

Worldline Assessment

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Question:

Conduct a Selenium test for tracing a Web Table of a web site

In Selenium, a WebTable is an HTML table that is located on a web page and is made up of rows and columns. A WebTable can be interacted with using Selenium's WebDriver API. Selenium provides a number of methods that can be used to access and manipulate the elements within a table, such as finding and returning a specific cell, and iterating through the rows and columns.

GitHub Link: <https://github.com/Dhineshwaran-C/TestingAssessment1.git>

AIM:

The aim of this code is to demonstrate automated testing using Selenium WebDriver for a web page. Specifically, it opens a browser, navigates to a webpage, extracts data from a table on that webpage, and performs various tests and validations on the data.

Code Explanation:

open_browser Method:

The open_browser method initializes the ChromeDriver and sets its system property to the location of the ChromeDriver executable. It creates a new ChromeDriver instance, maximizes the browser window, and navigates to the specified URL. Additionally, it initializes a WebDriverWait object to handle waiting for elements on the page. Finally, it prints a message and logs the start of browser execution.

```
@Test(priority=1)
Run | Debug
public void open_browser() {
    System.setProperty("webdriver.chrome.driver", "G:\\worldline\\chromedriver-win64\\chromedriver-win64\\chromedriver.exe");
    driver = new ChromeDriver();
    wait = new WebDriverWait(driver, 5);
    driver.manage().window().maximize();
    driver.get("https://trends.builtwith.com/websitelist/DataTables");
    System.out.println("Start Browser Executed");
    Reporter.Log("Start Browser Executed");
}
```

print_all_rows Method:

The print_all_rows method locates the table element on the webpage using an XPath expression. It finds all the rows (<tr>) within the table and iterates through them using a for-each loop. For each row, it finds all the cells (<td>) within that row and iterates through them. It retrieves the text content of each cell using getText() method and prints

it to the console.

```
@Test(priority=2)
Run | Debug
public void print_all_rows() {
    WebElement table = driver.findElement(By.xpath("//table[@class='table table-responsive-sm table-sm mt-2 table-hover']")[1]);
    List<WebElement> rows = table.findElements(By.tagName("tr"));

    for(WebElement i : rows) {
        List<WebElement> cells = i.findElements(By.tagName("td"));
        for(WebElement j : cells) {
            String cellData = j.getText();
            System.out.print(cellData + "\t\t");
        }
        System.out.println();
    }
}
```

print_selected_rows Method:

Similar to print_all_rows, the print_selected_rows method finds the table element. It defines startIndex and endIndex to specify the range of rows to be printed. It iterates through the rows within the specified range and prints the content of each cell in those rows.

```
@Test(priority=3)
Run | Debug
public void print_selected_rows() {
    System.out.println();
    WebElement table = driver.findElement(By.xpath("//table[@class='table table-responsive-sm table-sm mt-2 table-hover']")[1]);
    List<WebElement> rows = table.findElements(By.tagName("tr"));
    int startIndex = 5;
    int endIndex = 10;

    for(int i=startIndex;i<=endIndex;i++) {
        WebElement row = rows.get(i-1);
        List<WebElement> cells = row.findElements(By.tagName("td"));
        for(WebElement j : cells) {
            String cellData = j.getText();
            System.out.printf("%-20s", cellData);
        }
        System.out.println();
    }
}
```

finding_specific_row Method:

The finding_specific_row method finds the table element on the webpage. It specifies a particular row index to locate within the table. It retrieves the specified row using the index and prints the content of

each cell within that row.

```
@Test(priority=4)
Run / Debug
public void finding_specific_row() {
    System.out.println();
    System.out.println("Specific row");
    int row_index = 5;
    WebElement table = driver.findElement(By.xpath("(//table[@class='table table-responsive-sm table-sm mt-2 table-hover'])[1]"));
    List<WebElement> rows = table.findElements(By.tagName("tr"));
    WebElement row = rows.get(row_index-1);
    List<WebElement> cells = row.findElements(By.tagName("td"));
    for(WebElement cell : cells) {
        String cellData = cell.getText();
        System.out.printf("%-20s", cellData);
    }
    System.out.println();
}
```

to_check_element_present Method:

The to_check_element_present method finds the table element on the webpage. It searches for a specific element ("United States") within the table by iterating through each row and cell. If the element is found, it sets a boolean variable (key) to true. It asserts whether the key variable is true, confirming the presence of the specified element in the table.

```
@Test(priority=5)
Run / Debug
public void to_check_element_present() {
    WebElement table = driver.findElement(By.xpath("(//table[@class='table table-responsive-sm table-sm mt-2 table-hover'])[1]"));
    List<WebElement> rows = table.findElements(By.tagName("tr"));
    String country = "United States";
    boolean key = false;
    for(WebElement i : rows) {
        List<WebElement> cells = i.findElements(By.tagName("td"));
        for(WebElement j : cells) {
            String Data = j.getText();
            if(Data.contains(country)) {
                key=true;
                break;
            }
        }
        if(key) {
            break;
        }
    }
    Assert.assertEquals(key, true, "The table doesn't contain "+country+"\t\t");
}
```

print_row_which_have_element Method:

The `print_row_which_have_element` method finds the table element on the webpage. It searches for rows containing a specific element ("abs.aop.acer.com") by iterating through each row and cell. If the element is found in a row, it retrieves and prints the content of all cells within that row.

```
@Test(priority=6)
Run / Debug
public void print_row_which_have_element() {
    System.out.println();
    WebElement table = driver.findElement(By.xpath("//table[@class='table table-responsive-sm table-sm mt-2 table-hover']")[1]);
    List<WebElement> rows = table.findElements(By.tagName("tr"));

    String element = "abs.aop.acer.com";

    for(WebElement i : rows) {
        List<WebElement> cells = i.findElements(By.tagName("td"));
        for(WebElement j : cells) {
            String Data = j.getText();
            if(Data.contains(element)) {
                List<WebElement> rowData = i.findElements(By.tagName("td"));
                for(WebElement k : rowData) {
                    System.out.println(k.getText() + "\t\t");
                }
            }
        }
    }
}
```

Console Output:

```
Start Browser Executed

equibase.com          United States          $5000+      5,000+      100+      High      Very High
hiring.mcall.com      United States          $10000+     20,000+     100+      Very High
hiring.adn.com        United States          $2000+      20,000+     100+      Very High
community.arlo.com    United States          $40m+       $10000+     10,000+    1,000+     High
literature.audiusa.com United States          $5000+      10,000+     1,000+     Very High
hiring.masslive.com   United States          $10000+     5,000+      10+       Very High
netman.mbtrx.com      United States          $0+         $10000+     20,000+    10,000+    -
wingspanenroll.aflac.com United States          $1b+        $5000+      2,000+     100,000+   High
redcapdev.ascension.org United States          $5000+      1,000+      1,000+     High
redcap.mskcc.org      United States          $5000+      1,000+      1,000+     Very High
energy.gov            United States          $5000+      500,000+    1,000+     Very High
abs.aop.acer.com      India                  $100m+      $10000+     10,000+    1,000+     Very High
events.arthritis.org  United States          $10000+     10,000+     100+      Very High
smartanalytics.mobivty.com $627k+             $5000+      10+         100+      Medium
action.eaton.com      United States          $1b+        $10000+     10,000+    10,000+    High
qafigi.ca.avon.com    United States          $2.9m+      $10000+     500+       10,000+    Very High
realestate.app.com     United States          $5000+      100+        100+      Very High
uptime.municode.com   United States          $2000+      500+        10+       High
realestate.montgomeryadvertiser.com United States          $5000+      500+        $5000+    Very High      High
courts.mt.gov         United States          $10000+     500+        20,000+    10,000+    High
office15.avery.com    United States          $2000+      20,000+     1,000+     Very High      High
realestate.argusleader.com United States          $10000+     10,000+     1,000+     Very High
mouser.com            United States          $3.1m+      $10000+     5,000+     100+      Very High
arkansas.gov          United States          $2000+      500+        10+       Very High
mainearts.maine.gov   United States          $2000+      2000+       500+      10+       Very High
virtualprepress.mymove.com United States          $2000+      2000+       1,000+    10+       Medium
investors.entergy.com United States          $1b+        $2000+      5,000+     10,000+    High
mohela.com            United States          $5000+      250+        -          -
admin.mdpi.com        United States          $1000+      5,000+      1,000+     Very High
ms.gov                United States          $5000+      500+        Very High
join.molinahealthcare.com United States          $2b+        $2000+      2,000+     10,000+    Medium
proceedings.esri.com  United States          $3.4m+      $10000+     100,000+   1,000+     Very High
dev-mshp.mountsinai.org United States          $2.8m+      $10000+     20,000+    10,000+    Very High
magoosh.com           United States          $5000+      1,000+      10+       High
dps.alaska.gov        United States          $5000+      1,000+      1,000+    Very High
jackett.lex.minecraftforge.net $50+             $5000+      2,000+      1,000+    Medium
stritch.campus.eab.com United States          $5000+      3,000,000+  100+      Very High
eltiempo.com          United States          $5000+      3,000,000+  100+      Very High
hirine.morningjournal.com United States          $5000+      2,000+      2,000+    High
```

1,132,559 Results in this Full Report 632,885 of which are redirects . 1,572,720 when including historical results for DataTables · Page 1 of 12,493

| | | | | | | |
|--------------------------|---------------|--------|----------|---------|----------|-----------|
| community.arlo.com | United States | \$40m+ | \$10000+ | 10,000+ | 1,000+ | High |
| literature.audiusa.com | United States | | \$5000+ | | 10,000+ | Very High |
| hiring.masslive.com | United States | | \$10000+ | 5,000+ | 10+ | Very High |
| netman.mbtrx.com | | | \$0+ | | | - |
| wingspanenroll.aflac.com | United States | \$1b+ | \$10000+ | 20,000+ | 10,000+ | High |
| redcapdev.ascension.org | United States | | \$5000+ | 2,000+ | 100,000+ | High |

Specific row

| | | | | | | |
|--------------------|---------------|--------|----------|---------|--------|------|
| community.arlo.com | United States | \$40m+ | \$10000+ | 10,000+ | 1,000+ | High |
|--------------------|---------------|--------|----------|---------|--------|------|

abs.aop.acer.com

India
\$100m+
\$10000+
10,000+
1,000+
Very High

PASSED: Assessment.Assessment.AppTest.open_browser
PASSED: Assessment.Assessment.AppTest.finding_specific_row
PASSED: Assessment.Assessment.AppTest.to_check_element_present
PASSED: Assessment.Assessment.AppTest.print_row_which_have_element
PASSED: Assessment.Assessment.AppTest.print_selected_rows
PASSED: Assessment.Assessment.AppTest.print_all_rows

=====
Default test
Tests run: 6, Failures: 0, Skips: 0
=====

=====
Default suite
Total tests run: 6, Passes: 6, Failures: 0, Skips: 0
=====