Test Automation & Advanced Selenium

Lesson 4: Selenium 2.0 – Web Driver

Lesson Objectives

- Introduction To Web Driver
- Web Driver Vs Selenium RC Vs Selenium IDE
- Benefits of Web Driver over Selenium IDE and RC
- Limitations of Web Driver

Introduction To Web Driver

- Web automation framework that allows you to execute your tests against different browsers, not just Firefox (unlike Selenium IDE).

- Provides a simpler, more concise programming interface

- Selenium-WebDriver was developed to better support dynamic web pages where elements of a page may change without the page itself being reloaded

- Supply a well-designed object-oriented API that provides improved support for modern advanced web-app testing problems.

Web Driver Vs Selenium RC Vs Selenium IDE

WebDriver

- Supports all browsers like Firefox, IE, Chrome, Safari, Opera etc.
- Supports Record and playback
- Doesn't required to start server before executing the test script
- Interacts natively with browser application
- As compared to RC, it is bit complex and large API.

Selenium RC

- Supports all browsers like Firefox, IE, Chrome, Safari, Opera etc.
- Doesn't supports Record and playback
- Required to start server before executing the test script.
- Core engine is JavaScript based
- It is easy and small API

Selenium IDE

- Only works in Mozilla browser
- Doesn't supports Record and playback
- Doesn't required to start server before executing the test script.
- Core engine is JavaScript based
- Very simple to use

Benefits of Web Driver over Selenium IDE and RC

- Architecture is simpler than Selenium RC's
- Faster than Selenium RC
- Interacts with page elements in a more realistic way
- API is simpler than Selenium RC's
- Support the headless HtmlUnit browser

Limitations of Web Driver

- ## Cannot Readily Support New Browsers
  - Since, WebDriver operates on the OS level
  - Different browsers communicate with the OS in different ways.
  - If a new browser comes out, it may have a different process of communicating with the OS as compared to other browsers

- ## Has no built-in command that automatically generates a Test Results File
  - Have to rely on your IDE's output window, or design the report yourself using the capabilities of your programming language and store it as text, html, etc.
  - Selenium RC automatically generates an HTML file of test results

Summary

- **In this lesson, you have learnt**
  - WebDriver is a tool for testing web applications across different browsers using different programming languages.
  - You are now able to make powerful tests because WebDriver allows you to use a programming language of your choice in designing your tests.
  - WebDriver is faster than Selenium RC because of its simpler architecture.
  - WebDriver directly talks to the browser while Selenium RC needs the help of the RC Server in order to do so.
  - WebDriver's API is more concise than Selenium RC's.
  - WebDriver can support HtmlUnit while Selenium RC cannot.
  - The only drawbacks of WebDriver are:
    - It cannot readily support new browsers, but Selenium RC can.
    - It does not have a built-in command for automatic generation of test results.

Review Question

- ## Question 1
  - Select which is NOT a feature of Web Driver
  - Architecture is simpler
  - Faster
  - API is complex
  - Supports all the browsers

- ## Question 2: True/False
  - WebDriver can Readily Support New Browsers.

- ## Question 3: Fill in the Blanks
  - WebDriver can support _____while Selenium RC cannot.