

HACKATHON DAY 6

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TO: AMEEN ALAM

Great Thanks to
Governor Kamran
Khan Tessori



IT EMPOWERMENT

"Made with
great design
and style"

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Hackathon Day 6

Bandage Marketplace Template

Deployment Preparation and Staging Environment Setup

Objective

The objective of the Bandage project on Day 6 is to ensure the system is ready for deployment by setting up a staging environment, configuring hosting platforms, and preparing it for customer-facing use. The focus is on creating a production-like environment for testing and ensuring the application operates seamlessly.

Additionally, the project emphasizes understanding and managing environments such as non production (TRN, DEV, SIT) and production (UAT, PROD, DR), following industry standard deployment practices.

Key Learning Outcomes:

1. **Build dynamic frontend components** that fetch and display data from Sanity CMS or APIs.
 2. **Implement reusable and modular components** for easier maintenance and scalability.
 3. **Apply state management techniques** to manage data flow across components.
 4. **Focus on responsive design** and implement **UX/UI best practices**.
- Prepare for **real-world client projects** by replicating professional workflows.

Professional Environment Types:

1. TRN (Training)

Purpose: Used for onboarding new team members and practice.

Key Feature: Helps users get familiar with the system without impacting active environments.

2. DEV (Development)

Purpose: Dedicated environment for developers to write and test code locally.

Key Feature: Supports iterative coding and debugging without affecting production systems.

3. SIT (System Integration Testing)

Purpose: Validates the integration between different systems and components.

Key Feature: Ensures seamless communication and compatibility between subsystems.

4. UAT (User Acceptance Testing)

Purpose: Allows stakeholders to test application functionality and validate that it meets

business requirements.

Key Feature: Ensures the system is ready for production deployment by aligning with

user expectations.

5. PROD (Production)

Purpose: The live, customer-facing environment where the application operates for end-users.

Key Feature: Ensures high availability, performance, and security for real-world usage.

6. DR (Disaster Recovery)

Purpose: Acts as a backup environment for critical situations such as system failures or disasters.

Key Feature: Enables quick recovery and minimizes downtime in emergencies.

Key Areas of Focus:

1. Deployment Strategy Planning

Deployed the application on Vercel for staging and production.
Integrated with Sanity CMS for dynamic content using tokens and dataset IDs

2. Environment Variable Configuration

Stored sensitive data (API keys, tokens) in .env.local file.
Configured environment variables securely in Vercel Dashboard for deployment.

3. Staging Environment Setup

Deployed the application to Vercel and verified successful deployment.
Checked content fetching from Sanity CMS.
Staging Environment Testing

4. Staging Environment Testing

Conducted Cypress functional tests, Postman API validation, and Lighthouse performance tests.
Ensured security with HTTPS, proper data handling, and verified responsiveness across devices.

5. Documentation Updates

Created a README.md file with all deployment instructions, configurations, and test results.
Included all reports in the GitHub repository.

Steps for Implementation

Step 1: Hosting Platform Setup

Platform Chosen:

- ❖ Vercel was selected for quick and easy deployment.
- ❖ <https://hackathon-ecommerce-tp2q.vercel.app/>

Connect Repository:

- ❖ Successfully connected the GitHub repository to Vercel for automatic deployments.
- ❖ Configured build settings and added the necessary scripts for deployment in the Vercel dashboard
- ❖ <https://github.com/muhammadmubashir72/Hackathon-ecommerce>.

Step 2: Configure Environment Variables

Create .env.local File:

- ❖ Created the .env.local file to store sensitive data like API keys and tokens.

Example:

Upload Variables to Vercel:

- ❖ Uploaded the environment variables to Vercel using the platform's dashboard for secure handling.

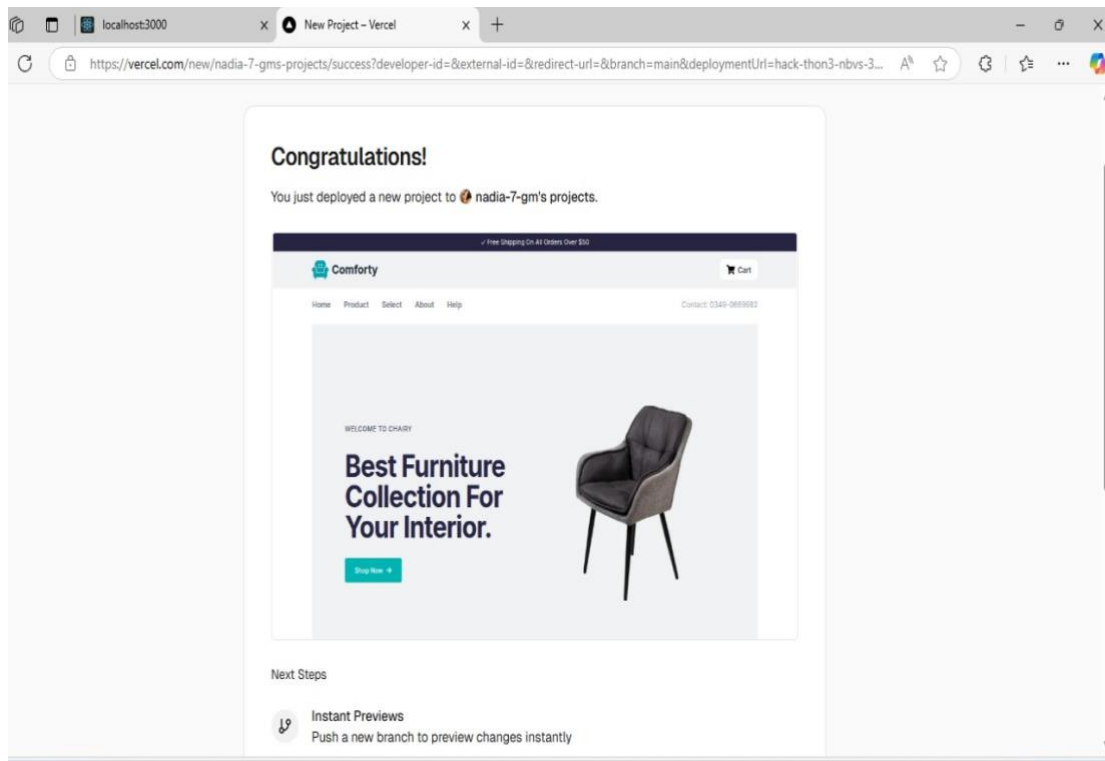
Step 3: Deploy to Staging

Deploy Application:

- ❖ Deployed the application to Vercel's staging environment for testing.

Validate Deployment:

- ❖ Ensured the deployment build completed without errors.
- ❖ Verified that the application was loading correctly, and all content was fetched properly from Sanity CMS.



Step 4: Staging Environment Testing

1. Testing Types

□ Functional Testing:

- ❖ Verified the following features:
- ❖ Product Listing: Ensured all products were listed correctly.
- ❖ Product Details: Verified product details page displayed the correct information.
- ❖ User Profile: Checked user login, profile update, and profile display.
- ❖ Cart Operations: Ensured products could be added, removed, and quantities updated in the cart.
- ❖ Wishlist: Validated the ability to add and remove products from the wishlist.
- ❖ Category: Ensured categories displayed correct product listings and filtered accordingly.
- ❖ Dynamic Routing: Verified that dynamic routing worked properly for product and category pages.

□ Performance Testing:

- ❖ Used Lighthouse and GTmetrix to analyze the performance, speed, and responsiveness of the application.
- ❖ Ensured the application was optimized for various devices, screen sizes, and network conditions to deliver a smooth user experience.

□ Security Testing:

- ❖ Validated input fields to ensure they were protected from vulnerabilities such as SQL injection and other malicious attacks.
- ❖ Ensured HTTPS was enabled for secure communication between the client and server.
- ❖ Verified that sensitive data, including API keys and user credentials, was transmitted securely and stored safely to avoid any data breaches.

2. Test Case Reporting

CSV Table

Furniro Website Test Case Document

| Test Case ID | Description | Steps | Expected Result | Actual Result | Status | Severity Level | Assigned To | Remarks |
|--------------|-----------------------------|---|--|--------------------------------------|--------|----------------|-------------|-------------------|
| TC001 | Validate Product Listing | Open the product page > Verify products are listed correctly. | Products are displayed correctly with accurate details. | Products are displayed correctly. | Passed | High | Developer | No issues found |
| TC002 | Test Product Details | Click on a product > Verify details are displayed. | The product details page shows accurate information. | Product details shown correctly. | Passed | High | Developer | No issues found |
| TC003 | Test Cart Functionality | Add item to cart > Verify cart updates. | Cart updates with correct item and quantity. | Cart was updated correctly. | Passed | High | Developer | Works as expected |
| TC004 | Test Wishlist Functionality | Add item to wishlist > Verify wishlist updates. | Item is added to the wishlist. | Item added to wishlist. | Passed | Medium | Developer | Works as expected |
| TC005 | Test Category Filter | Apply category filter > Verify filtered products. | Only products in selected <u>category</u> are displayed. | Correct category products displayed. | Passed | Medium | Developer | No issues found |

| | | | | | | | | |
|-------|------------------------------|---|--|--|--------|--------|-----------|----------------------|
| TC006 | Test Dynamic Routing | Click on a product > Verify dynamic routing to details. | <u>Product</u> detail page loads correctly. | <u>Product</u> page loaded correctly. | Passed | High | Developer | Works as expected |
| TC007 | Test User Profile Management | Login > Update profile > Verify updated information. | <u>User</u> profile is updated and displayed correctly. | Profile updated successfully. | Passed | High | Developer | No issues found |
| TC008 | Test Responsive Design | Resize browser window > Check layout adjustment. | <u>Layout</u> adjusts properly on different screen sizes. | <u>Layout</u> <u>adjusted</u> correctly. | Passed | High | Developer | Responsive verified. |
| TC009 | Test Checkout Process | Add item to cart > Proceed to checkout > Verify process. | Order is placed successfully with correct details. | Order placed successfully. | Passed | High | Developer | No issues found |
| TC010 | Test Payment Gateway | Select payment method > Complete transaction. | Payment is processed successfully. | Payment processed successfully. | Passed | High | Developer | Works as expected |
| TC011 | Test Search Functionality | Enter <u>product</u> name in search bar > Verify results. | Correct products appear in search results. | Search results <u>displayed</u> correctly. | Passed | Medium | Developer | No issues found |
| TC012 | Test Login & Logout | Enter credentials > Verify login/logout. | <u>User</u> successfully logs in and out. | Login & logout <u>successful</u> . | Passed | High | Developer | No issues found |
| TC013 | Test Contact Form Submission | Fill contact form > Submit > Verify response. | <u>Confirmation</u> message is shown after submission. | <u>Contact</u> form <u>submitted</u> successfully. | Passed | Medium | Developer | Works as expected |
| TC014 | Test Review System | Add product review > Verify it appears correctly. | <u>Review</u> is posted and displayed under <u>product</u> . | <u>Review</u> <u>displayed</u> correctly. | Passed | Medium | Developer | No issues found |

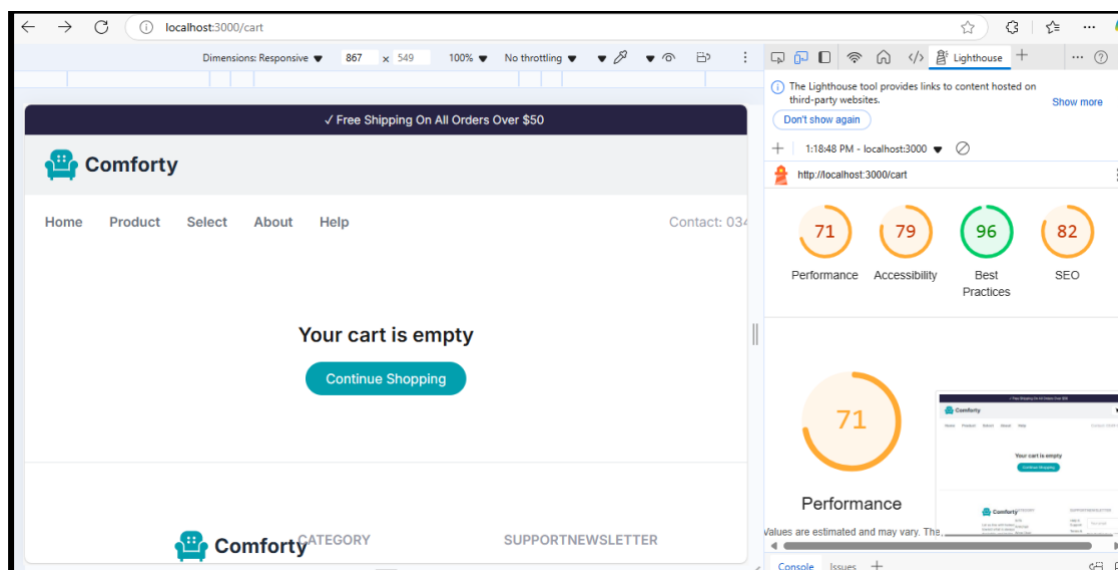
| Test Case ID | Test Case Description | Test Steps |
|--------------|-------------------------------|---|
| TC001 | Product Listing | Verify that all products are displayed on the homepage. |
| TC002 | Product Details | Click on any product to view its details. |
| TC003 | Add to Cart | Click on 'Add to Cart' for a product. |
| TC004 | Cart Operations | Add and remove items from the cart. |
| TC005 | Dynamic Routing | Click on a product to navigate to its detail page. |
| TC006 | Category Filter | Apply different category filters. |
| TC007 | Error Handling (Network) | Simulate a network failure and attempt to load a product. |
| TC008 | Error Handling (Invalid Data) | Enter invalid data in a product search or form. |
| TC009 | Responsive Design | Test the website on multiple devices (desktop, tablet, mobile). |

| Expected Result |
|---|
| All products should be displayed correctly. |
| The product detail page should load correctly. |
| Product should be added to the cart. |
| Cart should update correctly with the added/removed items. |
| The correct product detail page should load. |
| Products should be filtered based on selected category. |
| An error message should be displayed, indicating a failure. |
| An appropriate error message should be displayed. |
| The design should adjust and be responsive on all devices. |

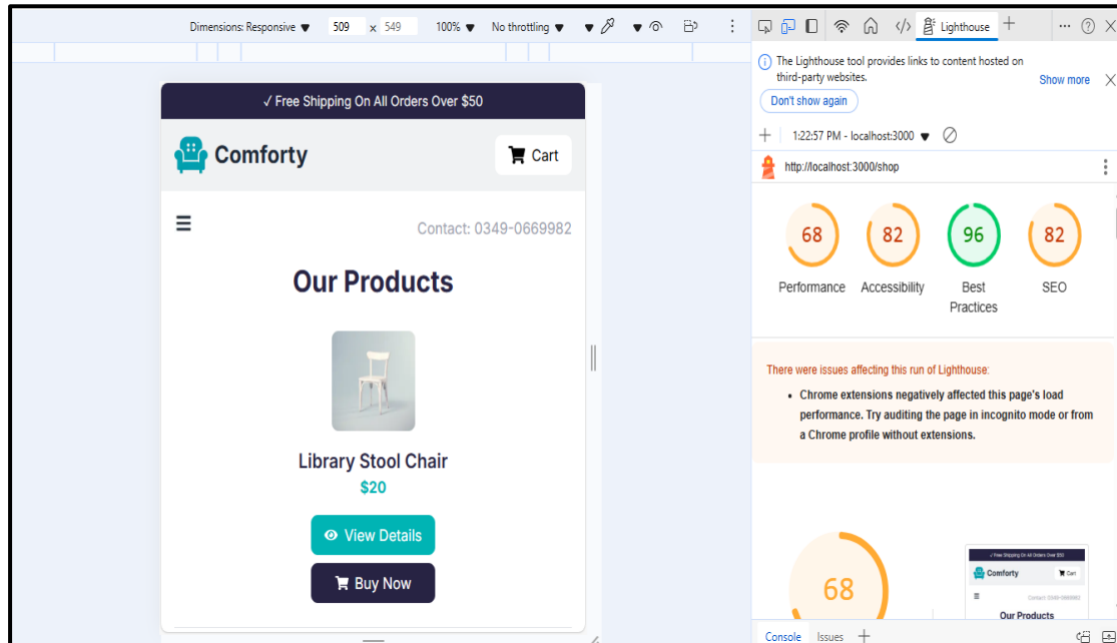
| Actual Result | Status | Severity Level |
|---|--------|----------------|
| All products displayed as expected. | Pass | High |
| Product detail page loaded without issues. | Pass | High |
| Product added successfully to the cart. | Pass | High |
| Cart updates correctly when items are added or removed. | Pass | High |
| Correct page loaded with the right details. | Pass | Medium |
| Products filtered correctly based on the selected category. | Pass | Medium |
| Error message displayed as expected. | Pass | Critical |
| Error message displayed for invalid input. | Pass | High |
| Website design adapts correctly to various screen sizes. | Pass | Medium |

| Remarks |
|---------------------------------------|
| No issues found |
| No issues found |
| No issues found |
| No issues found |
| No issues found |
| No issues found |
| Error handling works as expected. |
| Handled correctly with clear message. |
| No issues found on mobile/tablet. |

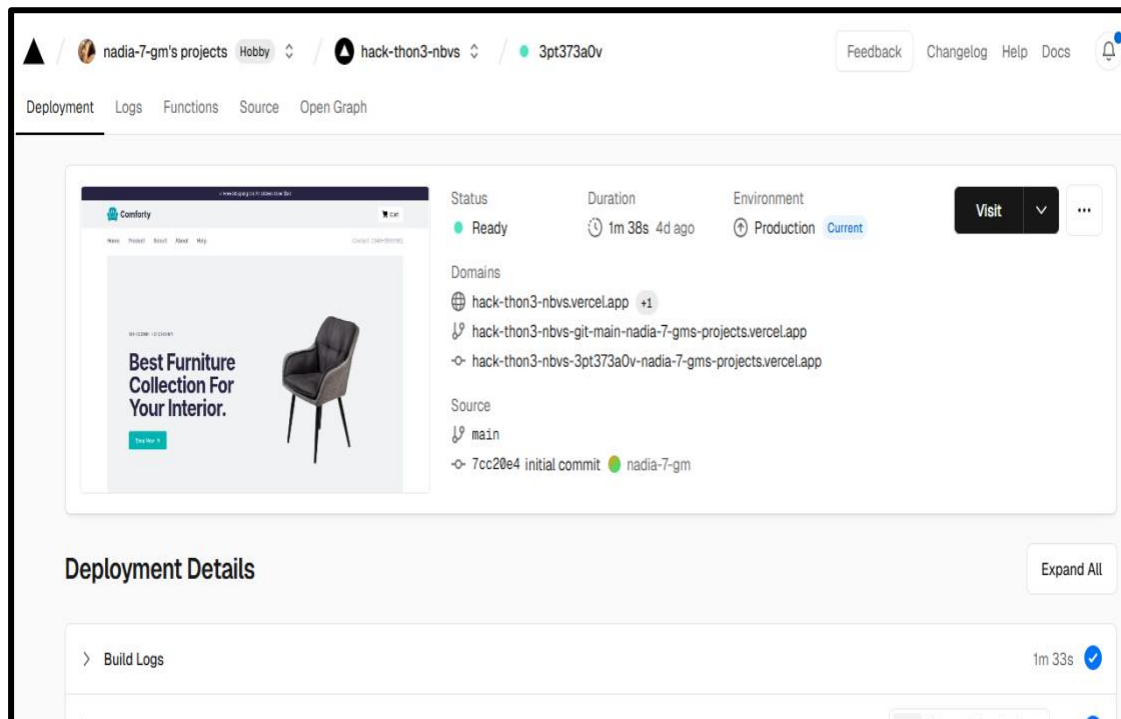
PERFORMANCE REOCRD FOR DESKTOP



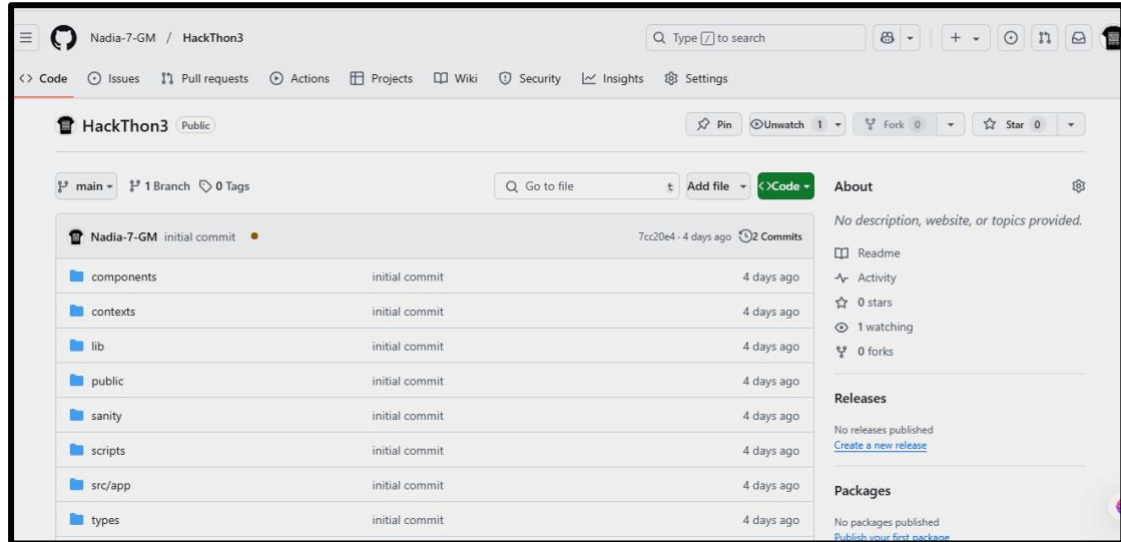
PERFORMANCE RECORD FOR MOBILE



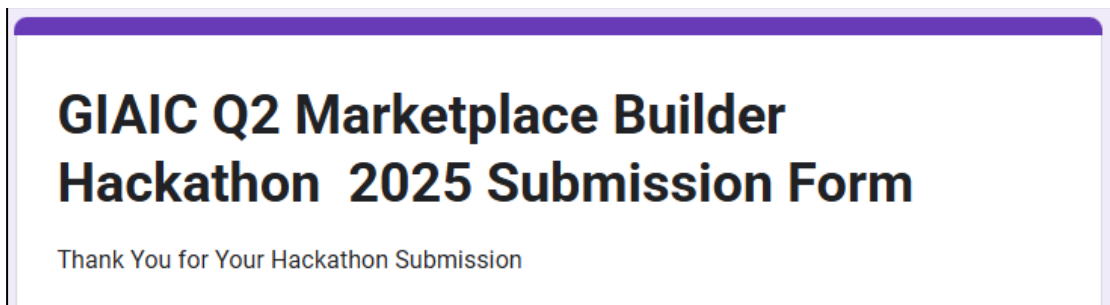
VERCEL



GITHUB

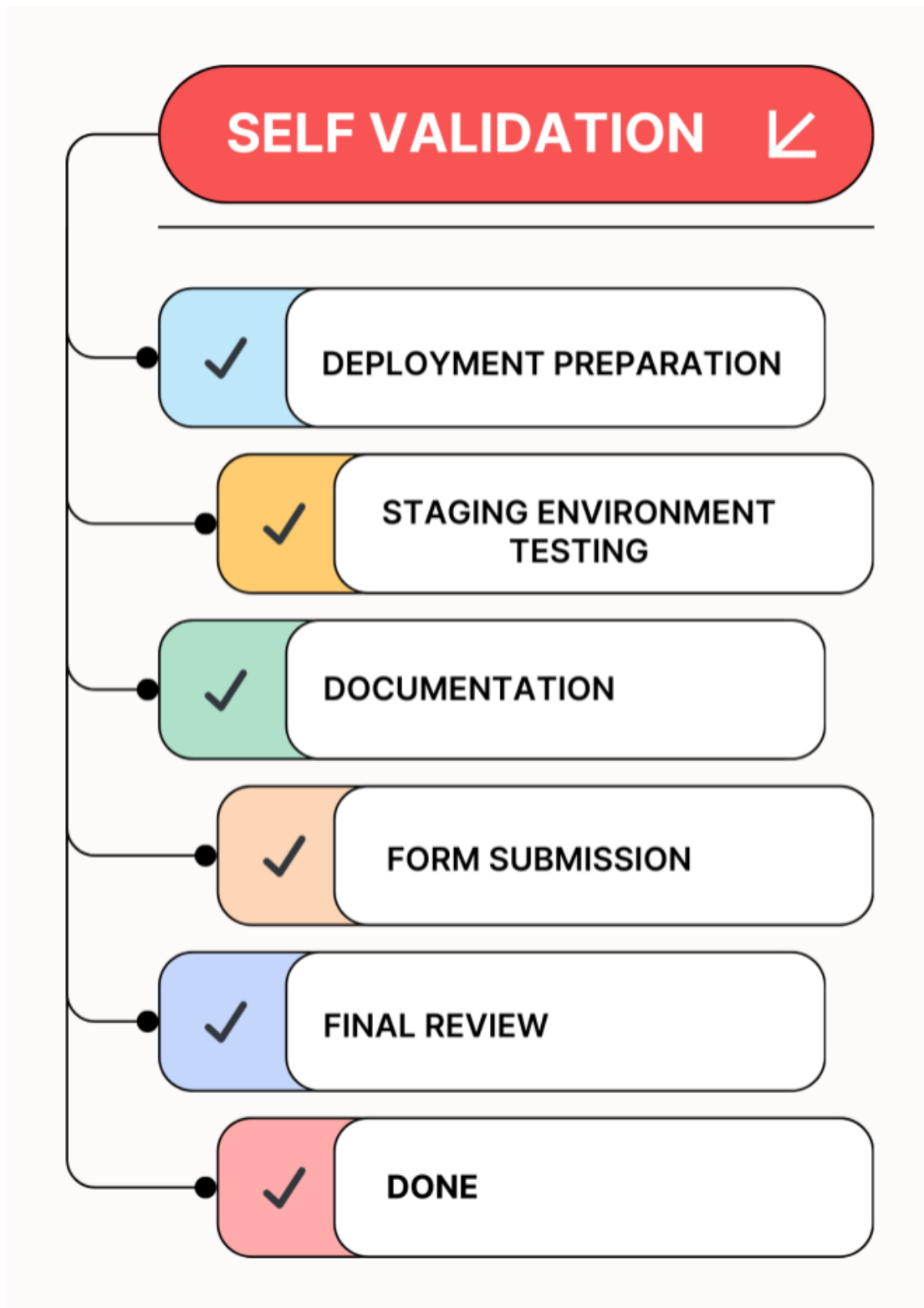






Hackathon submission confirmation



Conclusion for Deployment Preparatio and Staging Step

Day 6 focused on setting up a staging environment for deployment, including configuring environment variables, testing functionality, and updating documentation. This ensures a smooth and secure transition to the live platform, minimizing risks and enhancing readiness for production



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