Day 6 Report: Deployment Preparation and Staging Environment Setup

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1. Introduction

On Day 6, I focused on preparing the marketplace for deployment by setting up the staging environment and deploying the application on Vercel. The objective was to ensure that the application operates seamlessly in a production-like environment, following the tests and optimizations conducted in Day 5. Additionally, I learned about professional environment management and followed industry-standard practices for configuring non-production (TRN, DEV, SIT) and production (UAT, PROD, DR) environments.

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2. Deployment Process

Step 1: Hosting Platform Setup
I chose **Vercel** as the hosting platform for deploying the marketplace. After connecting my GitHub repository to Vercel, I configured the build settings to ensure successful staging builds. The platform provided a smooth deployment process, though I faced some challenges related to build errors and environment variable configurations.

Step 2: Environment Variable Configuration
I securely added sensitive data like API keys and tokens in the .env file. I then uploaded these environment variables to the Vercel dashboard to ensure secure deployment and correct environment configuration. Some issues arose with the API keys, but I resolved them by re-checking the environment settings in Vercel and ensuring proper integration.

Step 3: Deployment to Staging
I deployed the application to the staging environment, and after resolving build errors, I verified that the deployment completed successfully. The site loaded correctly, and all functionality appeared intact in the staging environment.

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3. Staging Environment Testing

Performance Testing
For performance testing, I used **Lighthouse** to assess the speed and responsiveness of the marketplace. The performance score was 82, and key metrics such as FCP (First Contentful Paint), LCP (Largest Contentful Paint), and TBT (Total Blocking Time) were within acceptable ranges. However, I identified some areas for improvement in image loading and unused JavaScript.

Security Testing
I also conducted security tests to validate input fields and ensure proper HTTPS implementation. No

major security issues were found, but I ensured all API keys were securely managed and verified that sensitive data handling was secure.

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4. Issues Encountered and Resolutions

- **Build Errors**: Initially, the build failed due to incorrect configuration of environment variables. I resolved this by re-checking the .env file and ensuring that the necessary keys were uploaded to Vercel.
- **Performance Optimization**: Lighthouse suggested optimizing image loading and removing unused JavaScript. I plan to implement these improvements before final deployment.
- **API Key Configuration**: I faced issues with API key integration but solved them by reviewing the configuration steps and ensuring they were added securely to Vercel's environment settings.

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5. Documentation and Reporting

- **Test Cases**: I documented all test cases in a CSV file, detailing test case IDs, descriptions, steps, expected and actual results, and the status of each test.
- **Performance Report**: A performance report generated by Lighthouse was included in the GitHub repository, showing the performance scores and key metrics.
- **GitHub Repository**: I organized all project files in the GitHub repository, following a clear folder structure (e.g., documents/, src/, public/) and included a comprehensive **README.md** file summarizing the project activities.

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6. Conclusion

By the end of Day 6, I successfully deployed the marketplace to a staging environment and completed functional, performance, and security testing. All issues encountered were resolved, and I ensured that the application is ready for further testing and final deployment.