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SELENIUM

Introduction of selenium

- Selenium is a suite of testing automation tools use for web-Base application :selenium IDE,selenium RC, selenium webDeriver and selenium Grid.
- These tools provide a rich set of testing function specifically geared to varied testing scenarios of all type of web application .
- The operation provided by these tools are highly flexible and afford many options for comparing ui elements to excepted application behavior.

SELENIUM tests can be executed on multiple browser platforms.

PROS AND CONS OF SELENIUM

1. PROS:
 1. Low-cost tools.
 2. Provide simple browser compatibility testing.
 3. Multiple programming language support.
 4. Selenium RC server not required.
 5. Multiple testing frameworks.
 6. Support for AJAX.
 7. Open for enhancement.
 8. Easy to integrate with testing ecosystem.

9. Useful for comprehensive testing.

- CONS:
 1. Manual scripts not allowed.
 2. Image verification.
 3. Recorded scripts not allowed to run.
 4. Slow performance.
 5. Testing roadblocks.
 6. Finding locators.

SELENIUM SUPPORTING LANGUAGE

A. Mobile web application Testing

The Mobile Network in 2014

World wide portable information activity grew 69 percent in 2014. World wide versatile information movement came to 2.5 exabytes for every month toward the end of 2014, up from 1.5 exabytes for each month toward the end of 2013 [9] and it develops quickly step by step. It provides numerous great web applications with awesome quality upgraded for cell phone is getting to be a crucial part in today's organizations [3]. The convenience, great presentation and general quality of web applications upgraded for versatile gadgets is getting to be an imperative part. This makes testing for portable web applications a key and mandatory stage in the improvement.

B. C# JAVA, PYTHON

A Popular testing framework, particularly suited for web applications, is SELENIUM provided by SELENIUM HQ [4]. It is a cross-platform open source testing framework, developed under the Apache Server 2.0 license. It supports C#, Java, and Python [5] and provides automation of testing.

C. PHP

SELENIUM toolset conveys probability to use any testing device which can be executed with SELENIUM API language, for example, Java, PHP, and Python.

D. Java script, XML

At the point when creating web programming, a definitive objective of an analyzer or engineer is to guarantee that the application is tried frequently and completely. As a rule, making automated test scripts is the most ideal approach to make certain that this objective is refined. Specifically, the developer needs to make sure to make viable test scripts that will last through the numerous progressions that application experience. In the event that changing or refactoring the test script does get to be important, there are approaches to verify this occupation is done rapidly and accurately. The key course is to keep up a vital separation from test duplication. By keeping specific tests independent,

E. RUBY

Webmate is an instrument for testing web applications utilized for testing web 2.0 applications [6]. Tools that mechanize programs ("web program drivers") by driving them, for example using COM calls in the case of Examples of such tools are Watir (Ruby) [7] used for testing web applications developed in Ruby.

SUPPORTING TESTS

- Functional testing.
- Regression testing.
- Sanity testing.

- Smoke testing.
- Responsive testing.
- Cross browser testing.
- Ui testing (black box)
- Integration testing.

FUNCTIONALITY OF SELENIUM

When we start running a code from Eclipse IDE following steps will happen.

1. The client driver will first establishes a connection with selenium server.
2. Selenium server will perform following things.i.e
 - It will create a session for that particular request
 - it will launch the desired browser (that is we write in the code IE,FF chrome browser etc
 - it loads the selenium cores javascript file into the specified browser (so as selenium server will have handle with the webpage for performing selenese action)
3. Now the client driver will send the program that we have written in eclipse IDE code as selenese and send it to selenium server.
4. Selenium server is intelligent enough to understand the selenese command and triggers the corresponding javascript execution in the specified web browser.
5. Here selenium server act as a “proxy server” between the AUT (application under Test) and actual browser, due to the restriction of “ same origin policy” selenium server performs “proxy injection “. Being a proxy gives selenium server the capability of “lying” about the AUT’s (application under test) real URL.
6. Now selenium server requests the actual webserver for the page to open request and then it receives the page and sends it to the specified browser.
7. Now any operation or request to which the browser makes will eventually passes through the selenium RC server to actual webserver and vice verse.

Write a short (faulty)code,Test using this tool, and show the bugs in the code.

1. From selenium.webdriver.common.keys import keys
2. driver =webdriver.firefox()
3. driver.get(<http://www.python.org>)
4. assert "python" in driver.title
5. elem =driver.find element by name ("q")
6. elem.clear()
7. elem.send keys("pycon")
8. elem.send keys(keys)
9. assert "No results found." Not in driver.page source

BUG 1:- First we need to import webdriver module from selenium library.

BUG 2:- At line No.3 you need to code the website URL in quotes.

BUG 3:- At line No.8 you need to use return statement.

("THE END")