

EXPERIMENT NO: - 06

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Class:- D15A

Roll:No: - 44

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.

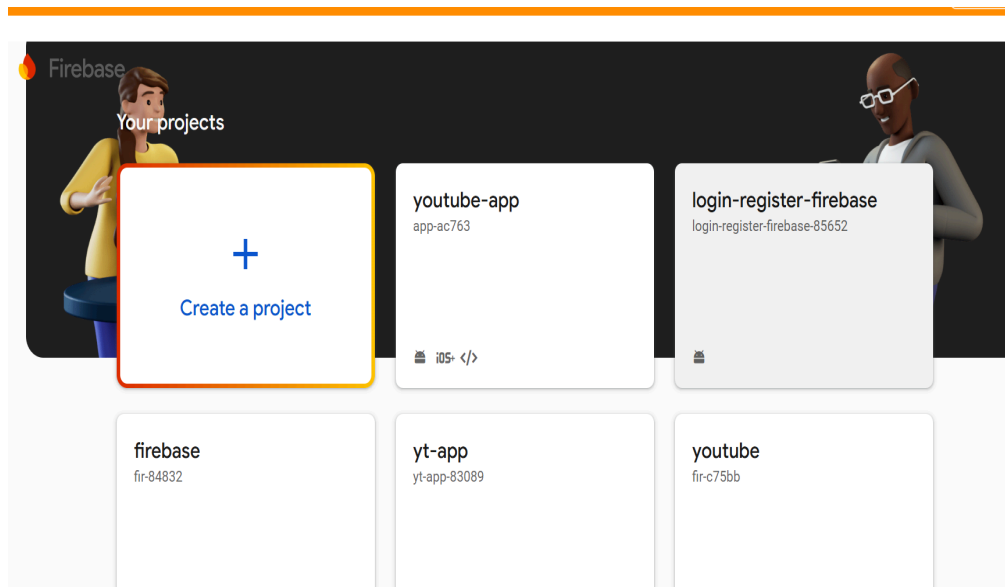
Firebase, a Backend-as-aService (BaaS) platform, provides real-time database, authentication, and cloud storage services, making it a powerful backend solution for Flutter applications. By integrating Firebase with Flutter, developers can store and retrieve data in real time, authenticate users, and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

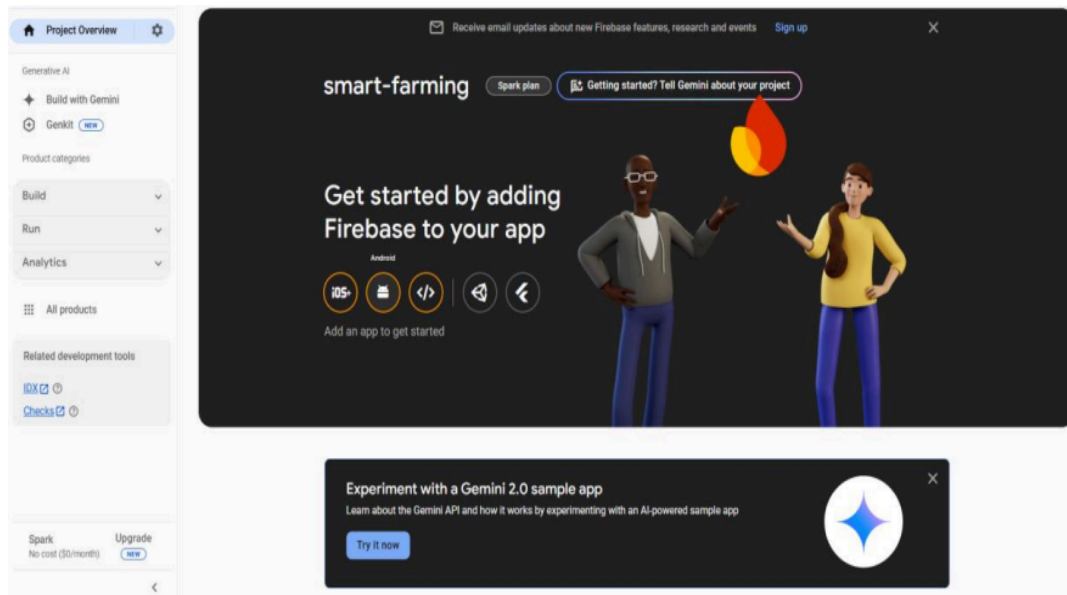
Step 1:

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.

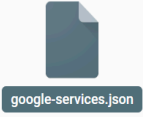
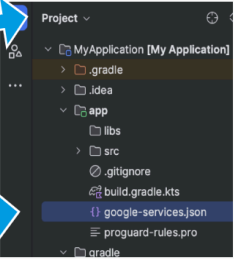
✓ Register app
Android package name: com.gunjan.youtubeclone

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++](#)

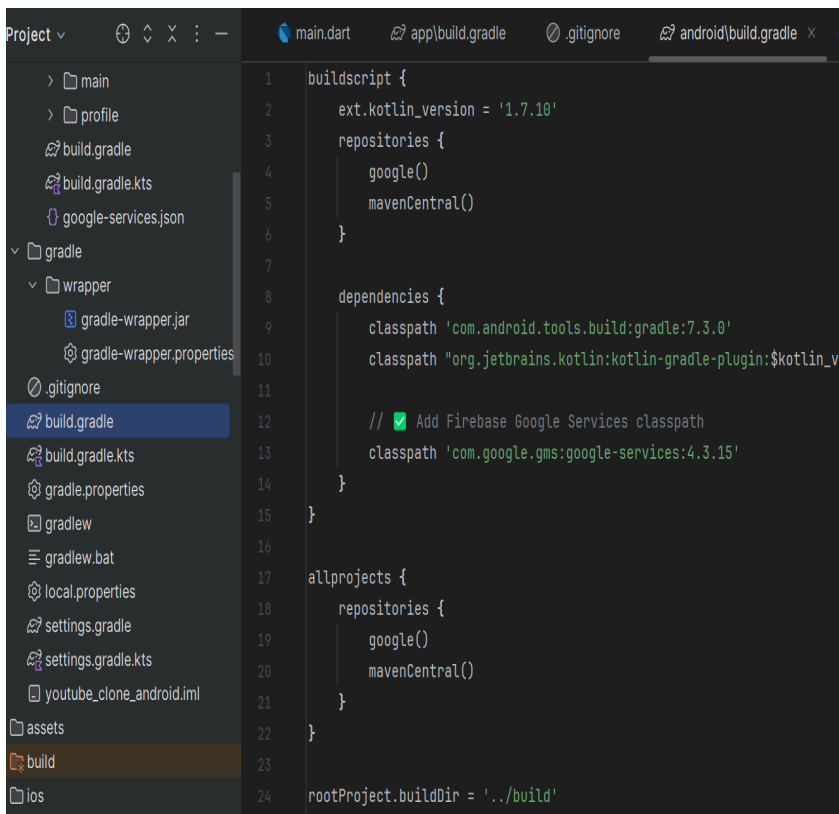
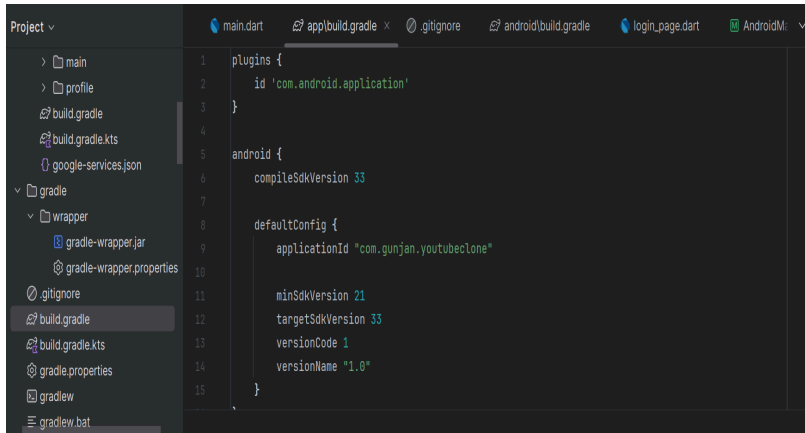
★ Are you still using the `buildscript` syntax to manage plugins? Learn how to [add Firebase plugins](#) using that syntax.

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

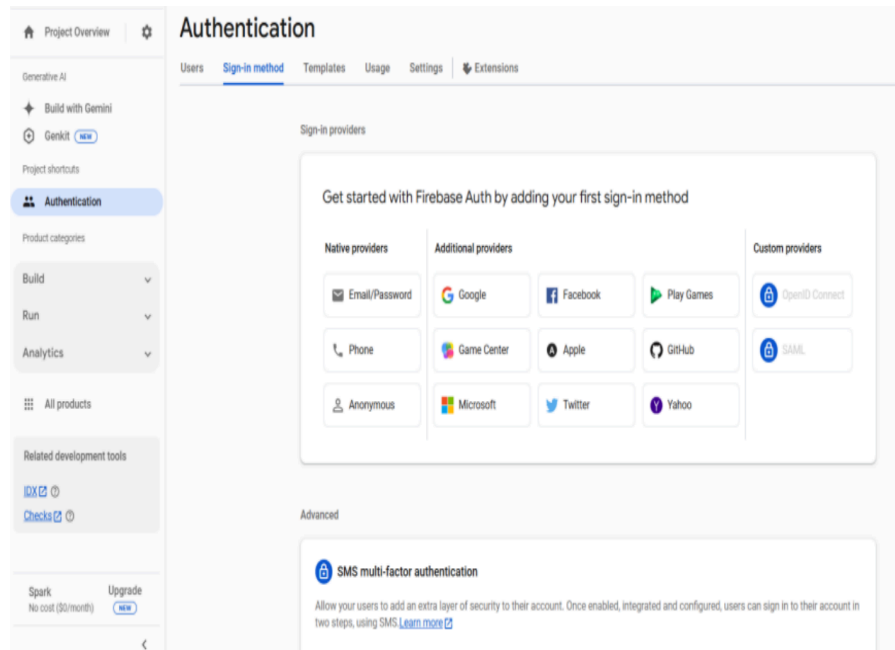
```
dependencies:
  flutter:
    sdk: flutter
  firebase_core: ^3.11.0
  firebase_auth: ^5.4.2 # For authentication
  cloud_firestore: ^5.6.3 # For Firestore, if you need it
  firebase_messaging: ^15.2.2
  http: ^0.13.3
  image_picker: ^1.0.4
  tflite_flutter: ^0.11.0
  image: ^3.2.0
  url_launcher: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

```

Panel viewQuery builder

user > gunjan06

More in Google Cloud

(default)	user	gunjan06
+ Start collection	+ Add document	+ Start collection
user >		+ Add field email: manavpunjabi14@gmail.com name: Manav Punjabi

Authentication

UsersSign-in methodTemplatesUsageSettingsExtensions

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 UIDAdd user

Identifier	Providers	Created	Signed In	User UID
manavbpunjabi14@g...		Mar 5, 2025		DifPPKhH6xPaLLpq2oDrl8xc2...

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