

# Regression Testing Plan for Amazon Shopping

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## Overall Test Strategy:

For a major release involving refactor at both data and UI layers, a **Risk-Based Regression Testing** approach will be adopted. The primary focus is on identifying the **core business-critical functionalities** that could be unintentionally affected due to the major codebase and UI changes.

## Main Areas of Focus

1. **User Authentication & Authorization**
  - a. Sign-up, Login, Logout, Password Reset
2. **Search and Navigation**
  - a. Product Search
  - b. Category Navigation
  - c. Filters and Sorting
3. **Product Page Functionality**
  - a. Product detail's view
  - b. Add to Wishlist
  - c. Add to Cart
4. **Cart and Checkout**
  - a. Update quantities
  - b. Remove items
  - c. Checkout workflow (address, payment, confirmation)
5. **Order Management**
  - a. Order History
  - b. Cancel Order
  - c. Track Order
6. **User Account & Settings**
  - a. Profile updates
  - b. Address book
  - c. Payment methods
7. **Performance and Compatibility**
  - a. Cross-browser testing
  - b. Mobile responsiveness
  - c. Page load times

## Recommended Automation Tool: Selenium:

Selenium is one of the most widely used tools for automating web applications and is highly suitable for testing platforms like **Amazon Shopping**. Here's the detailed **justification** for choosing Selenium:

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### Why Selenium for Amazon Regression Testing?

#### 1. Cross-Browser Testing Capability

- Selenium supports **Chrome, Firefox, Safari, Edge**, and others.
- Ensures that Amazon's core functionalities work consistently across browsers used by customers.

#### 2. Open Source & Free

- No licensing cost, making it budget-friendly.
- Large community support provides extensive tutorials, reusable frameworks, and plugins.

#### 3. Real Browser Automation

- Selenium interacts with browsers just like a real user.
- Perfect for end-to-end UI testing of features like **login, product search, cart, and checkout**.

#### 4. Flexible Language Support

- Supports **Java, Python, C#, JavaScript**, etc.
- QA teams can work in their preferred language and integrate Selenium with existing tech stacks.

#### 5. Integration with CI/CD & Test Management Tools

- Easily integrates with **Jenkins, Maven, TestNG, Allure Reports**, and **GitHub Actions**.
- Ideal for Amazon's frequent deployment and release cycles.

#### 6. Supports Data-Driven Testing

- Can be paired with Excel, CSV, or databases for large-scale regression testing.
  - Useful for testing Amazon with multiple user scenarios and product data.
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### Ideal Use Cases for Selenium at Amazon:

- **Regression Testing** after UI or backend updates.
- **Smoke Testing** before a major deployment.
- **Cross-Browser Testing** for wide customer reach.
- **Integration with CI pipelines** for fast feedback.