

Day 6: Deployment Preparation and Staging – One Step Closer to Excellence!

The journey of creating a functional and efficient marketplace reaches a critical milestone: Deployment Preparation and Staging. Today was all about ensuring that every detail is in place to provide a seamless, production-like experience. Here's how Day 6 unfolded:

Key Highlights

1 Staging Environment Setup

- Chose **Vercel** as the hosting platform for its simplicity and fast deployments.

```
01:29:00.671 Running build in Washington, D.C., USA (East) - iad1
01:29:00.785 Cloning github.com/hunainislam/ProjectChallenge (Branch: main, Commit: 12d176f)
01:29:01.484 Warning: Failed to fetch one or more git submodules
01:29:01.485 Cloning completed: 699.000ms
01:29:08.490 Restored build cache from previous deployment (FxaTCkhUruFDhJARjV6Xt1irajNXY)
01:29:08.570 Running "vercel build"
01:29:09.557 Vercel CLI 39.3.0
01:29:12.572 Installing dependencies ...
01:29:14.972 up to date in 2s
01:29:14.973 237 packages are looking for funding
01:29:14.973   run 'npm fund' for details
01:29:16.492 Detected Next.js version: 14.2.15
01:29:16.499 Running "npm run build"
01:29:16.618 > figmaproject@0.1.0 build
01:29:16.619 > next build
01:29:17.986 ▲ Next.js 14.2.15
01:29:17.986 Creating an optimized production build ...
01:29:18.473 ✓ Compiled successfully
01:29:31.107
```

01:29:54.592	Route (app)	Size	First Load JS
01:29:54.592	○ /	5.66 kB	267 kB
01:29:54.592	○ /_not-found	880 B	88.6 kB
01:29:54.593	○ /blog	3.23 kB	256 kB
01:29:54.593	○ /cart	3.62 kB	263 kB
01:29:54.593	○ /checkout	3 kB	256 kB
01:29:54.593	○ /comparison	3.26 kB	256 kB
01:29:54.593	○ /contact	2.68 kB	256 kB
01:29:54.593	○ /shop	4.96 kB	266 kB
01:29:54.593	○ /singleproduct	8.79 kB	270 kB
01:29:54.593	○ /studio/[[...tool]]	1.34 MB	1.46 MB
01:29:54.594	+ First Load JS shared by all	87.7 kB	
01:29:54.594	├ chunks/2117-9311579eb06c6d07.js	31.8 kB	
01:29:54.594	├ chunks/fd9d1056-52cfd83d721f4d43.js	53.6 kB	
01:29:54.594	└ other shared chunks (total)	2.32 kB	
01:29:54.594			
01:29:54.594			

- Connected the **GitHub repository** to streamline deployment and automate build processes.
- Configured **secure environment variables**, protecting sensitive data like API keys, database credentials, and third-party tokens.

2 Environment Management Best Practices

- Learned to manage environments effectively, including:
 - **TRN (Training)**: Onboarding and learning environment.
 - **DEV (Development)**: Where the coding magic happens.
 - **SIT (System Integration Testing)**: Ensuring all components work together.
 - **UAT (User Acceptance Testing)**: Validating that user requirements are met.
 - **PROD (Production)**: The live, customer-facing environment.
 - **DR (Disaster Recovery)**: A fail-safe backup environment for emergencies.

3 Comprehensive Testing

Conducted rigorous testing in a staging environment to simulate production conditions:

- **Functional Testing**: Verified workflows, product listings, search functionality, and cart operations using **Cypress** and **Postman**.
- **Performance Testing**: Analyzed load times and responsiveness using **Lighthouse** and **GTmetrix**.
- **Security Testing**: Ensured **HTTPS** was enabled, validated input fields, and safeguarded sensitive API communications.





Why Staging Matters

A staging environment serves as the ultimate rehearsal before production. It provides a safe space to identify and resolve issues without impacting live users, ensuring the final product is polished and reliable.

Learning Outcomes

- Developed skills to securely configure **environment variables** in hosting platforms like **Vercel** and **Netlify**.
- Mastered the deployment process from staging to production.
- Understood industry-standard practices for managing multiple environments.
- Gained hands-on experience with testing tools to validate **functionality**, **performance**, and **security**.
- Strengthened knowledge of hosting platforms and their capabilities, particularly for scalable web applications.

Deliverables

-  Fully functional **staging environment** ready for deployment.
 -  Documented **test case results** and **performance reports**.
 -  Organized **project repository** with detailed documentation.
 -  Comprehensive list of potential bugs or improvements identified during testing.
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Next Steps

With the staging environment ready, I'm one step away from achieving a fully deployed marketplace. The final stages will focus on **production deployment** and fine-tuning the live application.

This experience has been a game-changer in understanding the intricacies of **frontend development**, **staging environments**, and **deployment best practices**. The skills and insights gained will undoubtedly enhance future projects. Excited to continue pushing forward!

