Test Scenarios and Test Cases for ONLINE-SHOP Sauce Demo

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# 1. Test Scenarios

**Test Environment**: Web browser (Chrome, Edge)

**Test Tools**: Playwright

**References**:

* Sauce Demo website: https://www.saucedemo.com/

#### Scenario 1: User Login Functionality

**Objective**:

* To verify the functionality, security and usability of the login page.
* Check the responsiveness and application adaptability on various devices.

**Scope**: Testing the login page functionality with various input scenarios.

#### Scenario 2: Product Browsing and Selection

**Objective**:

* Verify that the products page displays a list of available products with correct details (name, price, quantity), and that selected products can be added to the shopping cart with correct quantities.
* Check the responsiveness and application adaptability on various devices.

**Scope**: Testing user interaction with browsing products and adding items to the shopping cart.

#### Scenario 3: Shopping Cart Functionality

**Objective**:

* Verify that the shopping cart updates correctly when adding products, and removed items no longer appear in the shopping cart.
* Ensure users can proceed to checkout from the shopping cart.
* Check the responsiveness and application adaptability on various devices.

**Scope**: Testing interacting with the shopping cart and the checkout process.

#### Scenario 4: Checkout Process

**Objective**:

* Verify that the application accepts user details and proceeds to the order confirmation page.
* Ensure the order confirmation page displays a summary of the placed order with a confirmation message.
* Check the responsiveness and application adaptability on various devices.

**Scope**: Testing completion of the checkout process and order placement.

#### Scenario 5: Security

**Objective**:

* Verify the security measures implemented across critical pages of the application.

**Scope**: Ensure that the application and all critical pages are adequately protected.

# 2. Test Plan for Sauce Demo Website

## 2.1. Test Cases for Scenario 1: User Login Functionality

#### TC1: Successful Login

* **Description**: Verify that the user can successfully log in with valid credentials.
* **Test Steps**:
  + 1. Navigate to Sauce Demo.
    2. Enter valid username: standard\_user.
    3. Enter valid password: secret\_sauce.
    4. Click the "Login" button.
* **Expected Result**: User is redirected to the products page.

#### TC2: Login with Locked Out User

* **Description**: Verify locked-out user cannot log in.
* **Test Steps**:
  + 1. Navigate to Sauce Demo.
    2. Enter locked-out username: locked\_out\_user.
    3. Enter valid password: secret\_sauce.
    4. Click the "Login" button.
* **Expected Result**: Error message is displayed: "Sorry, this user has been locked out." No sensitive data is exposed.

#### TC3: Login with Invalid Username

* **Description**: Verify that a user cannot log in with an invalid username.
* **Test Steps**:
  + 1. Navigate to Sauce Demo.
    2. Enter invalid username: invalid\_user.
    3. Enter valid password: secret\_sauce.
    4. Click the "Login" button.
* **Expected Result**: Error message is displayed: "Username and password do not match any user in this service." No sensitive data is exposed.

#### TC4: Login with Invalid Password

* **Description**: Verify that a user cannot log in with an invalid password.
* **Test Steps**:
  + 1. Navigate to Sauce Demo.
    2. Enter valid username: standard\_user.
    3. Enter invalid password: password.
    4. Click the "Login" button.
* **Expected Result**: Error message is displayed: "Username and password do not match any user in this service." No sensitive data is exposed.

#### TC5: Login with Invalid Username and Password

* **Description**: Verify that a user cannot log in with both an invalid username and password.
* **Test Steps**:
  + 1. Navigate to Sauce Demo.
    2. Enter invalid username: invalid\_user.
    3. Enter invalid password: password.
    4. Click the "Login" button.
* **Expected Result**: Error message is displayed: "Username and password do not match any user in this service." No sensitive data is exposed.

#### TC6: Login with Empty Username

* **Description**: Verify that a user cannot log in with an empty username.
* **Test Steps**:
  + 1. Navigate to Sauce Demo.
    2. Leave the username field empty.
    3. Enter valid password: secret\_sauce.
    4. Click the "Login" button.
* **Expected Result**: Error message is displayed: "Username is required." No sensitive data is exposed.

#### TC7: Login with Empty Password

* **Description**: Verify that a user cannot log in with an empty password.
* **Test Steps**:
  + 1. Navigate to Sauce Demo.
    2. Enter valid username: standard\_user.
    3. Leave the password field empty.
    4. Click the "Login" button.
* **Expected Result**: Error message is displayed: "Password is required." No sensitive data is exposed.

#### TC8: Login with Empty Username and Password

* **Description**: Verify that a user cannot log in with both the username and password fields empty.
* **Test Steps**:
  1. Navigate to Sauce Demo
  2. Leave both username and password fields empty.
  3. Click the "Login" button.
* **Expected Result**: Error message is displayed: "Username is required.". No sensitive data is exposed.

#### TC9: Verify Correct Logout

* **Description**: Verify correct logout after successfully logging in
* **Test Steps**:
  + 1. Navigate to Sauce Demo.
    2. Enter valid username: standard\_user.
    3. Enter valid password: secret\_sauce.
    4. Click the "Login" button.
    5. Click the burger-menu.
    6. Click the Logout option.
* **Expected Result**: Verify successfully logout

#### TC10: Check the Disabled Error Message Using the Delete Icon

* **Description**: Verify that the error message is disabled.
* **Test Steps**:
  + 1. Navigate to Sauce Demo.
    2. Enter invalid username: invalid\_user.
    3. Enter valid password: secret\_sauce.
    4. Check if the error message is displayed.
    5. Click the delete icon.
* **Expected Result**: Error message, delete\_username, and delete\_password icons are disabled. No sensitive data is exposed.

## 2.2. Test Cases for Scenario 2: Product Browsing and Selection

#### TC1: Verify the Number of Products Listed and Compare with the Expected Count

* **Description**: Ensure all products are correctly displayed on the inventory page.
* **Test Steps**:
  1. Log in to Sauce Demo
  2. Verify that all products listed and compare with the expected count
* **Expected Result**: All products are compared with the expected count.

#### TC2: Verify Product List

* **Description**: Ensure all products are correctly displayed on the inventory page.
* **Test Steps**:

1. Log in to Sauce Demo
2. Verify that all available products are listed with their names, prices, and images

* **Expected Result**: All products are correctly displayed on the page.

#### TC3: Ensure the Products are Correctly Categorized

* **Description**: Ensure all products are correctly displayed on the inventory page.
* **Test Steps**:

1. Log in to Sauce Demo
2. Ensure the products are correctly categorized.

* **Expected Result**: All products are correctly displayed on the page.

#### TC4: ****Validate Sorting Functionality Sorting Order (A to Z)****

* **Description**: Ensure products can be sorted by different criteria.
* **Test Steps**:
  1. Log in to Sauce Demo
  2. Verify Default Sorting Order (A to Z)
  3. Verify that products are sorted correctly according to the selected criteria.
* **Expected Result**: All products are correctly sorted on the page.

#### TC5: ****Validate Sorting Functionality Sorting Order (Z to A)****

* **Description**: Ensure products can be sorted by different criteria.
* **Test Steps**:

1. Log in to Sauce Demo
2. Verify Sorting Order (Z to A)
3. Verify that products are sorted correctly according to the selected criteria.

* **Expected Result**: All products are correctly sorted on the page.

#### TC6: ****Validate Sorting Functionality Sorting Order Sort by Price (low to high)****

* **Description**: Ensure products can be sorted by different criteria.
* **Test Steps**:

1. Log in to Sauce Demo
2. Verify Sorting Order Sort by Price (low to high)
3. Verify that products are sorted correctly according to the selected criteria.

* **Expected Result**: All products are correctly sorted on the page.

#### TC7: ****Validate Sorting Functionality Sorting Order Sort by Price (high to low)****

* **Description**: Ensure products can be sorted by different criteria.
* **Test Steps**:

1. Log in to Sauce Demo
2. Verify Sorting Order Sort by Price (high to low)
3. Verify that products are sorted correctly according to the selected criteria.

* **Expected Result**: All products are correctly sorted on the page.

#### TC8: Check Product Details

* **Description**: Ensure detailed product information is accurate.
* **Test Steps**:

1. Log in to Sauce Demo
2. Click on a product image or name to view its details.
3. Verify that the product details page displays the correct information (name, price, description, image).
4. Check that the "Add to Cart" button is functional and adds the correct product to the cart.

* **Expected Result**: All detailed product information is correctly displayed on the page.

#### TC9: Test Navigation

* **Description**: Ensure smooth navigation between product categories and pages.
* **Test Steps**:

1. Log in to Sauce Demo
2. Click on links "All Items" on the sidebar
3. Verify that the page loads correctly and displays the relevant products.

* **Expected Result**: All products are correctly displayed on the page.

## 2.3. Test Cases for Scenario 3:  Shopping Cart Functionality

#### TC1: Verify Adding Products to Cart

* **Description**: Verify that products can be added to the cart correctly.
* **Test Steps**:
  + 1. Log in to Sauce Demo
    2. Add "Sauce Labs Backpack" to the cart by clicking the "Add to Cart" button.
    3. Verify that the button changes to "Remove".
    4. Add "Sauce Labs Bike Light" to the cart by clicking the "Add to Cart" button.
    5. Verify that the button changes to "Remove".
    6. Click on the cart icon.
* **Expected Result**: The cart page should display "Sauce Labs Backpack" and "Sauce Labs Bike Light" with their correct details (name, price).

#### TC2: Verify Product Details in Cart

* **Description**: Ensure that the product quantity are correct in the cart
* **Test Steps**:
  + 1. Log in to Sauce Demo
    2. Add "Sauce Labs Backpack" to the cart by clicking the "Add to Cart" button.
    3. Verify that the button changes to "Remove".
    4. Add "Sauce Labs Bike Light" to the cart by clicking the "Add to Cart" button.
    5. Verify that the button changes to "Remove".
    6. Click on the cart icon.
* **Expected Result**: The cart page should display the correct quantity of each products.

#### TC3: Verify Removing Products from Cart

* **Description**: Ensure that products can be removed from the cart correctly.
* **Test Steps**:
  1. Log in to Sauce Demo
  2. Add "Sauce Labs Backpack" and "Sauce Labs Bike Light" to the cart.
  3. Click on the cart icon.
  4. Click the "Remove" button for "Sauce Labs Backpack".
  5. Verify that "Sauce Labs Backpack" is removed from the cart.
  6. Click the "Remove" button for "Sauce Labs Bike Light".
  7. Verify that "Sauce Labs Bike Light" is removed from the cart.
* **Expected Result**:
  1. The cart page should reflect the removal of products.
  2. The cart count badge should update accordingly.
  3. No items should be visible in the cart if all items are removed.

#### TC4: Verify Cart Count Badge

* **Description**: Ensure that the cart count badge updates correctly when products are added or removed.
* **Test Steps**:
  + 1. Log in to Sauce Demo
    2. Add "Sauce Labs Backpack" to the cart.
    3. Verify that the cart count badge displays "1".
    4. Add "Sauce Labs Bike Light" to the cart.
    5. Verify that the cart count badge displays "2".
    6. Remove "Sauce Labs Backpack" from the cart.
    7. Verify that the cart count badge displays "1".
    8. Remove "Sauce Labs Bike Light" from the cart.
    9. Verify that the cart count badge is no longer visible.
* **Expected Result**: The cart count badge should accurately reflect the number of items in the cart.

#### TC5: Verify Checkout Process

* **Description**: Ensure that the checkout process works correctly.
* **Test Steps**:
  + 1. Log in to Sauce Demo
    2. Add "Sauce Labs Backpack" to the cart.
    3. Click on the cart icon.
    4. Click the "Checkout" button.
* **Expected Result**: The user should be able to get to the checkout process without any errors.

#### TC6: Verify Returning to the List of Products from Cart

* **Description**: Ensure that the Continue Shopping action is available in the cart.
* **Test Steps**:
  + 1. Log in to Sauce Demo
    2. Click on the cart icon.
    3. Click the "Continue shopping" button.
* **Expected Result**: The user should be able to return to the products page without any errors.

## 2.4. Test Cases for Scenario 4: Checkout Process

#### TC1: Verify Complete the Checkout Process and Place an Order

* **Description**: Ensures that a user can successfully complete the checkout process and place an order.
* **Test Steps**:
  + 1. Log in to Sauce Demo.
    2. Add items to the cart from the inventory page.
    3. Navigate to the cart page.
    4. Click on the "Checkout" button.
    5. Verify redirection to the "Checkout: Your Information" page.
    6. Enter checkout information (first name, last name, postal code).
    7. Click on "Continue".
    8. Verify redirection to the "Checkout: Overview" page.
    9. Review order details.
    10. Click on "Finish".
    11. Verify redirection to the "Checkout: Complete!" page.
    12. Verify the display of the order confirmation message.
* **Expected Result: The user should be able to successfully complete the checkout process and place an order**

#### TC2: Verify Price Calculation and Tax

* **Description**: Ensures that the total price and item details are correctly displayed during checkout.
* **Test Steps**:

1. Log in to Sauce Demo.
2. Add items to the cart from the inventory page.
3. Navigate to the cart page.
4. Click on the "Checkout" button.
5. Verify redirection to the "Checkout: Your Information" page.
6. Enter checkout information (first name, last name, postal code).
7. Verify that the overview page displays all items with names, quantities, and prices.
8. Verify the correct calculation of the total price.

* **Expected Result: The total price should be calculated correctly, and all item details should be displayed accurately.**

#### TC3 – TC9: Checkout With Incomplete Information

* **Description**: Ensures that the checkout process cannot proceed if mandatory fields (first name, last name, postal code) are missing.
* **Test Steps**:
  + 1. Log in to Sauce Demo
    2. Add "Sauce Labs Backpack" to the cart.
    3. **Navigate** to the cart page.
    4. Click on the "Checkout" button.
    5. Each test case in this range tests a different combination of missing fields and verifies the appropriate error message.
    6. Leave one or more fields (first name, last name, postal code) empty.
    7. Click on the "Continue" button.
    8. Verify that an error message is displayed indicating that the mandatory fields are required.
* **Expected Result: An error message should indicate that mandatory fields are required when attempting to proceed with incomplete information.**

#### TC10: Cancel Checkout from the Checkout: Your Information Page

* **Description**: Verifies that a user can cancel the checkout process from the "Your Information" page and return to the cart page.
* **Test Steps**:
  + 1. Log in to Sauce Demo
    2. Add "Sauce Labs Backpack" to the cart.
    3. **Navigate** to the cart page.
    4. Click on the "Checkout" button.
    5. Click on the "Cancel" button.
    6. Verify that the user is redirected back to the cart page.
* **Expected Result: The user should be redirected back to the cart page without any errors.**

#### TC11: Cancel Checkout from the Checkout: Overview Page

* **Description**: Verifies that a user can cancel the checkout process from the "Overview" page and return to the inventory page.
* **Test Steps**:
  1. Log in to Sauce Demo
  2. Add "Sauce Labs Backpack" to the cart.
  3. **Navigate** to the cart page.
  4. Click on the "Checkout" button.
  5. Leave one or more fields (first name, last name, postal code) empty.
  6. Click on the "Continue" button.
  7. Click on the "Cancel" button.
  8. Verify redirection back to the inventory page.
* **Expected Result: The user should be redirected back to the inventory page without any errors.**

#### TC12: Go Back Home After Order

* **Description**: Verify that a user can navigate back to the home page after completing an order.
* **Test Steps**:
  1. Log in to Sauce Demo
  2. Add "Sauce Labs Backpack" to the cart.
  3. **Navigate** to the cart page.
  4. Click on the "Checkout" button.
  5. Leave one or more fields (first name, last name, postal code) empty.
  6. Click on the "Continue" button.
  7. Click on the "Back Home" button.
  8. Verify redirection to the inventory page.
* **Expected Result: The user should be redirected back to the home page without any errors.**

## 2.5. Test Cases for Scenario 5: Security

#### TC1: Verify Password Masking

* **Description**: Verify password input is masked.
* **Test Steps**:
  1. Navigate to Sauce Demo
  2. Enter any text in the password field.
* **Expected Result**: The entered text should be masked.

#### TC2: Verify Absence SQL Injection in Login

* **Description**: Ensure that login fails with no leakage of backend information through error messages.
* **Test Steps**:
  + 1. Navigate to Sauce Demo
    2. Attempt to log in with an SQL injection string.
    3. Click the "Login" button.
* **Expected Result**: Login fails, no sensitive data exposed, and an error message is displayed.

#### TC3: Verify Prevention of XSS Injection in Login

* **Description**: Ensure XSS injection is prevented during login.
* **Test Steps**:
  + 1. Navigate to Sauce Demo
    2. Try to log in with inputting a script tag in the login fields
    3. Click the "Login" button.
* **Expected Result**: The login fails and an error message is displayed.

#### TC4: Verify HTTPS in Login URL

* **Description**: Verify HTTPS enforcement for all critical pages.
* **Test Steps**:

1. Navigate to Sauce Demo
2. Verify that the application enforces HTTPS.

* **Expected Result**: Login page URL enforces HTTPS.

#### TC5 – TC10: Verify all Critical Pages HTTPS for URL

* **Description**: Verify all critical pages HTTPS for URL
* **Test Steps**:
  + 1. Navigate to Sauce Demo
    2. Verify HTTPS for URLs as per the following array: :

const urls = [

    'https://www.saucedemo.com/inventory.html',

    'https://www.saucedemo.com/inventory-item.html?id=4',

    'https://www.saucedemo.com/cart.html',

    'https://www.saucedemo.com/checkout-step-one.html',

    'https://www.saucedemo.com/checkout-step-two.html',

    'https://www.saucedemo.com/checkout-complete.html'

  ];

* **Expected Result**: All critical pages enforce HTTPS.

#### TC11 – TC16: All Critical Pages Display an Access Denied Message when Bypassing Login for the URL.

* **Description**: Verify access denied message for all critical pages when accessed without proper login.
* **Test Steps**:

1. Navigate to Sauce Demo
2. Verify access denied message for URLs as per TC 5 – 10.

* **Expected Result**: All critical pages display access denied message when bypassing login.

#### TC17 – TC22: Check for a 404 Error for Invalid URL

* **Description**: Verify a 404 error for invalid URLs on all critical pages.
* **Test Steps**:

1. Navigate to Sauce Demo
2. Verify 404 error for invalid URLs as per TC 5 – 10.

* **Expected Result**: All critical pages display 404 error for invalid URLs