XPath

+How to Find XPath in Chrome browser for Selenium Webdriver

+Learn how to verify Custom XPath in Chrome Browser

+Create and Test your own XPath before using it in Script

+Learn how quickly - you can create custom XPath

+Learn the concept of : parent, preceding-sibling, forward-sibling Xpaths in Selenium

+Learn text(), contains() functions in XPath

+handling dynamic elements in selenium webdriver

+how to write xpath in selenium webdriver

+how to write relative xpath in selenium

+dynamic xpath in selenium using different approaches

+absolute xpath in selenium

+how to write xpath manually in selenium webdriver

+how to write absolute xpath in selenium selenium xpath java ====================================================== Some Good Examples: ++link: Features 1. //a[text()='Features'] 2. //a[contains(text(),'Features')] --recommended

++button: //button[@type='button' and @class='btn'] //button[contains(text(),'Sign Up')] //div[@class='dropdown']//button[@type='button' and @class='btn btn-secondary dropdown-toggle' and @id='dropdownMenuButton'] //button[@id='dropdownMenuButton']

++preceding-sibling: //a[text()='test2 test2']//parent::td[@class='datalistrow']//preceding-sibling::td[@class='datalistrow']//input

++parent & preceding-sibling: //a[text()='test2 test2']//parent::td[@class='datalistrow']//preceding-sibling::td[@class='datalistrow']//input[@name='contact\_id'] ======================================================

Locators supported by Selenium WebDriver

ID

Name

ClassName

Linktext

Xpath

//TagName[@attribute = ‘Value’]

//input[@id=”username”]

CSSelector

**Misconceptions reg locators:**

|  |
| --- |
| Evey object may not have ID, className or name- Xpath and CSS Preferred |
| Alpha numeric id may vary on every refresh- check |
| Confirm the link object with anchor "a" tag |
| Classes should not have spaces- Compound classes cannot be accepted |
| Multipl values - Selenium identifies the first one- Scans from top left |
| Double quotes inside double quotes are not accepted |
| Xpath/CSS can be defined in n number of ways |
| Rightclick copy on blue highlighted html code to generate xpath |
| Firepath depreciated from firefox- |
| when xpath starts with html-Not reliable- Switch browser to get another one |
| There is no direct way to get CSS in chrome. You will find it in tool bar |
| Degrade browser to less firefox 55 to ge Firepath |
| $("") - for css , $x("") or xpath |
| //tagName[@attribute='value'] - xpath syntax |
| tagName[attribute='value'] -CSS tagName#id- CSS tagname.classname- CSS |
| //tagName[contains(@attribute,'value')] - xpath regular expression |
| //tagName[starts-with(@attribute,'value')] - xpath regular expression |
| //tagName[ends-with(@attribute,'value')] - xpath regular expression |
| tagName[Atrribute\*='value'] - Css regular expression |
| Parent Child relation ship xpath – Define xpath parent/tagnames |
| Traversing from sibling to sibling – following-sibling::tagname[count] |
| Traversing from child to parent 🡪 //tagName[@attribute='value']/parent::tagname |
| Least option – based on the visible test - //\*[text()='Images'] |

**Use # to comment a line in a config.properties file.**

What is the difference between Relative and absolute xpath?

Relative- Doesnot depend on parent nodes

Parent/child- Absolute xpath –

How to traverse to sibling element using xpath?

.//\*[@id='tablist1-tab1']/following-sibling::li[2]

How to traverse back to Parent element from Child element using Xpath?

.//\*[@id='tablist1-tab1']/parent::ul

How to identify element with Text based?

**Advantages of HtmlUnitDriver**

Testing is happening behind the scenes without launching the browser. Its called as ghost browser or headless browser

HtmlUnitDriver is not part of selenium and need to download and add to the external JARs

+Test execution using HtmlUnitDriver is very fast. Since it is the fastest implementation of Selenium WebDriver.

+Being headless and fast, it is an ideal choice for web scrapping.

+Its browser - htmlUnit is Java based. Hence, it is platform independent.

+It also supports JavaScript execution through in-built Rhino javascript engine.

**Difference between isDisplayed(), isEnabled() and isSelected() Methods in Selenium WebDriver:**

1. isDisplayed() is the method used to verify the presence of a web element within the web page. The method returns a “true” value if the specified web element is present on the web page and a “false” value if the web element is not present on the webpage.

2. isDisplayed() is capable to check for the presence of all kinds of web elements available.

3. isEnabled() is the method used to verify if the web element is enabled or disabled within the web page.

4. isEnabled() is primarily used with buttons.

5. isSelected() is the method used to verify if the web element is selected or not.

6. isSelected() method is predominantly used with radio buttons, dropdowns and checkboxes.

To download Selenium JARs <https://www.seleniumhq.org/download/>

GIT Setup:

1. Create a GIT repository
2. Goto command prompt and CD to project directory
3. GIT INIT 🡪to register.(Dir /a:h to see the hidden files)
4. GIT Status
5. GIT add .
6. GIT Status
7. git config user.email "insert github email here"

git config user.name "insert github real name here"

OR

Generate the SSH key

1. GIT commit –m “comments”
2. $ git remote add origin https://github.com/orkay5126/NewDemo.git
3. GIT push –u origin master

To Clone (fresh copy) – Pull (sub sequent)

1. GIT clone <GIT url> <Where to clone>
2. git checkout -b testbranch1
3. GIT Status
4. <update your changes>
5. GIT add .
6. GIT Status
7. GIT commit –m “comments”
8. GIT push **–u** origin <branchname>

To Pull and Merge:

1. Git checkout master
2. GIT pull origin master
3. Git branch –merged
4. Git merge <branch name>
5. **mvn clean install....to make sure that there is no build issues**
6. Git push origin master

Delete a branch:

1. Git branch –d <branch name> //deleting from local repository
2. Git branch –a
3. Git push origin –delete <branch name> //deleting from remote repository

Other commonds:

GIT Log

GIT reflog

GIT Show

GIT log –h5

GIT reset –hp

Git push –h

Git <verb> --help

Ls -la

Gitk🡪 Open the application in UI

git remote –v

git branch -a

git diff

git rebase

git clone

updates

status

git add <file names>

status

commit -m "commnets"

push <branch name>

**GIT Cheat Sheet:** <https://gist.github.com/davfre/8313299>

**GIT Basics :** https://www.youtube.com/watch?v=HVsySz-h9r4

SSH Key generation process:

1. ssh-keygen -t rsa
2. start the ssh-agent in the background

eval $(ssh-agent -s)

1. To list the available ssh files

ls -al ~/.ssh

1. # Copies the contents of the id\_rsa.pub file to your clipboard

clip < ~/.ssh/id\_rsa.pub

$ cat ~/.ssh/id\_rsa.pub 🡪 To view the file

ls -al ~/.ssh 🡪# Lists the files in your .ssh directory, if they exist

<https://docs.joyent.com/public-cloud/getting-started/ssh-keys/generating-an-ssh-key-manually/manually-generating-your-ssh-key-in-windows>

<https://www.ssh.com/ssh/keygen/#sec-SSH-Keys-and-Public-Key-Authentication>

<https://help.github.com/articles/generating-a-new-ssh-key-and-adding-it-to-the-ssh-agent/>

**To launch Safari browser**, no need to use the “SetProperty”. Need to add an extension in Safari.

1. Goto Preferences🡪Extensions and add the Safari Extension for Selenium
2. Goto Preferences🡪Advanced settings🡪check “Show Develop in menu bar ” 🡪Click on Develop Tab🡪Check “Allow Remote Automation”

How to launch Safari Browser with Selenium: Steps:

1 – Set Up WebDriver Extension for Safari browser

2 -- Install the Safari Browser Extension

3 -- Restart your Safari Browser

4 -- Enable "Allow Remote Automation" option from Develop tab

5 -- Run your script

//Alert

Alert alert = driver.switchTo().alert();

System.***out***.println(alert.getText());

alert.accept();

alert.dismiss();

//Frame

driver.switchTo().frame(frmaeid);

//drag and drop

Actions a = **new** Actions(driver);

a.clickAndHold(driver.findElement(By.*xpath*(""))).moveToElement(driver.findElement(By.*xpath*(""))).release().build().perform();

//xpath

driver.findElement(By.*xpath*("//input[contains(@id, 'Test')]")).sendKeys("Text");

driver.findElement(By.*xpath*("//input[starts-with(@id, 'Test')]")).sendKeys("Text");

driver.findElement(By.*xpath*("//input[ends-with(@id, 'Test')]")).sendKeys("Text");

All the links are represented by <a>html tag

driver.findElement(By.*xpath*("//a[contains(Text(), 'Test')]")).click();

To get all the links

List <WebElement> links = driver.findElements(By.tagName("a")));

What is HTML DOM - Document Object Model? Why we get StaleElement Exception in Selenium.

• DOM is an API Interface provided by browser

• When a web page is loaded, browser creates a DOM of the page.

What are the different Exceptions in Selenium:

a. StaleElement Exception

b. ElementNotFound Exception

c. NoElementReference Exception

With the document object model, JavaScript gets all the power it needs to create dynamic HTML:

• JavaScript can change all the HTML elements in the page

• JavaScript can change all the HTML attributes in the page

• JavaScript can change all the CSS styles in the page

• JavaScript can remove existing HTML elements and attributes

• JavaScript can add new HTML elements and attributes

• JavaScript can react to all existing HTML events in the page

• JavaScript can create new HTML events in the page

**Jenkins :**

Install Jenkins

https://www.tutorialspoint.com/jenkins/jenkins\_maven\_setup.htm

Open the command prompt. From the command prompt, browse to the directory where the jenkins.war file is present.

**D:\>Java –jar Jenkins.war**

[**http://localhost:8080**](http://localhost:8080)

**configure:**

**Manage Jenkins🡪Manage Plug ins**

click on **Available** Tab,

In the filter box enter "Maven plugin" and you will get search result as **"Unleash Maven Plugin",**

√ enable the check-box, click on **"Download now and install after restart"**

**Configure Systems🡪**

**How to setup Jenkins on Windows**

Step 1 : Download Jenkins war file - https://jenkins.io/

Step 2 : Place the war file into any location on your system

Step 3 : goto command prompt (windows) | terminal (mac)

- goto folder where jenkins.war is

- java -jar jenkins.war

Step 4 : goto browser - http://localhost:8080 (Jenkins window should show up)

Step 5 : install required plugins

Step 6 : get started with Jenkins

**How to setup Jenkins on Tomcat**

Step 1 : Download Tomcat

Step 2 : Unzip and place tomcat folder at any location

Step 3 : Copy/Place the jenkins.war file inside tomcat/webapps folder

Step 4 : Goto commandpromt (cmd) - windows | terminal - mac

- goto tomcat/bin directory

- make all files executable : chmod +x \*.sh

In case of windows this command will not work. This step might not be needed if you are on windows. Else you can right click on the file/folder goto security tab and change the permissions.

Can watch -

TOMCAT - How to install and run on Windows | Change Port | Run app

https://youtu.be/ZIIkrn6LHW0?list=PLh...

Step 5 : Start Tomcat : ./startup.sh

(to shutdown tomcat : ./shutdown.sh)

Step 6 : verify if tomcat started : browser - http://localhost:8080

Step 7 : verify if jenkins is running on tomcat : http://localhost:8080/jenkins

\*\*\* To start jenkins (standalone) on a diff port\*\*\*

java -jar jenkins.war - - httpPort=9090

**How to change Home Directory**

Jenkins Home Directory contains:

1. All configurations

2. Plugins

3. Jobs details

4. Logs

Why:

-To move jenkins home dir to a location that has enough disk space

-Project requirements

If you have installed jenkins on windows through msi file then read this - http://tech.nitoyon.com/en/blog/2014/...

Step 1 : Check your current home directory

Step 2 : Create a new folder (which will be new home dir)

Step 3 : Copy all data from old dir to new dir

Step 4 : change env variable - JENKINS\_HOME and set to new dir

Windows - change env variable

Mac - goto terminaal

export JENKINS\_HOME=/Users/raghav/Desktop/Tools/Jenkins/JenkinsHome/

Step 5 : restart Jenkins

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To see hidden files/folders on mac:

1. Exit Finder

2. On terminal - defaults write com.apple.finder AppleShowAllFiles TRUE

3. Press option/alt - right click finder - relaunch

How to use CLI - command line interface

Step 1 : start Jenkins

Step 2 : goto Manage Jenkins - Configure Global Security - enable security

Step 3 : goto - http://localhost:8080/cli/

Step 4 : download jerkins-cli jar. Place at any location.

Step 5 : test the jenkins command line is working

How to install and run on Windows | Change Port | Run app

Step 1 : Download Tomcat

Step 2 : Unzip tomcat folder and place at any location

Step 3 : Start Tomcat

A. Goto Tomcat/bin - click on startup.bat or startup.sh

B. Goto cmd - Tomcat/bin - startup.bat or startup.sh

C. Goto cmd - Tomcat/bin - catalina.bat start

Step 4 : Start Tomcat

A. Goto Tomcat/bin - click on shutdown.bat or shutdown.sh

B. Goto cmd - Tomcat/bin - shutdown.bat or shutdown.sh

C. Goto cmd - Tomcat/bin - catalina.bat stop

Step 5 : How to change default port 8080

- Goto Tomcat - Conf

- Edit server.xml

- Change port number at connector port

- save and restart tomcat

Step 6 : How to run application on tomcat

- place .war file inside Tomcat/ web apps

- restart tomcat

**Surefire plug in**

<plugins>  
      <plugin>  
        <groupId>org.apache.maven.plugins</groupId>  
        <artifactId>maven-surefire-plugin</artifactId>  
        <version>2.22.0</version>  
        <configuration>  
          <includes>  
            <include>Sample.java</include>  
          </includes>  
        </configuration>  
      </plugin>  
    </plugins>  
  </build>

**building and run java program by using maven**

[**http://www.oracle.com/webfolder/technetwork/tutorials/obe/java/Maven\_SE/Maven.html**](http://www.oracle.com/webfolder/technetwork/tutorials/obe/java/Maven_SE/Maven.html)

[**https://www.mkyong.com/maven/how-to-install-maven-in-windows/**](https://www.mkyong.com/maven/how-to-install-maven-in-windows/)

**Oracle Virtual Box/Vagrant:**

[**https://drupalize.me/videos/installing-vagrant-and-virtualbox?p=1526**](https://drupalize.me/videos/installing-vagrant-and-virtualbox?p=1526)

**VI commands:**

:q! – Quit without saving

:q – Quit

:w - save

:wq – Save and Quit

DD – to cut the line(For multiple lines, <# of lines>DD)

DW – To cut the word

YY – To copy the line(For multiple lines, <# of lines>YY)

YW - To copy the word

P – Paste

GREP

/<Search Item> - to search; n -search forward; N – search backwards

r – Replace the character one at a time

R – replace the char until Esc hit

u – Undi

Ctl + R - Redo

X – Delete right char; x – delete left char

H 🡨; L🡪; J- Down;K-UP;