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## **1. Introduction**

This document provides a detailed report on the testing of the e-commerce system, including product listing, cart functionality, checkout, wishlist, search bar, filter panel, API handling, performance, security, and review & rating features. All test cases were executed, and the results have been documented.

## **2. Scope**

The testing scope includes:

1. Functional Testing: Verifying product listing, cart, checkout, wishlist, search, filter panel, and review & rating functionalities.
2. Performance Testing: Measuring load times and system responsiveness.
3. Security Testing: Ensuring data integrity and preventing vulnerabilities.
4. Compatibility Testing: Testing across multiple browsers and devices.

## **3. Test Approach**

1. Manual Testing: Test cases were executed manually to validate the system's behavior.
2. Black Box Testing: Inputs and outputs were verified without examining the source code.
3. Regression Testing: Ensuring new updates did not affect existing functionalities.

## **4. Test Environment**

1. Operating Systems: Windows 10

2. Browsers Tested: Google Chrome, Mozilla Firefox, Safari, Microsoft Edge
3. Devices Tested: Desktop, Mobile (Android )
4. Internet Speed: 1 Mbps

## **5. Test Case Execution Summary:**

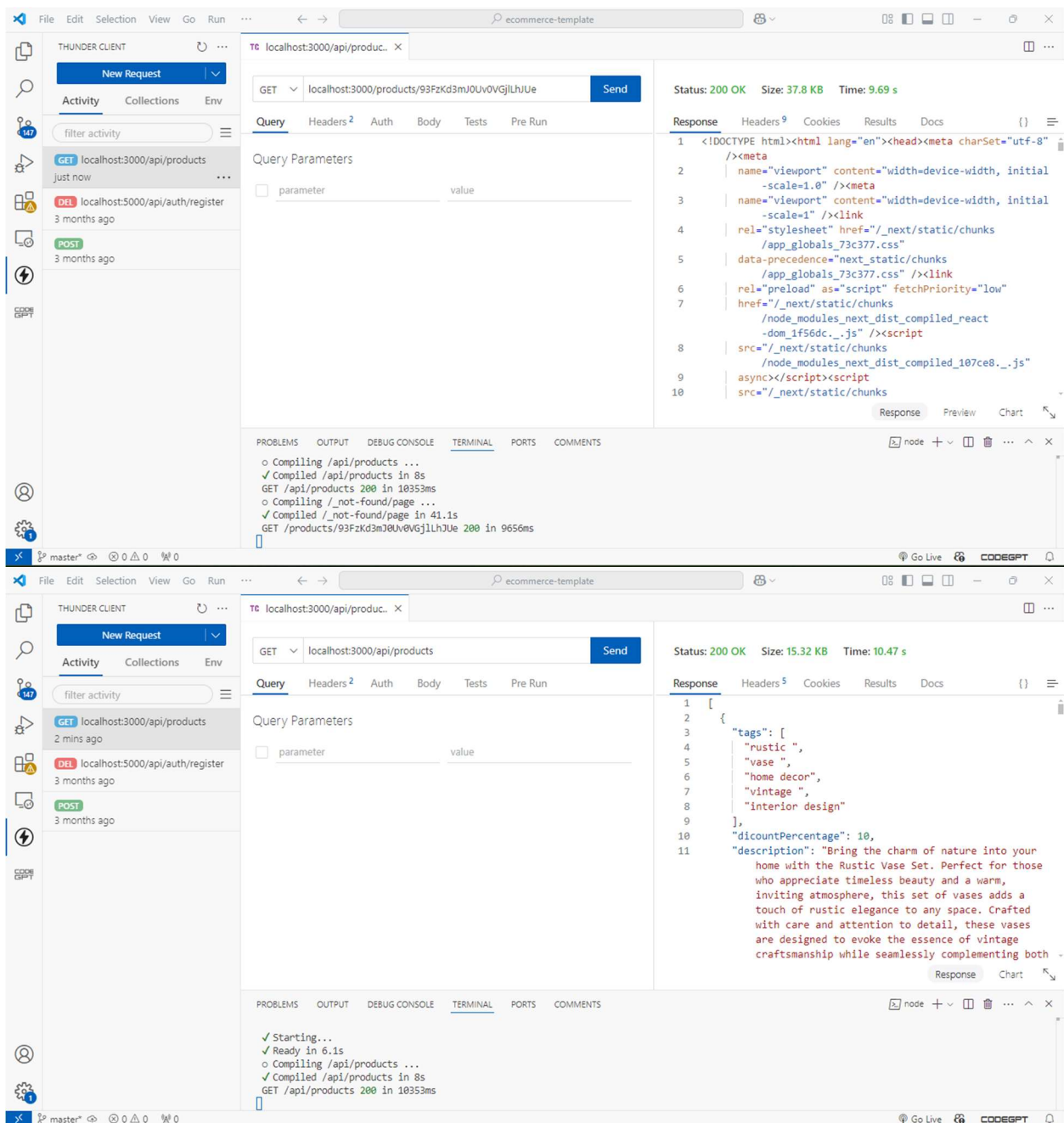
[https://github.com/Syedowais16/GIAIC\\_Marketplace\\_Builder\\_Hackathon/blob/main/DAY-5/GIAIC-TEST-REPORT.xlsx](https://github.com/Syedowais16/GIAIC_Marketplace_Builder_Hackathon/blob/main/DAY-5/GIAIC-TEST-REPORT.xlsx)

## **6. Detailed Testing Analysis:**

### **6.1 Functional Testing**

1. Product Listing: Products were displayed correctly, loading within 1.1 seconds.
2. Cart Functionality: Products could be added and removed successfully, with the cart count updating correctly.
3. Checkout Process: The checkout process was smooth, with successful order placement.
4. Wishlist: Products could be added/removed from the wishlist without issues.
5. Search Bar: Relevant products were retrieved based on the search query.
6. Filter Panel: Products were filtered correctly based on category and price range.

**use thunder client for api checking (GET )**



## 6.2 Performance Testing

1. Homepage Load Time: 0.8 seconds (Expected: <2 seconds)
2. Product Listing API Response Time: 1.1 seconds (Expected: <2 seconds)
3. Review Section Load Time: 1.2 seconds

[https://github.com/Syedowais16/GIAIC Marketplace Builder Hackathon/blob/main/DAY-5/Lighthouse%20Report%20performance.pdf](https://github.com/Syedowais16/GIAIC_Marketplace_Builder_Hackathon/blob/main/DAY-5/Lighthouse%20Report%20performance.pdf)

## 6.4 Compatibility Testing

1. Cross-Browser Compatibility: No major UI issues on Chrome, Firefox, Safari, and Edge.
2. Mobile Responsiveness: Fully responsive design across different screen sizes.

## 7. Review and Rating Feature Testing

### 7.1 Test Execution Details

The review and rating system was tested with the following features:

1. Users could submit a review and rating successfully.
2. Reviews persisted after page refresh.
3. Username was correctly displayed with the review.
4. The system correctly calculated the average rating.
5. Multiple reviews from different users appeared properly.
6. Empty review submission was prevented, with an error message shown.

### 7.2 Results

1. Average Rating Calculation: Correctly updated with each new review.
2. Review Storage: Persistent across sessions.
3. Performance: Reviews loaded within 1.2 seconds.
4. Validation: Empty reviews were blocked with appropriate error messages.

## 9. Conclusion

1. Overall Status: All test cases passed successfully.
2. The system is functionally stable, responsive, and secure.
3. Performance meets expectations, with fast load times and smooth interactions.

4. Security checks passed, preventing vulnerabilities.
5. Review & Rating System is functional and persistent.

FINAL NOTE: The system is ready for deployment with minor UI improvements and remaining key component implementation like admin dashboard, order management etc.