

# Setting Up Android Studio for Flutter Development

This tutorial will guide you through setting up Android Studio for Flutter development, from installation to creating your first Flutter application.

## Step 1 Install Java Development Kit

Go to the Oracle JDK download page. Download the right installer for your OS.

Run the installer and follow the on-screen instructions.

## Step 2 Install Android Studio

Go to the Android Studio download page and download the installer.

Run the installer and follow the on-screen instructions.

During installation, Android Studio will guide you through setting up the Android SDK. Accept the default settings.

## Step 3 Install Flutter SDK

Go to the Flutter SDK releases page on GitHub and download the latest stable release for your operating system.

Extract the downloaded ZIP file to a desired location. The biggest thing to remember is to make a new folder called Dev and on your desktop download the SDK file to the dev folder. Drag the dev folder to the drive that you are currently using and either copy the path that the folder is in or remember where it's at so when Flutter prompts you, getting the direction to the folder is not a problem.

## Step 4 Install Flutter and Dart Plugins in Android Studio

Search for "Flutter" and install the Flutter plugin. The Dart plugin will be installed automatically with it.

Restart Android Studio to apply the changes.

## Step 5 Create a New Flutter Project

Click "New Flutter Project."

Select "Flutter Application" and click "Next."

-Flutter SDK Path: Verify that the Flutter SDK path is correct.

-Project Name: Enter a project name

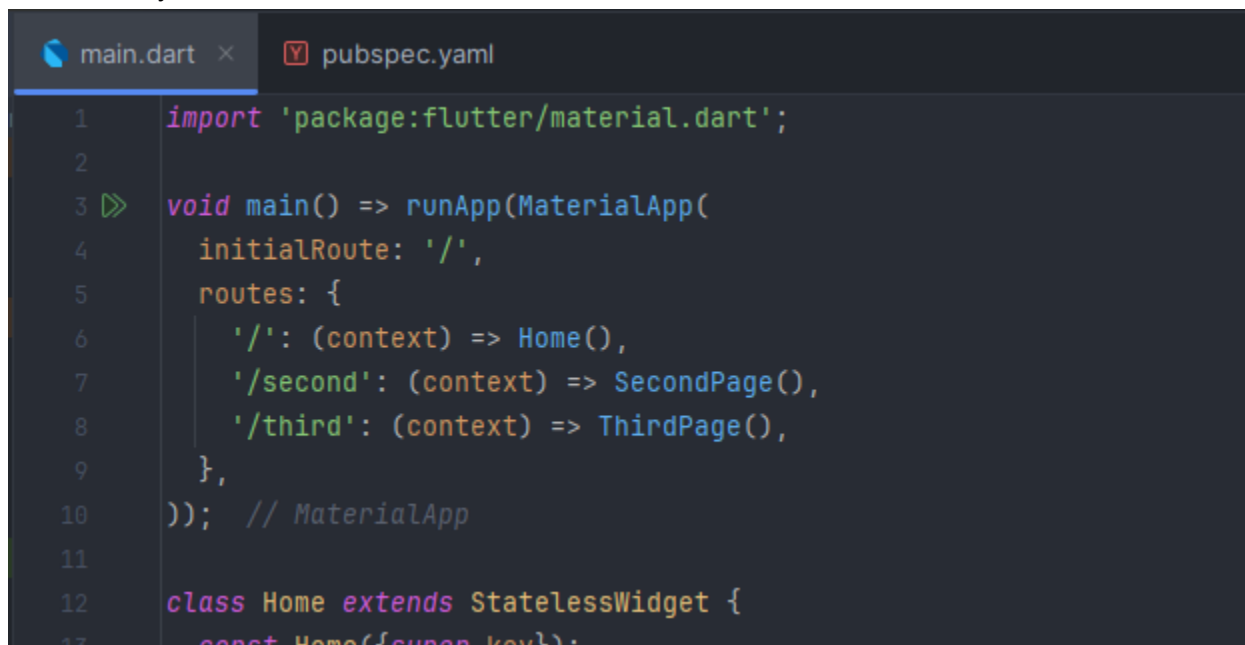
-Project Location: Choose a location for your project.

Code your heart away!!!!

## The Code part of my tutorial...

For my project I wanted to remake a rough draft of BT6 which is balloons tower defence 6. It only has three pages. The home screen, the description and the third page which is where eventually the game will go! For starters I decided to put all my code in one flutter file which at the time I thought was a good idea but then was told and brought to my attention that it would be better to have it in separate files. but anyways let's look at my code individually piece by piece. Also, remember to keep everything in its correct spot don't write code for a button or text outside of its parameters one it will not work two it's

bad practice if you somehow get it to work and three it will get you confused when something breaks and you need to find the fix.



```
1  import 'package:flutter/material.dart';
2
3  void main() => runApp(MaterialApp(
4    initialRoute: '/',
5    routes: {
6      '/': (context) => Home(),
7      '/second': (context) => SecondPage(),
8      '/third': (context) => ThirdPage(),
9    },
10 )); // MaterialApp
11
12 class Home extends StatelessWidget {
13   const Home({super.key});
```

## **Main Function and Routes**

The app starts with the `main()` function. This is where the app is launched using `runApp()`. Inside `runApp()`, a `MaterialApp` is created. The `MaterialApp` is what sets up the structure and navigation for the whole app.

The `initialRoute` is set to `'/'`, which means the app will open to the Home page when it first starts. The routes map links three named routes to the correct pages: `'/'` for the Home page, `'/second'` for the `SecondPage`, and `'/third'` for the `ThirdPage`. When the user taps a button to navigate, the app uses these routes to figure out which page to show next.

## **Home Page Class**

Next, the `Home` class is defined as a `StatelessWidget`, which means it doesn't store any data or change based on user interaction. Inside the `build()` method, the `Scaffold` widget is used to create the basic structure of the page

Code is on the next Page

vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv

```

12 class Home extends StatelessWidget {
13   const Home({super.key});
14
15   @override
16   Widget build(BuildContext context) {
17     return Scaffold(
18       appBar: AppBar(
19         title: Text(''),
20       ), // AppBar
21       backgroundColor: Colors.grey[850],
22       body: Column(
23         children: [
24           Expanded(
25             child: Center(
26               child: Image.asset('assets/FlutterBTDPic.png'),
27             ), // Center
28           ), // Expanded
29           SizedBox(
30             width: double.infinity,
31             height: 50,
32             child: ElevatedButton(
33               onPressed: () {
34                 Navigator.pushNamed(context, '/second');
35               },
36               style: ElevatedButton.styleFrom(
37                 backgroundColor: Colors.grey[300],
38                 foregroundColor: Colors.black,
39               ),
40               child: const Text('Instructions & Background'),
41             ), // ElevatedButton

```

```

    ), // ElevatedButton
  ), // SizedBox
  SizedBox(
    width: double.infinity,
    height: 50,
    child: ElevatedButton(
      onPressed: () {
        Navigator.pushNamed(context, '/third');
      },
      style: ElevatedButton.styleFrom(
        backgroundColor: Colors.grey[300],
        foregroundColor: Colors.black,
      ),
      child: const Text('Go to Third Page'),
    ), // ElevatedButton
  ), // SizedBox
],
), // Column
); // Scaffold
}
}

```

## App Bar

Within this code is the AppBar it is part of the Scaffold and adds a top bar to the screen. Right now, the title is set to an empty string, so nothing will show up there but you could add a title if you wanted to. I know I am contradicting myself when I said keep all your code in one place inside the function but I decided just for easier coding to put the Routes of the pages at the top.

## Background Color

Next we have The background color for the Scaffold which is set to dark grey using Colors.grey[850], which gives the page a clean, dark look. This is pretty simple and does not need explanation.

## Image Display

In the body of the Scaffold, the Column widget is used to arrange the content vertically. First, there's an Expanded widget that contains a Center widget. This is where the image is placed using Image.asset(). The Expanded widget makes sure the image takes up all the available vertical space, and the Center widget makes sure the image is aligned in the middle of the

screen. The image file FlutterBTD6pic.png needs to be stored in the assets folder for this to work correctly.

## Buttons for Navigation

Below the image, there are two buttons created using `ElevatedButton` wrapped inside `SizeBox` widgets. The `SizeBox` sets the size of the buttons, making them take up the full width of the screen and setting the height to 50 pixels. The first button is labeled "Instructions & Background." When the user taps it, the `onPressed` function calls `Navigator.pushNamed(context, '/second')`, which tells the app to switch to the `SecondPage` using the named route defined earlier. The button's style sets the background color to light grey (`Colors.grey[300]`) and the text color to black. The second button works the same way as the first but navigates to the 'third' route when tapped, opening the `ThirdPage`.

## 2nd Page Description

The Second page will be a precursor to the real game which will give some background and an idea on how to play the game. The second page is called `second_page.dart` which the main dart file has a command to call the second page whenever the user clicks on description. I used `const Text("")` with the words and description inside the brackets. Going into detail of how the game works and what it is going to do in the future.

## 3rd Page

The third page will be where the game is. For the concept I was thinking it will be something where a monkey will be on tiles and the user will be able to move the monkey from tile to tile either dodging balloons or collecting bananas as they go for a highscore counter.

## How It All Comes Together

The layout is simple, and the named routes make the navigation clean and easy to manage. The `MaterialApp` and `Navigator.pushNamed()` handle all the navigation, while the `Scaffold`, `Column`, and `ElevatedButton` widgets take care of the page structure and user interaction. Once you add the other pages (`SecondPage` and `ThirdPage`), everything will flow smoothly.

```

62
63 class SecondPage extends StatelessWidget {
64   const SecondPage({super.key});
65
66   @override
67   Widget build(BuildContext context) {
68     return Scaffold(
69       backgroundColor: Colors.grey[850],
70       appBar: AppBar(
71         title: const Text(
72           'Description',
73           style: TextStyle(
74             fontWeight: FontWeight.bold,
75             fontSize: 24, // Adjust size as needed
76           ), // TextStyle
77         ), // Text
78         centerTitle: true, // Center the title
79         backgroundColor: Colors.white,
80         leading: IconButton( // Add back button
81           icon: const Icon(Icons.arrow_back),
82           onPressed: () {
83             Navigator.pop(context); // Navigate back
84           },
85         ), // IconButton
86       ), // AppBar
87       body: Column(
88         children: [
89           Expanded(
90             child: SingleChildScrollView(
91               child: Column(
92                 crossAxisAlignment: CrossAxisAlignment.start,

```

```

92 crossAxisAlignment: CrossAxisAlignment.start,
93 children: [
94   Container(
95     width: double.infinity,
96     height: 200,
97     decoration: const BoxDecoration(
98       image: DecorationImage(
99         image: AssetImage('assets/BTD6Header.png'),
100         fit: BoxFit.cover,
101       ), // DecorationImage
102     ), // BoxDecoration
103   ), // Container
104   Padding(
105     padding: const EdgeInsets.all(16.0),
106     child: Column(
107       crossAxisAlignment: CrossAxisAlignment.start,
108       children: [
109         Text(
110           'Bloons TD 6',
111           style: TextStyle(
112             fontSize: 24,
113             fontWeight: FontWeight.bold,
114             color: Colors.white,
115           ), // TextStyle
116         ), // Text
117         const SizedBox(height: 10),
118         Text(
119           'Bloons TD 6 is a tower defense game developed and published by N.',
120           style: TextStyle(
121             fontSize: 16,
122             color: Colors.white70,

```



```

122     color: Colors.white70,
123   ), // TextStyle
124 ), // Text
125 const SizedBox(height: 20),
126 Text(
127   'Key Features:',
128   style: TextStyle(
129     fontSize: 20,
130     fontWeight: FontWeight.bold,
131     color: Colors.white,
132   ), // TextStyle
133 ), // Text
134 const SizedBox(height: 8),
135 Text(
136   '- Diverse monkey towers with unique abilities\n- Deep upgrade s
137   style: TextStyle(
138     fontSize: 16,
139     color: Colors.white70,
140   ), // TextStyle
141 ), // Text
142 ],
143 ), // Column
144 ), // Padding
145 ],
146 ), // Column
147 ), // SingleChildScrollView
148 ), // Expanded
149 SizedBox(
150   width: double.infinity,
151   height: 50,
152   child: ElevatedButton(
153     onPressed: () {

```

```

153     onPressed: () {
154       Navigator.pushNamed(context, '/third');
155     },
156     style: ElevatedButton.styleFrom(
157       backgroundColor: Colors.grey[300],
158       foregroundColor: Colors.black,
159     ),
160     child: const Text('Go to Third Page'),
161   ), // ElevatedButton
162 ), // SizedBox
163 ],
164 ), // Column
165 ); // Scaffold
166 }
167 }
168
169 class ThirdPage extends StatelessWidget {
170   const ThirdPage({super.key});
171
172   @override
173   Widget build(BuildContext context) {
174     return Scaffold(
175       appBar: AppBar(
176         title: const Text('Third Page'),
177         backgroundColor: Colors.white,
178       ), // AppBar
179       backgroundColor: Colors.grey[900],
180       body: const Center(
181         child: Text(
182           'The third page, where the game would be type shi',

```

```

182           'The third page, where the game would be type shi',
183           style: TextStyle(color: Colors.white, fontSize: 20),
184         ), // Text
185       ), // Center
186     ); // Scaffold
187   }
188 }

```

