

Day 6: Staging Environment Setup for My Marketplace

Objective

The purpose of Day 6 is to set up and configure a **staging environment** for my marketplace, ensuring a smooth deployment process and an effective testing phase before production. This includes:

- Selecting a **hosting platform**
 - Connecting **GitHub repository** to the hosting platform
 - Configuring **build and deployment settings**
 - Understanding **different stages of environments**
 - Implementing **testing and validation** processes
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Key Learning Outcomes

✓ Set up and configure a staging environment ✓ Understand and manage different stages of environments ✓ Implement version control and branching strategies ✓ Ensure staging reflects real-world testing scenarios ✓ Perform comprehensive testing and validation

Implementation Steps

Step 1: Selecting a Hosting Platform

📌 Platform Chosen: Vercel 📌 Rationale:

- Seamless integration with **Next.js**
 - Excellent **performance** and scalability
 - **User-friendly** interface
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Step 2: Connecting GitHub Repository

📌 Actions Taken: ✓ Linked the **GitHub repository** to **Vercel** ✓ Enabled **automatic deployments** for the **main and staging branches** ✓ Verified that all **changes in the repository trigger deployments** on Vercel

Step 3: Configuring Build and Deployment Settings

📌 **Actions Taken:** ☒ **Environment Variables:** Added required variables (API keys, secrets) in Vercel's dashboard ☒ **Build Commands:** Used the default **Next.js build command** for staging (`npm run build`)

Professional Environment Management

Stages of Environments

1 TRN (Training Environment)

- Used for **onboarding and training** new team members.
- Set up with **sample data** for training purposes.
- Configured **restricted access** to avoid impact on development.

2 DEV (Development Environment)

- Used for **active development** of new features.
- Configured to use **local or mocked services** for faster iterations.
- Integrated with **version control (GitHub repository)**.

3 SIT (System Integration Testing)

- Focused on **testing integrations** between system components.

4 UAT (User Acceptance Testing)

- Purpose: **End-user testing** to validate features before release.
- Created a **near-production replica** with real-world data.
- Involved **stakeholders and testers** to assess usability.

5 PROD (Production Environment)

- The **live environment** accessible by end-users.
 - Only **fully tested and approved features** are deployed.
 - Configured with **robust monitoring and alert systems**.
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Version Control & Deployment Strategies


📌 **Actions Taken:** ✅ Established **branching strategies** (e.g., `main`, `staging`, `feature/*`).
✅ Used **environment-specific configurations** (e.g., `.env` files, Vercel's environment management).
✅ Implemented **logging and monitoring tools** for SIT, UAT, and PROD environments.

Testing & Validation

📌 **Actions Taken:** ✅ Verified that the **staging environment reflects the latest changes** pushed to the staging branch.
✅ Ensured accessibility and performance across **various devices and browsers**.

Test Cases & Results

Test Case	Description	Expected Result	Actual Result	Status
TST-001	Homepage Load Test	Homepage should load within 2 seconds	Loaded within 2 seconds	✅ Passed
TST-002	Product Display Test	All products should be displayed correctly	All products displayed correctly	✅ Passed
TST-003	Product Details Test	Product details should display upon selection	Displayed correctly	✅ Passed
TST-004	Checkout Page Test	Checkout process should complete without errors	Completed successfully	✅ Passed
TST-005	API Integration Test	API should fetch and display data correctly	API displayed data correctly	✅ Passed
TST-006	Navigation Test	All navigation links should function properly	All links working correctly	✅ Passed
TST-007	Security Test	All API calls should be secure and use HTTPS	All calls use HTTPS	✅ Passed
TST-008	Image Loading Test	All images should load correctly	Images loaded successfully	✅ Passed
TST-009	Accessibility Test	Site should meet accessibility standards	Meets all standards	✅ Passed

TST-01	Responsiveness	Site should adjust properly on	Adjusts properly	
0	Test	various devices		Passed

Conclusion

By setting up the **staging environment**, we ensure a **structured and efficient deployment process**. This setup allows for **comprehensive testing** before moving to production, ensuring a **stable, secure, and high-performing marketplace**. 🚀