**Selenium Level 2**

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. |
| **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 XP or 7  Firefox/ HTMLUnit/ ChromeDriver/ Internet Explorer Driver Server  Java SDK 1.7.x  Tomcat 7.0/GlassFish 3.2.x/JBoss 7+  Eclipse J2EE 4.0 onwards (**Must match with bit architecture of machine**)  J2EE Documentation  **Selenium Java Client Driver 2.48.2**  MS Office 2007 onwords   * 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)  Whiteboard markers – Red, Blue, Green, Black  Video Projector (1024 X 768 resolutions) |

**Pre-requisite for training**

* Must have done Selenium Synergetics Level 1 Traning
* Basic Java is added advantage

Course Content

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| **Day 1** | Module 1:Use Firebug for Creating Selenium Scripts  * + Introduction to Firebug   + How to Install Firebug?   Creating Selenium Script using Firebug Module 2: Locate Elements in Chrome & IE Browsers for Building Selenium Scripts  * + Locating Web Elements in Google Chrome   Locating Web Elements in Internet Explorer Module 3: Selenium WebDriver (\*)  * + Introduction to Selenium WebDriver   + Architecture   + Features of Selenium WebDriver   + Drivers, Methods and Classes  Module 4: WebDriver Entire Setup and Installation with Eclipse  * + Java Installation   + Eclipse IDE Installation   + Configuring WebDriver   + Configuring Libraries with Eclipse IDE   + Available Drivers  Module 5: Implementation of Our First WebDriver Script  * + Script Creation   + Code Walkthrough   + Test Execution   + Locating Web Elements   Locator Types and their Syntax |
| **Day 2** | Module 6: Introduction to JUnit Framework and Its Usage in Selenium Script  * + Adding JUnit library in Java project   + JUnit Annotations Used in Selenium scripts   + JUnit Assertions  Module 7: How to Use TestNG Framework for Creating Selenium Scripts  * + Introduction to TestNG   + Features of TestNG   + TestNG versus JUnit   + TestNG Installation in Eclipse   + Creation of Sample TestNG project and classes   + Executing the TestNG script   + HTML Reports   + Setting Priority in TestNG   + TestNG Annotations  Module 8: 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  Module 9: Check Visibility of Web Elements Using Various Types WebDriver Commands  * + isDisplayed()   + isSelected()   + isEnabled() * **Module 10:Practical Use of Different types of Selenium WebDriver Waits**   + WebDriver Implicit Wait   + WebDriver Explicit Wait   + Expected Condition   + Navigation Using WebDriver * **Module 11: 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 * **Module 12: 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 7. Exception Handling  Module 13: Handling Web Tables, Frames, and Dynamic Elements in Selenium Script  * + Web Tables/HTML Tables   + Frames   + Dynamic elements  Module 14: Handling Exceptions Using Exception Handling Framework in Selenium Scripts  * + Types of exceptions  1. Checked Exception 2. Unchecked Exception 3. Error    * Exception handling    * Exceptions in Selenium WebDriver |
| **Day 3** | Module 15: Most Popular Test Automation Frameworks with Pros and Cons of Each  * + What is Framework?   + Test Automation Framework   + Types of Test Automation Framework   + Few most popularly used Test Automation Frameworks:  1. Module Based Testing Framework 2. Library Architecture Testing Framework 3. Data Driven Testing Framework 4. Keyword Driven Testing Framework 5. Hybrid Testing Framework 6. Behavior Driven Development Framework  Module 16: 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 17: 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  Module 18: 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  Module 19: Automation Testing Using Cucumber Tool and Selenium  * + Cucumber Introduction   + Cucumber Basics   + Cucumber Project Setup  Module 20: Integration of Selenium WebDriver with Cucumber  * + Cucumber Project Setup   + Cucumber and Selenium WebDriver |