

Name : Niddhi Rijhwani

Class : D15B Roll No : 47

Subject : MPL Exp 06

Aim : To connect a Flutter application to Firebase by integrating Firebase Core, and initializing Firebase services in a Flutter project.

Theory: Firebase is a platform developed by Google that offers a variety of tools and services for building mobile and web applications. It provides features like:

- Authentication
- Cloud Firestore / Realtime Database
- Cloud Storage
- Push Notifications (Cloud Messaging)
- Analytics And more...

Firebase Core in Flutter : firebase_core is the foundational Flutter plugin required for initializing Firebase in your Flutter app. It sets up the necessary configurations to allow your app to communicate with Firebase services.

Theory : Steps to Integrate Firebase Core in Flutter

1. Set Up Firebase Project

- Go to Firebase Console
- Create a new Firebase project
- Register your app (Android and/or iOS)
- Download the configuration file:
 - google-services.json for Android
 - GoogleService-Info.plist for iOS

2. Add Firebase Core Plugin

In your pubspec.yaml, add :

dependencies:

 firebase_core: latest_version

Then run:

flutter pub get

3. Platform-Specific Configuration

For Android:

- Place google-services.json in android/app/
- Modify android/build.gradle and android/app/build.gradle to include:

```
// Project-level
classpath 'com.google.gms:google-services:4.3.10'
// App-level
apply plugin: 'com.google.gms.google-services'
```

For iOS:

- Place GoogleService-Info.plist in ios/Runner/
- Open the iOS module in Xcode and add the plist file to the project
- Enable Swift support if prompted

4. Initialize Firebase in Dart Code :

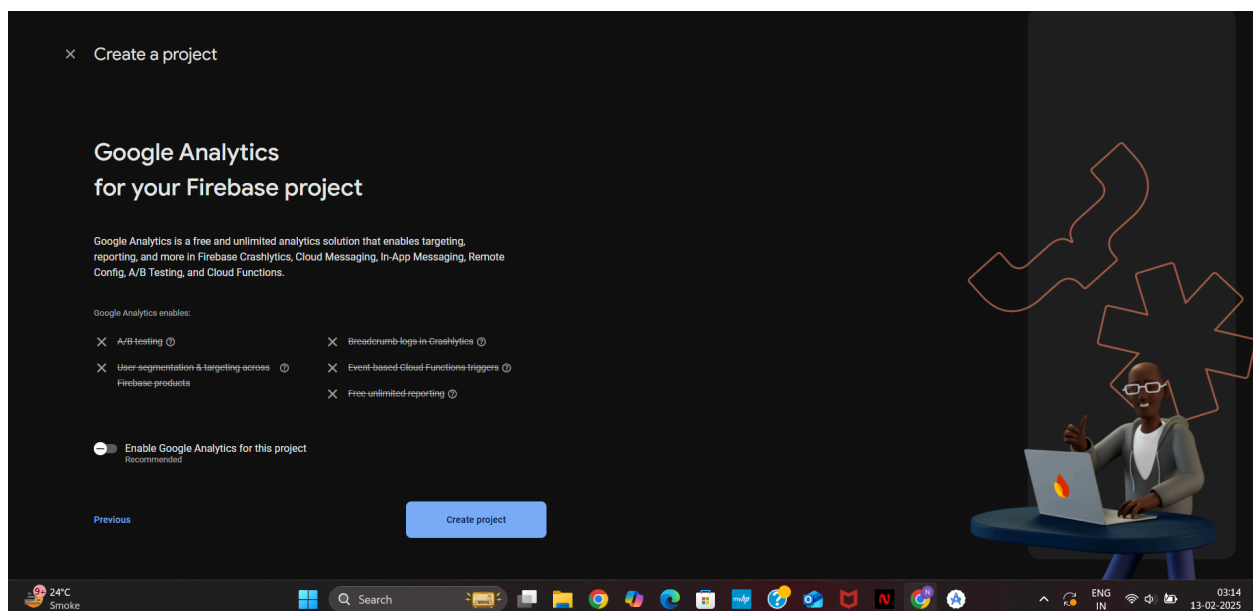
Before you use any Firebase services, initialize Firebase in your main.dart file:

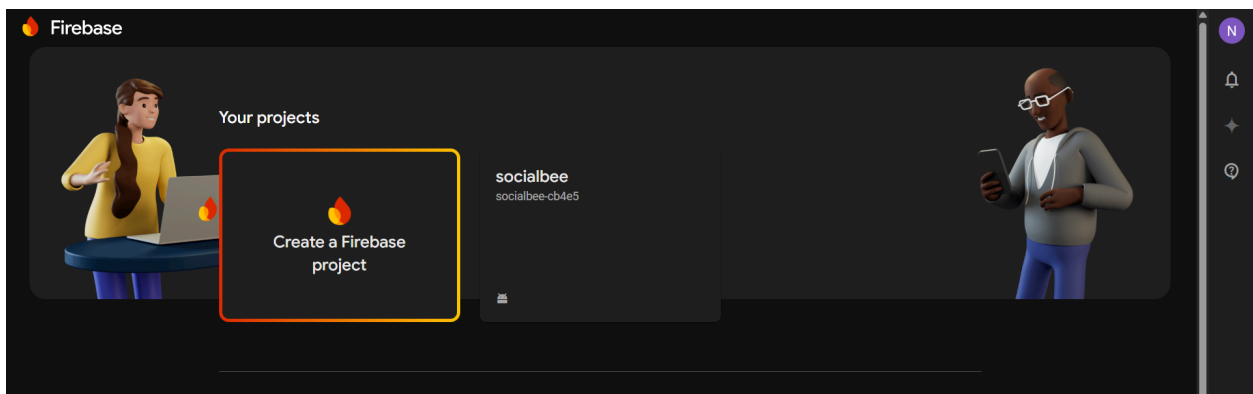
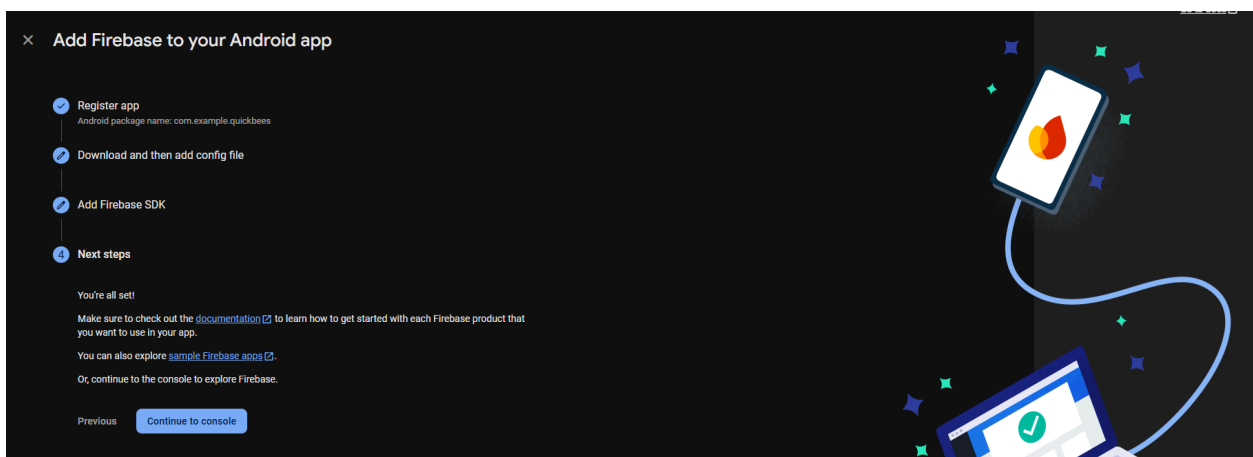
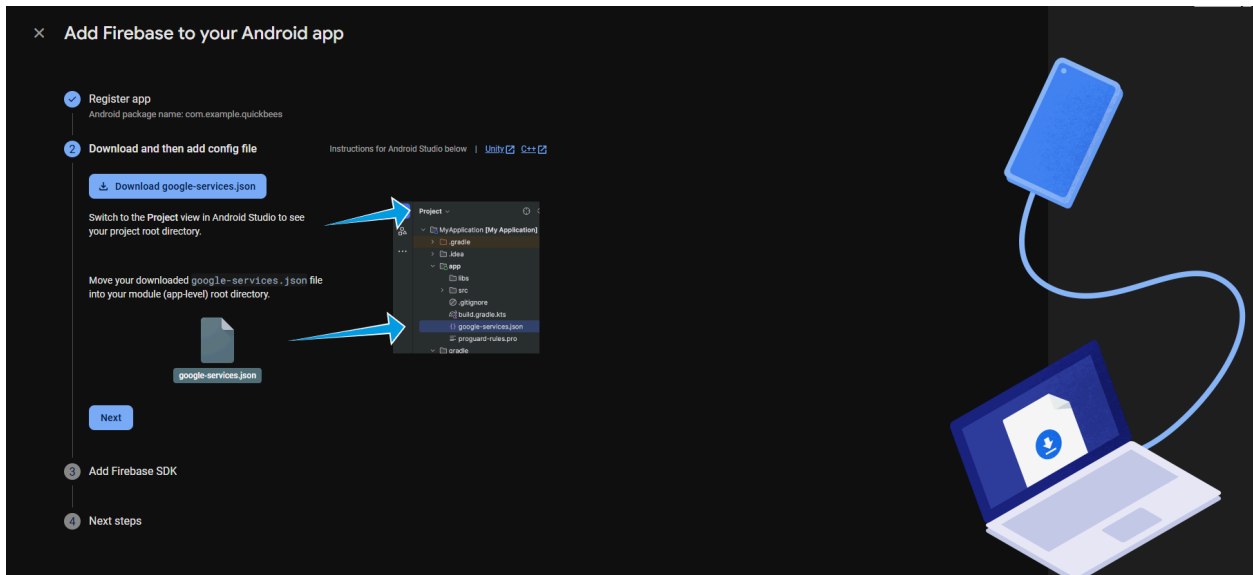
```
void main() async {
  WidgetsFlutterBinding.ensureInitialized();
  await Firebase.initializeApp();
  runApp(MyApp());
}
```

Initialization Purpose :

- Initializes native platform Firebase SDKs
- Prepares the app to use Firebase services
- Ensures Firebase is ready before rendering widgets that depend on it.

Output :





Conclusion:

Integrating Firebase Core in a Flutter app sets up the connection between your app and Firebase services. It involves adding configuration files, the `firebase_core` plugin, and initializing Firebase at startup. This essential setup enables smooth use of Firebase features like authentication, database, and more.