

Handle Web Element



Agenda

- ❖ Textbox/ Text Area
- ❖ Dropdown
- ❖ Button/ Checkbox/ Radio Button
- ❖ Popup, Tab/Iframe
- ❖ Browser Window/ Tab
- ❖ Upload File
- ❖ Waits

Web Element Command

The screenshot displays the ALLEGRO web application interface. The header includes the ALLEGRO logo and navigation links: Apps, LOTUS, english, Automation, Facial, TAS, and BP. The main content area features the CyberLogitec logo, the tagline "Making the World's Time and Space More Valuable", and an illustration of a ship. A login form is centered, containing the text "ALLEGRO Container Carrier Operation Solution", a username field with "OPUSADM", a password field, a "Save User ID" checkbox, and a "LOGIN" button. An orange arrow points from the username field to the DevTools Elements panel.

The Chrome DevTools Elements panel shows the following HTML structure:

```
<div class="login_box">
  <div class="login_cont">
    <h2 id="projName">ALLEGRO</h2>
    <p>Container Carrier Operation Solution</p>
    <div class="form">
      <ul>
        <li>
          <input type="text" placeholder="User ID" id="userId"
            size="12" maxlength="12" onfocusout="user.setRequiredPro
            pByEvent(event, false)">
        </li>
        <li>
          <input type="password" placeholder="Password" id="userP
            w" size="12" onfocusout="user.setRequiredPropByEvent(eve
            nt, false)" onkeyup="user.checkCapslock()">
        </li>
      </ul>
      <p class="rem"></p>
      <button type="button" id="btnLogin" align="absmiddle"
        border="0" data-mx="{fncl:'K'}>LOGIN</button>
    </div>
    <div class="seperate_login" data-content="DR">
      <div class="sso-link-wrapper"></div>
    </div>
  </div>
</div>
```

The Styles panel shows the default styles for the selected element:

```
height: 34px;
line-height: 32px;
color: #444444;
box-sizing: border-box;
```

The Console panel shows the following JavaScript code:

```
input[type='text'], input[type='password'] {
  outline: none;
}

input[type='text'], input[type='password'] {
  border: 1px solid #444444;
  padding: 2px 2px 1px;
  text-align: left;
  background: #ffffff;
  -moz-border-radius: 2px;
}
```

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```
<input type="text" placeholder="User ID" id="userId" size="12" maxlength="12"  
onfocusout="user.setRequiredPropByEvent(event, false)">
```

```
<input type="password" placeholder="Password" id="userPw" size="12"  
onfocusout="user.setRequiredPropByEvent(event, false)" onkeyup="user.checkCapslock()">
```

Define variable for text element

Syntax :

```
WebElement txtUserId = new Select(driver.findElement(By.id("User ID"));
```

```
WebElement txtpwd = new Select(driver.findElement(By.id("Password"));
```

Action methods of textbox:

```
txtUserId.click();
```

```
txtUserId.sendKeys("abcdef");
```

```
txtUserId.clear();
```

Get methods of textbox:

```
String inputtedUserId = txtUserId.getText();
```

```
String inputtedUserId = txtUserId.getAttribute("value");
```

Return: inputtedUserId = abcdef

Question: How to input date/time textbox?

Dropdown

The screenshot displays the ALLEGRO web application interface. At the top, a language dropdown menu is open, showing options: English, Korean, Chinese, and Japanese. An orange arrow points from the 'English' option to the corresponding HTML code in the developer tools. The developer tools show the following HTML structure for the dropdown menu:

```
<select id="contrySel" style="border:none" onchange="user.getPageChange(this.value, 'birtype','comCodeKeyCombo' birkey='IC062924' udcpt87='value83') -- $0">
  <option value="EN">English</option>
  <option value="KO">Korean</option>
  <option value="ZH">Chinese</option>
  <option value="JP">Japanese</option>
</select>
```

The interface also includes a 'Frequently Used Menu' with links like 'Booking Master', 'Container Information', 'Work with Booking', 'Manual Creation', 'Freight & Surcharge', and 'Arrival Notice Edit / Send'. Below this is a 'To Do List' section with three donut charts for 'To Do: Booking', 'To Do: OIB DOC', and 'To Do: IIB DOC'. The 'To Do: MNR' section contains three bar charts for 'To Do: MNR Estimate Approval Status', 'To Do: MNR Agreement to be Expired', and 'To Do: Long Staying Ratio'.

Dropdown

```
<select id="contrySel" style="border:none" onchange="user.getLanguageChange(this.value)"
biztype="comCodeKeyCombo" bizkey="ICD02924" udcopt07="value03">
  <option value="EN">English</option>
  <option value="KO">Korean</option>
  <option value="ZH">Chinese</option>
  <option value="JP">Japanese</option>
</select>
```

Define variable for dropdown element

Syntax :

```
Select select = new Select(driver.findElement(By.id("contrySel"));
```

Action methods of Dropdown:

```
select.selectByIndex(index);
```

```
select.selectByValue("value");
```

```
select.selectByVisibleText("text");
```

```
select.deselectByIndex(index);
```

```
select.deselectByValue("value");
```

```
select.deselectByVisibleText("text");
```

```
select.deselectAll();
```

Question: Which option is better is actual testing?

Validate methods of Dropdown:

boolean flag;

flag = `select.isMultiple()`;

Return: flag = true/false;

Get methods of Dropdown:

`select.getFirstSelectedOption()`;

`select.getFirstSelectedOption().getText()`;

List<WebElement> listSelected = `select.getAllSelectedOptions()`;

List<WebElement> allOptions = `select.getOptions()`;

Button/ Checkbox/ Radio Button

Button:

```
<button type="button" id="btnLogin" align="absmiddle" border="0" data-nx="{fncd:'R'}">LOGIN</button>
```

```
< button type="button" class="doaction state-disabled" id="btnC" data-nx="{fncd:'C'}" value="" auth="S" tabindex="-1" disabled>Cancel</ button>
```

Checkbox:

```
<input type="checkbox" id="dngCgoYn" value="Y" data-nx="{ref:{req:'BkdBookingOutOMM@bkdCore/dngCgoYn',res:'BkdBookingOutOMM@bkdCore/dngCgoYn'}}" tabindex="50"></ input>
```

Radio Button:

```
<input type="radio" checked="" name="condDateType" id="condDateType1" value="Y" data-nx="{ref:{req:'BkdListCondOMM@dateGbn'}}">></ input>
```

Define variable for element

Syntax :

```
WebElement btnLogin = driver.findElement(By.id("btnLogin"));  
WebElement cbDngCgo = driver.findElement(By.id("dngCgoYn"));  
WebElement rbtnBkg = driver.findElement(By.id("condDateType1"));
```

Button/ Checkbox/ Radio Button

Action methods of Button, Checkbox and Radio Button:

```
btnLogin.click();  
cbDngCgo.click();  
rbtnBkg.click();
```

Validate methods of Checkbox and Radio Button :

```
boolean cbFlag;  
boolean rbtnFlag;
```

```
cbFlag = cbDngCgo.isSelected();  
rbtnFlag = rbtnBkg.isSelected();  
Return: flag = true/false;
```

Question:

1. How to deselect checkbox and radio button?
2. How to validate button?

ALLEGRO

Not secure | 172.20.123.95:7001/oceans/webfw/html/nawmain.html

Apps LOTUS english Automation Facial TAS BP

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EPB OPUSADM SELHO English Change Password Sign Out

Customer Service Booking Booking Master

Main Work with ... Booking Master

Booking Master

Master Door Move Container Ship. Party Mark & Goods C/M Freight B/L Issue House B/L Switch B/L

BKG No. B/L No. P/O No.

Pre-Assigned BKG No. S/I Auto EDI Hold Split

Booking Office Staff Search

Route Information

Constraint View Milestone Route Detail

POR DEL POL POD Receiving Term Y Delivery Term Y Trunk Vessel Sail Date YYYY-MM-DD

Contract Information

Shipper ID Name Load Office Contract No. Named Customer Commodity SOC Empty

Booking Container Qty

Add Row Delete Row Rate Qty Detail

Flex Height LCL Detail Est. Total Cargo Weight KGS

Type/Size	Qty	EQ Sub. (Incl. Reefer Dry)	SOC
		0.00	0.00

Total Qty

DPC Booking Status Clear

SOC Partner Set Waiting Reason Waiting Reason

MTY Pick-up CY Pre Vessel

MTY Pick-up Date YYYY-MM-DD Post Vessel

MTY Door Arrival Delivery YYYY-MM-DD SO No.

Full Return CY Available Slot (TEU) Alloc

Forwarder ID Name Consignee ID Name

Cus. Ref.# H/B/L Filer US CA Self Filer SCAC Detail

BKG Contact Contact Tel E-mail Fax Mobile

S/I Contact Contact Tel E-mail Fax Mobile

Additional Information

Send Email/auEDI Copy Booking Booking Split

Special Cargo

Danger	Reefer	Awkward	Break Bulk	Stowage
<input type="checkbox"/> Go	<input type="checkbox"/> Go	<input type="checkbox"/> Go	<input type="checkbox"/> Go	<input type="checkbox"/> Go

Hanger

Special Instruction

Service Information

Remark

List

Issue C/N Reason C/N Cancel C/N Confirm C/N Cancel Save

172.20.123.95:7001 says
Required input field is missing.
OK

Define variable for element

Syntax :

WebDriverWait **wait**;

Alert **alert**;

wait = new WebDriverWait(driver,30);

wait.until(ExpectedConditions.alertIsPresent());

alert = driver.switchTo().alert();

Action methods of Alert:

`alert.accept();`

`alert.dismiss();`

`alert.sendKeys();`

Get methods of Alert:

`alert.getText();`

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VIETNAM

The screenshot shows the Chrome DevTools interface. The 'Elements' panel on the left displays the DOM tree. The 'div' element with id 'popup_1' is selected. The 'style' attribute of this element is highlighted in the DOM tree, and a yellow arrow points from it to the 'style' attribute in the selected element's style pane. The style pane shows the following styles:

```

height: 100%;
width: 100%;

```

The 'style' attribute in the DOM tree also contains the following styles:

```

height: 100%;
width: 100%;

```

```
<iframe id="popup_1" style="height:100%;width:100%;" class="window-frame"
scrolling="auto" src="/oceans/BCM_P0114.do" frameborder="0" auth=" "
parentid="container_3" leafchildid="popup_1" popup="popup" modal="true"
height="729" width="1181"></iframe>
```

Action methods of popup:

```
BCM_P0114 popup = new BCM_P0114(driver);
```

```
popup = driver.switchTo().frame("popup_1");
```

Action

```
popup = driver.switchTo().defaultContent();
```


Browser Window/ Tab

The screenshot displays a web browser window with the ALLEGRO booking system interface. The browser's address bar shows the URL `172.20.123.95/001/oceans/webfw/html/nawmain.html`. The page header includes the ALLEGRO logo and navigation links like "Customer Service", "Booking", and "Work with Booking". The "Work with Booking" section features a form with fields for "Date", "Booking B/L No.", "Booking", "On board", "ETD", "2022-05-02", "2022-05-09", "Vessel", and "V.POL". Below the form is a "Result" section with a table of booking information.

No.	Status	LCL	BKG No.	Booking Information	B/L No.	B/L No Type	Shipper	Forwarder	Trunk Vessel	1st	Container Volume	POR	POL	Pr
				Via	Office									
0 rows														

The right side of the image shows the browser's developer tools, specifically the "Elements" panel. It displays the DOM tree with a selected element: `<div id="container_2" class="window-frame" scrolling="auto" src="/oceans/BOM_M1001.do" frameborder="0" auth="P15" style="width: 100%; height: 814px; screen-title: 'Home';>`. The "Styles" panel shows the default styles for this element, including `height: 25px;`, `border: 1px solid #005ca9;`, and `background-color: #005ca9;`. The "Console" panel is also visible, showing a message about "Highlights from the Chrome 101 update".

Get id of current tab:

```
String parentID = driver.getWindowHandle();
```

Get id of all tabs:

```
Set<String> allIDs = driver.getWindowHandles();
```

Switch to Window/ Tab:

- driver.switchTo().window(id);

i.e:

```
for (String id: allIDs) {  
    if(! id.equals(parentID)){  
        driver.switchTo().window(id);  
    }  
}
```

Close tab:

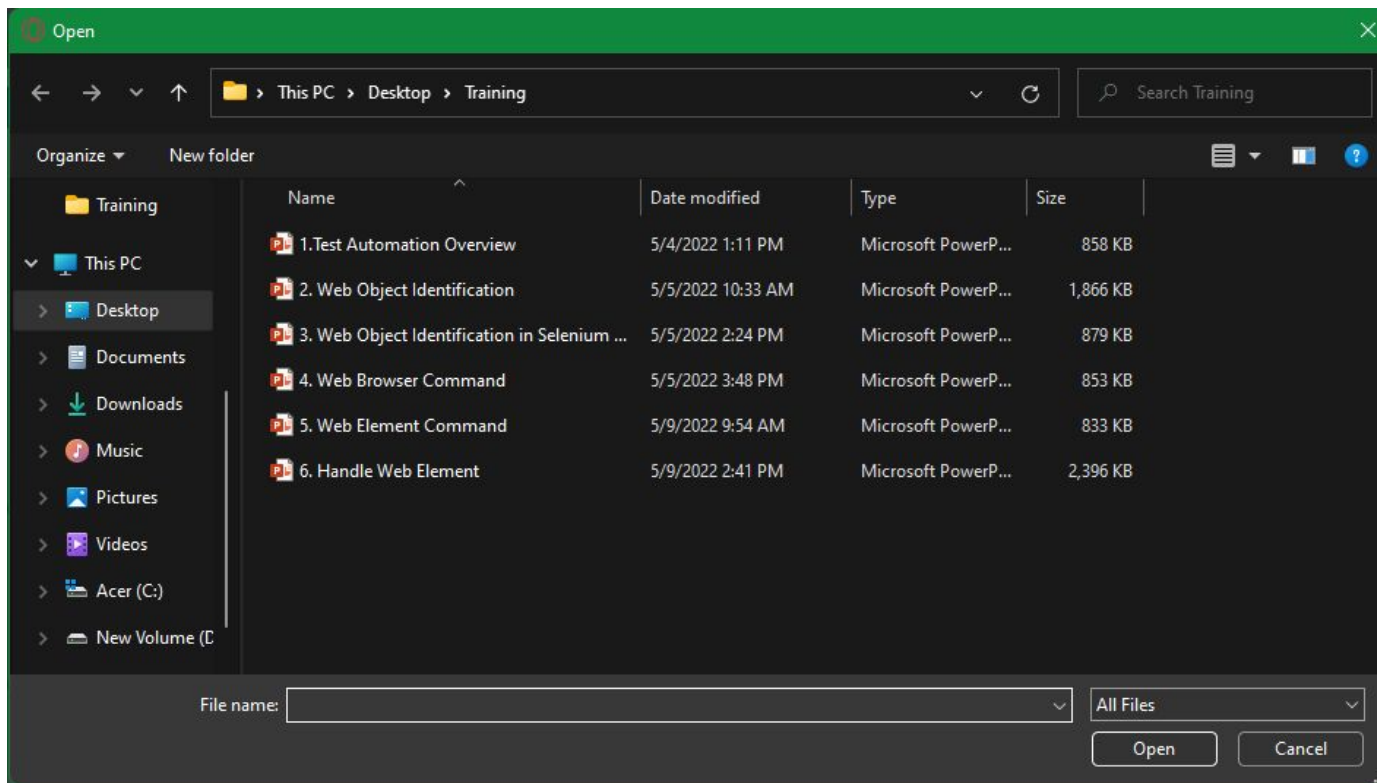
```
driver.close();
```

Create new Window/Tab and switch:

```
driver.switchTo().newWindow(WindowType.TAB);
```

```
driver.switchTo().newWindow(WindowType.WINDOW);
```

Upload File



```
import java.awt.Robot;  
import java.awt.datatransfer.StringSelection;  
  
Robot rb = new Robot();  
  
String filePath = "C:\\Users\\nguye\\Downloads";  
String fileName = "test.xlsx";  
  
StringSelection str = new StringSelection(filePath + fileName);  
Toolkit.getDefaultToolkit().getSystemClipboard().setContents(str, null);  
  
rb.keyPress(KeyEvent.VK_CONTROL);  
rb.keyPress(KeyEvent.VK_V);  
  
rb.keyRelease(KeyEvent.VK_CONTROL);  
rb.keyRelease(KeyEvent.VK_V);  
  
rb.keyPress(KeyEvent.VK_ENTER);  
rb.keyRelease(KeyEvent.VK_ENTER);
```

- Sleep : do nothing in ... time.

Syntax:

```
Thread.sleep(milliseconds);
```

i.e:

Do nothing in the next 3s:

- Thread.sleep(3000);

- Explicit Wait : wait for something ... in ... time.

Syntax:

```
Import org.openqa.selenium.support.ui.ExpectedConditions;  
Import org.openqa.selenium.support.ui.WebDriverWait;
```

```
WebDriverWait wait = new WebDriverWait(driver,30);  
wait.until(ExpectedConditions.alertIsPresent());
```

Explain:

Wait for the alert to be displayed every 0,5s. Total wait time is 30s

Explicit wait types:

- `alertIsPresent()`
- `elementToBeClickable()`
- `invisibilityOfTheElementLocated()`
- `visibilityOfElementLocated()`

Q/A?

