



FLUTTER

Programming & development



POSITIVE QUADRANT
S
SERVING INFORMATION WORLDWIDE
Course Curriculum

Basic – 30 Hours



FLUTTER

Getting Started with Flutter

Session 1: Introduction to Flutter and Setup

- Overview of Flutter and Dart
- Installing Flutter and Dart SDK
- Setting up the development environment (Visual Studio Code, Android Studio)

Session 2: Dart Programming Fundamentals

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



Session 3: Building a Simple Flutter App

- Creating a basic Flutter project
- Understanding the widget tree
- Exploring the Flutter DevTools

Flutter Widgets and Layouts

Session 4: Exploring Basic Widgets

- 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: Building a Multi-Screen App

- Passing data between screens
- Implementing navigation patterns (bottom navigation, tab bars)

State Management in Flutter

Session 7: Understanding State Management

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

Session 8: Redux for State Management

- Using the Redux package
- Global state management with StateProvider

Networking and Data Handling

Session 10: Making HTTP Requests

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

Session 11: Parsing and Managing Data

- Working with JSON data
- Model classes and serialization

Flutter UI Components and Animations



Session 12: Forms and User Input

- Creating and validating forms
- Handling user input with TextEditingControllers

Session 13: Custom Widgets and Styling

- Building reusable custom widgets
- Theming and styling in Flutter

Session 14: Animations in Flutter

- Introduction to Flutter animations
- Using AnimationController and Tween

Advanced Topics and Deployment

Session 15: Advanced UI Techniques

- Custom Painters for custom drawings
- Hero animations for seamless transitions

Session 16: Best Practices and Optimization

- Code organization and project structure
- Performance optimization techniques

Final Projects and Conclusion

Session 17: Group Projects

- Working on small group projects applying learned concepts

Session 18: Course Recap and Q&A



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

