Stage 1 - Java Programming Language

Stage 2 - Web Automation using selenium/ Windows automation using AutoIT

Stage 3 - Hybrid Framework

Stage 4 - Git and Jenkins - CI/CD pipeline

Selenium - <https://www.selenium.dev/>

* Automates only Web Application
* Open Source
* Language independent - Java, C#, Python, Ruby, Javascript, php, perl

Selenium - A Suite of tools

1. Selenium IDE
   1. No programming knowledge is required.
   2. Record and playback feature
   3. Supports - chrome/Firefox.
   4. Simple scripting or exploratory testing.
   5. Plugin

<https://www.selenium.dev/downloads/>

1. Selenium RC - Remote Control - Depreciated
   1. Programming knowledge is must
   2. Java, C#, Python, Ruby, Javascript, php, perl
   3. Architecture

Source code (java+selenium RC) à RC Server (Turn on/off) à Browser

1. Selenium WebDriver
   1. Programming knowledge is must
   2. Java, C#, Python, Ruby, Javascript, php, perl
   3. Architecture

Source code (Java+selenium WebDriver) à Browser

1. Selenium Grid
   1. LAN network
   2. Hub and Node

Selenium IDE

1. Added a plugin
2. Test plan - minimum one verification - expected value (hardcoded value) vs Actual value (runtime)
   1. Verify (Soft Assertion) - on failure, it will complete the remaining step and make the test method failure
   2. Assert (Hard Assertion) - on failure, it will abort the execution and make the test method failure
3. Export to java

Firefox - <https://ftp.mozilla.org/pub/firefox/releases/90.0/win64/en-US/>

Uppercamelcase - MyFirstProject

Lowercamelcase - myFirstProject

Java Programming

1. Install - JDK 8 (Java Development Kit) - (install JRE also)
   1. <https://www.oracle.com/in/java/technologies/javase/javase-jdk8-downloads.html>

C:\Program Files\Java

1. Ide - eclipse, netbean, intellij
2. Java is platform independent
3. Java Architecture

Source code (.java) --> Byte code (.class) --> O/P

Compiler -- Source code (.java) --> Byte code (.class)

1. Eclipse Structure

Workspace – lowercase

Project 1 - UpperCamelCase

package 1 – lowercase - ( com. companyname.purpose or org.companyname.purpose )

class - UpperCamelCase

Methods and variable - lowerCamelCase

package 2

class

Methods and variable

1. Datatypes
   1. Primitive datatypes/pre-defined dataypes -
      1. range,size,default is defined

Byte – 8 bit

1 bit - + or -

7 bit – storing the number

* 1. Non primitive datatypes /non-predefined datatypes - collection of pre-defined datatypes
     1. String
     2. Array
        1. Size is fixed
        2. Zero based index

1. Control Statement
   1. If condition
   2. Switch
2. Relational operators

==, !=, >,<,>=,<=

1. Logical operator – And, or, not
2. Iterative statement
   1. For loop
      1. Start point
      2. End point
      3. Increment
   2. For each --> designed for handling array and collection
   3. While
   4. Do while
3. Debug - executing the code step by step
   1. Add Breakpoint
   2. Then debug as java application

Aug 17, 2021

1. Hands-on on concepts learned – conditional statement/iterative statement

Aug 18, 2021

1. Methods – Building block of the program
   1. Reusability
   2. Static Method
   3. Non-static method

Static Method

* How to create the static method?
* How to call the static method?

classname.methodname()

areaOfCircle -->

accessmodifier static returntype methodname(arguments)

1. Access modifier
   1. Private - accessible only within the current class
   2. Default – accessible within the package
   3. Protected
   4. Public - accessible anywhere
2. Local variable can be used only within the method

Apr 19, 2021

1. Math class document

<https://docs.oracle.com/javase/8/docs/api/java/lang/Math.html>

1. Non-static method
   * How to create the non- static method?
   * How to call the non-static method?
     + Create object
     + Use object reference to call the non-static method
2. Object creation
   1. Declaration
   2. Instantiation --> allocate the memory
   3. Initialization
3. Methods
   1. With argument, with return type
   2. Without argument, with return type
   3. With argument, without return type
   4. Without argument, without return type
4. Importing and using the class from different package.

Aug 23, 2021 / Aug 24, 2021

1. Variable
   1. Static variable
   2. Non-static variable
2. Static vs non-static
3. Class and Object – definitions
4. Thread.Sleep

Selenium WebDriver

Aug 25, 2021

1. Create a Java Project
2. Download and configure the selenium jar to the project

<https://www.selenium.dev/downloads/>

Configure the jar

Right click on project --> Build path --> Configure Build Path --> libraries --> add external jar

1. Add the chromedriver.exe inside the project home directory

Exception in thread "main" java.lang.IllegalStateException: The path to the driver executable must be set by the webdriver.chrome.driver

To fix the error:

* 1. Goto <https://chromedriver.chromium.org/>
  2. Goto <https://github.com/mozilla/geckodriver/releases/download/v0.29.1/geckodriver-v0.29.1-win64.zip>
  3. Download the driver respective to browser version and place it in the project home directory.

1. get(, gettitle(), getCurrenturl()

Aug 26, 2021

1. Inspect --> tagname, attribute, text or not

<a href="/index.php/auth/requestPasswordResetCode" id=”main” >Forgot your password?</a>

1. Basic locator
   1. id
   2. name
   3. tagname
   4. Classname
   5. linktext
   6. Partial link text

When the locator is duplicate then findelement will pick the first one.

1. Click(), sendkeys(), select

Aug 30, 2021

Hands-on locating element and practice

Aug 31, 2021

1. Exception in thread "main" org.openqa.selenium.NoSuchElementException:

Findelement default nature --> //0.5s to check for the presense of element

1. Synchronization
   1. Unconditional wait
      1. Thread.sleep(5000) --> wait for 5s
   2. Conditional wait
      1. Implicit wait
         1. Default implicit = 0s
         2. Applicable for all findelement and findelements method
         3. Example: Implicit wait = 30s
            1. If element is not present then error will be thrown after 30s.
            2. If element is present then immediately move for the next step.
            3. Polling time – 500ms/0.5s (how frequently checks for the element)
      2. Explicit wait
         1. Exact condition
         2. Polling time – 500ms
2. Advance locator
   1. Xpath
   2. CSS

Class Assignment -

Framework

1 GB – 1024 MB

1 MB – 1024KB

1KB – 1024 B

1B – 8 bit

Class Assignments:

|  |  |
| --- | --- |
| **PERCENTAGE** | **GRADE** |
| 90 and above | A |
| 80 to 89 | B |
| 60 to 79 | C |
| 45 to 59 | D |
| below 45 | F |

int[] numbers= {45,65,78,98,71,25,33,55,41};

Picked up JAVA\_TOOL\_OPTIONS: -agentlib:jvmhook

Picked up \_JAVA\_OPTIONS: -Xrunjvmhook -Xbootclasspath/a:"C:\Program Files (x86)\Micro Focus\Unified Functional Testing\bin\java\_shared\classes\jasmine.jar"

int[] numbers = {45,88,1002,65,89,650};