**Synergetics-** **Selenium - IDE and WebDriver2017**

Workshop Details:

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| **Duration :** | 3 Days |
| **Objectives and Take away :** | Understanding and hands-on on the topic for software testing professionals who would like to learn the basics of Selenium through practical examples. Automating any web-based application using Selenium. Writing automated code and create test scripts using Selenium libraries. Hands-on with Selenium Automation Frameworks. Working knowledge on All major Selenium components  **Take away**: In-depth understanding of Selenium and its related tools and their usage. |
| **Participants’ Entry Profile :** | Participants should have a basic understanding of Java or any other object-oriented programming language. In addition, you should be well-versed with the fundamentals of testing concepts, Junit and TestNG Framework |
| **Training Methodology :** | The workshop will follow Synergetics methodology of  **Concept Visualization**  **Active Experimentation**  **Application Development.**  The workshop will be 100% Hands-On with each participant having access to system during the session |

Setup Requirements

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| **Hardware and Software Requirements :** | Participant’s as well as Trainer’s Machine are required to have :  **Hardware**   * Intel Core i3 2.2 GHz * 80 GB HDD * LCD Color Monitor * 2 GB RAM * LAN Connectivity   **Software**   * Windows 10 * Selenium 3.01 * geckodriver 0.11.1-win64 * Firefox 50.1.0 * java 1.8.0. * Eclipse J2EE 8.0 onwards (Must match with bit architecture of machine) * Selenium Java Client Driver 2.48.2 and 3.0.1 * MS Office 2007 onwards * The installable must match in bits architecture of the machine. * A shared disk-space among participants and trainer for trainer to share training stuff with participants. * Internet connection to fetch maven dependencies. |
| **Training Lab Requirements:** | Whiteboard 6 feet by 4 feet (minimum) and Whiteboard markers – Red, Blue, Green, Black  Video Projector (1024 X 768 resolutions) |

**Pre-requisite for training**

* A skill-set equivalent to Software Tester.
* Basic Java ,Testing concepts, JUnit and TestNG Framework

# Note: Day4 Content i.e - Module 18 to 22 are covered under Advance Selenium Concepts.

Course Content

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| **Day 1** | * **Module 1: Selenium Overview**    + Introduction   + History   + Selenium Advantages   + Selenium Disadvantages   + Selenium Tool Suite components   + Selenium Integrated Development Environment (IDE)   + Selenium Remote Control (RC)   + Selenium WebDriver   + Selenium Grid   + Selenium 3   + Firefox driver (gechodriver) for selenium 3.0   + Environment and Technology Stack   + How to Choose the Right Selenium Tool for Your Need   + A Comparison between Selenium and QTP   + Summary      * **Module 2: Getting Started with Selenium IDE (Installation and its Features)**    + Introduction to Selenium IDE   + Selenium IDE Download and Installation   + Features of Selenium IDE   + Menu Bar   + Base URL Bar   + Toolbar   + Editor   + Test case pane   + Log Pane  Module 3: Use Firebug for Creating Selenium Scripts  * + Introduction to Firebug   + How to Install Firebug?   + Creating Selenium Script using Firebug  Module 4: Locate Elements in Chrome & IE Browsers for Building Selenium Scripts  * + Locating Web Elements in Google Chrome   + Locating Web Elements in Internet Explorer * **Module 5: My First Selenium IDE Script**   + Creating First Selenium IDE Script   + Process #1: Recording a test script   + Process #2: Playing back / executing a test script   + Process #3: Saving a test script   + Using Common features of Selenium IDE   + Selenium IDE Commands   + Actions   + Accessors   + Assertions  Module 6: Identify Web Elements Using Selenium Xpath & Other Locators  * + What is Locator?   + Types of Locators   + Using ID as a Locator   + Verify the locator value   + Using ClassName as a Locator   + Using name as a Locator   + Using Link Text as a Locator   + Using Xpath as a Locator  Module 7: Use CSS Selector for Identifying Web Elements for Selenium Scripts  * + Using CSS Selector as a Locator   + CSS Selector: Id, Class, Attribute   + CSS Selector: Sub-string   + CSS Selector: Inner text   + Exercise on Selenium IDE |
| **Day 2** | Module 8: Selenium WebDriver  * + Introduction to Selenium WebDriver   + Architecture   + Features of Selenium WebDriver   + Learn -how to create a basic WebDriver project in Eclipse?   1- [How to install Eclipse IDE?](http://www.techbeamers.com/six-steps-to-setup-selenium-webdriver-project-in-eclipse/#InstallEclipseIDE) 2- [How to create a project in eclipse?](http://www.techbeamers.com/six-steps-to-setup-selenium-webdriver-project-in-eclipse/#createprojectineclipse) 3- [How to download Jar files required for Selenium WebDriver?](http://www.techbeamers.com/six-steps-to-setup-selenium-webdriver-project-in-eclipse/#DownloadJarFilesForWebDriver) 4- [How to include Jar files in a project?](http://www.techbeamers.com/six-steps-to-setup-selenium-webdriver-project-in-eclipse/#includeJarfilesinwebdriverproject)   * + Firefox driver ( GeckoDriver ) for selenium 3.0.1   + Drivers, Methods and Classes   + Exercise on Selenium WebDriver  Module 9: Introduction to JUnit Framework and Its Usage in Selenium Script  * + Adding JUnit library in Java project   + JUnit Annotations Used in Selenium scripts   + JUnit Assertions   + Exercise on JUnit  Module 10: Usage of Selenium Select Class for Handling Dropdown Elements on a Web Page  * + Explanation of Application under Test   + Hyperlink, Dropdown, Button   + WebDriver Code using Selenium Select Class   + Code Walkthrough   + Exercise on Selenium WebDriver  Module 11: Check Visibility of Web Elements Using Various Types WebDriver Commands  * + isDisplayed()   + isSelected()   + isEnabled() * **Module 12:Practical Use of Different types of Selenium WebDriver Waits**   + WebDriver Implicit Wait   + WebDriver Explicit Wait   + Expected Condition   + Navigation Using WebDriver   + Exercise on Selenium WebDriver |
| **Day 3** | * **Module 13: Handle Alerts/Popups in Selenium WebDriver**   + Types of alerts  1. Windows based alert pop ups 2. Web based alert pop ups    * WebDriver Code using Select Class    * WebDriver Code using Robot Class    * Exercise on Selenium WebDriver  * **Module 14: Various Commonly & Routinely Used Selenium WebDriver Commands**   + Selenium WebDriver Commands  1. get()**methods** 2. **Locating links by**linkText() **and**partialLinkText() 3. **Selecting multiple items in a drop dropdown** 4. **Submitting a form** 5. **Handling iframes** 6. close() **and**quit()**methods**    * Exercise on Selenium WebDriver Commands  Module 15: Handling Web Tables, Frames, and Dynamic Elements in Selenium Script  * + Web Tables/HTML Tables   + Frames   + Dynamic elements  Module 16: Handling Exceptions Using Exception Handling Framework in Selenium Scripts  * + Types of exceptions  1. **Checked Exception** 2. **Unchecked Exception**    * Error    * Exception handling    * Exceptions in Selenium WebDriver  Module 17: Creating Generics and TestSuites  * + Generics   + Type of Generics  1. Application Specific 2. Framework Specific    * Creation of Generic Class    * Testsuite |
| **Day 4** | Note: Day4 Content i.e - Module 18 to 22 are covered under Advance Selenium Concepts.Module 18: Use of Maven Build Automation Tool and Maven Project Setup for Selenium  * + What is a build tool?   + General Phrases used in Maven   + Build Life Cycle   + Maven Setup   + Install maven IDE in Eclipse   + Create Maven project  Module 19: Debugging Selenium Scripts with Logs  * + Advantages of Logging in Selenium Scripts   + Log4j – A Java based Logging API   + Constituents of Log4j  1. **Loggers** 2. **Appenders** 3. **Layouts**    * Installation/Setup    * Exercise on Selenium WebDriver Using Log4j  Module 20: Efficient Selenium Scripting and Troubleshoot Scenarios  * + JavaScript Executors   + Accessing multiple links   + Accessing multiple elements in a List   + Handling keyboard and mouse events   + Exercise on JavaScript Executors  Module 21: Database Testing Using Selenium WebDriver and JDBC API  * + Creation of test data in the Database   + Creation of new Database   + JDBC Workflow   + Result Accessibility Methods   + Result Navigation Methods   + Exercise on Database  Module 22: How to Speed up Test Execution Using Selenium Grid  * + What is need of Selenium Grid?   + Benefits of Selenium Grid   + Basic terminology of Selenium Grid * **Hub** * **Node**   + Install Selenium GRID   + Browser and Nodes   + Sample Grid Code   + Configuration using JSON file   + Exercise on Selenium Grid |