Test Automation:

-🡪 it is used to automate the manual test case.

-🡪 here we will use third party tool to evaluate the product

-🡪 it is implemented in a single module or whole project

When to Automate:

-🡪 when the requirement is stable and clear.

-🡪 features need to interact again & again

When not to Automate:

-🡪 when the requirement is not clear or not stable

Advantage of Automation testing:

--🡪 Re-usability

-🡪 Save Time / Fast Execution

-🡪 Data -Driven testing

Types of testing conducted using Automation:

--🡪 Functional Testing

-🡪 Performance testing

-🡪 Regression Testing

-🡪 Security Testing

Types of testing not possible through Automation:

--🡪 Usability Testing

Types of Testing Tools:

1. Functional testing:

-🡪 it is used to check the functionality of the developed product.

--🡪 Selenium / RFT / UFT.

1. Performance:

-🡪 it is used to check the reliability of the product

-🡪 JMeter / Load runner /RPT

1. Regression Testing;

--🡪 All the functional testing tool support regression suite

1. Unit Testing:

--🡪 it is used for individual module validation.

Junit : for the java platform

NUnit: for .Net platform

1. Test Management tool:

-🡪 it is used to manage the testing activities from requirement to till deployment.

--🡪 Jira / ALM / RQM

Test Automation Life cycle:

1.Test Automation Basics:

-🡪 here you need to identify which object you need automation.

-🡪 importance of test automation

2. Test Tool selection:

-🡪 select the proper tool which fits your requirement

3. Tool Evaluation:

-🡪 type of tool which we selected

4. Testing Framework:

-🡪 every testing tool support diff test framework

1.Keyword Frame-work

2.Data driven Framework

3.Modular Framework

4.Hybrid Framework

5.Test Implementation

Selenium:

-🡪 it is an open source

-🡪 it is used for functional testing

-🡪 it is used to test web application only

-🡪 it has 4 different component

Why Selenium:

-🡪 open source

-🡪 platform independent

-🡪 cross browser testing

-🡪 Multi-language support

Selenium Components:

1. Selenium IDE:

-🡪 it is Recording tool

-🡪 it is used to capture the user activity and run the program accordingly.

-🡪 selenium IDE. Is a browser extension

-🡪 Record /playback Methodology.

1. Selenium Web driver:

-🡪 direct communication between user and browser.

1. Selenium RC:

-🡪 now days we are not using this component.

-🡪 it is used to communicate user and browser through the RC server.

1. Selenium Grid:

-🡪 it is used for cross-browser testing

-🡪 it is used for parallel test executions.

Web Element Identifications:

-🡪 it is used to identify the elements from the application

---.> common Elements:

1.TextBox

2.Button

3.RadioButton

4.Image

5.link

6.Dropdwon

7.checkbox

Locators:

-🡪 it is used to identify the web element form the web sites.

Types of locators:

1. Id
2. Name
3. Cssselectors
4. Xpath
5. Type
6. Classname

-🡪 using anyone of this locator we can able to identify the web element uniquely.

Assertions & Verification:

-🡪 it is used to check the response getting from the application.

Assertions:

-🡪 it is used to check the response from the server.

-🡪 it is used to compare the expected and actual

-🡪 if Assertion fails the testcase will be aborted

Verification:

-🡪 it is used to check the response from the server.

-🡪 it is used to compare the expected and actual

-🡪 if Verification fails still the rest of the steps will be executed

Elements added for Assertion & verification:

1.element present

2.Element not present

3.Element Editable

4.Element not Editable

5.Element selected

6.Element not selected

Selenium Web Driver: common Methods:

Get ()--🡪 it is used to open any web page[java]

Navigate()-🡪 it is used to open any web page[.Net]

Click()--🡪 it is used to submit or click any object

SendKeys(): --🡪 it is used to pass the inputs/ parameter

Close()--🡪 it is used to close the open browser.

Select()--🡪 it is used to select the values from the list

Identify the element / type of element / method or action

Handling Drop-Drown in selenium:

1.import or install Select UI Package

2.Identify the drop down and store as a web element

3.Select the values from the drop-down

Selenium WebDriver browser commands:

1.Get

Syntax:

Driver.get(“url”);

Or

String URL = “URL”;

Driver.get(URL);

2.Get Title():

--🡪 it is used to get the title of the page

Syntax:

Driver.getTitle(); [java]

Driver.Title; [C#]

3.Get URL:

--🡪 it is used to get and display the current url address

Syntax:

Driver.getCurrentUrl [java]

Driver.url[C#]

4.Get Page source:

-🡪 it is used to return current source code of the web page.

Syntax:

Driver.getPageSource();

5.Close():

-🡪 it is used to close the last opened window

6.Quit()

--🡪 it is used to close all the open window or browser.

Web driver Navigation commands:

1.Navigate ()

--🡪 it is used to open the url

Syntax:

Driver.Navigate()

2.Forward();

-🡪 it is used to click the forward button in the existing browser

Syntax:

Driver.Navigate().forward();

3.Back():

-🡪 it is used to go back to prvious page

Syntax:

Driver.Navigate().Back();

4.Refresh()

-🡪 it is used to refresh the current page.

Syntax:

Driver.Navigate()\_.refresh();

Web driver Web Element commands:

1.Clear():

-🡪 it is used to clear the previous data

2.Sendkeys()

-🡪 it is used to pass the input parameter

3.click()

-🡪 it is used to click some element.

4.isDisplayed()

-🡪 it is used to check whether the element is displayed in the web page.

5.isEnabled()

-🡪 it is used to check the element is enabled or not

6.isSelected()

-🡪 it is used to check whether user can select the element or not

7.Submit()

-🡪 it is used to send the request to appropriate server

8.GetText()

-🡪 it is used to get the text or string which present in the element.

Selenium Assertions:

-🡪 it is used to check the response from the server.

-🡪 it is used to compare the expected and actual result.

Types of Assertions:

1.AssertEquals():

-🡪 it is used to check or compare the expected and actual. If both are same it will pass or it will fail.

Syntax:

Assert.assertEquals(actual,expected);

2.AssertNotEquals:

-🡪 it will check both expected and actual should not same then it will pass else it will fail.

Ex:

AssertNotEquals(actual,expected,message);

3.AssertTrue:

-🡪 it will used to check the given condition if conditions satisfied it will return true as a Boolean else false.

Ex:

Assert.AssertTrue(condition);

4.AssertFalse():

-🡪 it will check for the given condition if condition is not satisfied then it will return True else it will return false

Ex:

Assert.AssertFalse(condition);

5.AssertNull:

-🡪 this method is used to verify the object is Null or not. If the object is Null then it will pass. Else it will fail.

6.AssertNotNull

-🡪this method is used to check the given object is not null. If the fiven object is notnull it will pass else fail.

Framework;

-🡪 set of program or set of pre-conditions.

Junit Framework:

-🡪 it is an unit test framework

-🡪 it is also used for functional testing

-🡪 it contains annotations.

Junit Annotations /Keyword:

@Test :

-🡪 it is used to execute the actual test case or code

@Before

-🡪 it is an pre-condition need to be executed before the test case. Or test methods.

@After

-🡪 it is an post condition need to be executed after each test case. Or test method.

@TestRunner

-🡪 it is used for test suite or collections of test case or test methods.

Supported testing framework for selenium C#:

1.NUnit:

-🡪 it is used for unit level testing.

-🡪 it is also used for functional testing using selenium

NUnit Test Annotation / keywords:

@Test

-🡪 here we will write our actual test case or code.

@Setup

-🡪 it is used for pre-conditions which will executed before each test case or test methods.

@TearDown

-🡪 it is an post condition which will be executed after each test case or test methods.

Java script Executor:

-🡪 it is an interface which is used to execute java script function inside selenium web driver.

Common java script functions:

1. Message box or alert window
2. Page scroll up / scroll down
3. Mouse click
4. Drag & drop

--🡪 it is also used to identify the element from the websites.

Java script Methods:

1. Execute script:

-🡪 this method is used to identify the current element from the web page .

--🡪 this method is used to perform all the java script function inside selenium web driver.

1. Execute Asynchronous script

--🡪 it is used to execute some action or operation without taking additional time.

TestNG Framework selenium:

-🡪 it stand for Test Next Generation

-🡪 it is used to conduct testing step by step.

-🡪 it have different annotation /keywords.

-🡪 better Reporting

TestNG annotations;

1. @BeforeClass:

-🡪 it will used as a initialization. Which will be executed before all the the test.

-🡪 one time execution.

1. @AfterClass:

-🡪 it will be executed only once at the end of the test.

1. @BeforeTest:

-🡪 this statement will be executed before each test statement.

1. @AfterTest:

-🡪 this statement will be executed after each test statement.

1. @BeforeMethod:

-🡪this statement will be executed before each test method.

1. @AfterMethod:

-🡪 this statement will be executed after each test methods.

1. @Test:

-🡪 this statement contain actual test case.

1. @BeforeTestSuite:

-🡪 this statement will execute before each test suite or test collections.

1. @AfterAfterTestSuite:

-🡪 this statement will execute after each test suite or test collections.

1. @DataProvider:

-🡪 this statement will be used for Data driven testing

1. @Parameters.:

-🡪 this statement used for data driven testing using xml file configuration.

Selenium Web Driver Alert Handle:

--🡪 it is used to handle the run time exceptions.

1.Dismiss():

-🡪 this method is used to close the alert window.

Driver.switchTo().alert().dismiss();

2.accept()

-🡪 this method is used to click or accept the alert window.

Driver.switchTo().alert().accept()

3.getText():

-🡪 this method is used to get the text or string from the alert window or any other specific object.

Driver.wswitchTo().alert().getText();

4.sendkeys()

-🡪 this method is used to pass some parameter in the alert window.

Driver.switchTo().alert().sendkeys(“ “);

getText():

-🡪 it is used to display the string or text which is present on the object.

-🡪 visible text.

getAttribute():

-🡪 it is used to print the innertext value of the object.

-🡪 text which is not visible.

Ex:

<h2 style=”font-size:16px;text=transform: uppercase; color: #ffe welcome to selenium</h2>

Output of getText():

Welcome to selenium

Output of getAttribute():

getAttribute() method: font-size:16px;text=transform: uppercase; color: #ffe

selenium Drag and Drop:

-🡪 in selenium web driver we have Action class which will used for this type complex activity.

Different types of Action. Class:

1. ClickAndHold:

--🡪click a web element without releasing.

1. moveToElement:

-🡪 move the pointer to the proper location

1. release:

-🡪 release the left click

Data Driven Testing / Parameter / in selenium web driver:

-🡪 to verify one object with different set of input conditions.

TestNG supports Data driven testing:

[1.@DataProvider](mailto:1.@DataProvider):

-🡪 it is used to parameter inside the web driver code.

[2.@Parameters](mailto:2.@Parameters):

-🡪 so here we are using testing.xml file

Why xml?

It is used for the configuration.

Data driven testing using selenium C#:

There are 3 different way to achieve the data driven testing

1. using Data Row Method
2. using Dynamic Data Set
3. using Excel file[External Data]

selenium Wait Statement:

-🡪 it is used to wait certain time period to perform the action.

Types of Wait in selenium:

1.Implicit wait method:

-🡪 it is used to add the wait on the driver level.

-🡪 it is used to add the wait on all the statement.

Ex:

**Driver.manage().timeouts().implicitlyWait(20,Timeunit.SECONDS);**

2.Explicit wait method:

-🡪 it is used to add the wait on the particular action.

-🡪 it is used to add wait on the specific statement

Ex:

It is used to perform certain actions;

Alertpresent()

elementToBeClickable()

elementToBeselectable

3.Sleep:

-🡪 it is used to for forcefully set the threshold limit.

Ex:

Thread.sleep(3000);

4.PageTimeout:

-🡪 it is used to set the threshold limit for the entire page.

Advantage of using TestNG:

-🡪 it is used to conduct test suite [ collection of testcase] execution using testing.xml file.

---.>it is used to execute the test based on the priority of the methods.

-🡪it is also used for parallel testing using testNG.xml file.

-🡪 it is also used for Grouping the test method or test case.

-🡪 it is also used for Reporting and result.

XPath in selenium:

-🡪 it is an xml path to locate an element from the web page.

-🡪 through the html structure.

-🡪 it is used to locate an element using the path of the element.

Syntax:

Xpath = //tagname[@Attribute=’value’]

// --🡪 select current node.

Tagname --🡪 name of the particular node

@--🡪 select the attribute

AttributeName--🡪 name of the attribute

Value--🡪 unique value for the selected attribute

There are 2 types of xpath:

1.Relative xPath:

-🡪 it will search and identify the element anywhere in the web page.

-🡪 it starts with double forward slash [//]

-🡪 it starts from the middle of the HTML structure.

-🡪 it is always preferred xpath.

-🡪 xpath is short. Compare to Absolute xpath

2.Absolute XPath:

--🡪 it is a direct way to find the element from the web page.

-🡪 it starts with single forward slash [/]

-🡪 xpath is too long

How to write dynamic xpath in selenium:

1. Basic XPath:

--🡪 it is used to create an xpath by taking some constant attributes.

Ex:

Xpath = //input[@name=’value’]

1. Contains():

-🡪 it is used to create an xpath using partial text which is not dynamic.

Ex;

Xpath=//\*[contains(@name,’user’]

1. Using OR & AND :

-🡪 using this method we can locate an element by giving multiple conditions.

Ex: OR Method:

-🡪 it will check if anyone condition is true.

Xpath = //\*[@type=’submit’, or name=’sr’]

AND Method:

Xpath =//input[@type=’submit’ and @name=’sr’

-🡪 it will check both the condition should be true.