**Selenium**

**Selenium:**

Selenium is an open-source and a portable automated software testing tool used for testing. It has capabilities to operate across different browsers and operating systems. It is a set of different software tools each with a different approach to supporting test automation. Selenium support’s executing of one’s tests on multiple browser platforms It is one of its Key feature

**Brief History**

Selenium was first countered by Jason Huggins in the year 2004. He developed a Java-script library that could drive interactions with the page, allowing him to automatically rerun tests against multiple browsers. Which became the Selenium core. Appling Java script limitations by browsers frequently made this model life pain full.

Simon Stewart of google in the year 2006 came up with web driver project that overcomes the pains selenium. Selenium had massive community and commercial support, but WebDriver was clearly the tool of the future. In the year 2008-2009 Simon Stewart combined Selenium and web-driver which made life’s easy for many testers

**Selenium is composed of multiple software tools. Each has a specific role.**

**1) Selenium Web driver :**

Selenium Web driver is the future direction of the project and the newest addition to the Selenium toolkit.

* This brand new automation tool provides all sorts of awesome features, including a more cohesive and object oriented API as well as an answer to the limitations of the old implementation.
* It Still runs Selenium RC interface for backwards compatibility.

**2) Selenium Remote Control:**

* We all know that in yearly days before merging Selenium with web drives which emerges into a powerful tool. Selenium remote control still provide some features that are not available in merged technology.
* It provides 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.

**3) Selenium IDE(Integrated Development Environment):**

* Selenium IDE (Integrated Development Environment) is a prototyping tool for building test scripts.
* It is a Firefox plugin and provides an easy-to-use interface for developing automated tests.
* It is a Firefox plugin that lets testers to record their actions as they follow the workflow that they need to test.

**4)Selenium-Grid:**

* Selenium-Grid allows the Selenium Remote Control solution to scale for large test suites and for test suites that must be run in multiple environments
* Large test-suite and slow running test suits can increase their performance by dividing and running at same time from different remote testing ispmachines.
* If a test-suite must run on different environments Selenium grid may help us doing it.

**Advantages of Selenium:**

1. It is an open-source tool.
2. Can be extended for various technologies that expose DOM
3. Supports mobile devises with out any 3rd party applications.
4. Parallel testing is possible with the help of Selenium grid

**Disadvantages of Selenium:**

1. Unlike Quick Test Professional (QTP) selenium is only for web base applications
2. Cannot access control within the browser
3. User has to relay on programming language for parameterization

**Selenium Tools Preferred:**

* Selenium 1 or web drives(selenium 2) along with one of the supported programming Language are strongly recommended.
* Selenium IDE is recommended for the beginners how have not exposed to programming language.