

DevelopersHubCorporation Internship

Domain: Software Quality Assurance (SQA)

Intern: Esha Tabbassum | Intern ID: DHC-1019 | Duration: 3 Weeks

Date: [17 February 2026]

Final Project Report - Software Quality Assurance

1. Project Overview

This 3-week SQA internship project focused on testing the **SauceDemo** web-based e-commerce (<https://www.saucedemo.com/>). The project covered end-to-end testing activities including manual test case design, defect reporting, test planning, black-box testing techniques (BVA & EP), cross-browser compatibility testing, and automation testing using Selenium WebDriver with Python.

2. Testing Methodology

Week 1: Manual Testing & Bug Reporting

- Created 8 test cases for login functionality
- Identified functional and UI issues
- Reported bugs using Jira
- Key findings: Mobile error overlaps, missing forgot password, no password toggle

Week 2: Test planning & Advanced Testing

- Developed comprehensive test plan
- Applied BVA (Boundary Value Analysis) and EP (Equivalence Partitioning)
- Performed cross-browser testing on Chrome, Firefox, Edge
- Retested Week 1 defects
- Validated dashboard features (product sorting, add to cart, checkout)

Week 3: Automation Testing

- Implemented Selenium WebDriver with Python

Python 3.13.5

Selenium WebDriver 4.40.0

ChromeDriver 121.0.6167.85

Google Chrome 121.0.6167.140

- Automated 2 test cases:

1. Login validation (TC-006)

2. Product sorting feature (Z-A)

3. Automation Scripts

3.1 Login Automation Script

File: login_test.py

Purpose: Automates successful login with valid credentials

Code:

```
# login_test.py

from selenium import webdriver
from selenium.webdriver.common.by import By
from selenium.webdriver.chrome.service import Service
from selenium.webdriver.support.ui import WebDriverWait
from selenium.webdriver.support import expected_conditions as EC
import time
```

```
chrome_driver_path = r"D:\SQA_Week3\chromedriver.exe"
```

```
service = Service(chrome_driver_path)
```

```
driver = webdriver.Chrome(service=service)
```

try:

```
driver.get("https://www.saucedemo.com/")

driver.find_element(By.ID, "user-name").send_keys("standard_user")

driver.find_element(By.ID, "password").send_keys("secret_sauce")

driver.find_element(By.ID, "login-button").click()

time.sleep(3)
```

if "inventory" in driver.current_url:

```
    print(" ✅ Login successful")

    driver.save_screenshot("login_success.png")

else:

    print(" ❌ Login failed")
```

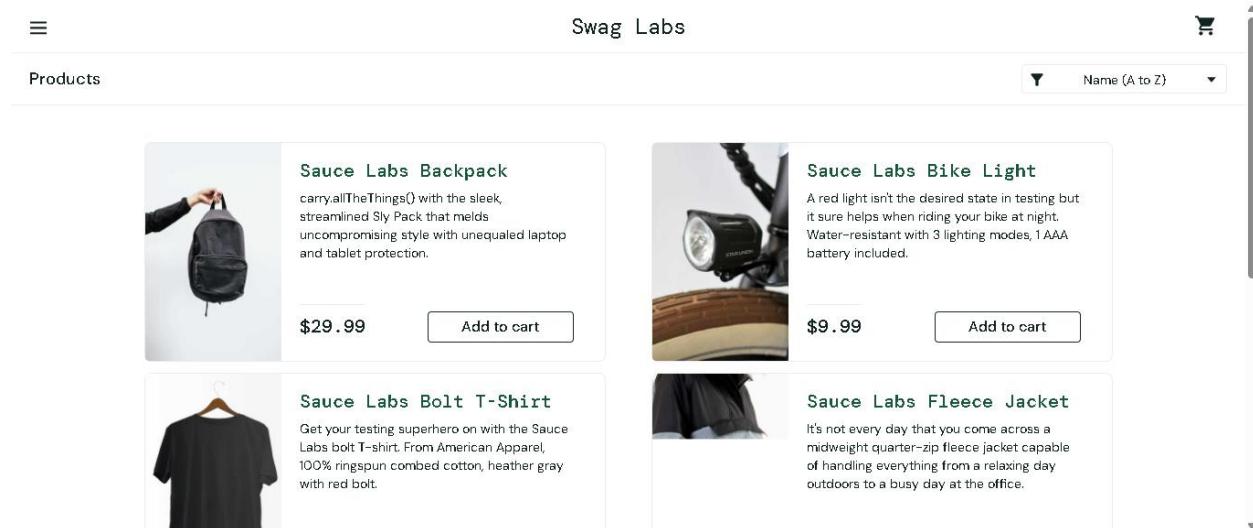
finally:

```
    driver.quit()

    print(" ✓ Browser closed")

    print("Test completed")
```

Screenshot: (login_success.png):



[Login Success Screenshot]

3.2 Dashboard Automation Script

File: dashboard_test.py

Purpose: Automates product sorting (Z-A) functionality

Code:

```
# dashboard_test.py

from selenium import webdriver
from selenium.webdriver.common.by import By
from selenium.webdriver.chrome.service import Service
from selenium.webdriver.support.ui import Select
import time

chrome_driver_path = r"D:\SQA_Week3\chromedriver.exe"
service = Service(chrome_driver_path)
driver = webdriver.Chrome(service=service)

try:
    # Login
    driver.get("https://www.saucedemo.com/")
    driver.find_element(By.ID, "user-name").send_keys("standard_user")
    driver.find_element(By.ID, "password").send_keys("secret_sauce")
    driver.find_element(By.ID, "login-button").click()
    time.sleep(2)

    # Sort products Z-A
    sort_dropdown = driver.find_element(By.CLASS_NAME, "product_sort_container")
```

```

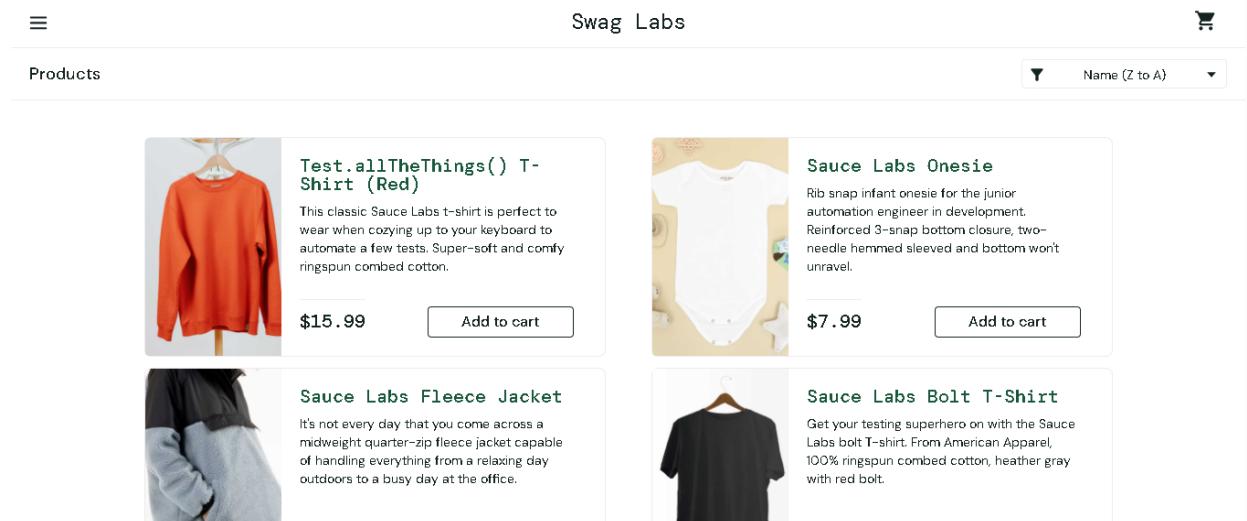
select = Select(sort_dropdown)
select.select_by_visible_text("Name (Z to A)")
time.sleep(2)

# Verify
first_product = driver.find_element(By.CLASS_NAME, "inventory_item_name").text
if first_product == "Test.allTheThings() T-Shirt (Red)":
    print("✓ Sorting test passed")
    driver.save_screenshot("sorting_test.png")
else:
    print("✗ Sorting test failed")

finally:
    driver.quit()
    print ("✓ Browser closed")
    print ("Test completed")

```

Screenshot: (sorting_test.png)



[Sorting Test Screenshot]

Test Execution Result Table for Automation

Test Case	Expected Result	Actual Result	Status
Login Automation	Redirect to inventory page	Redirect successful	PASS
Sorting Automation	Z-A applied correctly	First product verified	PASS

4. Test Case Summary

Weeks	Test Cases	Pass	Fail	Coverage
Week1	8	7	1	Login Functionality
Week2	12 (BVA/EP)	12	0	Boundary & equivalence testing
Week2	5 (Cross-browser)	5	0	Compatibility testing
Week3	2(Automated)	2	0	Login + Dashboard

5. Bug Report Summary

Bug ID	Description	Severity	Status
BUG-001	Mobile error message overlap	Medium	Open
BUG-002	Missing "Forgot Password" option	Medium	Open
BUG-003	No password visibility toggle	Low	Open

6. Cross-Browser Compatibility Results

Browser	Login	Add to Cart	Sorting	Checkout
Chrome	Pass	Pass	Pass	Pass
Firefox	Pass	Pass	Pass	Pass
Edge	Pass	Pass	Pass	Pass

7. Key Learnings

- Test case design and documentation
- Bug tracking using Jira
- Black-box testing techniques (BVA, EP)
- Cross-browser compatibility testing

- Automation testing with Selenium WebDriver
- Python scripting for test automation
- Professional QA reporting

8. Recommendations

1. Fix identified bugs (mobile overlap, forgot password, password toggle)
2. Expand automation coverage to include checkout process
3. Implement continuous integration for automated tests
4. Consider performance testing for future releases

9. Conclusion

The 3-week SQA internship successfully covered all phases of software testing:

Week 1: Manual testing foundation established

Week 2: Advanced techniques and planning applied

Week 3: Automation implemented successfully

This project demonstrates practical application of manual, advanced, and automation testing techniques aligned with industry QA standards.

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