

# Chapter 1

## 1 Introduction

Primarily, Selenium was created by **Jason Huggins in 2004**.

An engineer at ThoughtWorks, he was working on a web application that required frequent testing.

Having realized that the repetitious Manual\_Testing of their application was becoming

more and more inefficient, he created a JavaScript program that would

control the browser's actions. He named this program as the "**JavaScriptTestRunner**."

Seeing potential in this idea to help automate other web applications, he made

JavaScriptRunner open-source which was later re-named as **Selenium Core**.

## **What is Selenium?**

Selenium is a free (open source) automated testing suite for web applications across

different browsers and platforms. It is quite similar to HP Quick Test Pro (QTP now UFT)

only that Selenium focuses on automating web-based applications. Testing done using Selenium tool is usually referred as Selenium Testing.

# **Selenium Automation Testing!**



## *Why only Selenium?*

### Why Selenium IDE?

How can I create test cases and test suites for my website?

I have little knowledge in programming, can I create test cases?

Need an easy to use tool?

An illustration of a yellow podium with three steps labeled 1, 2, and 3. A man in a suit stands on step 1, holding a sign that says 'Se' with a green checkmark. A man in a red shirt stands on step 2, and a man in a blue suit stands on step 3. The background is a teal world map.

# Why Selenium is more popular than other Test Automation Tools?

*But why??*

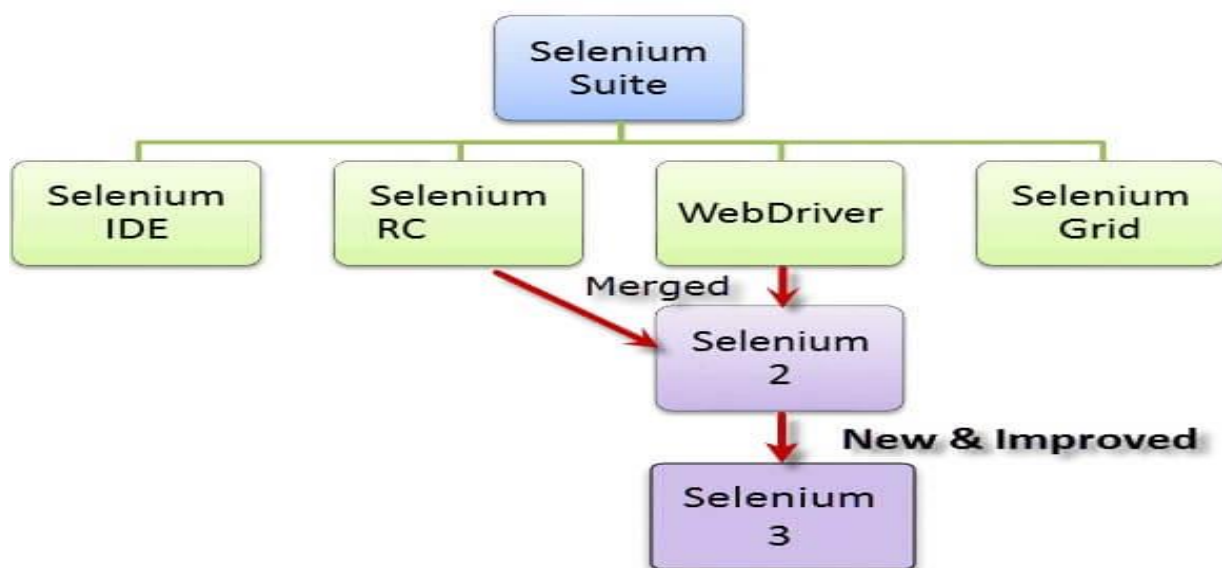
There are many reasons why selenium tops the list.





It has four components :

- Selenium Integrated Development Environment (IDE)
- Selenium Remote Control (RC)
- WebDriver
- Selenium Grid



## How to Choose the Right Selenium Tool for Your Need?

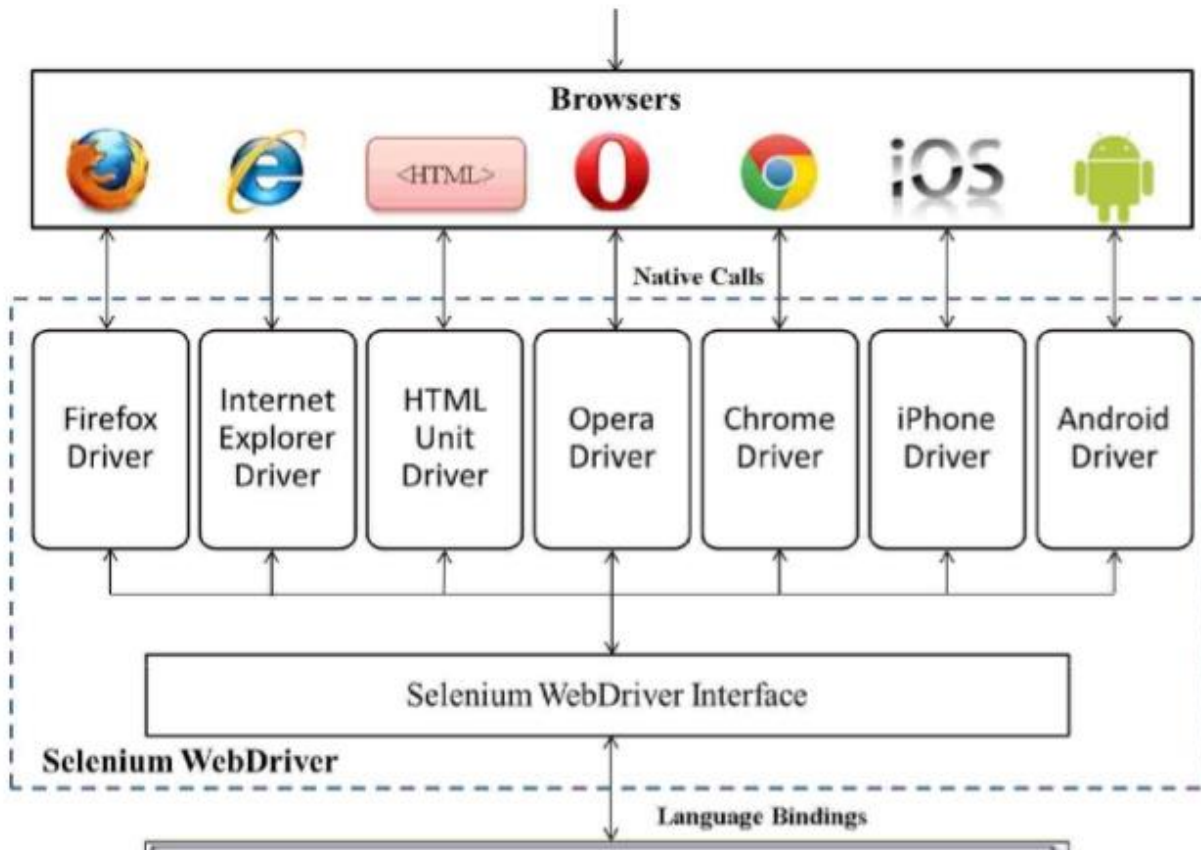
Tool	Why Choose?
<b>Selenium IDE</b>	<ul style="list-style-type: none"><li>• To learn about concepts on automated testing and Selenese, including:</li><li>• Selenium commands such as type, open, click And Wait, assert, verify, etc.</li><li>• Locators such as id, name, xpath, css selector, etc.</li><li>• Executing customized JavaScript code using runScript</li><li>• Exporting test cases in various formats.</li><li>• To create tests with little or no prior knowledge in programming.</li><li>• To create simple test cases and test suites that you can export later to RC or WebDriver.</li></ul> <ul style="list-style-type: none"><li>• To test a web application against Firefox and Chrome only.</li></ul>
<b>Selenium RC</b>	<ul style="list-style-type: none"><li>• To design a test using a more expressive language than Selenese</li><li>• To run your test against different browsers (except HtmlUnit) on different operating systems.</li><li>• To deploy your tests across multiple environments using Selenium Grid.</li><li>• To test your application against a new browser that supports JavaScript.</li><li>• To test web applications with complex AJAX-based scenarios.</li></ul>
<b>WebDriver</b>	<ul style="list-style-type: none"><li>• To use a certain programming language in designing your test case.</li></ul>



	<ul style="list-style-type: none"> <li>• To test applications that are rich in AJAX-based functionalities.</li> <li>• To execute tests on the HtmlUnit browser.</li> <li>• To create customized test results.</li> </ul>
<b>Selenium Grid</b>	<ul style="list-style-type: none"> <li>• To run your Selenium RC scripts in multiple browsers and operating systems simultaneously.</li> <li>• To run a huge test suite, that needs to complete in the soonest time possible.</li> </ul>

We shall focus on Selenium Webdriver, as it is advanced one and we prefer to work on it.





Now, let's know the basic requirements to create a project , in which we write script to automate the operations.

1. Visual Studio
2. Selenium DLL'S (**DLL - Dynamic-link library**)
3. Browser DLL'S
4. **NUnit** - NUnit is an open-source unit testing framework for Microsoft.NET

A **DLL** is a library that contains code and data that can be used by more than one program at the same time. So it acts like a library where few methods or functions are pre derived. Those are like a ready made house which can be directly used instead of we, building it from scratch.