**Test Plan for nopCommerce Login & Authentication Module**

**Application URL:** https://demo.nopcommerce.com/

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**1. Test Plan Identifier**

TP-nopCommerce-Auth-2025-v1

**2. Introduction**

This test plan outlines the strategy for testing the Login, Registration, and Authentication functionalities of the nopCommerce demo web application. This module is critical as it serves as the gateway for users to access personalized features. Testing will validate functionality, security, usability, and integration with other modules, utilizing both manual and automated approaches as per the capstone project requirements.

**3. Test Items**

User Registration (New Customer)

User Login

User Logout

"Remember Me" functionality

Password Recovery

Input Field Validations

Access Control for protected pages (e.g., My Account, Wishlist)

Authentication-related error messages.

**4. Features to be Tested**

Registration:

Successful registration with valid data.

Validation of all mandatory fields (First Name, Last Name, Email, Password, Confirm Password).

Validation for invalid email formats, weak passwords, and non-matching passwords.

Registration with an already registered email address.

Login:

Successful login with valid credentials.

Login with invalid email, invalid password, and both invalid.

Login with case-sensitive username/email and password.

"Remember Me" functionality - persistence of login on browser restart.

Logout:

Successful logout and session termination.

Verifying redirected to homepage and access to protected pages is revoked.

Password Recovery:

Successful email submission for password recovery.

Functionality with a non-registered email address.

Security & Access Control:

Direct access to protected URLs (e.g., /customer/info) without authentication.

Session management after logging out.

Behavior upon multiple concurrent login attempts.

**5. Features Not to be Tested**

The actual delivery of the password recovery email to an inbox (as it's a demo site). We will only test the UI confirmation message.

Third-party authentication providers (e.g., Login with Facebook, Google) if present.

Performance, load, or stress testing of the authentication endpoints.

Backend database encryption of passwords.

**6. Approach**

Manual Testing: Initial exploratory testing and validation of all scenarios.

Automation Testing (Primary): All test scenarios will be automated using the defined tech stack.

Framework: Selenium WebDriver with Java.

Pattern: Page Object Model (POM) for maintainability.

BDD: Scenarios will be written in Gherkin in .feature files.

Execution: Tests will be grouped (e.g., @login, @regression) and executed using TestNG, capable of parallel runs.

Data-Driven Testing: Test data will be externalized using @CucumberOptions or Excel/JSON files.

Cross-Browser Testing: Automated tests will be run on Chrome, Firefox, and Edge browsers.

Reporting: Extent Reports will be generated after each execution cycle for analysis.

**7. Item Pass/Fail Criteria**

Pass: The actual result of the test case matches the expected result defined in the Gherkin scenario.

Fail: The actual result deviates from the expected result, the test script throws an unhandled exception, or a defect is found.

**8. Suspension Criteria and Resumption Requirements**

Suspension: Testing will be suspended if the nopCommerce demo environment is unavailable for more than 2 hours or if a critical bug in the build blocks the execution of over 70% of the test cases.

Resumption: Testing will resume once the environment is stable again or a new build with the critical fix is deployed.

**9. Test Deliverables**

This Test Plan document.

Manual Test Cases (in JIRA/Excel).

Automated Test Assets:

Cucumber Feature Files (e.g., login.feature, registration.feature).

Step Definition classes.

Page Object classes (e.g., LoginPage.java, RegistrationPage.java).

TestNG XML configuration files.

Test Execution Results and Extent Reports.

Defect Reports logged in JIRA.

**10. Environmental Needs**

Application: nopCommerce Demo Website (https://demo.nopcommerce.com/).

Test OS: Windows 10/11.

Browsers: Chrome, Firefox, Edge

Automation Environment:

JDK 17.

Maven 3.8.11

IDE: Eclipse.

Selenium WebDriver & Browser Drivers.

Version Control: GitHub repository.

Project Management: JIRA for task and defect tracking.

**11. Responsibilities (Aligned with Capstone Roles)**

Product Owner (PO): Prioritize which authentication features to test first. Sign off on requirements.

Scrum Master (SM): Facilitate daily stand-ups, remove blockers in environment setup or test data creation.

Developers: Implement the automation scripts, page objects, and framework utilities. Integrate with Extent Reports.

Testers: Design manual test cases, verify automation results, and log detailed defects in JIRA.

**12. Schedule (Sample 2-Week Sprint)**

Activity Timeline

Test Planning & Case Design Day 1-2

Framework Setup & POM Creation Day 3

Automation Script Development Day 4-7

First Test Execution & Bug Logging Day 8

Bug Fix Verification & Retest Day 9-10

Cross-Browser Execution Day 11

Final Report Generation & Closure Day 12

**13. Risks and Contingencies**

No Risks

**14. Approvals**

Test Lead: John Doe

Product Owner: John Doe