

Day 5 - Testing and Backend Refinement – Elite Market

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Elite Market Lighthouse Performance Report

Overview of Lighthouse Results

The Lighthouse audit for the Elite Market website has produced the following results:

Metric	Score
Performance	71
Accessibility	88
Best Practices	93
SEO	100
First Contentful Paint (FCP)	+10ms
Largest Contentful Paint (LCP)	+25ms
Total Blocking Time (TBT)	+1ms
Cumulative Layout Shift (CLS)	+25ms
Speed Index (SI)	+10ms

The results indicate that the website performs well in accessibility, best practices, and SEO, but there is room for improvement in performance.

1. Performance (Score: 71)

- Performance was affected by image load times.

- Metrics such as FCP, LCP, and CLS contributed to the lower performance score.

2. Accessibility (Score: 88)

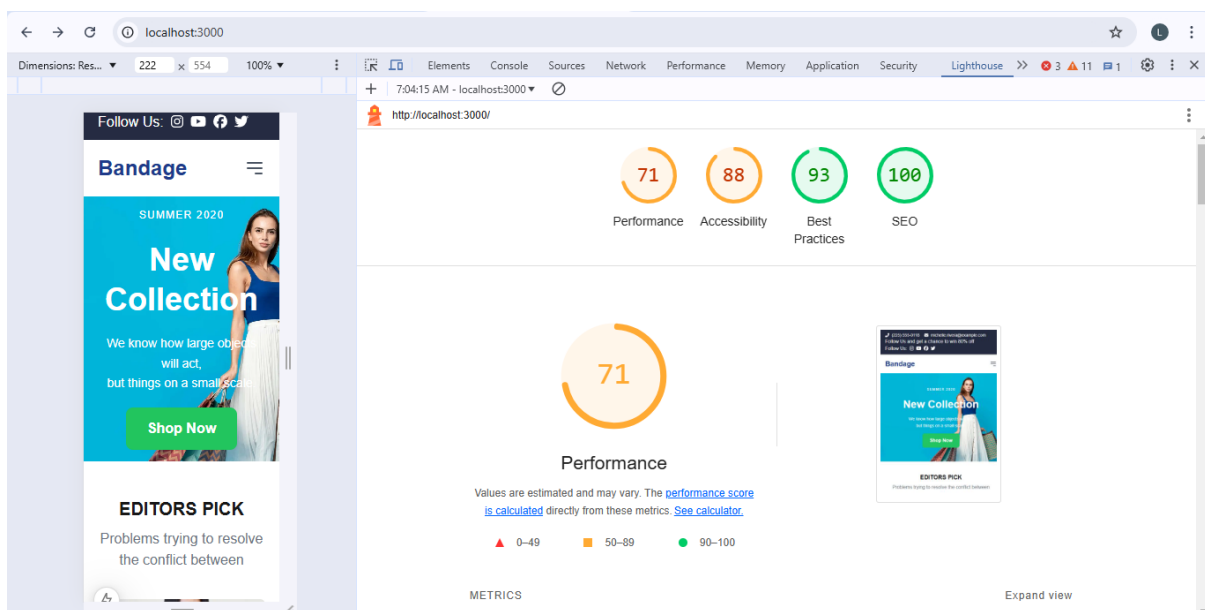
- The website adheres to most accessibility guidelines.
- Minor improvements can further enhance this score.

3. Best Practices (Score: 93)

- The website follows recommended coding standards and security protocols.
- Opportunities for small refinements exist but do not impact functionality.

4. SEO (Score: 100)

- Fully optimized for search engines.
- Keywords, meta tags, and structured data are well-implemented.



Technical Analysis

1. Images Fetching Delay:

- High-resolution images with large file sizes are contributing to slower FCP and LCP metrics.
- Potential solution: Implement image optimization techniques, such as:
 - Lazy loading images.

- Converting images to modern formats (e.g., WebP).
- Using a Content Delivery Network (CDN) to serve images.

2. Cumulative Layout Shift (CLS):

- Minor layout shifts occur during the loading of images and fonts.
- Potential solution: Allocate fixed dimensions to image containers and preload critical web fonts.

3. Total Blocking Time (TBT):

- Minimal delays were observed.
- JavaScript execution time could be further reduced by optimizing critical scripts.

4. Largest Contentful Paint (LCP):

- Affected by the delayed loading of hero images and banners.
 - Potential solution: Prioritize loading of above-the-fold content.
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Recommendations

1. Image Optimization:

- Use tools like ImageMagick or online services to compress images.
- Implement responsive images with 'srcset' and 'sizes' attributes.

2. Font Loading:

- Use 'font-display: swap;' for faster rendering.
- Preload essential fonts to reduce delays.

3. JavaScript and CSS Optimization:

- Minify and bundle scripts.
- Remove unused CSS with tools like PurifyCSS or TailwindCSS's JIT mode.

4. Lazy Loading:

- Implement lazy loading for images and iframes to reduce initial load time.

5. Monitoring and Continuous Improvements:

- Use real-user monitoring tools like Google Analytics to track user experiences.
 - Regularly perform Lighthouse audits to measure ongoing performance.
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Conclusion

While the Elite Market website is functioning properly with no errors and APIs operating seamlessly, performance can be further optimized by addressing image loading delays and minor layout shifts. By implementing the recommendations outlined above, the website's performance score is expected to improve significantly, enhancing user experience and engagement.

Acknowledgment

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