Selenium is not a tool, it is available in the form of API’S.

It is available in the form respective language binding, as it supports multiple languages. (Java, C#, PHP, Python, Perl, Ruby, .net, node.js, Javascript)

We don’t have GUI in Selenium, i.e buttons etc.

Its only for automate browser based web applications can’t automate desktop or window based applications

It is free and open source available in market

Simon Stewart at ThoughtWorks developed Selenium Automation tool for the Browser in 2008,

First introduced Selenium IDE – Record and playback, now it is not using and replicated from market

Second introduced Selenium RC (Remote Control) – Also know as Selenium 1 – which is used with help of server

Third introduced Selenium Webdriver – also know as selenium 2.x – introduced in 2011– using JSON API

Fourth introduced Selenium Webdriver – also know as selenium 3.x

Selenium4.x also released (Dec 2018)

ADVANTAGES (pros)

1. It is a Open source
2. Supports Multiple Languages (java, C#, Ruby, Perl, Python, node.js, Javascript)
3. Supports all the platform OS (Window, MAC, LINUX, UNIX)
4. Cross Browser Testing (FF, Chrome, Safari, Opera, IE)
5. Supports Headless Browsers (PhantomJS, HTMLUnit Driver, Chrome Headless)
6. Can be integrated with any open source unit testing framework

(Junit , Testng – TDD)

(Cucumber, JBehave, Serenity – BDD)

1. It is very lite weight around 20MB as it is available in the form of API’S
2. Easily integrate with Continues Integration (CI) and Continues Delivery (CD), Jenkins,
3. Selenium scripts can be executed in local machines as well as Cloud machines / Virtual Machines / Servers (Browser Stack, SauceLabs, Amazon Web Service(AWS), Docker, Google Cloud….)
4. Customize webdriver codebase – source code will be shared to you as it is open source, if you want to do any changes u can change logics, u can create ur own version also
5. We have so many wrappers available in market, using selenium as core and top of it they can use Appium(ALL Languages), Protractor(JS), Watir(Ruby), Robot Framework(Phython). All these are using internally Selenium.

DISADVANTAGES(Cons)

1. As it is open source, there is no direct support (In paid tool , u can call them, there is a support team, they have documentation, if you stuck anywhere or if you raise any bug they will immediately help you)
2. You need to learn programming – No scriptless of codeless automation
3. No support for desktop application automation
4. Doesn’t provide any test results report by default, we have to interact with API’S for it (Extent or JUNIT or Testng) – In QTP, there is a default report
5. For any extra work like – testcases designing, report, build, CI – CD

We don’t have any API’s available in selenium

Selenium is only to automate browser and interact with elements

With selenium u cant write testcases, if you want to write u have to integrate selenium with Testng or Junit if u r using Java

If using PHP – u have PHPUnit

If using .net – u have NUnit

If using JS – u have CHIA, MACOW

1. No bar code and captcha related API’S – Can’t automate them