Automation Exercise

Test Plan

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# Test Plan - Automation Exercise

## 1. Members & Roles

Test Manager: Oversees the entire testing process, defines strategies, and ensures deadlines are met.  
QA Lead: Coordinates between testers and developers, reviews test cases, and ensures best practices.  
Automation Tester: Develops automated test scripts for regression and functional testing.  
Manual Tester: Conducts exploratory testing, usability testing, and writes detailed test reports.  
Performance Tester: Monitors system performance, stress tests, and identifies bottlenecks.

## 2. Scope of Testing

The testing scope includes functional, non-functional, and security testing for the Automation Exercise platform. The following areas will be covered:  
  
- User Registration & Authentication: Validates login, logout, and security features.  
- Product Browsing & Search: Ensures search results are accurate and filters work correctly.  
- Shopping Cart & Checkout: Validates the ability to add/remove products and complete transactions.  
- API Testing: Verifies API request/response integrity and performance.  
- Performance & Load Testing: Evaluates system behavior under high traffic conditions.

## 3. Key Performance Indicators (KPIs)

- Test Case Execution Rate: Percentage of completed test cases vs. planned test cases.  
- Defect Detection Rate: Number of defects found per testing cycle.  
- Test Coverage: Percentage of features covered by test cases.  
- Mean Time to Detect (MTTD): Average time taken to identify a defect.  
- Mean Time to Resolve (MTTR): Average time taken to fix and verify a defect.

## 4. Risks & Mitigation

- Unstable Test Environment: Ensure a dedicated, stable testing environment before execution.  
- Inconsistent Test Data: Implement a structured test data management strategy.  
- High Defect Leakage: Conduct thorough regression testing before releases.  
- Performance Degradation: Perform load and stress testing to identify bottlenecks.  
- Security Vulnerabilities: Conduct penetration testing and apply security patches.