Automation 2 types

1-Browser based

2-non browser based

**PYTHON SELENIUM AUTOMATION**

**Headless Browser**

* A headless browser is a browser which is without its GUI.
* It gives us the power to automate a web page like a common web browser.
* You can test your entire application on it.
* But for QA you need a human to do so.
* It is being with command-line to call a browser at the end.
* With headless browser we can do:-
  + Web scrapping
  + Automation testing
  + Taking screenshots of web pages.
  + Interacting with a web page automatically without any need of humans.
  + In hacking - DDoS
  + Digital marketing
  + Selenium
  + node.JS called puppeteer

**SELENIUM**

* It is for automation and testing purpose
* It’s an open source software
* Through it we can take control of a web browser and can do anything with it.
* It is the paradise of the Hackers.
* Supported on all OS
* Supports all major programming language.

**SELENIUM COMPONENTS**

1. IDE-integrated development environment
2. Remote Control
3. Web Driver
4. GRID

* Selenium IDE gives us the power to create scripts, record the output and debug the scripts. Everything happens automatically hasslefree and it gives us the power to initiate our browser so that actions like click, form filling, opening of page can be done.

* Selenium RC (Remote Control) is the server of the Selenium. It is written in Java. It sends the command from the client to the browser via HTTP.

* Selenium WebDrivers are like a middleman which sends scripts written in (IDE) various programming languages to the browser for its execution. Various browsers have different webdrivers for its working.
* Selenium Grid is like a server i.e disturbed network ,where we can distribute the script across the world

**DISADVANTAGES OF SELENIUM**

* You cannot use Selenium on desktop based applications.
* It is for browsers only.
* You need a special team for testing and automation with 100% expertise.
* It’s cost expensive for any company/project
* All information is based on open-source you need to visit lots of URL’s for your queries.
* No support for REST API-representational state transfer
* No support for audio, video or image testing.(in-depth)

**SELENIUM WEB DRIVERS started from version 2.0**

<https://github.com/mozilla/geckodriver/releases>

<https://chromedriver.chromium.org/downloads>

<https://developer.microsoft.com/en-us/microsoft-edge/tools/webdriver/>

* It integrates the Selenium API and the web-browser
* It was first introduced in v2.0
* It is used to run the test scripts created in programming languages and to run it on a browser.
* It is much faster than the Selenium RC as it directly calls the browser.
* Selenium WebDriver can directly implement the Firefox driver but you need to tell it.

**INSTALL SELENIUM MODULE INTO PYTHON**

pip install selenium 🡪 in cmd

from selenium import webdriver

def open\_website(url):

    driver = webdriver.Firefox()

    return(driver.get(url))

open\_website('<https://www.guvi.in>')

**OPEN FACEBOOK AND LOGIN TO IT**

from selenium import webdriver

from selenium.webdriver.common.keys import Keys

def Suman\_Facebook(username, password):

    user\_name=username

    password=password

    d=webdriver.Firefox()

    d.get('https://www.facebook.com')

    element=d.find\_element\_by\_id('email')

    element.send\_keys(user\_name)

    element=d.find\_element\_by\_id('pass')

    element.send\_keys(password)

    element.send\_keys(Keys.RETURN)

    element.close()

Suman\_Facebook(username,password)

**Important links:-**

<https://www.selenium.dev/>

