Selenium With Java

Course Content – Selenium with Java

1. Program with Java
2. Selenium
3. Selenium Grid
4. TestNG
5. Extent Report
6. Excel Read / Write with Java
7. Text File Read Write
8. Framework Development
9. Git
10. Jenkins CI / CD

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1. **Program with Java**

Introduction to Java
BUILT IN DATA TYPES IN Java
FLOAT, DOUBLE AND DECIMAL DATA TYPES
STRING AND CHARACTER DATA TYPE, ESCAPE SEQUENCES
DATA TYPE CONVERSION IN Java
CONSTANT VARIABLE
ARITHMETIC OPERATORS IN Java
RELATIONAL OR COMPARISON OPERATORS
LOGICAL OPERATORS
ASSIGNMENT OPERATORS
INCREMENT AND DECREMENT OPERATORS
DECISION MAKING STATEMENT (IF-ELSE)
IF ELSE IF - DECISION MAKING
SWITCH CASE IN C-SHARP
LOOPING STATEMENTS - FOR LOOP
WHILE LOOP
DO-WHILE LOOP
DIFFERENCE BETWEEN FOR AND WHILE LOOP
JUMP STATEMENTS - BREAK - CONTINUE - GOTO
ARRAYS
ACCESSING ARRAY USING FOREACH LOOP
ARRAYS - SINGLE AND MULTI-DIMENSIONAL
METHODS OR FUNCTIONS
CLASSES AND OBJECTS
WHAT IS CONSTRUCTOR
CONSTRUCTOR OVERLOADING
STATIC AND INSTANCE MEMBERS OF CLASS
INHERITANCE
TYPES OF INHERITANCE - SINGLE - HIERARCHICAL - MULTILEVEL
CONSTRUCTOR IN INHERTANCE
ACCESS SPECIFIERS - PUBLIC - PRIVATE - PROTECTED
ENCAPSULATION
POLYMORPHISM AND METHOD OVERLOADING
OPERATOR OVERLOADING
METHOD HIDING IN INHERITANCE
METHOD OVERRIDING (RUN TIME POLYMORPHISM)
DIFFERENCE BETWEEN METHOD HIDING AND METHOD OVERRIDING
ABSTRACT CLASS
INTERFACES IN Java
SIMILARITIES BETWEEN ABSTRACT CLASS AND INTERFACE
DIFFERENCE BETWEEN ABSTRACT CLASS AND INTERFACE
GENERIC CLASS
COLLECTIONS AND ARRAY LIST
HASH-TABLE COLLECTION
DIFFERENCE BETWEEN NON-GENERIC AND GENERIC COLLECTIONS
EXCEPTION AND EXCEPTION HANDLING
HANDLING INDEX OUT OF RANGE EXCEPTION
HANDLING NULL REFERENCE EXCEPTION
HANDLING FORMAT EXCEPTION
EXCEPTION CLASS AND ITS USE
TRY WITH MULTIPLE CATCH BLOCKS
FINALLY BLOCK WITH TRY CATCH

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DIFFERENCE BETWEEN STRING AND STRING BUILDER

2. **Selenium**

Browser Invoking

- Browser-Invoking-Chrome
- Browser-Invoking-Firefox
- Browser-Invoking-Edge

WebDriver Browser Commands

- Get Command
- Get Title Command
- Get Current URL Command
- Get Page Source Command
- Close Command
- Quit Command
- Maximize
- FullScreen
- Delete Cookies

Browser Navigation Commands

- Navigate To Command
- Forward Command
- Back Command
- Refresh Command

WebElement Commands

- Clear Command
- SendKeys Command
- Click Command
- IsDisplayed Command
- IsEnabled Command
- IsSelected Command
- Submit Command
- GetText Command
- getTagName Command
- getCssValue Command
- getAttribute Command
- getSize Command
- getLocation Command

FindElement and FindElements Command

- Locating Element using By Strategy
- By ID
- By Name
- By ClassName
- By TagName
- By LinkText
- PartialLinkText
- By Xpath
- Difference between FindElement & FindElements Commands

CheckBox & Radio Button Operations

- Different Selection Method -By ID

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With IsSelected
With Value
By CssSelector

DropDown & Multiple Select Operations

DropDown & Multiple Select Operations
Select Class in Selenium
Different Select Commands
selectByVisibleText
selectByIndex
selectByValue
Print All Selected Option
Print all the Options
DeSelect Methods
deselectAll( )
deselectByIndex
deselectByValue
deselectByVisibleText
isMultiple
Get Selected Option

Handle Dynamic WebTables in Selenium Webdriver

Handle Dynamic WebTables in Selenium Webdriver

Wait Commands ImplicitlyWait Command

FluentWait Command
ExpectedConditions Command
PageLoadTimeout Command
SetScriptTimeout Command
Sleep Command

Switch Commands

GetWindowHandle Command
GetWindowHandles Command
SwitchTo Window Command
SwitchTo Frame Command
SwitchTo PopUp Command

Handling of Alerts, JavaScript Alerts and PopUp Boxes

Simple alert
Confirmation alert
Prompt alert

Interact with Elements inside an Iframe

By Frame Index
By Frame ID or Name
By Frame WebElement
NoSuchElement Exception in Iframe

Handling Iframes using Selenium WebDriver

How to find total number of iFrames on a webpage
Switch to Frames by Index
Switch to Frames by Name

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Switch to Frame by ID
Switch to Frame by WebElement
Switching back to Main page from Frame

Drag And Drop in Selenium Webdriver
Drag And Drop in Selenium Webdriver

Mouse Hover action in Selenium Webdriver
Mouse Hover action in Selenium Webdriver

Find all the Links on a Webpage
Find all the Links on a Webpage

Refresh Browser in Different Ways Refresh command
SendKeys command
Get command
To command
SendKeys command

JavaScript and Selenium JavaScriptExecutor
What is JavaScript?
Getting Element Attributes
Total Frames in Browser
Adding an Element in DOM
Size of Window
Navigating to different Page
What is JavaScriptExecutor?
Generate Alert Pop Window
Click Action
Refresh Browser
Get InnerText of a Webpage
Get Title of a WebPage
Scroll Page

3. **Selenium Grid**
Introduction to Selenium Grid
Setup of Selenium Grid

4. **TestNG**
Why Use TestNG with Selenium?
Advantages of TestNG over JUnit
Create Test Case Using TestNG Annotations
How to Create a New TestNG Test File
Coding of our First TestNG Test Case Example
Running the Test
Checking reports created by TestNG
Annotations used in TestNG
Multiple Test Cases
Parameters
Multiple Parameters
Summary of TestNG Annotations

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BeforeSuite
BeforeTest
BeforeClass
BeforeMethod
Test Case
AfterMethod
AfterClass
AfterTest
AfterSuite

5. **Extent Report**
   - Introduction to Extent Report
   - Setup of Extent Report in Selenium

6. **Excel Read / Write with Java**
   - Read and Write of Excel Sheet and Use in Selenium Script

7. **Text File Read Write**
   - FILE HANDLING / FILE I-O
   - CHECK IF FILE EXISTS OR NOT IN Java FILE HANDLING
   - READING DATA FROM TEXT FILE IN Java
   - HOW TO CREATE A COPY OF TEXT FILE IN Java
   - DIRECTORY INFO CLASS - FILE HANDLING
   - FILE STREAM CLASS - FILE HANDLING
   - STREAM WRITER CLASS - WRITING DATA TO FILE - FILE HANDLING IN Java
   - STREAM READER CLASS - READING DATA FROM TEXT FILE

8. **Framework Development**
   - Automation Framework Development using Selenium Java

9. **Git**
   - Introduction to Git
   - Setup and Use of Git in Java Selenium

10. **Jenkins CI/CD**
    - Introduction to Jenkins
    - Setup and Use of Jenkins in CI/ CD in Selenium Java

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