

# ***Testing and Backend Refinement Report-Nike Store***

## ***Project: Testing,Error Handling,and Backend Refinement***

### ***Overview:***

*The focus was on testing core features, handling errors, and optimizing the backend for the marketplace.*

### ***Key Sections:***

#### ***Functional Testing:***

***Objective: To ensure all marketplace features work correctly.***

#### ***Tested Areas:***

*Product listing accuracy.*

*Search bar query relevance and speed.*

*Cart functionality (adding, removing, updating items).*

*Wishlist functionality.*

*Checkout flow simulation.*

*Tools Used: Postman, Cypress, React Testing Library.*

*Results: All functionalities passed the tests successfully.*

#### ***Error Handling:***

***Objective: To test system resilience under unexpected conditions.***

***Tested Areas:***

*Handling API failures with fallback responses.*

*Managing invalid input gracefully.*

*Results: Errors were handled effectively with appropriate user feedback.*

*The report highlights the achievements and testing strategies used to enhance the marketplace.*

### ***3. Performance Optimization:***

***Objective: Improve speed and responsiveness.***

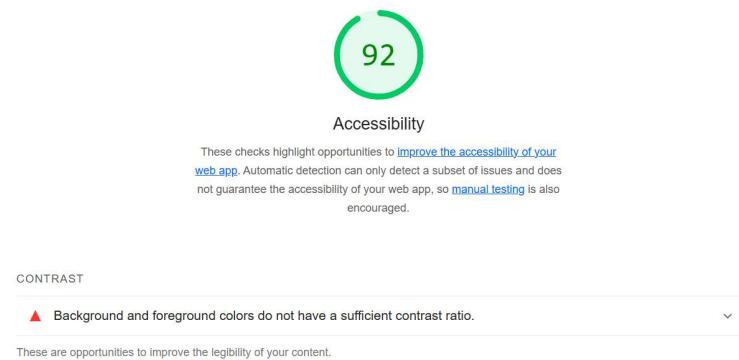
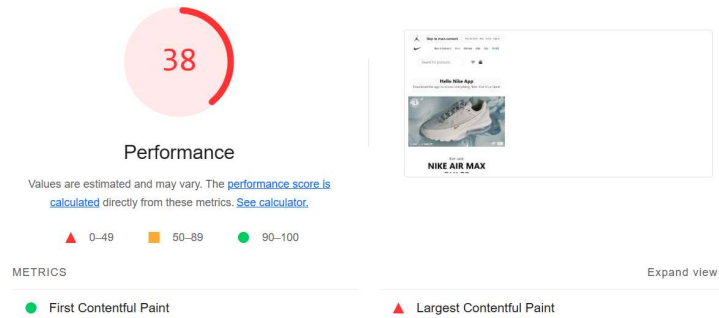
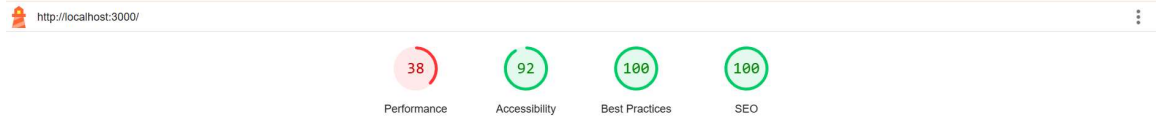
***Optimizations:***

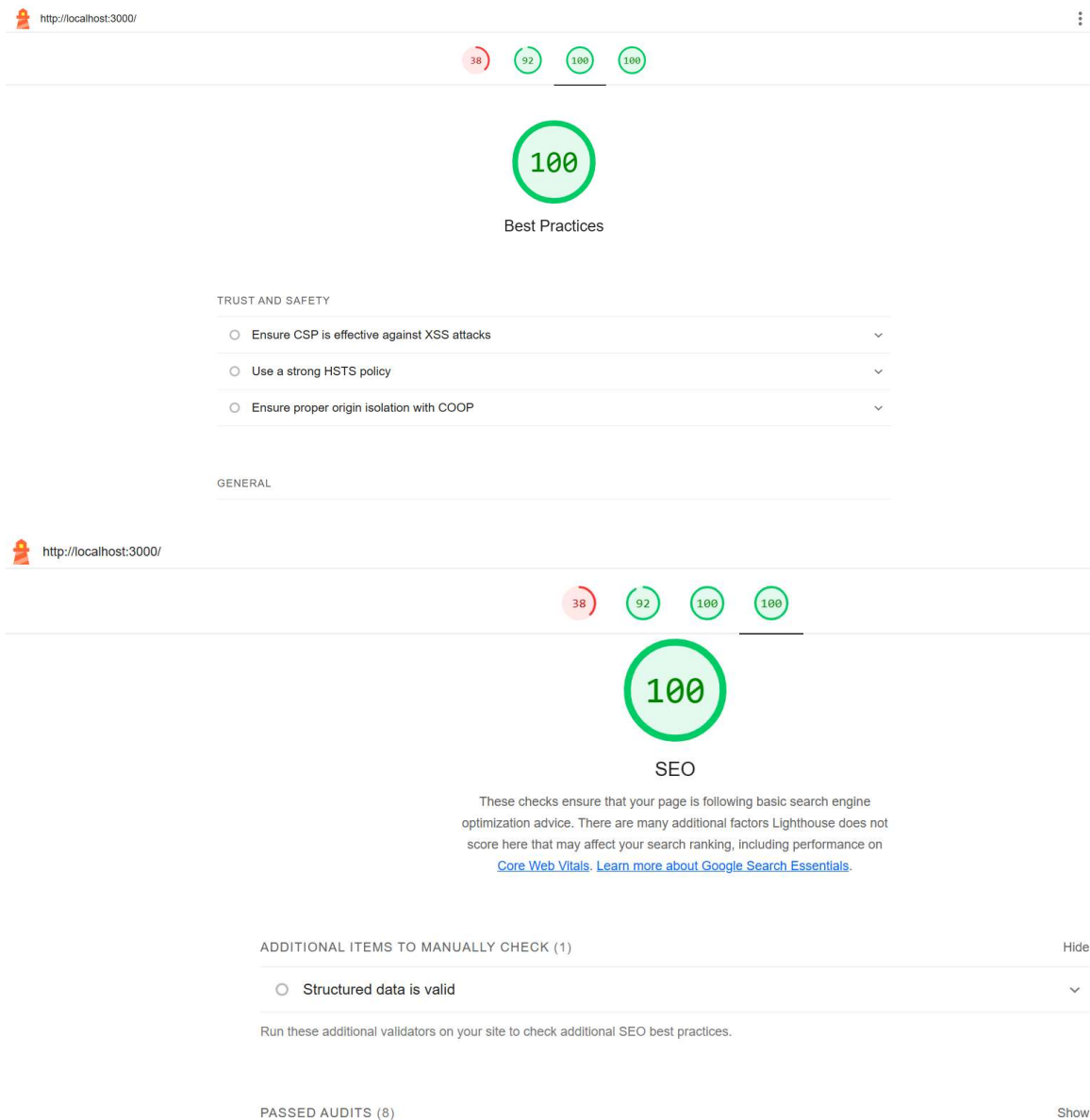
*Lazy Loading: Enabled for images to boost performance.*

*Asset Compression: Minimized JavaScript and CSS to reduce load time.*

*Tool Used: Lighthouse.*

*Result: Reduced page load time to under 2 seconds.*





## ***4. Cross-Browser & Device Compatibility:***

***Objective: Ensure a consistent experience across all***

## ***browsers and devices.***

### ***Tested Areas:***

*Browsers: Chrome, Safari, Firefox, Edge.*

*Devices: Desktop, tablet, and mobile.*

*Tools Used: BrowserStack, physical device testing.*

*Result: Achieved seamless functionality across all tested platforms.*

## ***5. Security Testing***

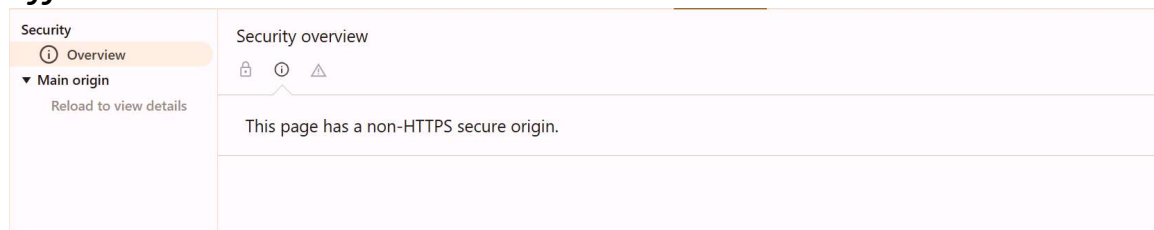
- ***Objective: Mitigate potential vulnerabilities.***

- ***Key Areas Covered:***

- o Input Validation: Tested for SQL injection and XSS.*

- o API Security: Verified HTTPS protocols and data encryption.*

- ***Results: No vulnerabilities identified; all measures are effective***



## ***Detailed Testing Report (CSV Summary)***

TEST CASE ID	TEST CASE DESCRIPTION	Status	Severity Level	Remarks
TC001	Validate product listing page	Passed	Low	No issues found
TC002	Test API error handling	Passed	Medium	Handled gracefully
TC003	Check cart functionality	Passed	High	Works as expected
TC004	Ensure responsiveness on mobile	Passed	Medium	Test Successfull
TC005	Test search bar functionality	Passed	Medium	Search works as expected
TC006	Validate wishlist functionality	Passed	Medium	Wishlist works as expected
TC007	Test checkout flow	Passed	Medium	Checkout flow works smoothly
TC008	Validate Error handling for API	Passed	Medium	Error handling works
TC009	Test performance on show networks	Passed	Medium	Performance optimized
TC0010	Validate security of input fields	Passed	Medium	Security measures in place

## *Challenges Faced*

### **1. API Failures:**

*a. Resolved through robust fallback UI and meaningful error messages.*

### **2. Performance Bottlenecks:**

*a. Optimized image assets and implemented lazy loading for a smoother experience.*

### **3. Cross-Browser Rendering Issues:**

*a. Resolved through manual testing and cross-platform tools.*

## **Outcomes of Day 5**

- *Completed comprehensive testing for all core functionalities.*
- *Implemented effective error handling strategies.*
- *Enhanced performance metrics to meet modern standards.*
- *Achieved full compatibility across browsers and devices.*
- *Delivered a robust Nike Store backend ready for deployment.*

## **Conclusion**

*Day 5 successfully ensured the Nike Store's readiness for real-world use. The marketplace is*

*now secure, performant, and user-friendly, meeting all required standards for scalability and*

*functionality*