Selenium is an open-source and a portable automated software testing tool for testing web applications. It has capabilities to operate across different browsers and operating systems. Selenium is not just a single tool but a set of tools that helps testers to automate web-based applications more efficiently.

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| **Tool** | **Description** |
| Selenium IDE | Selenium **I**ntegrated **D**evelopment **E**nvironment (IDE) is a Firefox plugin that lets testers to record their actions as they follow the workflow that they need to test. |
| Selenium RC | Selenium **R**emote **C**ontrol (RC) was the flagship testing framework that allowed more than simple browser actions and linear execution. It makes use of the full power of programming languages such as Java, C#, PHP, Python, Ruby and PERL to create more complex tests. |
| Selenium WebDriver | Selenium WebDriver is the successor to Selenium RC which sends commands directly to the browser and retrieves results. |
| Selenium Grid | Selenium Grid is a tool used to run parallel tests across different machines and different browsers simultaneously which results in minimized execution time. |

Advantages of Selenium

QTP and Selenium are the most used tools in the market for software automation testing. Hence it makes sense to compare the pros of Selenium over QTP.

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| **Selenium** | **QTP** |
| Selenium is an open-source tool. | QTP is a commercial tool and there is a cost involved in each one of the licenses. |
| Can be extended for various technologies that expose DOM. | Limited add-ons and needs add-ons for each one of the technologies. |
| Has capabilities to execute scripts across different browsers. | Can run tests in specific versions of Firefox , IE, and Chrome. |
| Can execute scripts on various operating systems. | Works only with Windows. |
| Supports mobile devices. | Supports mobile devices with the help of third-party tools. |
| Executes tests within the browser, so focus is NOT required while script execution is in progress. | Needs Focus during script execution, as the tool acts on the browser (mimics user actions). |
| Can execute tests in parallel with the use of Selenium Grids. | QTP cannot execute tests in parallel, however integrating QTP with QC allows testers to execute in parallel. QC is also a commercial tool. |

Disadvantages of Selenium

Let us now discuss the pitfalls of Selenium over QTP.

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| **Selenium** | **QTP** |
| Supports only web based applications. | Can test both web and desktop applications. |
| No feature such as Object Repository/Recovery Scenario | QTP has built-in object repositories and recovery scenarios. |
| No IDE, so the script development won't be as fast as QTP. | More intuitive IDE; automation can be achieved faster. |
| Cannot access controls within the browser. | Can access controls within the browser such as favorites bar, backward, and forward buttons. |
| No default test report generation. | Default test result generation within the tool. |
| For parameterization, users has to rely on the programming language. | Parameterization is built-in and easy to implement. |

**TestLink** is a web-based [test management](http://en.wikipedia.org/wiki/Test_management) system that facilitates [software quality assurance](http://en.wikipedia.org/wiki/Software_quality_assurance). It is developed and maintained by Teamtest. The platform offers support for test cases, test suites, test plans, test projects and user management, as well as various reports and statistics.