Impacts of Selenium and Its Working Environment with Components

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Abstract - The testing is the one of the important concept after complete developed software. Today many people are using real time application for business aspect. Needs of Applications are highly important. Application is to be maintained and tested very complex one. So testing is required for making high quality application. Even small business sector all satisfied customer needs and requirements. Testing is conducted in two ways. Manual testing have drawbacks related time, cost and having working experience. Here discussed for passive impact of automation testing tool selenium. Selenium is the one of the effective automation testing tool for web application. This paper is detail description of selenium tool and its working ability.

I. INTRODUCTION

Selenium is a one of the top most testing tool for web application across different browsers and platforms. It is tested for both automation and manual test cases. Comparison of automation tool manual having many demerits like skilled person, testing long time, complex reuse, less efficiency. Automation testing is very sophisticated tool for its user like reduce human effect, reuse coding, reliability, quick test generation and report. Selenium is an open source (free) tool available in the market. The selenium is very reliable tool for testing web applications. If you want download means the tool where available in this official site www.seleniumhq.com. Selenium is base on the usage of functional testing for web application. Selenium is the one of the famous tool for industrial field. The tool supporting for many number of programming language like C#, Groovy, Java, PHP, Perl so on. If the selenium tool individually make its framework with different component. Every component is made upon different purpose of automation testing.

The process will be carried out through the framework that will be created for moving with scripting,it will be extracting the data files and entry with test report.every project depend upon for your test script report ,the process found the defect in the software and it will produces the error report. The formatted errors will be placed the spreadsheet.

At a time it will generated the scripting for the already displayed errors and the possible solutions also placed here.

II. METHODOLOGY

Method1 --- Process
Method2 --- Test execution
Method3 --- Verify the test report
Method4 --- Test status

Process
To open the selenium environment.then creating new project with unique name of the project. If you can test manual means to write the scripting after that will be testing with different browsers. Automation testing means with the help of automation tools you can write scripting.

Test execution
After completing scripting to test by using of browser like firefox so on. The automation testing means with the help of record(like red dot) and play-back options(like double standing line).

Verify the test report
In manual After completing testing the verify message will be displayed.if you want to change means with entering your scripting. For automation to select convenient coding.

Test status
Here test report only displayed doesn't modified.

Component of selenium
- Selenium IDE (Integrated Development Environment)
- Selenium RC (Remote Control)
- Selenium Webdrive
- Selenium Grid

Selenium IDE – It is a simplest tool in the selenium suite. The Firefox can create testing is very quickly with its

"record and playback", play current test cases, play or pause, break point functionality. IDE component was similar to the QTP (Quick Test Professional).The tool easy to install and learn because of tool is Very simplicity. Selenium IDE is the prototyping tool able to use without prior knowledge of programming language. The tool can easy to create auto complete mode for test cases. i) The tester will easy to enter for commend. ii) Restrict invalid commend.

Selenium RC – Selenium RC is a set of framework it can test the project for long time process. It is a first testing tool for automation. It can using testing for many languages, like Java, PHP, Perl, C# so on. Selenium RC is known as Selenium 1.0. It is tool part of a selenium tool. The main selenium projects were performed by selenium1.0 with webdrive. The selenium RC was still supported many feathers comparing with other. It can support for any browser. i) The tool automatically execute browser. RC acts like HTTP request. ii) For user easy to access this because of the several computer languages are available.

Selenium Webdrive – Selenium webdrive is also known as selenium2.0. The tool integrated with selenium1.0. (Selenium2.0 = Selenium1.0 + Webdrive). Webdrive provide simpler, more concise programming interface. webdrive better supported for dynamic web pages elements are may vary without the page itself reloaded. Webdrive is directly contact with the browser move to support for automation to gives the results. Successor of the selenium RC is the Selenium Webdrive.

Selenium Grid – The tool selenium Grid integrated with selenium RC it can test with different browser at a time. It can run multiple tests at once. Selenium Grid required to improved followed certain protocols, like Configuration hub, Develop Script Automation, Xml Build File, Test Execution with result analysis. i) Continues tests with multiple browser. ii) Save time , uses hub and node. The hub a central source of selenium and every node interface to it.

Selenium IDE Features:

- The toolbar having many options like that Speed control, Run(selected test),Run all(all test cases),pause/resume, Stop.
- Test cases panel(your test case script, human readability format, E.G.target, value)
- Navigational panel (your test cases will be navigated with test suites)
- Console panel or bottom panel (you can used with different utility functions).
- Building test cases for the records.

Selenium RC Features:

- Access with different browsers like Firefox, IE, Chrome, Safari, Opera so on.

- Same like IDE recording and playback.
- Automatically execute the scripts.
- Separate java programming language execute with HTML.
- Platform interaction (it execute in java script commend).
- Very easy to access API for RC.
- RC can't support for OO (object-oriented).

Selenium Webdrive Features

- It is very easy to compactability with browser supports(like AndroidDriver, HtmlUnitDriver and IPhoneDriver).
- It can Support many programming languages.
- Simple comment with pause options (like implicit wait, explicit wait).
- Easy to navigate for WebPages.
- It can very easy to identified used for web elements.

Selenium Grid Features

- It can support different with multiple browser. (Combinations of browser)
- Execute test results in different browser.
- Combination of Operating System.
- Save time for maintenance
- Doesn't available for build-in command.
- Can't run multiple test results in parallel.

III.   WHAT IS FRAMEWORK?

- A framework is consisting of mixing set of protocols, rules and regulations, standards and guidelines. It is the one of the advantages of scaffolding provided by the Framework.

Test Automation Framework

- Execution environment for the automation test scripts.
- The framework serves to user with different benefits help for develop and execute report efficiency.
- The framework is build by very protective it can able to follows various protocols, script standard, process, flow control, report generation so on. The methodology gives very high security for its users.
- The developer using one or more test automation frameworks because it can access different modules with same applications.

Advantages of framework

- Easy to using scripting
- Scalability and modularity
- Understandability
- Process definition
- Re-usability
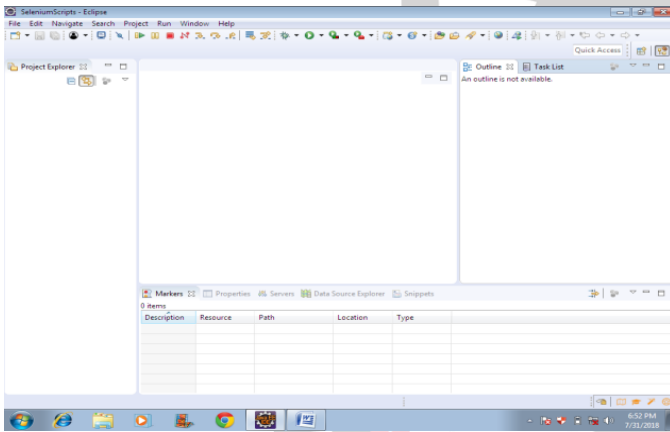- Better cost and maintenance

Types of Test Automation Framework

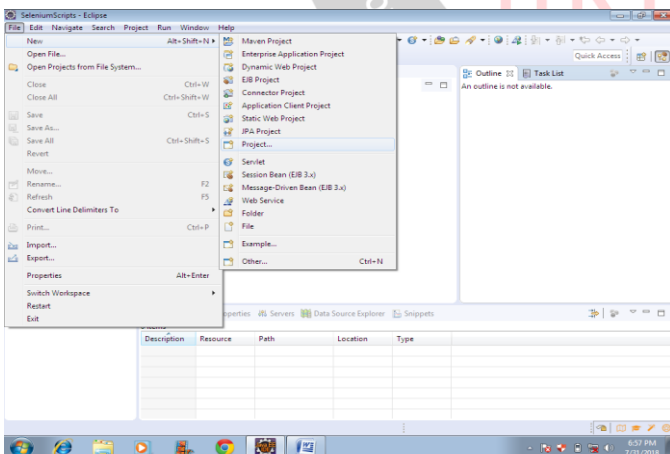- Their different types of framework are available. Such

as,

➢ Module Based Testing Framework

➢ Library Architecture Testing Framework

➢ Data Driven Testing Framework

➢ Keyword Driven Testing Framework

➢ Hybrid Testing Framework

➢ Behavior Driven Development Framework
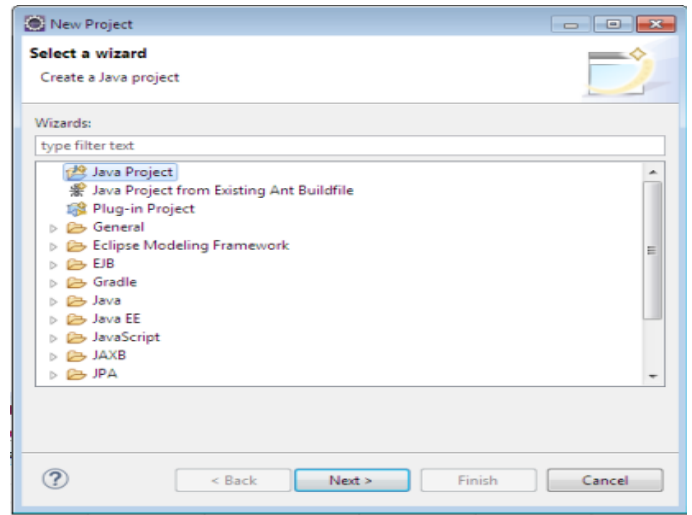
IV.   SAMPLE OF SELENIUM ENVIRONMENT

➢ The environment of selenium testing and its menubars, listbars or popup screen, project explorer,

➢ Outline, task list so on. The user can easy to utilize the window , the user friendly format will be available.

➢ The markers was the one of the advanced technology of the user . In this marker having many items and options properties, server, data source explorer.

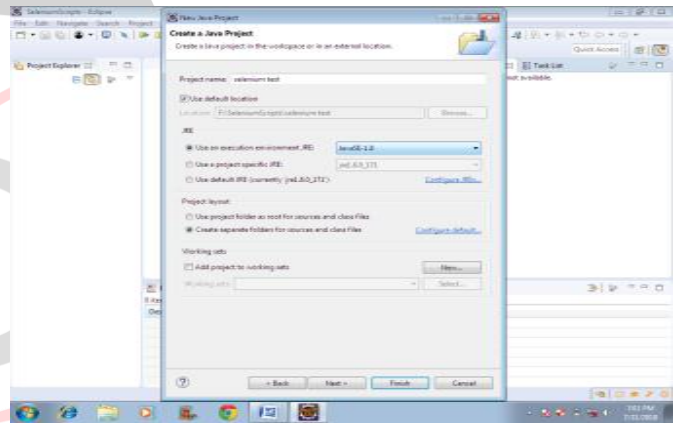➢ The item having description, path, resource, location, type.

➢ The selenium explorer followed by testing script as,File -> New -> Project.
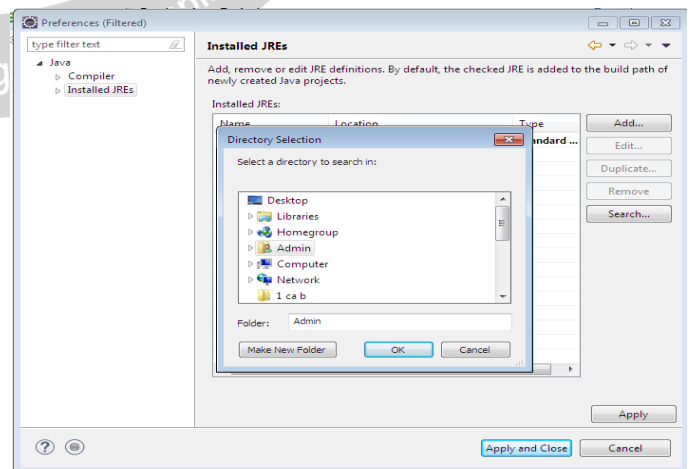
➢ It will be helped user new project with folder.

➢ The project will be moved on the type filter text in bellow that having many aspect like java project from existing antbuildfile, plug-in project, general, EJB, java EE, java script, JPA so on.

➢ After that it will move on the new project to new java project, it having name, user define location to browse the user needs.

➢ In bellow window it having JER, project layout, working sets after click the finish button.
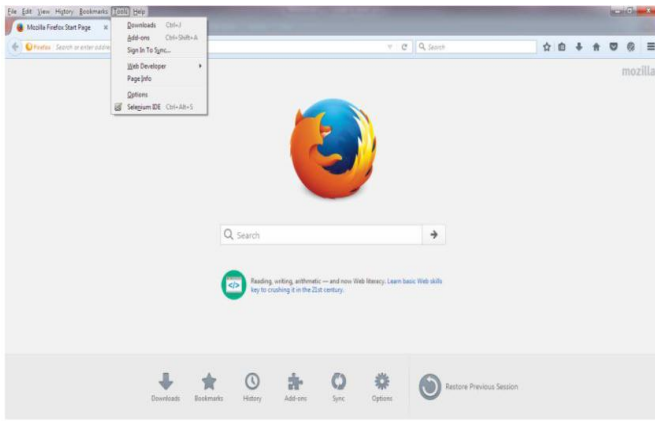

➢ The directory selection to given by the search in option, will you search your already created locations.Then click ok.
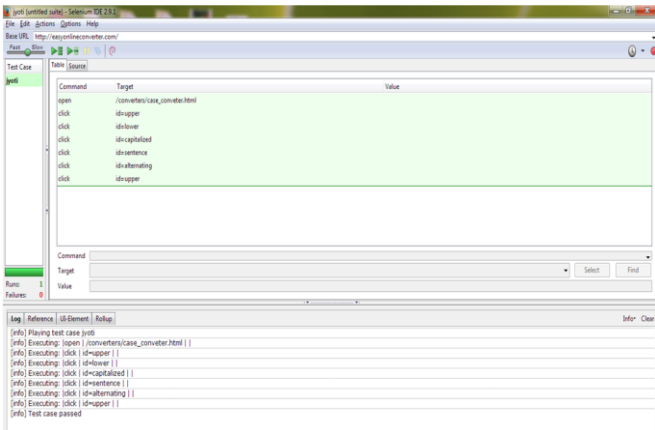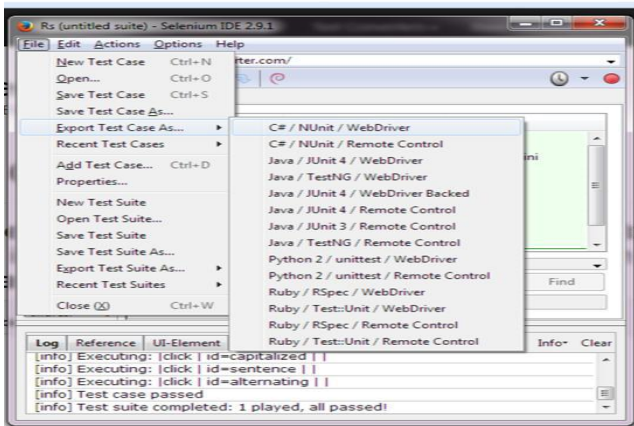

Testing using selenium

➢ Through creating selenium framework one can able to test their project using different browser.

➢ The test would be recorded if in case it requires we can able to "record & playback" your test cases.

➢ The tool itself would create its own script for required project.

V. CONCLUSION

Today testing have very important role of real word. Every people improve quality of our own application. The testing where approaching vital area like business, industry, education, real time shopping websites so on. So the testing was enrolled the automation tools like selenium, cucumber, autoit, test complete etc. In this paper consist of the impotent role of selenium in testing fields, component and its feature, framework and advantages, types of frameworks, environment of selenium tool(with screenshot), testing for selenium are explained. Comparing with other tool selenium having much better for satisfied tester needs and requirements. In future the selenium tool having greater impact in testing.

REFERENCES

[1] Fei Wang and Wencaai Du, "A Test Automaton Framework Based on WEB" proc. IEEE 11th International Conference on Computer and Information (ACIS 12),IEEE Press, 2012, pp. 683-687,doi:10.1109/ICIS.2012.21.

[2] Nidhika Uppal, Vinay Chopra,"Design and Implementation in Selenium IDE with Web Driver" International Journal of Computer Applications (0975 – 8887) Volume 46– No.12, May 2012.

[3] Revathi. K*1, Prof. Janani."V2 Design andImplementationofDataDriven FrameworkUsingSelenium"©2015 IJSRSET,Volume1,Issue1,OnlinePrint ISSN: 2395-1990,January -February 2015 Engineering and Technology .

[4] Preeti Yadav#, Ajay Kumar*,"AN AUTOMATION TESTING USING SELENIUM TOOL",International Journal of Emerging Trends & Technology in Computer Science (IJETTCS) Web Site: www.ijettcs.org,Email:editor@ijettcs.org,Volume 4, Issue 5(2), September - October 2015 ISSN 2278-6856.

[5] Ms. Rigzin Angmo, Mrs. Monika Sharma,"Selenium Tool: A Web based Automation Testing Framework",International Journal of Emerging Technologies in Computational and Applied Sciences (IJETCAS),www.iasir.net,ISSN(Print): 2279-0047 ISSN (Online): 2279-0055.

[6] 1Jyoti Devi,2Kirti Bhatia,3Rohini Sharma*,"A Study on Functioning of Selenium Automation Testing Structure",International Journal of Advanced Research in Computer Science and Software Engineering",Volume 7, Issue 5, May 2017,ISSN: 2277 128X,DOI: 10.23956/ijarcsse/V7I5/0204.

[7] Priyanka Rathi,Vipul Mehra,"Analysis of Automation and Manual Testing Using Software Testing Tool",International Journal of Innovations & Advancement in Computer Science,(JIACS)ISSN 2347 – 8616,Volume 4, Special Issue March 2015.

[8] Harpreet Kaur1, Dr.Gagan Gupta2,"Comparative Study of Automated Testing Tools: Selenium, Quick Test Professional and Testcomplete",Harpreet kaur et al Int. Journal of Engineering Research and Applications,www.ijera.com,ISSN : 2248-9622, Vol. 3, Issue 5, Sep-Oct 2013, pp.1739-1743.

[9] A.Mahalakshmi1,S.Naveenkumar2,R.Rajitha3,G.Priyadarshini4,S.Prasanth5,L.Viji6 ,"Review on Automation Tools in Software Testing",International Journal forResearch in Applied Science & Engineering Technology(IJRASET),www.ijraset.com ,Volume 5 Issue V, May 2017,IC Value: 45.98,ISSN: 2321-9653.

[10] SatishGojarea,*,RahulJoshib,Dhanashree Gaigawarec,"Analysis and Design of Selenium WebDriver Automation Testing Framework",2nd International Symposium on Big Data and Cloud Computing (ISBCC'15) © 2015 The Authors. Published by Elsevier B.V,www.sciencedirect.com.