Jai Talreja 59 D15A

Exp 6

Aim :- To connect Flutter UI with Firebase Database

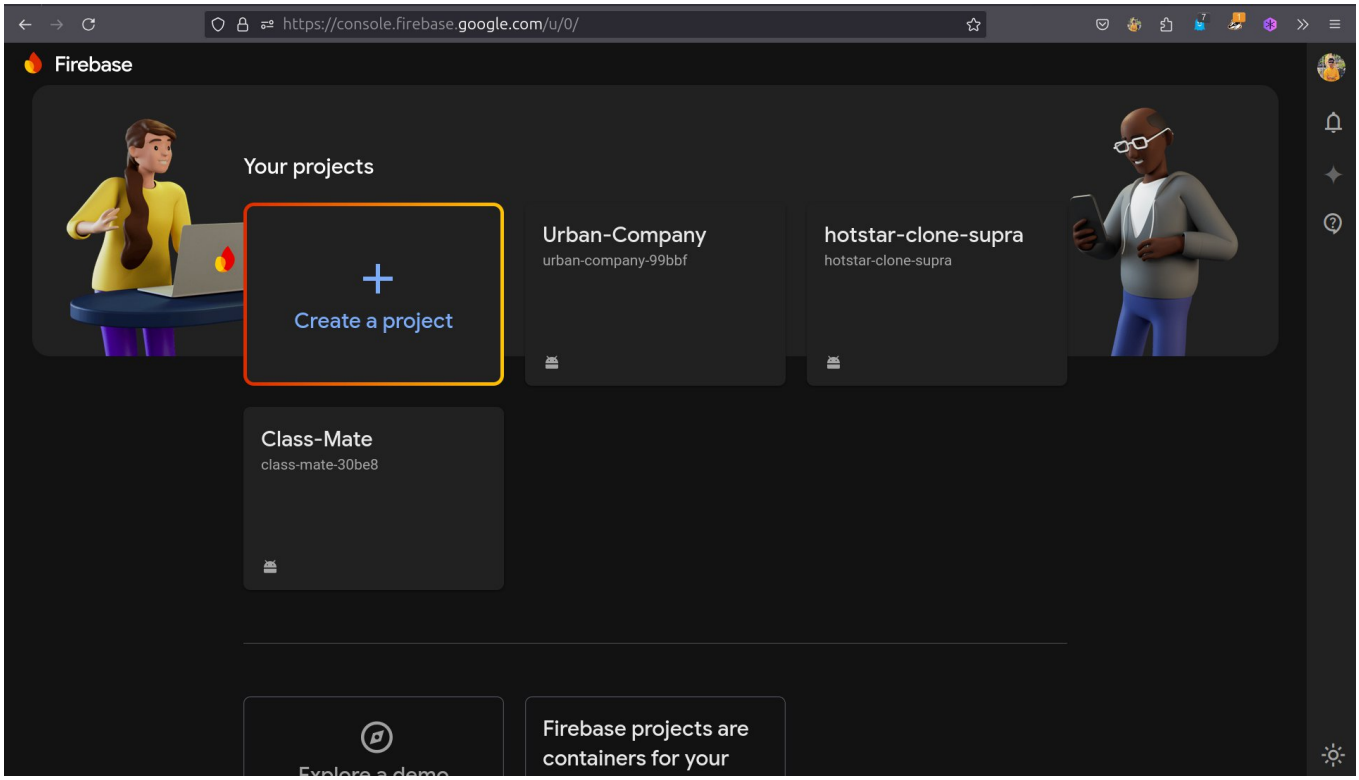
Theory :-

Flutter is an open-source UI toolkit developed by Google for building natively compiled applications for mobile, web, and desktop from a single codebase. Firebase, a Backend-as-a-Service (BaaS) platform, provides real-time database, authentication, and cloud storage services, making it a powerful backend solution for Flutter applications.

By integrating Firebase with Flutter, developers can store and retrieve data in real time, authenticate users, and manage cloud-based data efficiently. This is particularly useful for applications requiring dynamic content updates and user interactions.

Practical :-

1. **Creating new app in Firebase console**



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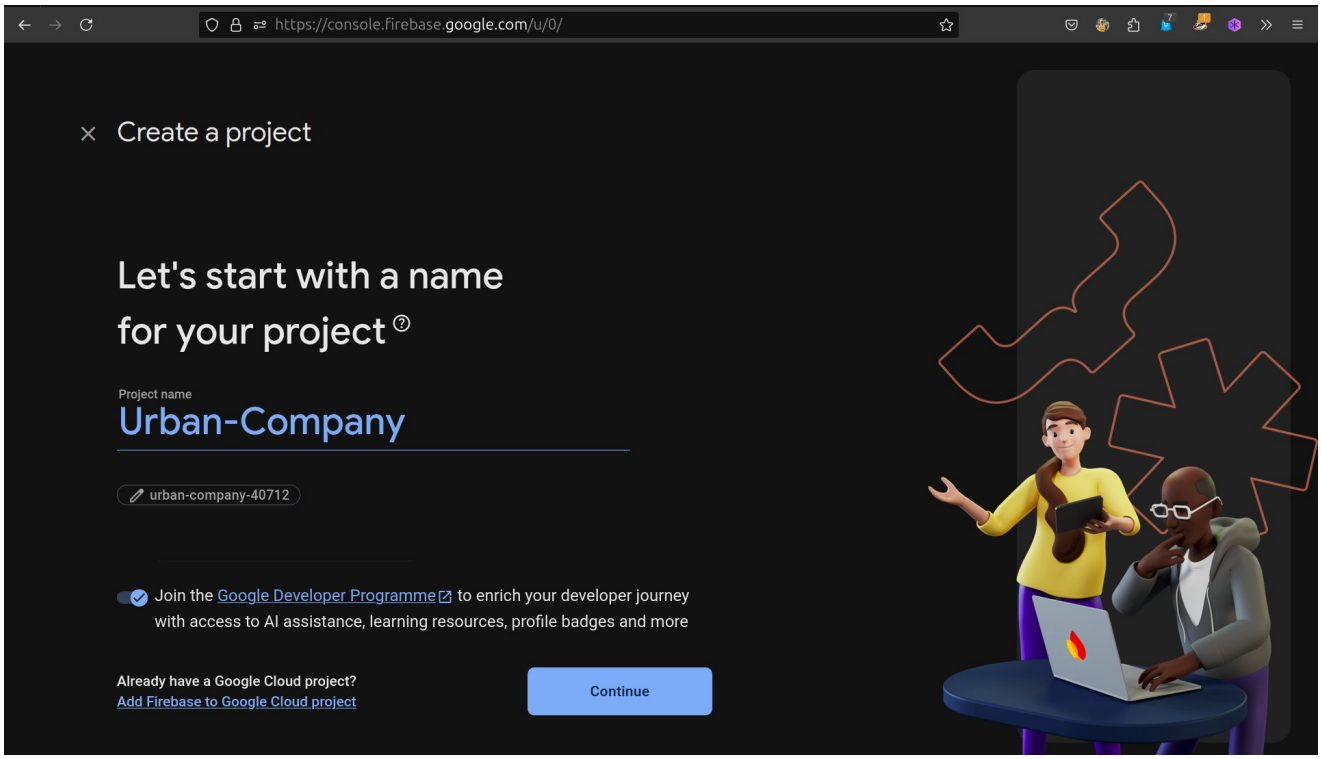
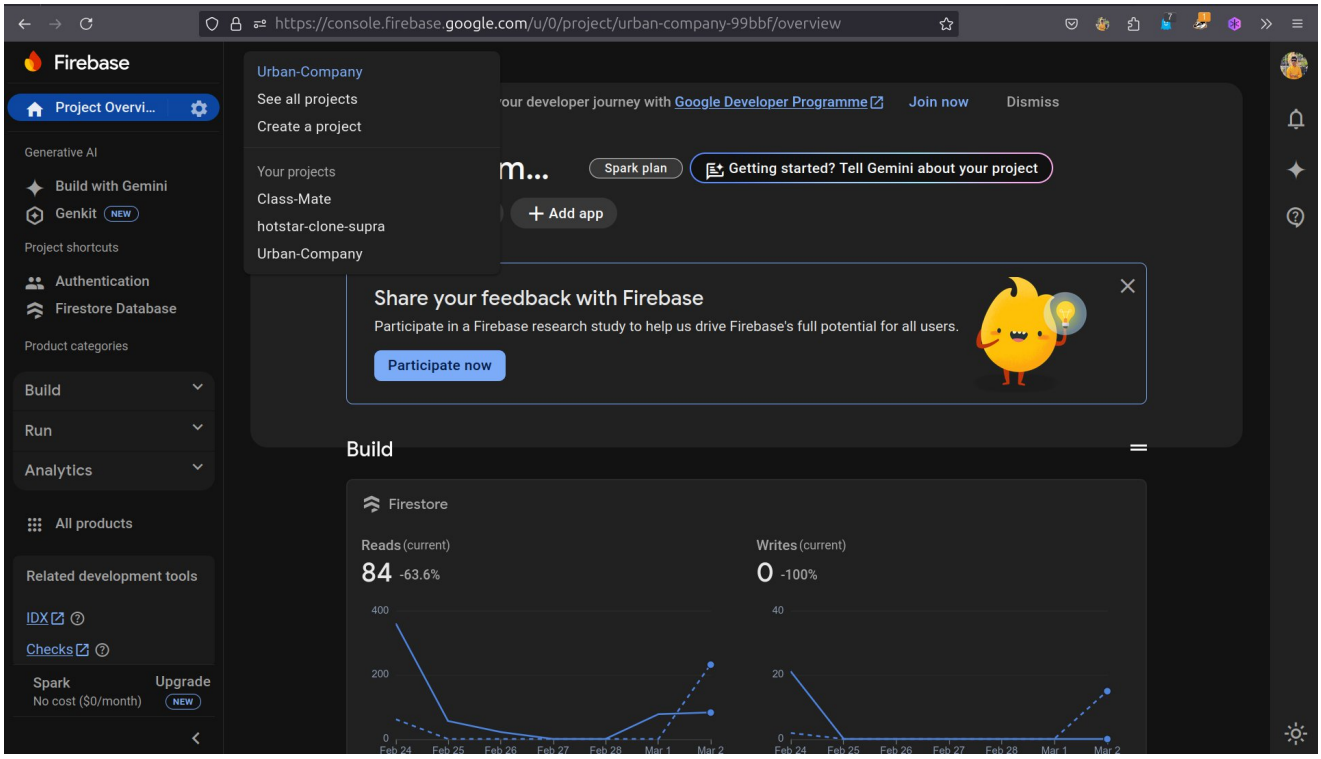
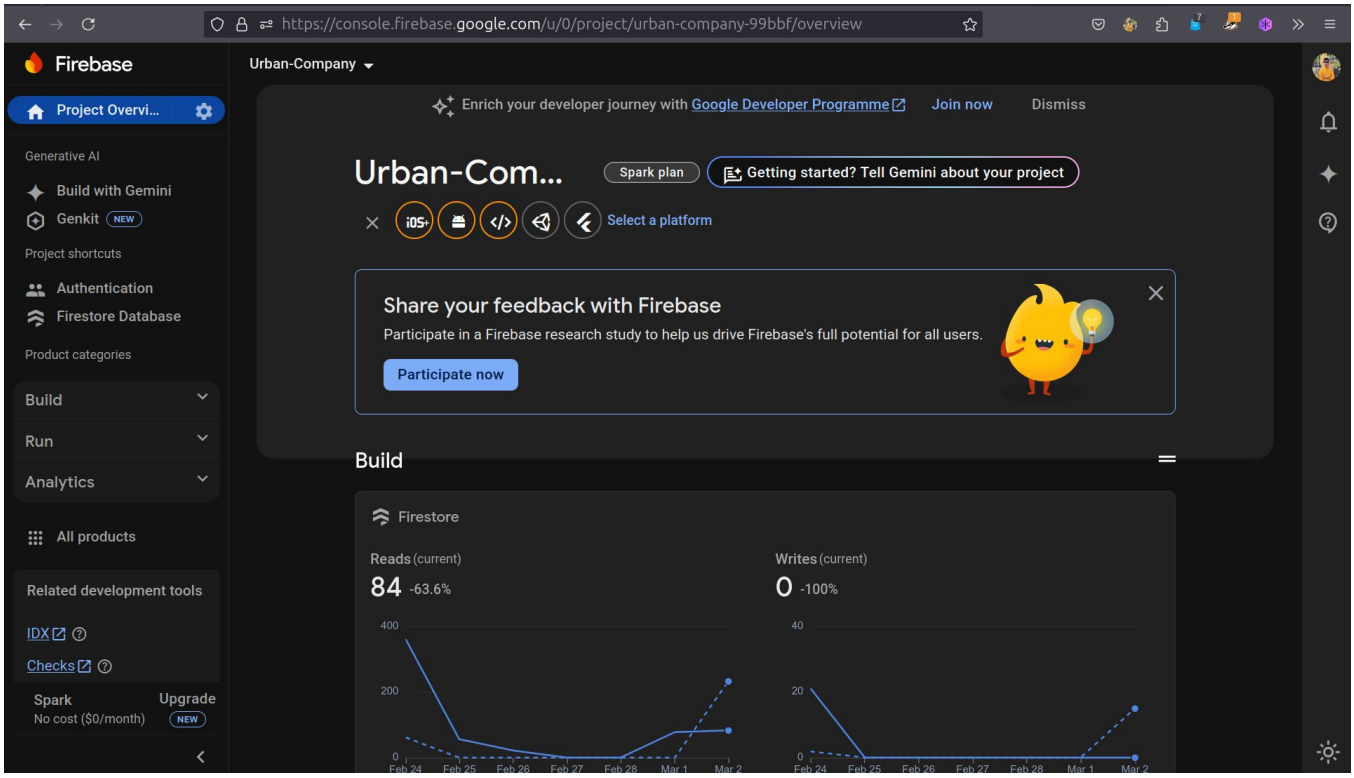
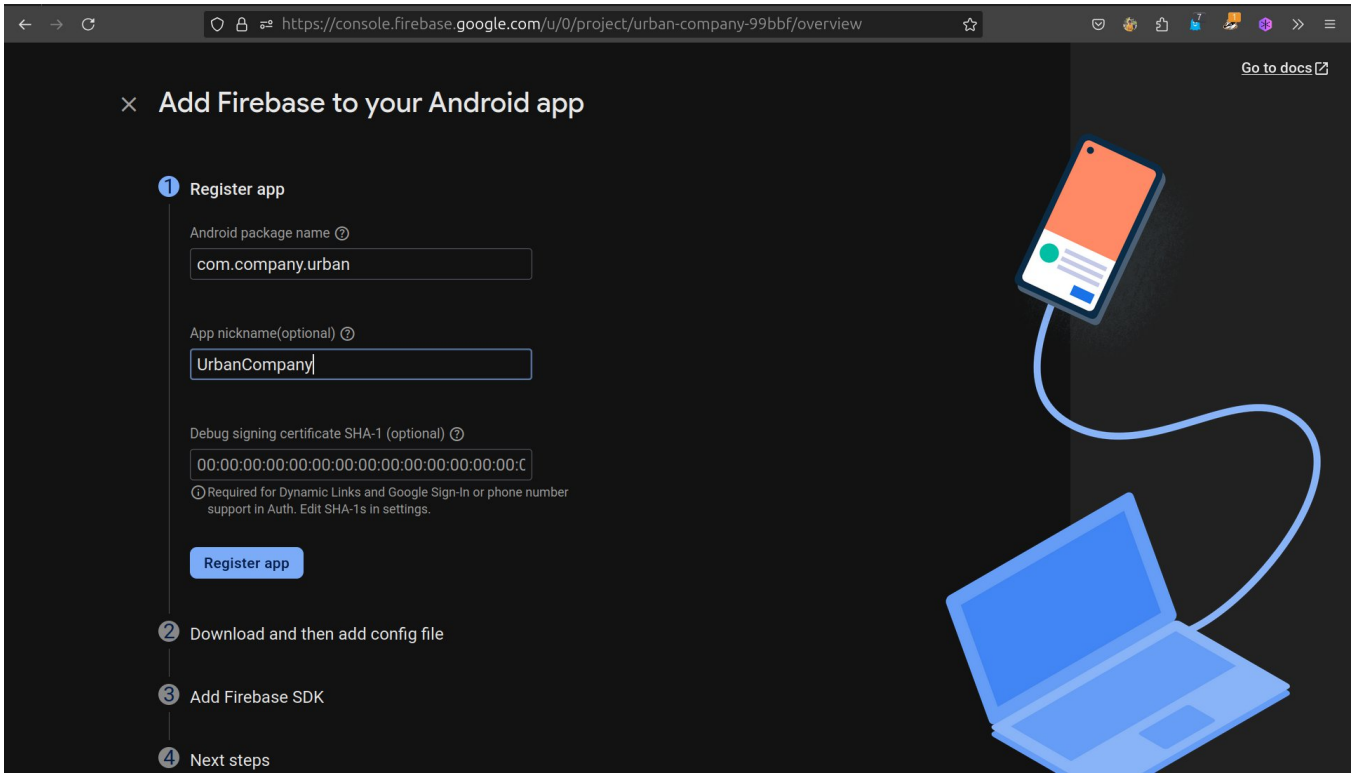




2. Adding Firebase dependencies and SDK to Flutter app





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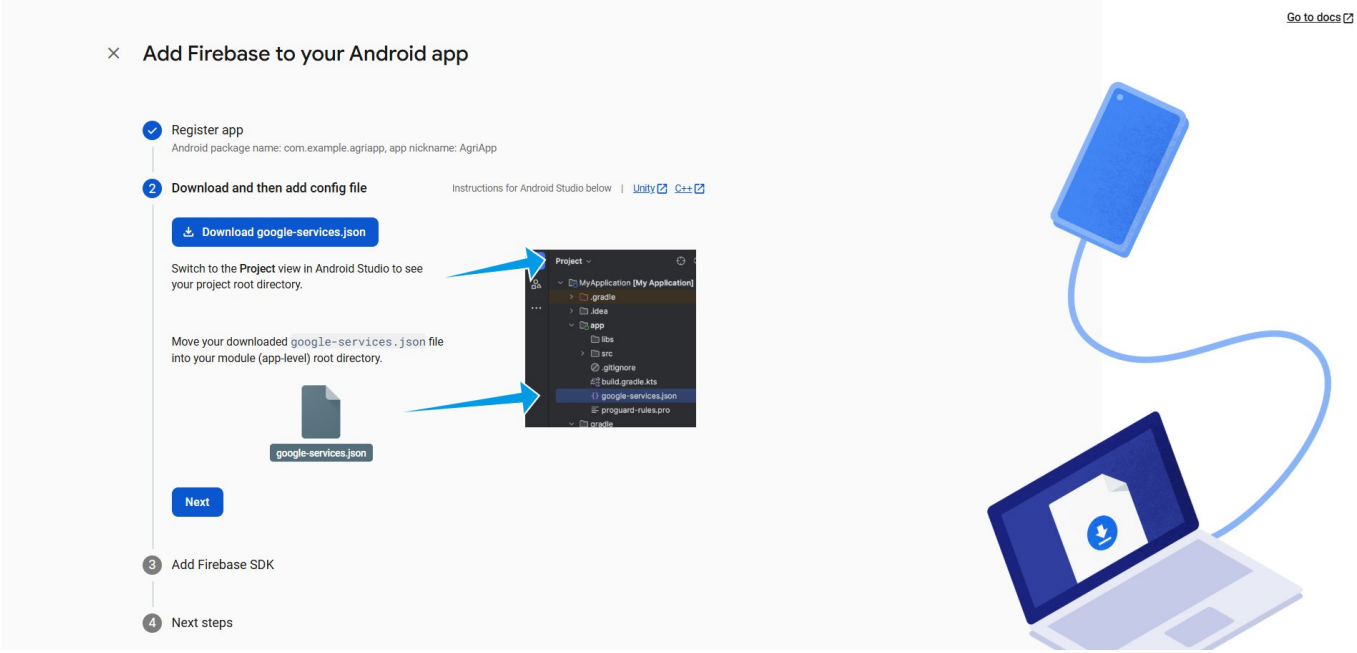
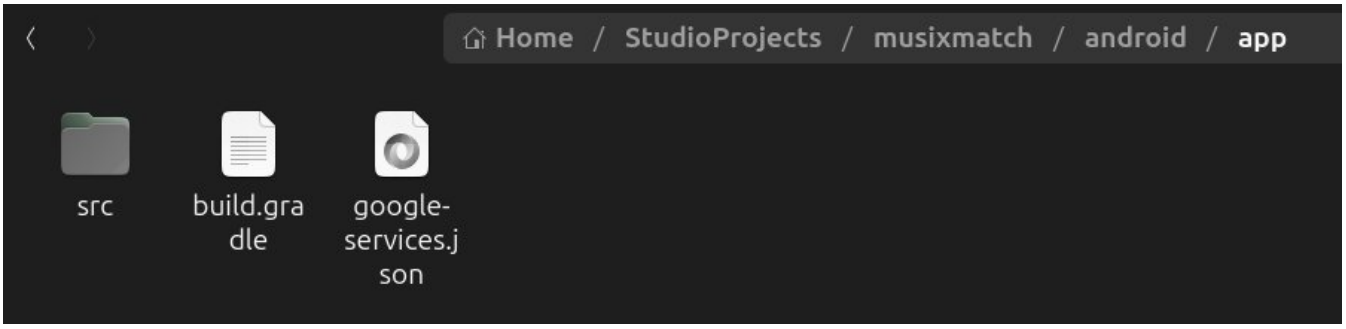
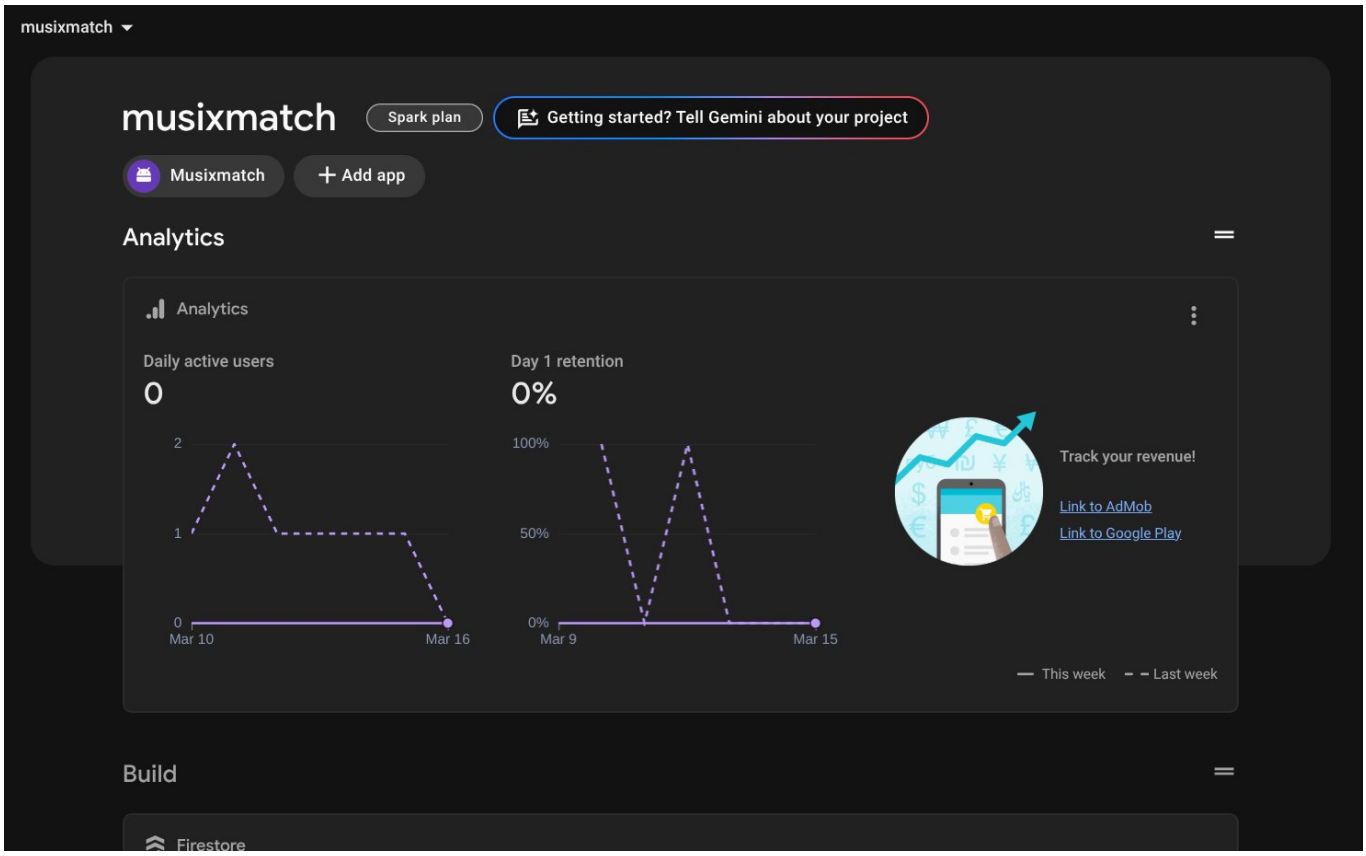




Open

build.gradle
~/StudioProjects/musixmatch/android/app

```
plugins {
    id "com.android.application"
    id "kotlin-android"
    // The Flutter Gradle Plugin must be applied after the Android and Kotlin Gradle plugins.
    id "dev.flutter.flutter-gradle-plugin"
    id 'com.google.gms.google-services'
}

dependencies
    {
        implementation platform('com.google.firebase:firebase-bom:33.10.0')
        implementation 'com.google.firebase:firebase-analytics'
    }

android {
    namespace "com.example.musixmatch"
    compileSdkVersion flutter.compileSdkVersion
    ndkVersion flutter.ndkVersion
```



3. Configuring Firebase real-time Database

main.dart :-

```
import 'package:firebase_core/firebase_core.dart';
import 'package:flutter/material.dart';
import 'navigation_bar.dart'; // Update this import

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

class MyApp extends StatelessWidget {
  const MyApp({super.key});

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Musixmatch',
      theme: ThemeData(
        colorScheme: ColorScheme.fromSeed(seedColor: Colors.deepPurple),
        useMaterial3: true,
      ),
      home: const MainScreen(), // Change HomePage to MainScreen
    );
```

```
  }
}
```

Profile_page.dart :-

```
import 'package:flutter/material.dart';
import 'package:cloud_firestore/cloud_firestore.dart';

class ProfilePage extends StatefulWidget {
  const ProfilePage({super.key});

  @override
  _ProfilePageState createState() => _ProfilePageState();
}

class _ProfilePageState extends State<ProfilePage> {
  // Controllers to capture form input
  final TextEditingController nameController = TextEditingController();
  final TextEditingController nicknameController = TextEditingController();
  final TextEditingController dobController = TextEditingController();
  final TextEditingController cityController = TextEditingController();
  String? designation;

  // Submit form data to Firestore
  Future<void> submitForm() async {
    // Gather all input data
    final profileData = {
```

```
      'name': nameController.text,
      'nickname': nicknameController.text,
      'dob': dobController.text,
      'designation': designation,
      'city': cityController.text,
    };

    try {
      // Save data to Firestore under the 'profiles' collection
      await FirebaseFirestore.instance.collection('profiles').add(profileData);

      // Show a confirmation message
      ScaffoldMessenger.of(context).showSnackBar(
        const SnackBar(content: Text('Profile saved successfully')),
      );
    } catch (e) {
      // Handle error (e.g., show an error message)
      ScaffoldMessenger.of(context).showSnackBar(
        SnackBar(content: Text('Error saving profile: $e')),
      );
    }
  }

  @override
  Widget build(BuildContext context) {
    return Scaffold(
```

```
      appBar: AppBar(
        title: const Text('Profile'),
        leading: IconButton(
          icon: const Icon(Icons.arrow_back),
          onPressed: () => Navigator.pop(context),
        ),
      ),
      body: SingleChildScrollView(
        padding: const EdgeInsets.all(16.0),
        child: Column(
          crossAxisAlignment: CrossAxisAlignment.start,
          children: [
            // Image Placeholder
            Center(
              child: Container(
                width: 100,
                height: 100,
                decoration: BoxDecoration(
                  color: Colors.grey[300],
                  borderRadius: BorderRadius.circular(50),
                ),
                child: const Icon(
                  Icons.person,
                  size: 50,
                  color: Colors.grey,
                ),
```

```
      ),
    ),
    const SizedBox(height: 16),

    // Name Field
    TextField(
      controller: nameController,
      decoration: const InputDecoration(
        labelText: 'Name',
        border: OutlineInputBorder(),
      ),
    ),
    const SizedBox(height: 16),

    // Nickname Field
    TextField(
      controller: nicknameController,
      decoration: const InputDecoration(
        labelText: 'Nickname',
        border: OutlineInputBorder(),
      ),
    ),
    const SizedBox(height: 16),

    // Date of Birth Field
    TextField(
```

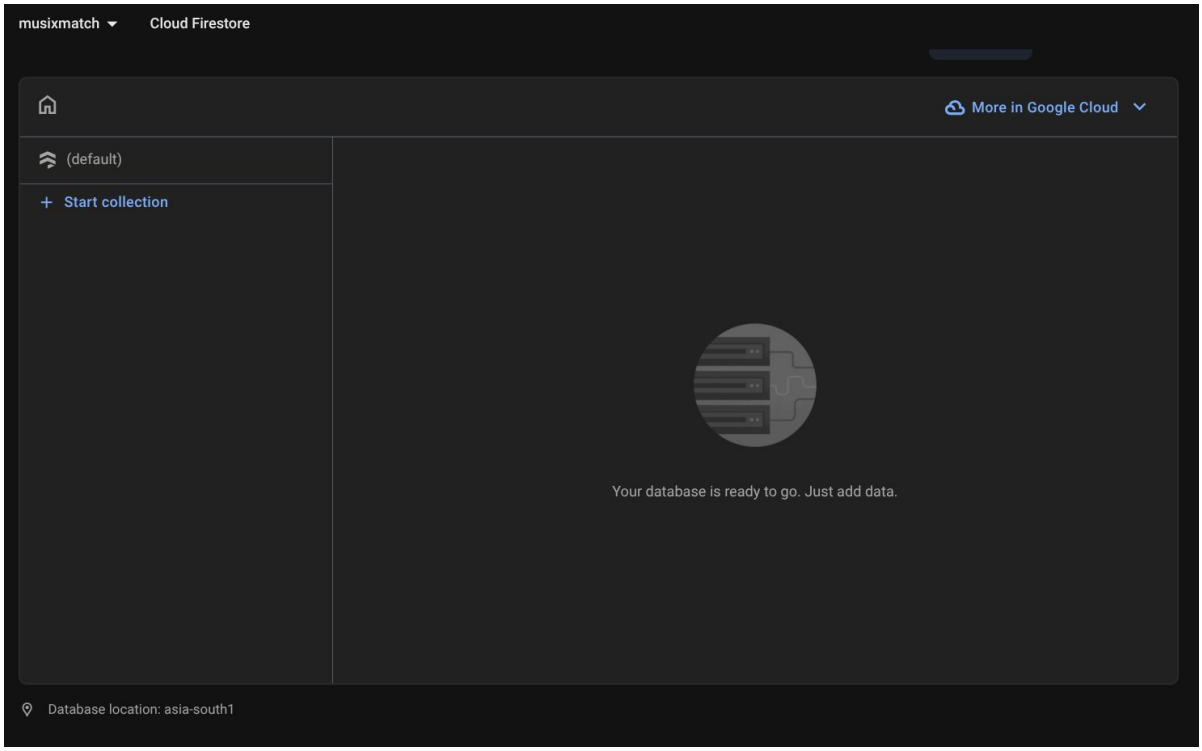
```
            controller: dobController,
            decoration: const InputDecoration(
              labelText: 'Date of Birth',
              border: OutlineInputBorder(),
              hintText: 'YYYY-MM-DD',
            ),
            keyboardType: TextInputType.datetime,
          ),
          const SizedBox(height: 16),

          // Designation Dropdown
          DropdownButtonFormField<String>(
            value: designation,
            decoration: const InputDecoration(
              labelText: 'Designation',
              border: OutlineInputBorder(),
            ),
            items: const [
              DropdownMenuItem(value: 'Singer', child: Text('Singer')),
              DropdownMenuItem(value: 'Drummer', child: Text('Drummer')),
              DropdownMenuItem(value: 'Pianist', child: Text('Pianist')),
              DropdownMenuItem(value: 'Guitar player', child: Text('Guitar player')),
              DropdownMenuItem(value: 'Writer', child: Text('Writer')),
              DropdownMenuItem(value: 'DJ', child: Text('DJ')),
              DropdownMenuItem(value: 'Composer', child: Text('Composer')),
            ],
```

```
            onChanged: (value) {
              setState(() {
                designation = value;
              });
            },
          ),
          const SizedBox(height: 16),

          // Home City Field
          TextField(
            controller: cityController,
            decoration: const InputDecoration(
              labelText: 'Home City',
              border: OutlineInputBorder(),
            ),
          ),
          const SizedBox(height: 16),

          // Submit Button
          ElevatedButton(
            onPressed: submitForm,
            child: const Text('Submit'),
          ),
        ],
      ),
    ),
```

```
    );
  }
}
```

4. Final result

Before filling data in the app



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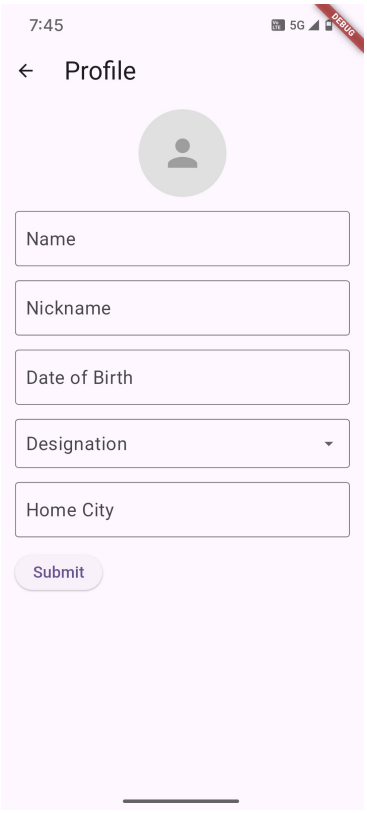
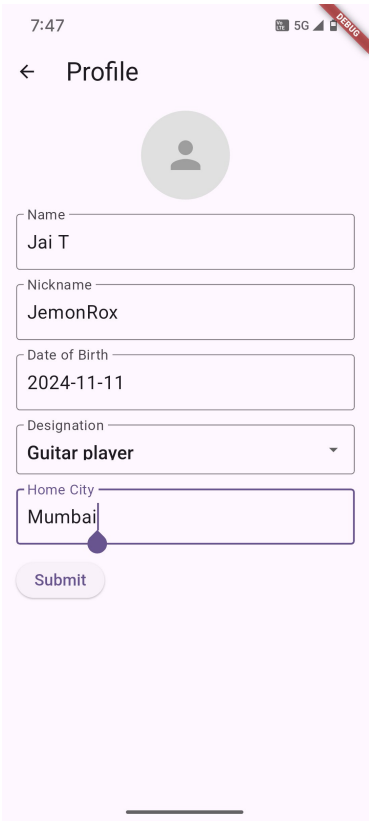
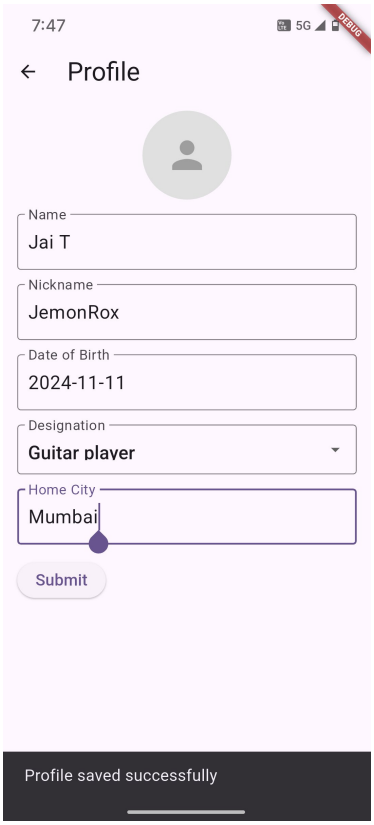
Filling data in the app







After filling data in the app