

## **SkillForge – Milestone 1 Status Report**

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### **Overview**

The first milestone of the SkillForge full-stack learning platform, focusing on the User Authentication Module, has been successfully completed. This foundational phase established secure user registration and login functionalities, integrated front-end and back-end systems, and set up reliable JWT-based authorization.

### **Progress**

- Frontend:**

Designed and implemented user-friendly Login and Registration pages using HTML, CSS, and JavaScript, fully integrated with backend APIs.

- Backend:**

Configured a Node.js and Express server, connected to a MySQL database, and developed secure APIs for registration and login with password hashing and JWT token generation.

- Database:**

Created the necessary database and users table with data insertion verified through Postman.

- Authentication:**

Implemented JWT middleware for token validation and a protected route to retrieve logged-in user details.

- Testing:**

Thorough API testing was conducted with Postman to verify registration, login, token authorization, and protected route functionality.

- Documentation and Repository:**

Completed product and sprint backlogs, requirement analysis, architecture and use case diagrams, and maintained a GitHub repository with all code and documentation.

### **Challenges**

- CORS issues:**

Resolved by enabling CORS middleware on the server.

- **JSON parsing errors:**

Fixed by adding express.json() middleware.

- **JWT token validation failures:**

Improved middleware logic to ensure robust authentication.

- **MySQL connection problems:**

Addressed by verifying credentials and reconnecting the database.

- **UI redirect problems:**

Corrected by updating window.location.href logic for seamless navigation.

## **Next Steps**

- Begin development of the Dashboard module to empower user interaction post-login.
- Implement the Courses module for course browsing and enrollment.
- Develop the Instructor module to support course creation and management.
- Integrate AI-based recommendation features to personalize learning paths.

## **Conclusion**

Milestone 1 has laid a solid foundation by delivering a fully functional and secure authentication system. The successful integration, testing, and documentation of components ensure readiness for upcoming phases of SkillForge development. The team is well-positioned to proceed with the next modules, driving the platform towards its full