COLLEGE CODE : 9623

COLLEGE NAME : Amrita College of Engineering And Technology

DEPARTMENT : Computer Science and Engineering

STUDENT NM-ID : E1A574A1654EEA1A26946F4C65CCACAF

ROLL NO : 23CS015

DATE : 07-10-2025

Completed the project named as

Phase 5 Project Demonstration & Documentation

PROJECT NAME : LOGIN AUTHENTICATION SYSTEM

SUBMITTED BY,

NAME : AKILEN J K
MOBILE NO : 9489785912

Login Authentication System

1. Project Overview

The Login Authentication System using Google Firebase is a secure, cloud-based application designed to authenticate users effectively and efficiently. It uses Firebase Authentication, a service provided by Google, to handle sign-in processes through multiple methods such as email-password login, Google sign-in, and phone number verification. The main goal of the project is to provide a reliable and scalable authentication solution for web and mobile applications without managing complex backend servers.

2. Project Report

The project is implemented using Firebase Authentication, integrated with a front-end interface built using HTML, CSS, and JavaScript. The Firebase SDK enables real-time authentication and automatic session management, ensuring secure communication between the client and Firebase servers.

Key steps include:

1. Setting up a Firebase project in the Firebase Console.

2. Configuring authentication methods (Email/Password, Google Sign-In, etc.).

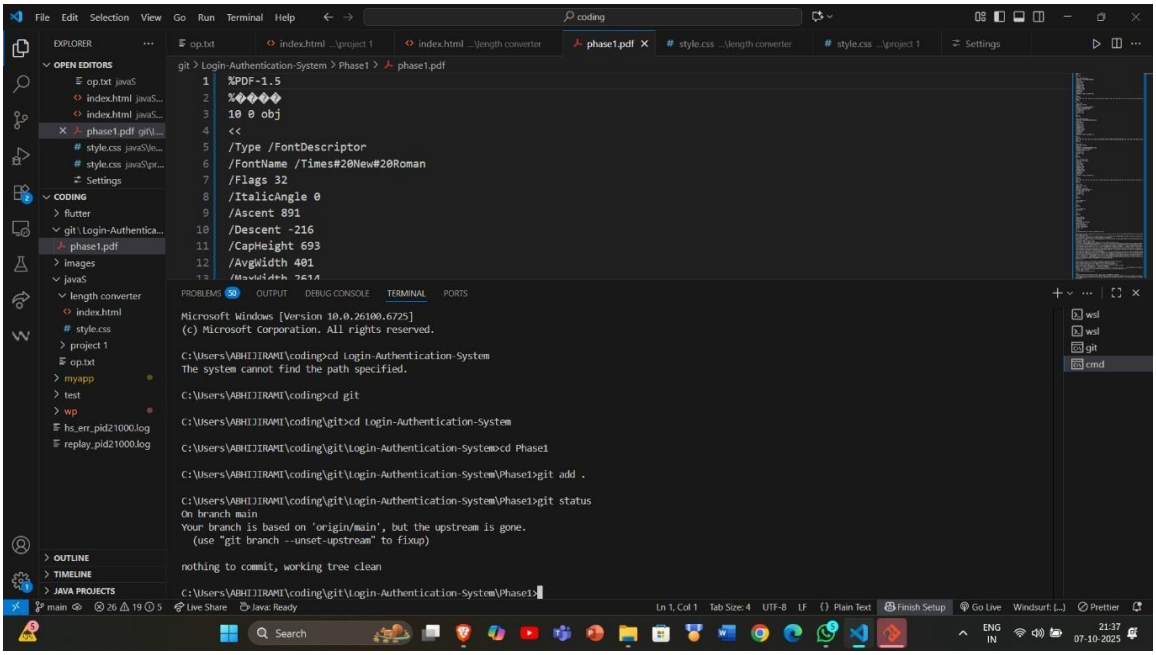
3. Connecting the Firebase SDK to the client application.

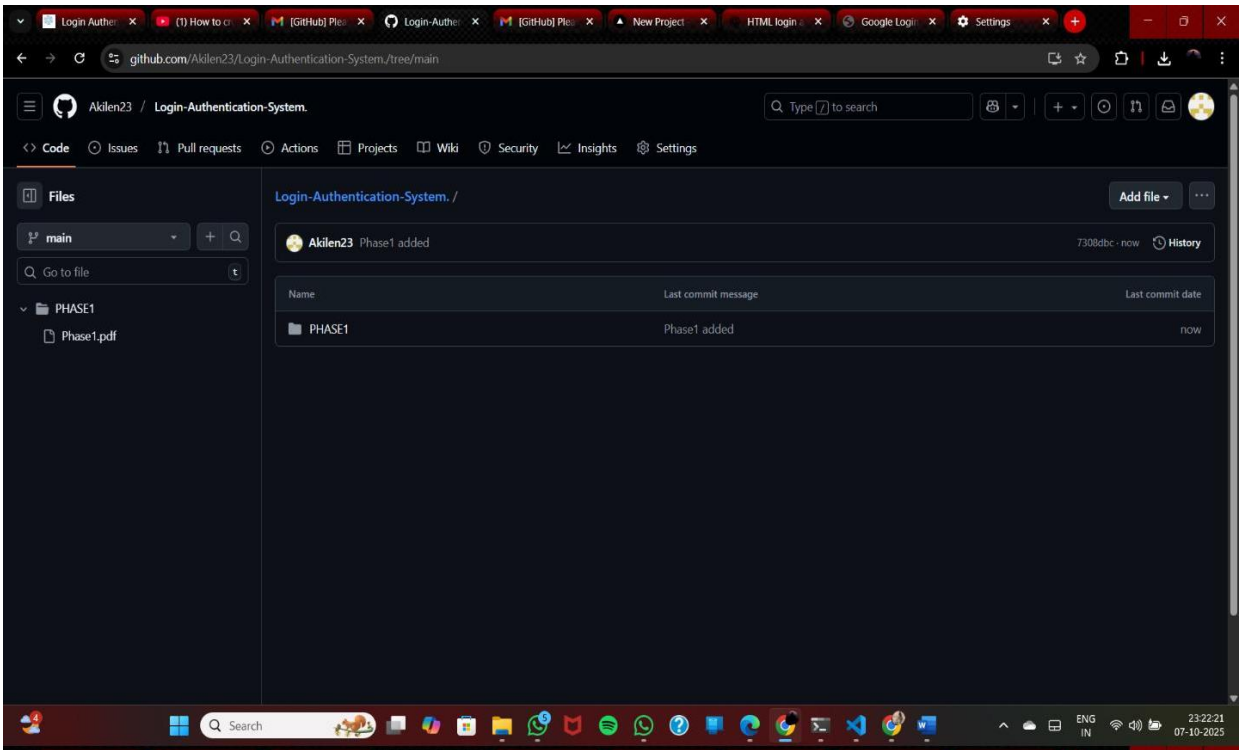
4. Implementing user registration, login, and logout features.

5. Testing authentication workflows and error handling mechanisms.

The system provides detailed error feedback for invalid credentials, enhances user experience with smooth navigation, and ensures data privacy through encrypted connections (HTTPS). This project highlights the importance of Firebase as a backend-as-a-service (BaaS) for modern web development, offering scalability, simplicity, and strong security.

3. Screenshots




github.com/Akilen23/Login-Authentication-System./tree/main
Akilen23 / Login-Authentication-System.
Type / to search
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
Files
main
Go to file
PHASE1
Phase1.pdf
Login-Authentication-System. /
Add file
Akilen23 Phase1 added
7308dbc · now
History
Name
Last commit message
Last commit date
PHASE1
Phase1 added
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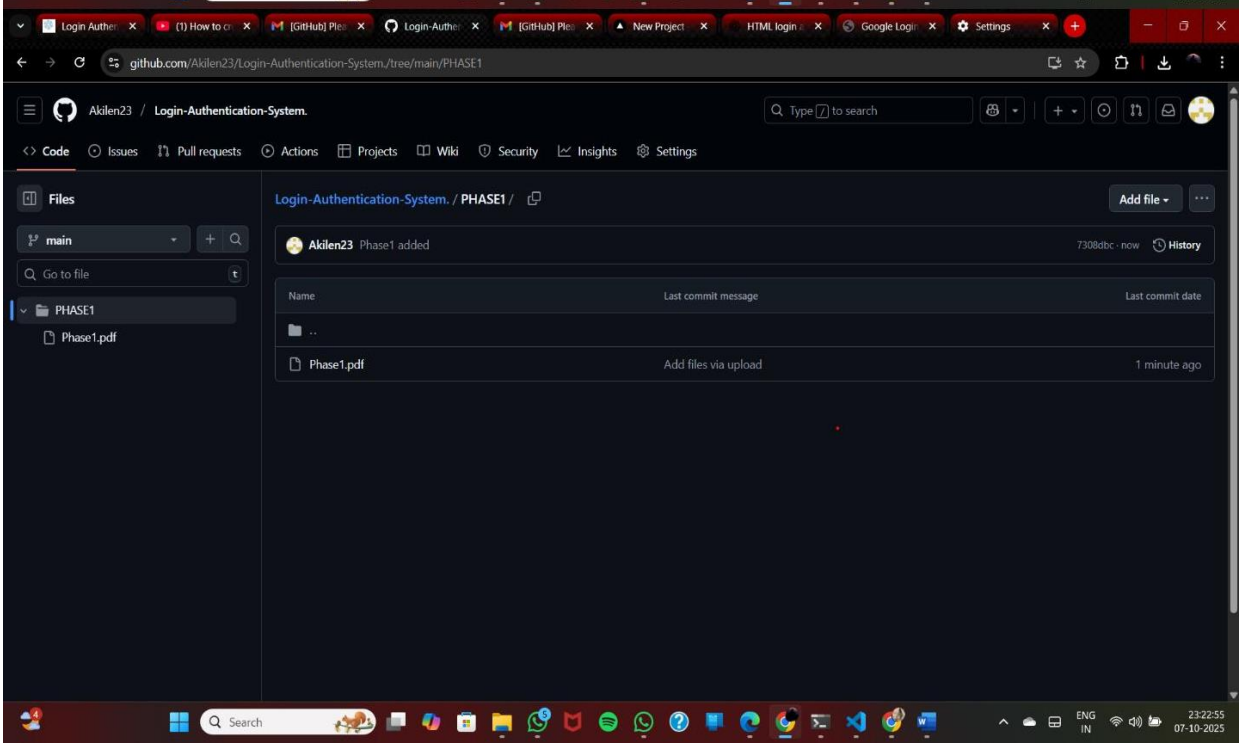
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Add file
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History
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Last commit message
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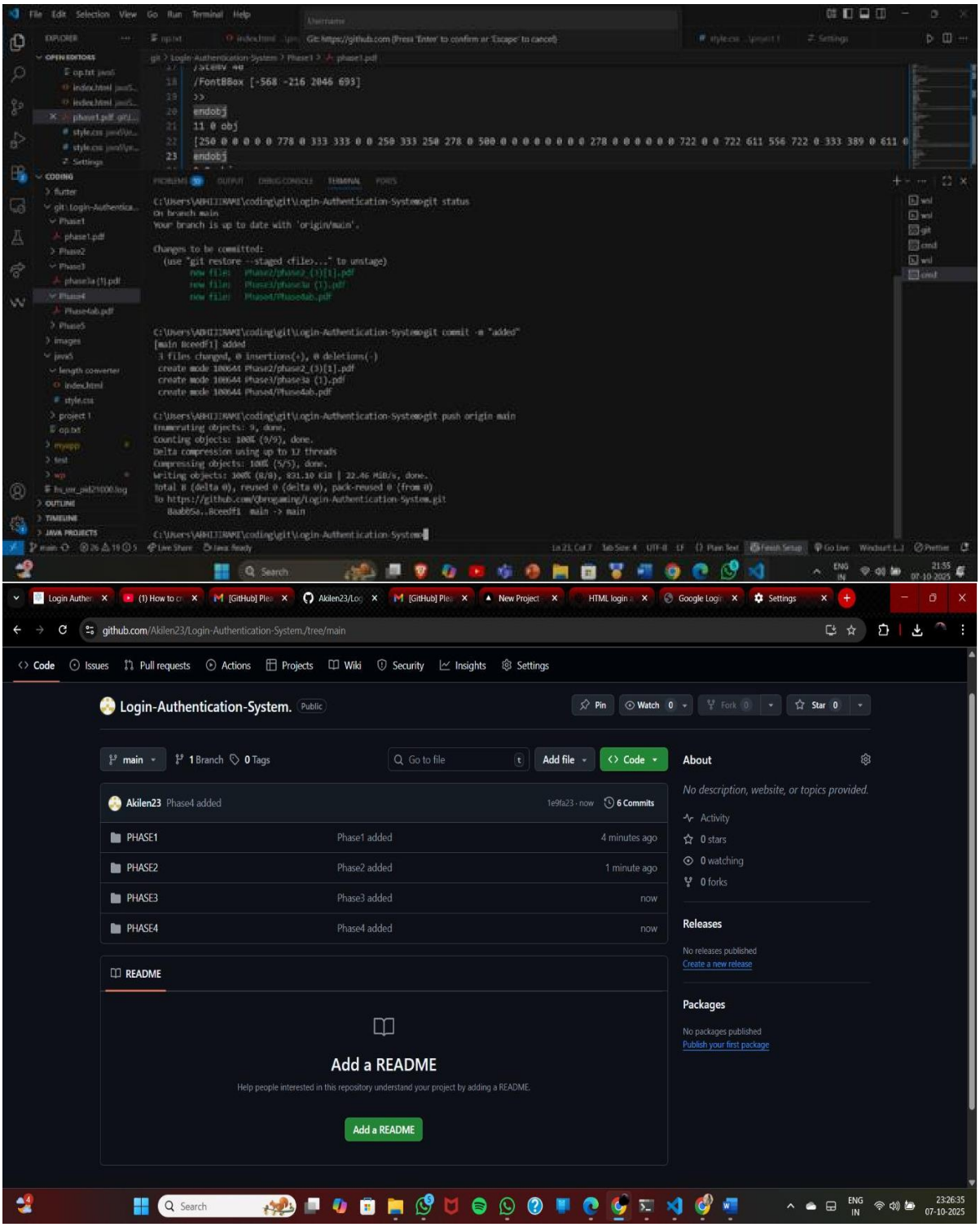
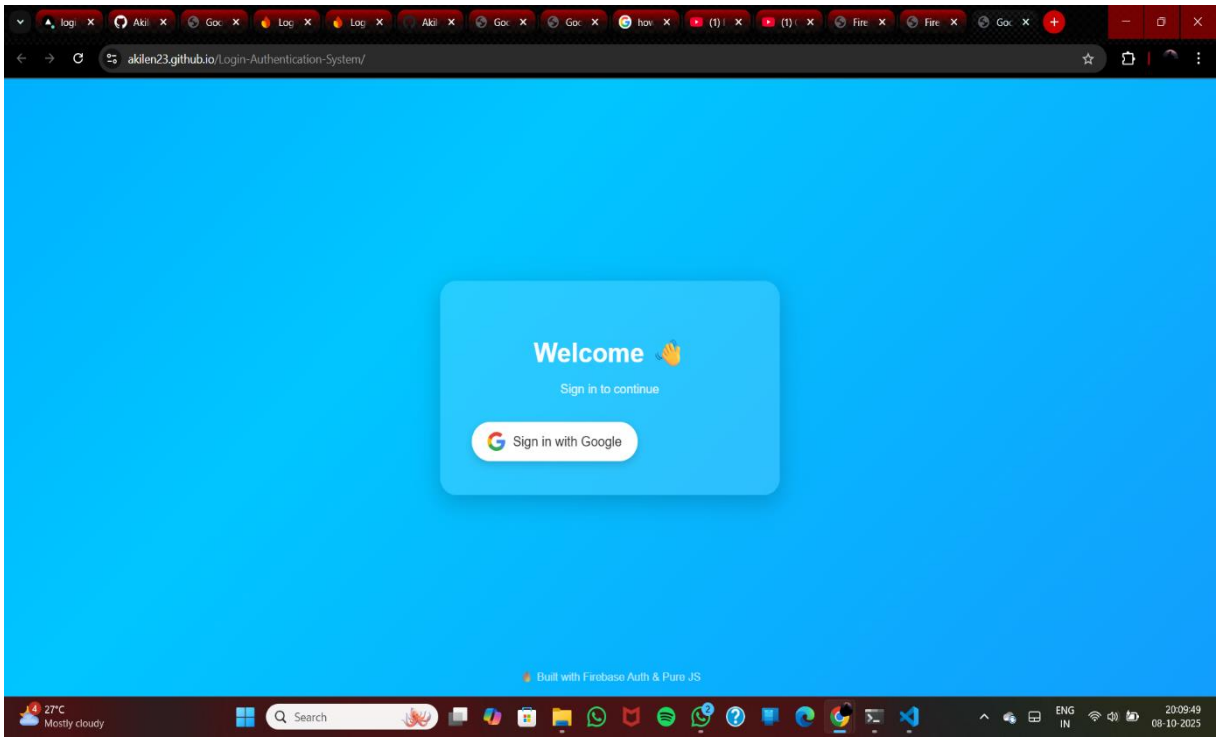
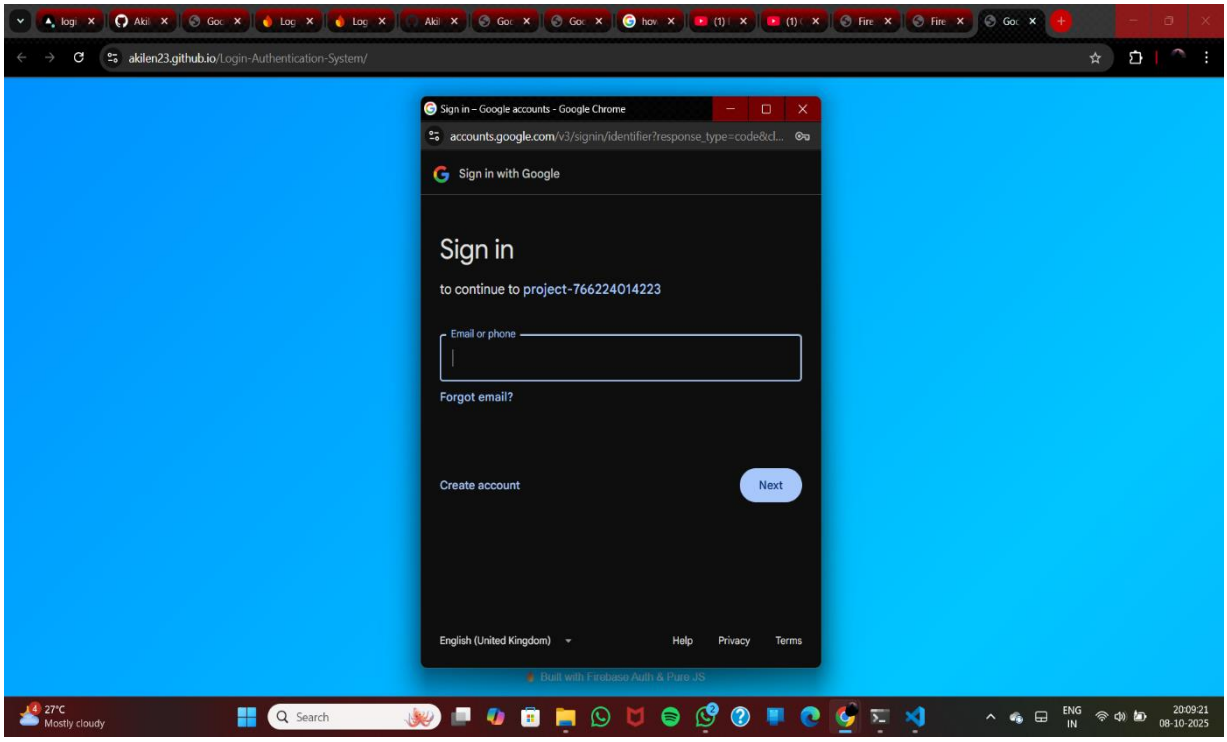
07-10-2025


/FontBBox [-568 -216 2046 693]
>>
endobj
11 0 obj
endobj
C:\Users\ABHIIRAMI\coding\git\Login-Authentication-System>git status
On branch main
Your branch is up to date with 'origin/main'.
Changes to be committed:
(use "git restore --staged <file>..." to unstage)
new file: Phase2/phase2_(3)[1].pdf
new file: Phase3/phase3a (1).pdf
new file: Phase4/Phase4ab.pdf
C:\Users\ABHIIRAMI\coding\git\Login-Authentication-System>git commit -m "added"
[main 8ceedf1] added
3 files changed, 0 insertions(+), 0 deletions(-)
create mode 100644 Phase2/phase2_(3)[1].pdf
create mode 100644 Phase3/phase3a (1).pdf
create mode 100644 Phase4/Phase4ab.pdf
C:\Users\ABHIIRAMI\coding\git\Login-Authentication-System>git push origin main
Enumerating objects: 9, done.
Counting objects: 100% (9/9), done.
Delta compression using up to 12 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (8/8), 831.10 KiB | 22.46 MiB/s, done.
Total 8 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/Qbrogaming/Login-Authentication-System.git
8aab85a..8ceedf1 main -> main
C:\Users\ABHIIRAMI\coding\git\Login-Authentication-System>
github.com/Akilen23/Login-Authentication-System./tree/main
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
Login-Authentication-System.
Public
Pin
Watch 0
Fork 0
Star 0
main
1 Branch
0 Tags
Go to file
Add file
Code
About
No description, website, or topics provided.
Activity
0 stars
0 watching
0 forks
Releases
No releases published
Create a new release
Packages
No packages published
Publish your first package
Akilen23 Phase4 added
1e9fa23 · now
6 Commits
PHASE1
Phase1 added
4 minutes ago
PHASE2
Phase2 added
1 minute ago
PHASE3
Phase3 added
now
PHASE4
Phase4 added
now
README
Add a README
Help people interested in this repository understand your project by adding a README.
Add a README


akilen23.github.io/Login-Authentication-System/
Welcome 👋
Sign in to continue
Sign in with Google
Built with Firebase Auth & Pure JS
27°C
Mostly cloudy
Search
ENG
IN
20:09:49
08-10-2025


akilen23.github.io/Login-Authentication-System/
Sign in – Google accounts - Google Chrome
accounts.google.com/v3/signin/identifier?response_type=code&cl...
Sign in with Google
Sign in
to continue to project-766224014223
Email or phone
Forgot email?
Create account
Next
English (United Kingdom)
Help
Privacy
Terms
Built with Firebase Auth & Pure JS
27°C
Mostly cloudy
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08-10-2025

4. Challenges & Solutions

During the project implementation, several challenges were encountered and successfully resolved:

1. **Challenge:** Handling authentication errors and exceptions in real-time.
   Solution: Implemented Firebase's built-in error handling methods and displayed descriptive messages for users.
2. **Challenge:** Integrating multiple authentication methods (Google and Email/Password).
   Solution: Utilized Firebase Auth providers and configured them properly in the Firebase Console.
3. **Challenge:** Maintaining user sessions after page refresh.
   Solution: Enabled Firebase's onAuthStateChanged() listener to maintain session persistence.

4. **Challenge:** Ensuring secure data transfer.
   Solution: Enforced HTTPS and Firebase security rules to restrict unauthorized access.
   These solutions resulted in a smooth, secure, and scalable authentication process that meets modern application requirements.

5. GitHub Link

GitHub repository link

https://github.com/Akilen23/Login-Authentication-System

Deploy link

https://login-authentication-system-sepia.vercel.app/