

Deployment Readiness and Staging Setup

Objective: Day 6 was dedicated to preparing the marketplace project for deployment, focusing on production readiness. This included rigorous testing, setting up a staging environment, and creating detailed deployment documentation to ensure a smooth transition to production.

Key Learning Outcomes:

1. Deployment Setup:

- a. **Hosting Platform Selection:** Opted for Vercel due to its powerful features and streamlined deployment process.
- b. **GitHub Integration:** Linked the project's GitHub repository to Vercel for efficient CI/CD workflows.
- c. **Configuration:** Set up build options, environment variables, and securely managed API keys.
- d. **Environment Variables:** Configured critical variables such as `projectId`, `dataset`, and `api-token` directly within Vercel to enhance security.
- e. **Validation:** Successfully deployed the application in a production-like setup to ensure readiness.

2. Thorough Testing:

- a. **Functional Testing:** Leveraged Cypress for end-to-end workflow testing and Postman for validating API functionality. User interactions like cart operations and search mechanisms were rigorously verified.
- b. **Performance Testing:** Measured speed, responsiveness, and loading times using tools like Lighthouse and GTmetrix.
- c. **Security Testing:** Implemented input validation, ensured HTTPS connections, and safeguarded API keys from unauthorized access.
- d. **Cross-Device Compatibility:** Tested the application across various devices and browsers to confirm consistent performance.
- e. **Error Handling:** Evaluated how the application manages errors, ensuring user-friendly feedback and system resilience.

3. Deployment Strategy:

- a. **Hosting and Backend Integration:**
 - i. Ensured seamless communication between the frontend and backend services, including Sanity CMS and external APIs.

- ii. Secured sensitive data by configuring environment variables to protect project integrity.

b. **Staging Environment:**

- i. Deployed the project to a staging environment for pre-production testing.
- ii. Validated the successful execution of builds and confirmed all features functioned correctly.

Conclusion: Day 6 marked the successful deployment of the marketplace application to a staging environment. By adhering to industry best practices, the project is now optimized for a smooth transition to production. Comprehensive testing ensured the platform's security, scalability, and user experience excellence. Additionally, well-structured documentation and an organized repository have laid a strong foundation for future development and upgrades.