

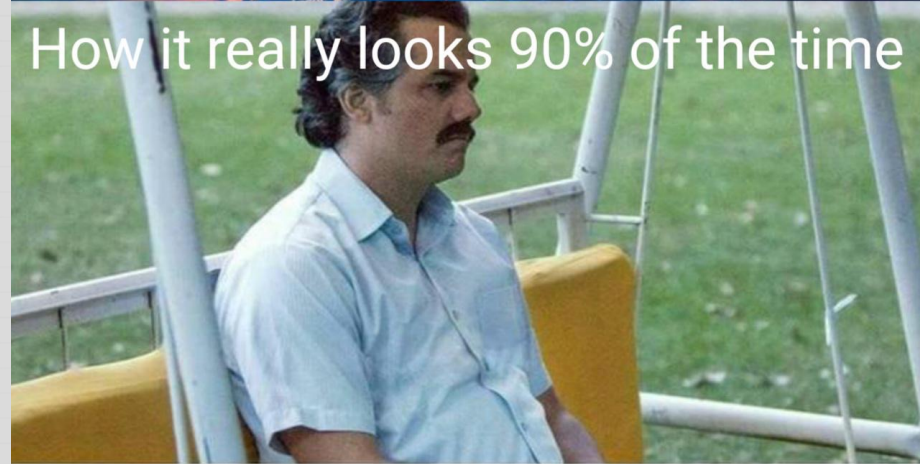
CYDEO



How people think programming looks



How it really looks 90% of the time



What Will We Cover Today?

- `findElement` vs `findElements`
- `ImplicitlyWait`
- Checkboxes
- Radio buttons
- `StaleElementReferenceException`



findElement() method

- This method is used to locate a single web element
- Returns a **single** web element
- Return type is:
- WebElement
- If it cannot find the given WebElement:
- Throws **NoSuchElementException**



findElements() method

- This method is used to locate more than one web element
- Locates and returns all the matching web elements in a list
- Return type is:
- List<WebElement>
- If it cannot find the given WebElement:
- Does **NOT** throw exception.
- Returns an **empty list**.



Implicitly Wait

- Implicit wait is a type of **Selenium wait**.
- It will check the DOM (HTML Page) and wait until given seconds
- It is triggered only if a web element is not found.
- It does not have to wait all the given seconds, and will continue if condition is met.
- By default it exist, but the value of it is 0. So its basically turned off.



<input> radio button

- `<input type="radio" name="food" value="burger">`
- Radio buttons allows users to pick just one of a number of options

<input> radio button

```
<form>
  <p>Please select your favorite food:
  <br/>
  <input type="radio" name="food" value="burger"
    checked="checked"/>Burger
  <input type="radio" name="food" value="Kabab"/>Kabab
  <input type="radio" name="food" value="Salad"/>Salad
  </p>
</form>
```

Please select your favorite food:
☒ Burger ☐ Kabab ☐ Salad

<input> checkbox

- `<input type="checkbox" name="food" value="burger">`
- Checkboxes allows users to select just one or more options
- User can also unselect any value

What are the differences between 'checkboxes' and 'radio buttons' ?

- Each checkbox operates **individually**.
- Options are independent from each other.
- Users can select and unselect **multiple options**.
- -----
- Radio buttons operate as a **group**.
- User can only select **one option** from given options.

CHECKBOXES

- ☒ red
- ☒ blue
- ☒ green

RADIOBUTTONS

- ☐ red
- ☐ blue
- ☒ green

What are the differences between 'checkboxes' and 'radio buttons' ?

Select your car (s)

- ☐ mercedes
- ☐ bmw
- ☐ toyota

Select one color

- ☐ red ☐ blue ☐ green

```
<h2>Select your car (s)</h2>
<input type="checkbox" name="option1" value="mercedes">mercedes <br>
<input type="checkbox" name="option2" value="bmw">bmw <br>
<input type="checkbox" name="option3" value="toyota">toyota <br>
<h2>Select one color</h2>
<input type="radio" name="option" value="red">red
<input type="radio" name="option" value="blue">blue
<input type="radio" name="option" value="green">green
```

How do we handle checkboxes and radio buttons in Selenium?

- First we locate, then we click.
- `.isSelected()`; method:
 - If **selected**: will return **true**
 - If **not selected**: will return **false**



Syntax:

- `WebElement checkbox = driver.findElement(By.locator);`
- `checkbox.click();`
- `checkbox.isSelected();` → will return **true** if checkbox is selected.

What is `StaleElementReferenceException`?

- What does "stale" mean?



What is StaleElementReferenceException?

- Usually throws when **navigation** (refresh, forward, back) happens
- OR
- When the **element is deleted** from the page
- The driver loses its reference of the web element and throws this exception
- https://www.selenium.dev/exceptions/#stale_element_reference



When does it happen?

- When the element is completely deleted from the page.
- When navigation happens on the page.



When does it happen?

Home

No A/B Test

Also known as split testing. This is a way in which businesses are able to simultaneously test and learn from different versions of a page to see which text and/or functionality works best towards a desired outcome (e.g. a user action such as a click-through).

driver



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StaleElementReference



When does it happen?

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driver

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StaleElementReference

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How to handle StaleElementReferenceException?

- If StaleElementReferenceException is happening due to element being deleted from the page, then we can handle the situation using try/catch to avoid exception being thrown and set our own condition.
- If StaleElementReferenceException happening due to navigate, we can re-assign the reference/connection of the web element.

