Day 5 - Testing, Error Handling, and Backend Integration Refinement

For Day 5 of the assignment, I focused on refining the backend integration, implementing robust error handling mechanisms, and conducting thorough testing of the application to ensure optimal performance. Below is a detailed summary of the work performed:

1. Testing the Application

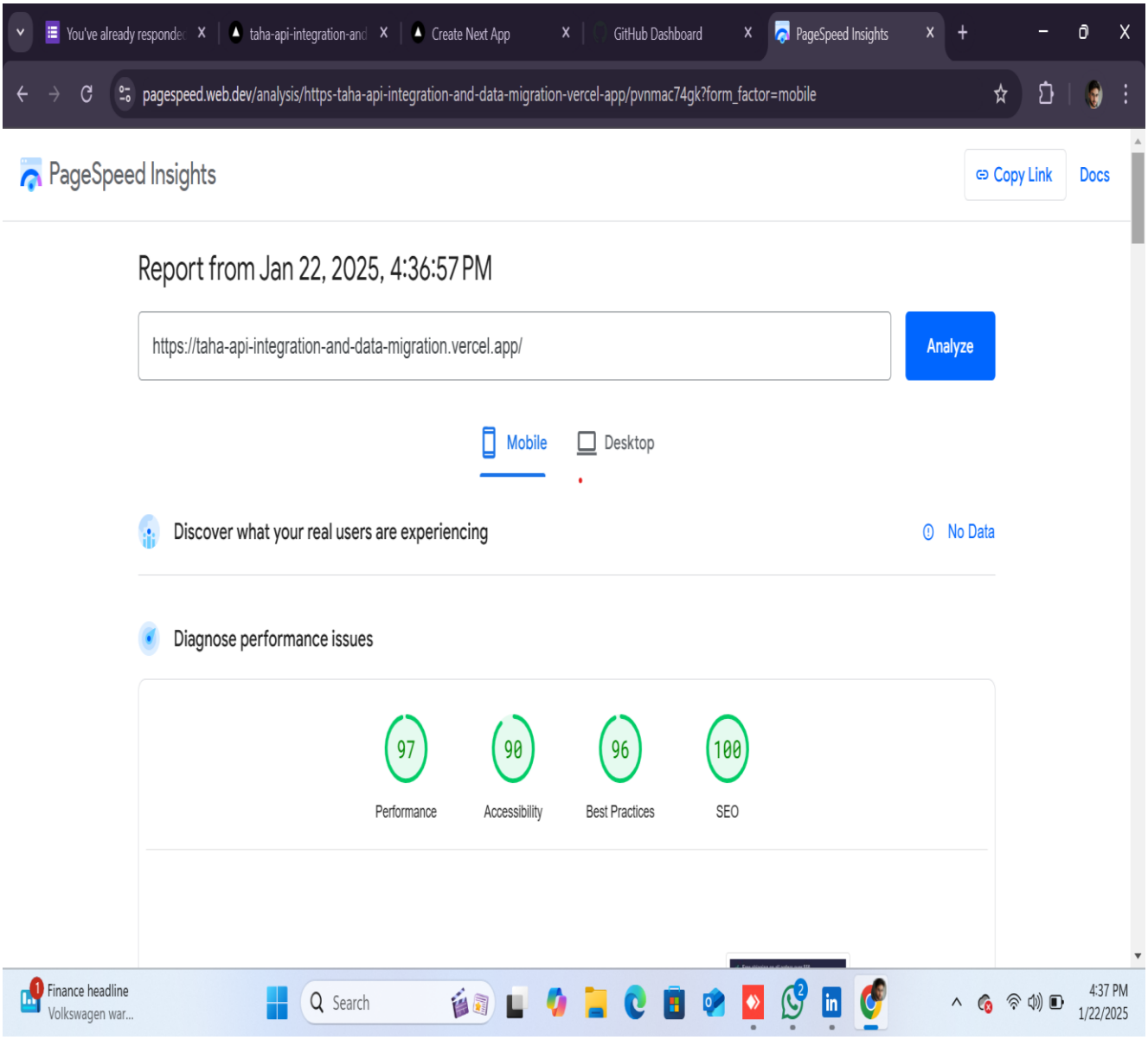
- To evaluate the performance and ensure a smooth user experience, I tested the application using two tools

a. PageSpeed Insights

- I used Google's PageSpeed Insights to measure the performance of the application on mobile and desktop platforms.
- The scores obtained:
    - **Performance:** 97
    - **Accessibility:** 90
    - **Best Practices:** 96

- **SEO:** 100

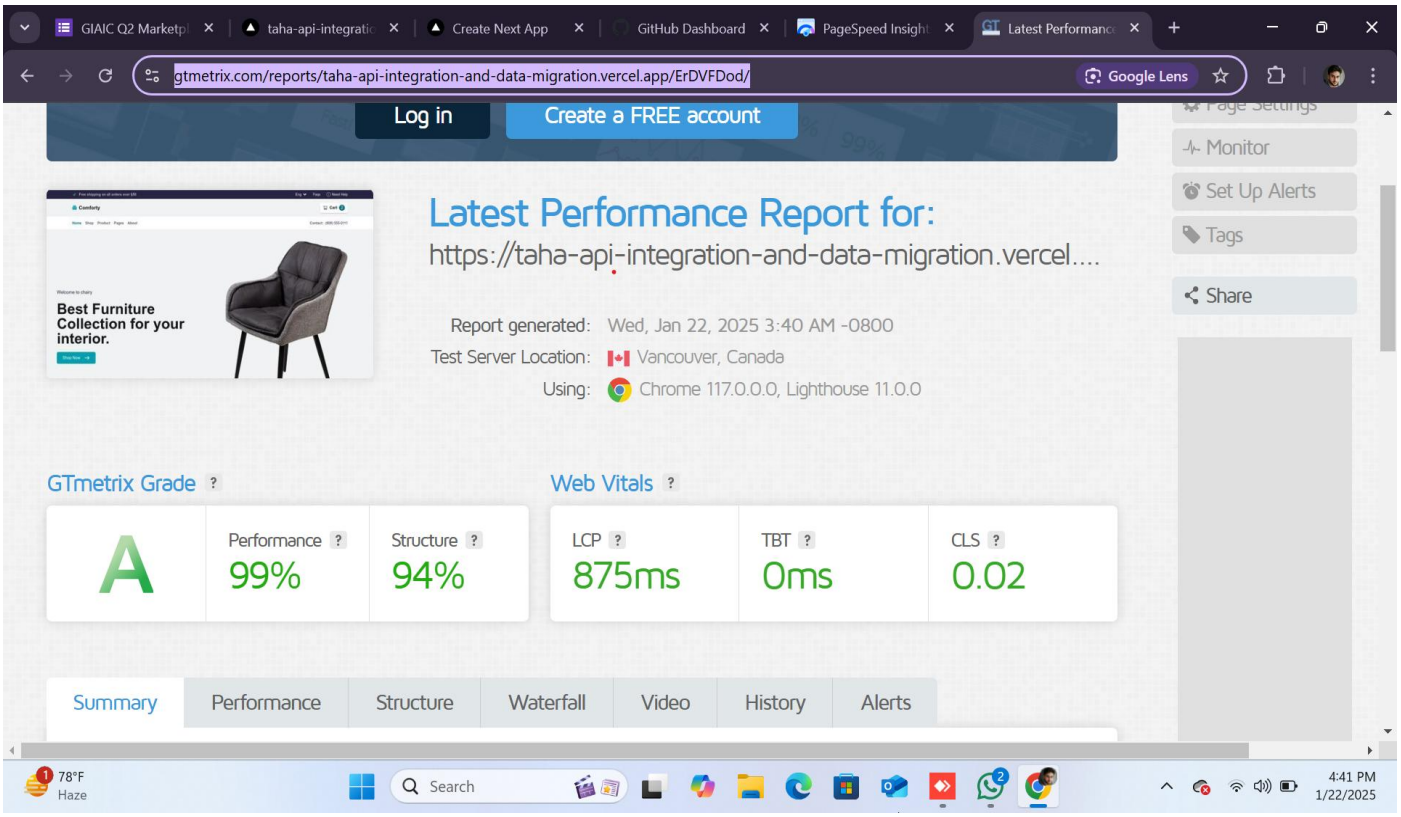
- This indicates that the website is well-optimized for speed, adheres to best practices, and provides a good user experience.



b. GTmetrix

- GTmetrix was used for a detailed performance analysis.
- Key metrics:
    - **Performance Grade:** A (99%)
    - **Structure:** 94%
    - **Largest Contentful Paint (LCP):** 875ms
    - **Total Blocking Time (TBT):** 0ms
    - **Cumulative Layout Shift (CLS):** 0.02

These results highlight that the application loads quickly, maintains a stable layout, and avoids delays that could hinder the user experience



2. Error Handling Improvements

- Implemented error handling mechanisms to manage API failures gracefully.
- Ensured that appropriate error messages are displayed to users in case of network issues or backend errors.

3. Backend Integration Refinement

- Optimized API calls to ensure efficient data fetching.
- Validated data responses from the backend to avoid any inconsistencies.
- Streamlined the integration process to improve the overall reliability of the application.