

# Test Automation & Advanced Selenium

Lesson 00:

People matter, results count.



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## Document History

Date	Course Version No.	Software Version No.	Developer / SME	Reviewer(s)	Approver	Change Record Remarks
27 Jan, 2016	1.0	NA	Ritika Verma – (Automation CoE)	Shubhasmit Gupta (Automation CoE)	Shubhasmit Gupta (Automation CoE)	New contents created
06 Jan, 2017	1.1	NA	Ritika Verma – (Automation CoE)	Rizvan Saiyed (Automation CoE) Shubhasmit Gupta (Automation CoE) Sridatri Panda	Rizvan Saiyed (Automation CoE)	Post-integration changes made to the training material.

## Course Goals and Non Goals

- Course Goals

- At the end of this program, participants gain an understanding of how to automate test cases using Selenium testing API of a web application.

- Course Non Goals

- This course does not cover the topics other than mentioned in course goals



## Pre-requisites

- Web Designing & Development Technologies like HTML5, CSS 3, JavaScript & XML
- Testing concepts
- Requirement Validation & Functional Decomposition
- Use case
- Defect Reporting
- Java 8 with JAXB
- Development Tools

## Intended Audience

- Test Engineers, Software Engineers and Senior Software Engineers.



## Day Wise Schedule

- Day 1 (Half Day)
  - Lesson 1: Introduction to Automation
  - Lesson 2: Introduction to Selenium
- Day 2
  - Lesson 3: Working With Selenium IDE
- Day 3
  - Lesson 3 (Contd.): Working With Selenium IDE
  - Lesson 4: Selenium 2.0 – Web Driver
- Day 4
  - Lesson 5: Testing Web Applications Using Web Driver API
- Day 5
  - Lesson 5 (Contd.): Testing Web Applications Using Web Driver API

## Day Wise Schedule

- Day 6
  - Lesson 5 (Contd.): Testing Web Applications Using Web Driver API
- Day 7
  - Lesson 5(Contd.): Testing Web Applications Using Web Driver API
- Day 8
  - Lesson 6 Web Driver Test with Xunit
- Day 9
  - Lesson 7 (Contd.): Selenium Web Driver – Advance
- Day 10
  - Lesson 7 (Contd.): Selenium Web Driver – Advance
- Day 11
  - Lesson 8: Selenium Frameworks

### Table of Contents

- Lesson 1: Introduction to automation
  - 1.1. Automation vs Manual
  - 1.2. What is automation
  - 1.3. What is test automation
  - 1.4. WHY and WHEN?
  - 1.5. Example Of Test Automation
- Lesson 2: Introduction to Selenium
  - 2.1. Introduction to Selenium
  - 2.2. What it is and what it is not
  - 2.3. Landscape and Usage
    - 2.3.1. Selenium IDE
    - 2.3.2. Selenium Remote Control (Selenium 1.0)
    - 2.3.3. Selenium WebDriver (Selenium 2.0)
    - 2.3.4. Selenium Grid



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- Lesson 3: Working With Selenium IDE
  - 3.1. Selenium IDE – An Introduction
  - 3.2. Installation of Selenium IDE
  - 3.3. Components of Selenium IDE
  - 3.4. Introduction to Selenium Commands – “Selenese”
  - 3.5. Understanding Element Locators in Selenium IDE
    - 3.5.1. ID
    - 3.5.2. Name
    - 3.5.3. Link Text
    - 3.5.4. CSS Selector
      - 3.5.4.1. Tag and ID
      - 3.5.4.2. Tag and class
      - 3.5.4.3. Tag and attribute
      - 3.5.4.4. Tag, class, and attribute
      - 3.5.4.5. Inner text

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- 3.5.5. DOM (Document Object Model)
  - 3.5.5.1. getElementById
  - 3.5.5.2. getElementsByName
  - 3.5.5.3. dom:name
  - 3.5.5.4. dom: index
- 3.5.6. XPath
- 3.6. Working with Alerts
- 3.7. Creating Test Script using Selenium IDE
- 3.8. Creating & Executing Test Suits
- 3.9. Exporting scripts to multiple languages and Formats

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- Lesson 4: Selenium 2.0 – Web Driver
  - 4.1. Introduction To Web Driver
  - 4.2. Web Driver Vs Selenium RC Vs Selenium IDE
  - 4.3. Benefits of Web Driver over Selenium IDE and RC
  - 4.4. Limitations of Web Driver
- Lesson 5: Testing Web Applications Using Web Driver API
  - 5.1. Writing first Web Driver Test
  - 5.2. Locating UI Elements-Developers Tools
  - 5.3. Navigation API
    - 5.3.1. get
    - 5.3.2. navigate

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- 5.4. Interrogation API
  - 5.4.1. getTitle
  - 5.4.2. getCurrentUrl
  - 5.4.3. getPageSource
- 5.5. WebElement API
  - 5.5.1. findElement & findElements
  - 5.5.2. By
    - 5.5.2.1. id
    - 5.5.2.2. xpath
    - 5.5.2.3. cssSelector
    - 5.5.2.4. className
    - 5.5.2.5. linkText
    - 5.5.2.6. name
    - 5.5.2.7. tagName
    - 5.5.2.8. partialLinkText

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- Lesson 5: Testing Web Applications Using Web Driver API (Cont.)
  - 5.5. WebElement API
    - 5.5.3. click
    - 5.5.4. clear
    - 5.5.5. sendKeys
    - 5.5.6. submit
    - 5.5.7. Select – selectByVisibleText etc.
    - 5.5.8. getText
    - 5.5.9. getAttribute
  - 5.6. Handling Popup Dialogs and Alerts
  - 5.7. Windows
    - 5.7.1. getWindowHandle and getWindowHandles
    - 5.7.2. switchTo
    - 5.7.3. manage

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- 5.8. Alerts
  - 5.8.1. switchTo
  - 5.8.2. dismiss
  - 5.8.3. accept
- 5.9. Synchronization
- 5.10. Why synchronization is important

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- Lesson 5: Testing Web Applications Using Web Driver API
  - 5.11. Using Explicit & Implicit Wait
    - 5.11.1. ExpectedCondition & ExpectedConditions
  - 5.11.2. WebDriverWait
  - 5.11.3. ImplicitlyWait
  - 5.11.4. pageLoadTimeout
  - 5.12. JavaScriptExecutor
- Lesson 6: Web Driver Test with Xunit
  - 6.1 Introduction to Xunit and Junit
  - 6.2 Junit Annotations
  - 6.3. Assertions/Verifications –JUnit or TestNG
    - 6.1.1. Webdriver testcases with JUnit or TestNG
    - 6.1.2. Test Suite Lesson

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- Lesson 7: Selenium Web Driver – Advance

- 7.1. Selenium: How it works
- 7.2. Different drivers
  - 7.2.1. Firefox
  - 7.2.2. Chrome
  - 7.2.3. Internet Explorer
  - 7.2.4. Headless Browser
    - 7.2.4.1. Ghost Driver and Phantom JS
  - 7.2.5. Mobile Browsers
    - 7.2.5.1. Selendriod & Appium



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  - 7.3. Remote Web Driver
  - 7.4. Capabilities
  - 7.5. Profile setting
  - 7.6. Selenium Grid
- Lesson 8: Selenium Frameworks
  - 8.1 Framework Overview
  - 8.2. Data Driven (Excel, Databases)
  - 8.3. Keyword Driven
  - 8.4. Component based (Sprintest®/CBF)
  - 8.5. Reports (Excel, PDF)
  - 8.6. TDD (JUnit, TestNG)
  - 8.7. BDD (Cucumber, SpecFlow)
  - 8.8. ATDD (Fittesse)
  - 8.9. CI Tools (Jenkins etc)

## References

- NA



## Next Step Courses (if applicable)

- NA



## Other Parallel Technology Areas

- NA