**Facebook.com Login Page Test Automation Project Documentation**

1. **Project Overview**
   1. Project Title:

Facebook.com Login page test automation.

* 1. Project Description

This project automates the testing of login page functionalities on the facebook.com social media platform. Including user login, Register, Forgot Password. The goal is to ensure that these critical user flows are functioning correctly and efficiently.

* 1. Objectives:

Validate registration functionality.

Validate Login functionality.

Verify Forgotten Password functionality.

* 1. Technology & Tools:
* Programming Language: Java
* Automation Framework: Selenium WebDriver
* Test Framework: TestNG
* Build Tool: Maven
* Version Control: GitHub
* CI/CD Tool (optional): Jenkins
* Performance Testing: JMeter
* API Testing: Postman
* Reporting Tool: Extent Reports

1. **Test Strategy**
   1. Scope of Testing:

The testing scope includes functional testing of the following features:

* User Registration.
* User Login.
* Forgotten Password.
  1. Types of Testing:

Functional Testing: Ensure that each feature works according to the specifications.

Positive Testing: Test correct workflows, such as logging in with valid credentials or successfully creating a new account.

Negative Testing: Validate that the system behaves appropriately with invalid inputs (e.g., incorrect password, invalid email format).

Boundary Value Testing: Test input fields with minimum and maximum length values for username, password, etc.

Input Validation Testing: Check whether inputs like special characters, empty fields, or malformed emails are handled properly.

UI and Usability Testing: Verify the correct placement and function of UI elements (login button, fields) and the flow of user interactions.

Security Testing:

* + - Ensure proper handling of credentials (e.g., passwords are masked).
    - Test for vulnerabilities like SQL Injection and XSS.

Cross-browser Testing: Ensure the login page functionality is consistent across different browsers (Chrome, Firefox, Safari, Edge).

Accessibility Testing: Test the page’s accessibility for users with disabilities, including screen reader support and keyboard navigation.

* 1. Test Environments:
* Browser: Chrome (version X.X), Firefox (version X.X)
* Operating System: Windows 11.

1. **Test Cases**

1User Registration Test Cases:

* TC\_001: Validate successful registration with valid details.
* TC\_002: Validate error message when email is invalid.
* TC\_003: Validate registration with a short password.
* TC\_004: Ensure all mandatory fields are required.

2Login Test Cases:

* TC\_005: Validate login with valid credentials.
* TC\_006: Validate error message with incorrect password.
* TC\_007: Validate error message for unregistered email.
* TC\_008: Validate login with empty username and password fields.
* TC\_009: Ensure password is masked while typing.

3.Forgot Password Test Cases:

* TC\_010: Validate successful password reset flow with registered email.
* TC\_011: Validate error message for unregistered email.
* TC\_012: Ensure that the system redirects to the correct password reset page.

1. **Test Execution and Reporting**
   1. Test Execution:

* Manual Execution: All test cases are documented manually and can be executed manually if required.
* Automated Execution: The above test cases are automated using Selenium WebDriver and can be executed via TestNG.
  1. Test Reporting:
* TestNG Reports: TestNG will generate default HTML reports after the execution of the test suite.
* Extent Reports (optional): For enhanced reporting, integrate Extent Reports to generate detailed and visually appealing test reports.
  1. Continuous Integration (Optional):
* Jenkins Integration: Integrate the project with Jenkins for continuous integration, enabling automated test runs on every code commit.

1. **Version Control**
   1. GitHub Repository:

* Repository URL: <https://github.com/ptilege/facebook-login-test-automation.git>

1. **Conclusion**

The Facebook Login Page Automation Project ensures the robust functionality of key features like login, registration, and password recovery through automation. By employing a combination of functional, security, cross-browser, and accessibility testing, this project aims to enhance the reliability and user experience of the Facebook login system.