Aim: To set up Firebase authentication for the android application.

1. **firebase_core Initialization:**

   o   await Firebase.initializeApp(); is crucial. This line initializes Firebase for your app. It's placed in the main() function *before* runApp().

   o   WidgetsFlutterBinding.ensureInitialized(); is also important, and is required before Firebase.initializeApp().

2. **Firebase Authentication (firebase_auth):**

   o   The code uses FirebaseAuth for user authentication.

   o   signInWithEmailAndPassword and createUserWithEmailAndPassword are used for login and registration.

   o   Error handling is improved with FirebaseAuthException catching, providing user friendly messages.

3. **Cloud Firestore (cloud_firestore):**

   o   FirebaseFirestore is used to store user data in the "users" collection.

   o   set() is used to write data to Firestore.

4. **Platform Setup (iOS and Android):**

   o   To make this work, you *must* follow the Firebase console setup for both iOS and Android. This involves:

      ▪   Creating a Firebase project.

      ▪   Adding iOS and Android apps to your project.

      ▪   Downloading the google-services.json (Android) and GoogleService-Info.plist (iOS) files and placing them in the correct locations within your Flutter project.

      ▪   Ensuring the correct Firebase plugins are added to your pubspec.yaml.

5. **Error Handling:** FirebaseAuth exceptions are now specifically handled, providing better error messages to the user.

6. **Navigation:** Navigation is implemented using named routes, allowing for cleaner transitions.
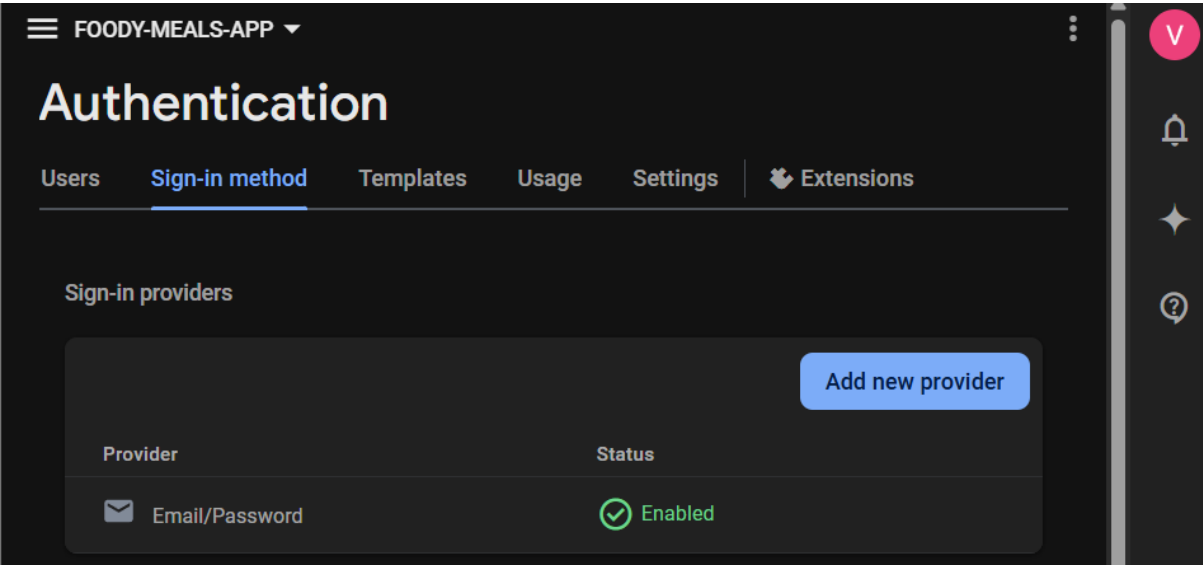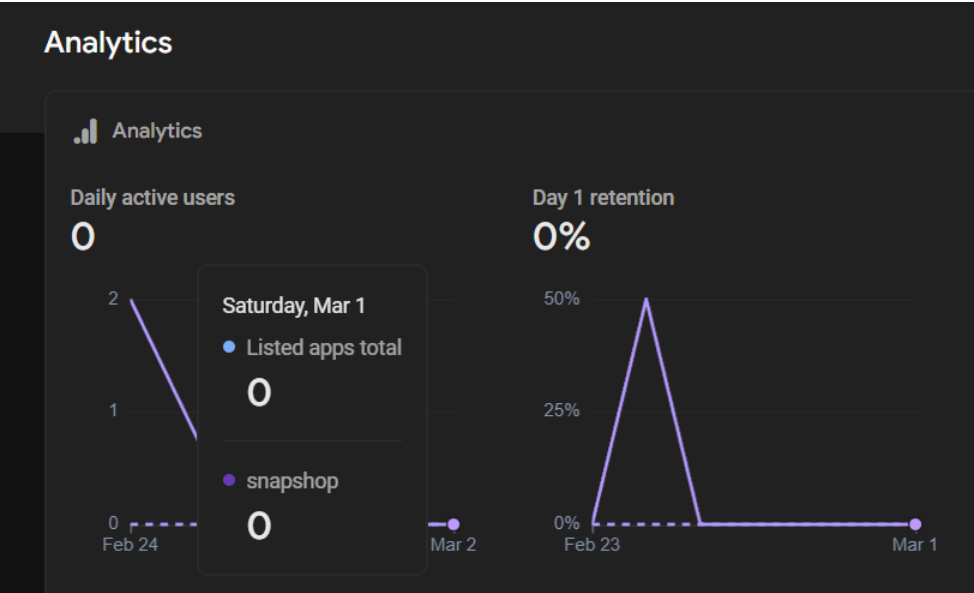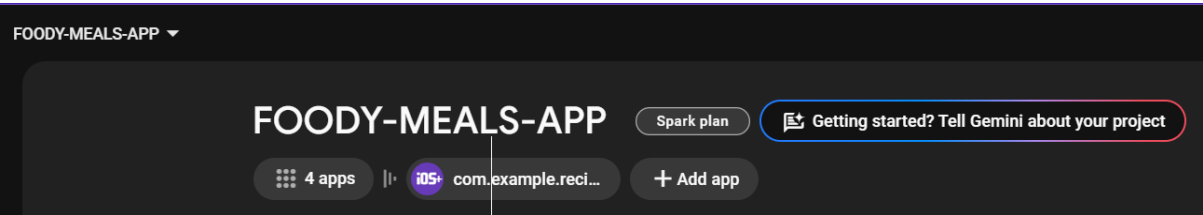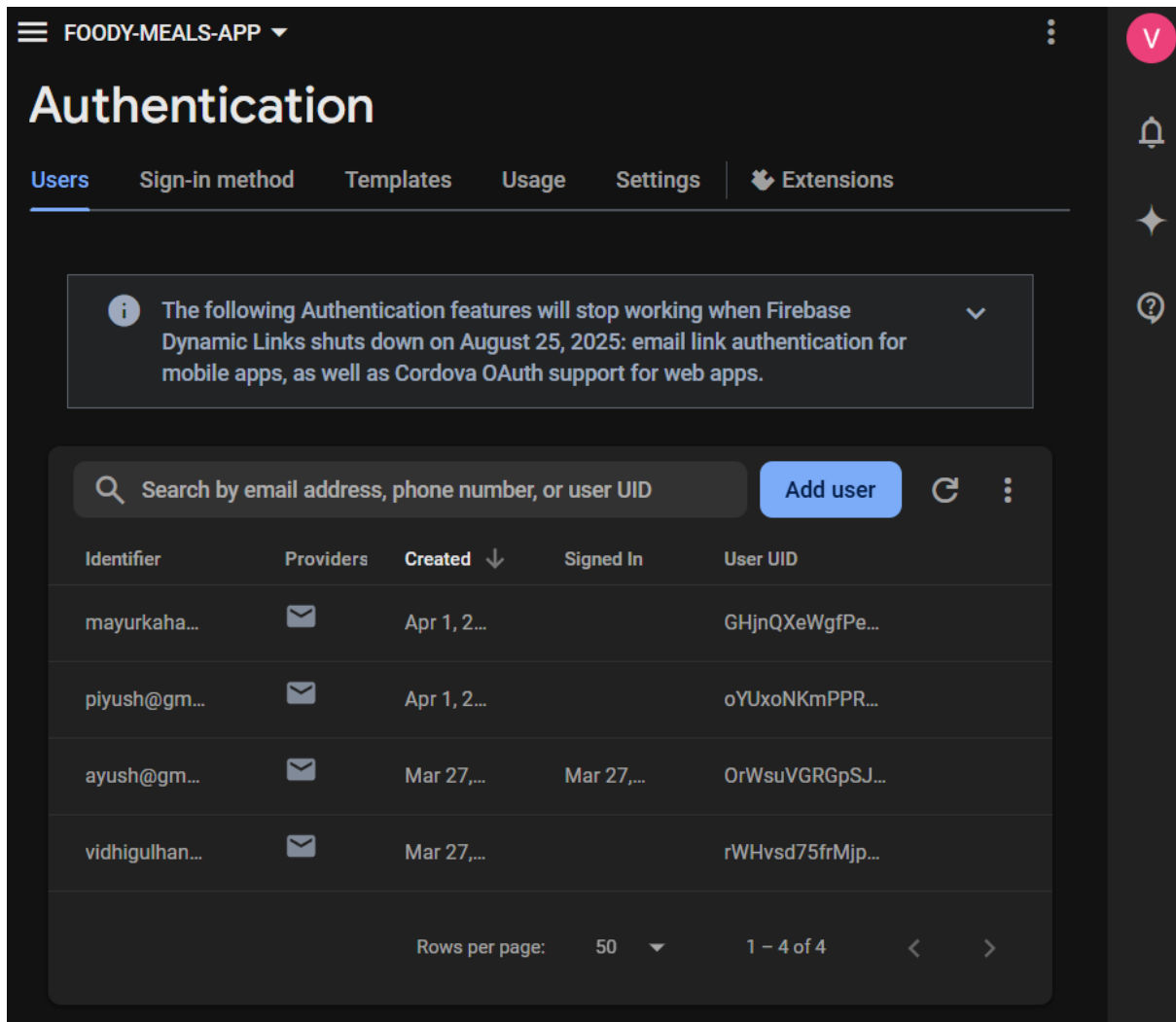

We need the following packages;

import 'package:firebase_auth/firebase_auth.dart';

import 'package:firebase_core/firebase_core.dart';

import 'package:cloud_firestore/cloud_firestore.dart';

Output

FOODY-MEALS-APP ▾

FOODY-MEALS-APP (Spark plan) (📤 Getting started? Tell Gemini about your project)

(⋮⋮⋮ 4 apps) |⊩ (🍎 iOS+ com.example.reci...) (+ Add app)

Analytics

📊 Analytics

Daily active users
0

Day 1 retention
0%

Saturday, Mar 1
● Listed apps total
0

● snapshot
0

2

1

0
Feb 24   Mar 2

50%

25%

0%
Feb 23   Mar 1

≡ FOODY-MEALS-APP ▾   ⋮   V

Authentication

Users   **Sign-in method**   Templates   Usage   Settings | 🧩 Extensions

🔔

✦

Sign-in providers   ❓

[**Add new provider**]

Provider	Status
✉ Email/Password	✅ Enabled

Conclusion: In this experiment, we learnt to integrate our application with firebase and implement authentication functionality. We made the necessary changes to our flutter program to implement the desired functionality.