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What are the limitations of selenium testing

Selenium WebDriver has more straightforward commands that are uniform across browsers. With concerning these, all advantages of Selenium include some Limitations which are as follows: 1. Pros of Selenium include its popularity, support for various systems, browsers, and languages, integration with CI/CD platforms, and the ability to test mobile devices. Let's sum it up. These are just some of the countless improvements over Selenium: No coding skills needed, plain English test cases No reliance on XPath or DOM makes tests extremely robust Fast speed of test creation (15X faster, to be precise) Virtually no maintenance (95% less) Built-in reporting and screenshots for each step in real time You might be interested to learn more about it, and decide whether it can be a better fit for your needs, have their own IDEs for creating and executing automation scripts > As Selenium is an Open Source and free tool, there is no vendor or official support > In case of tools like QTP/UFT, HP company provides the official support > In case of Selenium, there are numerous helping communities though > Creating test environments or test scripts in Selenium takes time > In Selenium, we have to configure everything on our own > Tools like QTP/UFT, Test Complete etc., have inbuilt features to create everything > No default tools for Test Management is available in the Selenium Suite of tools > In case of QTP/UFT, we have QC/ALM tool from the same HP family > For Selenium, we have to integrate with other Test Management tools available in the market > Selenium is the not the effective solution to automate Performance Testing > Thought performance testing can be automated using Selenium, its not an effective solution > There are specific tools like JMeter, LoadRunner etc. It assists testers in making sure the website works as expected across various browsers. 5. Lack of Robust Error Handling Developers have to design unique error-handling programs to collect and manage problems in Selenium it making detecting and resolving them difficult during test execution. 6. However, it has many limitations that require testers to migrate to other frameworks that are better suited to their needs, which are effective in performance testing > Selenium is not the effective solution to automate Security Testing > Though Security Testing can be automated to some extent using Selenium, its not an effective solution > There are specific tools like BurpSuite etc. Selenium Grid:Usually used in conjunction with Selenium RC, it supports parallel execution of test cases. As seen in the above section, Selenium WebDriver is one of the key components of the Selenium framework. Selenium WebDriver has browser-specific drivers that help execute commands on respective browsers. The good news is that no-code testing is becoming more powerful, and with a tool such as testRigor, you have all of the main challenges taken care of. This can slow down the execution since all web page elements need to be loaded. Cross Browser Compatibility Selenium can give regular best results across multiple browsers, but sometimes it's restricted in that the web browsers understand and use the HTML and CSS differently from the respective browsers. Selenium is one of the oldest and most famous automation frameworks employed in software testing. By harnessing Selenium Grid's capabilities to run tests concurrently, users can optimize test suite performance as it scales, enhancing productivity and reducing overall testing time.Cons of the Selenium Automation Testing Tool1. Slow execution speed, poor editability, maintenance, and poor reporting capabilities are among the main downsides. Conclusion Though Selenium WebDriver is synonymous with automation testing, its limitations make it imperative to look for other alternatives. Manual testing is labor-intensive and prone to mistakes made by humans. It isn't supported out of the box either. Selenium WebDriver:With this component, you can execute commands directly in the browser. It's not uncommon for companies to delete the entire framework with months of work and hundreds of test cases and start from scratch - all because the architecture wasn't done right from the beginning. WebDriver collaborates closely with Selenium Grid and the IDE to enable dependable test execution at scale and speed. This will be difficult when we test online apps with major critical user interfaces present. Selenium WebDriver is faster than Selenium RC. Yes, I'd like to receive Newsletters! Related Articles Visual Testing Service Market size was valued at USD 4.56 Billion in 2023 and is projected to reach USD 10.8 Billion by 2031, ... You cannot create cross-platform end-to-end tests with WebDriver.As the name implies, Selenium WebDriver was designed for web testing, nothing else. It implements itself using a browser-specific driver that accepts and transmits commands to the browser. Some examples of browser-specific drivers include ChromeDriver for Chrome, GeckoDriver for Firefox, and SafariDriver for Safari. Some limitations of Selenium RC that Selenium WebDriver addresses are: Selenium WebDriver has a simple architecture in comparison to Selenium RC, for which a server needs to be manually set up. TestNG, JUnit, Cucumber, and other frameworks and tools can be combined with Selenium because of its high degree of scalability. > Selenium cannot automate desktop applications > We have tools like QTP/UFT, TestComplete, Winnium etc. Various programming languages like Java, C#, Perl, Ruby, PHP, Python, and JavaScript are supported. Selenium might still be a great option if you're strictly looking for open-source tools, however, be prepared to invest your time heavily. Pros of the Selenium Automation Testing Tool1. How do we combat these limitations? To perform the automation testing of Desktop Applications > Selenium cannot automate mobile applications > Appium is the best tool for automating the mobile applications > Selenium is not the tool for automating Web Services like Soap or Rest > We have dedicated tools like Rest Assured Framework, Apache HTTP Client, SoapUI, PostMan etc. Need image testing? to create effective automation tests. Conclusion Selenium tool is useful for testing web applications, but it has limitations like slow test speeds and problems with dynamic elements. You can develop test scripts in a variety of computer languages, including Ruby, Java, NodeJS, PHP, Perl, Python, JavaScript, and C#, using its single interface. It is a tedious process where no mistakes should be made. It becomes imperative to incorporate a third-party image comparison library into your testing suite to close this gap.3. Selenium cannot Create ReportsSelenium does not have a basic functionality called reports. Slow Test Execution Because the automation depends on the various drivers with the browser that causes the process to slow. That means external tools are required for developers for testing purposes. 8. Awareness of Limitations Developers should be aware of the limitations and constraints of Selenium, but alternative tools can help overcome them and provide a more efficient testing procedure. What is Selenium? Selenium is a free, open-source test execution automation platform for web applications. Happy Learning ? Test maintenance takes a lot of time.With Selenium, test maintenance isn't a very straightforward process. This is especially challenging when working with online apps that dynamically change their information with different similar technologies like AJAX. In contrast, Selenium RC needs to open the actual browser instance to be able to execute a test case. This kind of behavior tends to give incorrect results. However, below is a complete collection of components: Selenium IDE (Integrated Development Environment);This component supports plugins for two browsers, Firefox and Chrome. SeleniumHQ stands out as the primary destination for all things Selenium, serving as the central hub for users seeking information and resources. Selenium IDE doesn't require coding knowledge, although it has some significant limitations. The good news is that there are ways to configure most of these add-ons, but you need to add them manually - unlike some other tools. This cuts down on load time and makes test case execution faster. You need to build various modules from scratch.WebDriver doesn't have good reporting built-in, such as screenshots with test results or a way to automate logs. To communicate test automation results to management, contractors, customers, and stakeholders, testers, and developers must generate all reports.Although Selenium lacks native reporting features, it offers integration support for several reporting frameworks and libraries.Test automation engineers can use Selenium WebDriver to create thorough test reports by utilizing third-party reporting technologies like TestNG, ExtentReports, Allure, or custom reporting solutions. Selenium is a powerful tool for controlling web browsers through programs and performing browser automation. No Technical Support will be ProvidedRenowned for its powerful automated testing features, Selenium has a large community of seasoned specialists willing to share their vast experience and knowledge. Learn some of the key limitations of selenium like support for single browser, advanced features not available, no test management tool available etc. It supports a wide range of browsers, including Chrome, Mozilla, Firefox, Safari, and Internet Explorer, and you can quickly automate browser testing for these browsers with Selenium Web Driver. About Me > Arun Motoori On a mission to contribute to the Software Testing Community in all possible ways. Selenium is an open-source framework that is widely used for automation testing. > Selenium doesn't have built-in Object Repository for maintaining objects at a centralized location > Tools like QTP/UFT etc. This is not the case with Selenium RC. It can often be a tedious daily task, wasting precious time and preventing QA engineers from expanding test coverage. The record and play capability allows testers to create test cases easily. The client-server architecture is at the heart of this setup. In this article, let's look at these limitations and see if there are any tools that would better suit your needs. Web tests are known to take longer to run over time, and parallel execution provides significant benefits as your test suite grows.Selenium Grid, a powerful tool in the realm of automated testing, empowers users to execute test cases simultaneously while efficiently controlling the process from a centralized hub.In the landscape of web testing, where the duration of tests tends to increase as test suites evolve, utilizing parallel execution brings forth notable advantages. Selenium Automation makes it possible to run tests fast and precisely, which lowers the possibility of human error and guarantees reliable test results. Free and Open SourceSelenium's popularity stems largely from its free and open-source nature.It allows companies of every type to use it for automated testing, and the community is constantly adding new functionality.This highlights its potential for automated testing and makes it available to a wide range of businesses, regardless of size or sector.Selenium has made a name for itself as the platform of choice for businesses looking for affordable and effective automated testing solutions because it is free and open source.2. Supports a Wide Number of Systems, Languages, and Browsersno better tool than Selenium can automate testing across most major operating systems and browsers.The robust automation tool Selenium demonstrates remarkable adaptability by interacting with a wide variety of systems, browsers, and computer languages with ease.This feature allows QA specialists, developers, and testers to do thorough tests on several platforms with greater freedom.As it is cross-compatible, switching between separate tools for each platform is avoided, which saves a significant amount of time.Automating testing processes for popular operating systems and browsers is a simple way to increase productivity and accelerate the software development lifecycle. Selenium will be slow to respond when running tests on big web applications or websites. Maintenance Overhead Selenium test scripts are challenging to maintain and to changes in the interface of the web application, necessitating continuous updates and maintenance by developers. 7. > The best way to test them is to ask the development team to disable them or make them static > Selenium cannot automate Bar codes or QR codes > The purpose of Bar codes or QR codes is to uniquely identify something > Selenium cannot automate OTP > The purpose of OTP is for security authentication reasons > Selenium cannot automate Video Streaming > Selenium won't identify video controls > Selenium can't test the content that is playing inside the video > Selenium cannot automate audio clips > Selenium can't test the content that is played in audio clips > Selenium doesn't have its own IDE for reporting or executing scripts > Selenium needs other IDEs available in the market like Eclipse IDE, IntelliJ etc. 2. have this feature. Missing customer support capabilities due to being open-source.Since Selenium is an open-source framework, testers need to refer to various forums and videos to have their queries answered. For example, if there is a disabled text box on the page, then Selenium RC will be able to enter text into it as opposed to Selenium WebDriver. Selenium is also platform-independent, so it can provide distributed testing using the Selenium Network. to automate chat bots. It's complicated and very time-consuming to build tests the right way, and not everyone can get it done right. No Built-in Reporting System Selenium does not have an integrated reporting system which makes its test results and discovering problems harder. Difficulty in Handling Dynamic Web Elements Selenium has difficulties in interacting with dynamic web elements like ID that will change on a web page sometime which causes the test script failure while testing the same. The Project Page offers a comprehensive overview of Selenium, providing insights into its different components and functionalities. The main component of the Selenium automation tool is Selenium WebDriver. Supports Web Applications OnlySelenium is only useful for web test automation.Although Selenium can only automate interactions within web browsers, it is unable to automate processes outside of the browser, such as desktop applications.2. Not Having an Image ComparisonSelenium does not have built-in image comparison functionality, so it is important to ensure that all images you display in your application are present and displayed correctly.A third-party library is required to achieve this.This restriction emphasizes how crucial it is to carefully verify that every image in the user interface of your application exists and is accurate. It is suitable for cross-browser testing of web applications. It is functional for all browsers, works on all major OS and its scripts are written in various languages. Selenium is primarily designed for web UI testing and has limited support for non-web UI testing, such as desktop applications or mobile apps. In the final analysis, even if Selenium has a lot to offer in terms of automating web applications, maximizing its value in a testing environment requires careful consideration of its limitations and necessary resources. Selenium WebDriver's interactions with the browser elements are more realistic than Selenium RC. Developers should know these issues and consider other tools when needed. > The following are the disadvantages or limitations of using Selenium: Note: The below list also includes the scenarios that Selenium cannot automate apart from the disadvantages or limitations of Selenium, which are effective in Security Testing > Selenium cannot automate Chat Bots > There are separate tools like Botium etc. Selenium RC Selenium WebDriver is an improved version of Selenium RC. Watch this video on "20 Disadvantages or limitations of using Selenium Automation Tool" for more clarity: Next Steps: > To learn more about Selenium, continue to the next post (Click on Next Post link below) > Check complete Selenium Tutorial Contents here (Click here) Please leave your questions/comments/feedback below. Limited Support for Mobile Applications Selenium will not provide automation on mobile application testing, so developers choose other tools or frameworks for the automation purpose. If you need to test non-web UI components, you ... What Is CI? Within SeleniumHQ, you'll discover key sections catering to various needs. 9. These limitations can be overcome with advanced automation tools like testRigor available on the market. > Let me know in comments of this blog post, if you find something that I missed in this list. > Selenium is a widely used tool for testing web-based applications that checks if they are doing as expected. to get the reporting feature > Selenium doesn't have the capability to test using the images by default > Selenium integrate with tools like Sikuli to perform Image Based Testing > Selenium cannot handle Window Based pop-ups which appear while working with the Web Application functionalities like Upload File etc. This component also has support for different operating systems like Mac, Linux, and Windows. Selenium WebDriver v/s. Limitations of Selenium WebDriver Though Selenium WebDriver is widely used for automation even today, its limitations are difficult to overcome with the Selenium framework of components. Weekly QA Testing Knowledge You will receive weekly testRigor newsletters packed with insights on test automation, codeless testing, and the latest advancements in AI. When people talk about Selenium, most commonly, they would be implying WebDriver. Support for different browsers exists here, making cross-browser support possible. Within a quickly changing technological environment, selenium's flexibility plays a major role in upholding high levels of dependability and quality.3. Integrated with CI/CDAnother significant advantage is that Selenium is completely integrated with CI/CD—continuous integration /continuous deployment—platforms like Jenkins, Azure DevOps, Bamboo, Travis CI, Circle CI, GitLab, and many others.The exceptional interoperability of Selenium with numerous CI/CD platforms is one of the main advantages of using it for automated testing.Selenium's smooth interface with these systems facilitates automated deployments and continuous monitoring, which speeds up the testing process and increases the development team's productivity.4. Run Tests ConcurrentlySelenium Grid allows you to run tests concurrently and manage execution from a single location. Why Selenium is Used?Selenium is mostly used to automate testing across several web browsers. Cons of Selenium include its support for web applications only, lack of built-in image comparison functionality, absence of basic functionality like reports, and lack of technical support. It is a prominent preference amongst testers for cross-browser testing and is viewed as one of the most reliable systems for web application automation evaluation. A long time of wait will irritate developers and might result from this communication overhead. Continuous integration is ... Headless HTML browsers that are faster and can be controlled only through code are supported by Selenium WebDriver. What is the Selenium Automation Testing Tool?Selenium is a free (open source) test execution automation platform for assessing web applications, and Selenium implements itself using a browser-specific driver that accepts and transmits commands to the browser. This helps with automating test cases for web applications. 4. The server, however, needs to be started manually. CI stands for "continuous integration" and is typically a part of the CI/CD pipeline. > Selenium doesn't have any reporting capability by default > Selenium has to integrate with TestNG, Extent Reports etc. Nevertheless, even with a large number of specialists, users who are just learning about Selenium's capabilities may find it difficult to navigate among the array of solutions accessible.One major challenge that many new users have is the lack of readily available Selenium-focused businesses or service providers.Lack of professional support can be quite difficult because it can be difficult to troubleshoot problems or seek advice when there aren't easily available resources.Due to this, learning Selenium and realizing its full potential for effective testing procedures may seem like a difficult and lonely road for individuals who choose to take it.ConclusionSelenium is used to automate testing across several web browsers, including Chrome, Mozilla, Firefox, Safari, and Internet Explorer. However, Selenium RC or Selenium WebDriver will be needed for complex test cases. > Where as other tools like QTP/UFT, Test Complete etc. Selenium RC (Remote Control):This component allows for creating test cases in different languages like C#, Ruby, Perl, PHP, Python, JavaScript, and Java. These limitations are as follows: Difficult to use, and you need programming skills to create tests.It's crucial to define the right architecture from the very beginning, and employ best practices such as POM, code reusability etc. WebDriver uses client libraries and the JSON wire standard to establish direct communication with browsers. Limited Support for Windows-based Applications Developers will have to depend on third-party tools or libraries for Automation testing in desktop apps using Selenium. What is Selenium WebDriver? It enables controlling web browsers locally or on other remote computers. to automate them > Can be automated using Selenium up to some limit > Selenium requires technical skills to automate the tests > Test engineers should be good at any of the programming languages like Java, Python, C#, Ruby, JavaScript etc. > Other things that cannot be automated using Selenium > Real life scenarios like swiping a card, printing, scanning etc. With the increasing complexity and scale of software development, traditional testing methods frequently lack the speed, ... > Selenium integrates with tools like AutoIt to handle such Window Based pop-ups > Selenium cannot automate Captcha > The purpose of Captcha is to separate robots from humans. Testers can evaluate the user experience and make sure the application is clear and easy to use by using Selenium to mimic user interactions and behavior. 3.

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