
Flutter Firebase Integration: Firestore & Auth Basics

Subtitle: Learn how to connect your Flutter app with Firebase for authentication and real-time database functionality.

Website Name: haas.dev

Website Link: <https://dev-roast-app.vercel.app>

Introduction

Firebase provides **authentication, real-time databases, and cloud services** for Flutter apps. Integrating Firebase allows you to **build scalable apps with user management and dynamic data**.

Step 1: Add Firebase Dependencies

```
dependencies:  
  firebase_core: ^2.20.0  
  firebase_auth: ^4.7.0  
  cloud_firestore: ^5.9.0
```

Run:

```
flutter pub get
```

Import in Dart:

```
import 'package:firebase_core/firebase_core.dart';  
import 'package:firebase_auth/firebase_auth.dart';  
import 'package:cloud_firestore/cloud_firestore.dart';
```

Step 2: Initialize Firebase

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

Exercise: Initialize Firebase in a new Flutter project.

Step 3: Firebase Authentication

```
// Sign up user
Future<void> signUp(String email, String password) async {
  try {
    await FirebaseAuth.instance.createUserWithEmailAndPassword(
      email: email, password: password);
    print('User created');
  } catch (e) {
    print('Error: $e');
  }
}
```

Exercise: Create a sign-up form using Firebase Auth.

Step 4: Firebase Firestore CRUD

```
// Add data
FirebaseFirestore.instance.collection('users').add({
  'name': 'Hafsa',
  'age': 22,
});

// Read data
FirebaseFirestore.instance.collection('users').snapshots().listen((snapshot) {
  for (var doc in snapshot.docs) {
    print(doc.data());
  }
});
```

Exercise: Save user info to Firestore and display it in a list.

Step 5: Mini Project

Build a **Flutter Firebase App**:

- User sign-up and login using Firebase Auth
- Save user data (name, email) to Firestore

- Display a list of all users from Firestore
 - Bonus: Add real-time updates using `snapshots()`
-

Key Takeaways

- Firebase enables **authentication and real-time database** integration
 - Firestore allows easy **CRUD operations** with dynamic data
 - Proper setup ensures **secure and scalable apps**
 - Mastering Firebase is essential for **professional, cloud-connected Flutter apps**
-

Skipping Firebase integration limits your app to **offline, static data**, making it unsuitable for modern apps.

Visit **haas.dev** for more Flutter guides, tutorials, and complete project resources.

Website Name: haas.dev

Website Link: <https://dev-roast-app.vercel.app>
