



FLUTTER

Programming & development



POSITIVE QUADRANT
S
SERVING INFORMATION WORLDWIDE
Course Curriculum

Basic – 45 Hours



FLUTTER

Introduction to Flutter

Session 1: Introduction to Flutter and Dart

- Overview of Flutter and Dart
- Installing Flutter and Dart SDK
- Setting up the development environment

Session 2: Dart Programming Fundamentals

- Dart syntax and features
- Object-oriented programming in Dart
- Asynchronous programming and Futures



Session 3: Flutter Project Setup and Basics

- Creating a Flutter project
- Understanding the project structure
- Introduction to the widget tree and hot reload

Flutter Widgets and UI Components

Session 4: Basic Widgets and Layouts

- Introduction to StatelessWidget and StatefulWidget
- Commonly used widgets (Container, Row, Column, Stack)

Session 5: Advanced Layouts and Navigation

- Nested layouts and complex UI structures



- Navigation in Flutter (Navigator, named routes)

Session 6: State Management in Flutter

- Understanding Stateful vs. Stateless widgets
- setState, InheritedWidget, and Provider for state management
- Applying state management to real-world scenarios

Networking and Data Handling

Session 7: Making HTTP Requests

- Using the http package for API calls
- Handling different types of requests (GET, POST)

Session 8: Parsing and Managing Data

- Working with JSON data
- Model classes and serialization

Session 9: Local Database with SQLite

- Introduction to SQLite in Flutter
- Performing CRUD operations with a local database

Flutter UI Components and Animations

Session 10: Forms and User Input

- Creating and validating forms
- Handling user input with TextEditingControllers



Session 11: Custom Widgets and Theming

- Building reusable custom widgets
- Theming and styling in Flutter

Session 12: Animations in Flutter

- Introduction to Flutter animations
- Using AnimationController, Tween, and Hero animations

State Management and Architecture

Session 13: Redux Package for State Management

- In-depth coverage of the Redux package
- Global state management with StoreProvider

Session 14: Architectural Best Practices

- Clean Architecture principles
- Code organization and project structure

Advanced Topics and Deployment

Session 15: Advanced UI Techniques

- Custom Painters for custom drawings
- Advanced UI techniques

Session 16: Firebase Integration

- Setting up Firebase in a Flutter project
- Firestore for real-time database



Session 17: Deploying Flutter Apps

- Building for Android and iOS
- Deploying to app stores

Final Projects and Conclusion

Session 18: Group Projects

- Working on larger group projects applying learned concepts

Session 19: Course Recap and Q&A

- Review of key concepts
- Open discussion and Q&A

