Deep Dive Flutter Application Development

Duration: 56 Hours (7 Days)

Overview

The Deep Dive Flutter Application Development certification likely represents a formal recognition of expertise in developing applications using Flutter, Google's UI toolkit for building natively compiled applications for mobile, web, and desktop from a single codebase. This certification would assure proficiency in Flutter's basic concepts such as Widgets, State management, Animation, and Integration with external services and APIs. Industries use Flutter to facilitate rapid, cost-effective Cross-platform app development with a high degree of customization and performance that is akin to Native app development. By hiring certified developers, companies ensure a high standard of app quality and efficiency in their development processes.

Audience Profile

- Aspiring mobile developers seeking to master cross-platform apps
- Software engineers wanting to enhance their app development skills with Flutter
- Tech professionals aiming to switch to mobile app development
- Computer science students focused on learning cutting-edge app technology
- Existing developers looking to diversify their skill set in the mobile domain

Course Syllabus

1. Introduction to Flutter and Dart Programming Language

- Introduction of Flutter
- Introduction to Dart
- Dart Pad
- Installation Dart SDK

Lab: Installing Dart IDE and Writing Dart Programs

2. Dart Programming

- Introduction
- Main() function
- Dart Variables
- Dart Data Types
- Input of Information to Dart Program
- Writing Comments
- Dart Conditional Operators
- If Statemetn
- If-Else and Else-IF Statement
- If Else and Logical Operators
- For Loops
- While Loops
- Do- While Lopps

- Switch Case Statement
- Understanding Streams and Stream Builders

Lab: Create a Pizza Order Program

3. Dart Functions and Object-Oriented Programming

- Functions
- Function Return Types
- Function and Variable Scope
- Function Return Expression
- Class and Object
- Methods to Class
- Constructors
- Getter and Setter
- Inheritance and Abstract Class
- Dart Project Structure and Dart Libraries

Lab: create a Small Overtime Payment Program

4. Introduction to Flutter

- Flutter Framework
- Android Studion and Working
- Flutter SDK
- Installation and Configuring Flutter SDK
- Introduction to Flutter Widgets

Lab: Create a Simple Flutter App

5. Flutter Widget Fundamentals

- Scaffold
- Image
- Container
- Column and Row
- Icon
- Layouts
- Card
- App Icons
- Stateful and Stateles Widgets

Lab: Create a Resturant Menu

6. Navigation and Routing

- Button Widget
- App Structure and Navigation
- Navigate to a New Screen and Back
- Navigate with Named Routs
- Send and Return Data Among Screens
- Animate a Widget across screens

- Web View widget

Lab: Navigation and Routing a Pizza Store App

7. Visual, Behavioral and Motion Rich Widgets

- Bottom Navigation Bar
- Tab Controller, Tab Bar and Tab Bar View Widgets
- List Tile
- List View
- Drawer
- Data Table
- Selectable Text
- Stack Widget
- Input and Selections
- Dialogs, Alerts and Panels

Lab: Creating a Hotel Reservation App

8. Introduction to Flutter and BLOC

- Introduction Flutter and BLOC Pattern
- Overview of Bloc Architecture
- State Management

9. Firebase

- Introduction
- JSON
- Firebase Authentication (Sign UP and Login to Flutter App)
- Configure App to use Firebase Services
- Firebase Database

Lab: To-DO App

- Designing the UI for a TODO app
- Implementing Features such as Adding , Editing and Deleting Task
- Managing Taks Categories and priorities
- Use of local Storage

Lab: User Authentication

- Implement User Authenticationa and Register Function
- Secure Loging and Registeration using Firebase
- Managing Session and Authentication State

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

- Introduction
- GPS and How works
- The Camera Position
- Adding Google Maps to a Flutter App
- Location Aware Apps using GPS and Google Maps

11. App Testing and Publishing

- Setup a Test Environment
- Usability Testing
- Test Sessions
- Analysing Test