

Day 6 - Deployment Preparation and Staging Environment Setup

Hosting Platform Setup

I chose **Vercel** as the hosting platform for deploying my marketplace application. Vercel was selected due to its ease of use, seamless integration with GitHub, and quick deployment capabilities. The following steps were taken to set up the hosting platform:

- 1. Connected GitHub Repository:**
 - a. Linked my GitHub repository to Vercel.
 - b. Configured build settings and added necessary scripts for deployment.
- 2. Environment Variables Configuration:**
 - a. Created a .env file to securely store sensitive variables such as API keys and tokens.
 - b. Uploaded the environment variables to Vercel's dashboard for secure deployment.
- 3. Deployed to Staging:**
 - a. Deployed the application to a staging environment using Vercel.
 - b. Validated that the build process completed without errors and the site loaded correctly.

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```
src > app > firebase > JS config.js > ...
1
2 import { initializeApp, getApps, getApp } from "firebase/app";
3 import { getAuth } from "firebase/auth";
4 import { getFirestore } from "firebase/firestore";
5
6 const firebaseConfig = {
7   apiKey: process.env.NEXT_PUBLIC_FIREBASE_API_KEY,
8   authDomain: process.env.NEXT_PUBLIC_FIREBASE_AUTH_DOMAIN,
9   projectId: process.env.NEXT_PUBLIC_FIREBASE_PROJECT_ID,
10  storageBucket: process.env.NEXT_PUBLIC_FIREBASE_STORAGE_BUCKET,
11  messagingSenderId: process.env.NEXT_PUBLIC_FIREBASE_MESSAGING_SENDER_ID,
12  appId: process.env.NEXT_PUBLIC_FIREBASE_APP_ID
13 };
14
15 const app = !getApps().length ? initializeApp(firebaseConfig) : getApp()
16
17 const auth = getAuth(app)
18
19 export const db = getFirestore(app)
20 export [{app, auth}]
```

Sanity Configuration (TypeScript)

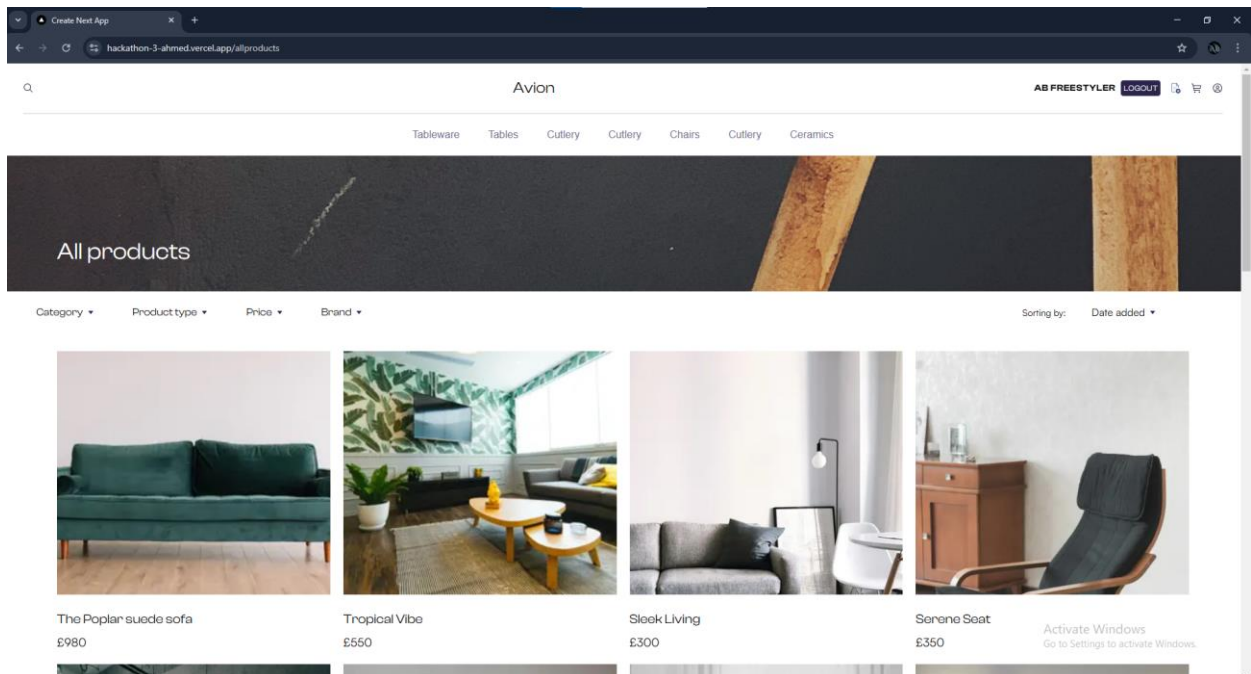
```
src > sanity > TS env.ts > ...
1 export const apiVersion =
2   process.env.NEXT_PUBLIC_SANITY_API_VERSION || '2025-01-17'
3
4 export const dataset = assertValue(
5   process.env.NEXT_PUBLIC_SANITY_DATASET,
6   'Missing environment variable: NEXT_PUBLIC_SANITY_DATASET'
7 )
8
9 export const projectId = assertValue(
10  process.env.NEXT_PUBLIC_SANITY_PROJECT_ID,
11  'Missing environment variable: NEXT_PUBLIC_SANITY_PROJECT_ID'
12 )
13
14 function assertValue<T>(v: T | undefined, errorMessage: string): T {
15   if (v === undefined) {
16     throw new Error(errorMessage)
17   }
18
19   return v
20 }
21
```

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Environment Variables in Vercel

<>	NEXT_PUBLIC_SANITY_PROJECT_ID All Environments	Added 8h ago	...
<>	NEXT_PUBLIC_SANITY_DATASET All Environments	Added 8h ago	...
<>	NEXT_PUBLIC_FIREBASE_API_KEY All Environments	Added 8h ago	...
<>	NEXT_PUBLIC_FIREBASE_AUTH_DO... All Environments	Added 8h ago	...
<>	NEXT_PUBLIC_FIREBASE_PROJECT... All Environments	Added 8h ago	...
<>	NEXT_PUBLIC_FIREBASE_STORAGE... All Environments	Added 8h ago	...
<>	NEXT_PUBLIC_FIREBASE_MESSAGI... All Environments	Added 8h ago	...
<>	NEXT_PUBLIC_FIREBASE_APP_ID All Environments	Added 8h ago	...

Deployment Completed



Staging Environment Testing

After deploying the application to the staging environment, I conducted thorough testing to ensure the application functions as expected in a production-like setting. The following types of testing were performed:

1. Functional Testing

- **Tools Used:** Cypress for workflow testing, Postman for API validation.
- **Test Cases:** Verified key functionalities such as product listing, cart operations, and API error handling.

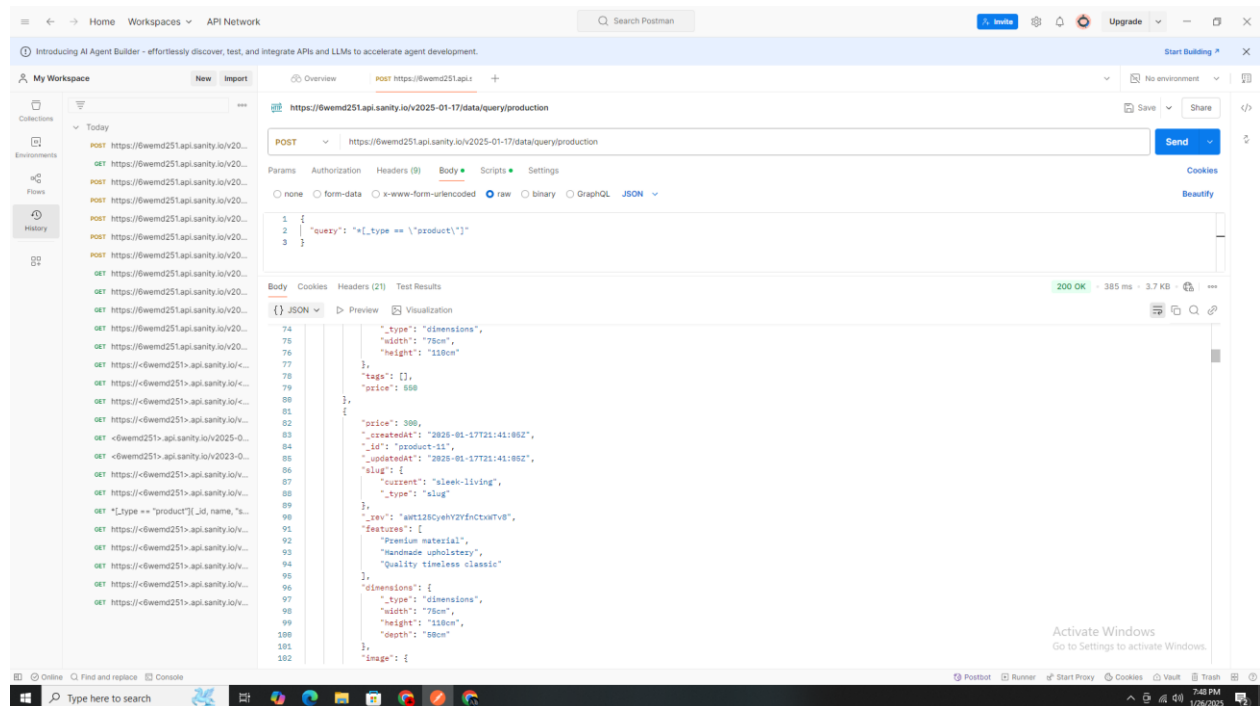
2. Performance Testing

- **Tools Used:** Lighthouse for analysing speed, responsiveness, and load times.
- **Results:** The application performed well, with acceptable load times and responsiveness.

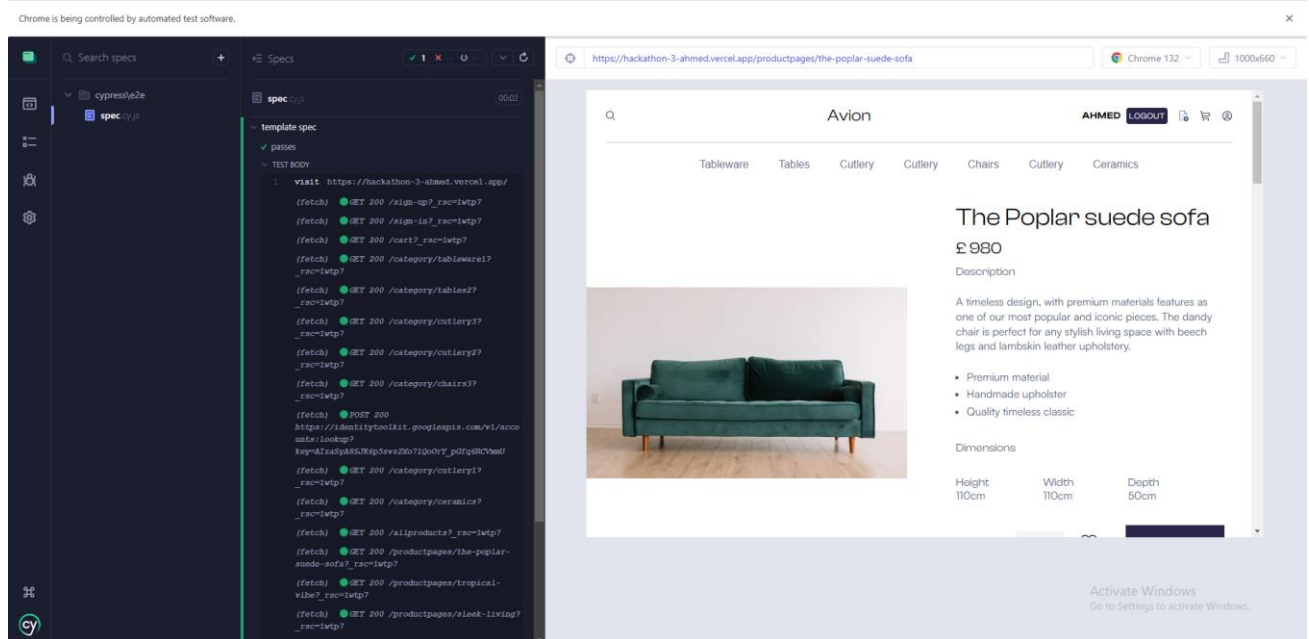
3. Security Testing

- **Validations:** Ensured HTTPS was enabled, input fields were secure, and sensitive data (e.g., API keys) were handled properly.

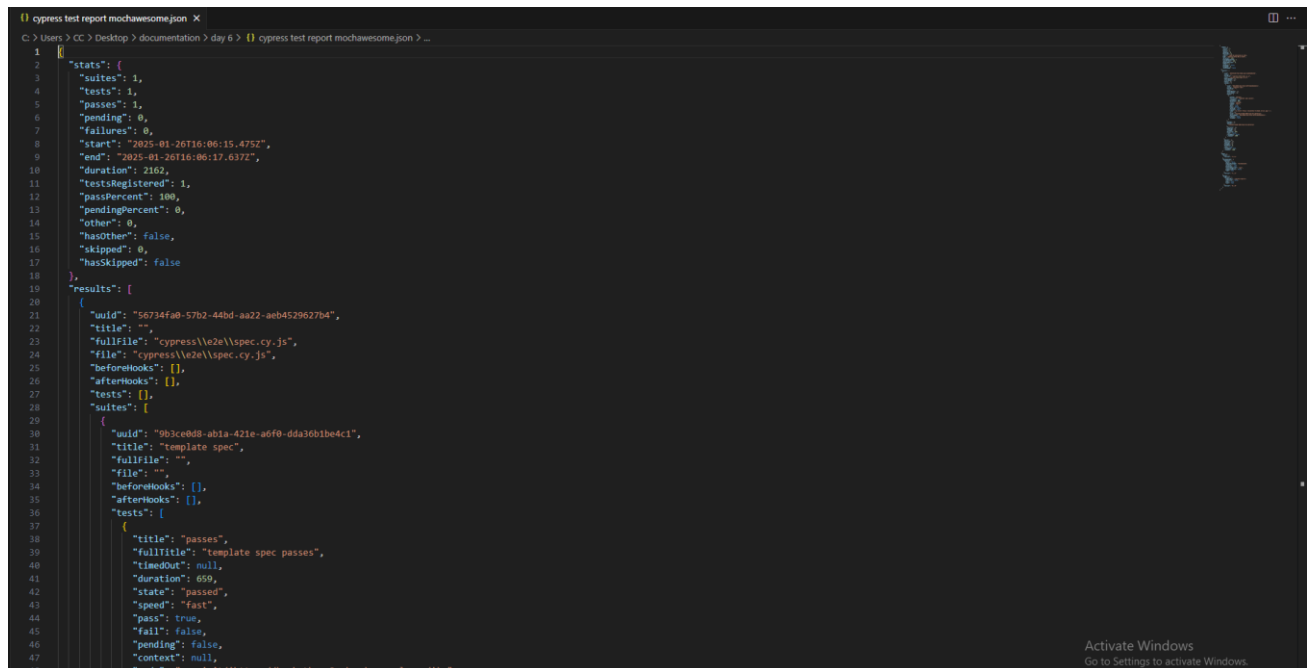
Api Test



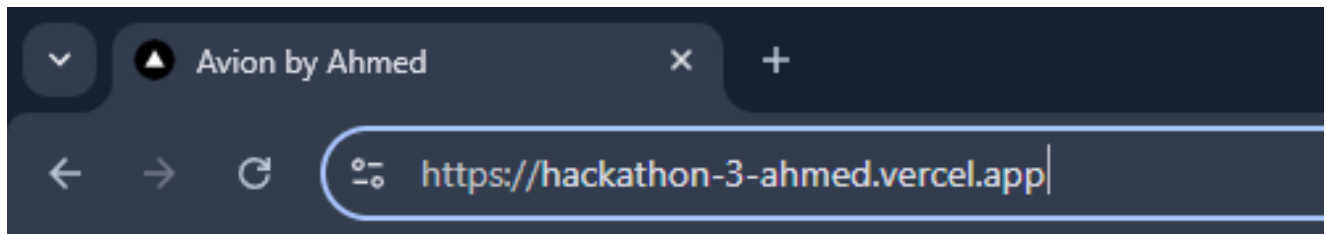
Cypress Test



Cypress Report Json



Https validation



Test Case Report

Below is the detailed test case report documenting the results of the staging environment testing:

	A	B	C	D	E	F	G
1	Test Case ID	Description	Steps	Expected Result	Actual Result	Status	Remarks
2	TC001	Validate product listing	Open product page > Verify products	Products displayed	Products displayed	Passed	No issues found
3	TC002	Test API error handling	Disconnect API > Refresh page	Show fallback message	Fallback message shown	Passed	Handled gracefully
4	TC003	Check cart functionality	Add item to cart > Verify cart	Cart updates correctly	Cart updates correctly	Passed	Works as expected
5	TC004	Test form validation	Submit form with empty fields	Display error message	Error message displayed	Failed	Missing validation check
6	TC005	Verify HTTPS connection	Open site > Check HTTPS status	HTTPS enabled	HTTPS enabled	Passed	Secure connection
7	TC006	Validate login functionality	Enter valid credentials > Submit	Login successful	Login successful	Passed	No issues found
8	TC007	Validate logout functionality	Click logout button	Redirect to homepage > Session terminated	Redirect successful	Passed	Session cleared successfully

CSV text format

Test Case ID,Description,Steps,Expected Result,Actual Result,Status,Remarks

TC001,Validate product listing,Open product page > Verify products,Products displayed,Products displayed,Passed,No issues found

TC002,Test API error handling,Disconnect API > Refresh page,Show fallback message,Fallback message shown,Passed,Handled gracefully

TC003,Check cart functionality,Add item to cart > Verify cart,Cart updates correctly,Cart updates correctly,Passed,Works as expected

TC004,Test form validation,Submit form with empty fields,Display error message>Error message displayed,Passed,Handled gracefully

TC005,Verify HTTPS connection,Open site > Check HTTPS status,HTTPS enabled,HTTPS enabled,Passed,Secure connection

TC006,Validate login functionality,Enter valid credentials > Submit,Login successful,Login successful,Passed,No issues found

TC007,Validate logout functionality,Click logout button,Redirect to homepage > Session terminated,Redirect successful,Passed,Session cleared successfully

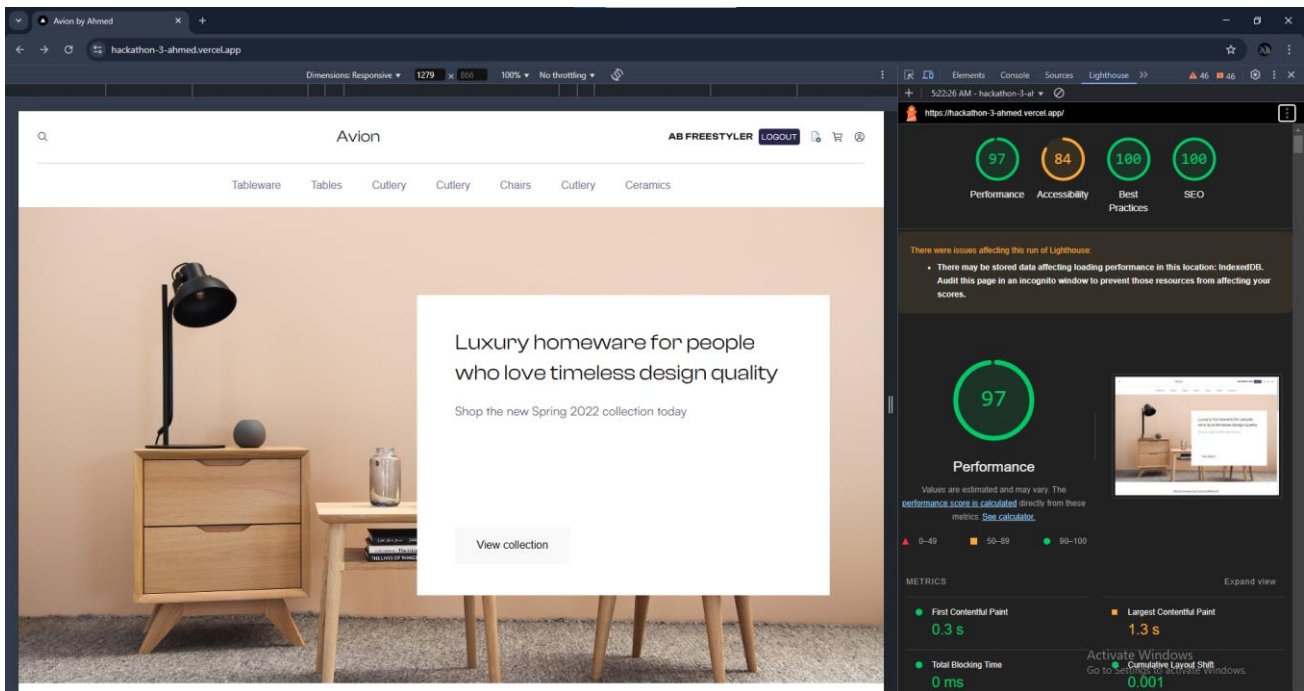
Documentation Updates

1. README.md File:

- a. Created a README.md file summarizing all six days of activities, including deployment steps, test results, and project structure.
- b. Provided a clear folder hierarchy in the GitHub repository (e.g., documents/, src/, public/).

2. GitHub Repository:

- a. Organized all project files and documents in a structured manner.
- b. Included the following:
 - i. Test case report in CSV format.
 - ii. Performance testing results generated by Lighthouse.



Expected Output

1. Staging Environment:

- a. The application is fully deployed to the staging environment on Vercel.
- b. Environment variables are securely configured.

2. Test Case and Performance Reports:

- a. All test cases (passed or failed) are documented in a CSV file.
- b. Performance testing results are included in the GitHub repository.

3. GitHub Repository:

- a. All project files and documentation are organized and accessible.
- b. A professional README.md file summarizes the project activities and results.

Checklist for Day 6

- Deployment Preparation
- Staging Environment Testing
- Documentation
- Form Submission
- Final Review