

What is Selenium ?

Selenium is a software or tool which can help you in automated software testing.

automated software testing means there is a textbox on a webpage and this textbox should only be alphabets and not numbers because this textbox only takes Names so selenium can ensure you that user does not enters digits or numbers in this textbox, similarly for a valid email address selenium can be used and also for a valid phone no as phone no only contains numbers.

Selenium can be used with Java, Php, Python. C#, VB.net, Ruby.

We will be using Java in this article.

For Running Selenium we require a Webdriver.

Webdriver is a software without which you can't do selenium tests in a web browser.

Webdriver is a software which is unique for every browser like chrome, firefox, edge , safari.

Webdriver for firefox is built in but for edge and chrome it needs to be downloaded, webdriver for firefox is gecko and it is present in latest version of firefox by default.

Now to run a selenium test we will create a maven project in java using netbeans ide.

we will also add dependencies to this maven project taking help from <https://mvnrepository.com>.

If you don't know what is maven project and how to add dependencies to maven project refer to article (What is Maven ?) on website www.cppcourses.com

Now create a Maven project in Netbeans and add following dependency to pom.xml file in dependencies tag which is to be present under project tag.

```
<dependencies>
```

```
    <!-- https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-java -->
```

```
<dependency>
```

```
    <groupId>org.seleniumhq.selenium</groupId>
```

```
    <artifactId>selenium-java</artifactId>
```

```
    <version>4.9.1</version>
```

```
</dependency>
```

```
</dependencies>
```

Now open link www.cppcourses.com/testsel/testsel.html

You will see the following page.

Name :

Following is the code to open this webpage in firefox using gecko webdriver in firefox.

```
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.firefox.FirefoxDriver;

/**
 *
 * @author raman
 */
public class Mavenproject1 {

    public static void main(String[] args) {
        //create an object driver1 which will create a webdriver object for browser firefox using gecko driver
        WebDriver driver1 = new FirefoxDriver();
        //open the link to testsel.html using firefox
        driver1.get("http://www.cppcourses.com/testsel/testsel.html");
        //print the title of the testsel.html page in output window
        System.out.println(driver1.getTitle());
        //get the current page displayed in firefox browser using driver1 object
        System.out.println(driver1.getCurrentUrl());
    }
}
```

Above code will open the link to webpage testsel.html in firefox and you will see the following output in web browser firefox after running the maven project you have created.

There are comments in the above code which explain the code statements.



Now we will create java class in maven project to send some data to name text box and also to send a click on submit button.

```
import java.util.concurrent.TimeUnit;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.firefox.FirefoxDriver;

/**
 *
 * @author raman
 */
public class NewClass {
    public static void main(String args[])
    {
        try
        {
            WebDriver driver = new FirefoxDriver();

            // Puts a Implicit wait, Will wait for 10 seconds before throwing exception
            driver.manage().timeouts().implicitlyWait(10, TimeUnit.SECONDS);

            // Launch website
            driver.navigate().to("http://www.cppcourses.com/testsel/testsel.html");
```

```

// Maximize the browser
driver.manage().window().maximize();

// Enter value 10 in the first number of the percent Calculator
driver.findElement(By.id("nametxt")).sendKeys("raman");

Thread.sleep(5000);

// Get the text box from the application
String result = driver.findElement(By.id("nametxt")).getAttribute("value");

// Print a Log In message to the screen
System.out.println(" The Result is " + result);

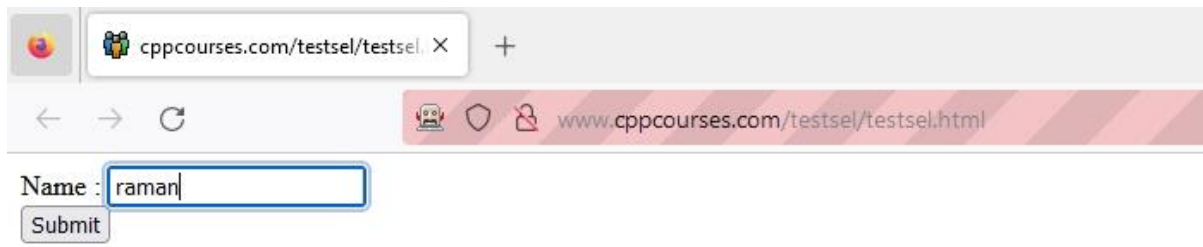
//Send a click on submit button
driver.findElement(By.id("submitbtn")).click();

// Close the Browser.
driver.close();
}
catch(Exception e)
{
    System.out.println(e.toString());
}
}
}

```

No w you will see that when testsel.html page will be automatically opened in browser the textbox will contains text as “raman”.

See the following output in firefox.



This is the explanation of Selenium.