

Amazon Automation – Guide for Amazon

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Abstract

Now-a-days there are numerous software systems available as web-based apps. They are really complicated web applications. Such complicated web apps are extremely tough to test. Human interaction must be limited and repeated operations must be made easy to work with. We have built an Amazon guide that helps and guides you through-out the web page. The Selenium WebDriver tool was used to build this new automation testing framework. This framework allows testers to quickly and efficiently write their test cases. The selenium webdriver tool does not require a thorough examination by the tester. Because of the framework's screen shot capability, developers can use it to analyse their code.

Keywords -- Selenium WebDriver, Chrome Driver, Automation.

1. Introduction

Selenium refers to tools that are used widely in testing when it comes to cross-browser testing. Selenium can only be used in browsers. It is considered to be one of the most preferred tool for automation testing of web applications as it provides support for popular web browsers.

It supports a number of browsers

Google Chrome 12+, Internet Explorer 7,8,9,10, Safari 5.1+, Opera 11.5, Firefox 3+) and operating systems (Windows, Mac, Linux/Unix.

Selenium provides compatibility with different programming languages –

C#, Java, JavaScript, Ruby, Python, PHP.

Testers can choose language to design test case in, thus making Selenium highly favorable for flexibility.

Selenium Components -- The Selenium test suite comprises four main components:-

Selenium IDE, Selenium RC, Selenium WebDriver, Selenium Grid

From the Given four components of Selenium we will use the 3rd component i.e., Selenium WebDriver in our entire project.

Selenium WebDriver -- Selenium WebDriver is a web framework that permits you to execute cross-browser tests. This tool is used for automating web-based application testing to verify that it performs expectedly.

Selenium WebDriver allows you to choose a programming language to create test scripts.

Drawbacks -- Selenium WebDriver is not capable of handling window components, but this drawback can be overcome by using tools like Sikuli, Auto IT, etc.

Automation -- Automation can be defined as a technique of making a process or a system operate automatically (less human interaction). When we automate a process or a task it reduces the effort and consumes less time.

2. Working with Amazon(Testing)

When we open Amazon website or app if you are an old user you sign in using credentials, search item if we want to order any or add item to cart for later purchase. Then if we want to update our account details we go into 'your account' and update necessary information and join prime if you are interested. However if you are a new user you create an account first.

The entire project works on amazon website (www.amazon.in) with the help of python language. We use the specific libraries to run commands.

This project helps you just like a guide by bringing all the information and tasks together at one place, all you need to do is select the

option from the list and the task is performed for you. Making the technology easily usable and user friendly is the main objective of this project.

We start by installing the Selenium Library .

```
pip install -U selenium
```

Then we download the Chrome Driver that is compatible with the current version of our chrome browser using the link below.

<https://chromedriver.chromium.org/downloads>

3. Benefits

Reusability: The same object's code can be reused in other applications with minor changes.

Increased quality: Because the scripts all utilize the same code, the quality will be consistent.

Maintenance: In Application the modifications are easy to handle with less effort

Time/Cost: Testing can be done within less time and with minimal cost

Less effort: Because the tool's code remains the same, the amount of rework necessary for migrating from one application to another on the same platform is decreased.

4. Literature(Project) Review:

When we test/automate Amazon there are many challenges faced and need to keep up with the errors.

S.No	Automated Field	Challenges/ Concerns	Advantage
1	Sign In / Sign up	Bot Restriction page in Sign Up – It stops bot from moving further.	As the brief description of the field is given, it makes easy to login.
2	Forget Password(FP)	When we enter password incorrectly 5 times we are directed to FP page.	The user receives the otp immediately and need not worry about next step
3	Search Item	Empty fields in cost, rating.	All the information regarding a desired item is gathered at one place.
4	Add to Cart	When the item is sold out, we can't add it to cart.	The user gets notified if item is added or not.
5	Your Account	Every time we work on this page, we get a pop up to approve or decline the request.	Account can be updated with ease

There are various testing tools to complete this task efficiently

Testing tools Comaprision:

Parameter	SELENIUM WebDriver2.0	QTP	Test complete
Programming Language	Scripts are commonly designed using Java, Ruby, Python, PHP, and Perl.	Support scripting using JavaScript and VBScript only.	Scripts are designed in VB Script, JS Script, Delphi Script, C++ Script, C# Script.
Platform Supported	Windows, MAC, UNIX operating systems.	Supports only in windows.	Runs on windows Vista and 7.
Open-Source / Paid Tool	Completely Open - Source	Paid tool based on each project	It is licensed tool and costs lesser than QTP.
Customer Support	Open source so no much support provided.	Online support provided to the customer and End-user.	Customer support is provided by the vendor.
Test Execution Report	Report is not generated by itself. There is a need for TestNG APIs and plug-ins like TestNG to execute and give report in html file	Test execution report is generated using QTP and determine the execution status.	Execution results are generated as a separate file and displayed to the user.

5. Manual Testing

It begins with a thorough examination of all criteria where the requirements have been frozen, test design begins, which includes the creation of test objects such as the test strategy, test scenarios. Cases are tested manually by a manual tester. Following the creation of the

design during this activity, the test lead or a co-worker reviews all of the test cases. Subject Matter Expert (SME), and later after the construction is completed and deployed into the execution phase of the testing environment begins. Each test case is run during the test execution phase. It also has a status (pass/fail/blocked/not) attached to it

(executed/non-executed). All failed test cases must be recorded. due to flaws Once the faults have been rectified, the test will no longer be valid. The case will be re-tested. However, when it comes to repairing a specific problem,

That particular test case must be re-tested after the faults have been addressed. However, it is possible that when addressing a specific problem, other modules or functionality may be impacted, resulting in errors if other modules are re-tested. As a result, regression testing is performed to check that the problem has been addressed, that all current features are operational, and that no new bugs have been introduced into the code.

Regression testing entails re-running all failed test cases as well as additional test cases that are successful but rely on the functionality of the failed test case. As a result, the successful test cases are re-run. Before releasing the code to production, human testers do regression testing several times. The overall number of test cases in the regression test may vary depending on how many requirements are covered in that release. There will be a large number of test cases for a big release, and running all of them again for bug fixes or regression testing takes a lot of time. Changes in requirements are one of the challenges that might arise during manual testing. Using an excel sheet, keep track of which bugs were logged, which bugs were fixed, and which bugs were still open.

Maintaining the Requirements Traceability Matrix (RTM) manually, without the use of any tools, is a time-consuming task. It is not practicable for human testers to perform regression testing on a daily, biweekly, or as-needed basis. To address the aforementioned issues, the testing team likes to employ test management and particular types of testing automation technologies.

6. Automation Testing

Automation testing is a method of assessing an application's functioning by writing scripts in a programming language and executing them. Automation tools are developed to support various testing activities known as test management tool, and other tools are specific to certain testing needs such as functional, performance, security, web services, database, usability testing, and so on. There are two types of automation tools available on the market: open source and commercial technologies. Once the manual test cases have been automated, the manual work of the manual test engineer executing the test cases for regression testing may be avoided by employing test execution tools to execute the scripts. Automation tools that aid in the creation and execution of test scripts include. open-source tools to commercial tools In the case of the aforementioned automation tools, free source solutions such as

selenium webdriver are more efficient than licenced automation tools since they have several advantages and support many capabilities.

7. Conclusion

When a person is new to any website he/she doesn't know where to start with. We usually need assistance from someone.

Using automation we can make the interaction with the website much easier to the users without any external assistance. It is possible to automate entire website with ease using selenium.

The sole purpose of "Automation" is to reduce the human effort.

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