Automated Login Page Test

A Selenium-based test suite designed to automate and validate the login functionality of a web application(vwo.com), ensuring proper handling of valid and invalid credentials with robust error reporting and seamless user experience.

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**Login Testing Automation Documentation**

**Project Overview**

This project automates the testing of the login functionality for the web application available at [VWO Login Page](https://app.vwo.com/#/login). The automation scripts ensure that the login page handles valid and invalid scenarios correctly, providing confidence in its functionality and robustness.

**Objective**

The primary goal of this project is to:

* Validate the behavior of the login functionality under various input scenarios.
* Identify issues in user authentication mechanisms.
* Provide detailed and reproducible test results for developers.

**Test Cases**

**1. Login Test - Valid Credentials**

* **Precondition:** User has a valid email and password.
* **Steps:**
  1. Navigate to the login page.
  2. Enter a valid email address and password.
  3. Click the login button.
* **Expected Result:** User is successfully navigated to the dashboard page.

**2. Invalid Login - Incorrect Email**

* **Precondition:** User has an incorrect email and a valid password.
* **Steps:**
  1. Navigate to the login page.
  2. Enter an incorrect email address and a valid password.
  3. Click the login button.
* **Expected Result:** An error message is displayed*.*

**3. Invalid Login - Incorrect Password**

* **Precondition:** User has a valid email and an incorrect password.
* **Steps:**
  1. Navigate to the login page.
  2. Enter a valid email address and an incorrect password.
  3. Click the login button.
* **Expected Result:** An error message is displayed.*"*

**4. Empty Fields**

* **Precondition:** No fields are filled.
* **Steps:**
  1. Navigate to the login page.
  2. Leave both email and password fields empty.
  3. Click the login button.
* **Expected Result:** Error messages are displayed.

**Technical Details**

**Tech Stack**

* **Programming Language:** Python
* **Testing Framework:** Selenium WebDriver
* **Logging Library:** logging
* **Driver Management:** WebDriver for Chrome

**Dependencies**

The following Python libraries are required:

* selenium
* pytest
* pytest-html

**Execution Guide**

**Prerequisites**

1. Python 3.x installed.
2. Google Chrome installed.
3. Download the appropriate WebDriver for your browser and ensure it's in your system
4. PATH.

**Expected Outcomes**

**Successful Login**

When valid credentials are provided, the user is redirected to the dashboard.

**Failed Logins**

* Incorrect email or password should prompt an error message.
* Empty fields should display validation messages.

### ****Improvement Needed: Error Handling Specificity****

#### **Current Issue**

The login system currently displays a generalized error message, "Your email, password, IP address, or location did not match", for all invalid login attempts. While this message covers a broad range of potential issues, it fails to provide specific feedback for different types of errors, such as:

* Incorrect email or password.
* Invalid email format.
* Issues with IP address restrictions or geolocation mismatches.

#### **Impact**

* **User Confusion:** Users are left uncertain about the exact cause of the login failure, leading to frustration and repeated failed attempts.
* **Reduced System Usability:** The lack of clear guidance discourages users from resolving their issues effectively, potentially driving them away from the platform.
* **Testing Challenges:** For developers and testers, diagnosing login-related issues becomes more difficult without detailed error feedback.

#### **Recommended Improvements**

1. **Specific Error Messages:**  
   Introduce targeted messages for different scenarios:
   * **Invalid Email Format:** "Please enter a valid email address (e.g., user@example.com)."
   * **Incorrect Email or Password:** "The email or password entered is incorrect. Please try again."
   * **IP Address or Location Restriction:** "Your login attempt has been blocked due to location or IP address restrictions. Please contact support for assistance."
2. **Field-Specific Validation:**
   * For invalid email formats, display an inline message near the email input field.
   * Highlight affected fields (e.g., email or password) in red for better visibility.

### ****Benefits of Improvement****

* Enhanced user experience with clear and actionable feedback.
* Reduced frustration and improved resolution time for login issues.
* Easier debugging and testing for developers.
* Increased transparency and trust in the platform’s login process.

## Screenshots of the Executed tests

### Test case 1

## 

### Test case 2

## 

### Test case 3

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### Test case 4

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