Name:Sahil Motiramani Div:D15C Roll No.:35

Experiment:6

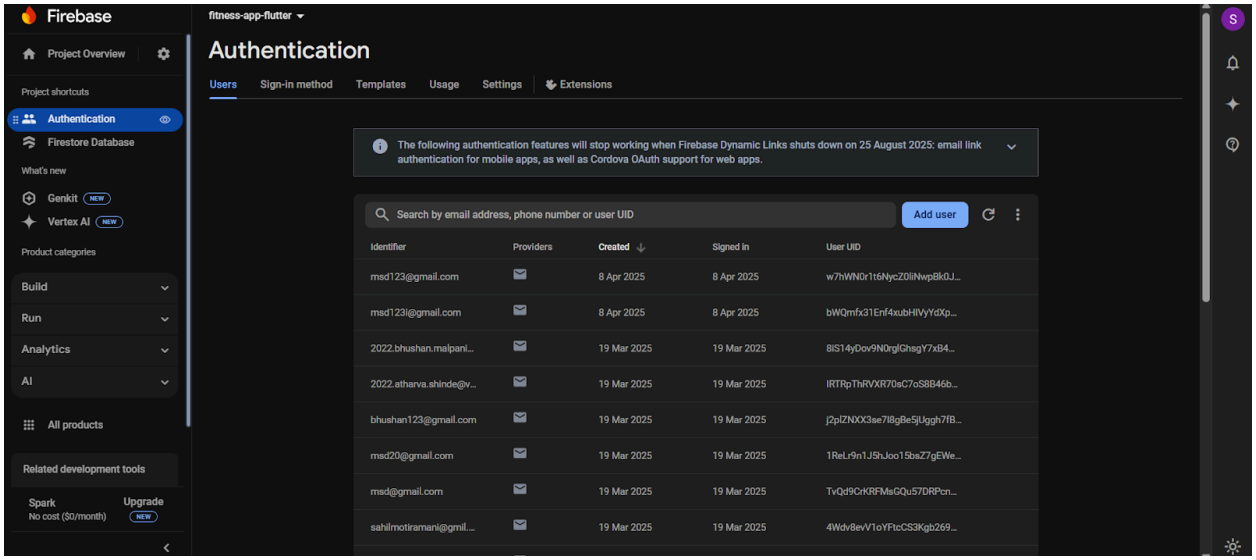
Aim: To apply navigation, routing and gestures in Flutter App

Theory:

- Firebase is a Backend-as-a-Service (BaaS) platform developed by Google that offers powerful tools for mobile and web app development. Integrating Firebase with Flutter enables developers to add real-time databases, authentication, cloud functions, analytics, and more—without managing a backend.
- To set up Firebase in a Flutter project, begin by creating a Firebase project on the Firebase Console. Register both Android and iOS versions of the app using their respective package names and download the google-services.json for Android and GoogleService-Info.plist for iOS. These files are placed in the respective directories in the project.
- Next, Firebase SDKs must be added to the Flutter app. This involves editing the android/build.gradle and android/app/build.gradle files to include Firebase plugins and classpath dependencies. Similarly, for iOS, Firebase requires minimum platform setup in ios/Podfile, and dependencies must be installed via CocoaPods.
- Flutter provides the firebase_core plugin, which must be initialized before using any Firebase service. Other common packages include firebase_auth for authentication, cloud_firestore for database, and firebase_storage for uploading files. Initialization is done in the main() function using WidgetsFlutterBinding.ensureInitialized() followed by Firebase.initializeApp().
- By integrating Firebase, you can easily manage user data, secure authentication, store and retrieve real-time content, and even send push notifications using Firebase Cloud Messaging (FCM). All this can be done without building a separate backend infrastructure, speeding up development significantly.

Output:

Name:Sahil Motiramani Div:D15C Roll No.:35



Conclusion:

Integrating Firebase into a Flutter app provides a complete backend solution with minimal configuration. It enhances app capabilities by offering scalable, secure, and feature-rich services such as authentication, cloud database, storage, and analytics. In my app, Firebase integration allows for seamless data management, user login, and real-time updates across Android and iOS platforms, all with a unified codebase.