

# Contents

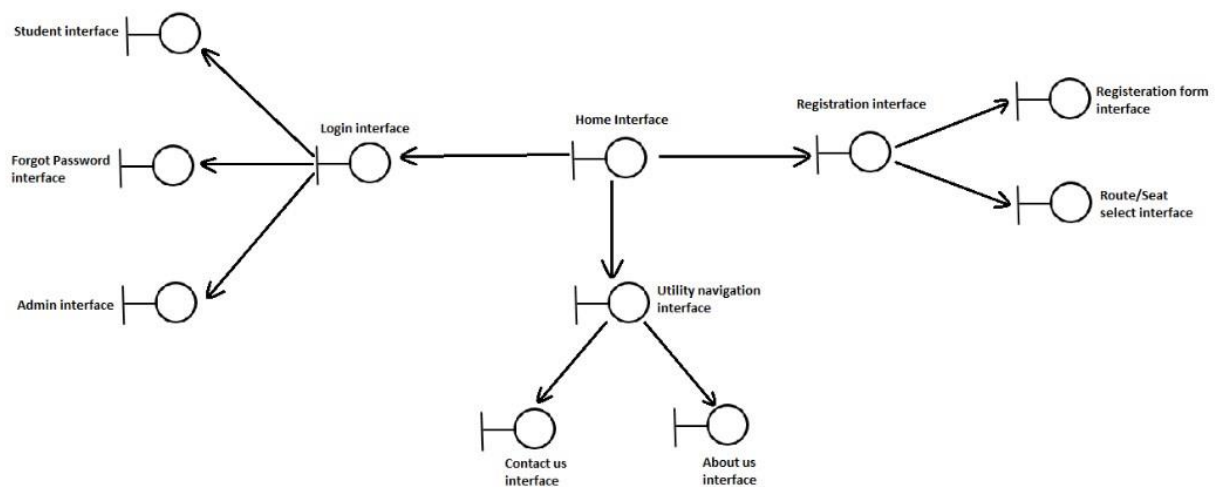
<b>PROJECT OVERVIEW:</b> .....	1
<b>WEBPAGES:</b> .....	1
<b>1- NETWORK LOAD TESTNG</b> .....	1
<b>2- PERFORMANCE TESTING:</b> .....	3
<b>3- VALIDATION TESTING</b> .....	5
<b>4- FUZZING</b> .....	6

## TESTING REPORT

### PROJECT OVERVIEW:

Our website is made to facilitate NUST students in registering for NUST transport system. Students can register online, request for route availability, and after registration, have a portal where they can log in to view their route, van and driver's detail. This website also benefits Admin of the system to keep record of routes, vans, drivers, students and feedbacks given by students.

### WEBPAGES:

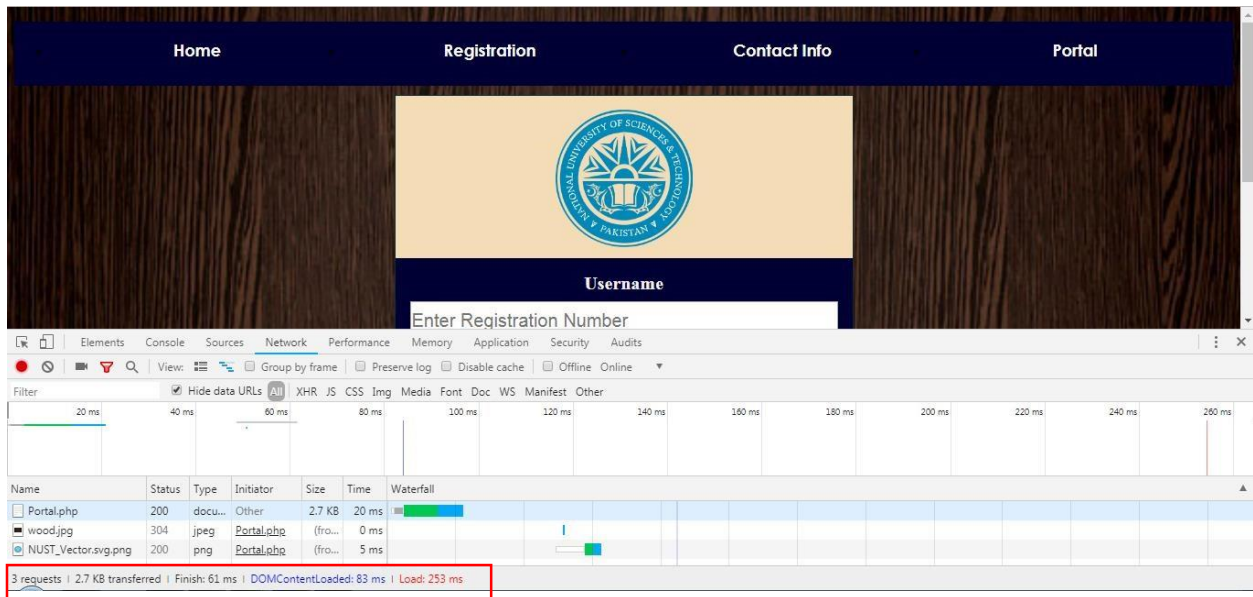


The webpages of main importance upon which the performance and efficiency of the site depends are: Login, Registration, Route request, Student Portal, Feedback, Admin Portal (add, delete, view) pages.

## 1- NETWORK LOAD TESTNG

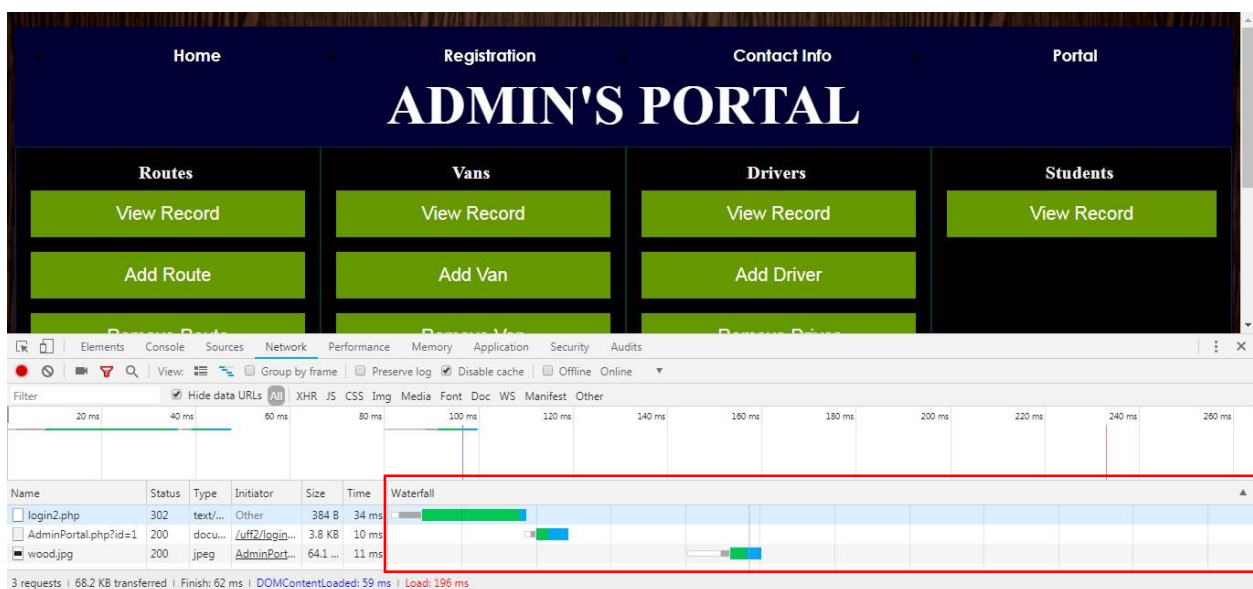
### TOOL: CHROME DEVELOPER'S TOOLS – NETWORK

The Network tab of Dev tools is useful in analyzing the network load of individual webpage. It shows the total requests generated by the page, time taken by each request. Below we are testing the login page Portal.php:



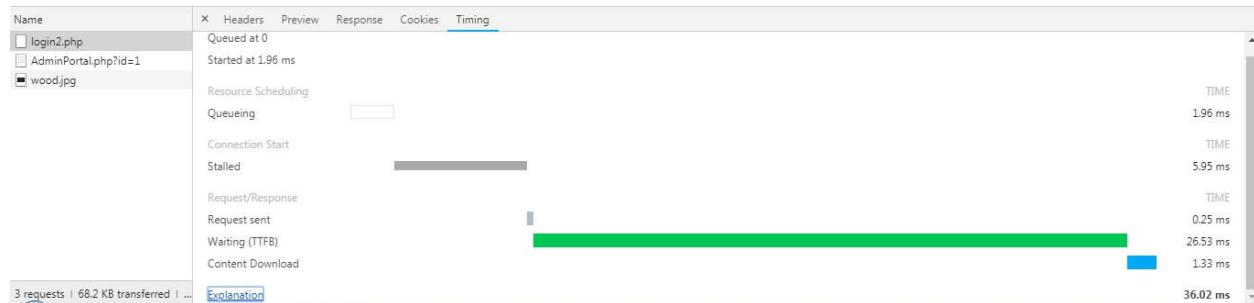
At the bottom of the Network tab is a summary of the page load process. This summary includes the total number of requests i.e. 3 requests, the total size of the entire page including its resources (2.7 KB), and a breakdown of the time spent rendering the page in the browser. DOMContentLoaded is time for page to appear loaded as perceived by user, and it is 83ms. The whole Load time is 253ms; it is more as it also includes the time taken by the background JavaScript actions.

Now we enter credentials and log in as admin. We enter page AdminPortal.php. The network load is as below:



The Network tab shows that Load time is 196ms. The waterfall region is used to view the timing of requests in relation to one another. We can see that much time

was taken by login2.php request, which is the script that validates the login information entered by user. Clicking on the request shows its details as below:



The request was stalled for 5.95ms. The reason for stall is from browser side; maybe there were higher priority requests before, etc. Most of time, 26.53ms is gone in waiting state by request. This is the state where browser is waiting for response. Hence 26.53ms were taken by the server to validate login information and return response to browser. Hence this time is due to the server side, and not due to website.

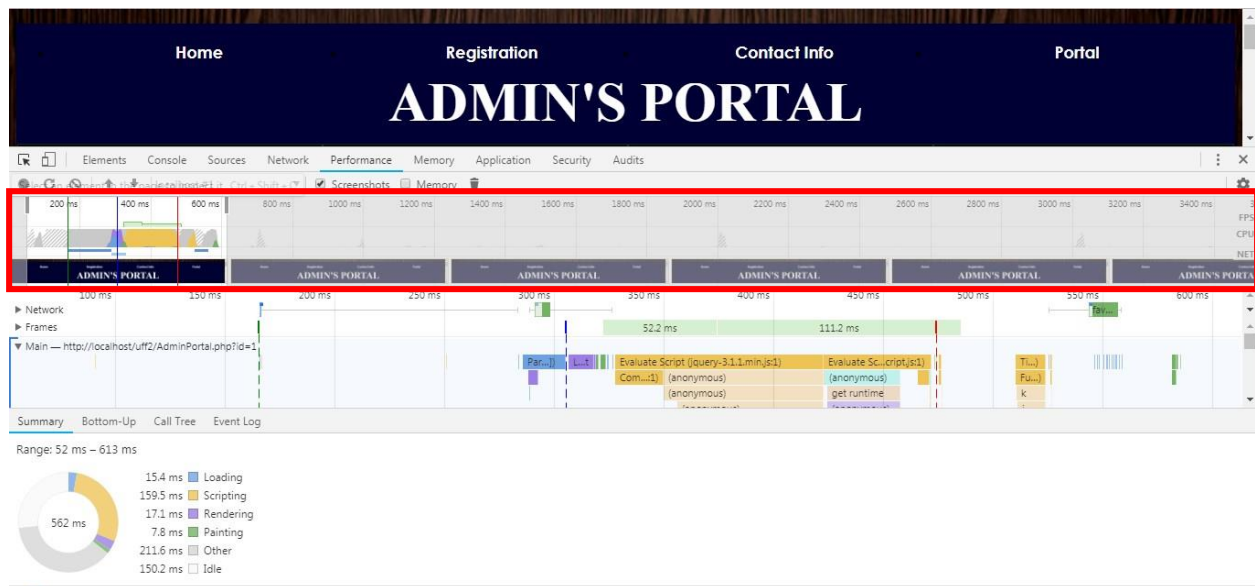
## **RESULT:**

There have not been observed any long loading time. Any waiting s due to the server side performance.

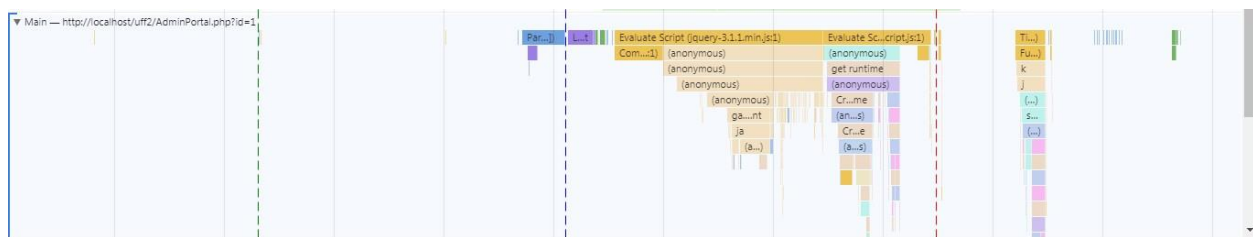
## **2- PERFORMANCE TESTING:**

### **TOOL: CHROME DEVELOPER'S TOOLS – PERFORMANCE**

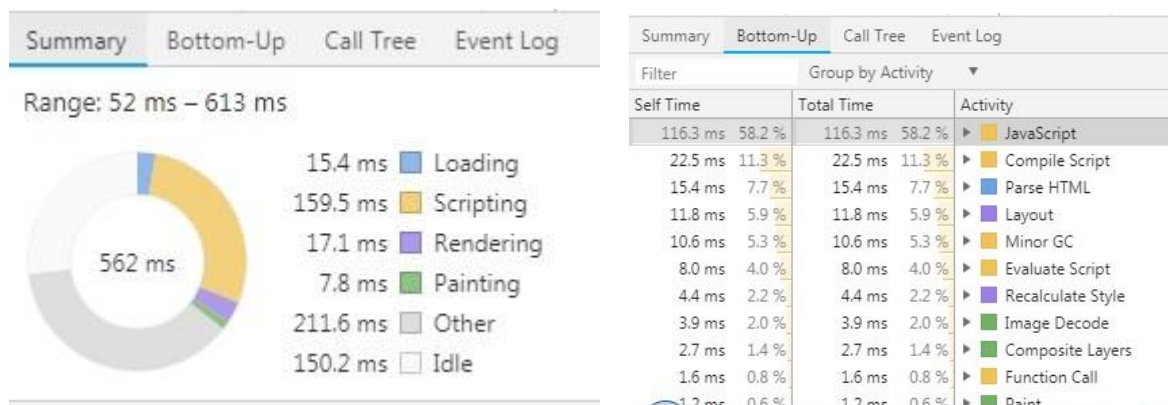
The Performance tab is used to analyze the runtime performance. Runtime performance is how your page performs when it is running, as opposed to loading. This tool animates the page in frames per second FPS. We have analyzed AdminPortal.php. The highlighted region is the animation in FPS recorded by the tool.



In the Main section, DevTools shows you a flame chart of activity on the main thread, over time. The x-axis represents the recording, over time. Each bar represents an event. A wider bar means that event took longer. The y-axis represents the call stack. Hence, the yellow bar i.e. Evaluate script bar activity took the longest.

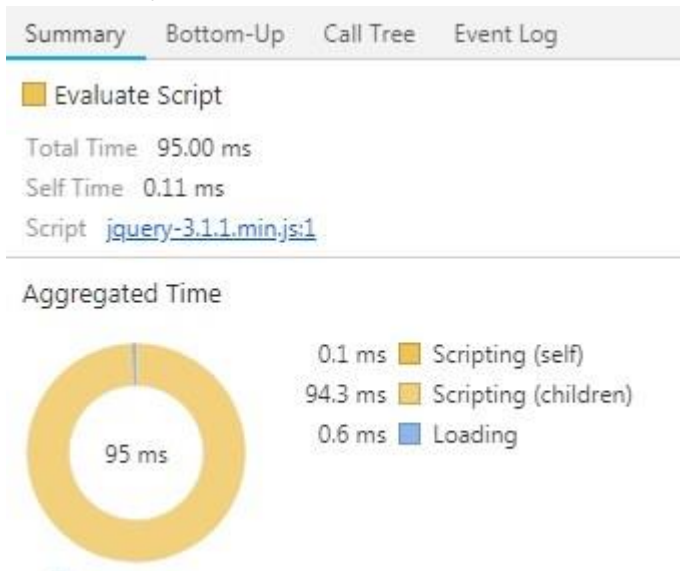


We can see the summary of activities in Summary Tab. Also Bottom-up Tab shows activity in order of longest to shortest.



**RESULT:**

Scripting takes most of the time. It is inevitable. As it is the parent process, necessarily called to run other children functions on the page.



### 3- VALIDATION TESTING

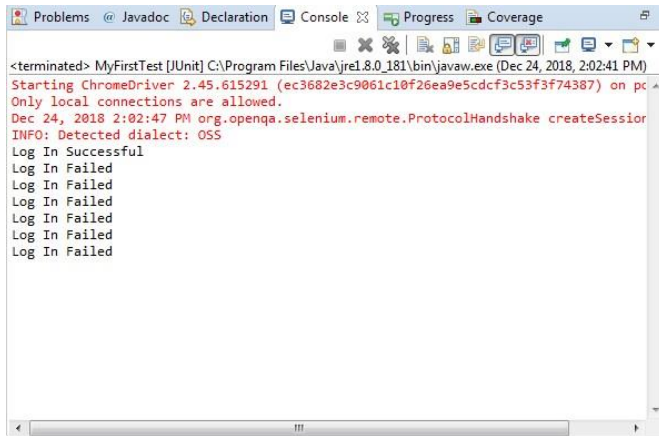
#### **TOOL:** SELENIUM WEBDRIVER

Selenium WebDriver is a tool for automated testing of browsers. It facilitates easy identification of elements on webpage, inputting data, and validation. We have used Selenium WebDriver to validate the login page i.e. we provided it with valid inputs and also invalid inputs and then Selenium ran automated tests on the page.

Selenium can also be used to input mass random data, but we used Selenium just for validating login functionality. (The code is included in the submission).

#### **RESULT:**

Selenium has validated login functionality of our website against the data inputted by us.

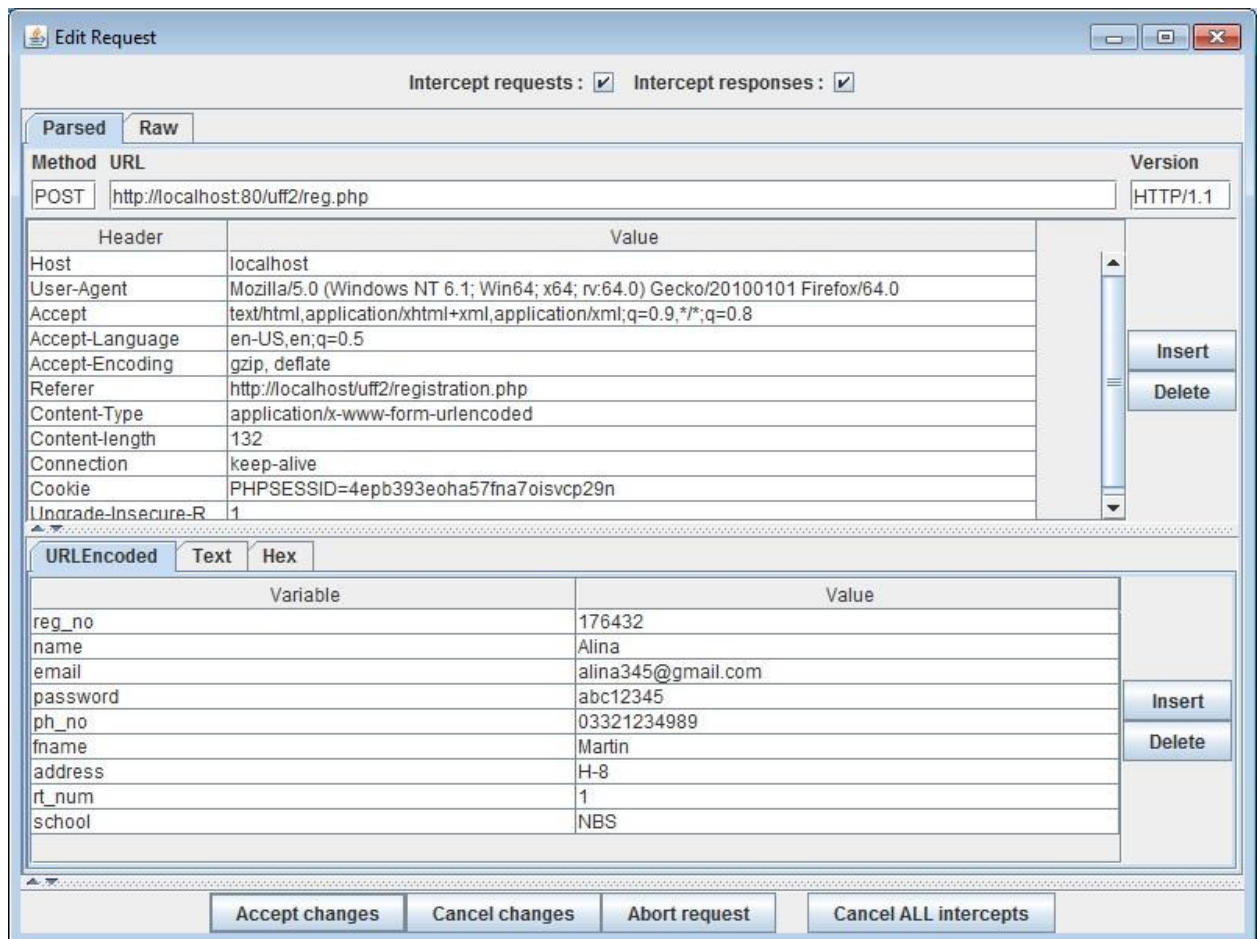


## 4- FUZZING

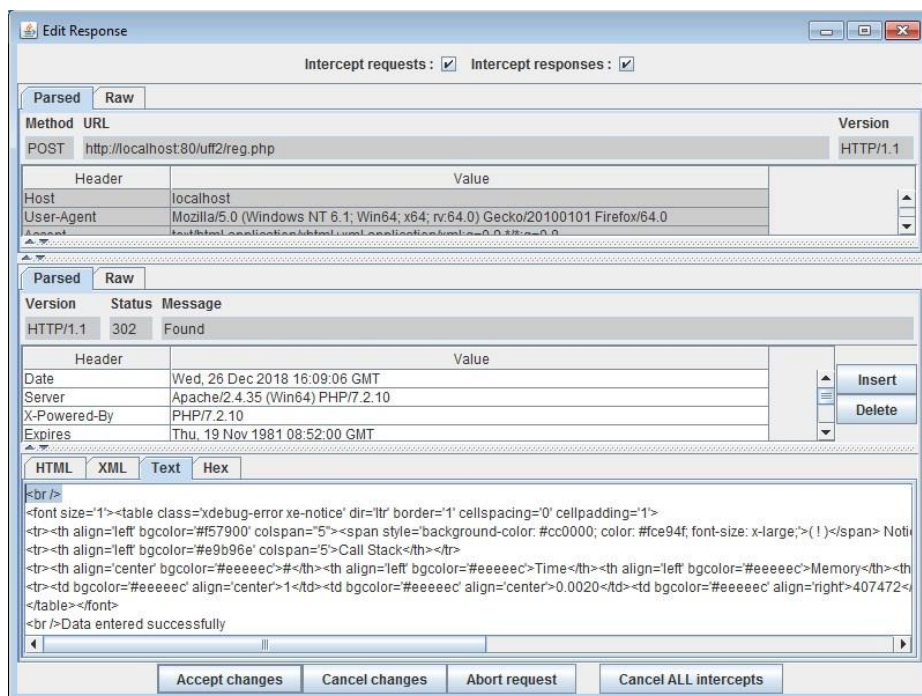
### TOOL: WEBSCARAB

WebScarab has been used for fuzzing. Its parameter fuzzer automatically substitutes parameter values hence incomplete parameter validation can be exposed. We performed fuzzing on registration form. We started with allowing WebScarab to intercept GET and POST requests for the registration form. Then it starts filling out the form. WebScarab also allows us to review and modify request created by the browser before they are received by the server (when we enable this). For example, here we modified the request to contain proper school, Islamabad sector, and phone number as we desired:





WebScarab also shows response.





Here is overall input, success, and response messages.

ID	Date	Method	Host	Path	Parameters	Status	Origin	Set-Cookie	Cookie	Scripts	Comments
35	2018/12/26...	GET	http://localhost:80	/utf2/registration.php		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
36	2018/12/26...	GET	http://localhost:80	/utf2/wood.jpg		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
37	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
38	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
39	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
40	2018/12/26...	GET	http://ciscobinary.openh264.org:80	/openh264-win64-0410d336...		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
41	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
42	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
43	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
44	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
45	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
46	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
47	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
48	2018/12/26...	POST	http://localhost:80	/utf2/reg.php		302 Found	Proxy	PHPSESSI...		<input type="checkbox"/>	<input checked="" type="checkbox"/>
49	2018/12/26...	GET	http://localhost:80	/utf2/Portal.php		200 OK	Proxy		PHPSESSI...	<input type="checkbox"/>	<input checked="" type="checkbox"/>
50	2018/12/26...	POST	http://localhost:80	/utf2/reg.php		200 OK	Proxy		PHPSESSI...	<input type="checkbox"/>	<input checked="" type="checkbox"/>
51	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
52	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
53	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
54	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
55	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
56	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
57	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
58	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
59	2018/12/26...	GET	http://localhost:80	/utf2/registration.php		404 Not Fo...	Proxy	PHPSESSI...		<input type="checkbox"/>	<input checked="" type="checkbox"/>
60	2018/12/26...	GET	http://localhost:80	/utf2/registration.php		200 OK	Proxy	PHPSESSI...		<input type="checkbox"/>	<input checked="" type="checkbox"/>
61	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>
62	2018/12/26...	GET	http://detectportal.firefox.com:80	/success.bt		200 OK	Proxy			<input type="checkbox"/>	<input checked="" type="checkbox"/>

Data was registered almost 635 times. The amount of data registered as shown by database:

id	s_name	password	email	ph_no	father	address
122345	Ahmad	43d3c95a938b6c3217e2a105569d03c6bf4acabe1ff5b4aba6...	ahmad@gmail.com	0000000000	Saif	G-6

And this is how the data looks in database. (Passwords are encrypted).

idStudent	s_name	password	email	ph_no	father	address
122345	Ahmad	43d3c95a938b6c3217e2a105569d03c6bf4acabe1ff5b4aba6...	ahmad@gmail.com	0000000000	Saif	G-6
123677	Hunain	43d3c95a938b6c3217e2a105569d03c6bf4acabe1ff5b4aba6...	hunain@gmail.com	0000000000	Akhtar	G-6
155432	John	c63bf1f55f61c37e548afb22c4b7959b30044e73acabb42eb...	john123@gmail.com	0000000000	George	F-7
176432	Alina	adf2def1123d44547b22966064c1387253e8da65317983eaa2...	alina345@gmail.com	0000000000	Martin	H-8
176558	Sana Mumtaz	dde57c0646fab522fe21fc57db7fa0bfb9de19c12999f0926...	msameen@gmail.com	0000000000	Mumtaz Khokhar	Pakistan
191234	Maliha	43d3c95a938b6c3217e2a105569d03c6bf4acabe1ff5b4aba6...	msameen@gmail.com	0000000000	Kareem	G-6
191324	Ambreen	d4dcc49ac4a1ec2a39842954419dfa52a05ee2df1aa5488fa2...	ambreen@gmail.com	0000000000	Shaheer	F-7

## RESULT:

WebScarab allowed easy fuzzing on registration page.