**Synchronization in selenium?**

**Selenium Waits**

Some time on web page, some web elements take time to load and hence selenium commands get fails.

To achieve the synchronization in selenium we use waits.

Selenium provides two types of waits

1. **Implicit Waits**
2. **Explicit Wait**
3. Fluent Wait (Custime explicit wait)
4. Thread.sleep()
5. **Implicit wait**

* It is a global wait.
* Implicit waits will wait for an element for a specific time before throwing any exception.

Example:



Selenium **provides implicit wait method**, which allow to wait for specified time. Here in example, it will wait for 2 second before throwing an exception or error.

1. **Explicit Wait**

Explicit wait is applicable to the specific web element, it will allow us to wait for specific time until the desire element is not visible, clickable, disabled.

In order to add explicit wait we need to use ExpectedConditions.

The following expected conditions can be use in implicit wait.

To use these class and respective methods we need to add below packages.



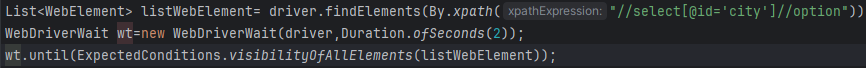
1. alertIsPresent()
2. elementSelectionStateToBe()
3. elementToBeClickable()
4. elementToBeSelected()
5. frameToBeAvaliableAndSwitchToIt()
6. invisibilityOfTheElementLocated()
7. invisibilityOfElementWithText()
8. presenceOfAllElementsLocatedBy()
9. presenceOfElementLocated()
10. textToBePresentInElement()
11. textToBePresentInElementLocated()
12. textToBePresentInElementValue()
13. titleIs()
14. titleContains()
15. visibilityOf()

**Example:**



1. visibilityOfAllElements()

**Example:**



1. visibilityOfAllElementsLocatedBy()
2. visibilityOfElementLocated()

\*\*As shown in above example selenium provides WebDriverWait class, and by creating the object of web driver wait class we can access the methods available.

Presence and visibility are the different state of element in selenium.

|  |  |
| --- | --- |
| Presence | Visibility |
| 1. state of element | 1. state of element |
| 1. "Presence" simply means the element exists in the DOM (Document Object Model). | 2. Not only present but also displayed and visible to the user on the webpage |

1. **Fluent Wait**

By using the fluent wait, we can build a mechanism to wait for an element on web page in specific interval of time.

1. **Thread.sleep()**

Thread.sleep() this is part of java duration package. It’s a type of static wait; we can use it to halt the execution for specified time.

