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Completed the project named as

Phase 3 MVP Implementation

PROJECT NAME : LOGIN AUTHENTICATION SYSTEM

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Phase-3 MVP Implementation:

1. Project Setup

Steps to create and configure the Firebase project:

1. Create a new Firebase project in the Firebase Console.
2. Enable Authentication providers such as Email/Password and Google sign-in.
3. Create a Firestore database (start in test mode for MVP, then secure rules before production).
4. Add a web app to the Firebase project to get the firebaseConfig object and SDK snippets.
5. Include Firebase in your HTML using script tags provided by Firebase.

2. Core Features Implementation

The MVP includes the following pages:

- Login Page (index.html)
- Signup Page (signup.html)
- Dashboard Page (dashboard.html, protected area after login)

Core authentication features include:

- Email/Password Sign-Up and Sign-In
- Google Sign-In
- Sign-Out option
- Route protection using authentication state listeners

3. Data Storage (Local State / Database)

Local State: Temporary UI-related state can be stored in memory or localStorage/sessionStorage for minor preferences. Sensitive data should not be stored in local storage.

Database: Firestore is used to store user profiles and application data. For MVP, a simple structure with a "users" collection is sufficient. Each user document contains details like display name, email, and timestamps.

Security: In MVP, rules may start in test mode, but for production, Firestore security rules should restrict access to authenticated users only.

4. Testing Core Features

Manual testing is used to validate features in MVP. Key test cases include:

- Successful sign-up with valid email and password
- Successful sign-in with existing credentials
- Error messages for incorrect password or invalid credentials
- Google Sign-In functionality
- Sign-out functionality leading to restricted access to protected pages

Edge cases include handling duplicate sign-ups, network failures, and incorrect inputs.

Automated testing can be introduced later, but manual testing is sufficient for MVP.

5. Version Control (GitHub)

A GitHub repository is used to manage the project. Suggested structure:

- Public folder containing HTML, CSS, and JS files
- README file with setup instructions
- .gitignore file to exclude unnecessary or sensitive files

Best practices include:

- Using feature branches for development
- Writing clear and concise commit messages
- Creating pull requests for review before merging changes
- Tagging releases such as v0.1.0 for the MVP version