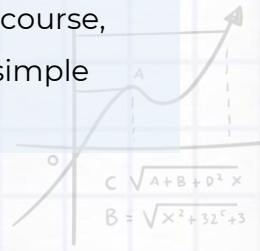


# Build a Mobile App with Payment Gateway using Flutter

## Introduction

This course introduces the Flutter framework for Android app development. Flutter is a modern, cross-platform, and open-source framework built by Google to develop apps on Android, iOS, Web and PC platforms. By taking this course, learners will understand modern app development, and get to build a simple mobile app that integrates a Web-based payment gateway service.



## Aim

- Understand the Flutter Framework and how it makes app development quicker and easier
- Learn how to build UI layouts with Flutter's Widgets
- Build a shopfront layout with products, pricing, and a shopping cart feature
- Integrate a Web-based payment gateway service into the mobile application

## What is being built in this course:

A shopping Android app that uses the Razorpay payment gateway service. Use Android Studio to build the app using dart

A scrollable shopfront UI with products on display

Includes shopping cart feature (add/remove items in cart)

Order payment using Razorpay API (supports credit/debit cards, net-banking, wallets, and UPI) and payment confirmation



## How is it being tested

$$1X = A + 2^x \\ = AB^x$$



- Use ADB to debug the app during development
- Install the generated .APK file onto an Android Emulator/ Android device
- Add items to the shopping cart
- Make a test purchase to verify the payment gateway integration

## Course Prerequisites

Geared at beginners with basic computer programming knowledge. Optional: Basic knowledge of dart, Java, C++, or object oriented high-level programming languages

## Component requirements

S.no	Components	Quantity	Usage (one time or reusable?)	Cost	Online links
1.	Windows 10 64-bit PC or laptop <ul style="list-style-type: none"><li>• RAM: Min: 8GB Recommended: 16GB</li><li>• Free Disk Space: Min: 10GB Recommended: 30GB</li><li>• Screen Resolution: Min: 1280x800px Recommended: 1920x1080px</li></ul>	1	Reusable	Free	<a href="#">Android Studio System Requirements</a>  <a href="#">Flutter Windows System Requirements</a>
2.	Android Studio IDE and SDK for Windows	1	Reusable	Free	<a href="#">Android Studio Download Page</a>
3.	Flutter SDK for Windows	1	Reusable	Free	<a href="#">Flutter SDK Windows Download Page</a>
4.	Android Emulator	1	Reusable	Free	<a href="#">Android Studio - Run apps on the Emulator</a>
5.	(Optional) Android Device	1	Reusable	Varies	<a href="#">Android Studio - Run apps on a hardware device</a>

## Video Lessons

S.no	List of video lectures	Duration (~20min per lesson)	Remarks
1.	Overview of the Course	~5min	
2.	Introduction to Flutter Framework <ul style="list-style-type: none"><li>• What is Flutter?</li><li>• Why Flutter?</li><li>• Anatomy of a Flutter app</li></ul>	~5min	
3.	Installing Flutter and Android Studio <ul style="list-style-type: none"><li>• Prerequisites</li><li>• Install Flutter SDK</li><li>• Install Android Studio and plugins</li><li>• Install Android Emulator</li><li>• Configure Android Studio for Flutter Development</li><li>• Guided tour of Android Studio IDE</li></ul>	~20min	
4.	Create a Flutter Project from Scratch <ul style="list-style-type: none"><li>• Scaffolding assets a Flutter App</li><li>• Add to the app using the Pubspect file</li><li>• Add app icon</li></ul>	~15min	
5.	Building the App Layout – Part 1 <ul style="list-style-type: none"><li>• The Container Widget</li><li>• The Row and Column Widgets</li><li>• Widget Properties: Expanded and Flex</li><li>• The Floating Action Button</li></ul>	~15min	
6.	Building the App Layout – Part 2 <ul style="list-style-type: none"><li>• The Card and ListTile Widgets</li><li>• The ListView and GridView Widgets</li><li>• Adding Custom Fonts to the app</li><li>• Adding Material Icons with Icon Widget</li></ul>	~15min	
7.	Making a Responsive App – Stateful Widgets <ul style="list-style-type: none"><li>• The Button Widget and onPressed() method</li><li>• Theory: Stateful vs Stateless Widgets</li></ul>	~15min	

S.no	List of video lectures	Duration (~20min per lesson)	Remarks
8.	Creating the payment gateway <ul style="list-style-type: none"> <li>• Create a Razorpay account and log in to the dashboard</li> <li>• Get the API Key</li> <li>• Install Flutter Razorpay package and configure the API</li> <li>• Sample Output Razorpay</li> <li>• Showing the Order Success Screen</li> </ul>	~20min	
9.	Coding the Shopping Cart Feature <ul style="list-style-type: none"> <li>• Modifying the setState() method to update price</li> <li>• Adding and removing caPresentation6rt items</li> <li>• Confirming the Order and Opening Payment Gateway</li> </ul>	~10min	
10.	Putting it All Together <ul style="list-style-type: none"> <li>• Conclusion: Installing and Running the final App on Mobile Device</li> </ul>	~10min	
	Total	~ 2hr 10min	

## Where to source your components

S.no	List of homework Content (~5hrs)
1.	Create an app page which can display a product with its details.
2.	Create a Shopping Cart which can add and remove items.
3.	Implement Payment gateway with Razorpay Test mode with a click of a button.
4.	Build an Ecommerce app with payment gateway.

# Step-by-step Procedure to Build & Test

S.no	Step-by-Step Procedure	Time
	Downloading and Installing Flutter and Android Studio. Configuring Android Studio for Flutter Development.	15min
	Creating a simple Flutter Project using available app layouts.	15min
	Creating and using button widgets in the app.	15min
	Creating a shopping cart which can add or remove.	30min
	Using Razorpay payment gateway to process the transactions.	15min
	Integrating payment gateway with the app.	15min

