



Handling Tables

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(expleo)

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Web Tables



Introduction

- Web table in Selenium is a WebElement just like any other popular WebElements like text boxes, radio buttons, checkboxes, drop-down menus, etc.
- Web table and its contents can be accessed by using the WebElement functions along with Selenium locators to identify the element (row/column) on which the operation needs to be performed.
- A table consists of rows and columns. Below are some of the important tags associated with a web table:
 - < table > – Defines an HTML table
 - < th > – Contains header information in a table
 - < tr > – Defines a row in a table
 - < td > – Defines a column in a table

Web Tables

Example – Table Creation

```
<html>
  <table border="5">
    <thead>
      <tr>
        <th>Name</th>
        <th>Age</th>
        <th>Place</th>
      </tr>
    </thead>
    <tbody>
      <tr>
        <td>Arun</td>
        <td>35</td>
        <td>Coimbatore</td>
      </tr>
      <tr>
        <td>Vijay</td>
        <td>37</td>
        <td>Chennai</td>
      </tr>
    </tbody>
  </table>
</html>
```



The screenshot shows a web browser window with the address bar displaying 'File | C:/Users/Arun%20Kumar/Downloads/table.html'. The browser content area displays a table with a thick black border. The table has three columns: 'Name', 'Age', and 'Place'. The first row contains 'Arun', '35', and 'Coimbatore'. The second row contains 'Vijay', '37', and 'Chennai'.

Name	Age	Place
Arun	35	Coimbatore
Vijay	37	Chennai

Types of Web Tables



Types of Web Tables

Web Table Types

- There are two broad categories of tables namely:

1. Static Web Table

- As the name indicates, the information in the table is static in nature.
- These tables have fixed data that remains unchanged throughout.

2. Dynamic Web Table

- The information displayed in the table is dynamic.
- These tables have data that changes over time, and hence the number of rows and columns might also change depending upon the data shifts.
- E.g. Detailed Product information on e-commerce websites, sales reports, etc.

Handling Web Tables in Selenium



Handling Web Tables in Selenium

Inspecting table and its attributes using XPath

- It is very seldom for a web designer to provide an id or name attribute to a certain cell in the table.
- Therefore, we cannot use the usual methods such as "By.id()", "By.name()", or "By.cssSelector()".
- In this case, the most reliable option is to access them using the "By.xpath()" method.
- Refer the <http://omayo.blogspot.com/> for the testing purpose.

Handling Web Tables in Selenium

Inspecting table and its attributes using XPath

- Xpath is `//table[@id='table1']` - to locate complete table
- Xpath is `//table[@id='table1']/thead` - to locate table heading section
- Xpath is `//table[@id='table1']/tbody` - to locate table body section

- Xpath is `//table[@id='table1']/thead/tr/th`
or
- Xpath is `//table[@id='table1']//th` - to locate all table headings

- Xpath is `//table[@id='table1']/tbody/tr/td`
or
- Xpath is `//table[@id='table1']//td` - to locate all the table data

Handling Web Tables in Selenium

Inspecting table and its attributes using XPath

- Xpath is `//table[@id='table1']/tbody/tr[1]` - to locate first row in the table body
- Xpath is `//table[@id='table1']/tbody/tr[2]` - to locate second row in the table body
- Xpath is `//table[@id='table1']/tbody/tr[3]` - to locate third row in the table body

- Xpath is `//table[@id='table1']/tbody/tr[1]/td` - to locate all the data in the first row
- or
- Xpath is `//table[@id='table1']//tr[1]//td` - to locate all the data in the first row

- Xpath is `//table[@id='table1']//tr[2]//td` - to locate all the data in the second row

Handling Web Tables in Selenium

Inspecting table and its attributes using XPath

- Xpath is `//table[@id='table1']/tbody/tr[1]/td[1]` - to locate the data in 1st row and 1st column
or
- Xpath is `//table[@id='table1']//tr[1]//td[1]` - to locate the data in 1st row and 1st column
- Xpath is `//table[@id='table1']//tr[2]//td[2]` - to locate the data in 2nd row and 2nd column
- Xpath is `//table[@id='table1']//tr[3]//td[2]` - to locate the data in 3rd row and 2nd column
- Xpath is `//table[@id='table1']//tr//td[3]` - to locate all the data in the 3rd column

Handling Static Table – Printing Table Headings

```
public class StaticTable {  
    public static void main(String[] args)  
    {  
        System.setProperty("webdriver.chrome.driver", "C:\\\\workspace\\\\ChromeDriver\\\\chromedriver.exe");  
        WebDriver driver = new ChromeDriver();  
        driver.manage().window().maximize();  
        driver.get("http://omayo.blogspot.com/");  
  
        List<WebElement> headings = driver.findElements(By.xpath("//table[@id='table1']//th"));  
        System.out.println(headings.size());  
  
        for(WebElement heading : headings)  
        {  
            System.out.println(heading.getText());  
        }  
    }  
}
```

Output

```
SLF4J: No SLF4J providers were found.
SLF4J: Defaulting to no-operation (NOP) logger implementation
SLF4J: See https://www.slf4j.org/codes.html#noProviders for further details.
Starting ChromeDriver 111.0.5563.64 (c710e93d5b63b7095afe8c2c17df34408078439d-refs/branch-heads/5563@{#995}) on port 4523
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
[1683624968.253][WARNING]: This version of ChromeDriver has not been tested with Chrome version 112.
May 09, 2023 3:06:08 PM org.openqa.selenium.devtools.CdpVersionFinder findNearestMatch
WARNING: Unable to find an exact match for CDP version 112, so returning the closest version found: 111
3
Name
Age
Place
```

Handling Web Tables in Selenium

Handling Static Table – Printing all Table data

```
public class StaticTable {  
public static void main(String[] args)  
{  
    System.setProperty("webdriver.chrome.driver", "C:\\\\workspace\\\\ChromeDriver\\\\chromedriver.exe");  
    WebDriver driver = new ChromeDriver();  
    driver.manage().window().maximize();  
    driver.get("http://omayo.blogspot.com/");  
  
    List<WebElement> datas = driver.findElements(By.xpath("//table[@id='table1']//td"));  
    System.out.println(datas.size());  
  
    for(WebElement data : datas)  
    {  
        System.out.println(data.getText());  
    }  
  
}
```


Handling Web Tables in Selenium

Output

```
<terminated> StaticTable [Java Application] C:\Users\Arun Kumar\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.  
ChromeDriver was started successfully.  
[1683625754.883][WARNING]: This version of ChromeDriver has not been tested with Chrome version 112.  
May 09, 2023 3:19:15 PM org.openqa.selenium.devtools.CdpVersionFinder findNearestMatch  
WARNING: Unable to find an exact match for CDP version 112, so returning the closest version found: 11  
12  
Kishore  
22  
Delhi  
Manish  
25  
Pune  
Praveen  
29  
Bangalore  
Dheepthi  
31  
Mumbai
```

Handling Web Tables in Selenium

Inspecting table and its attributes using XPath

- It is very seldom for a web designer to provide an id or name attribute to a certain cell in the table.

- Therefore, we cannot use the usual methods such as "By.id()", "By.name()", or "By.cs

- In thi

- **XPath or CSS**

- Create a table using the HTML code

- Inspect the table and locate table heading, table body, table headings and table data etc.
 - Locating the table data in first row
 - Locating the table data in second row
 - Locating the second column data in third row
 - Locating all column data of third column

- **Handling Static Table**

- Program to print the table headings and all the above other details
 - Program to find the number of rows in a table
 - Program to find the number of columns in a table
 - Program to print the complete table

" method.