**Advanced Selenium**

**Assignments Module – 5 (Selenium IDE)**

* **What is Automation Testing?**

**Automated Testing means using special software for tasks that people usually do when checking and testing a software product. Nowadays, many software projects use automation testing from start to end, especially in**[**agile**](https://www.geeksforgeeks.org/software-engineering-agile-software-development/)**and [DevOps](https://www.geeksforgeeks.org/courses/devops-live" \t "_blank)methods. This means the**[**engineering**](https://www.geeksforgeeks.org/software-engineering-architectural-design/)**team runs tests automatically with the help of**[**software tools**](https://www.geeksforgeeks.org/what-is-software-tool/)**. It will help to keep the testing team to make the process faster**

* **Which Are The Browsers Supported By Selenium Ide?**

[**Chrome specific functionality**](https://www.selenium.dev/documentation/webdriver/browsers/chrome/)

**These are capabilities and features specific to Google Chrome browsers.**

[**Edge specific functionality**](https://www.selenium.dev/documentation/webdriver/browsers/edge/)

**These are capabilities and features specific to Microsoft Edge browsers.**

[**Firefox specific functionality**](https://www.selenium.dev/documentation/webdriver/browsers/firefox/)

**These are capabilities and features specific to Mozilla Firefox browsers.**

[**IE specific functionality**](https://www.selenium.dev/documentation/webdriver/browsers/internet_explorer/)

**These are capabilities and features specific to Microsoft Internet Explorer browsers.**

[**Safari specific functionality**](https://www.selenium.dev/documentation/webdriver/browsers/safari/)

**These are capabilities and features specific to Apple Safari browsers.**

* **What are the benefits of Automation Testing?**

### Core Benefits of Automation Testing

**While the primary advantage of Automation Testing is speed, it also offers other benefits which makes software development process more efficient. Here are some of the core benefits of Automation Testing:**

1. **Saving Costs**
2. **Faster Feedback Loop**
3. **Better Allocation of Resources**
4. **Guarantees Higher Accuracy**
5. **Increased Test Coverage**
6. **Detects bugs earlier**
7. **Test at Scale**
8. **Maximizes ROI**

* **What are the advantages of Selenium?**

## ****Advantages of Selenium for Automated Testing****

**Here are the 10 best advantages of Selenium for Automated Testing:**

### ****1. Language and Framework Support****

**Selenium supports all major**[**programming languages**](https://www.appsierra.com/blog/programming-language-for-beginners)**, like Java, Python, JavaScript, C#, Ruby and pearl for**[**software test automation**](https://www.appsierra.com/blog/5-best-successful-automation-practices)**. You can write your steps in any of these programming languages, and Selenium will convert it into a Selenium compatible course in no time.**

**There is no requirement for no in Selenium only languages. Also, every Selenium supported language has appropriated three works that help write**[**test scripts**](https://www.appsierra.com/blog/difference-between-test-case-and-test-plan)**for**[**Selenium test automation**](https://www.appsierra.com/blog/best-practices-of-selenium-automation-testing)**.**

**So when you go for Selenium as a tool for performing automation testing, you won’t have to worry about language and framework support, as Selenium will do that for you.**

### ****2. Open Source Availability****

**The availability of open source code is one of the benefits of Selenium. Selenium is a publicly available automation framework that is free to use because it is an open-source product.**

**Work can be saved here and used for other beneficial purposes. The Selenium community is always willing to assist**[**developers and software engineers**](https://www.appsierra.com/blog/testing-in-software-engineering)**in**[**automating web browser**](https://www.appsierra.com/blog/how-to-manage-browser-dimension)**capabilities and functionality.**

**Selenium, as an open-source technology, also allows you to customize the code for easier management and to improve the functionality of preset methods and classes.**

### ****3. Multi-Browser Support****

**The Selenium community has been working on improvising every day on one Selenium script for all browsers. According to StatCounter, Chrome, Firefox, Safari, Internet Explorer, and browsers worldwide, and Selenium benefits are compatible with all these mentioned browsers. You must not write a script for every browser as just one script is required for all browsers.**

### ****4. Support Across Various Operations****

**Different people use various operating systems, and your automation tool must support all of them. Selenium is a highly profitable tool supporting and could work across different operating systems like Windows, Linux, Mac OS, Unix, etc.**

### ****5. Ease of Implementation****

**The**[**selenium automation framework**](https://www.appsierra.com/blog/best-practices-of-selenium-automation-testing)**is very easy to use as it provides a**[**user-friendly interface**](https://www.appsierra.com/blog/7-laws-of-ux-design)**that helps users create and execute test scripts easily and effectively. You can also watch while the test runs and analyses detailed reports of the selenium test and takes follow-up actions.**

**And finally, you will never feel alone as a huge Selenium community is always available to help you in any case of need. You will also be able to ask your queries and perform brainstorming in the community.**

### ****6. Reusability and Integrations****

**Selenium automation test used is usable and could be tested across multiple browsers and operating systems. Nevertheless, the twist is that Selenium isn’t an all-inclusive**[**web automation testing tool**](https://www.appsierra.com/blog/web-services-automation)**. Therefore it requires third party frameworks and add-ons for broadening the scope of testing.**

**For example, you must integrate Selenium with [TestNG](https://www.appsierra.com/blog/how-to-install-testng-in-eclipse" \t "_blank) and JUnit for**[**managing test cases**](https://www.appsierra.com/blog/6-open-source-test-management-tools)**and generating reports. To achieve**[**continuous testing**](https://www.appsierra.com/blog/successful-continuous-testing)**, you should integrate it with some CI/CD tools. Also, for performing image-based testing, you are required to integrate Selenium with tools like Sikuli and perform**[**cross-browser testing**](https://www.appsierra.com/blog/10-cross-browser-testing-tools)**with cloud Grid such as LambdaTest.**

### ****7. Flexibility****

[**Test management**](https://www.appsierra.com/blog/best-test-management-tools)**is very important in the testing life cycle, and it becomes easier and more efficient by using Selenium features like regrouping and retracting test cases. It helps developers and testers in quick changes to the code, reducing duplication, minimising complications, and improving maintainability.**

**These features make the Selenium more flexible and usable than other automation testing tools and help the benefits of Selenium keep an edge.**

### ****8. Parallel test execution and faster market launch****

**The main pillar of automated testing is saving time and effort. With the guidance of the Selenium grid, you can execute multiple tests in parallel and reduce the**[**test execution**](https://www.appsierra.com/blog/software-testing-phases)**time. With cloud rates for cross-browser testing, you can test across hundreds of browsers in parallel by using Selenium.**

### ****9. Less Hardware Usage****

**You will find that Selenium requires less hardware than other testing tools if you compare it with others when the focus automation tools like QTP, UFT, SilkTest, etc.**

### ****10. Easy to Learn and Use****

**Selenium scripts are not something like writing a hundred-page complex algorithm. Writing Selenium scripts is not more than writing a few courses for automating your website functionalities.**

**Also, documentation on the Selenium website helps that developers and testers start with**[**Selenium automation testing**](https://www.appsierra.com/blog/best-practices-of-selenium-automation-testing)**, it benefits and provides development support just a Google search away with a radically growing community.**

* **Why testers should opt for Selenium and not QTP?**

**QTP/UFT only supports the VBScript programming language. Test scripts cannot be written in any other language. Selenium, however, supports a**[**wide range of programming languages**](https://www.browserstack.com/docs/automate/selenium)**.**

**QTP/UFT test scripts run only on the Windows environment. They cannot be run across all browsers. On the other hand, Selenium is OS independent and allows test scripts to run across all browsers.**

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