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Exp-06

Aim: To connect Flutter UI with firebase connection.

Theory:

User

firebase connection with UI

ChatGPT

To connect Firebase with a user interface (UI), you typically need to follow these steps:

Set Up Firebase Project:

Go to the Firebase Console (<https://console.firebase.google.com/>).

Create a new project or select an existing one.

Follow the instructions to add your app to the Firebase project. This usually involves registering your app's package name and obtaining a config file (google-services.json for Android or GoogleService-Info.plist for iOS).

Integrate Firebase SDK:

Add Firebase SDK to your project. This can be done through Gradle (for Android) or CocoaPods (for iOS).

Follow the platform-specific setup instructions provided by Firebase for your project.

Authentication (if needed):

Set up Firebase Authentication if you need to authenticate users.

Configure sign-in methods and integrate authentication flows into your UI.

Database (if needed):

Set up Firebase Realtime Database or Firestore to store and sync data.

Define database rules to secure your data.

Storage (if needed):

Set up Firebase Storage to store and serve user-generated content like images or videos.

Cloud Functions (optional):

Use Firebase Cloud Functions to run backend code triggered by Firebase features and HTTPS requests.

UI Integration:

Update your UI to interact with Firebase services. This involves writing code to perform operations like reading from or writing to the database, authenticating users, and uploading/downloading files to/from Firebase Storage.

Listen for data changes in the database and update the UI accordingly.

Handle Errors and Edge Cases:

Implement error handling to deal with potential issues like network errors, authentication failures, or database access errors.

Handle edge cases such as offline access or slow network conditions gracefully.

Here's a basic example of how you might connect a UI element to Firebase for reading data from the Firebase Realtime Database using JavaScript and Firebase Web SDK:

Code:

```
import 'package:firebase_auth/firebase_auth.dart';
import 'package:flutter/cupertino.dart';
import 'package:flutter/material.dart';

class LoginPage extends StatefulWidget {
  const LoginPage({Key? key}) : super(key: key);

  @override
  State<LoginPage> createState() => _LoginPageState();
}

class _LoginPageState extends State<LoginPage> {
  final emailController = TextEditingController();
  final passwordController = TextEditingController();
  @override
  void dispose() {
    emailController.dispose();
    passwordController.dispose();
    super.dispose();
  }
}
```

```

@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
      title: const Text('Firebase'),
    ),
    body: SafeArea(
      child: Column(
        crossAxisAlignment: CrossAxisAlignment.center,
        mainAxisAlignment: MainAxisAlignment.center,
        children: [
          Center(
            child: Container(
              decoration: BoxDecoration(
                color: Colors.transparent,
                border: Border.all(
                  color: Colors.black,
                ),
                borderRadius: BorderRadius.circular(15),
              ),
              width: MediaQuery.of(context).size.width * .8,
              child: TextField(
                controller: emailController,
                style: const TextStyle(
                  fontSize: 30,
                  color: Colors.black,
                  fontWeight: FontWeight.bold,
                ),
                decoration: InputDecoration(
                  hintText: 'Email',
                  hintStyle: TextStyle(color: Colors.black.withOpacity(0.5), fontSize: 25),
                  border: InputBorder.none,
                ),
              ),
            ),
          ),
          SizedBox(
            height: 25,
          ),
          Center(

```

```

child: Container(
  decoration: BoxDecoration(
    color: Colors.transparent,
    border: Border.all(
      color: Colors.black,
    ),
    borderRadius: BorderRadius.circular(15),
  ),
  width: MediaQuery.of(context).size.width * .8,
  child: TextField(
    controller: passwordController,
    obscureText: true,
    style: const TextStyle(
      fontSize: 30,
      color: Colors.black,
      fontWeight: FontWeight.bold,
    ),
    decoration: InputDecoration(
      hintText: passwordController.text.isEmpty ? 'Password' : null,
      hintStyle: TextStyle(color: Colors.black.withOpacity(0.5), fontSize: 25),
      border: InputBorder.none,
    ),
  ),
),
),
),
),
ElevatedButton(
  style: ElevatedButton.styleFrom(
    backgroundColor: Colors.green
  ),
  onPressed: () {
    FirebaseAuth.instance.signInWithEmailAndPassword(email:
emailController.text.trim(), password: passwordController.text.trim());
  },
  child: Text('Login')
),
ElevatedButton(
  style: ElevatedButton.styleFrom(
    backgroundColor: Colors.blue
  ),
  onPressed: () {

```

```
        FirebaseAuth.instance.createUserWithEmailAndPassword(email:
emailController.text.trim(), password: passwordController.text.trim());
        }, child: Text('signUp'))

    ],
  ),
),
);
}
}
```

Output:



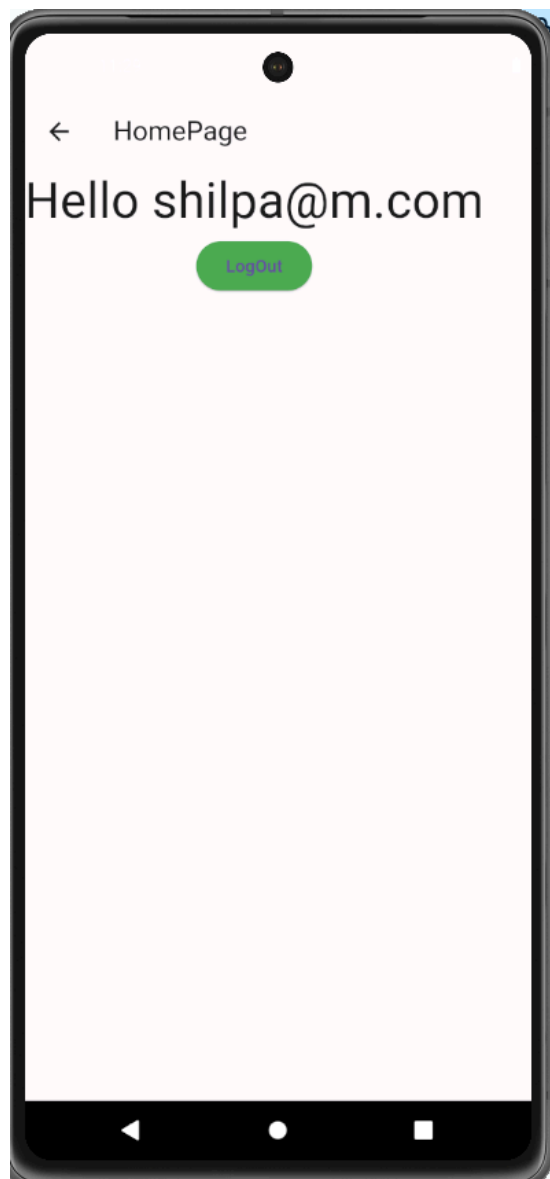


← HomePage

Hello jiya@m.com

Logout





🔥 Firebase

Project Overview

⚙️

Project shortcuts

👤 Authentication

🗄️ Firestore Database

📄 Realtime Database

What's new

🔌 Extensions

NEW

Product categories

Build

Release & Monitor

Analytics

Engage

All products

Spark

No-cost \$0/month

Upgrade

demo2

Authentication

Users

Sign-in method

Templates

Usage

Settings

Extensions

🔍 Search by email address, phone number, or user UID

Add user

↻

⋮

Identifier	Providers	Created ↓	Signed In	User UID
shilpa@m.com	📧	Feb 16, 2024	Feb 16, 2024	rhT7T3C602UTK5KaKSiHHEB...
mahek@m.com	📧	Feb 16, 2024	Feb 16, 2024	kl7YjwusSUQE7j74zCCefxHH...
sneha@m.com	📧	Feb 15, 2024	Feb 15, 2024	Y4XCzTv3xsM9OlakdTZW6n...
hitesh@m.com	📧	Feb 15, 2024	Feb 15, 2024	xaulk0b148WrSNdIVATsRn8ys...
sakshi@m.com	📧	Feb 15, 2024	Feb 15, 2024	w2PHCtWc0acgmNwghsRKe7...
jiya@m.com	📧	Feb 14, 2024	Feb 16, 2024	PNeyYcmWhSUp4p3dcfwCdW...

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