

# Automated UI Testing

Nurcan YILMAZ

Software Engineering Department

Sakarya University

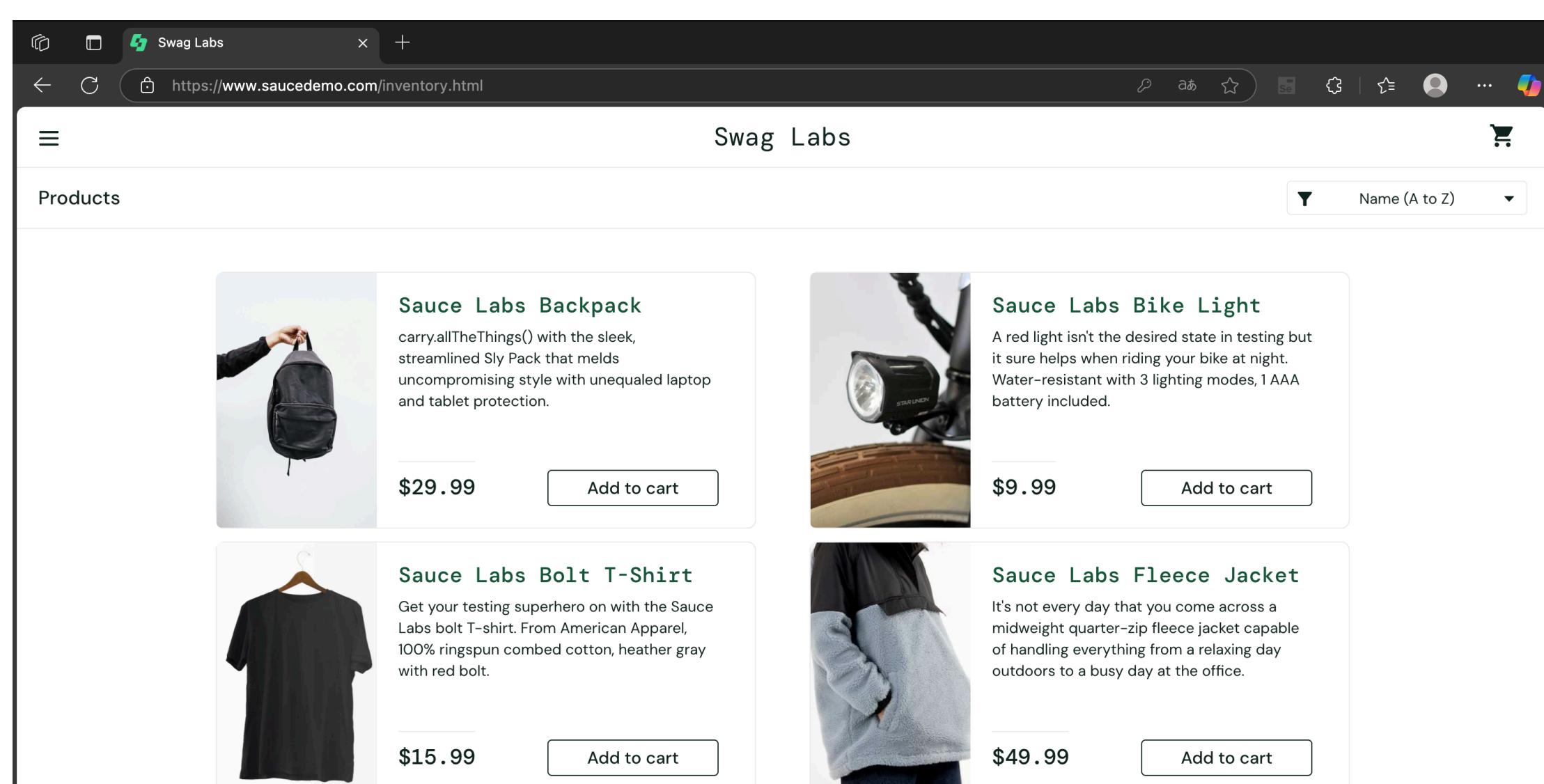
nurcan.yilmaz5@ogr.sakarya.edu.tr

## SUPERVISOR

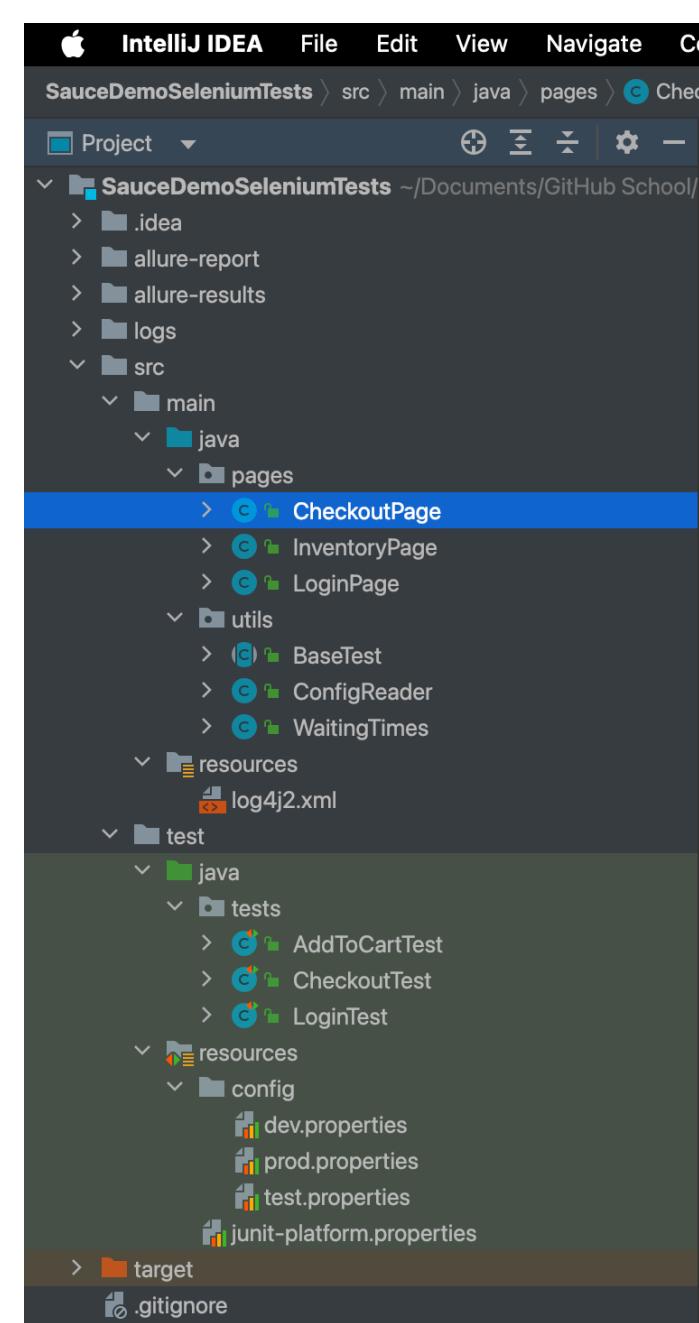
Assist. Prof. Dr. Beyza EKEN

### Introduction

This project aims to validate the basic user flows (login, add product to cart, payment) of the Sauce Demo e-commerce web application with automated tests. Our goal is to improve software quality, detect regression errors early, and provide faster feedback loops by reducing manual testing effort. Sauce Demo provides an ideal environment for implementing test automation practices.



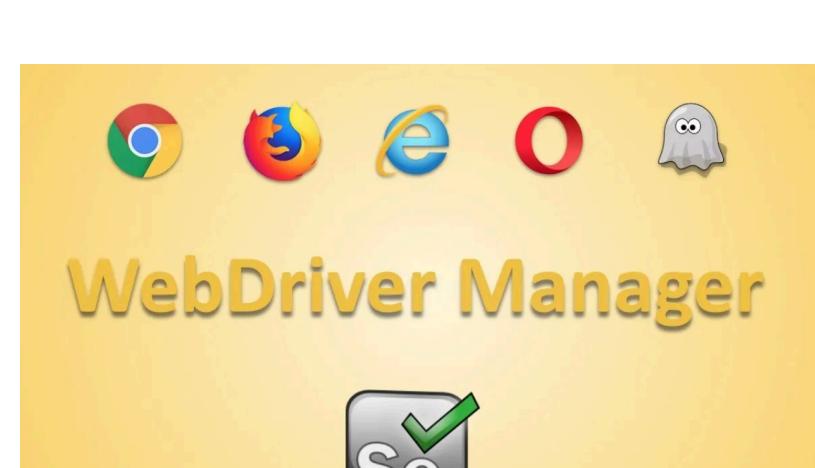
Shape 1: SauceDemo Website



Shape 2: Project Structure

### Technologies Used

The project provides a powerful and flexible testing infrastructure by combining modern Java-based automation tools. Browser interactions are provided with Selenium, test organization with JUnit, and comprehensive reporting with Allure.



Shape 3: Technologies Used

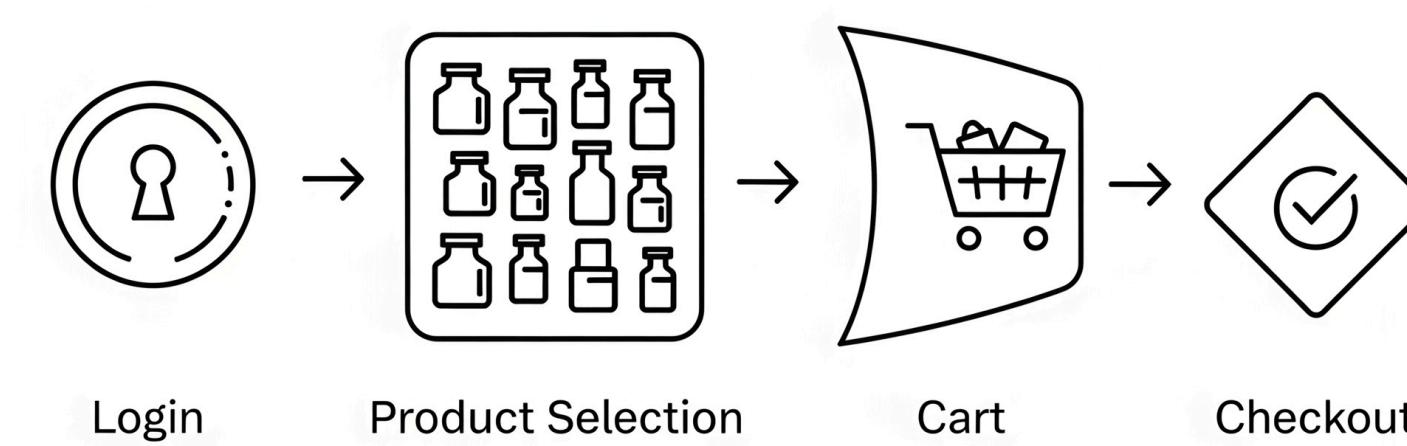
### Test Scenarios

**Login Tests:** Successful/unsuccessful logins, locked user scenario.

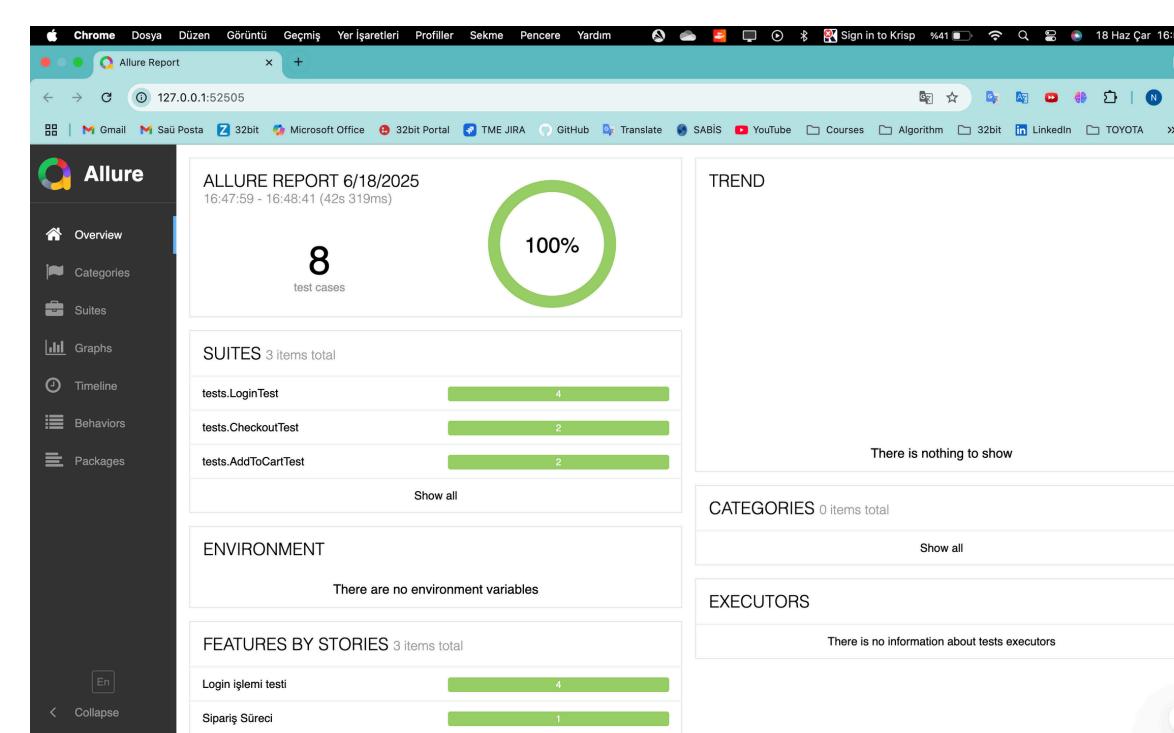
**Add to Cart Tests:** Correct addition and removal of products to the cart.

**Checkout Tests:** Entering information, order confirmation, missing information errors.

Each scenario is designed to cover the critical functionality of the application and is tested with various data combinations.

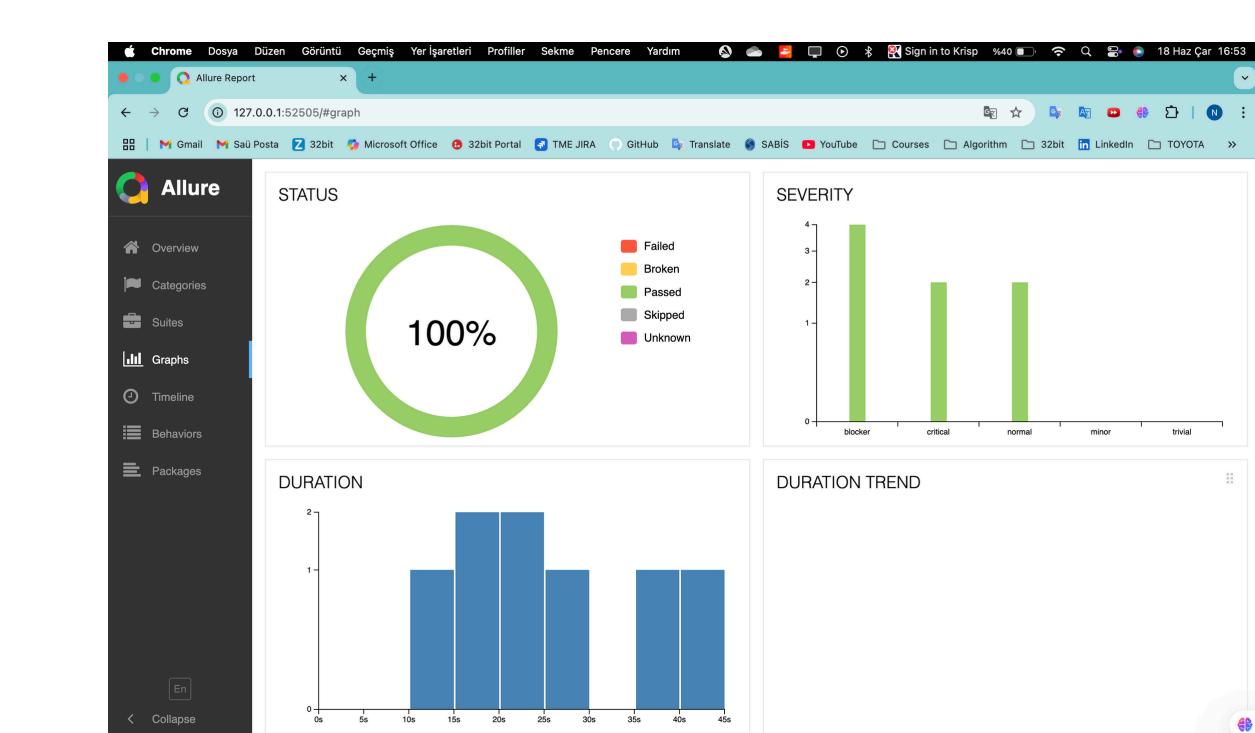


Shape 4: Checkout Tests Scenario Schema



### Test Results and Analysis

The data obtained from the test runs were analyzed in detail with the Allure Reporting tool. The reports include test success rates, error causes, and performance metrics. The analysis revealed the stability of the application and potential problems in certain areas.



Shape 5: Allure Reports

### General Flow of the Process

The automation process begins with understanding the requirements and continues with designing and coding test scenarios in accordance with the Page Object Model. Tests are run regularly and the results are analyzed in detail through Allure reports. This cycle is critical for continuous improvement and high software quality.



Shape 6: Automated Testing Process

### Good Practices

Centralized waits and configuration management.

Modular and reusable code structure.

Detailed logging and comprehensive reporting.

Extensive data testing with parameterized tests.