

## **EXP 1: Installation and Configuration of Flutter Environment.**

### **Description:-**

The aim of this experiment is to set up and configure the Flutter development environment for building cross-platform mobile applications. It involves downloading and installing the Flutter SDK, setting up Android Studio or Visual Studio Code as the preferred IDE, configuring the Android emulator or a physical device for testing, and successfully running a sample Flutter application. This setup provides a complete environment that enables developers to efficiently build, test, and deploy high-performance Flutter apps on both Android and iOS platforms.

Code:-

```
import 'package:flutter/material.dart';

import 'package:firebase_core/firebase_core.dart';

import 'package:firebase_auth/firebase_auth.dart';

import 'firebase_options.dart';

import 'package:news_app_1/search_page.dart';

import 'package:news_app_1/news_page.dart';

import 'package:news_app_1/categories_page.dart';

import 'package:news_app_1/login_page.dart';

import 'package:news_app_1/signup_page.dart';


void main() async {

  WidgetsFlutterBinding.ensureInitialized();

  await Firebase.initializeApp(

    options: DefaultFirebaseOptions.currentPlatform,

  );

  runApp(const AdvancedNewsApp());
```

```
}
```

```
class AdvancedNewsApp extends StatelessWidget {
```

```
  const AdvancedNewsApp({super.key});
```

```
  @override
```

```
  Widget build(BuildContext context) {
```

```
    return MaterialApp(
```

```
      debugShowCheckedModeBanner: false,
```

```
      title: 'NewsEdge',
```

```
      theme: ThemeData(
```

```
        fontFamily: 'Roboto',
```

```
        primarySwatch: Colors.blue,
```

```
    ),
```

```
    home: StreamBuilder<User?>(
```

```
      stream: FirebaseAuth.instance.authStateChanges(),
```

```
      builder: (context, snapshot) {
```

```
        if (snapshot.connectionState == ConnectionState.active) {
```

```
          if (snapshot.hasData) {
```

```
            return const HomePage();
```

```
          } else {
```

```
            return const LoginPage();
```

```
          }
```

```
        }
```

```
        return const Center(child: CircularProgressIndicator());
    },
),
);
}
}
```

```
class HomePage extends StatelessWidget {
```

```
    const HomePage({super.key});
```

```
    @override
```

```
    Widget build(BuildContext context) {
```

```
        return Scaffold(
```

```
            body: Container(
```

```
                width: double.infinity,
```

```
                height: double.infinity,
```

```
                decoration: const BoxDecoration(
```

```
                    gradient: LinearGradient(
```

```
                        colors: [Color(0xFF1E3A8A), Color(0xFF7B1FA2)],
```

```
                        begin: Alignment.topLeft,
```

```
                        end: Alignment.bottomRight,
```

```
                    ),
```

```
                ),
```

```
            child: Center(
```

```

child: Padding(
  padding: const EdgeInsets.symmetric(horizontal: 25),
  child: Column(
    mainAxisAlignment: MainAxisAlignment.center,
    crossAxisAlignment: CrossAxisAlignment.center,
    children: [
      TweenAnimationBuilder(
        duration: const Duration(milliseconds: 800),
        tween: Tween<double>(begin: 0, end: 1),
        builder: (context, double value, child) {
          return Opacity(
            opacity: value,
            child: Transform.translate(
              offset: Offset(0, (1 - value) * -20),
              child: child,
            ),
          );
        },
      child: Row(
        mainAxisAlignment: MainAxisAlignment.center,
        children: [
          Container(
            decoration: BoxDecoration(
              boxShadow: [

```

```
BoxShadow(  
  color: Colors.black.withOpacity(0.3),  
  blurRadius: 10,  
  spreadRadius: 2,  
  offset: const Offset(0, 5),  
),  
],  
),  
child: Image.asset('assets/News-1.png',  
  width: 100, height: 100),  
),  
const SizedBox(width: 15),  
const Text(  
  'NewsEdge',  
  style: TextStyle(  
    fontSize: 32,  
    fontWeight: FontWeight.bold,  
    letterSpacing: 1.2,  
    color: Colors.white,  
    shadows: [  
      Shadow(  
        blurRadius: 8,  
        color: Colors.black38,  
        offset: Offset(2, 3),
```

```
    ),  
  ],  
),  
),  
],  
),  
),  
  
const SizedBox(height: 25),  
  
const Text(  
  'Get real-time, trending, and categorized news at your fingertips with our Advanced News  
App!',  
  
  textAlign: TextAlign.center,  
  
  style: TextStyle(  
    fontSize: 17,  
  
    fontWeight: FontWeight.w400,  
  
    letterSpacing: 0.5,  
  
    height: 1.5,  
  
    color: Colors.white70,  
  
    shadows: [  
      Shadow(  
        blurRadius: 6,  
  
        color: Colors.black26,  
  
        offset: Offset(1, 2),  
  
      ),  
    ],  
  ),
```

```
),
),
const SizedBox(height: 35),
ElevatedButton(
  style: ElevatedButton.styleFrom(
    backgroundColor: Colors.white,
    foregroundColor: Colors.deepPurpleAccent,
    padding: const EdgeInsets.symmetric(
      horizontal: 35, vertical: 14),
    shape: RoundedRectangleBorder(
      borderRadius: BorderRadius.circular(12),
    ),
    elevation: 6,
    shadowColor: Colors.deepPurpleAccent.withOpacity(0.4),
  ),
  onPressed: () {
    Navigator.push(
      context,
      MaterialPageRoute(builder: (context) => const NewsPage()),
    );
  },
  child: const Text(
    'Explore News',
    style: TextStyle(
```

```
        fontSize: 18,
        fontWeight: FontWeight.bold,
        letterSpacing: 1,
      ),
    ),
  ),
  const SizedBox(height: 15),
  ElevatedButton(
    style: ElevatedButton.styleFrom(
      backgroundColor: Colors.white,
      foregroundColor: Colors.blueAccent,
      padding: const EdgeInsets.symmetric(
        horizontal: 35, vertical: 14),
      shape: RoundedRectangleBorder(
        borderRadius: BorderRadius.circular(12),
      ),
      elevation: 6,
      shadowColor: Colors.blueAccent.withOpacity(0.4),
    ),
    onPressed: () {
      Navigator.push(
        context,
        MaterialPageRoute(
          builder: (context) => const SearchPage(),
        ),
      );
    },
  ),
),
```



```
);  
},  
child: const Text(  
  'Search News',  
  style: TextStyle(  
    fontSize: 18,  
    fontWeight: FontWeight.bold,  
    letterSpacing: 1,  
  ),  
,  
,  
,  
const SizedBox(height: 15),  
ElevatedButton(  
  style: ElevatedButton.styleFrom(  
    backgroundColor: Colors.white,  
    foregroundColor: Colors.orangeAccent,  
    padding: const EdgeInsets.symmetric(  
      horizontal: 35, vertical: 14),  
    shape: RoundedRectangleBorder(  
      borderRadius: BorderRadius.circular(12),  
    ),  
    elevation: 6,  
    shadowColor: Colors.orangeAccent.withOpacity(0.4),  
  ),
```

```
onPressed: () {  
  Navigator.push(  
    context,  
    MaterialPageRoute(  
      builder: (context) => const CategoriesPage(),  
    );  
  },  
  child: const Text(  
    'News Categories',  
    style: TextStyle(  
      fontSize: 18,  
      fontWeight: FontWeight.bold,  
      letterSpacing: 1,  
    ),  
  ),  
),  
const SizedBox(height: 20),  
ElevatedButton(  
  style: ElevatedButton.styleFrom(  
    backgroundColor: Colors.redAccent,  
    foregroundColor: Colors.white,  
    padding: const EdgeInsets.symmetric(  
      horizontal: 35, vertical: 14),  
    shape: RoundedRectangleBorder(  

```

```
        borderRadius: BorderRadius.circular(12),
      ),
      elevation: 6,
      shadowColor: Colors.redAccent.withOpacity(0.4),
    ),
    onPressed: () async {
      await FirebaseAuth.instance.signOut();
      Navigator.pushReplacement(
        context,
        MaterialPageRoute(
          builder: (context) => const LoginPage(),
        ),
      );
    },
    child: const Text(
      'Logout',
      style: TextStyle(
        fontSize: 18,
        fontWeight: FontWeight.bold,
        letterSpacing: 1,
      ),
    ),
  ),
],
),
```

```

    ),
  ),
),
);
}
}

```

Output:-



```

Flutter Console

#####  ##      ##      ## ##### ##### ##### #####
##      ##      ##      ##      ##      ##      ##      ##
##      ##      ##      ##      ##      ##      ##      ##
#####  ##      ##      ##      ##      ##      ##      ##
##      ##      ##      ##      ##      ##      ##      ##
##      ##      ##      ##      ##      ##      ##      ##
##      ##### #####      ##      ##      ##### ##      ##

WELCOME to the Flutter Console.
=====

Use the console below this message to interact with the "flutter" command.
Run "flutter doctor" to check if your system is ready to run Flutter apps.
Run "flutter create <app_name>" to create a new Flutter project.

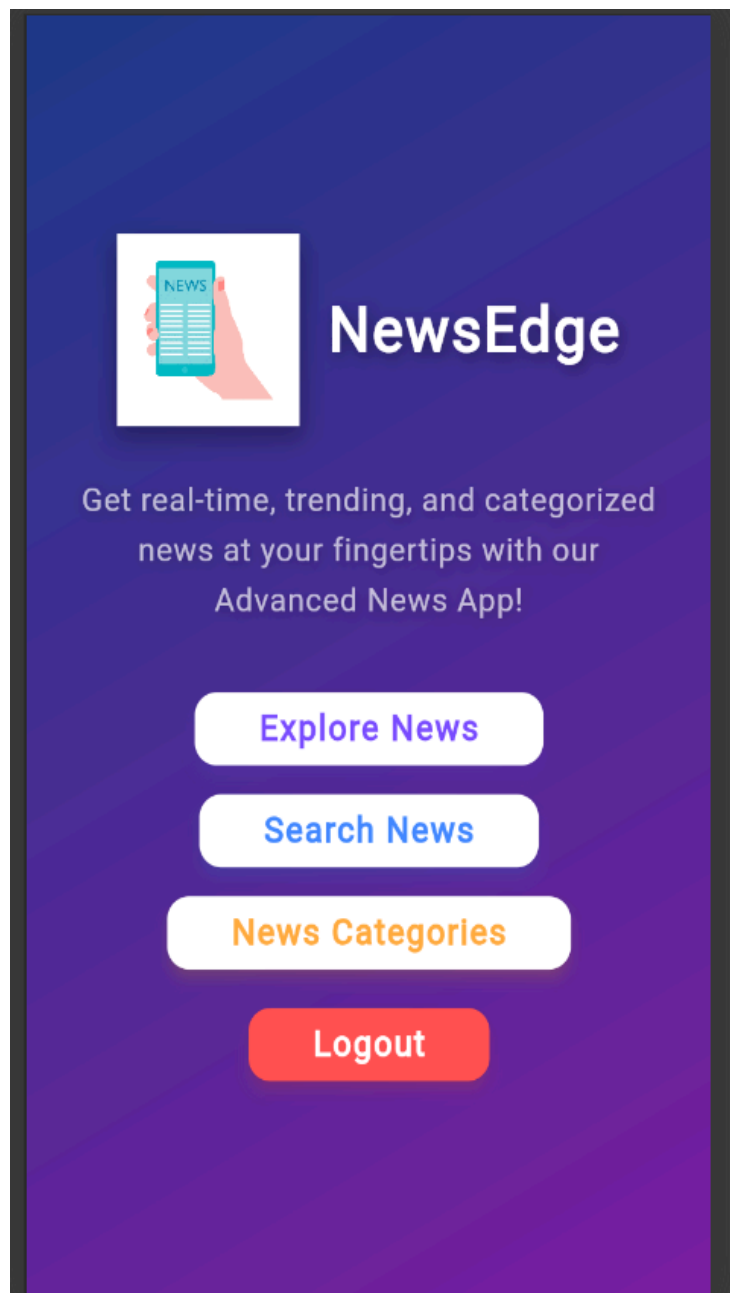
Run "flutter help" to see all available commands.

Want to use an IDE to interact with Flutter? https://flutter.dev/ide-setup/

Want to run the "flutter" command from any Command Prompt or PowerShell window?
Add Flutter to your PATH: https://flutter.dev/setup-windows/#update-your-path
=====

D:\Development\flutter>

```



**Github Link:-**

[https://github.com/Ishan2611/News\\_Edge/commit/9ac2f889498a1bdde987d80a134bea33d2bfea66](https://github.com/Ishan2611/News_Edge/commit/9ac2f889498a1bdde987d80a134bea33d2bfea66)

**Conclusion-** In conclusion, the installation and configuration of the Flutter environment is a crucial first step in cross-platform mobile app development. It involves setting up Flutter SDK, configuring the system path, and installing a suitable IDE like Android Studio or Visual Studio Code with Flutter and Dart plugins.

Successful setup ensures that developers can create, run, and test applications seamlessly across Android and iOS platforms. This experiment also highlights the importance of proper environment setup for efficient coding and debugging. It lays the foundation for future Flutter projects by ensuring all necessary tools and dependencies are in place. Overall, a well-configured environment enhances productivity and smooth development workflow.