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

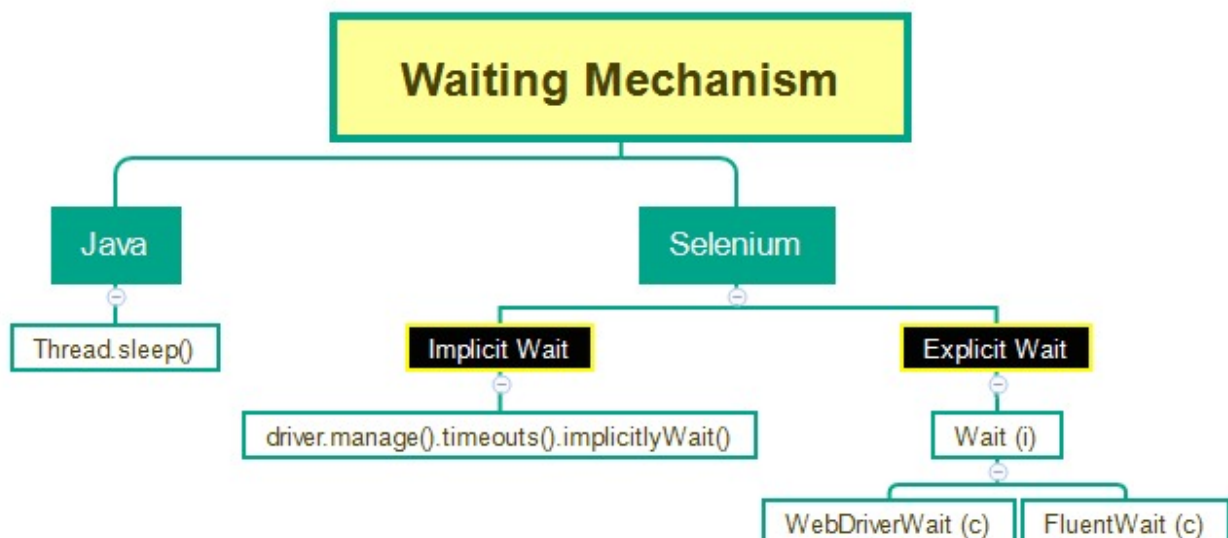
WebDriver - Part 3 (Handling Windows, Alerts, Drop-downs, Multi-Selection Box fields and Waiting Mechanism).

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 waiting mechanism in Selenium - [Demonstrate here](#)
- Using **Thread.sleep()** in Java to overcome the waiting problems - [Demonstrate here](#)
- **Implicit Wait** - Instead 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](#)

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