

Automated Testing of W3Schools Login Functionalities

Project Overview

This project involves the automated testing of login functionalities on the W3Schools website using Selenium and pytest. The test scenarios include various combinations of valid and invalid inputs for the email and password fields. The environment variables for valid email and password credentials are stored securely in a .env file.

Environment Setup

Programming Language: Python 3.x

Libraries:

- Selenium
- pytest
- python-dotenv

Test Cases Description

Test Case 1: Verify W3Schools Homepage Load

Description: Verify that the W3Schools homepage loads correctly.

Steps:

Open the W3Schools homepage.

Assert that the title contains 'W3Schools'.

Expected Result:

The title should contain 'W3Schools'.

Test Case 2: Invalid Email Format

Description: Verify that an invalid email format triggers an appropriate error message.

Steps:

Enter an invalid email format (e.g., 'invalid_email_format').

Enter a valid password.

Click the submit button.

Expected Result:

The error message should state 'Please enter a valid email address'.

Test Case 3: Invalid Password

Description: Verify that an invalid password triggers an appropriate error message.

Steps:

Enter a valid email.

Enter an invalid password.

Click the submit button.

Expected Result:

The error message should state 'Please enter a valid email address'.

Test Case 4: Boundary Value for Password

Description: Verify that leaving the email field empty triggers an appropriate error message.

Steps:

Leave the email field empty.

Enter a valid password.

Click the submit button.

Expected Result:

The error message should state 'Please enter your email and password'.

Test Case 5: Empty Email Field

Description: Verify that leaving the email field empty triggers an appropriate error message.

Steps:

Leave the email field empty.

Enter a valid password.

Click the submit button.

Expected Result:

The error message should state 'Please enter your email and password'.

Test Case 6: Empty Password Field

Description: Verify that leaving the password field empty triggers an appropriate error message.

Steps:

Enter a valid email.

Leave the password field empty.

Click the submit button.

Expected Result:

The error message should state 'Please enter your email and password'.

Test Case 7: Valid Email and Password

Description: Verify that valid email and password credentials allow successful login.

Steps:

Enter a valid email.

Enter a valid password.

Click the submit button.

Expected Result:

Successful login should occur.

Execution Results

Test Case 1: Passed

Test Case 2: Passed

Test Case 3: Passed

Test Case 4: Passed

Test Case 5: Passed

Test Case 6: Passed

Test Case 7: Passed

Conclusion

Automated testing is crucial for ensuring the reliability and correctness of web applications. The tests designed and executed for the W3Schools login functionalities help identify discrepancies between expected and actual behaviors, thus allowing for timely corrections and improvements. Future work will include expanding test coverage to other parts of the W3Schools website and enhancing the robustness of the current test cases.