
- ORM Lite
- Choosing Internal or External storage
- SQLite databases and Content Providers
  - Creating an SQLite Database
  - Querying an SQLite DB Table
  - Creating a content provider
  - Utilizing ORM Lite Library

Module 10: Location –Aware Apps: Using GPS and Google Maps

- Introduction
- What is GPS and how does it work?
- Other Location Service Providers
- Configuring Google Maps
  - Map fragment
  - Getting a Google API key
  - Adding a Google Map Marker
  - Methods to Capture a User's Location
  - Reveres Geo Location and Geocoder class
- JSON and API
- Location Aware Apps using a GPS and Google Maps

Module 11: Placement Guide

- Tips to clear an Interview
- Common Interview questions and answers
- Android with Kotlin Interview Questions and Answers
- Resume Building Guide
- Attempt for Kotlin Global Certification Exam