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## Analysis of Automation Testing

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### ABSTRACT

Testing is a totally crucial hobby in Software Development Process. It is to examine & regulate the supply code. Effective Testing produces excessive best software. This Paper offers a vast and crucial problem of Software Testing. Testing may be carried out manually in addition to Automated. These Techniques have their very own advantages & disadvantages. The objective of this paper is to carry out Automation Testing the usage of the Software Testing Tool "Selenium". With this net trying out tool, check instances are routinely recorded in the historical past even as a tester is coming into the records in an internet software screen.

Keywords: Software Testing, Manual Testing, Automation testing, Selenium

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### INTRODUCTION

The last aim of software program improvement is to provide excessive best software program. Superior best software program has traits like low cost, dependable and consumer satisfactory. Testing is the technique of executing a software with the purpose of locating mistakes. This is a crucial & important pastime to find out all of the mistakes early software program improvement technique. Emphatic & fruitful checking out reduces the gadget cost. Software improvement homes recruit checking out & best warranty employees for appearing checking out pastime.

Test way software's reaction to ever viable enter. A software must check for each valid & invalid enter. Testing pastime may be carried out in to 2 ways: Manual checking out & automation checking out. Any form of software program checking out kind may be finished each manually as nicely the use of an automation device.

Manual checking out[5] is wherein the checking out pastime is finished with the aid of using checking out persons. Manual checking out calls for a tester to carry out guide check operations at the check software program with out the assist of Test automation. Manual Testing is a technique in which in a tester regularly follows a written check plan that leads them thru a fixed of vital check instances. A check case in software program checking out is a fixed of situations written for specific applications & tester run a majority of these situations to make sure an appropriate capability of the software program applications. Manual checking out is a arduous pastime that calls for the tester to own a positive set of qualities; to be patient, observant, speculative, creative, innovative, open-minded, resourceful, opinionated, and skilful. In order to completely check that each one the necessities of an utility are met, there should be at the least check instances for every requirement: one high quality check and one bad check. Manual checking out allows find out defects associated with the usability checking out and GUI checking out area. Any new utility should be manually examined earlier than its checking out may be automated. Manual checking out calls for extra attempt however is important to test automation feasibility. Manual checking out does now no longer require the understanding of any checking out device.

Automation Testing [6] is jogging check instances in which guide intervention isn't always required to run every one. It makes use of special software program to jot down & execute check instances to examine the real final results with the anticipated final results. Once assessments had been automated, they may be run quick and repeatedly. Automated software program checking out is the great manner to boom the effectiveness, performance and insurance of software program checking out. Automation checking out calls for enormous quantity of funding for purchasing the software program & well matched hardware resources. Automation checking out does what guide checking out does now no longer. Automation checking out improves the accuracy & it saves the time of the tester & organization's money. Automation checking out is great applicable withinside the surroundings in which the necessities are regularly changing & big quantity of regression checking out is needed to be finished. Automation checking out is great applicable withinside the surroundings in which there are important check instances which might be to be finished repeatedly. It will increase the best of checking out structure & reduces the destiny upkeep cost. Various advantages of Automation checking out are rapid run of check case. Reusable check instances are made & those check instances are dependable, comprehensive & Programmable.

The primary distinction among Manual checking out & Automated checking out is that Automation checking out is great applicable for the surroundings in which the Repetitive paintings is extra (e.g., jogging regression assessments, re-getting into the identical check data, and checking towards coding standards). Also, guide checking out is great applicable for the surroundings in which the requirement adjustments continuously.

## INTRODUCTION TO SELENIUM

Selenium[1] is a transportable software program checking out used for Automation checking out It is a framework incorporates of many equipment used for checking out internet applications. Selenium offers a record/playback device for authoring assessments with out getting to know a check scripting language (Selenium IDE). It has a check domain-precise language (Selenese) to jot down check instances in some of famous programming languages, inclusive of C#, Java, Groovy, Perl, PHP, Python and Ruby. All those check instances written can then be run towards maximum contemporary-day internet browsers. Selenium can run on any working gadget systems like Windows, Linux, and Macintosh etc. It is open supply software program that may be down loaded from the internet site of selenium. Selenium turned into firstly advanced with the aid of using Jason Huggins, who turned into later joined with the aid of using different programmers and testers at notion works.

Selenium is a set of equipment for internet automation checking out. Selenium Suite consists of following components: Selenium IDE, Selenium Core, Selenium 1 (referred to as Selenium RC or Remote Control), Selenium 2 (referred to as Selenium Web driver), Selenium-Grid

### SELENIUM IDE

Selenium IDE is an included improvement surroundings for Selenium scripts. It is carried out as a Firefox extension, and lets in you to record, edit, and debug assessments. It turned into formerly referred to as Selenium Recorder. Selenium IDE isn't always simplest recording device: it's miles a entire IDE. Selenium IDE (Integrated Development Environment) works much like business equipment like QTP, Silk Test and Test Partner etc. In this paper our consciousness is to carry out automation checking out of an internet utility the use of automation checking out device "Selenium IDE".

## STEPS FOR IMPLEMENTATION OF TEST CASES USING SELENIUM

Problem analysis:

It is the technique of collecting facts to find out the idea of positives & negatives of a proposed gadget. For instance allow us to do not forget a hassle to broaden a internet site for consumer registration & login. For this we've designed a internet site with the call DEMO. Here we've to check the internet web page of a registration shape of a internet site DEMO.

The photo for Demo is

Figure 1: Main display screen of internet site DEMO

Figure 2: Screen of registration web page

Writing check instances: Test case is a record that consists of a technique to carry out checking out. A check case consists of a fixed of check inputs, execution situations, and predicted output advanced for a selected objective, e.g. to test a selected software course or to affirm that the precise enter will meet with the preferred output. There isn't any prescribed layout for writing a check case. , however, a check case should encompass enter, predicted behaviour, predicted output. We have a pattern check case for the first call subject of the registration web page of the DEMO internet site.



Please fill up the following fields. All fields are mandatory

**User Registration**

First Name

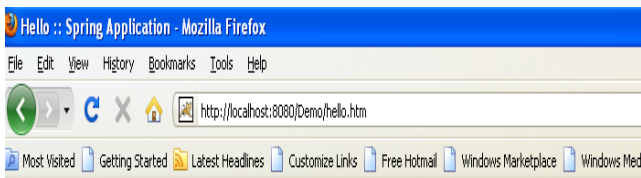
Last Name

E-Mail

Password

Age

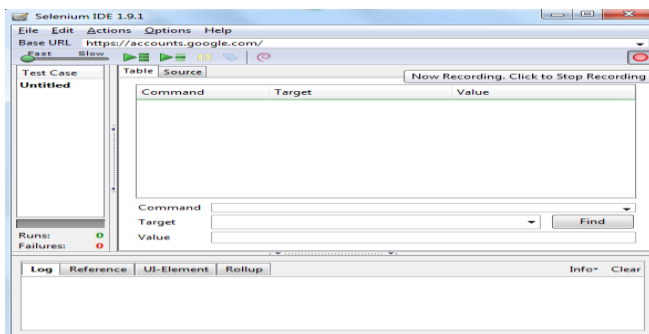
Mobile



## Demo Application

Greetings, it is now

- [Login](#)
- [Register](#)



Selenium IDE is upload on function in Firefox. To prompt selenium the subsequent steps are to be followed. Select the equipment choice from the Firefox menu bar. Select the selenium Ide choice from the equipment popup. The display screen proven withinside the discern will appear. It has a recording button at the proper aspect of the display screen. If the mouse pointer is located at the button then there's a popup message “ NOW RECORDING, CLICK TO STOP RECORDING”. This message suggests that selenium ide is prepared for recording check cases

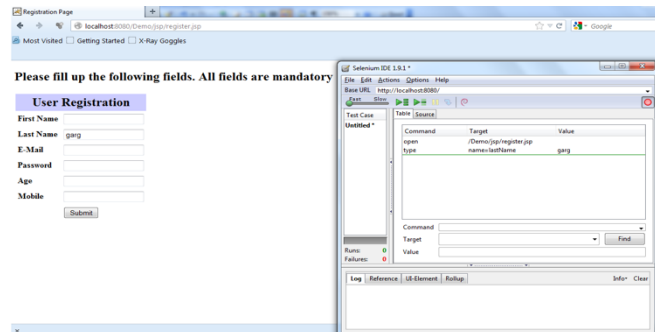


Figure 4: Screen for getting into the cost of discipline Last Name & corresponding report in selenium.

(ii) There is a crimson colouration recording button at the proper facet of the selenium environment. Once activating recording mode, then what so every information is entered at the net web page will robotically report withinside the selenium. For instance when The cost of Last Name is entered withinside the net web page, the command similar to this is recorded at the selenium IDE with command “type” target “name=LastName” and cost “Garg”. The same cost is entered at the net web page

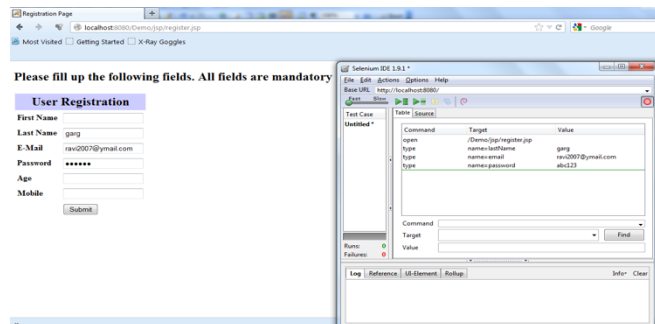
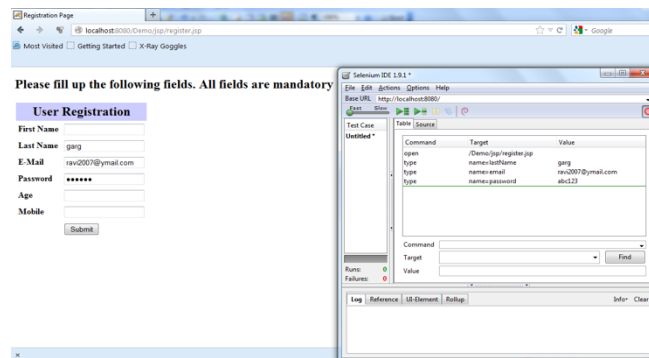


Figure 5: Screen for entering the value of field E-Mail & corresponding record in selenium.

(iii) When the charge of E-mail is entered withinside the internet page, the “ravi2007@gmail.com”. Type command corresponds to a command

corresponding that is recorded on the selenium motion desirous about the useful resource of the usage of the user, which means typing the data. IDE with command “type” target “name =email” and change figure 6: Screen for entering the value of field Password & corresponding record in selenium.



The value of the password is entered in the web page, the command corresponding to that is recorded on the selenium IDE with command “type” target “name =password” and value “abc123”. Type command corresponds to action taken by the user, which means typing the data. “Target” on the selenium screen corresponds to the field whose value is to be executed during the execution of the test case.

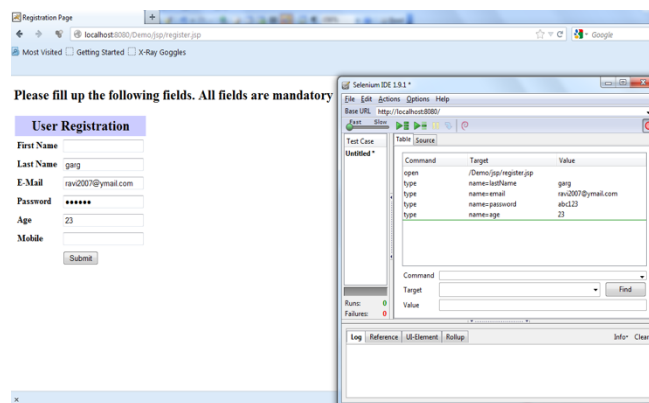


Figure 7: Screen for entering the value of field Age & corresponding record in selenium.

The price of “age” is entered withinside the internet page, the command similar to this is recorded at the selenium IDE with command “type” target “name =age” and price “23”. Type command corresponds to movement taken through the user, which means typing the data. “Target” at the selenium display screen corresponds to the sphere whose price is to be finished for the duration of the execution of the check case. “price” is the predicted output that needs to in shape with the real price for the duration of the run of the check case

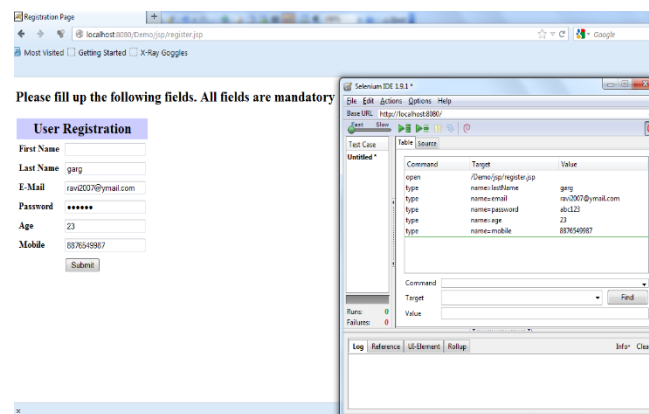
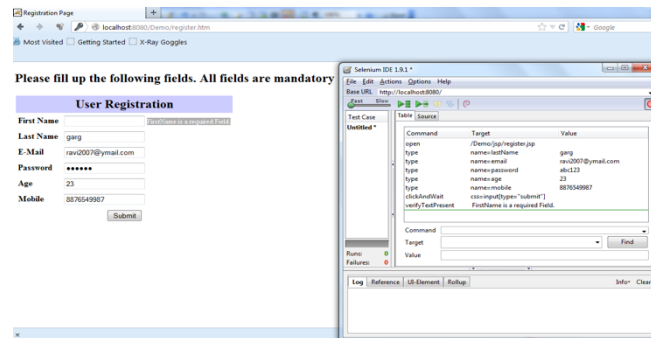


Figure 8: Screen for entering the value of field Mobile & corresponding record in selenium.



After entering the Dataaran will appear as shown in figure 9. thenhe the user has to stop recording by clicking on the red button & enter a command “verify text present” & target value “FirstName is a required field”. This command is used to search the message as the user has not entered the data for the field “First Name”.

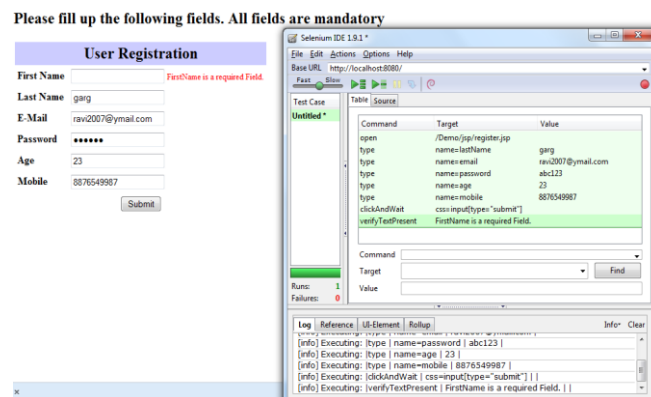


Figure 9:Screen for entering the command “ verify text present” in selenium.

Using selenium, when we run the test case using the run button, all the values of the fields are matched with the target values, whose values are entered through the TYPE command. But the values of the message will be Marlborough Verify the text present.

## CONCLUSION

Automated Software testing is the best way to increase the effectiveness, efficiency, and coverage of software testing. Selenium is a framework comprising many tools used for testing web applications. With the help of the case study, we analyze and find the testing of a web application using the automation testing tool “Selenium IDE”. Using this approach, test cases are automatically recorded in the background while the tester is entering the data into a web application screen. These test cases are reusable and best suited to the Regression Testing environment.

## References

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- [6]. [http://www.origsoft.com/whitepapers/software-testing- glossary/glossary\\_of\\_terms.pdf](http://www.origsoft.com/whitepapers/software-testing- glossary/glossary_of_terms.pdf)