

جامعة الحسين التقنية  
Al Hussein Technical University

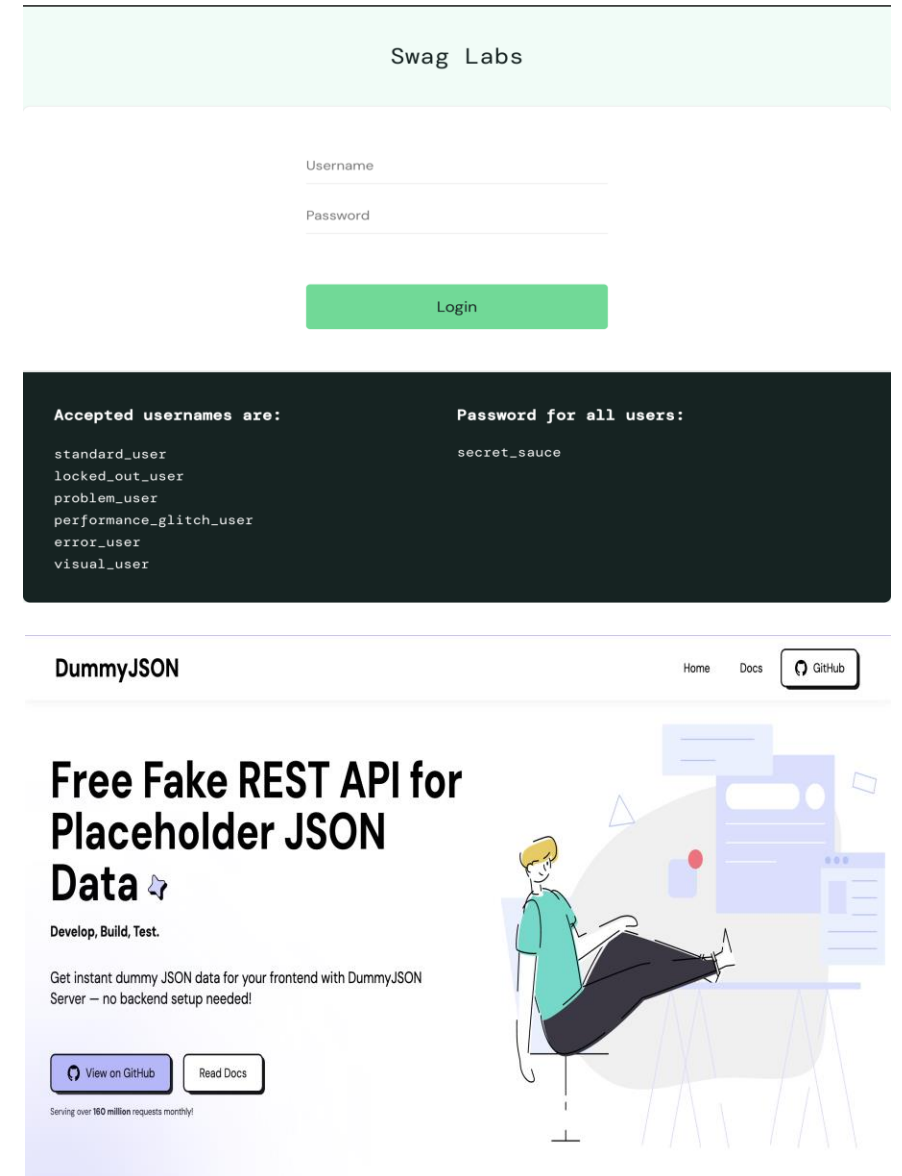
# Web(Manual & Automation) | API Testing | Performance Testing

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# Scope Of The Project

- Manual & Automation Web Testing – Swag Labs
- API Testing – DummyJSON API
- Performance Testing-Load Testing using k6

Scope of the project



# Manual Testing Approach & Methodology

## Test Coverage

- 20 Test Cases Designed and Executed
- 92% Functional Requirements Coverage
- Focus on Critical User Journeys and Edge Cases

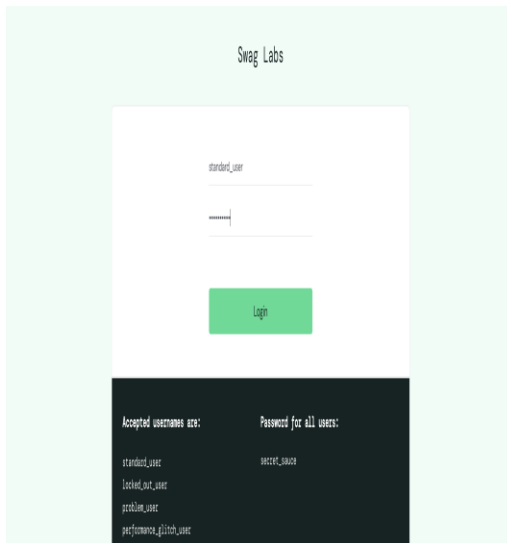
## Key Findings

- 14 out of 20 Test Cases Passed (70% Success Rate)
- 6 Critical/High Severity Defects Identified
- Major Issues found in Session Management, Checkout Validation

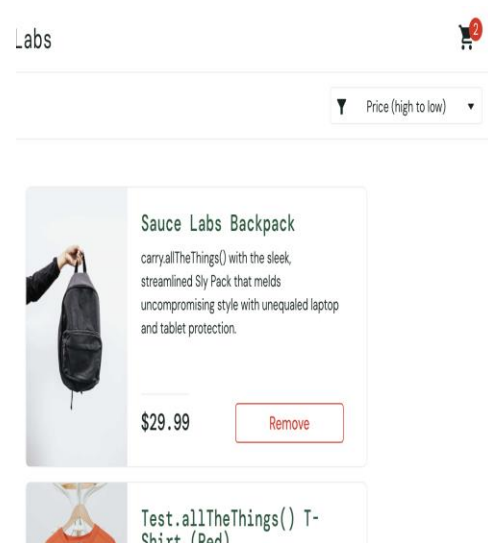
## User Experience Assessment

- Intuitive navigation with poor error handling
- price and product name inconsistencies across pages

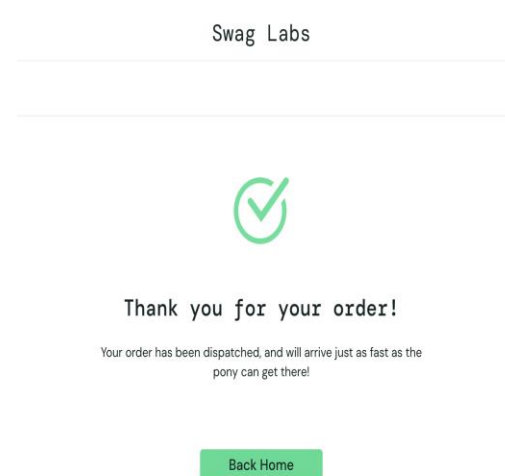
# Some Of Test Cases



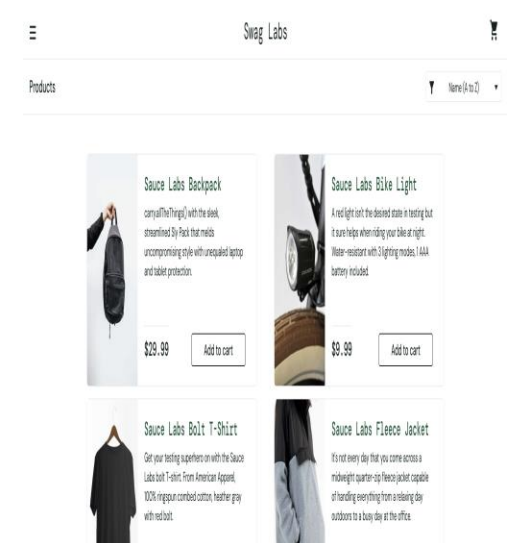
User Login with  
standard\_user credentials



Add product to cart  
successfully



End-to-End checkout  
process



Navigation back to home  
Page to start a new  
order

## TOP 2 CRITICAL ISSUES

### 1. CheckOut Completely Blocked

- Input fields accept typing but redirect incorrectly.
- User cannot proceed to payment
- Error messages prevent issue correction

### 2. Empty Cart Purchases Allowed

- System allows checkout with zero items

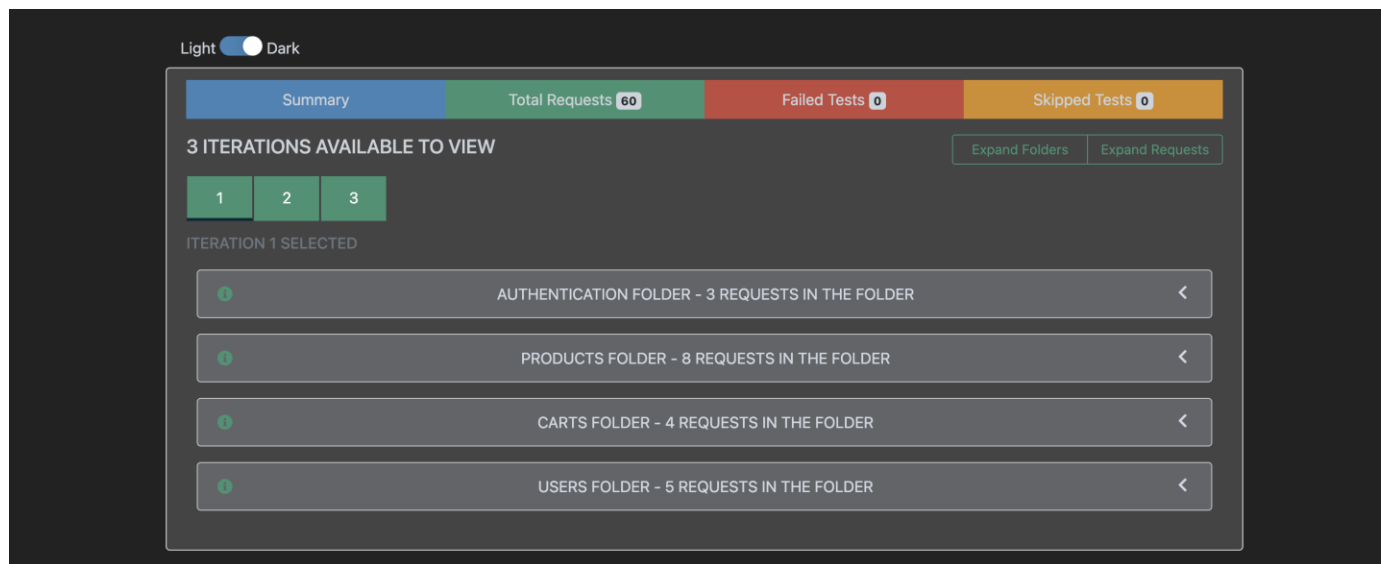
### Business Impact

- Fake orders created
- Inventory and financial data corrupting

sample footer text

The screenshot displays the Swag Labs checkout interface in a browser window. The URL is <https://www.saucedemo.com/checkout-step-one.html>. The page title is "Swag Labs" and the sub-header is "Checkout: Your Information". The form contains three input fields: a numeric field with the value "8", a text field with the placeholder "Last Name", and a numeric field with the value "12345". Each field has a red error icon to its right. A red error message box at the bottom of the form states "Error: Last Name is required". Below the form are two buttons: "Cancel" and "Continue".

The second part of the screenshot shows the "Checkout: Overview" page. It features a table with columns "QTY" and "Description". Below the table, the "Payment Information" section shows "SauceCard #31337". The "Shipping Information" section shows "Free Pony Express Delivery!". The "Price Total" section shows "Item total: \$0", "Tax: \$0.00", and "Total: \$0.00". At the bottom are "Cancel" and "Finish" buttons.



# DUMMYJSON API: TESTING OVERVIEW

Thresholds applied to validate SLA compliance

# DUMMYJSON API - TESTING RESULTS

## REAL METRICS FROM EXECUTION

- 60 API Requests → 100% Success Rate
- 0 Failed Tests | 0 Skipped Tests
- Average Response: <200ms
- 3 Data-Driven Test Iterations

## VALIDATED ENDPOINT

- Authentication (3 endpoints)
- Products CRUD operations (8 endpoints)
- Carts Management (4 endpoints)
- Users Operations (5 endpoints)

20XX

# PERFORMANCE TESTING WITH K6

## 1.Load Test Results

- 25 Concurrent Virtual Users
- 0% Error Rate under sustained load
- Average Response: 195ms (p95: 279ms)
- Throughput: 16+ requests per second

## 2.Key Achievement

Zero performance degradation under load

Sample Footer Text

```
script: smoke_test.js
output: json (smoke_results.json)

scenarios: (100.00%) 1 scenario, 8 max VUs, 30ms max duration (incl. graceful stop!)
  < default: up to 8 looping VUs for 300ms over a 30sps (gracefulStop: 30s, gracefulStop: 30s)

INFO[0000] Starting Smoke Test (1-5 users) sourceconsole
INFO[0000] Target: 99% < 800ms, error rate < 0% sourceconsole
INFO[0000] Testing /products, /cart, /users endpoints sourceconsole
INFO[0100] Smoke Test Completed sourceconsole
INFO[0100] Check thresholds and custom metrics for analysis sourceconsole

■ THRESHOLDS

errors
  ✓ rate < 0.05 rate=0.00%

http_req_duration(endpoint:cart)
  ✓ p100 < 800 p100=238.69ms

http_req_duration(endpoint:products)
  ✓ p100 < 800 p100=232.58ms

http_req_duration(endpoint:users)
  ✓ p100 < 800 p100=193.43ms

http_req_failed
  ✓ rate < 0.05 rate=0.00%

■ TOTAL RESULTS

checks_total ..... 2424 16.123637/s
checks_succeeded ... 100.00% 2424 out of 2424
checks_failed ..... 0.00% 0 out of 2424

  ✓ Status is 200
  ✓ Response time < 500ms
  ✓ Has products array
  ✓ Limit parameter works
  ✓ Carts have data
  ✓ Users have array
  ✓ Users have required fields

CUSTOM
errors ..... 0.00% 0 out of 496
response_time ..... avg=189.72ms min=162.683 med=176.871s max=187.829 p100=226.758 p100=238.17225s

HTTP
http_req_duration ..... avg=189.72ms min=162.683 med=176.871s max=187.829 p100=226.758 p100=238.17225s
  { endpoint:cart } ..... avg=192.5ms min=162.683 med=176.871s max=187.829 p100=226.758 p100=238.17225s
  { endpoint:products } ..... avg=197.38ms min=164.91ms med=187.829s max=187.829 p100=226.758 p100=238.17225s
  { endpoint:users } ..... avg=195ms min=164.91ms med=176.871s max=187.829 p100=226.758 p100=238.17225s
  { expected_response:true } ..... avg=189.72ms min=162.683 med=176.871s max=187.829 p100=226.758 p100=238.17225s
http_req_failed ..... 0.00% 0 out of 588
http_reqs ..... 488 8.222137/s

EXECUTION
iteration_duration ..... avg=1.57s min=1.5s med=1.57s max=1.88s p100=1.57s p100=1.57s
iterations ..... 1628 5.487381/s
vus ..... 1 min=1 max=25
vus_max ..... 25 min=25 max=25

NETWORK
data_received ..... 28 MB 16.1881/s
data_sent ..... 464 KB 1.5.581/s
```

```
product_response_time ..... avg=191.333887s min=152.117 med=166.448s max=226.888 p100=213.238 p100=275.9897s
errors ..... 0.00% 0 out of 4878
product_response_time ..... avg=192.84998s min=155.155 med=180.288 max=226.888 p100=213.238 p100=275.9897s
total_requests ..... 4878 16.123637/s
user_response_time ..... avg=192.868549s min=154.866 med=171.376s max=226.888 p100=213.238 p100=275.9897s

■ TOTAL RESULTS

checks_total ..... 27642 91.925632/s
checks_succeeded ... 100.00% 27642 out of 27642
checks_failed ..... 0.00% 0 out of 27642

  ✓ Products - Status is 200
  ✓ Products - Response time < 2s
  ✓ Products - Valid 300 response
  ✓ Products - Has products array
  ✓ Products - Correct limit parameter
  ✓ Products - Has pagination metadata
  ✓ Carts - Status is 200
  ✓ Carts - Response time < 2s
  ✓ Carts - Valid 300 response
  ✓ Carts - Has carts array
  ✓ Carts - Carts contain products
  ✓ Users - Status is 200
  ✓ Users - Response time < 2s
  ✓ Users - Valid 300 response
  ✓ Users - Has users array
  ✓ Users - Users have required fields
  ✓ Users - Correct data types

CUSTOM
cust_response_time ..... avg=171.333887s min=152.117 med=166.448s max=226.888 p100=213.238 p100=275.9897s
errors ..... 0.00% 0 out of 4878
product_response_time ..... avg=192.84998s min=155.155 med=180.288 max=226.888 p100=213.238 p100=275.9897s
total_requests ..... 4878 16.123637/s
user_response_time ..... avg=192.868549s min=154.866 med=171.376s max=226.888 p100=213.238 p100=275.9897s

HTTP
http_req_duration ..... avg=195.43ms min=162.11ms med=171.88ms max=226.888 p100=213.238 p100=275.9897s
  { endpoint:cart } ..... avg=191.33ms min=162.11ms med=166.448s max=226.888 p100=213.238 p100=275.9897s
  { endpoint:products } ..... avg=192.85ms min=162.11ms med=180.288s max=226.888 p100=213.238 p100=275.9897s
  { endpoint:users } ..... avg=192.86ms min=164.86ms med=171.376s max=226.888 p100=213.238 p100=275.9897s
  { expected_response:true } ..... avg=195.43ms min=162.11ms med=171.88ms max=226.888 p100=213.238 p100=275.9897s
http_req_failed ..... 0.00% 0 out of 4878
http_reqs ..... 4878 16.123637/s

EXECUTION
iteration_duration ..... avg=1.56s min=1.48s med=1.57s max=1.25s p100=1.38s p100=1.49s
iterations ..... 1628 5.487381/s
vus ..... 1 min=1 max=25
vus_max ..... 25 min=25 max=25

NETWORK
data_received ..... 28 MB 16.1881/s
data_sent ..... 464 KB 1.5.581/s

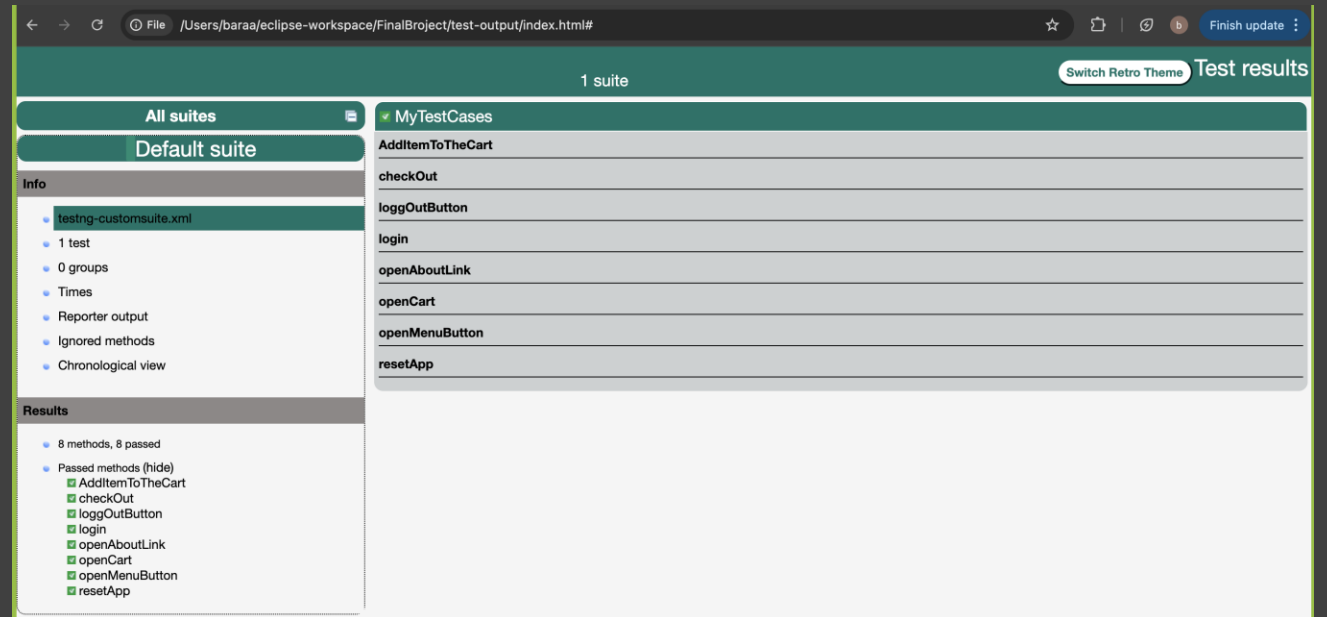
running (5000.7s), 88/25 VUs, 1626 complete and 0 interrupted iterations
default: (sourceconsole) 88/25 VUs 50ms
barad@barad-MacBook-Air k6-tests %
```



## UI AUTOMATION FRAMEWORK

- Language: Java 11+
- Tools: Selenium WebDriver 4.0, TestNG
- Browser: Microsoft Edge
- IDE: Eclipse

Automation Framework



# UI AUTOMATION WITH SELENIUM

## Test Coverage

- 8 Critical User Scenarios Automated
- Complete Purchase Flow Validated
- Cross-tab Navigation Tested
- Session Management Verified

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Automation Framework

## Results

- 100% Pass Rate for Enabled Tests
- Total Execution: 30.9 seconds
- Ready for CI/CD Integration



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THANK  
YOU

Thank you for your time and professional evaluation.  
Your feedback is highly appreciated.

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