Selenium Course Curriculum

Introduction

- Introduction to Selenium
- Comparison with other tools
- Components of Selenium

Selenium IDE

- What is Selenium IDE
- Installing IDE
- Record and playback
- Converting selenium script into other languages
- Selenese Commands
- Limitations of IDE
- Debugging in IDE
- Batch testing in IDE
- Default Timeout
- User Extensions

Java

- Introduction to Java
- Installing JDK
- Configuring Eclipse IDE
- Creating Java Project
- Sample Java Program
- Classes and Objects
- Downloading Selenium server jar
- Configuring Selenium into the Java Project
- Conditional Statements in Java
- Loops in Java
- Arrays in Java
- Array List in Java
- Methods in Java
- Utility Functions in Java
- Local and Global variables in Java
- Static and Instance Variables in Java
- Hash Set in Java
- Method Overloading in Java
- Constructors in Java.
- Inheritance in Java
- Interfaces in Java.
- Packages in Java

WebDriver Introduction

- Browser Launching Automation
- Working on
  - ☑ Firefox
  - ☑ Safari
  - ☑ Chrome
  - ☑ Opera
  - ☑ IE

Add On and Methods

- Firebug and Fire path
- Login functionality test
- Locators in Webdriver
- Methods in Webdriver

Profiles

- Firefox Profiles
- Making webdriver launch a customized instance of Firefox
- Basic HTML notations

Automating Links

- Links Testing
- Clicking on a link and validating
- Capturing all links in a page
- Capturing links from a section of the page
- Capturing links from a section of the page and validating them.
- Links Testing
- Visible links and Hidden links
- Validating all the links based on href property
- Checking for broken links

Automating Dropdowns

- Dropdown Testing
- Selection an option from the dropdown
- Select class to automate dropdown
- Capturing all element in a dropdown
- Checking if all options in dropdown are working correctly
- Validating multiple dropdowns

Headless Testing

- Running tests in background
- Headless Testing
- HtmlUnitDriver ,PhantomJS
- Rhino, Ghost driver

Xpaths

- Xpath Axes
- Plan of Attack
- Types of Xpaths
- Relative and Absolute
- Creation of relative Xpaths
- Creation of Absolute Xpaths
- Customizing Xpaths
- Handling Dynamic Xpaths
- Xpath Axes

Using CSS Selectors

- CSS Selectors
- Creation of CSS Selectors
- Comparison between Xpath and CSS Selectors
- Relative and Absolute CSS
- Handling Dynamic CSS Selectors

TestNG

- Introduction to TestNG
- Configuring TestNG into Eclipse.
- Annotations in TestNG.
- Prioritizing test cases.
- Ignoring Test cases.
- Advantages of TestNG.
- Using testing.xml
- TestNG Priority
- TestNG Listeners
- TestNG Reports

Tab and Popup Automation

- Automating Tabs
- Automating multiple windows
- Handling popup

Using Java Script

- JavaScriptExecutor
- Generating Alerts
- Handling Alerts
- Handling hidden components directly using JavaScriptExecutor

Synchronization

- Introduction to Synchronization
- Thread.sleep()
- Implicit wait
- wait for an element
- wait for the entire page to load
- Explicit Wait
- Webdriverwait
- Fluent wait
- Visibility and Invisibility Conditions

AjaxTesting

- What are Ajax Components
- Handling Ajax Autosuggestions
- Cookies Testing
- Capturing the cookies info
- Deleting all the cookies

Miscellaneous

- Captcha Automation
- Radio Buttons Testing
- CheckBoxes Testing
- Automating input fields

Action Class

- Advanced user interactions
- Mouse Hovering
- Right Clicking
- Double Clicking
- Chain Actions
- Drag and drop and element
- Automating Slider bar

Automating Webtable

- Introduction to Webtable Testing
- Handling static webtable
- Handling dynamic webtable
- Automating Datepicker(calendar)

Excel Read/Write

- Apache POI
- Configuring POI into the project
- Interacting with Excel
- Read operations on excel
- Write operations on excel
- Dropdown Testing and storing the results in Excel
- Webtable testing and storing the results in excel

Framework I

- Creating the folder structure
- Definitions of Datadriven, Keyworddriven, Modulardriven and Hybrid frameworks.
- Creating Data Driven Framework
- Creating Test data excel files
- Using the test data to test the web application

Framework II

- Creating a Data Engine to control the automation test suite
- Keyword Driven Testing
- Creation of Properties File
- Object Repository
- Creating Actions Keywords Excel file
- Reflections in Java to handle keywords

Frameworks III

- Creating Modular Driven Framework
- Creating reusable functions
- Hybrid Framework

Automating Window Components

- Auto IT, Robot, Sikuli
- Handling Window Components
- Installing Auto it
- Notepad Automation
- Integrating Auto IT and Selenium
- File download using Auto IT
- File upload using AutoIT
- Understanding Robot Class
- File download using Robot
- File upload using Robot
- Configuring Sikuli
- File download using Sikuli
- File upload using Sikuli

Version Controlling

- SVN and GIT
- Version Controlling
- Creating a free SVN account
- Usage of TortoiseSVN
- Check in and Checkout in SVN
- Installing GIt
- GIT bash and GIT HUB
- Creating a Git local repository
- Creating Git Hub account
- Uploading into Git hub(push)
- Downloading from Git Hub(pull)

Maven

- Introduction to Maven
- Maven local and Global repositories
- Creating a maven artifact from command prompt
- Configuring maven project into Eclipse
- Creating a Maven local repository
- Adding Jars into Maven local repository
- Stages in Maven.
- Configuring Maven from Eclipse plug-in
- Maven as a build tool

Grid II

- Selenium Grid
- What is Grid
- Configuring Hub and Nodes
- Serial and parallel testing
- Cross browser Testing
- Cross platform Testing
- Customizing the nodes
- Using JSON to configure Hub and Nodes
- End to End Testing in Grid

Database Automation

- DB Testing
- Installing MySql Database
- Creating sample tables
- Understanding JDBC
- Connecting Java code with DB
- Executing SQL queries
- Integrating JDBC with selenium

Continuous Integration (Jenkins)

- Different tools for implementing CI
- Jenkins
- Continuous Integration
- Downloading Jenkins
- Dashboard of Jenkins
- Scheduling the automation build
- Sending automated mails when the build executes
- Integrating Jenkins with Git.
- Parallel testing of selenium programs on multiple browsers and OS using Jenkins

Cucumber

- Introduction to BDD
- Gherkin
- Installing Eclipse Cucumber plug-in
- Downloading Cucumber and configuring in Eclipse
- Feature File
- Gherkin keywords
- Cucumber Options
- Data driven Testing in Cucumber
- Examples Keyword
- Data tables in Cucumber
- End to End Testing using Cucumber
- programs on multiple browsers and OS using Dockers