Pre-requisites documentations for Selenium

**Install Java:**

Need to install java development kit from official website

<https://download.oracle.com/java/19/latest/jdk-19_windows-x64_bin.exe>

Set java environment variables

JAVA\_HOME = C:\Program Files\Java\jdk-18.0.2.1

Set java path by adding to path variable in environment variables

Path = xxx; C:\Program Files\Java\jdk-18.0.2.1\bin

Go to command prompt and check the java -version to confirm the java is working in the system

Java -version

**Install Eclipse:**

Eclipse download and installation

<https://www.eclipse.org/downloads/download.php?file=/technology/epp/downloads/release/2022-12/R/eclipse-jee-2022-12-R-win32-x86_64.zip>

unzip the zip folder

double click on eclipse icon on the folder

**Create Maven Project:**

Basic maven project without any archetype

Add selenium java dependencies in pom.xml file in maven project

<https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-java/4.7.2>

version may vary

Download web browser driver and add in the folder of the project

Write first test in java maven project and execute

Add webdrivermanager dependency in pom.xml in dependencies section

**Commands for browser actions:**

**To open a web page:**

driver.get(“url”);

driver.navigate().to(“url”);

**To get current url:**

driver.getCurrentUrl();

**To get title of the page:**

driver.getTitle();

**Forward|backward|Refresh**

driver.navigate().back();

driver.navigate().forward();

driver.navigate().refresh();

**To Switch window:**

driver.switchTo().window(“windowhandle string”);

**To switch new window:**

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

**To Switch new Tab:**

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

**closing browser:**

driver.close(); - only current session of the browser

or

driver.quit(); - closes entire browser session.

**Frames:**

Locate and Switch

WebElement iframe = driver.findElement(By.cssSelector(“”));

driver.switchTo().frame(iframe);

using Id or name:

driver.switchTo().frame(“frame name”);

Using Index:

Driver.switchTo().frame(1)

Return to top level window:

Driver.switchTo().defaultContent();

**Window Management – Size**

driver.manage().window().getSize().getHeight();

driver.manage().window().getSize().getWidth();

or

Dimension size = driver.manage().window().getSize();

Int width = size.getWidth();

Int height = size.getHeight();

Set window size:

driver.manage().window().setSize(new Dimension(800,600));

**Window Management – position**

driver.manage().window().getPosition().getX();

driver.manage().window().getPosition().getY();

or

Point position = driver.manage().window().getPosition();

Int X = position.getX();

Int Y = position.getY();

Set window position:

driver.manage().window().setPosition(new Point(100,200));

**Window Management: maximize, minimize and fullscreen**

driver.manage().window().maximize();

driver.manage().window().minimize();

driver.manage().window().fullscreen();

**Screenshot**

File srcfile = ((TakesScreenshot)driver).getScreenshotAs(OutputType.FILE);

FileUtils.copyFile(srcfile, new File(“file and location”);

Only webElement screenshot

WebElement element = driver.findElement(By.cssSelector(“”));

File srcfile1 = element.getScreenshotAs(OutputType.FILE);

FileUtils.copyFile(srcfile1, newFile(“file and location”);

**Javascript execution:**

JavascriptExecutor js = (JavascriptExecutor)driver;

WebElement button = driver.findElement(By.name("btnI"));

js.executeScript("arguments[0].click()", button);

js.executeScript("console.log('hello world...')");

Web Elements:

What are Web Elements?

Input box, search box, buttons, images on the website are called Web Elements

We can identify the web elements using locators i.e., web element locators

How to locate single and multiple elements

Single element locator:

WebElement element = driver.findElement(By.name(“element name”));

Where element name can be fetched by using inspect command in the web page

Multiple Elements:

WebElement element = driver.findElements(By.name(“element name”));

Where element name can be fetched by using inspect command in the web page

Element Selector Strategies

ID – using ID property of the element

Name – using Name property of the element

LinkText – using LinkText property of the element

PartialLink – using PartialLink property of the element

Css Selector

Tips on using Selectors:

ID use ID if available, unique and consistent

If no ID is available, then using css Selector

If no css selector is available, then use xpath

Relative Locators:

Above

Below

toLeftOf

toRightOf

near

example:

WebElement loginButton = driver.findelement(By.id(“btnLogin”));

WebElement passwordTextBox =

driver.findElement(RelativeLocator.with(By.tagName(“input”).above(loginButton));

Waits:

What are waits?

Why do we need waits?

Types of waits:

Implicit

Explicit

Fluent

Pop ups and Alerts:

Javascript Alerts

Javascript confirmation

Javascript Prompt