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Roll No: 26

Batch: B

Experiment No 6

Aim: To Connect Flutter UI with Firebase

Theory:

FlutterFire is a set of Flutter plugins that enable Flutter developers to integrate their applications with various Firebase services. Firebase is a comprehensive mobile and web application development platform provided by Google. FlutterFire is specifically designed to provide Flutter developers with a seamless way to interact with Firebase services.

Key features of FlutterFire include:

1. **Firebase Authentication:** FlutterFire provides plugins to easily integrate Firebase Authentication, allowing developers to implement user sign-up, sign-in, and password recovery features in their Flutter applications. Firebase supports various authentication methods, including email/password, Google Sign-In, Facebook Sign-In, and more.
2. **Cloud Firestore and Realtime Database:** FlutterFire supports both Cloud Firestore and Firebase Realtime Database, enabling developers to store and retrieve data in real-time. Firestore is a NoSQL document database, while Realtime Database is a JSON-based Database.
3. **Cloud Functions:** Developers can deploy serverless functions using Cloud Functions for Firebase, and FlutterFire allows Flutter apps to trigger and interact with these functions.
4. **Cloud Storage:** FlutterFire supports Firebase Cloud Storage, allowing developers to upload, download, and manage files in the cloud. This is useful for handling user-generated content, such as images or videos.
5. **Firebase Cloud Messaging (FCM):** FCM enables developers to send push notifications to their Flutter applications. FlutterFire provides plugins for integrating FCM and handling push notifications.
6. **Firebase Performance Monitoring:** Developers can monitor the performance of their Flutter applications using Firebase Performance Monitoring. This includes measuring app startup time, screen rendering, and network performance.
7. **Firebase Analytics:** FlutterFire includes plugins for integrating Firebase Analytics, enabling developers to gain insights into user behavior and app usage.

8. Firebase Remote Config: FlutterFire supports Firebase Remote Config, allowing developers to remotely configure app behavior without publishing updates. This is useful for A/B testing and feature toggling.

9. Firebase Crashlytics: FlutterFire includes support for Firebase Crashlytics, providing real-time crash reporting to help developers identify and fix issues quickly.

10. Firebase AdMob: FlutterFire includes AdMob plugins for integrating advertisements into Flutter applications using Firebase AdMob.

Code:

```
// File generated by FlutterFire CLI.
// ignore_for_file: lines_longer_than_80_chars, avoid_classes_with_only_static_members
import 'package:firebase_core/firebase_core.dart' show FirebaseOptions;
import 'package:flutter/foundation.dart'
    show defaultTargetPlatform, kIsWeb, TargetPlatform;

/// Default [FirebaseOptions] for use with your Firebase apps.
///
/// Example:
/// dart
/// import 'firebase_options.dart';
/// // ...
/// await Firebase.initializeApp(
///   options: DefaultFirebaseOptions.currentPlatform,
/// );
///
class DefaultFirebaseOptions {
  static FirebaseOptions get currentPlatform {
    if (kIsWeb) {
      return web;
    }
    switch (defaultTargetPlatform) {
      case TargetPlatform.android:
        return android;
      case TargetPlatform.iOS:
        return ios;
      case TargetPlatform.macOS:
        return macos;
      case TargetPlatform.windows:
        throw UnsupportedError(
          'DefaultFirebaseOptions have not been configured for windows - '
          'you can reconfigure this by running the FlutterFire CLI again.',
        );
    }
  }
}
```

```

    case TargetPlatform.linux:
      throw UnimplementedError(
        'DefaultFirebaseOptions have not been configured for linux - '
        'you can reconfigure this by running the FlutterFire CLI again.',
      );
    default:
      throw UnimplementedError(
        'DefaultFirebaseOptions are not supported for this platform.',
      );
  }
}

```

```

static const FirebaseOptions web = FirebaseOptions(
  apiKey: 'AlzaSyBVkPQnuvUlhQMI17YGe6dSfvcuNXhzQ8E',
  appId: '1:402597726944:web:1c4e75e9705fbe24bbde85',
  messagingSenderId: '402597726944',
  projectId: 'snapchat-d0b4c',
  authDomain: 'snapchat-d0b4c.firebaseio.com',
  storageBucket: 'snapchat-d0b4c.appspot.com',
);

```

```

static const FirebaseOptions android = FirebaseOptions(
  apiKey: 'AlzaSyCy-73UcdQCVU6Bu9dQ5cci_-tXWUrvD_w',
  appId: '1:402597726944:android:142939ac7e53a63fbbde85',
  messagingSenderId: '402597726944',
  projectId: 'snapchat-d0b4c',
  storageBucket: 'snapchat-d0b4c.appspot.com',
);

```

```

static const FirebaseOptions ios = FirebaseOptions(
  apiKey: 'AlzaSyBFo7Nc9Q_wwMKfufX3OZu7DkECbta4J3c',
  appId: '1:402597726944:ios:ab5cf9115943c867bbde85',
  messagingSenderId: '402597726944',
  projectId: 'snapchat-d0b4c',
  storageBucket: 'snapchat-d0b4c.appspot.com',
  iosBundleId: 'com.example.snapchatfinal',
);

```

```

static const FirebaseOptions macos = FirebaseOptions(
  apiKey: 'AlzaSyBFo7Nc9Q_wwMKfufX3OZu7DkECbta4J3c',
  appId: '1:402597726944:ios:f983ea04af9b107cbbde85',
  messagingSenderId: '402597726944',
  projectId: 'snapchat-d0b4c',
  storageBucket: 'snapchat-d0b4c.appspot.com',
);

```

```

iosBundleId: 'com.example.snapchatfinal.RunnerTests',
);
}

```

Firestore screenshots:

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
2021.kavish.punjabi@v...		Mar 20, 2024	Mar 20, 2024	aKq81aXbCQPjroTGdwy3W8N...
khushij@gmail.com		Mar 19, 2024	Mar 19, 2024	tc0UHWts5wWvkOUy74QHmi...
nareshpunjabi2050@g...		Mar 6, 2024	Mar 20, 2024	E9EayxGy0Q0OyfClan2auehLY...
kavishpunjabi2003@g...		Mar 6, 2024	Mar 20, 2024	Emjq8QyZftWNZFPxjD1RHEtd...
umesh@gmail.com		Mar 6, 2024	Mar 6, 2024	sy1vb9Sw1ZZt0IBiBJKjtTDv132
mayank@gmail.com		Mar 6, 2024	Mar 6, 2024	eW79SJPJoef4c67tkdBNAmq...
khushi@gmail.com		Mar 6, 2024	Mar 6, 2024	qJC562WS3DNXIqnURzKwSD...

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Cloud Firestore

Protect your Cloud Firestore resources from abuse, such as billing fraud or phishing Configure App Check

Panel view Query builder

users > E9EayxGy0Q0O...

More in Google Cloud

(default)	users	E9EayxGy0Q0OyfClan2auehLYfm1
+ Start collection	+ Add document	+ Start collection
chat_rooms	E9EayxGy0Q0OyfClan2auehLYfm1	+ Add field
users	Emjq8QyZftWNZFPxjD1RHEtd71p2	displayName: "Naresh Punjabi"
	QRSD9kUbt0NIaEc5dmi8k07mJvv2	email: "nareshpunjabi2050@gmail.com"
	aKq81aXbCQPjroTGdwy3W8Nz1LP2	photoURL: "https://lh3.googleusercontent.com/a/ACg8ocKZNFeXICT66kdo6RcEjIc"
	eW79SJPJoef4c67tkdBNAmqRNWF2	uid: "E9EayxGy0Q0OyfClan2auehLYfm1"
	qJC562WS3DNXIqnURzKwSDB0CsZ2	
	sy1vb9Sw1ZZt0IBiBJKjtTDv132	
	tc0UHWts5wWvkOUy74QHmiXH6nC2	