



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

Swag Labs

Username

Password

Login

Accepted usernames are:

standard_user
locked_out_user
problem_user
performance_glitch_user
error_user
visual_user

Password for all users:

secret_sauce

DummyJSON

Home Docs GitHub

Free Fake REST API for Placeholder JSON Data 

Develop, Build, Test.

Get instant dummy JSON data for your frontend with DummyJSON Server – no backend setup needed!

[View on GitHub](#)

[Read Docs](#)

Serving over 160 million requests monthly!



Manual Testing Approach & Methodology

Test Coverage

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

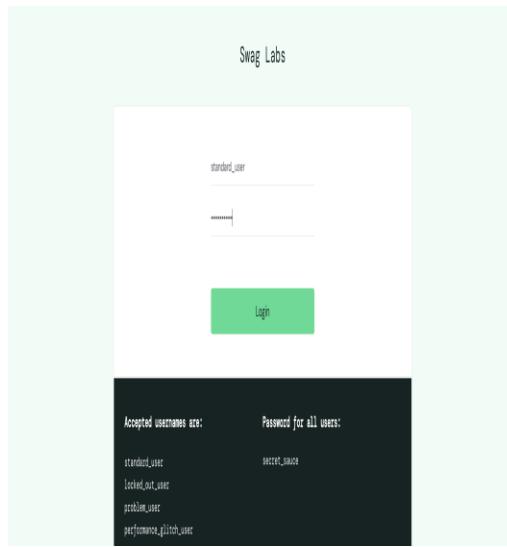
Key Findings

- 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

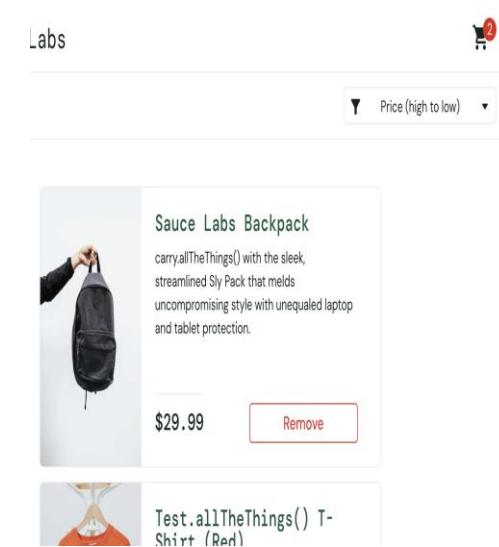
- Intuitive navigation with poor error handling
- price and product name inconsistencies across pages

Some Of Test Cases

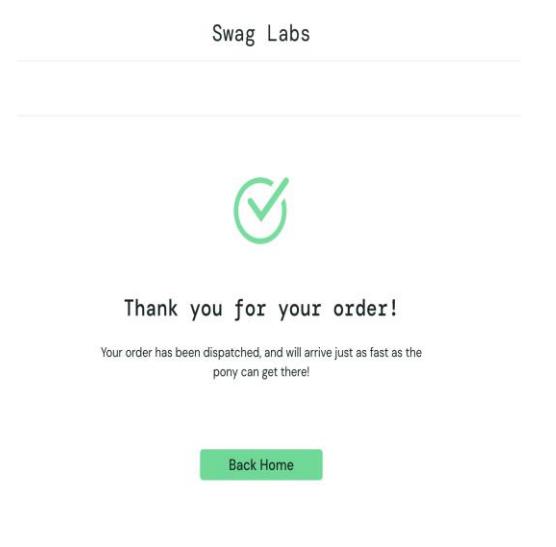


User Login with
standard_user credentials

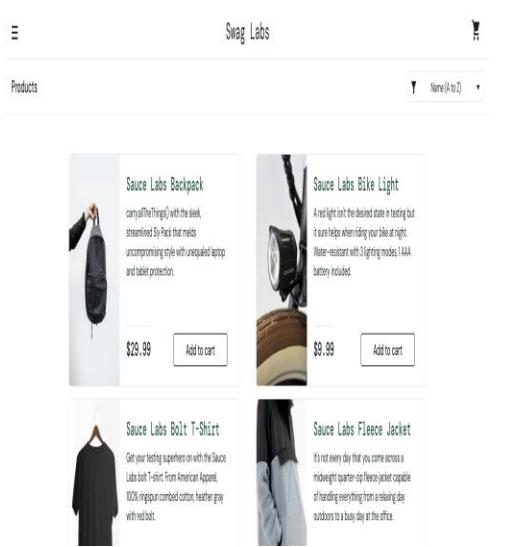
E2E Sample test case



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

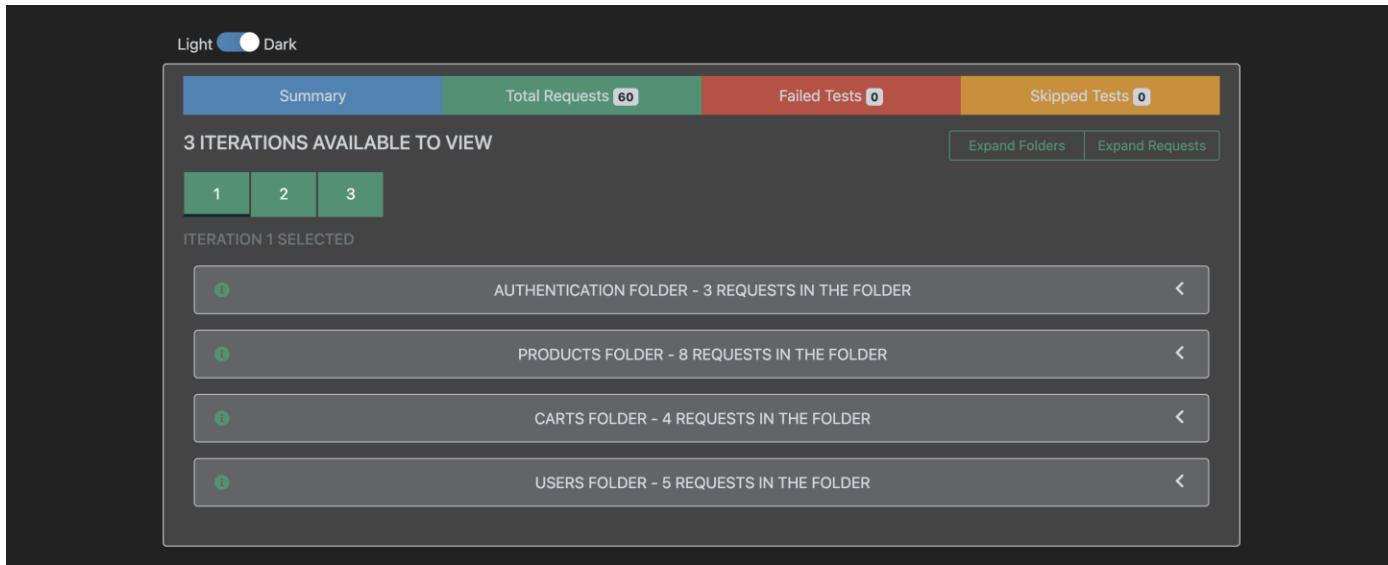
- System allows checkout with zero items

Business Impact

- Fake orders created
- Inventory and financial data corrupting

The screenshot shows a Microsoft Edge browser window with the URL <https://www.saucedemo.com/checkout-step-one.html>. The page title is "Swag Labs". The main content area is titled "Checkout: Your Information". It contains three input fields: "First Name" (with value "Bret"), "Last Name" (with value "Mcmillan"), and "Zip Code" (with value "12345"). Below these fields is a red error message: "Error: Last Name is required". At the bottom of the form are two buttons: "Cancel" and "Continue". The status bar at the top of the browser indicates "Microsoft Edge is being controlled by automated test software".

The screenshot shows a Microsoft Edge browser window with the URL <https://www.saucedemo.com/checkout-step-one.html>. The page title is "Swag Labs". The main content area is titled "Checkout: Overview". It displays a table with one row, showing "QTY" and "Description" for an item. Below the table are sections for "Payment Information" (SauceCard #31337) and "Shipping Information" (Free Pony Express Delivery!). At the bottom are sections for "Price Total" (Item total: \$0, Tax: \$0.00, Total: \$0.00) and buttons for "Cancel" and "Finish". The status bar at the top of the browser indicates "Microsoft Edge is being controlled by automated test software".



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: (200,000) 1 scenario, 6 max VUs, 3m/s max duration (incl. graceful stop):
  * default: Up to 8 looping VUs for 2m/s over 4 stages (gracefulRampDown: 3s, gracefulStop: 3s)

INFO[000] Starting Smoke Test (1-5 users)           source:console
INFO[000] Target: prod/api/v1, error rate: < 5%      source:console
INFO[000] Test duration: 3m/s, cart: cavers endpoints   source:console
INFO[000] Smoke Test Completed                      source:console
INFO[000] Check thresholds and custom metrics for mysqljs     source:console

■ THRESHOLDS
HTTP[2xx]
  * 'Rate < 0.05' rate=0.08%
    http_req_duration(endpoint:carts)
    ✓ '99(90) < 800' p(99)=250.0ms
    http_req_duration(endpoint:products)
    ✓ '99(90) < 800' p(99)=32.0ms
    http_req_duration(endpoint:users)
    ✓ '99(90) < 800' p(99)=193.4ms
    http_req_failed
    ✓ 'Rate < 0.05' rate=0.08%
    ✓ 'Rate < 0.05' rate=0.08%

■ TOTAL RESULTS
checks_total.....: 2424   avg=1.523807/s
checks_succeeded.: 100.00%  742 out of 2424
checks_failed....: 0.00%   0 out of 2424
Status is 200
  ✓ Response time < 800ms
  ✓ Product endpoint
  ✓ Limit parameter works
  ✓ Has carts array
  ✓ Carts - correct data types
  ✓ Has useds array
  ✓ Users have required fields

CUSTOM
  ✓ status_code.....: 0.00%  0 out of 0
  ✓ response_lines...: avg=189.732192 min=162.083 med=176.8715 max=507.829 p(99)=226.758 p(99)=230.17228

HTTP
  ✓ http_req_duration...: avg=199.73ms min=12.07ms med=507.82ms max=226.75ms p(99)=226.75ms p(99)=230.17ms
  ✓ endpoint:carts...: avg=199.73ms min=12.07ms med=507.82ms max=226.75ms p(99)=226.75ms p(99)=230.17ms
  ✓ endpoint:products...: avg=197.38ms min=154.91ms med=298ms p(99)=217.62ms p(99)=231.56ms
  ✓ endpoint:users...: avg=178ms min=164.3ms med=178.4ms max=203.6ms p(99)=191.14ms p(99)=210.41ms
  ✓ expected_response_time...: 0.00%  0 out of 0
  http_req_failed...: 0.00%  0 out of 0
  http_reqs.....: 2424  avg=0.000997/s

EXECUTION
  ✓ iteration_duration...: avg=1.57s min=1.5s med=1.57s max=1.88s p(99)=1.57s p(99)=1.59s
  iterations.....: 292   avg=1.543635/s
  ✓ vus.....: 25      avg=0.000997/s

■ TOTAL RESULTS
product_response_time
  ✓ '99(90) < 2000' p(99)=294.1305
user_response_time
  ✓ '99(90) < 2000' p(99)=272.81275

■ TOTAL RESULTS
checks_total.....: 27642  93.926482/s
checks_succeeded.: 100.00%  27642 out of 27642
checks_failed....: 0.00%   0 out of 27642
Products - Status is 200
  ✓ Products - Valid JSON response
  ✓ Products - Correct limit parameter
  ✓ Products - Has pagination metadata
  ✓ Cart - Response time < 2s
  ✓ Cart - Valid JSON response
  ✓ Cart - Cart's carts array
  ✓ Cart - Cart's carts products
  ✓ Cart - Cart's carts quantity
  ✓ Cart - Cart's carts total
  ✓ Cart - Response time < 2s
  ✓ Cart - Valid JSON response
  ✓ Cart - Cart's carts array
  ✓ Cart - Cart's carts products
  ✓ Cart - Cart's carts quantity
  ✓ Cart - Cart's carts total
  ✓ Users - Response time < 2s
  ✓ Users - Valid JSON response
  ✓ Users - Cart's carts array
  ✓ Users - Users have required fields
  ✓ Users - Correct data types

CUSTOM
  ✓ cart_response_time...: avg=191.335007 min=152.117 med=165.448 max=821.888 p(99)=253.238 p(99)=275.9857
  errors.....: 0.00%  0 out of 4078
  product_response_time...: avg=192.84994 min=155.155 med=180.288 max=808.416 p(99)=251.1298 p(99)=294.1305
  total_requests...: 27642  avg=0.000997/s
  user_response_time...: avg=192.8686549 min=154.866 med=171.3785 max=919.279 p(99)=251.8888 p(99)=272.81275

HTTP
  ✓ http_req_duration...: avg=195.4ms min=12.11ms med=165.00ms max=217.27ms p(99)=155.33ms p(99)=175.87ms
  ✓ endpoint:carts...: avg=191.3ms min=152.11ms med=164.44ms max=821.88ms p(99)=253.23ms p(99)=275.9ms
  ✓ endpoint:products...: avg=192.84ms min=155.15ms med=180.28ms max=808.41ms p(99)=251.12ms p(99)=294.11ms
  ✓ endpoint:users...: avg=199.42ms min=152.11ms med=171.80ms max=919.27ms p(99)=255.33ms p(99)=275.95ms
  http_req_failed...: 0.00%  0 out of 4078
  iterations.....: 25      avg=0.000997/s

EXECUTION
  ✓ iteration_duration...: avg=1.5s min=1.48s med=2.07s max=4.26s p(99)=1.38s p(99)=1.49s
  iterations.....: 1626  avg=0.48738/s
  ✓ vus.....: 25      max=25
  vus_max.....: 25      min=25 max=25

NETWORK
  data_received.....: 28 MB  94 kB/s
  data_sent.....: 44 kB  10 kB/s

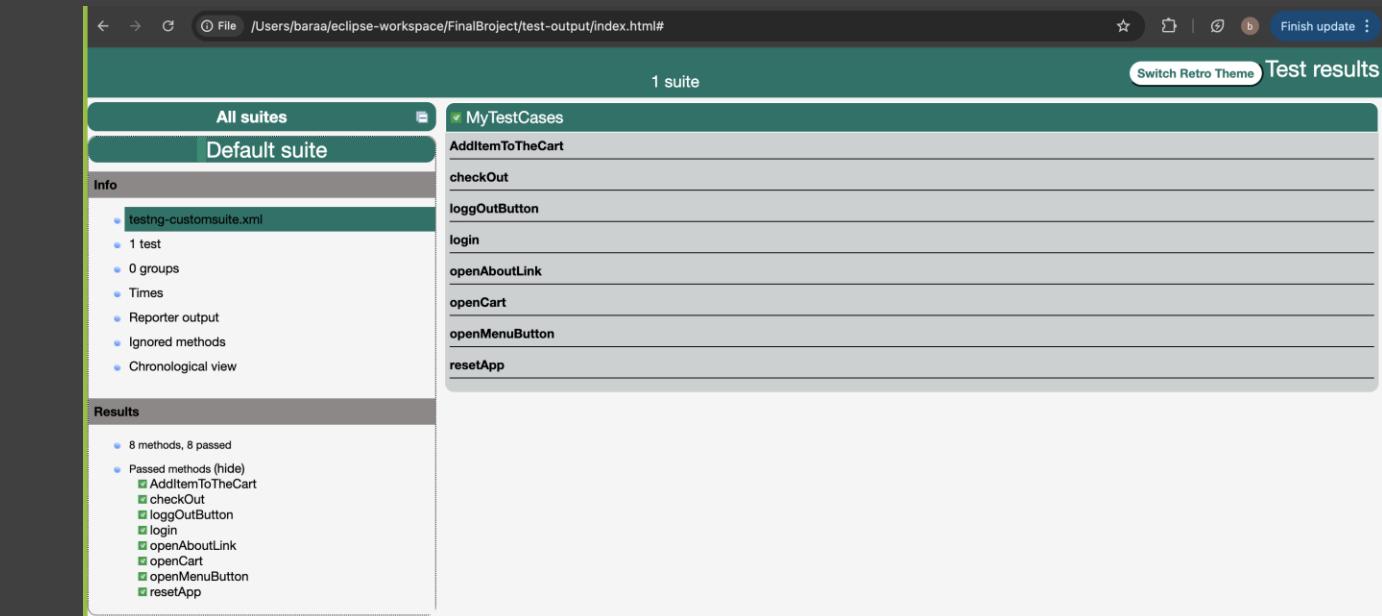
running (9m00.7s), 90/25 VUs, 1a/26 complete and 0 interrupted iterations
default: [=====] 98/25 VUs 5ms
bartsas@barass-MacBook-Air ~ k6-tests %
```



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

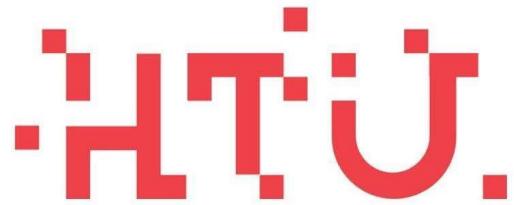
- 8 Critical User Scenarios Automated
- Complete Purchase Flow Validated
- Cross-tab Navigation Tested
- Session Management Verified

-
-

Automation Framework

Results

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



جامعة الحسين التقنية
Al Hussein Technical University

THANK
YOU

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

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