

# Training Program Content

# Program Objective

This training program is designed to equip participants with the knowledge and practical skills needed to develop Flutter applications in a structured and progressive manner. The curriculum begins with foundational concepts and advances toward complex and production-level skills.

The program follows international best practices and is aligned with current labor market demands, particularly in the healthcare and education sectors. It focuses on practical implementation, preparing participants to contribute effectively to digital transformation initiatives. Apply advanced state management solutions (Provider, Riverpod, Bloc/Cubit, GetX) in their applications.

- ✓ Introduce participants to the fundamentals of Dart and Flutter.
- ✓ Enable participants to build simple applications using Flutter Widgets.
- ✓ Strengthen object-oriented programming skills and data handling.
- ✓ Develop participants' abilities to design and implement user interfaces.
- ✓ Enhance state management capabilities within applications.
- ✓ Introduce advanced architectural patterns (Clean Architecture – MVVM).
- ✓ Provide integration techniques with REST and GraphQL APIs.
- ✓ Train participants on performance optimization and debugging tools.
- ✓ Prepare participants for publishing production-ready apps on Android and iOS.
- ✓ Empower participants to build comprehensive, real-world Flutter projects.

# Training Modules

## Day 1: Introduction to Flutter and Dart

Training Aids	Training Method	Time (Minutes)	Training Topic	Training Session
Computer + Flip Chart + LCD / PowerPoint + Surveys + Case Studies	 Training Video Case Study Group Exercise	10:00–8:00	<ul style="list-style-type: none"><li>Importance and advantages of Flutter.</li><li>Overview of Dart programming language.</li></ul>	<b>Session 1</b>
		10:30–10:00		<b>First Break</b>
		11:50–10:30	<ul style="list-style-type: none"><li>Setting up the development environment (Dart SDK, Android Studio).</li><li>Running applications on emulators and real devices.</li></ul>	<b>Session 2</b>
		12:00–11:50		<b>First Break</b>
		01:30–12:00	<ul style="list-style-type: none"><li>Writing and executing the first program using DartPad</li></ul>	<b>Session 3</b>
		1:30		<b>End of the Program</b>
		<b>5 Hours</b>	<b>Total Training Hours</b>	

## Day 2: Dart Programming Basics

Training Aids	Training Method	Time (Minutes)	Training Topic	Training Session
Computer + Flip Chart + LCD / PowerPoint + Surveys + Case Studies	Training Video Case Study Group Exercise 	10:00–8:00	<ul style="list-style-type: none"> <li>Variables and data types.</li> <li>Conditional statements (if, switch).</li> </ul>	Session 1
		10:30–10:00		First Break
		11:50–10:30	<ul style="list-style-type: none"> <li>Loops (for, while, do-while).</li> <li>Functions and program structure.</li> </ul>	Session 2
		12:00–11:50		First Break
		01:30–12:00	<ul style="list-style-type: none"> <li>Comments, libraries, and code organization.</li> </ul>	Session 3
		1:30		End of the Program
			5 Hours	Total Training Hours

## Day 3: Object-Oriented Programming (OOP) in Dart

Training Aids	Training Method	Time (Minutes)	Training Topic	Training Session
Computer + Flip Chart + LCD / PowerPoint + Surveys + Case Studies	Training Video Case Study Group Exercise 	10:00–8:00	<ul style="list-style-type: none"> <li>Classes and objects.</li> <li>Constructors and properties.</li> </ul>	<b>Session 1</b>
		10:30–10:00		<b>First Break</b>
		11:50–10:30	<ul style="list-style-type: none"> <li>Inheritance and polymorphism.</li> <li>Abstract classes and interfaces.</li> </ul>	<b>Session 2</b>
		12:00–11:50		<b>First Break</b>
		01:30–12:00	<ul style="list-style-type: none"> <li>Project structure and libraries in Dart.</li> </ul>	<b>Session 3</b>
		1:30		<b>End of the Program</b>
		<b>5 Hours</b>	<b>Total Training Hours</b>	

## Day 4: Getting Started with Flutter

Training Aids	Training Method	Time (Minutes)	Training Topic	Training Session
Computer + Flip Chart + LCD / PowerPoint + Surveys + Case Studies	Training Video Case Study Group Exercise 	10:00–8:00	<ul style="list-style-type: none"> <li>• Understanding the Flutter framework.</li> <li>• Installing and configuring the Flutter SDK.</li> </ul>	<b>Session 1</b>
		10:30–10:00		<b>First Break</b>
		11:50–10:30	<ul style="list-style-type: none"> <li>• Setting up emulators (Android/iOS).</li> <li>• Project folder structure.</li> </ul>	<b>Session 2</b>
		12:00–11:50		<b>First Break</b>
		01:30–12:00	<ul style="list-style-type: none"> <li>• Running the first Flutter application</li> </ul>	<b>Session 3</b>
		1:30		<b>End of the Program</b>
		<b>5 Hours</b>	<b>Total Training Hours</b>	

## Day 5: Flutter Widgets Fundamentals

Training Aids	Training Method	Time (Minutes)	Training Topic	Training Session
Computer + Flip Chart + LCD / PowerPoint + Surveys + Case Studies	Training Video Case Study Group Exercise 	10:00–8:00	<ul style="list-style-type: none"> <li>• Stateless vs Stateful Widgets.</li> <li>• Core UI components (Container, Row, Column).</li> </ul>	<b>Session 1</b>
		10:30–10:00		<b>First Break</b>
		11:50–10:30	<ul style="list-style-type: none"> <li>• Working with images, icons, and text.</li> <li>• Using Scaffold and navigation between screens.</li> </ul>	<b>Session 2</b>
		12:00–11:50		<b>First Break</b>
		01:30–12:00	<ul style="list-style-type: none"> <li>• Mini-project: Building a Restaurant Menu App.</li> </ul>	<b>Session 3</b>
		1:30		<b>End of the Program</b>
			<b>5 Hours</b>	<b>Total Training Hours</b>