Name:Atharv Sanjay Nikam Div:D15C Roll:36

Experiment No. 6

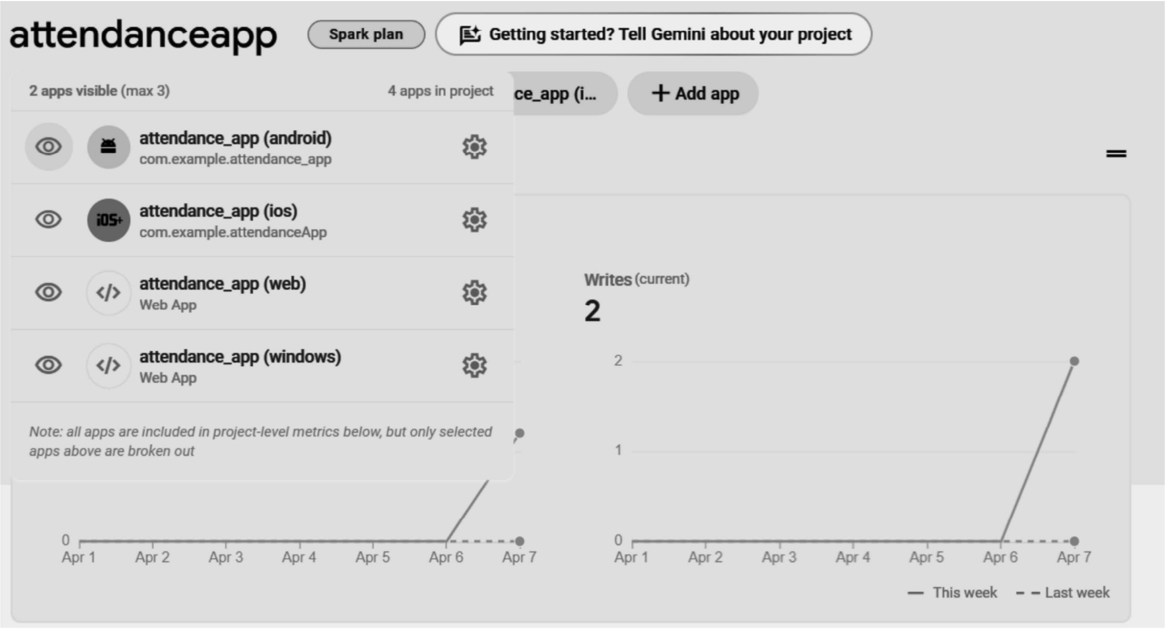
Aim:
How to set up Firebase with Flutter for iOS and Android Apps.

Theory:
This experiment focused on integrating Firebase into our Manual Attendance App to enable backend services like authentication, data storage, and real-time updates. Firebase is a powerful backend-as-a-service (BaaS) that works seamlessly with Flutter, making it easier to implement essential features without building a custom backend.

We started by creating a Firebase project and registering both Android and iOS versions of our app. The google-services.json and GoogleService-Info.plist files were added to their respective platforms. Then, we configured Firebase in Flutter using dependencies like firebase_core, cloud_firestore, and firebase_auth.

In our app, Firebase was used to securely store class and attendance data. Teachers could log in, create classes, and mark attendance, with all records being stored in Firestore in real-time. This ensured that data remained persistent, accessible, and scalable. Firebase also opens the door for future features like analytics, push notifications, and user-specific data sync.

Screenshot:



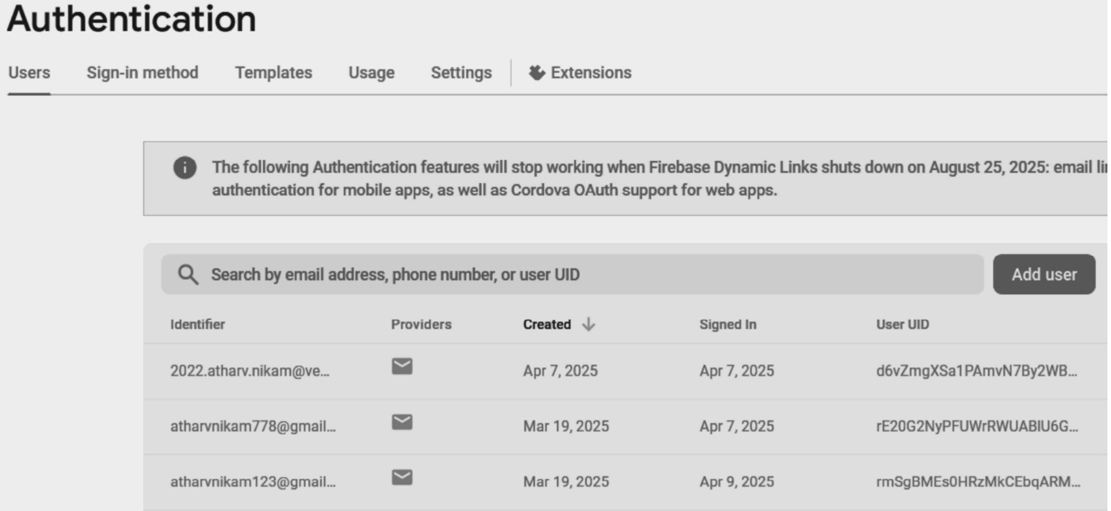
attendance_app (android)
com.example.attendance_app

attendance_app (ios)
com.example.attendanceApp

attendance_app (web)
Web App

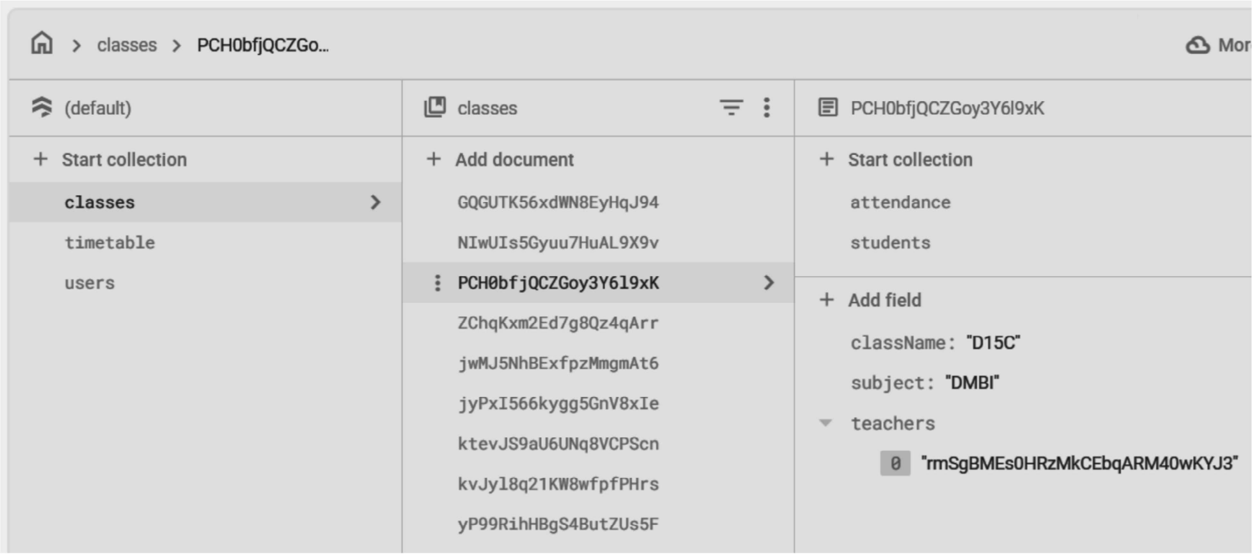
attendance_app (windows)
Web App

Note: all apps are included in project-level metrics below, but only selected apps above are broken out



The following Authentication features will stop working when Firebase Dynamic Links shuts down on August 25, 2025: email li
authentication for mobile apps, as well as Cordova OAuth support for web apps.

Identifier	Providers	Created ↓	Signed In	User UID
2022.atharv.nikam@ve...	✉	Apr 7, 2025	Apr 7, 2025	d6vZmgXSa1PAmvN7By2WB...
atharvnikam778@gmail...	✉	Mar 19, 2025	Apr 7, 2025	rE20G2NyPFUWrRWUABlU6G...
atharvnikam123@gmail...	✉	Mar 19, 2025	Apr 9, 2025	rmSgBMEs0HRzMkCEbqARM...



```
(default)            classes                  PCH0bfjQCZGoy3Y6l9xK
classes              GQGUTK56xdWN8EyHqJ94     attendance
timetable            NIwUIs5Gyuu7HuAL9X9v     students
users                PCH0bfjQCZGoy3Y6l9xK
                     ZChqKxm2Ed7g8Qz4qArr     className: "D15C"
                     jwMJ5NhBExfpzMmgmAt6     subject: "DMBI"
                     jyPxI566kygg5GnV8xIe     teachers
                     ktevJS9aU6UNq8VCPScn       0 "rmSgBMEs0HRzMkCEbqARM40wKYJ3"
                     kvJyl8q21KW8wfpfPHrs
                     yP99RihHBgS4ButZUs5F
```

Conclusion:
Setting up Firebase with Flutter significantly enhanced the functionality of our Manual Attendance App by adding secure data storage and real-time updates. The integration was smooth and scalable, allowing us to focus more on building features rather than managing servers. Firebase will be a crucial component as the app evolves, especially for handling authentication, cloud data, and analytics efficiently.

GitHub Link:
https://github.com/atharvnikam38/attendanceapp