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# Selenium Java Training - Session 14 - WebDriver - Part 3 (Handling Windows, Alerts, Drop-downs, Multi-Selection Box fields and Waiting Mechanism)

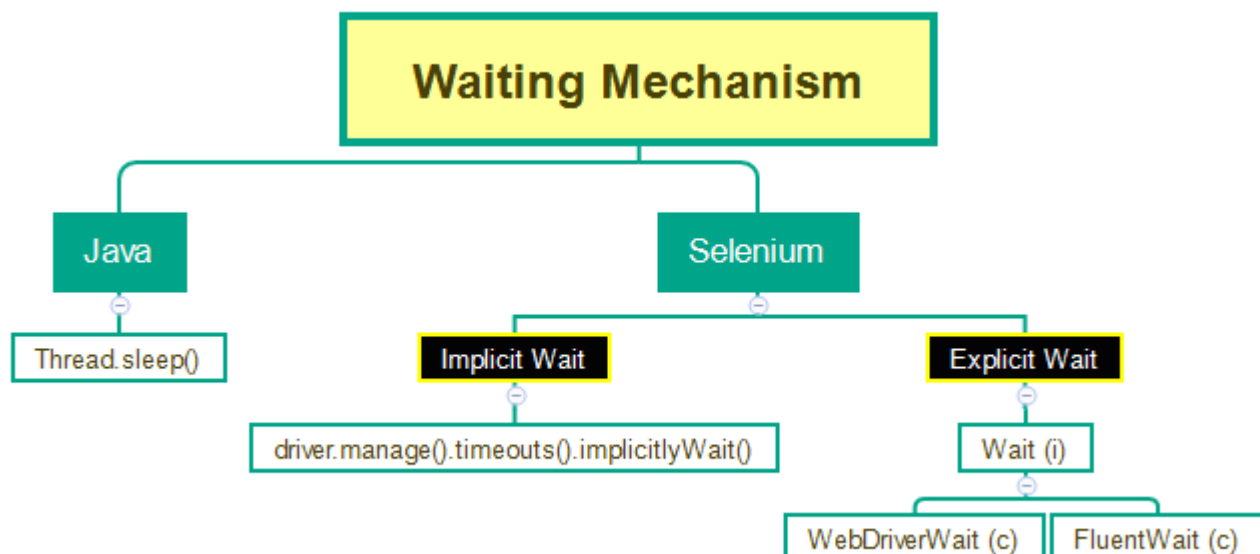
## WebDriver - Part 3 (Handling Windows, Alerts, Drop-downs, Multi-Selection Box fields and Waiting Mechanism)

### Handling multiple windows

- WebDriver interface has two predefined methods `getWindowHandles()` and `switchTo()`, which helps us in handling multiple browser windows.
- **`getWindowHandles()`** - Used to retrieve all the ids of the currently opened windows (Windows can be popup-windows, windows opened in new tabs etc) - [Demonstrate here](#)
- **`switchTo()`** - Used to switch between different windows when multiple windows are opened by using the ids of the currently opened windows which are returned by `getWindowHandles()` - [Demonstrate here](#)
  - Syntax: `switchTo().window("Retrieved Window ID");`
- Writing Programming logic for handling more windows

### Waiting mechanism in Selenium

Waiting mechanism in Selenium and Java can be categorized as below:



- Demonstrate a program which don't use waiting mechanism to understand the importance of

wait for all the web elements dynamically (i.e. Global wait) - [Demonstrate here](#)

wait for all the web elements dynamically (i.e. Global wait) - [Demonstrate here](#) ) in Java to overcome the waiting problems - [Demos](#) Save Copy to Evernote

wait for all the web elements dynamically (i.e. Global wait) - [Demonstrate here](#) ad of halting the program till the specified time is reached, implicit wait will

wait for all the web elements dynamically (i.e. Global wait) - [Demonstrate here](#)

- **Explicit Wait** - Instead of waiting for all the statements in the program, Explicit wait will wait only for the specific web element - [Demonstrate here](#)
  - `WebDriverWait wait = new WebDriverWait(driver, 5);`
  - `WebElement element =`  
`wait.until(ExpectedConditions.visibilityOfElementLocated(By.linkText("Facebook")));`
  - `element.click();`
  - Also demonstrate 'ElementToBeClickable' - [Demonstrate here](#)
- **Fluent Wait** - Use `Duration.ofSeconds(30)` in the deprecated methods
  - Copy the `FluentWait` code from Selenium API Documentation
  - Import Function from `google.common.base`
  - Import `NoSuchElementException` from `selenium`

## Handling Alerts

- Handle Alerts using the **Alert** Interface - [Demonstrate here](#)
  - Click on the button to display alert
  - Switch to the displayed alert using `switchTo().alert()` of `WebDriver` interface
  - Read the text on the alert using `getText()` method of `Alert` interface
  - Accept the alert using `accept()` method of `Alert` interface
  - After accepting the alert, switch to the main window using `switchTo().defaultContent()`
  - Close the browser window

## Handling Drop-down and Multi-selection box fields

- **Select** class is the predefined class in Selenium `WebDriver` and it has predefined methods for performing various operations on Drop-down and Multi-selection box fields
- Using `selectByVisibleText()` with a drop-down field to select any value is a dropdown - [Demonstrate here](#)
- Using `selectByVisibleText()` with a Multi-selection box field to select multiple values - [Demonstrate here](#)
- Using `deselectByVisibleText()` with a Multi-selection box field to deselect multiple values - [Demonstrate here](#)

By,  
Arun Motoori

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