

Mobile App Development with Flutter

Official Course Roadmap

🌐 Website: Ts-Developers.com

📄 Prepared by: Abdul Basit (Founder & CEO)

📞 WhatsApp: 0307-5630721

◆ Module 1: Dart Programming Essentials (Weeks 1–4)

- **Intro to Flutter Ecosystem:** Setup of Flutter SDK, Android Studio, and VS Code.
- **Dart Basics:** Variables, Data Types (String, Int, Double, Boolean), and Null Safety.
- **Logic Building:** Conditional Statements (If-Else), Loops, and Switch Cases.
- **Collections:** Mastering Lists, Maps, and Sets.
- **Functions:** Optional parameters, Arrow functions, and Lexical scope.

◆ Module 2: Object-Oriented Programming (Weeks 5–8)

- **OOP in Dart:** Classes, Objects, Constructors, and Getters/Setters.
- **Advanced OOP:** Inheritance, Mixins, Abstract Classes, and Interfaces.
- **Asynchronous Programming:** Futures, Async/Await, and Streams.
- **Error Handling:** Try-Catch blocks and Exception handling.
- **Project:** Building a CLI-based Task Manager in Dart.

◆ Module 3: Flutter UI & Layouts (Weeks 9–12)

- **Widget Fundamentals:** Stateless vs Stateful Widgets and the Widget Tree.
- **Material Design:** Scaffold, AppBar, FloatingActionButton, and Drawers.
- **Layout Mastery:** Rows, Columns, Stacks, Containers, and Expanded widgets.
- **Responsive UI:** Using MediaQuery and LayoutBuilder for different screen sizes.
- **Assets:** Working with Images, Custom Fonts, and SVG icons.

◆ Module 4: User Interactivity & Navigation (Weeks 13–16)

- **Input Widgets:** TextFields, Buttons, Checkboxes, and Form Validation.
- **Lists & Grids:** ListView.builder and GridView for dynamic data.

- **Navigation & Routing:** Named routes and passing data between screens.
- **Packages & Plugins:** Integrating external libraries from pub.dev.
- **Project:** Multi-screen Personal Portfolio App.

◆ **Module 5: State Management & Local Data (Weeks 17–20)**

- **State Management:** Introduction to Provider or Riverpod (Industry Standard).
- **Local Storage:** Saving data using Shared Preferences and SQLite.
- **Theme Management:** Light vs Dark Mode implementation.
- **Animations:** Implicit animations and Hero transitions.
- **Project:** Daily Expense Tracker with Local Database.

◆ **Module 6: API Integration & Firebase (Weeks 21–24)**

- **REST APIs:** Fetching and Posting data using http package and **Postman**.
- **JSON Serialization:** Converting API responses into Dart Models.
- **Firestore Core:** Authentication (Email/Google), Cloud Firestore, and Storage.
- **Push Notifications:** Implementing Firebase Cloud Messaging (FCM).
- **Project:** Real-time News App or Weather App using Live APIs.

◆ **Module 7: Final Project & Deployment (Weeks 25–32)**

- **Project Planning:** ERD Mapping and UI/UX design in Figma.
- **Full-Stack App:** Building a complete E-commerce or Social Media clone.
- **Testing:** Debugging, DevTools, and Performance Profiling.
- **Store Deployment:** Generating Keystore and publishing on Google Play Store.
- **Paid Internship:** Top performers start their career at **TS-Dev Pvt Ltd**.
- **Certification:** Final Project Submission and Viva.