Yahoo.com

AUTOMATED TEST PLAN USING SELENIUM

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Introduction

The document aims to show validation of the web UI elements on http://www.yahoo.com and its connecting links. The details for the elements have been tested had been described in the scope.

Objectives

The validation of the elements has been done using Selenium and the script is written in Java using Eclipse Luna. This document contains full detailed of JUnit using Selenium IDE. The objective of the project is to do validation of the variety of UI elements.

Version

This document is version 1 .0 which contains validation of UI elements and an element of data driven as mentioned in the scope.

1   Scope

The project aims to show validation of the web elements at www.yahoo.com and its connecting links such as its sign in page and sign up page. The various elements or the details has been stated below.

1. To validate the search box on the yahoo.com
2. To validate the links on the page.
3. To automate the sign-in process with password.
4. To automate the complete sign-up process.
5. Validate the checkbox.
6. Validate the dropdown menu.
7. Validate the broken links.
8. Validate the broken images on the page.
9. Extract the data (username) using Selenium from excel sheet.
10. Pass the data from the excel sheet and pass it to yahoo.com to automate the sign in process.
11. To automate the scrolling and reach at the end of the page.
12. Automate the scroll bar.
13. To find number of buttons on the screen.
14. To export the data for JUnit using selenium IDE

Assumptions / Risks

Assumptions

This documents assumes that to be aware of the type of framework used.
Framework that can be applicable to this project are:

1. Data driven Testing Framework
2. Object driven Testing Framework
3. Programmatic

The connecting frameworks that can be used and part of the script are:

4. Library Architecture Testing
5. Module Based Testing
6. Key Driven Framework

The script that is written is a generalized script and Exception handling can change for various code spinets.

Risks

If proper xpath or missing addition of libraries can cause error.

2 Test Approach & Environment

This project has been scripted in java. Tool used is selenium. Yahoo.com has various elements on the webpage. To test the login page or sign up page can be tedious if done manually as it takes too much of manual time to feed in to data. By automating, we come to know how server can take time to fetch data from the database to authenticate the user. It is needed as yahoo should take least time to authenticate and show the result and throw error if required. Validation of elements on the webpage can tell us if all the requirement has been achieved as per the test plan.

Since we are using Firefox, the elements can be inspected using firebug or firepath. They give us element ID or element xpath. Xpath is the location of the web element that is located on to the web page.

3 Integrations/scheduling

To have rigorous testing on the application or website the script needs to run certain number of time to pass the load or stress testing. This can be future plan for this project.

4 Test Automation

Various elements on the yahoo are validated. Below shows step by step the elements that are validated.

4.1.1 Types of Libraries used

IDE used for this project is Eclipse Luna. The browser mainly used is Firefox. Other drives can be used if needed. The script to use other browser can be viewed in Appendix. It is important to download the libraries that are used for selenium and the libraries to execute the script. Libraries used are:

1. Jexcelap_2_6_12.zip
2. Poi-bin-3.14.zip
3. Selenium-java-2.53.0.zip

4.1.2 Validating the search box on yahoo.com

It is on the top center of the page. To validate the search box, we can use various methods. We can search by element ID or xpath or CSS. We will be doing search box validation with element ID and other elements by xpath.

The script shown is as follows
> *WebElement searchBox;*
> *searchBox = driver.findElement(By.id("uh-search-box"));*
> *searchBox.sendKeys("Software");*
> *searchBox.submit();*

The element for the search bar is "uh.search-box". Hence, we have found out the by WebElement architecture and driverfindElement. Once selenium locates this elements, it sends text "Software" to the text area and click on submit button.
We can see the search results for the software through yahoo.

4.1.3 To validate the links on the page and find number of links.

To find out what are the links on the webpage we can use this script. It gives all the links on the webpage.

```
List<WebElement>allLinks=driver.findElements(By.tagName("a"));
        for(WebElement link:allLinks)
                  System.out.println(link.getText())
```
To automate the sign-in process with password.

This is the output for the above code
```
Home
Mail
Flickr
Tumblr
Answers
Groups
Mobile
```

More

Yahoo
Sign in
Mail

// this space is left as it was blank on the console

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1. Doris Robert
2. Kobe Bryant

```
3. Britney Spears
4. Alisan Porter
5. Buick Lacrosse
6. Satellite Internet
7. Racquel Smith
8. Tom Hanks
9. Exercise equipment
10. Alexander Hamilton
Santa Clara, CA
Today
82°
f High
53°
f Low
Wed
77°
f High
47°
f Low
Thu
70°
f High
51°
f Low
Fri
60°
f High
52°
f Low
Yahoo Celebrity
Watch: Taylor Swift gives tour of her $25M home
Yahoo TV
Cersei Lannister's best 'Game of Thrones' zingers


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Feedback
```

To find the number of links on the page we can add +alllinks.size() in print statement. We can see similar example in the next section.

4.1.4   Find number of images on the screen.

To find out what are the links on the webpage we can use this script. It gives all the links on the webpage.

```
List<WebElement>listimages=driver.findElements(By.tagName("img"));
   System.out.println("number of images on pages"+listimages.size());
```

The above code spinet gives the number of images on yahoo.com

The output for the above code gives:

```
number of images on pages27
```

4.1.5 Automate the Sign up process

4.1.5.1.1 Validate the dropdown, submit button, text area

This section contains code which automates the sign up process. For simplicity, we have given direct link to WebDriver.

driver.get("https://login.yahoo.com/account/create?.lang=en-US&.intl=us&.src=fpctx&.done=https%3A%2F%2Fwww.yahoo.com&specId=yidReg&altreg=0");

driver.findElement(By.xpath(".//*[@id='usernamereg-firstName']")).sendKeys("Prachit");
driver.findElement(By.xpath(".//*[@id='usernamereg-lastName']")).sendKeys("Kurani");
driver.findElement(By.xpath(".//*[@id='usernamereg-yid']")).sendKeys("cmpe287");
driver.findElement(By.xpath(".//*[@id='usernamereg-password']")).sendKeys("softwareTesting");
driver.findElement(By.xpath(".//*[@id='usernamereg-phone']")).sendKeys("6692258663");

Select month=new Select(driver.findElement(By.xpath(".//*[@id='usernamereg-month']")));
month.selectByIndex(1);
Select day = new Select(driver.findElement(By.xpath(".//*[@id='usernamereg-day']")));
day.selectByVisibleText("1");
Select year = new Select(driver.findElement(By.xpath(".//*[@id='usernamereg-year']")));
year.selectByValue("1991");
WebElement continuee;
continuee = driver.findElement(By.xpath(".//*[@id='reg-submit-button']"));
continuee.submit();

This section we have used three different options to validate the drop down element. Always the index start with 0 and we have selected DOB as Jan 1, 1991. Index 1 has January, Visible text is selected 1 and value selected is 1991 for the birth year.

4.1.6 To automate the sign in process and validate the check box

This section contains code which automates the sign in process. For simplicity, we have given direct link to WebDriver. The page has check box to remember. Using the script below, we have unchecked it.

```
driver.get("https://login.yahoo.com/config/login?.src=fpctx&.intl=us&.lang=en-
                US&.done=https%3A%2F%2Fwww.yahoo.com");
                driver.findElement(By.xpath(".//*[@id='login-
             username']")).sendKeys("coolprachit_7@yahoo.co.in");
         driver.findElement(By.xpath(".//*[@id='persistency']/div") ).click();
                                    try{
                              Thread.sleep(5000);
         driver.findElement(By.xpath(".//*[@id='login-signin']")).click();
                              }catch(Exception e)
                                     {
                              System.out.println(e);
                                     }
```

4.1.7 Extract the data (username) using Selenium from excel sheet and Pass the data from the excel sheet and pass it to yahoo.com to automate the sign in process.
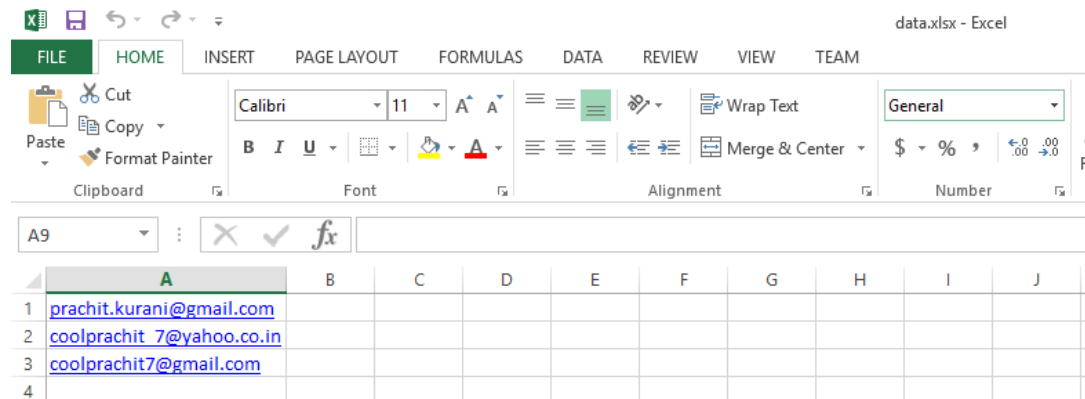
To reduce the use of sendKeys each time, we can transfer data form an Excel sheet and send the data to sign in process of yahoo mail.

```
            // to read data from excel and send it the username
                                /*try{
             FileInputStream files = new FileInputStream(new
                 File("C:\\Users\\Prachit\\Desktop\\data.xlsx"));
             XSSFWorkbook workbook = new XSSFWorkbook("files");
                 XSSFSheet sheet =workbook.getSheetAt(0);
         String st0 =sheet.getRow(0).getCell(0).getStringCellValue();
         String st1 =sheet.getRow(1).getCell(1).getStringCellValue();
         String st2 =sheet.getRow(2).getCell(2).getStringCellValue();

                     System.out.println("row 0:"+ st0);
                     System.out.println("row 1:"+ st1);
                     System.out.println("row 2:"+ st2);
                                files.close();
                                     }
                     catch(FileNotFoundException e){
                              e.printStackTrace();
                         }catch(IOException ie){
```

ie.printStackTrace();

}

The excel sheet has data as shown below which gets output on console

4.1.8 To automate the scrolling and reach at the end of the page.

To reach the end of the page or to automate the scrolling, we can write the code snippet as shown below.

JavascriptExecutor js=(JavascriptExecutor)driver;

js.executeScript("scrollBy(0,2500");

4.1.9 To get the number of buttons on home page.

Using code snipped as stated below, we can get the number of buttons on the page

List<WebElement> links =driver.findElements(By.tagName("button"));

int noButtons=links.size();

System.out.println("# of buttons in the web page = "+noButtons);

if(noButtons>0)

{

for(WebElement link:links)

System.out.println(link.getText());

}

The output on the console is shown below

```
# of buttons in the web page = 3
```

5 Using Selenium IDE get the script for JUnit

We can run the entire process using selenium IDE which acts as a plugin for Firefox. Whole data is been recorded for the changes or the action been performed onto the website or webpage. When we export the same to Eclipse we can observe the entire JUnit code. We need to make sure the class name matches the file name in Eclipse. Here is an example for the same.

```java
import java.util.regex.Pattern;
import java.util.concurrent.TimeUnit;
import org.junit.*;
import static org.junit.Assert.*;
import static org.hamcrest.CoreMatchers.*;
import org.openqa.selenium.*;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.openqa.selenium.support.ui.Select;

public class SeleniumIDE {
    private WebDriver driver;
    private String baseUrl;
    private boolean acceptNextAlert = true;
    private StringBuffer verificationErrors = new StringBuffer();

    @Before
    public void setUp() throws Exception {
        driver = new FirefoxDriver();
        baseUrl = "https://www.yahoo.com/";
        driver.manage().timeouts().implicitlyWait(30, TimeUnit.SECONDS);
    }

    @Test
    public void testSeleniumIDE() throws Exception {
        driver.get(baseUrl + "/");
        driver.findElement(By.id("uh-search-box")).clear();
        driver.findElement(By.id("uh-search-box")).sendKeys("software");
        driver.findElement(By.id("yucs-login_signIn")).click();
        driver.findElement(By.id("login-username")).clear();
        driver.findElement(By.id("login-username")).sendKeys("coolprachit_7");
        driver.findElement(By.id("yui_3_18_1_11_1461144398740_126")).click();
```

```
driver.findElement(By.id("persistent")).click();
driver.findElement(By.id("login-signin")).click();
driver.findElement(By.id("mbr-back-to-login")).click();
driver.findElement(By.id("login-signup")).click();
driver.findElement(By.id("usernamereg-firstName")).click();
driver.findElement(By.id("usernamereg-firstName")).clear();
driver.findElement(By.id("usernamereg-firstName")).sendKeys("prachit");
driver.findElement(By.id("usernamereg-lastName")).clear();
driver.findElement(By.id("usernamereg-lastName")).sendKeys("kurani");
driver.findElement(By.id("usernamereg-yid")).clear();
driver.findElement(By.id("usernamereg-yid")).sendKeys("abcdeg");
driver.findElement(By.id("usernamereg-yid")).clear();
driver.findElement(By.id("usernamereg-yid")).sendKeys("abcdefghijk");
driver.findElement(By.id("usernamereg-yid")).clear();
driver.findElement(By.id("usernamereg-yid")).sendKeys("abcdefghijk99");
driver.findElement(By.id("usernamereg-password")).clear();
driver.findElement(By.id("usernamereg-password")).sendKeys("abc");
driver.findElement(By.id("usernamereg-phone")).clear();
driver.findElement(By.id("usernamereg-phone")).sendKeys("6692258663");
driver.findElement(By.id("usernamereg-password")).clear();
driver.findElement(By.id("usernamereg-password")).sendKeys("abccsefczefs");
driver.findElement(By.id("usernamereg-yid")).clear();
driver.findElement(By.id("usernamereg-yid")).sendKeys("abcdefghijk99sefc");
new Select(driver.findElement(By.id("usernamereg-
    month"))).selectByVisibleText("February");
new Select(driver.findElement(By.id("usernamereg-
    day"))).selectByVisibleText("13");
new Select(driver.findElement(By.id("usernamereg-
    year"))).selectByVisibleText("2002");
driver.findElement(By.id("reg-submit-button")).click();
driver.findElement(By.linkText("Yahoo")).click();
driver.findElement(By.id("yui_3_18_0_4_1461144475639_199")).click();
driver.findElement(By.xpath("//li[@id='yucs-top-home']/a/b")).click();
}

@After
public void tearDown() throws Exception {
    driver.quit();
    String verificationErrorString = verificationErrors.toString();
    if (!"".equals(verificationErrorString)) {
```

```
fail(verificationErrorString);
    }
}


private boolean isElementPresent(By by) {
    try {
        driver.findElement(by);
        return true;
    } catch (NoSuchElementException e) {
        return false;
    }
}


private boolean isAlertPresent() {
    try {
        driver.switchTo().alert();
        return true;
    } catch (NoAlertPresentException e) {
        return false;
    }
}


private String closeAlertAndGetItsText() {
    try {
        Alert alert = driver.switchTo().alert();
        String alertText = alert.getText();
        if (acceptNextAlert) {
            alert.accept();
        } else {
            alert.dismiss();
        }
        return alertText;
    } finally {
        acceptNextAlert = true;
    }
}
}
```

6   Deliverables and Results

Deliverables

Deliverable	Result
Test Plan	Stated
To validate the search box on yahoo.com	Passed
Validate the links on the page	Passed
Automate the sign in process with password	Passed
Automate the sign up process	Passed
Validate the checkbox	Passed
Validate the dropdown menu	Passed
Validate the broken links	Passed
Validate and find number of broken Images on the screen	Passed
Extract the data from excel sheet and pass it to yahoo signup page	Passed
To automate the scrolling	Passed
To find number of buttons on the screen	Passed
To capture JUnit using selenium IDE	passed

7 Conclusion

This document successfully states how to validate the components on yahoo.com and gives detailed snippet of how it can be executed. It also states what library needs to be imported in order to meet all the requirements for all the test elements that have been tested.

Appendix

A: To maximize the test window

We can maximize the Test window by using the below snippet
driver.manage().window().maximize();

B: To test the web element on to google chrome browser

To test the web element on Google browser, download the driver for google chrome and use the below code snippet.
System.setProperty("webdriver.chrome.driver", "chrome_path\\chromedriver.exe");
WebDriver driver=new ChromeDriver();

Glossary

Since there were no element for radio button on UI, hence that case was not included. If there was a radio button the below logic can be used.

driver.manage().window().maximize();
//we are using value because that is the unique attribute
System.out.println(driver.findElement(By.xpath(".// Mention the Xpath]")).isS elected());
driver.findElement(By.xpath(".//Mention the Xpath:")click();

Then we can select to get the attribute.