DEPLOYMENT PREPARATION AND STAGING ENVIRONMENT SETUP

Introduction:

❖ Objective:

The objective of Day 6 is to prepare the marketplace application for deployment by setting up a staging environment, configuring hosting platforms, and ensuring the application is ready for a customer-facing application. This involves deploying the application to a production-like environment, testing it thoroughly, and documenting the results

❖Key Learning Outcomes:

- **Staging Environment Setup:** A staging environment is a replica of the production environment where the application is tested before going live.
- **Environment Variables:** Securely configure sensitive data like API keys and database credentials using `.env` files and hosting platform settings.
- **Testing:** Conduct functional, performance, and security testing to ensure the application works as expected in a production-like environment.
- **Documentation:** Update the project documentation, including test case reports, performance reports, and a `README.md` file summarizing the project.

Staging Environment Deployment:

- The marketplace application has been successfully deployed to a staging environment using **Vercel**. Below is the deployment link:

Vercel Deployment Link: https://car-rental-ecommerce-marketplace-hackathon.vercel.app/

Testing and Validation:

Below are the screenshots of the testing process conducted in the staging environment: ○

Testing Link GTmetrix:

https://gtmetrix.com/reports/car-rental-ecommerce-marketplace-hackathon.vercel.app/srnb07Rp/

- **Testing Link Lighthouse:**

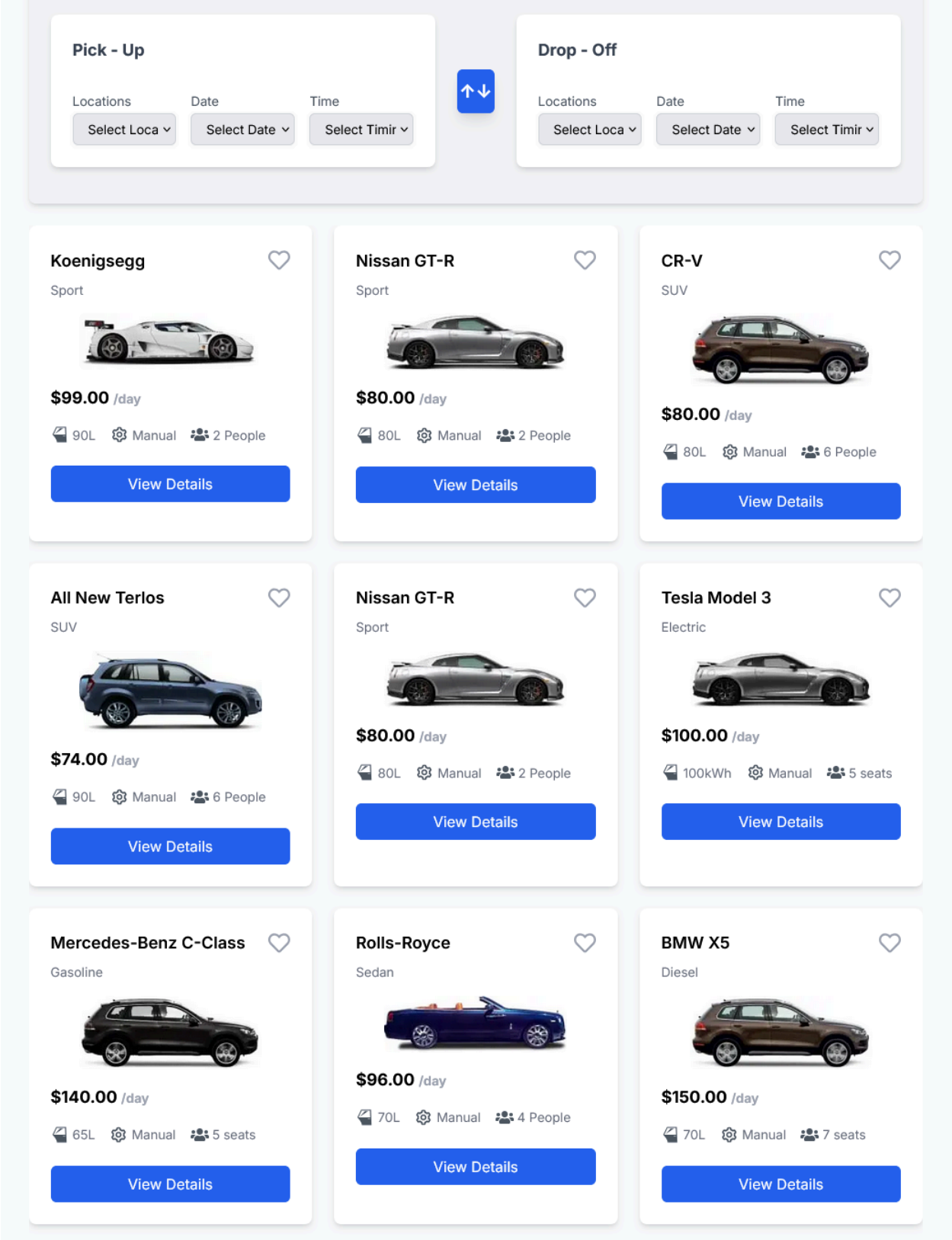
https://lighthouse-metrics.com/lighthouse/checks/ac225c31-b380-4d5b-856a-d66f8920a40e

- **Testing Link Pagespeed:**

https://pagespeed.web.dev/analysis/https-car-rental-ecommerce-marketplace-hackathon-vercel-app/lpo5h52xqk?form_factor=desktop

1. Functional Testing:

- **Product Listing:** Verified that all products are displayed correctly.
- **API Interactions:** Validated API responses and error handling.

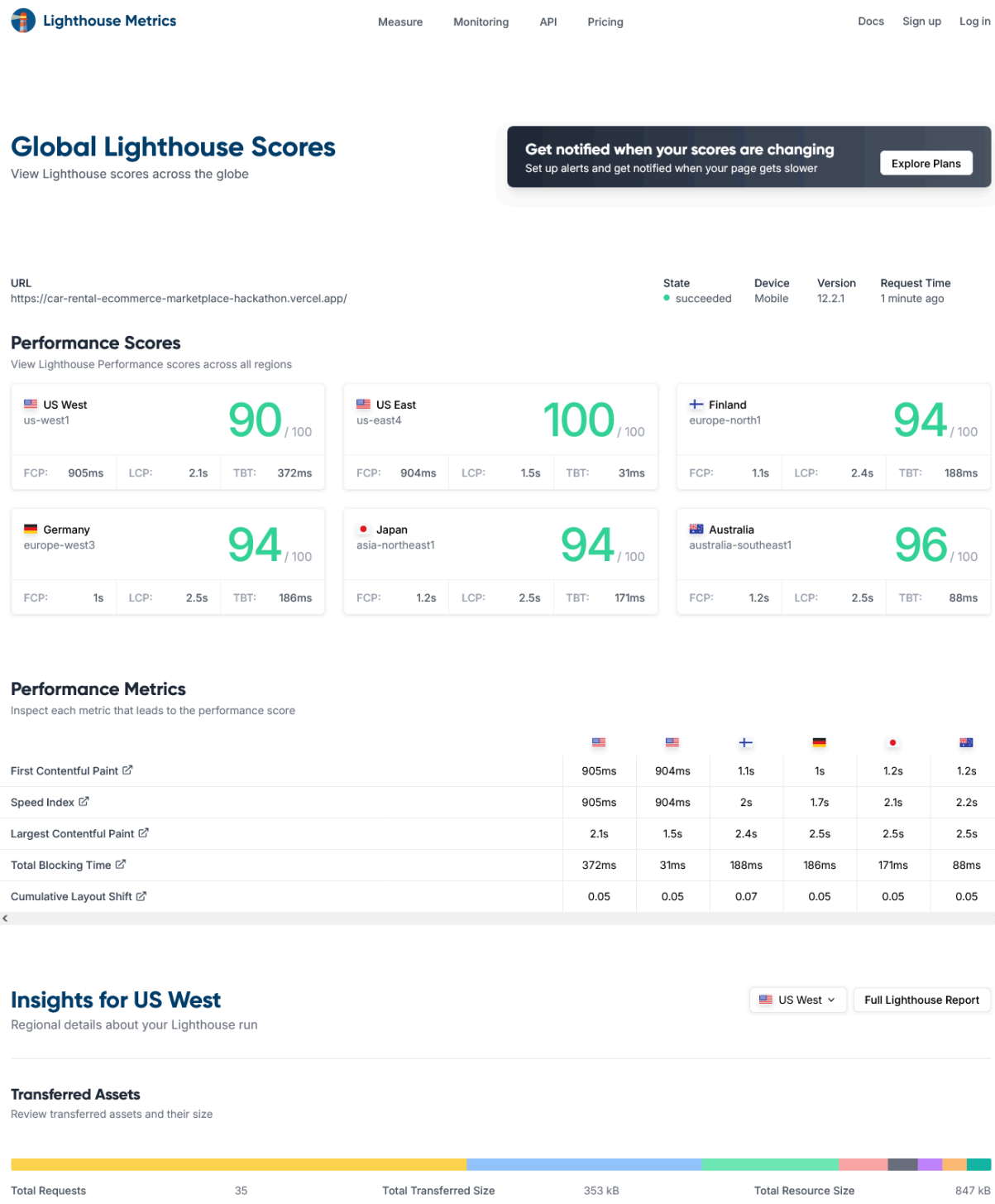


2. Performance Testing:

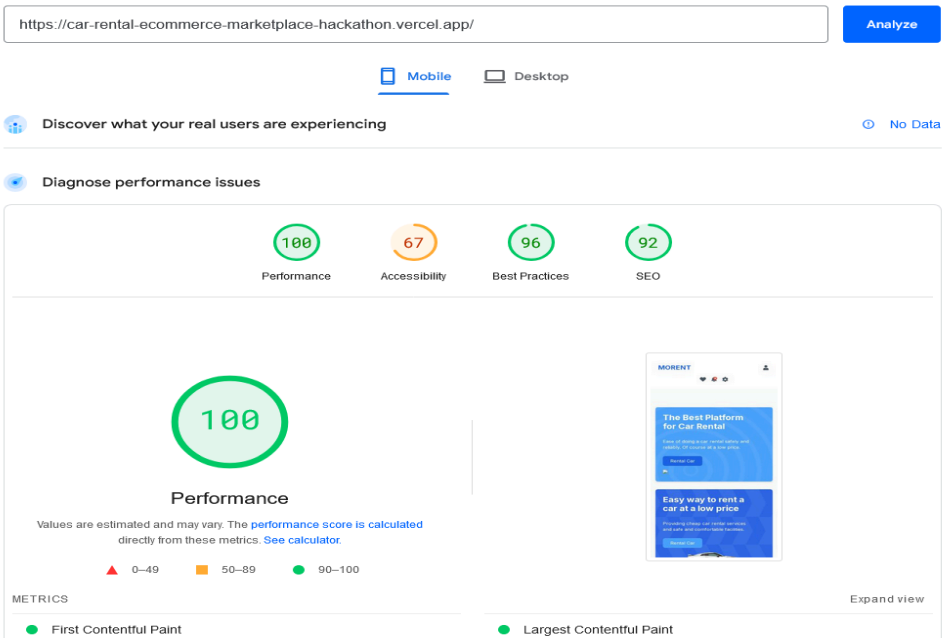
- Used **Lighthouse,GT metrics** to analyze the application's performance, including load times, speed, and responsiveness.

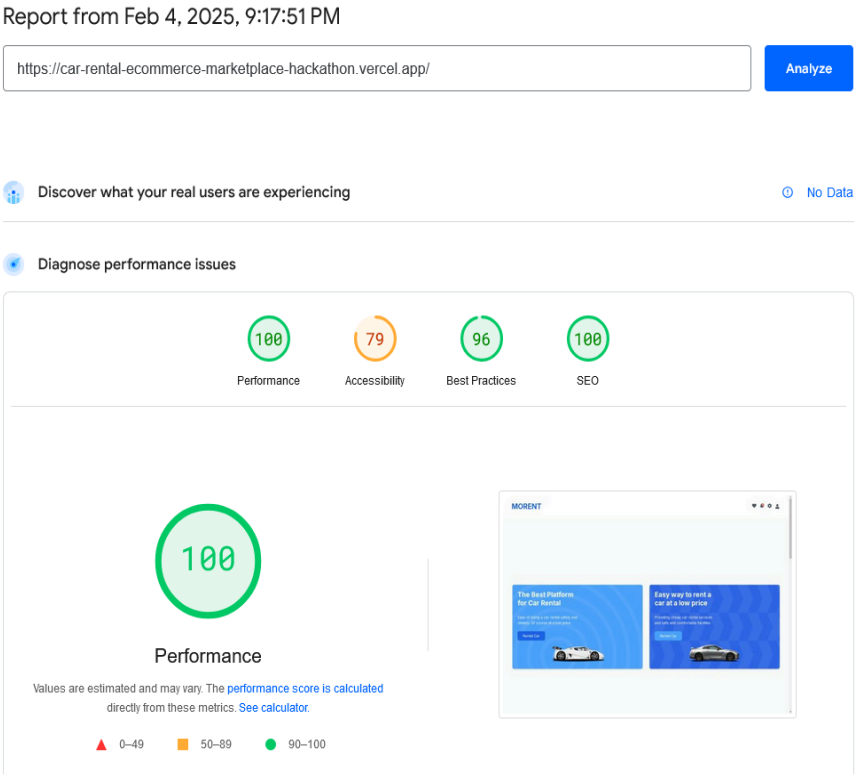
GT metrics

Lighthouse:


Lighthouse Metrics
Measure
Monitoring
API
Pricing
Docs
Sign up
Log in
Global Lighthouse Scores
View Lighthouse scores across the globe
Get notified when your scores are changing
Set up alerts and get notified when your page gets slower
Explore Plans
URL
https://car-rental-ecommerce-marketplace-hackathon.vercel.app/
State
succeeded
Device
Mobile
Version
12.2.1
Request Time
1 minute ago
Performance Scores
View Lighthouse Performance scores across all regions
US West
us-west1
90 / 100
FCP: 905ms
LCP: 2.1s
TBT: 372ms
US East
us-east4
100 / 100
FCP: 904ms
LCP: 1.5s
TBT: 31ms
Finland
europe-north1
94 / 100
FCP: 1.1s
LCP: 2.4s
TBT: 188ms
Germany
europe-west3
94 / 100
FCP: 1s
LCP: 2.5s
TBT: 186ms
Japan
asia-northeast1
94 / 100
FCP: 1.2s
LCP: 2.5s
TBT: 171ms
Australia
australia-southeast1
96 / 100
FCP: 1.2s
LCP: 2.5s
TBT: 88ms
Performance Metrics
Inspect each metric that leads to the performance score
First Contentful Paint 905ms 904ms 1.1s 1s 1.2s 1.2s
Speed Index 905ms 904ms 2s 1.7s 2.1s 2.2s
Largest Contentful Paint 2.1s 1.5s 2.4s 2.5s 2.5s 2.5s
Total Blocking Time 372ms 31ms 188ms 186ms 171ms 88ms
Cumulative Layout Shift 0.05 0.05 0.07 0.05 0.05 0.05
Insights for US West
Regional details about your Lighthouse run
US West
Full Lighthouse Report
Transferred Assets
Review transferred assets and their size
Total Requests 35
Total Transferred Size 353 kB
Total Resource Size 847 kB

PageSpeed Insights





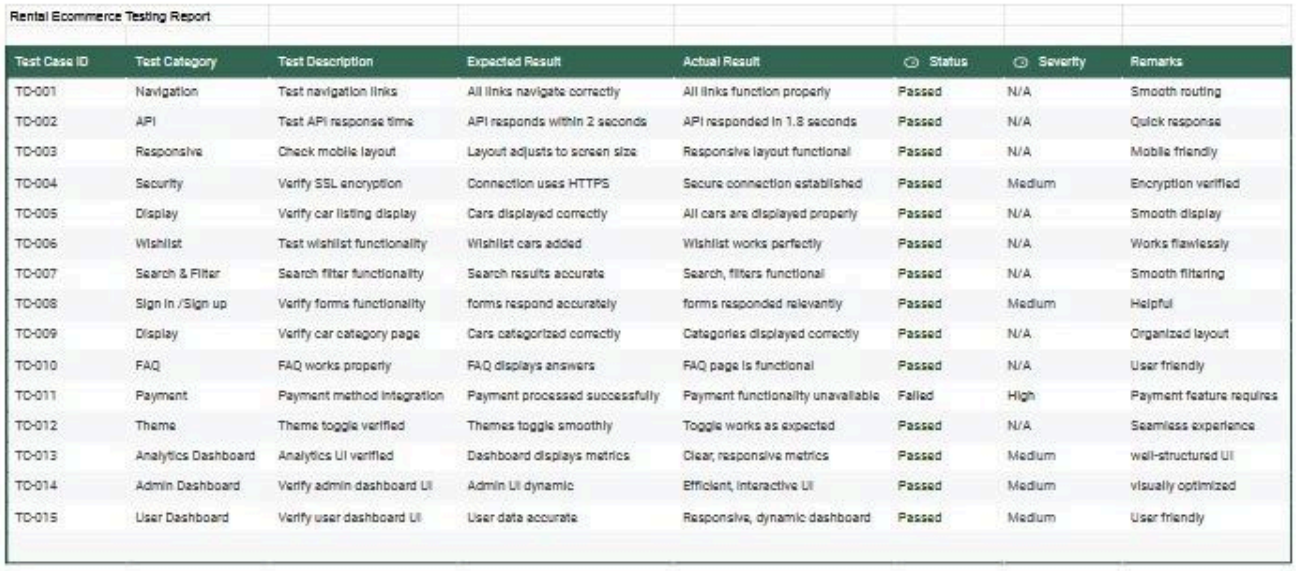
- Achieved a **100%** Performance in **GTmetrice**
- Achieved a **100%** Performance in **Lighthouse.**
- Achieved a **100%** Performance in **Pagespeed.**

3. Test Case Report:

- All **test cases** were documented in a **CSV file** with the following fields:

Test Cases Link:

Day5-Testing_and_Backend_Refinement-Rental_Ecommerce.xlsx



Rental Ecommerce Testing Report

Test Case ID	Test Category	Test Description	Expected Result	Actual Result	Status	Severity	Remarks
TC-001	Navigation	Test navigation links	All links navigate correctly	All links function properly	Passed	N/A	Smooth routing
TC-002	API	Test API response time	API responds within 2 seconds	API responded in 1.8 seconds	Passed	N/A	Quick response
TC-003	Responsive	Check mobile layout	Layout adjusts to screen size	Responsive layout functional	Passed	N/A	Mobile friendly
TC-004	Security	Verify SSL encryption	Connection uses HTTPS	Secure connection established	Passed	Medium	Encryption verified
TC-005	Display	Verify car listing display	Cars displayed correctly	All cars are displayed properly	Passed	N/A	Smooth display
TC-006	Wishlist	Test wishlist functionality	Wishlist cars added	Wishlist works perfectly	Passed	N/A	Works flawlessly
TC-007	Search & Filter	Search filter functionality	Search results accurate	Search, filters functional	Passed	N/A	Smooth filtering
TC-008	Sign in /Sign up	Verify forms functionality	forms respond accurately	forms responded relevantly	Passed	Medium	Helpful
TC-009	Display	Verify car category page	Cars categorized correctly	Categories displayed correctly	Passed	N/A	Organized layout
TC-010	FAQ	FAQ works properly	FAQ displays answers	FAQ page is functional	Passed	N/A	User friendly
TC-011	Payment	Payment method integration	Payment processed successfully	Payment functionality unavailable	Failed	High	Payment feature requires
TC-012	Theme	Theme toggle verified	Themes toggle smoothly	Toggle works as expected	Passed	N/A	Seamless experience
TC-013	Analytics Dashboard	Analytics UI verified	Dashboard displays metrics	Clear, responsive metrics	Passed	Medium	well-structured UI
TC-014	Admin Dashboard	Verify admin dashboard UI	Admin UI dynamic	Efficient, interactive UI	Passed	Medium	visually optimized
TC-015	User Dashboard	Verify user dashboard UI	User data accurate	Responsive, dynamic dashboard	Passed	Medium	User friendly

Conclusion:

The Day6 was focused on preparing the marketplace for deployment by setting up a staging environment, conducting thorough testing, and documenting the results. The website has been successfully deployed to Vercel, and all test cases have been validated.

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