

Day 5

Testing, Error Handling, and Backend Integration Refinement

Conducted testing, error handling, and backend integration improvements for a seamless shopping experience.

Testing Overview

- Performed functional testing on product listings, cart operations, search/filter features, and dynamic routing.
- Ensured proper error handling and smooth user interactions.
- Verified responsiveness across different devices.
- Used **Thunder Client** & **GTmetrix** for API testing and performance validation.

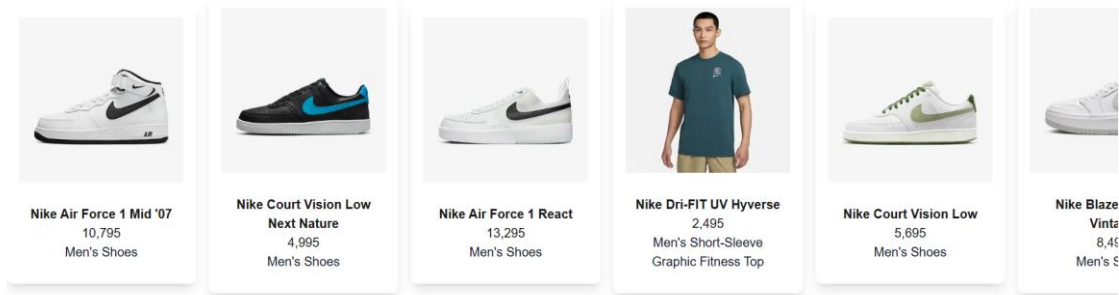
Steps for Implementation

- **Functional Testing:** Tested core features like product display, search, cart updates, and dynamic routing using **Thunder Client**, React Testing Library, and Cypress.
- **Error Handling:** Used **try-catch blocks** for API errors, added fallback UIs, and displayed clear error messages for better user experience.
- **Performance Optimization:** Optimized assets, analyzed performance with **GTmetrix**, and improved load times using **lazy loading** and minimized CSS/JavaScript.
- **Cross-Browser & Device Testing:** Ensured consistent performance across different browsers and devices through **manual testing** and compatibility checks.
- **Security Measures:** Implemented **input validation**, secured API calls with **HTTPS**, and followed best security practices to prevent vulnerabilities.
- **User Acceptance Testing (UAT):** Simulated real-world usage, gathered feedback, and refined the UI/UX based on usability testing.

Issues

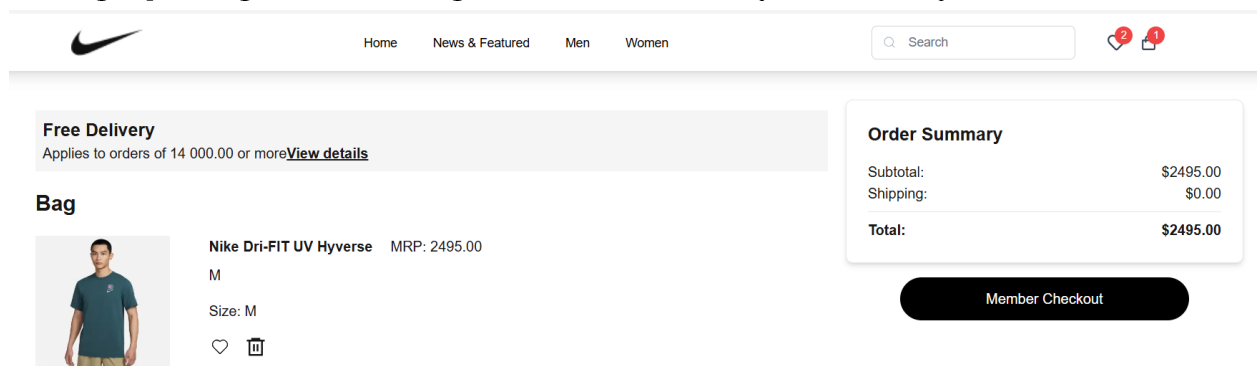
1. Product Listings – test case 01: (no issue)

Ensured accurate product display with consistent data integrity across all use cases.



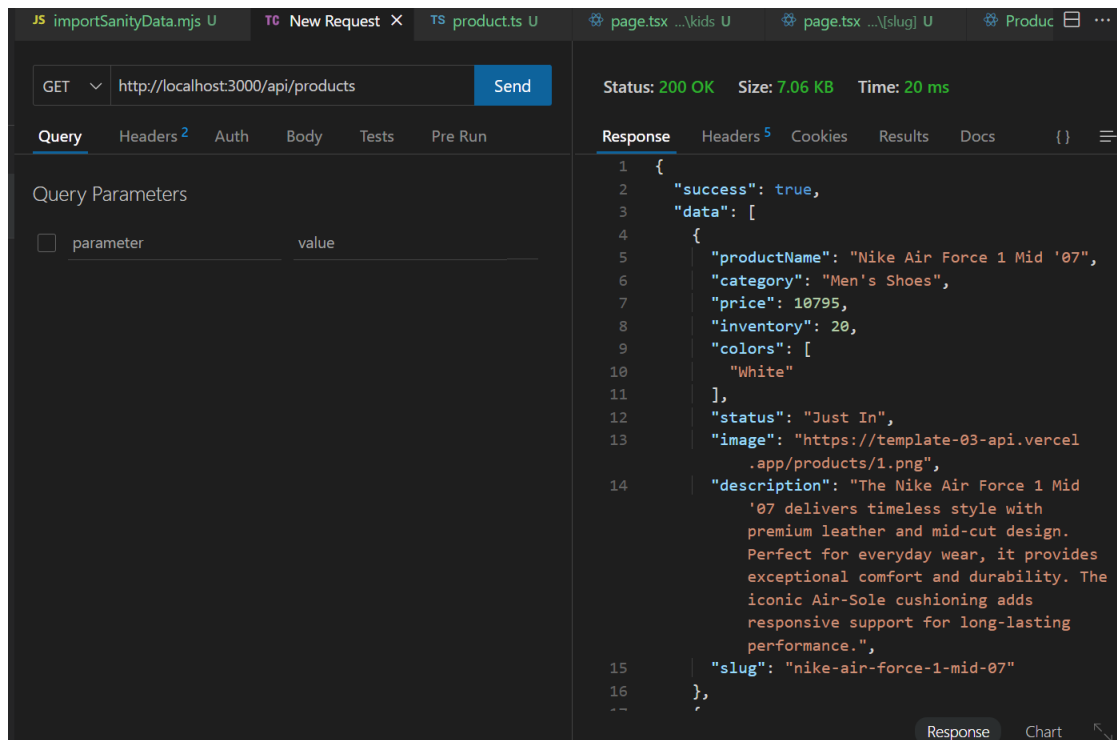
2. Add to Cart – test case 02: (no issue)

Adding, updating, and removing items work smoothly without any issues.



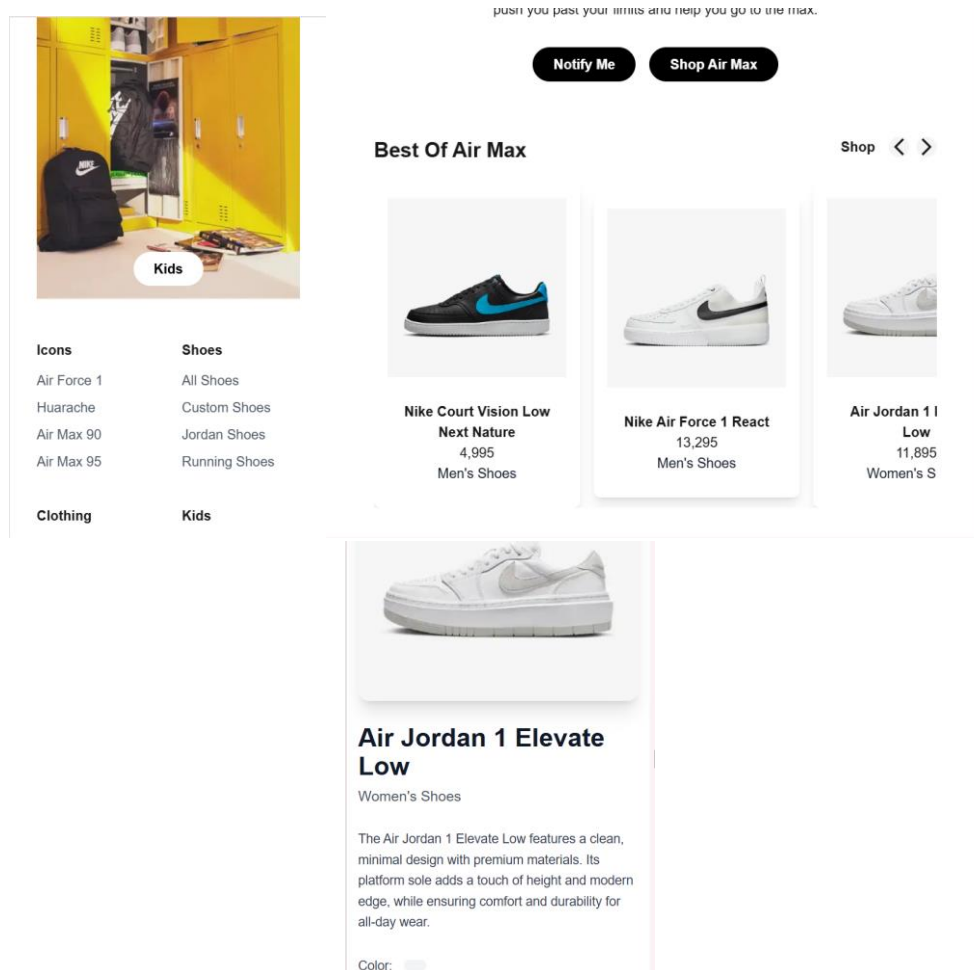
3. API testing – test case 03: (no issue)

Tested API response using ThunderClient.



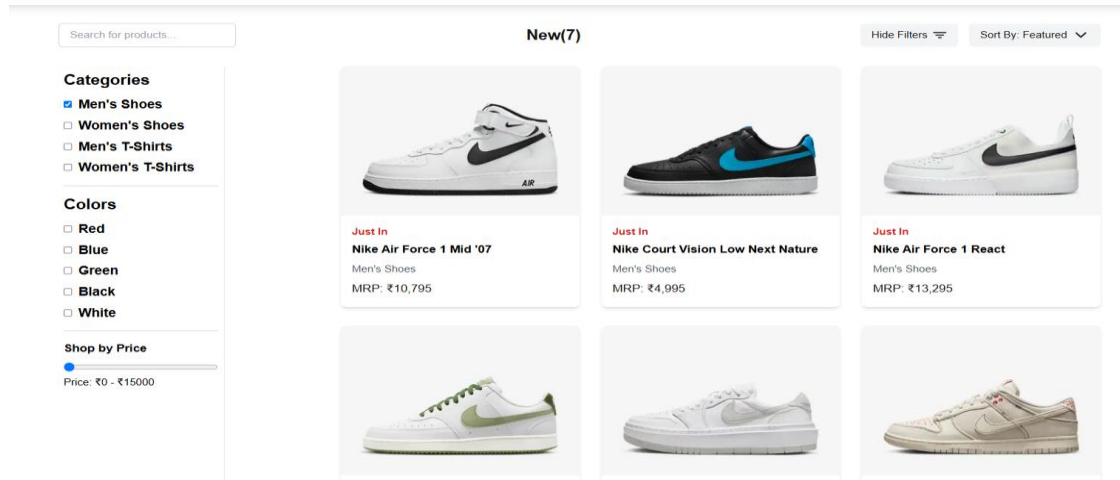
4. Responsiveness – test case 04: (no issue)

All components are responsive for all devices.



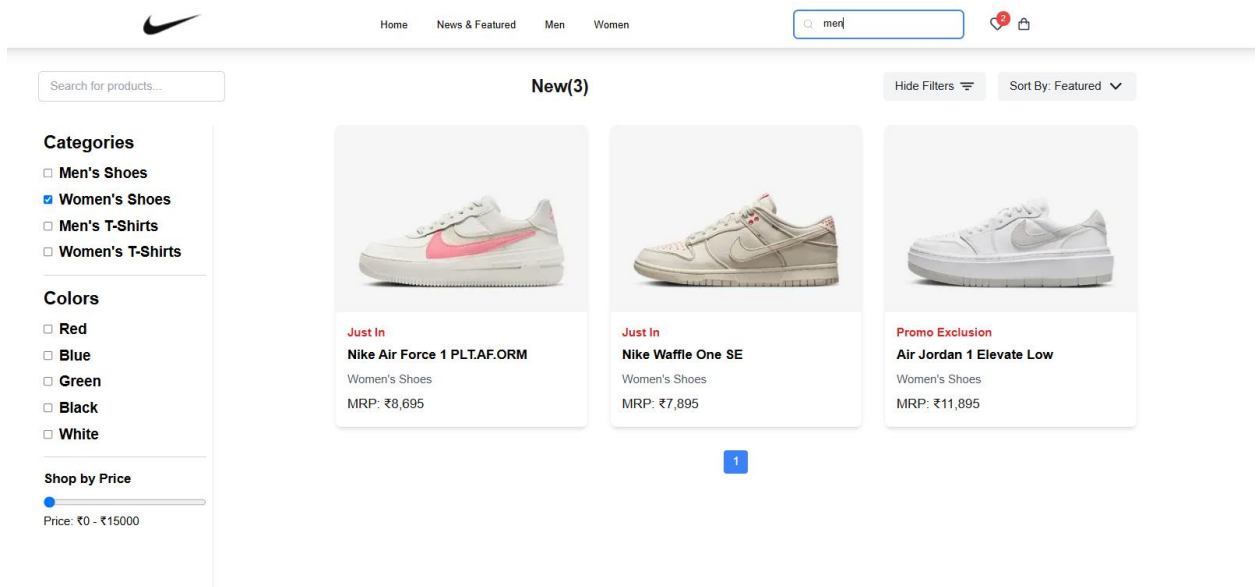
5. Filter and Search – test case 05: (facing issue in search products)

Filters: Products are correctly filtered based on category names.




Search Issue: Incorrect results due to improper query handling.

Resolution: Refined query logic and tested edge cases to ensure accurate filtering and search results.



6. Dynamic routing – test case 06: (no issue)

Dynamic routes load correctly without errors or missing parameters.



Nike Dri-FIT UV Hyverse

Men's Short-Sleeve Graphic Fitness Top


The Nike Dri-FIT UV Hyverse graphic top offers comfort and UV protection in style. Made from soft, breathable fabric, this fitness top keeps you cool and dry during workouts or casual outings.


Color:

₹2,495

Size

Select Size

 Add to Cart

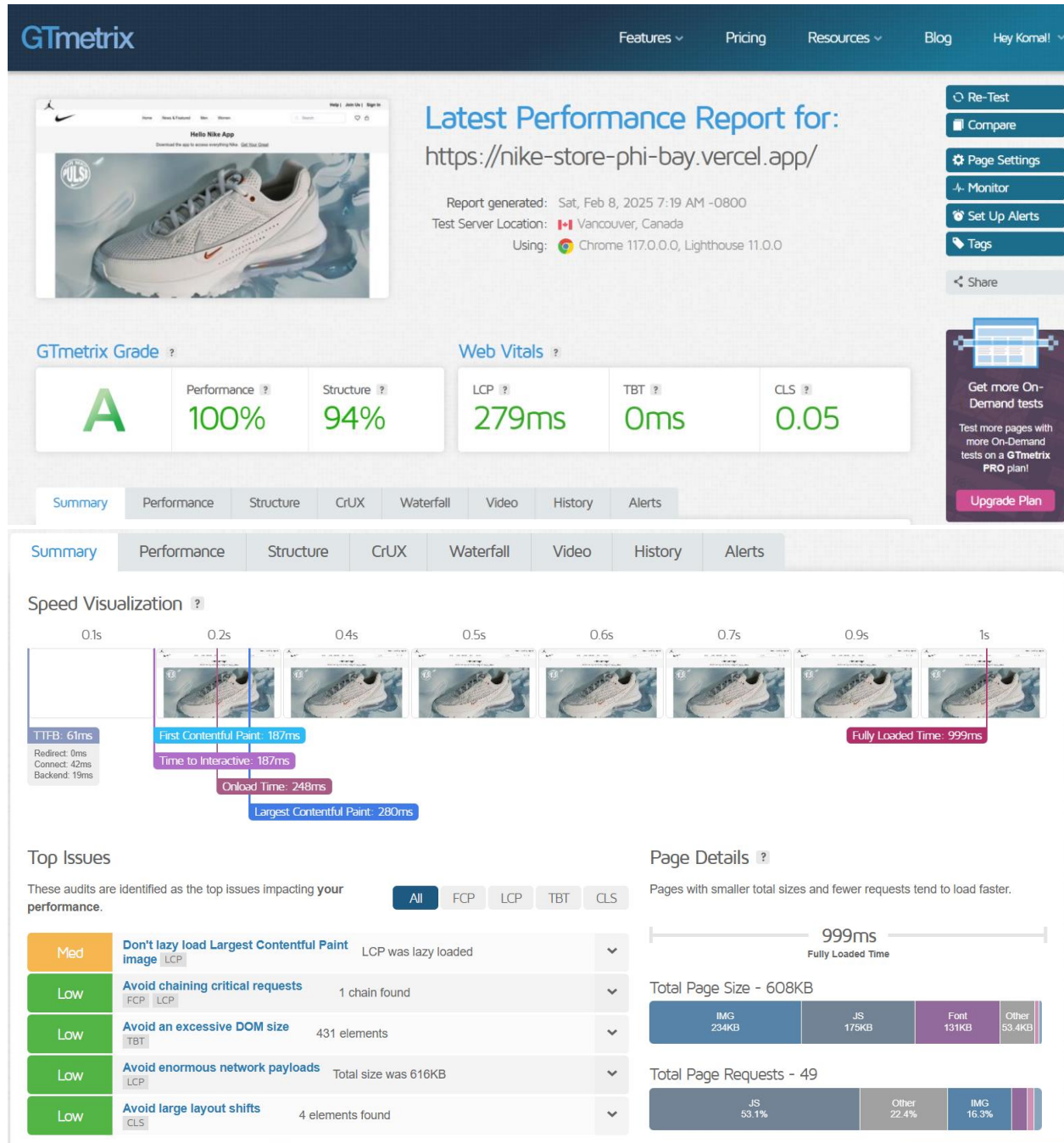
 Add to Wishlist

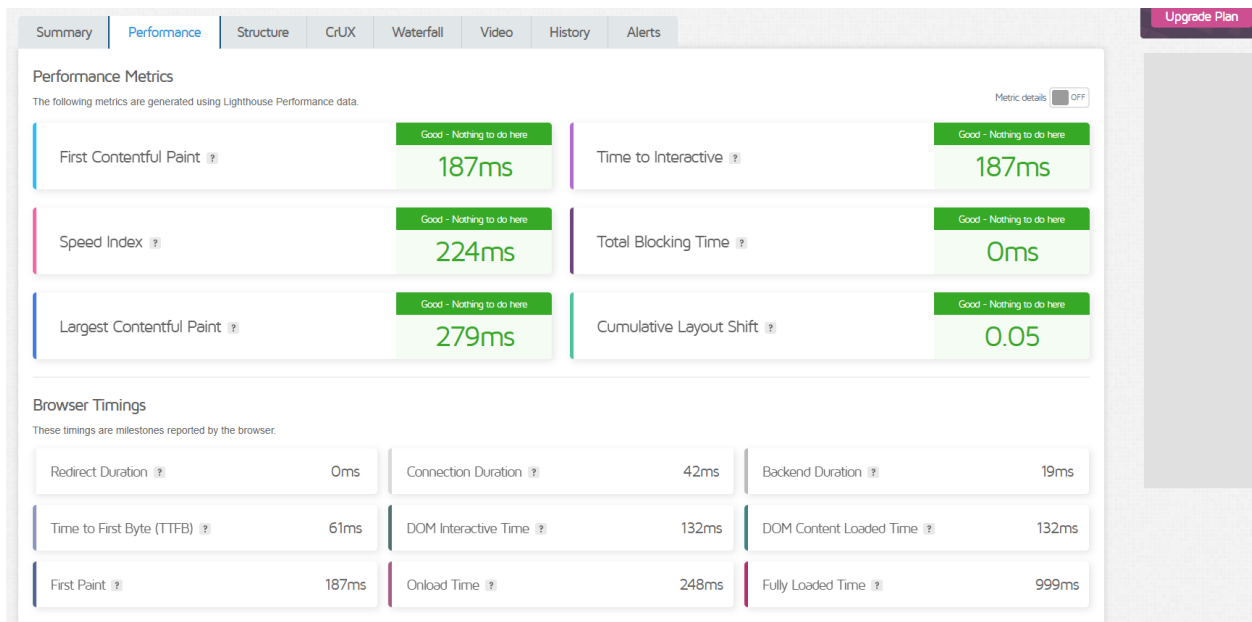
Testing Report

Test Case ID	Test Case Description	Test Steps	Expected Result	Actual Result	Status	Severity Level	Remarks
TC001	Validate Product Listing	Open product page	Products displayed correctly	Products displayed correctly	Passed	Low	No issue
TC002	Test Add to Cart	Add, update, and remove items in cart	Cart updates correctly	Cart updates correctly	Passed	Medium	No issue
TC003	API Testing	Test API response using ThunderClient	API responds correctly	API responds correctly	Passed	Medium	No issue
TC004	Ensure Responsiveness	Resize browser window, test components	Layout adjusts properly for all devices	Responsive layout working as intended	Passed	Medium	No issue
TC005	Validate Filter and Search	Apply filters, perform a search query	Accurate filtering and search results	Filters work correctly, search had query issues	Passed	High	Issue in search, query refined
TC006	Verify Dynamic Routing	Load dynamic product routes	Routes load correctly with all parameters	Routes load correctly with all parameters	Passed	Medium	No issue

Performance Testing Report

(using GTmetrix)





Summary

Performance

Structure

CrUX

Waterfall

Video

History

Alerts

IMPACT

AUDIT

Med

Don't lazy load Largest Contentful Paint image LCP

LCP was lazy loaded

Low

Avoid chaining critical requests FCP LCP

1 chain found

Low

Avoid an excessive DOM size TBT

431 elements

Low

Avoid enormous network payloads LCP

Total size was 616KB

Low

Avoid large layout shifts CLS

4 elements found

Low

Properly size images

Potential savings of 44.1KB

Low

Reduce JavaScript execution time TBT

114ms spent executing JavaScript

Low

Reduce unused JavaScript LCP

Potential savings of 21.3KB

N/A

Reduce the impact of third-party code TBT

Total size was 6.56KB

N/A

Minimize main-thread work TBT

Main-thread busy for 353ms

N/A

Largest Contentful Paint element LCP

280 ms

N/A

Reduce initial server response time FCP LCP

Root document took 11ms

N/A

Avoid serving legacy JavaScript to modern browsers TBT

N/A

User Timing marks and measures

N/A

Eliminate render-blocking resources FCP LCP

Show Audits Relevant to

All

FCP

LCP

TBT

CLS

What do these audits mean?

These audits are best practices established by Google to help build websites for optimal front-end performance.

Each audit is assessed based on your adherence to them and ordered by the most likely impact to your page's performance.

Note that Structure audits do not directly affect your Performance score, however addressing them can serve as good starting point to improve page load times overall. Additionally, some of the audits are correlated and thus, fixing one audit may affect others.

[Learn about all the audits](#)

Need optimization help?

We've written various guides and articles to help you improve your page performance:

[How to Guides](#)

[Optimization Explained](#)

Need Assistance?

We can recommend partners to further assist you with optimizing your site. [Contact us](#) and we'll point you in the right direction.

Need expert help?

f

Find a developer with our

Show No Impact Audits

Metric	Value
GTmetrix Grade	A (100%)

Metric	Value
Performance Score	100%
Structure Score	94%
Largest Contentful Paint (LCP)	279ms
Total Blocking Time (TBT)	0ms
Cumulative Layout Shift (CLS)	0.05
Fully Loaded Time	999ms
Total Page Size	608KB
Total Page Requests	49
First Contentful Paint (FCP)	187ms
Time to Interactive	187ms
Speed Index	224ms
Onload Time	248ms