

Experiment No:06

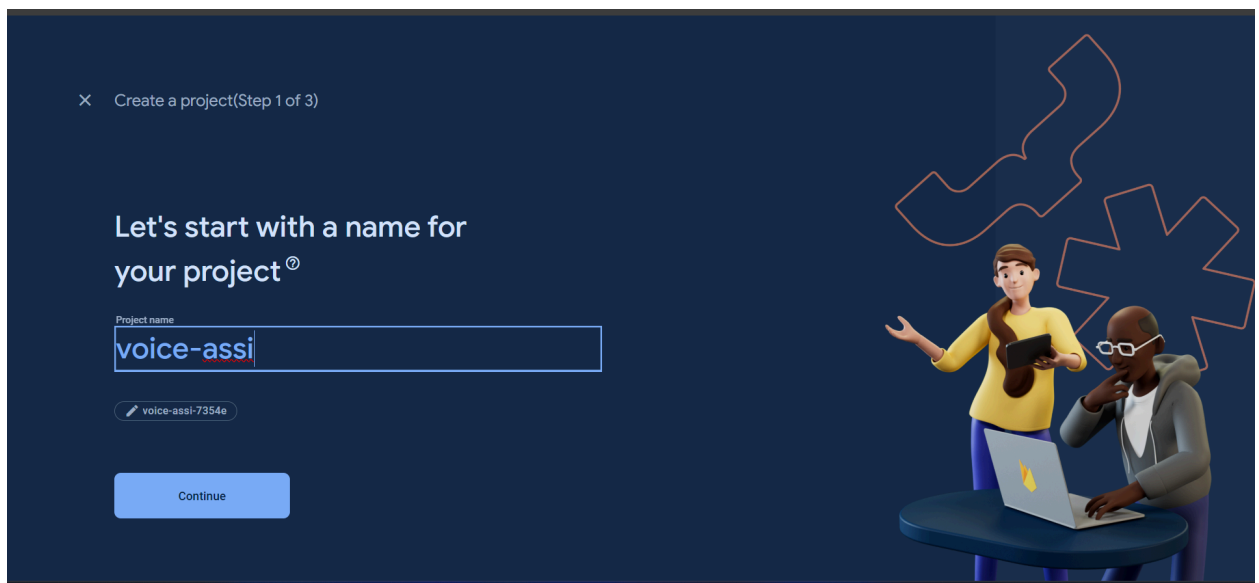
Aim:How To Set Up Firebase with Flutter for iOS and Android Apps

Theory:

Firebase is a comprehensive platform provided by Google for developing mobile and web applications. It offers a wide range of features, including authentication, real-time database, cloud storage, hosting, and more, making it a popular choice for app development. Integrating Firebase with Flutter for both iOS and Android apps involves several steps:

1. Create a Firebase Project:

- Start by creating a new project on the Firebase console (console.firebase.google.com).
- Follow the prompts to set up your project, including providing a project name and enabling Google Analytics.



✕ Create a project(Step 2 of 2)

Google Analytics is a free and unlimited analytics solution that enables targeting, reporting and more in Firebase Crashlytics, Cloud Messaging, in-app messaging, Remote Config, A/B Testing and Cloud Functions.

Google Analytics enables:

✕ A/B testing ?

✕ Breadcrumb logs in Crashlytics ?

✕ User segmentation and targeting across Firebase products ?

✕ Event-based Cloud Functions triggers ?

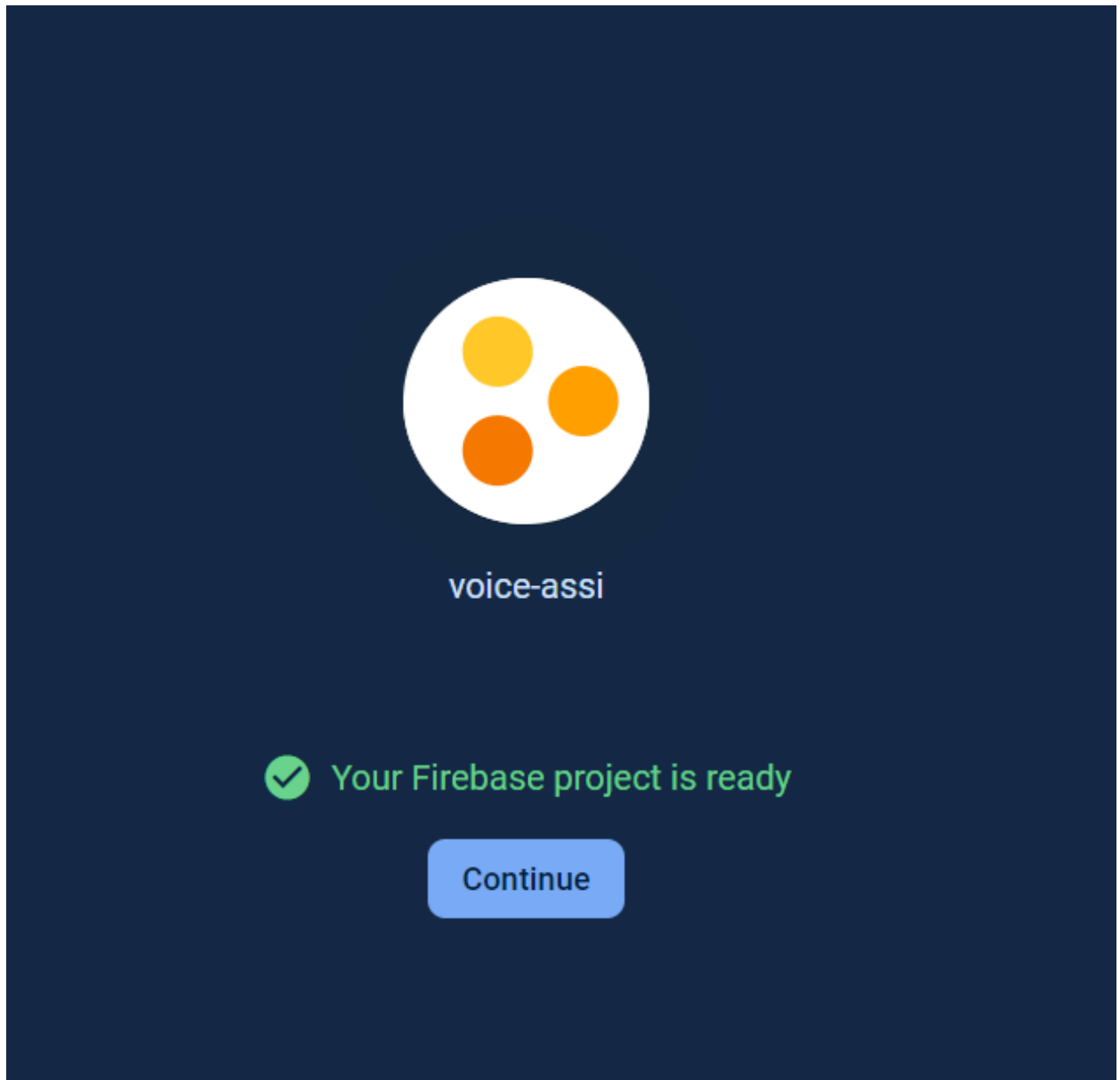
✕ Free unlimited reporting ?



Enable Google Analytics for this project
Recommended

[Previous](#)

Create project



2. Add Your App to Firebase:

- After creating the project, add your Flutter app to it by clicking on the "Add App" button and selecting the appropriate platform (iOS or Android).
- Follow the instructions to register your app with Firebase. For Android, you'll need to provide your app's package name, and for iOS, you'll need to upload your app's GoogleService-Info.plist file.

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.

google-services.json

Project

MyApplication [My Application]

.gradle

.idea

app

libs

src

.gitignore

build.gradle.kts

google-services.json

proguard-rules.pro

gradle

Next

3. Configure Firebase SDK:

- For Android:
 - Add the Firebase SDK to your Flutter project by adding the required dependencies in your `build.gradle` file.
 - Update the `android/build.gradle` file to include the Google services classpath.
 - Add the `google-services.json` file to the `android/app` directory.
- For iOS:
 - Add the Firebase SDK to your Flutter project by adding the required dependencies in your `Podfile`.
 - Add the `GoogleService-Info.plist` file to the `ios/Runner` directory.

```
buildscript {
    ext.kotlin_version = '1.7.10'
    repositories {
        google()
        mavenCentral()
    }

    dependencies {
        classpath 'com.android.tools.build:gradle:7.2.0'
        classpath "org.jetbrains.kotlin:kotlin-gradle-plugin:$kotlin_version"
        classpath "com.google.gms:google-services:4.3.15"
    }
}
```

```

def flutterVersionName = localProperties.getProperty('flutter.versionName')
if (flutterVersionName == null) {
    flutterVersionName = '1.0'
}

apply plugin: 'com.android.application'
apply plugin: 'kotlin-android'
apply plugin: "com.google.gms.google-services"
apply from: "$flutterRoot/packages/flutter_tools/gradle/flutter.gradle"

android {
    compileSdkVersion flutter.compileSdkVersion
    ndkVersion flutter.ndkVersion

    compileOptions {

```

4. Initialize Firebase:

- In your Flutter app, initialize Firebase by importing the necessary Firebase libraries and calling `Firebase.initializeApp()` in your `main()` function.

```

import 'package:allen/pallete.dart';
import 'package:flutter/material.dart';
import 'package:firebase_core/firebase_core.dart';
import 'package:firebase_auth/firebase_auth.dart';

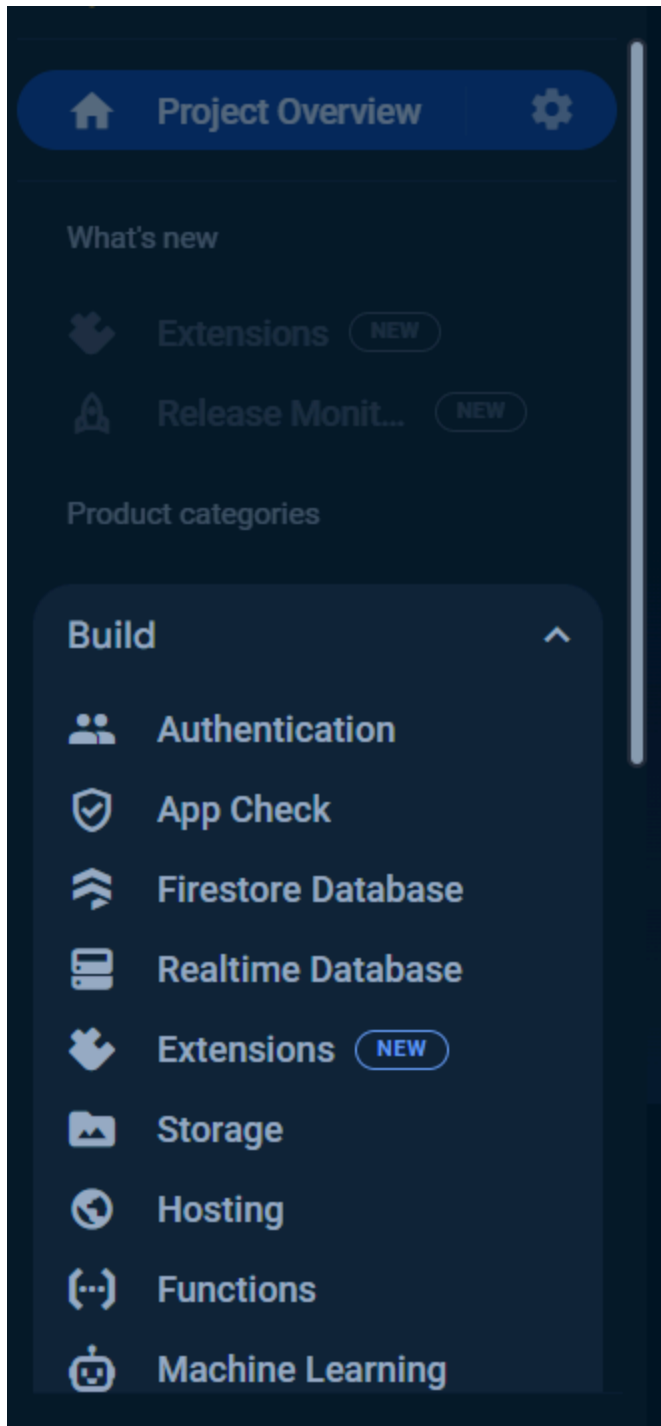
Run | Debug | Profile
Future main() async {
    WidgetsFlutterBinding.ensureInitialized();
    await Firebase.initializeApp();
    runApp(const MyApp());
}

class MyApp extends StatelessWidget {
    const MyApp({super.key});

```

5. Add Firebase Services:

- Depending on your app's requirements, add the Firebase services you need, such as Authentication, Firestore, Realtime Database, Cloud Storage, etc.
- Follow the documentation provided by Firebase to set up and configure each service according to your app's needs.

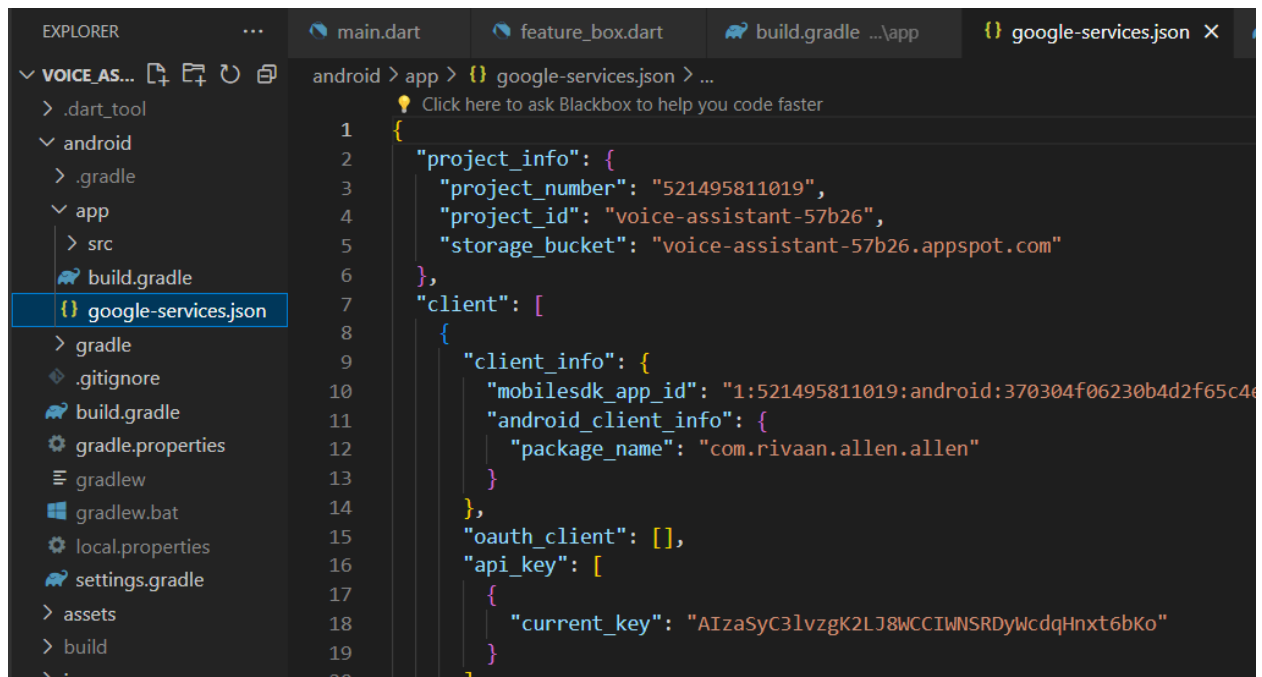


6. Test Firebase Integration:

- Verify that Firebase is correctly integrated into your Flutter app by testing various Firebase features and services.
- Use Firebase Authentication to authenticate users, Firestore or Realtime Database to store and retrieve data, and other Firebase services as required.

7. Handle Platform-Specific Configurations (Optional):

- Depending on your app's requirements, you may need to handle platform-specific configurations for Firebase services, such as handling deep links, push notifications, etc.



The screenshot shows an IDE with the Explorer panel on the left and the Editor panel on the right. The Explorer panel shows a project structure for 'VOICE_AS...' with folders like .dart_tool, android, .gradle, app, src, build.gradle, google-services.json, gradle, .gitignore, build.gradle, gradle.properties, gradlew, gradlew.bat, local.properties, settings.gradle, assets, build, and ios. The google-services.json file is selected. The Editor panel shows the content of google-services.json, which is a JSON object with the following structure:

```
1  {
2    "project_info": {
3      "project_number": "521495811019",
4      "project_id": "voice-assistant-57b26",
5      "storage_bucket": "voice-assistant-57b26.appspot.com"
6    },
7    "client": [
8      {
9        "client_info": {
10          "mobilesdk_app_id": "1:521495811019:android:370304f06230b4d2f65c4e",
11          "android_client_info": {
12            "package_name": "com.rivaan.allen.allen"
13          }
14        },
15        "oauth_client": [],
16        "api_key": [
17          {
18            "current_key": "AIzaSyC3lvzgK2LJ8WCCIWNSRDyWcdqHnxt6bKo"
19          }
20        ]
21      }
22    ]
23  }
```

Conclusion:

I have successfully understood and implemented ,How To Set Up Firebase with Flutter for iOS and Android Apps