



# FLUTTER

Programming & development



**POSITIVE QUADRANT**  
S  
SERVING INFORMATION WORLDWIDE  
**Course Curriculum**

Basic – 60 Hours



# FLUTTER

## Introduction to Flutter and Dart

### Session 1: Introduction to Flutter

- 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: Understanding State Management

- Stateful vs. Stateless widgets
- Introduction to setState and its limitations

### Session 14: Redux for State Management

- Using the Redux package
- Global state management with StateProvider

### Session 15: Architectural Best Practices

- Clean Architecture principles
- Code organization and project structure

## Advanced Topics and Deployment

### Session 16: Advanced UI Techniques

- Custom Painters for custom drawings
- Advanced UI techniques



## Session 17: Firebase Integration

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

## Session 18: Deploying Flutter Apps

- Building for Android and iOS
- Deploying to app stores

## Final Projects and Conclusion

### Session 19: Group Projects

- Working on larger group projects applying learned concepts

### Session 20: Course Recap and Q&A

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

