Module 3: Selenium WebDriver

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Total Sessions: 19

* Selenium WebDriver
  + Automation Concepts
  + Components of Selenium
  + Introduction to Selenium WebDriver
  + Configuration of Selenium WebDriver
  + Basic methods of WebDriver
    - get()
    - getTitle()
    - getCurrentUrl()
    - getPageSource()
    - close()
  + Locators
    - Name
    - Id
    - ClassName
    - CssSelector
    - XPath
    - LinkText
    - PartialLinkText
    - TagName
    - Relative Locator
  + Handling control
    - Text Box
    - Button
    - Links
    - Checkbox
    - Radio Button
    - List box
    - Drop down List
  + Synchronization
    - Thread.Sleep()
    - ImplicitWait
    - ExplicitWait
    - FluentWait
    - PageLoadTimeout
  + Handle a table
  + Handle alert
  + Handling multiple windows
  + Handling File Upload
  + Robot Class
  + Actions class (For mouse actions)
    - Right click
    - Left click
    - Double click
    - Drag and drop
    - Hover the mouse
  + JavascriptExecutor
    - Scroll the page
    - Click on some control
  + Handling menus
  + Screenshot
* TestNG
  + Introduction
  + Configuration
  + Executing single test
  + Executing multiple tests
  + Annotations
    - @Test
    - @BeforeTest
    - @AfterTest
    - @BeforeMethod
    - @AfterMethod
    - @DataProvider
    - @Parameters
    - @Listeners
  + Data Driven Testing via @DataProvider
  + Modular Framework
    - Executing / skipping single / multiple test
    - Executing single / multiple classes
    - Executing / skipping groups
  + Keyword driven framework
  + Page Object Model (POM)
    - Utility class
    - Client class
  + Data Driven Framework
    - Read the data from Excel file
    - Write the data to Excel file
  + Hybrid Framework
* Introduction to Maven
  + Introduction
  + Configuration
  + Adding dependencies
  + Executing the script
  + Architecture
* Introduction to BDD (Cucumber)
  + Introduction
  + Configuration
  + Creating Feature file with help of keywords
    - Feature
    - Scenario
    - Given
    - When
    - Then
    - And
    - Background
    - Scenario Outline
    - Examples
  + Step Definition
  + Runner class
  + Reports in Cucumber
  + Tags in cucumber
  + Hooks in Cucumber
  + Data driven framework using Cucumber

Revision on Java

* Basics
  + Variables
  + Data Types
  + Checking the conditions
    - If
    - If-else
    - Nested if else
    - Switch case
  + Loops
    - For loop
    - Enhanced for loop (for each loop)
  + Functions
    - Writing the functions
    - Calling the functions
  + Arrays
    - 2 – D Array
* OOPS
  + Creating class
  + Creating object of class
  + Static members and static methods
  + Constructor
* Inheritance
  + **Interface**
* Exception Handling
  + throws keyword
* Collections
  + List
  + Set
  + Map

Software Testing

Process of checking the **C**orrectness, **C**ompleteness, **S**ecurity and **Q**uality of developed software application.

Manual Testing

* Enter some data in text box
* Click on button
* Selecting the value from drop down list, list box, check box, radio button etc.
* Navigation from one page to another
* Marking the test case as pass or fail

Here tester uses his/her hand-eye-brain co-ordination

**Automation testing** is performing all above actions via **automation testing tool.**

Every testing tool is a software.

Every tool understand some specific programming language like Java, C# .net, JavaScript, Python, Ruby etc.

**Advantages of Automation**

* Time saving
* Accuracy
* Reduces human error
* Cost Efficiency
* 100% test coverage
* Regression testing

**When to Automate?**

* One time testing
* Large and complex projects
* Stable requirements
* Large amount of data to be tested
* Performance testing, Security testing
* Compatibility Testing

**Types of Automation tools**

* Unit Testing
  + Junit
  + Nunit
* GUI Testing / Functionality
  + Selenium
  + Tosca
  + Appium
  + QTP
* API Testing
  + Postman
  + RestFULL API

STLC

Requirement Analysis 🡪 Planning 🡪 Design 🡪 Implementation 🡪 Execution 🡪 Closure

**Process of Automation**

1. Planning
2. Selection of Tool
   1. Type of application
   2. Cost of the tool
   3. Support availability
   4. Testers availability
3. Creating/Writing the Script
4. Generate a data
5. Execute the script
6. Generate a Report
7. Maintance

**Selenium**

It is bundle / suite of test automation tools

**Components of Selenium**

1. Selenium IDE (Record and playback)
2. Selenium Grid – Parallel Execution
3. Selenium RC
4. Selenium WebDriver