JAVA –

**Strings**

**Type Casting (Wrapper Classes)**

***Threads(Optionally)***

**File Handling**

**Exceptions**

**Collections**

***Looping and conditional statements***

**SELENIUM *(Browser Automation Tool)* :**

1. **Open Source free available software**
2. **Almost all the popular browsers //QTP (HP) – IE, Mozilla, Chrome**
3. **Platform independed // QTP (HP) –Platform dependent**
4. **Supports multiple Programming languages // QTP (HP) – VBS**
   1. **Java**
   2. **C#**
   3. **Ruby**
   4. **Python**
   5. **Perl**
   6. **Javascript**
   7. **PHP**
5. **No dedicated machine is required for execution // QTP (HP) – Dedicated machine is must**
6. **Parallel Execution( 2-n ) // QTP (HP) – not supported**
7. **Distributed Execution**

***Versions :***

1. ***Selenium-IDE (Record and Playback) used by Beginners***
   1. ***Same origin Policy***

AUT

Script

1. ***~~Selenium-RC~~***
   1. ***~~Virtual Server~~***

VS

AUT

Script

* 1. ***~~Execution was very slow~~***
  2. ***~~Proxy settings, then RC will fail to perform~~***
  3. ***~~SSL, Security~~***
  4. ***~~Client and Server config was very difficult~~***
  5. ***~~JavaScript~~***

1. ***Selenium Webdriver (2.0 , 3.0, (3.141.59), Selenium 4.0 alpha)***
   1. ***JAVA***
2. ***Selenium Grid – Distributed Execution***

***TestNG, Maven, Jenkins:***

***Official WebSite :***

<https://www.seleniumhq.org/>

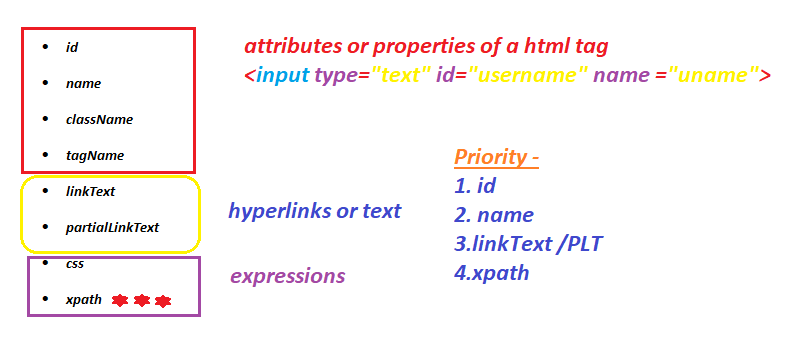
***Selenium IDE :***

***Addon with FF or Chrome***

***Script Generated by Selenium IDE is called Selenese***

***Selenese***

* ***Command - type of Action that we perform on WebElement (any component which you see on a Web Page)***
  + ***Command***
    - ***open – launch the application***
    - ***type***
    - ***click***
    - ***click at***
    - ***assert title***
    - ***assert text***
* ***Target- WebElement on we are performing action***
  + ***id***
  + ***name***
  + ***className***
  + ***tagName***
  + ***linkText***
  + ***partialLinkText***
  + ***css***
  + ***xpath***

******

* ***Value***
  + ***Optional Section , text to be typed***

***Validations in Selenium IDE:***

* ***Verify - will make the step fail and continue the execution***
* ***Assert - will make the step fail and stop the execution***

***POC – Proof of Concept***

***Asusual***

***nd 6.30 AM IST 🡪(9.30 PM CST)***

***Expressions :***

***We find the exact location of a web Element in the web page or DOM.***

***CSS - we can traverse only from parent tag to child tag in HTML DOM***

1. ***css=htmlTag[propertyname = ‘propertyValue’]***
2. ***css=htmlTag#idValue or #idValue***
3. ***css=htmlTag. valueOfClassAttribute or .valueOfClassAttribute***

***Xpath - we can traverse from parent tag to child tag in HTML DOM or from child tag to parent tag***

***Xml path🡺 location of a element in DOM***

1. ***Absolute xpath***

***/html/child/superchild/child/../.../.../...***

1. ***Relative xpath***

***// 🡺 anywhere in the html page***

***Syntax :***

1. ***Basic Xpath***

***//htmlTag[@propertyname=’propertyValue’]***

1. ***Traversing from parent to child***

***//htmlTag[@propertyname=’propertyvalue’]/childTagName***

***Or***

***//htmlTag[@propertyname=’propertyvalue’]//childTagName***

***Or***

***//htmlTag[@propertyname=’propertyvalue’]//childTagName[@propertyname=’propertyvalue’]***

1. ***Using regular Expressions in Xpath***

***If one property is not sufficient to find the element then we can go with Regular Expressions***

***3.1 AND***

***- if both the properties are matched then we get the element***

***//htmltag[@property1=’value1’ and @property2=’value2’]***

***3.2 OR***

***- if any one property is matched then we get the element***

***//htmltag[@property1=’value1’ or @property2=’value2’]***

|  |  |  |  |
| --- | --- | --- | --- |
| ***Application*** | ***Type*** | ***Element Name*** | ***Xpath*** |
| ***ActiTime*** | ***basic*** | ***UserName Text Box*** | ***//input[@placeholder='Username']***  ***//input[@id='username']***  ***//input[@name='username']*** |
| ***ActiTime*** | ***basic*** | ***Password Text Box*** | ***//input[@placeholder='Password']*** |
| ***ActiTime*** | ***Traversing Parent to immediate child*** | ***Login Button*** | ***//a[@id='loginButton']/div*** |
| ***ActiTime*** | ***Traversing Parent to child present somewhere*** | ***Search all div under login button*** | ***//td[@id='loginButtonContainer']//div*** |
| ***ActiTime*** | ***Traversing Parent to child present somewhere*** | ***Print All Module Names*** | ***//table[@id='topnav']//div[@class='label']*** |
| ***ActiTime*** | ***Using Regular Expression*** | ***Search both username and password*** | ***//input[@id='username' or @name='pwd']*** |
| ***ActiTime*** | ***Using Regular Expression*** | ***Search none of un and pwd*** | ***//input[@id='username' and @name='pwd']*** |
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