1. **Test Strategy for Login and Logout Web Application:**

Functional testing: Submit correct/incorrect data and check that no unexpected behavior take place

Automated tests: Write automated tests for test for reproducible scenarios.

1. **Test cases for Login and Logout Web Application:**

**UI Layer**

Test 1: Submit Empty Username and Password

Actions:

1. Open http://the-internet.herokuapp.com/login in your Browser

2. Click "Login Button"

Expected result:

1."Your username is invalid!" error message should occur.

//Automated tests covers this scenario

Test 2: Submit Empty Username

Actions:

1. Open http://the-internet.herokuapp.com/login in your Browser

2. Enter "WrongUsername" in Username field.

3. Click "Login Button"

Expected result:

1. "Your username is invalid!" error message should occur.

//Automated tests covers this scenario

Test 3: Submit Empty Password

Actions:

1.Open http://the-internet.herokuapp.com/login in your Browser

2. Enter "WrongPassword" in Password field.

3. Click "Login Button"

Expected result:

1."Your password is invalid!" error message should occur.

//Automated tests covers this scenario

Test 4: Submit Correct Details

Actions:

1. Open http://the-internet.herokuapp.com/login in your Browser

2. Enter "tomsmith" in Username field.

3. Enter "SuperSecretPassword!" in Password field.

2. Click "Login Button"

Expected result:

1. You should be redirected to "http://the-internet.herokuapp.com/secure"

2."Logout" button should be present in the opened page.

// Automated tests covers this scenario

Test 5: Submit Incorrect Details

Actions:

1. Open http://the-internet.herokuapp.com/login in your Browser

2. Enter "WrongUsername" in Username field.

3. Enter "WrongPassword?" in Password field.

2. Click "Login Button"

Expected result:

1."Your username is invalid!" error message should occur.

// Automated tests covers this scenario

Test 6: Logout

Actions:

1. Open http://the-internet.herokuapp.com/login in your Browser

2. Enter "tomsmith" in Username field.

3. Enter "SuperSecretPassword!" in Password field.

4. Click "Login Button"

5. Click "Logout Button"

Expected result:

1. You should be redirected to "http://the-internet.herokuapp.com/secure"

2."Logout" button should be present in the opened page.

3. After "Logout" button is clicked you should be redirected back to "http://the-internet.herokuapp.com/login"

4."You logged out of the secure area!" message should be displayed.

// Automated tests covers this scenario

**Keyboard Specific**

Test 7: Enter Submit

Actions:

1. Open http://the-internet.herokuapp.com/login in your Browser

2. Enter "tomsmith" in Username field.

3. Enter "SuperSecretPassword!" in Password field.

4. Press "Enter" button on your keyboard.

Expected results:

1. You should be redirected to "http://the-internet.herokuapp.com/secure"

2."Logout" button should be present in the opened page.

Test 8: Tab for Navigation

Actions:

1. Open http://the-internet.herokuapp.com/login in your Browser

2. Click on Username Filed.

3. Press "Tab" button

Expected result:

1. Focus should be on Password Field

Actions:

4. Press "Tab" button

Expected result:

1. Focus should be on "Login" button.

Test 9: Backspace for Previous Page

Actions:

1. Open http://the-internet.herokuapp.com/login in your Browser

2. Enter "tomsmith" in Username field.

3. Enter "SuperSecretPassword!" in Password field.

4. Click "Login Button"

Expected result:

1. You should be redirected to "http://the-internet.herokuapp.com/secure"

2."Logout" button should be present in the opened page.

Actions:

5. Press "backspace" button.

Expected results:

3. After "Backspace" button is pushed you should be redirected back to "http://the-internet.herokuapp.com/login"

4."You logged out of the secure area!" message should be displayed.

Test 10: Space submits if focus is on button.

Actions:

1. Open http://the-internet.herokuapp.com/login in your Browser

2. Enter "tomsmith" in Username field.

3. Enter "SuperSecretPassword!" in Password field.

4. Press "Tab" button from your keyboard.

5. Press "Spacebar" button from your keyboard.

Expected results:

1. You should be redirected to "http://the-internet.herokuapp.com/secure"

2."Logout" button should be present in the opened page.

**Security Specific**

Test 11: Encrypted password

Actions:

1. Open http://the-internet.herokuapp.com/login in your Browser
2. Write something in Password field.

Expected results:

1. Password encrypted.

Test 12: Password cannot be copied

Actions:

1. Open http://the-internet.herokuapp.com/login in your Browser
2. Write something in Password field.
3. Select the text you just entered.
4. Copy the text using “Ctrl+C” from your keyboard.
5. Paste it in a text editor.

Expected results:

1. Nothing should be pasted in text editor.

**3. Automated tests for Login and Logout Web Application**

1. To automate Test Cases I used Java and Selenium.

To run test cases you need Java and Firefox Browser on Windows 7. Also you have to download gickodriver.exe, rename it to “wires.exe” and add it to Environment Variables (this is the webdriver for Firefox Browser).

Add the source code in a Java IDE and run tests.

Below is the Source Code (written in IntelliJ IDE), but I will also attach the Project in email.

“**package** com.orlando.webdriver;  
  
**import** org.junit.Test;  
  
**import** org.junit.Test;  
**import** org.openqa.selenium.By;  
**import** org.openqa.selenium.WebDriver;  
**import** org.openqa.selenium.WebElement;  
**import** org.openqa.selenium.firefox.FirefoxDriver;  
  
**import static** org.hamcrest.MatcherAssert.*assertThat*;  
**import static** org.hamcrest.core.IsEqual.*equalTo*;  
  
**public class** LoginAppTest {  
  
 *//Webdriver global variable* WebDriver **driver** = **new** FirefoxDriver();  
  
 *//This method is used to complete username and password and to submit details.  
 //It will return the current url* **public** String enterLoginData(String username, String password) **throws** InterruptedException {  
  
 **driver**.get(**"http://the-internet.herokuapp.com/login"**);  
 WebElement userelement = **driver**.findElement(By.*id*(**"username"**));  
 WebElement passwordelement = **driver**.findElement(By.*id*(**"password"**));  
 WebElement buttonlogin = **driver**.findElement(By.*className*(**"radius"**));  
 userelement.sendKeys(username);  
 passwordelement.sendKeys(password);  
 buttonlogin.click();  
 Thread.*sleep*(2000);  
 **return driver**.getCurrentUrl();  
 }  
  
 *//This method will return the error message related to wrong credentials* **public** String checkCredentials() {  
  
 String errorText = **driver**.findElement(By.*id*(**"flash"**)).getText();  
 **return** errorText;  
 }  
  
 *//This method will press Logout button from Logout Page  
 //It will return the url from the redirected Page* **public** String logout() **throws** InterruptedException {  
 WebElement buttonlogout = **driver**.findElement(By.*className*(**"icon-signout"**));  
 buttonlogout.click();  
 Thread.*sleep*(2000);  
 **return driver**.getCurrentUrl();  
 }  
  
 @Test  
 *//This test will enter the correct credentials, press Login button and will check if the redirect url is correct* **public void** shouldSucceedLogin() **throws** InterruptedException {  
  
 String redirecturl = enterLoginData(**"tomsmith"**, **"SuperSecretPassword!"**);  
 *assertThat*((redirecturl), *equalTo*(**"http://the-internet.herokuapp.com/secure"**));  
 **driver**.quit();  
  
  
 }  
  
 @Test  
 *//This test will check if an error is displayed if Username is incorrect* **public void** shouldFailUsernameLogin() **throws** InterruptedException {  
 String redirecturl = enterLoginData(**"WrongUsername"**, **"SuperSecretPassword!"**);  
 *assertThat*((redirecturl), *equalTo*(**"http://the-internet.herokuapp.com/login"**));  
 Thread.*sleep*(2000);  
 *assertThat*(checkCredentials(), *equalTo*(**"Your username is invalid!\n×"**));  
 **driver**.quit();  
 }  
  
 @Test  
 *//This test will check if an error is displayed if Password is incorrect* **public void** shouldFailPasswordLogin() **throws** InterruptedException {  
 String redirecturl = enterLoginData(**"tomsmith"**, **"WrongPassword!"**);  
 *assertThat*((redirecturl), *equalTo*(**"http://the-internet.herokuapp.com/login"**));  
 Thread.*sleep*(2000);  
 *assertThat*(checkCredentials(), *equalTo*(**"Your password is invalid!\n×"**));  
 **driver**.quit();  
 }  
  
 @Test  
 *//This test will check if an error is displayed if Username is incorrect* **public void** shouldFailCredentialsLogin() **throws** InterruptedException {  
 String redirecturl = enterLoginData(**"WrongUsername"**, **"WrongPassword?"**);  
 *assertThat*((redirecturl), *equalTo*(**"http://the-internet.herokuapp.com/login"**));  
 Thread.*sleep*(2000);  
 *assertThat*(checkCredentials(), *equalTo*(**"Your username is invalid!\n×"**));  
 **driver**.quit();  
 }  
  
 @Test  
 *//This test will Login with right credentials and then Logout  
 //Will check if the redirected url is correct* **public void** shouldSucceedLogout() **throws** InterruptedException {  
 String redirecturl = enterLoginData(**"tomsmith"**, **"SuperSecretPassword!"**);  
 *assertThat*((redirecturl), *equalTo*(**"http://the-internet.herokuapp.com/secure"**));  
 String redirecturl2 = logout();  
 *assertThat*((redirecturl2), *equalTo*(**"http://the-internet.herokuapp.com/login"**));  
 **driver**.quit();  
 }  
  
}

**4. Improvements for Login/Logout Application**

1. When you Login to <http://the-internet.herokuapp.com/login> the focus should be on Username Field.

2. A “Remember me” checkbox option should be available.

3. Placeholder for Username and Password.