MAD LAB EXPT 6

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Aim: To connect Flutter UI with Firebase.

Theory:

Step1:
Go to the Firebase Console (https://console.firebase.google.com/) and create a new project.Follow the instructions to add your app to the Firebase project. You'll need to provide your app's package name (Android) or bundle identifier (iOS).

Step 2:
Add the Firebase SDK dependencies to your Flutter app's pubspec.yaml file. These dependencies vary depending on the Firebase services you want to use (e.g., Firebase Authentication, Firestore, Realtime Database, Cloud Storage).
Run flutter pub get to install the dependencies.

Step 3:
In your Flutter app, initialize Firebase by calling Firebase.initializeApp() in the main() function or at the entry point of your app.
This initialization step is crucial and should be done before accessing any Firebase services.

Step 4:
Once Firebase is initialized, you can start using Firebase services like Firestore (NoSQL database), Realtime Database (JSON database), Cloud Storage (file storage), Cloud Functions (serverless functions), etc.
You'll typically use Firebase APIs to read and write data, handle user authentication, and perform other tasks.

Step 5:
Use Firebase listeners to listen for real-time updates to your data. For example, in Firestore, you can set up listeners to receive updates whenever the data in a collection or document changes.

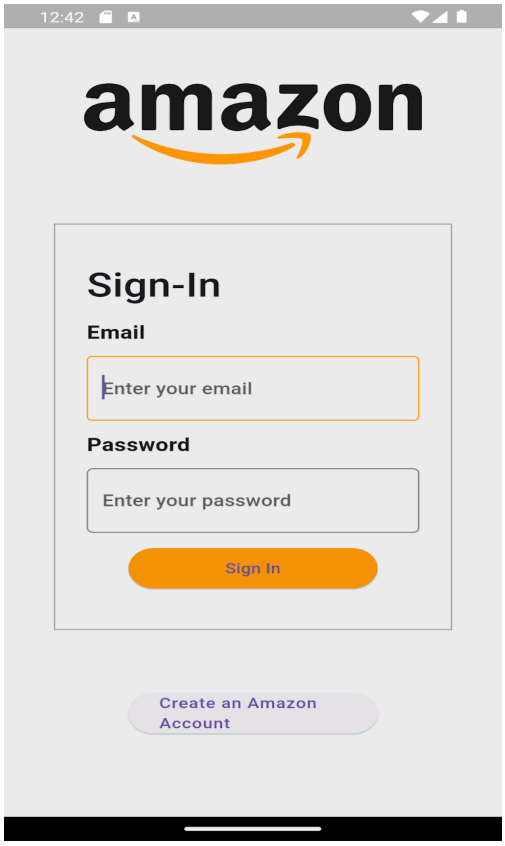
Step 6:
Implement error handling logic to handle exceptions and errors that may occur when interacting with Firebase services.

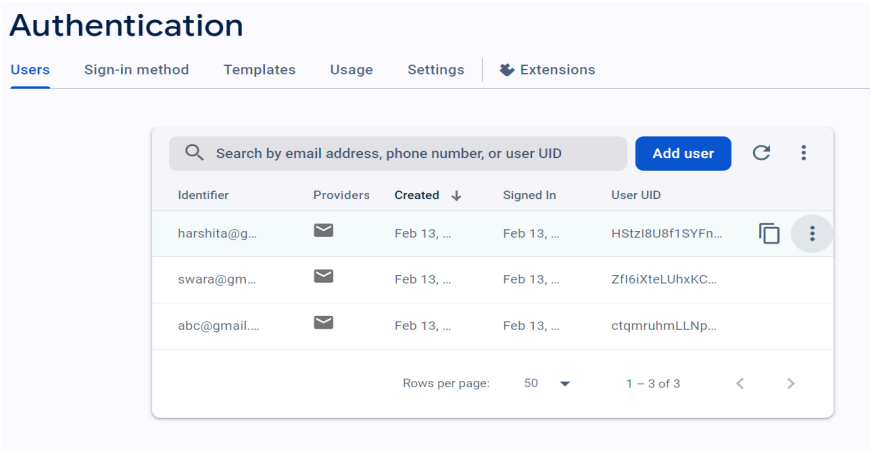
Output:

```
import 'package:amazon_clone/layout/screen_layout.dart';
import 'package:amazon_clone/model/product_model.dart';
import 'package:amazon_clone/providers/user_details_provider.dart';
import 'package:amazon_clone/screens/product_screen.dart';
import 'package:amazon_clone/screens/results_screen.dart';
import 'package:amazon_clone/screens/sell_screen.dart';
import 'package:amazon_clone/screens/sign_in_screen.dart';
import 'package:amazon_clone/utils/color_themes.dart';
import 'package:firebase_auth/firebase_auth.dart';
import 'package:firebase_core/firebase_core.dart';
import 'package:flutter/foundation.dart';
import 'package:flutter/material.dart';
import 'package:provider/provider.dart';

void main() async {
  WidgetsFlutterBinding.ensureInitialized();
  if (kIsWeb) {
    await Firebase.initializeApp(
        options: const FirebaseOptions(
            apiKey: "AIzaSyDvpZFXdfmjxwc0x2oClDw01sNoMrLoF4c",
            authDomain: "clone-12f8a.firebaseapp.com",
            projectId: "clone-12f8a",
            storageBucket: "clone-12f8a.appspot.com",
            messagingSenderId: "413818422314",
            appId: "1:413818422314:web:f7981d7db247b565732f53"));
  } else {
    await Firebase.initializeApp();
  }
  runApp(const AmazonClone());
}

class AmazonClone extends StatelessWidget {
  const AmazonClone({Key? key}) : super(key: key);

  @override
  Widget build(BuildContext context) {
    return MultiProvider(
      providers: [ChangeNotifierProvider(create: (_) => UserDetailsProvider())],
      child: MaterialApp(
        title: "Amazon Clone",
        debugShowCheckedModeBanner: false,
        theme: ThemeData.light().copyWith(
```

```
        scaffoldBackgroundColor: backgroundColor,
      ),
      home: StreamBuilder(
        stream: FirebaseAuth.instance.authStateChanges(),
        builder: (context, AsyncSnapshot<User?> user) {
          if (user.connectionState == ConnectionState.waiting) {
            return const Center(
              child: CircularProgressIndicator(
                color: Colors.orange,
              ),
            );
          } else if (user.hasData) {
            return const ScreenLayout();
            //return const SellScreen();
          } else {
            return const SignInScreen();
          }
        }),
    ),
  );
 }
}
```

Connected with firebase for authentication.





Conclusion: Firebase has been connected to the Flutter application for user authentication purposes.