POSITIVE QUADRANT
TECHNOLOGIES
SERVING INFORMATION WORLDWIDE

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# FLUTTER

## Programming & development

## Course Curriculum

## Basic – 20 Hours

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# FLUTTER

## Module 1 : Introduction to Flutter

### 1.1 Overview of Flutter

- What is Flutter?

- Flutter architecture and how it works

### 1.2 Setting Up Flutter

- Installing Flutter SDK

- Setting up an IDE (e.g., Visual Studio Code)

### 1.3 Hello World in Flutter

- Creating a simple Flutter project

- Understanding the basic structure of a Flutter app

## Module 2 : Dart Programming Basics

### 2.1 Introduction to Dart

- Dart syntax and fundamentals

- Variables, data types, and operators

### 2.2 Control Flow and Functions in Dart

- Conditional statements (if, else)

- Loops (for, while)

- Functions and parameters

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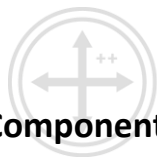## Module 3 : Flutter Widgets

### 3.1 Introduction to Widgets

- Stateless vs. Stateful widgets

- Commonly used widgets

### 3.2 Layouts in Flutter

- Row, Column, Container, Stack

- Understanding the widget tree

### 3.3 Navigation in Flutter

- Navigating between screens

- Passing data between screens

## Module 4 : Flutter UI Components

### 4.1 Working with Forms and Inputs

- TextFields, Dropdowns, and Form validation

### 4.2 ListView and GridView

- Creating scrollable lists and grids

### 4.3 Custom Widgets and Styling

- Creating custom widgets

- Applying styles and themes

### 4.4 Animations in Flutter

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● Basic animations using AnimationController

## Module 5 : State Management

### 5.1 Introduction to State Management

● Understanding the need for state management

● Stateful vs. Stateless widgets

### 5.2 Redux

● Implementing state management with Redux

## Module 6 : Networking and Data Handling

### 6.1 HTTP Requests

● Making API requests using the http package

### 6.2 Parsing JSON Data

● Handling JSON data in Flutter

## Module 7 : Advanced Topics

### 7.1 Advanced UI Techniques

● Custom Painters, Hero animations

### 7.2 Flutter Best Practices

● Code organization, performance optimization

## Module 8 :Conclusion and Q&A

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● Recap of key concepts

● Open floor for questions and discussions