



## Automation of Online Multi Hospital Blood Bank Management System using Selenium Automation Tool

Vinita Sharma  
Project Intern

Testing Group, R & D department,  
Centre for development of Advance Computing (CDAC)  
Sec-62 Noida, India  
[vinita.sharma223@gmail.com](mailto:vinita.sharma223@gmail.com)

Udai Singh

Technical Officer

Testing Group, R & D department,  
Centre for development of Advance Computing (CDAC)  
Sec-62 Noida, India  
[udaisingh@cdac.in](mailto:udaisingh@cdac.in)

**Abstract:** This paper introduces an automation of online multi hospital blood bank management system using selenium automation tool.

**Keywords:** Automation testing, Firebug, Firepath, Selenium automation tool.

### I. INTRODUCTION

Manual testing takes more time, resources in comparison of automation testing. Automation testing is used to improve Accuracy, flexibility and speed. Automation testing is the best way to increase the effectiveness, efficiency and coverage of our software testing[1]. Selenium is automated functional tool, which is used for automation testing. We use Selenium Web Driver (API) for automating the software for testing purpose.

There are four variants of Selenium, which can be used in isolation or in combination to create complete automation suite for your web applications.

- Selenium IDE – Recording/Creating and enhancing scripts
- Selenium Remote Control (RC)– Executing scripts
- Selenium Web Driver (API) – Cross browser testing
- Selenium Grid – Cross platform testing[2].

Technology	Java 1.6 SE
Tool	Selenium
IDE	Eclipse
Browser	Mozilla Firefox v 10.0

Now our task is to automate these processes[6] such as:-

- Donation Detail
- Blood Grouping
- Investigation
- Requisition and issue
- External Requisition and issue
- Camp
- Enquiry

Processes shown in figure 1

For automation we require Firebug and Fire Path. Firebug is an extension for the Mozilla Firefox browser that allows us to debug and inspect html, css, the document object model and JavaScript[3].

Firebug can be saved as bookmark or it can be embedded into our web page in JavaScript.



Figure 1: list of processes[6]

Figure 2 shows the firebug toolbar[5]-

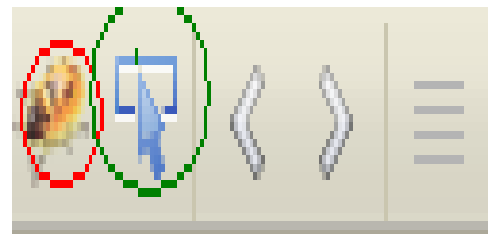


Figure 2:firebug toolbar

Red color shows the firebug button which is used as:-  
Hide firebug  
Deactivate firebug

Green color shows the inspect element:-inspect element is used to select the x path of that element which has been selected to automate.

This figure shows how to select the element and getting the x path using inspect element.



**c. donor\_registration(name of excel sheet):**

It contains mainly four columns shown in figure 6 such as

SNO. Contains 1 value

Data columns can be vary according to link

For example we want to go on donation detail link. But firstly we have to click on HIS Services then Services then blood bank after that we get donation detail , it means there are four column of data data1, data2, data3 and data4.

Data1 contains that value which has been found by inspect element, we click on inspect element then select the particular link so we get the value of that link using x-path, and write that value in this column.

For example in our process, value of HIS Services is 2, Services is 3, Blood bank is 4 and donation detail is 5.

Data1 contains value-2

Data2 contains value-3

Data3 contains value-4

Data4 contains value-5

**B. Donation details contains many sub process such as:**

Donor Registration

Bag entry

Component separation

Donor detail modification

Pediatric Bag Preparation

PVC/Tube no. Modification

Sample Collection And Donation

If we want to go on link donor registration then we use loop column

Loop contains that value which has been found by inspect element we click on inspect element then select the particular link so we get the value of that link using x-path, and write that value in this column.

For example value of donor registration is 6.

Runmode contains Y value

Result1 value is automatically generated when sheet is in running mode.

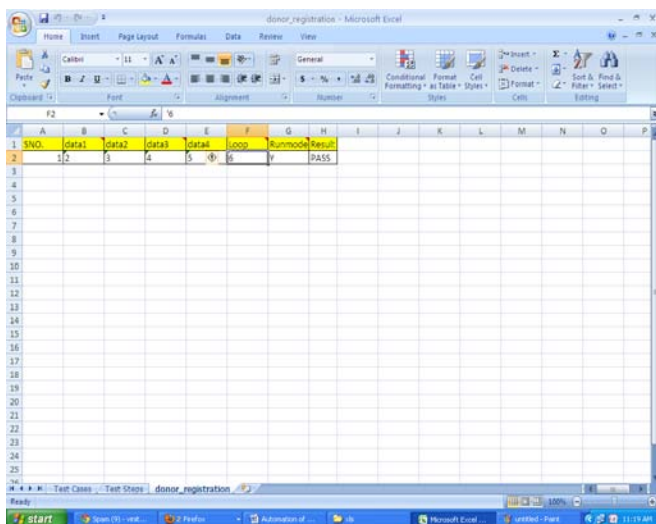


Figure 6:donor\_registration sheet

These three sheets are combined in one excel sheet.

We have to make another excel sheet which is known as suite.

There are three columns in this excel sheet shown in figure 7.

TSID  
Description  
Runmode

TSID contains name of all excel sheets which has been made for particular module as an example

There are four excel sheet for blood grouping module  
blood\_grouping

grouping\_confirm

patient\_grouping

patient\_groupConfirm

These names are written in TSID column.

Description contains blank field

Runmode contains two values Y or N depends on condition

If we want to run a particular sheet then we write Y in Runmode along with that sheet which we want to run.

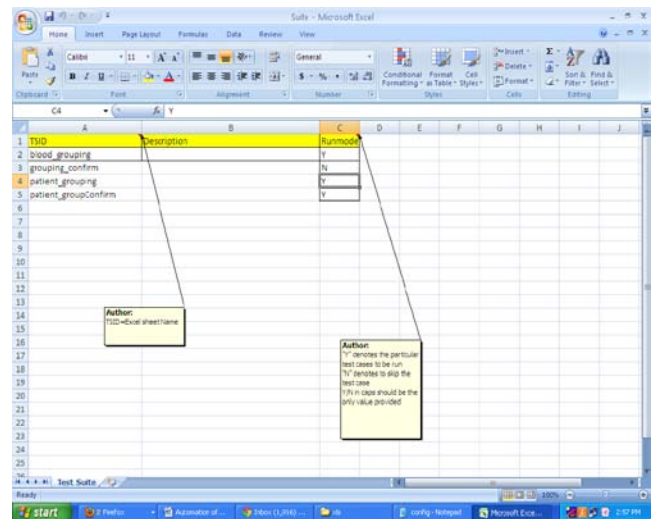


Figure 7: Suite

**Step 2**

**C. Making Properties File:**

After that we make two properties files in notepad Or file

Config file

Or properties file is used to contain all x-path of elements shown in figure 8 which are automated for particular page like

- Textboxes
- Buttons
- Dropdown
- Calenderimage
- Click
- Link
- Checkbox

Object keywords are associated with this or file such as:-  
For example

donorregistration\_donorname=html/body/table/tbody/tr/t d[2]/table/tbody/tr/td/form/table[2]/tbody/tr/td[2]/table/tbody /tr/td/table[4]/tbody/tr[2]/td/div/table/tbody/tr/td/table[1]/tbo dy/tr[2]/td[1]/div/input

donorregistration\_donorname is a value which is written in object column .

html/body/table/tbody/tr/td[2]/table/tbody/tr/td/form/tabl e[2]/tbody/tr/td[2]/table/tbody/tr/td/table[4]/tbody/tr[2]/td/div /table/tbody/tr/td/table[1]/tbody/tr[2]/td[1]/div/input is a x- path for this textbox.



This value is written in textbox field of or properties file, because donor name is written in textbox.

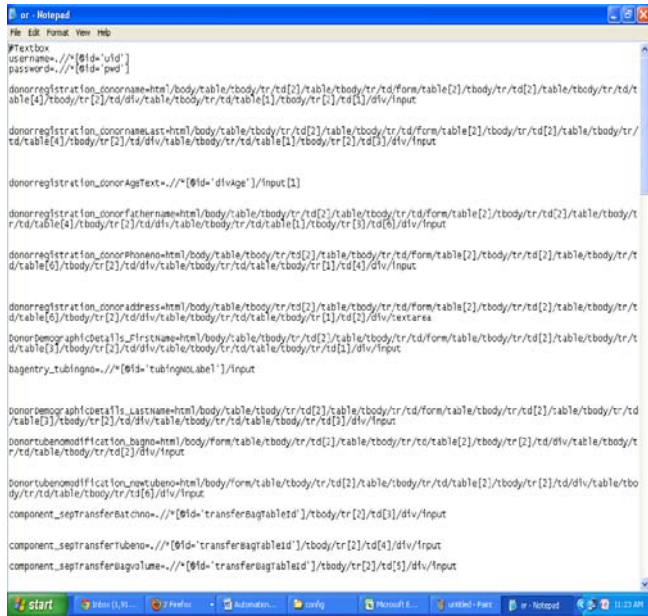


Figure 8:-or properties file

Config properties file contains url name, user name, password, browser type of that software shown in figure 9 which are going to be automated.

For example url of our software is- testSiteURL=http://10.226.1.58:9082/BLDAHIMS/startup/loginAction

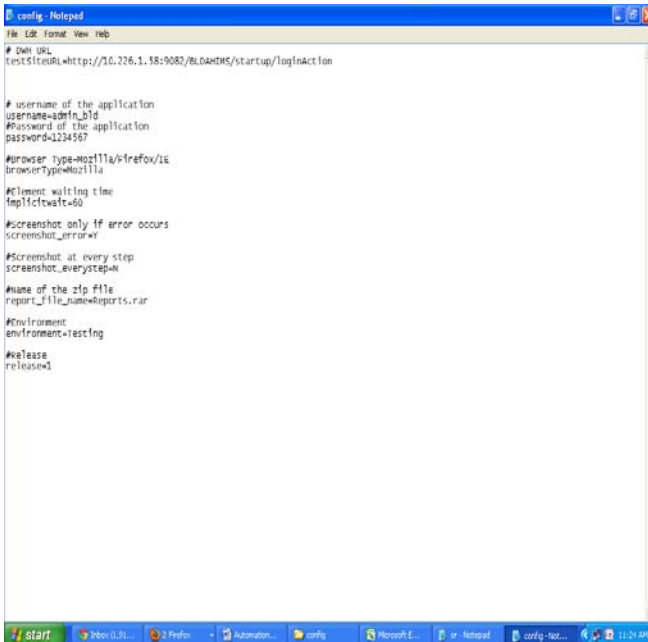


Figure 9: config properties file

There is an executable file which is double clicked to run the selenium sheets shown in figure 10.

**Step 3**

**D. Making Hierarchy of folders in which these files are saved:**

We make main folder which contains selenium automation tool executable file and another folder: for example runtime folder.

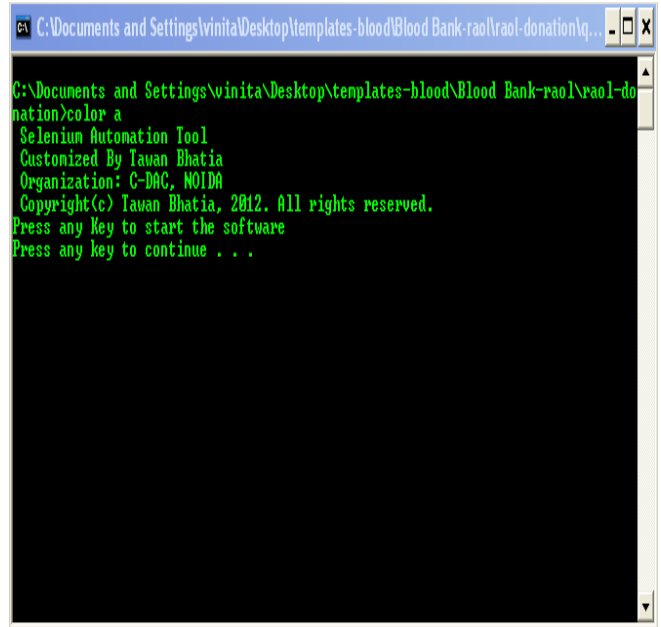
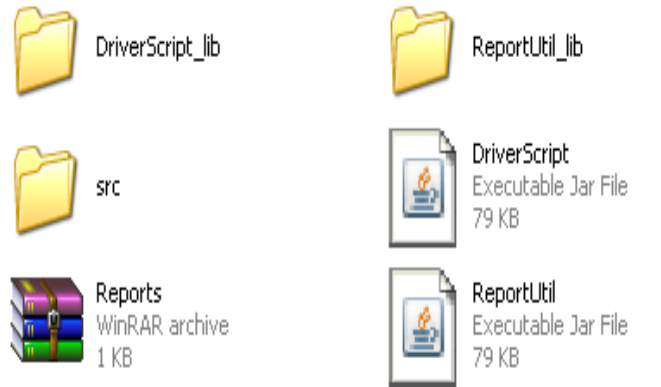


Figure 10: selenium automation executable file

Runtime folder contains all these folders and executable jar file.



**E. Src folder:**

There is a source folder name src which contains two folders as an example

Config

Xls

Config folder contains config and or properties files  
Xls folder contains all excel sheets related to the particular module which is automated.

DriverScript is executable jar file.

There are three java files which are used.

DriverScript

Keywords

Constants

DriverScript is main java file which link the keywords and constants java file.

In keywords file all keywords are defined as method like

clickButton for click on button

writeInput for entering some value

In these methods we write the method to take the x-path from object value and mapped it to keyword so that value is automatically entered in textbox.

In constants java file all constants are defined such as public static String TEST\_SUITE\_SHEET = "Test Suite";

```
public static String Test_Suite_ID = "TSID"; public static  
String RUNMODE_YES = "Y";
```

So that DriverScript jar file is used because it is main java file.

ReportUtil executable jar file is used to generate the corresponding reports related to the particular sheet which is automated.

#### **Step 4**

#### **F. How to Run The Sheet:**

Firstly open the xls folder for particular module which you want to run.

Open the suite of that sheets and write Y in Runmode of particular sheet which you want to run.

After that open the selenium automation executable file and press any key to continue.

Then automation of particular module is started.

## **II. CONCLUSION**

To increase the speed, efficiency and effectiveness of the software, automation testing is the best way. Selenium automation tool is used to improve the flexibility of the software testing. Automation testing is the best approach than the manual testing [2].

## **III. REFERENCES**

- [1]. <http://support.smartbear.com/articles/testcomplete/manager-overview/>
- [2]. [http://en.wikipedia.org/wiki/Selenium\\_\(software\)](http://en.wikipedia.org/wiki/Selenium_(software))
- [3]. <http://getfirebug.com/whatisfirebug>
- [4]. <http://selenium-by-arun.blogspot.in/2012/11/6-how-to-use-firepath.html>
- [5]. <http://www.wikihow.com/Find-XPath-Using-Firebug>
- [6]. [http://10.0.1.60:9082/BLDAHIMS/startup/loginAction\(intranet of CDAC\)](http://10.0.1.60:9082/BLDAHIMS/startup/loginAction(intranet of CDAC))