

## EXPERIMENT NO: - 06

Name:- Gunjan Chandnani

Class:- D15A

Roll:No: - 06

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**AIM:** - To connect Flutter UI with Firebase database.

### **Theory: -**

Flutter is an open-source UI toolkit developed by Google for building natively compiled applications for mobile, web, and desktop from a single codebase.

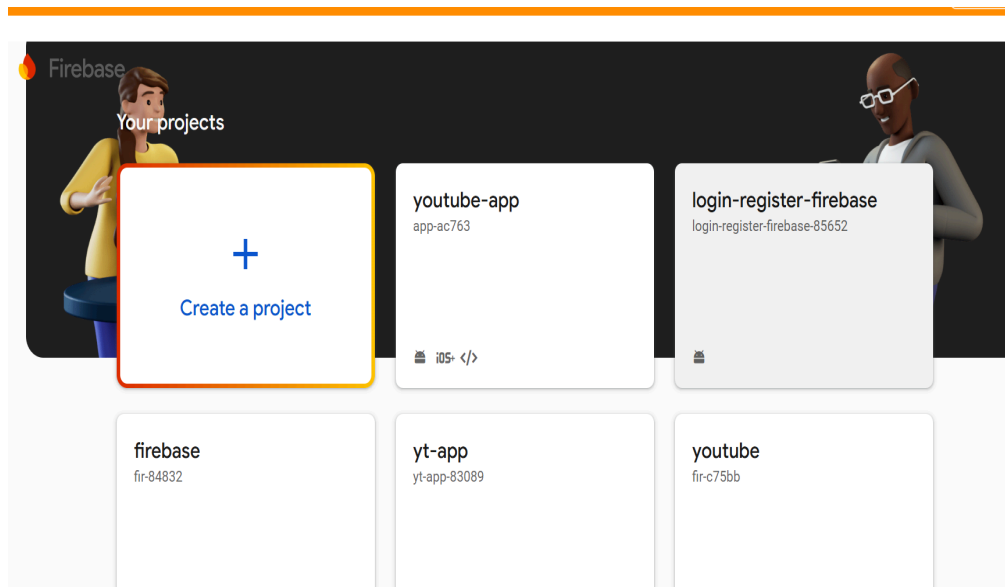
Firebase, a Backend-as-aService (BaaS) platform, provides real-time database, authentication, and cloud storage services, making it a powerful backend solution for Flutter applications. By integrating Firebase with Flutter, developers can store and retrieve data in real time, authenticate users, and manage cloud-based data efficiently.

This is particularly useful for applications requiring dynamic content updates and user interactions.

### ➤ **Steps to Connect Flutter UI with Firebase Database**

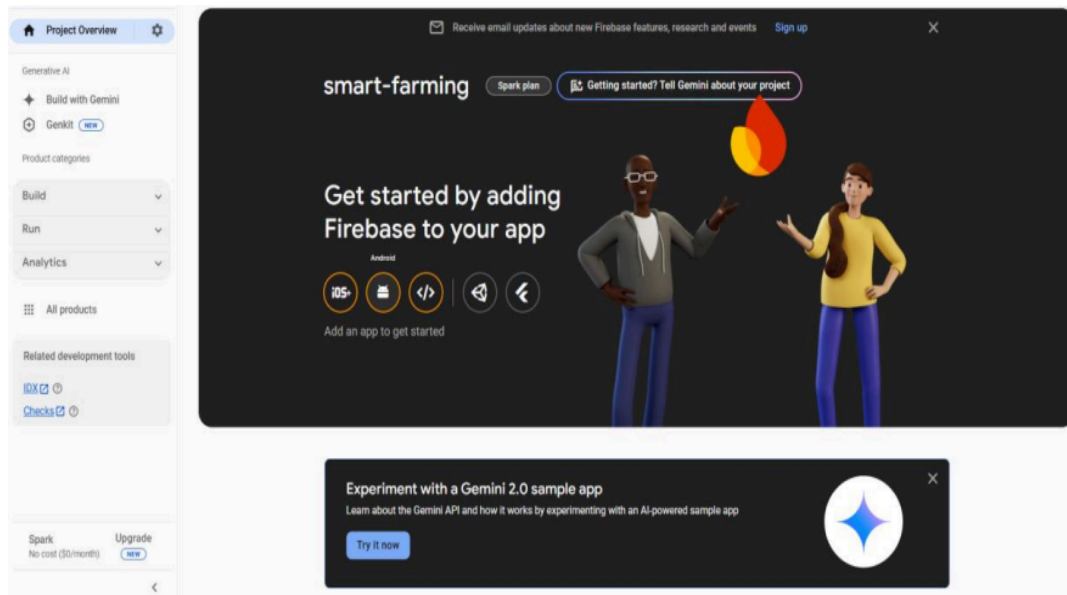
#### **Step 1:**

1.1) Go to Firebase Console and Create a Firebase Project



## Step 2:- Add Firebase to Your Flutter App

## 2.1) Click on Android/iOS/Web based on your Flutter application



## 2.2) Register your app with a unique package name (found in android/app/build.gradle for Android)

[illegible]

2.3) Download the google-services.json (for Android) & place the JSON file inside android/app/ directory.

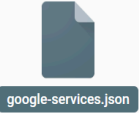
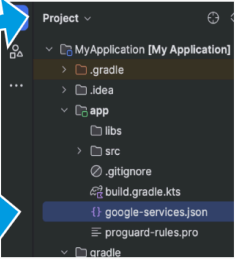
✓ Register app  
Android package name: com.gunjan.youtubeclone

2 Download and then add config file  
[Instructions for Android Studio below](#) | [Unity](#) [C++](#)

Download google-services.json

Switch to the Project view in Android Studio to see your project root directory.

Move your downloaded google-services.json file into your module (app-level) root directory.



Next

2.4) Add Firebase SDK dependencies to android/build.gradle

✕ Add Firebase to your Android app

✓ Register app  
Android package name: com.gunjan.youtubeclone

Download and then add config file

3 Add Firebase SDK  
[Instructions for Gradle](#) | [Unity](#) [C++](#)

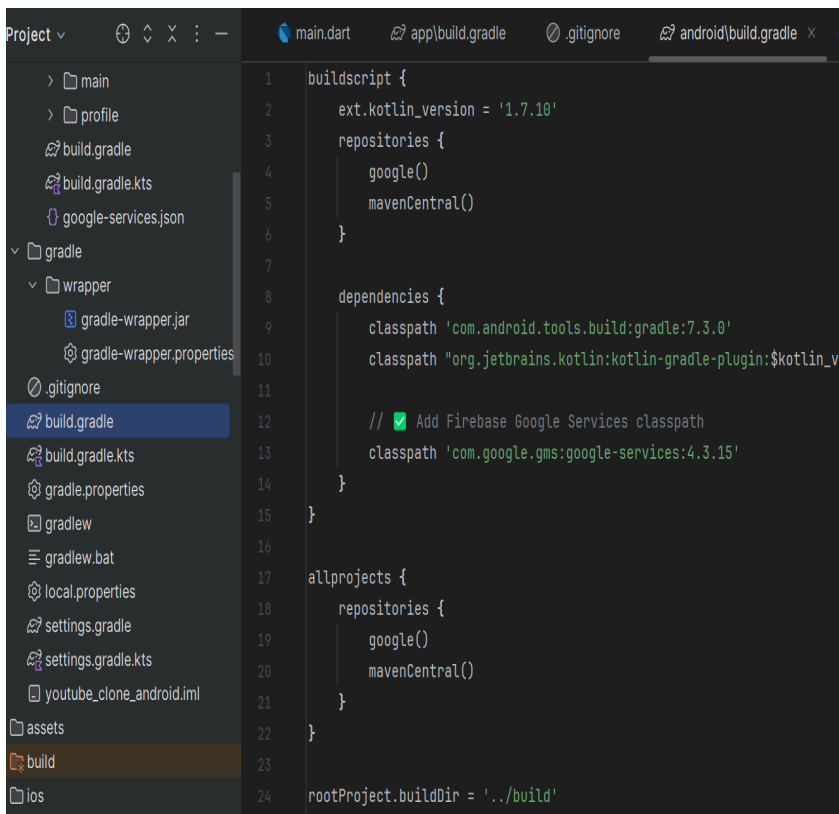
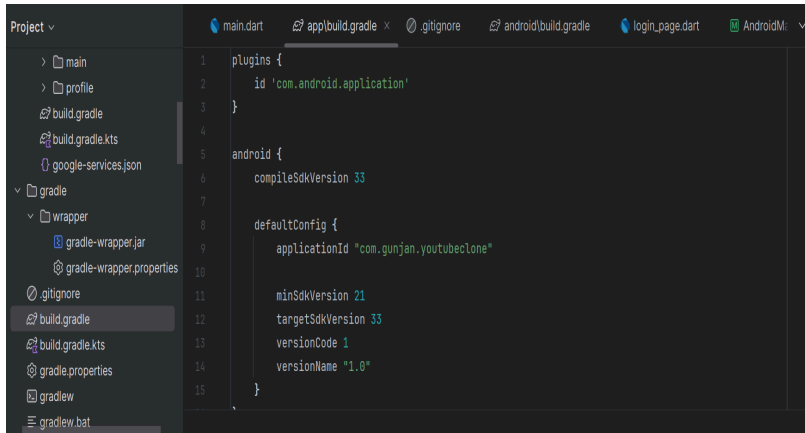
★ Are you still using the `buildscript` syntax to manage plugins? Learn how to [add Firebase plugins](#) using that syntax.

1. To make the `google-services.json` config values accessible to Firebase SDKs, you need the Google services Gradle plugin.

☐ Kotlin DSL (build.gradle.kts)

☒ Groovy (build.gradle)

Add the plugin as a dependency to your **project-level** `build.gradle` file:



## Step 3: - Add Firebase Authentication to Your App

### 3.1) Add Firebase Authentication Dependencies

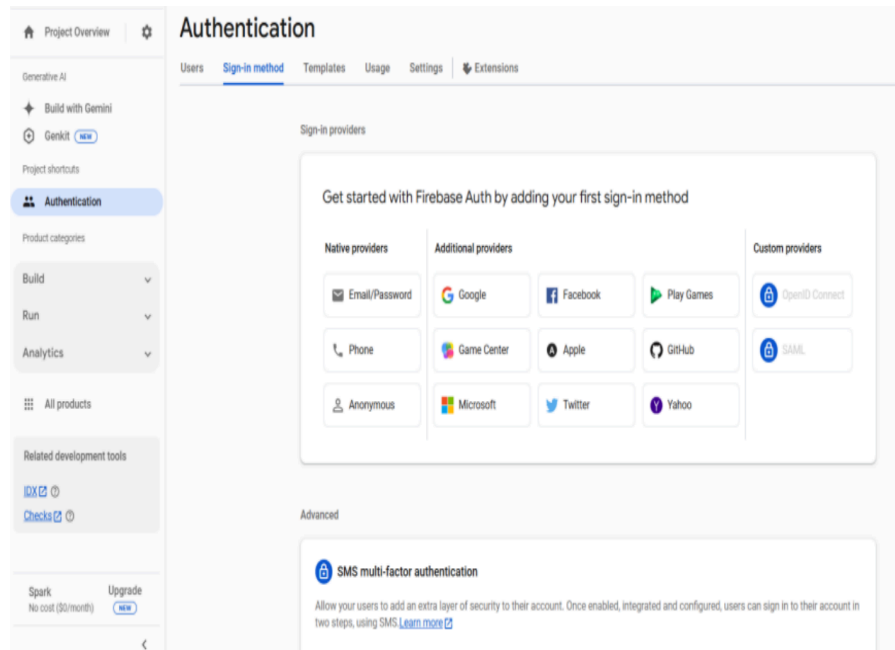
```
dependencies:
  flutter:
    sdk: flutter
  firebase_core: ^3.11.0
  firebase_auth: ^5.4.2 # For authentication
  cloud_firestore: ^5.6.3 # For Firestore, if you need it
  firebase_messaging: ^15.2.2
  http: ^0.13.3
  image_picker: ^1.0.4
  tflite_flutter: ^0.11.0
  image: ^3.2.0
  url_launcher: ^6.1.14
```

### 3.2) Enable Authentication in **Firebase Console**

Go to Firebase Console → **Authentication**.

Click on **Sign-in method** and **enable Email/Password** (or any other method like Google).

Click Save



### 3.3) Implement Authentication in **Flutter Modify main.dart**

```
import 'package:firebase_core/firebase_core.dart';
import 'package:firebase_auth/firebase_auth.dart';
```

```
void main() async
{
  WidgetsFlutterBinding.ensureInitialized();
  await Firebase.initializeApp();
  runApp(MyApp());
}
```

### Step 4: -Configure Firebase Realtime Database

4.1) Go to Firebase Console → Realtime Database.

4.2) Click Create Database → Choose location → Set rules (for development, set read/write to true).

4.3) Click Publish

**Code:**

login\_page.dart

```
import 'package:flutter/material.dart';
import 'package:flutter_riverpod/flutter_riverpod.dart';
import 'package:youtube_clone/features/auth/repository/auth_service.dart';

class LoginPage extends ConsumerWidget {
  const LoginPage({super.key});

  @override
  Widget build(BuildContext context, WidgetRef ref) {
    return Scaffold(
      body: SafeArea(
        child: Center(
          child: Column(
            children: [
              Padding(
                padding: const EdgeInsets.only(
                  top: 20,
                  bottom: 25,
                ),
                child: Image.asset(
                  "assets/images/youtube-signin.jpg",
                  height: 150,
                ),
              ),
              const Text(
                "Welcome To Youtube",
                style: TextStyle(
                  fontSize: 30,
                  fontWeight: FontWeight.bold,
                  color: Colors.blueGrey,
                ),
              ),
              const Spacer(),
              Padding(
                padding: const EdgeInsets.only(bottom: 55),
                child: GestureDetector(
                  onTap: () async {
                    await ref.read(authServiceProvider).signInWithGoogle();
                  },
                  child: Image.asset(
                    "assets/images/signinwithgoogle.png",
                    height: 60,
                  ),
                ),
              ),
            ],
          ),
        ),
      ),
    );
  }
}
```

## firebase\_option.dart:

```
// File generated by FlutterFire CLI.
// ignore_for_file: lines_longer_than_80_chars,
// avoid_classes_with_only_static_members
import 'package:firebase_core/firebase_core.dart' show FirebaseOptions;
import 'package:flutter/foundation.dart'
    show defaultTargetPlatform, kIsWeb, TargetPlatform;

/// Default [FirebaseOptions] for use with your Firebase apps.
///
/// Example:
/// ```dart
/// import 'firebase_options.dart';
/// // ...
/// await Firebase.initializeApp(
///   options: DefaultFirebaseOptions.currentPlatform,
/// );
/// ```
class DefaultFirebaseOptions {
  static FirebaseOptions get currentPlatform {
    if (kIsWeb) {
      return web;
    }
    switch (defaultTargetPlatform) {
      case TargetPlatform.android:
        return android;
      case TargetPlatform.iOS:
        return ios;
      case TargetPlatform.macOS:
        return macos;
      case TargetPlatform.windows:
        return windows;
      case TargetPlatform.linux:
        throw UnsupportedError(
          'DefaultFirebaseOptions have not been configured for linux - '
          'you can reconfigure this by running the FlutterFire CLI again.',
        );
      default:
        throw UnsupportedError(
          'DefaultFirebaseOptions are not supported for this platform.',
        );
    }
  }
}

static const FirebaseOptions android = FirebaseOptions(
  apiKey: 'AIzaSyDc-JOUuH78RpTHXObsa0RDVmia8cRBsjQ',
  appId: '1:188407165111:android:b564cebc78ad2e861edd32',
  messagingSenderId: '188407165111',
  projectId: 'app-ac763',
);
```

```

    storageBucket: 'app-ac763.firebaseio.com',
  );

  static const FirebaseOptions ios = FirebaseOptions(
    apiKey: 'AIzaSyB_FXM7S3pqeGvJE0e6DTmAL-Uyfd16agc',
    appId: '1:188407165111:ios:404e3cf1890c2b481edd32',
    messagingSenderId: '188407165111',
    projectId: 'app-ac763',
    storageBucket: 'app-ac763.firebaseio.com',
    iosBundleId: 'com.example.youtubeClone',
  );

  static const FirebaseOptions web = FirebaseOptions(
    apiKey: 'AIzaSyBSVAuYp50tr_S8-O60E7o5dKNKW-1Ejew',
    appId: '1:188407165111:web:4daa739182e168b11edd32',
    messagingSenderId: '188407165111',
    projectId: 'app-ac763',
    authDomain: 'app-ac763.firebaseio.com',
    storageBucket: 'app-ac763.firebaseio.com',
    measurementId: 'G-LVMQ4SZ270',
  );

  static const FirebaseOptions macos = FirebaseOptions(
    apiKey: 'AIzaSyB_FXM7S3pqeGvJE0e6DTmAL-Uyfd16agc',
    appId: '1:188407165111:ios:404e3cf1890c2b481edd32',
    messagingSenderId: '188407165111',
    projectId: 'app-ac763',
    storageBucket: 'app-ac763.firebaseio.com',
    iosBundleId: 'com.example.youtubeClone',
  );

  static const FirebaseOptions windows = FirebaseOptions(
    apiKey: 'AIzaSyBSVAuYp50tr_S8-O60E7o5dKNKW-1Ejew',
    appId: '1:188407165111:web:0e4eb752f4c3873e1edd32',
    messagingSenderId: '188407165111',
    projectId: 'app-ac763',
    authDomain: 'app-ac763.firebaseio.com',
    storageBucket: 'app-ac763.firebaseio.com',
    measurementId: 'G-86VN7VQZJX',
  );
}

```



## home\_page.dart:

```
// ignore_for_file: invalid_use_of_visible_for_testing_member

import 'package:cached_network_image/cached_network_image.dart';
import 'package:flutter/material.dart';
import 'package:flutter_riverpod/flutter_riverpod.dart';
import 'package:path/path.dart';
import 'package:youtube_clone/cores/screens/error_page.dart';
import 'package:youtube_clone/cores/screens/loader.dart';
import 'package:youtube_clone/cores/widgets/image_button.dart';
import 'package:youtube_clone/features/account/account_page.dart';
import 'package:youtube_clone/features/auth/provider/user_provider.dart';
import 'package:youtube_clone/features/content/bottom_navigation.dart';
import 'package:youtube_clone/features/upload/upload_bottom_sheet.dart';
import 'package:youtube_clone/pages_list.dart';

class HomePage extends StatefulWidget {
  const HomePage({super.key});

  @override
  State<HomePage> createState() => _HomePageState();
}

class _HomePageState extends State<HomePage> {
  int currentIndex = 0;

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      backgroundColor: const Color(0xffffffff),
      body: SafeArea(
        child: Column(
          children: [
            Row(
              children: [
                Image.asset(
                  "assets/images/youtube.jpg",
                  height: 36,
                ),
                const SizedBox(width: 4),
                const Spacer(),
                Padding(
                  padding: const EdgeInsets.only(right: 12),
                  child: SizedBox(
                    height: 42,
                    child: ImageButton(
                      image: "cast.png",
                      onPressed: () {},
                      haveColor: false,
                    ),
                  ),
                ),
              ],
            ),
          ],
        ),
      ),
    );
  }
}
```

```

    ),
  ),
  SizedBox(
    height: 38,
    child: ImageButton(
      image: "notification.png",
      onPressed: () {},
      haveColor: false,
    ),
  ),
  Padding(
    padding: const EdgeInsets.only(left: 12, right: 15),
    child: SizedBox(
      height: 41.5,
      child: ImageButton(
        image: "search.png",
        onPressed: () {},
        haveColor: false,
      ),
    ),
  ),
  Consumer(
    builder: (context, ref, child) {
      return ref.watch(currentUserProvider).when(
        data: (currentUser) => Padding(
          padding: const EdgeInsets.only(right: 12),
          child: GestureDetector(
            onTap: () {
              Navigator.push(
                context,
                MaterialPageRoute(
                  builder: (context) => AccountPage(
                    user: currentUser,
                  ),
                ),
              );
            },
            child: CircleAvatar(
              radius: 14,
              backgroundColor: Colors.grey,
              backgroundImage: CachedNetworkImageProvider(
                currentUser.profilePic,
              ),
            ),
          ),
        ),
        error: (error, stackTrace) => const ErrorPage(),
        loading: () => const Loader(),
      );
    },
  ),

```

```

        },
      ),
    ],
  ),
  Expanded(
    child: pages[currentIndex],
  ),
],
),
),
bottomNavigationBar: BottomNavigation(
  onPressed: (index) {
    if (index != 2) {
      currentIndex = index;
      setState(() {});
    } else {
      showModalBottomSheet(
        context: context,
        builder: (context) => const CreateBottomSheet(),
      );
    }
  },
),
);
}
}

```

OutPut:



## Sign in

Use your Google Account

gunjanchandnani18@gmail.com

[Forgot password?](#)

Next

[Create account](#)

youtube-app ▾

Panel view Query builder ⋮

🏠 > user > gunjan06 [More in Google Cloud](#) ▾

🏠 (default)	📁 user ⋮	📁 gunjan06 ⋮
+ Start collection	+ Add document	+ Start collection
user >	gunjan06 >	+ Add field
		email: "gunjanchandnani18@gmail.com"
		name: "Gunjan Chandnani"

youtube-app ▾

## Authentication

[Users](#) [Sign-in method](#) [Templates](#) [Usage](#) [Settings](#) [Extensions](#)

**i** The following Authentication features will stop working when Firebase Dynamic Links shuts down on August 25, 2025: email link authentication for mobile apps, as well as Cordova OAuth support for web apps. ▾

🔍 Search by email address, phone number, or user UID [Add user](#) ↻ ⋮

Identifier ▾	Providers	Created	Signed In	User UID
gunjanchandnani18@g...	📧	Mar 5, 2025		DifPPKhH6xPaLLpq2oDri8xc2...

Rows per page: 50 ▾ 1 – 1 of 1 < >

ac763/authentication/extensions



YouTube



Home



Explore



Subscriptions



Originals



YouTube Music



Library



14:20



Talking Tech and AI with  
Google CEO Sundar  
Pichai!

Marques Brownlee

3.4M views · 6 months ago



8:22



Try Not To Laugh  
Challenge #9

Markiplier

19M views · 4 years ago



9:13



Crazy Tik Toks Taken  
Moments Before



22:09



The Simplest Math  
Problem No One Can



Something went wrong



## Create



Create a Short



Upload a Video



Go Live



Create a post

