Internship Program - Cyber Security - Group 2

Name : Karthik N P

USN : 4MT19CS067

1) Exploiting DVWA

This report describes how to access the Damn Vulnerable Web Application (DVWA) on Kali Linux and demonstrate some of its vulnerabilities. The user enables superuser privileges, scans the network to find the IP address of the Metasploitable machine running DVWA, and logs in. The user sets the security level to "low" and demonstrates SQL injection vulnerabilities, reflected and stored cross-site scripting (XSS) vulnerabilities, and an insecure file upload vulnerability that allows accessing uploaded files.

Provide the super user privilage using the command

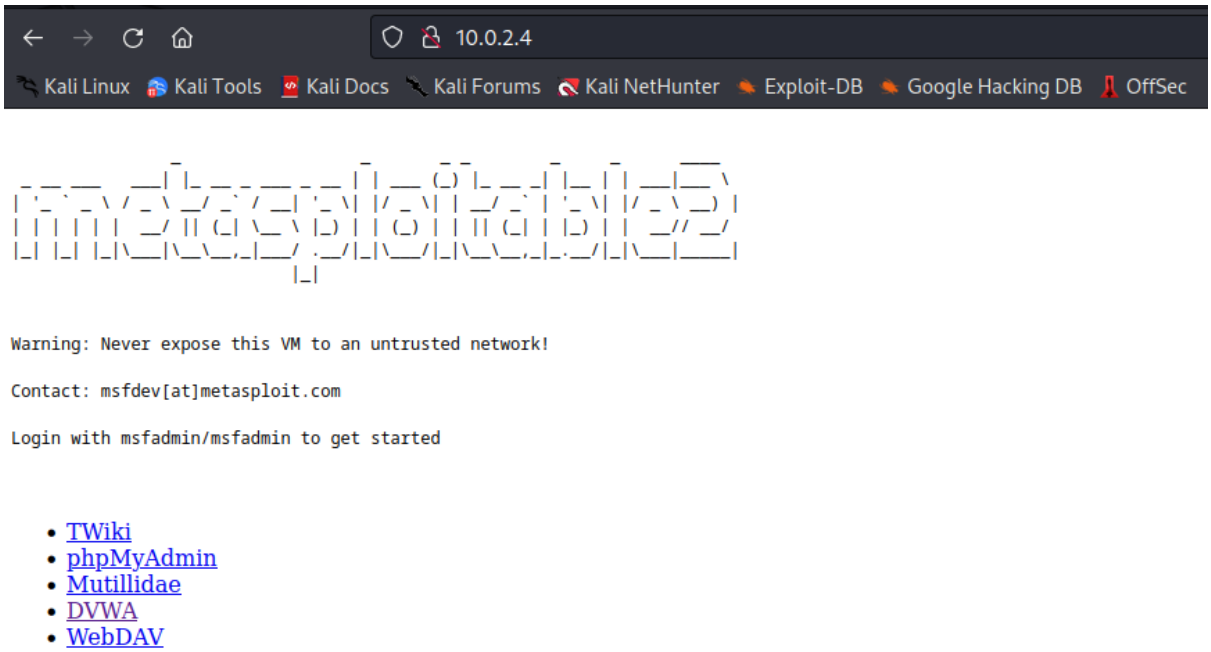
$sudo su and enter the password of kali

start the metasploitable machine

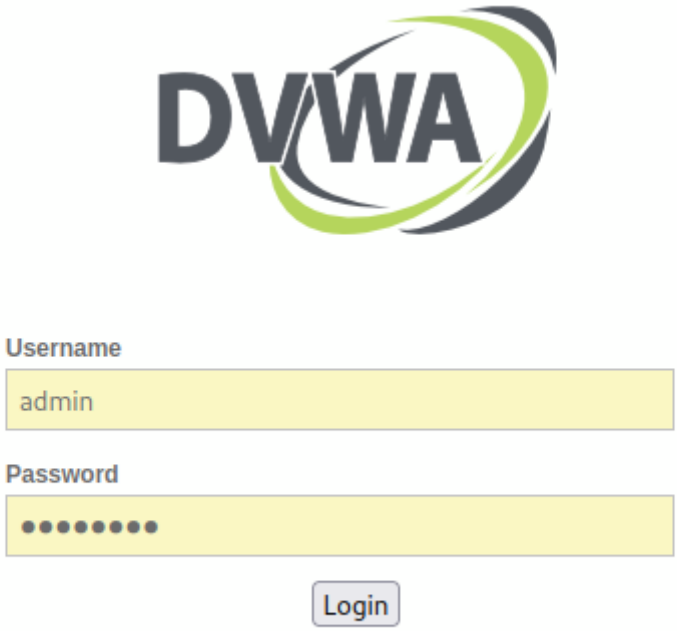
scan for the available network using the command **#nbtscan** and provide the ip address range

```
┌──(kali㉿kali)-[~/Desktop]
└─$ sudo su
[sudo] password for kali:
┌──(root㉿kali)-[/home/kali/Desktop]
└─# nbtscan  10.0.2.0/24
Doing NBT name scan for addresses from 10.0.2.0/24

IP address       NetBIOS Name     Server    User             MAC address
-------------------------------------------------------------------------------
10.0.2.4         METASPLOITABLE   <server>  METASPLOITABLE   00:00:00:00:00:00
10.0.2.255       Sendto failed: Permission denied

┌──(root㉿kali)-[/home/kali/Desktop]
└─#
```

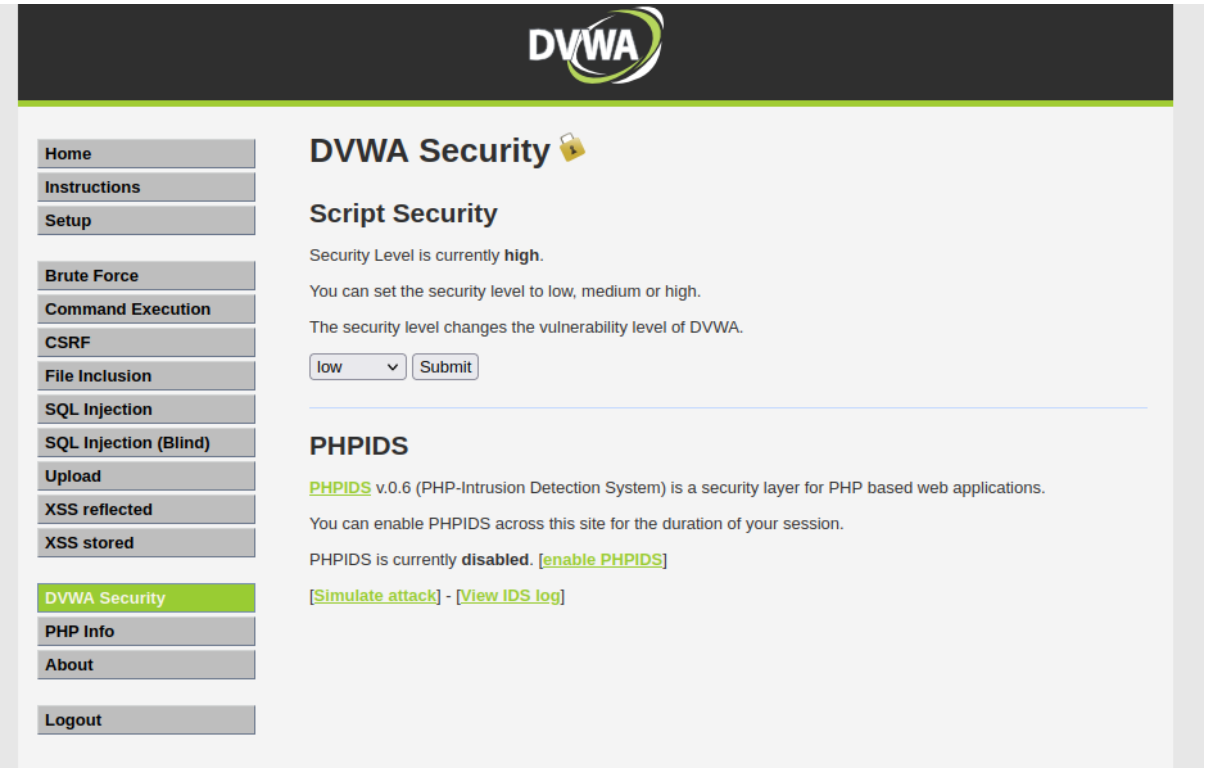
now you have the ip address of the metasploitable search that ip address in the browser.



Then select the **DVWA** option which will be there in the window. Then login to DVWA by providing username as **admin** and password as **password**.

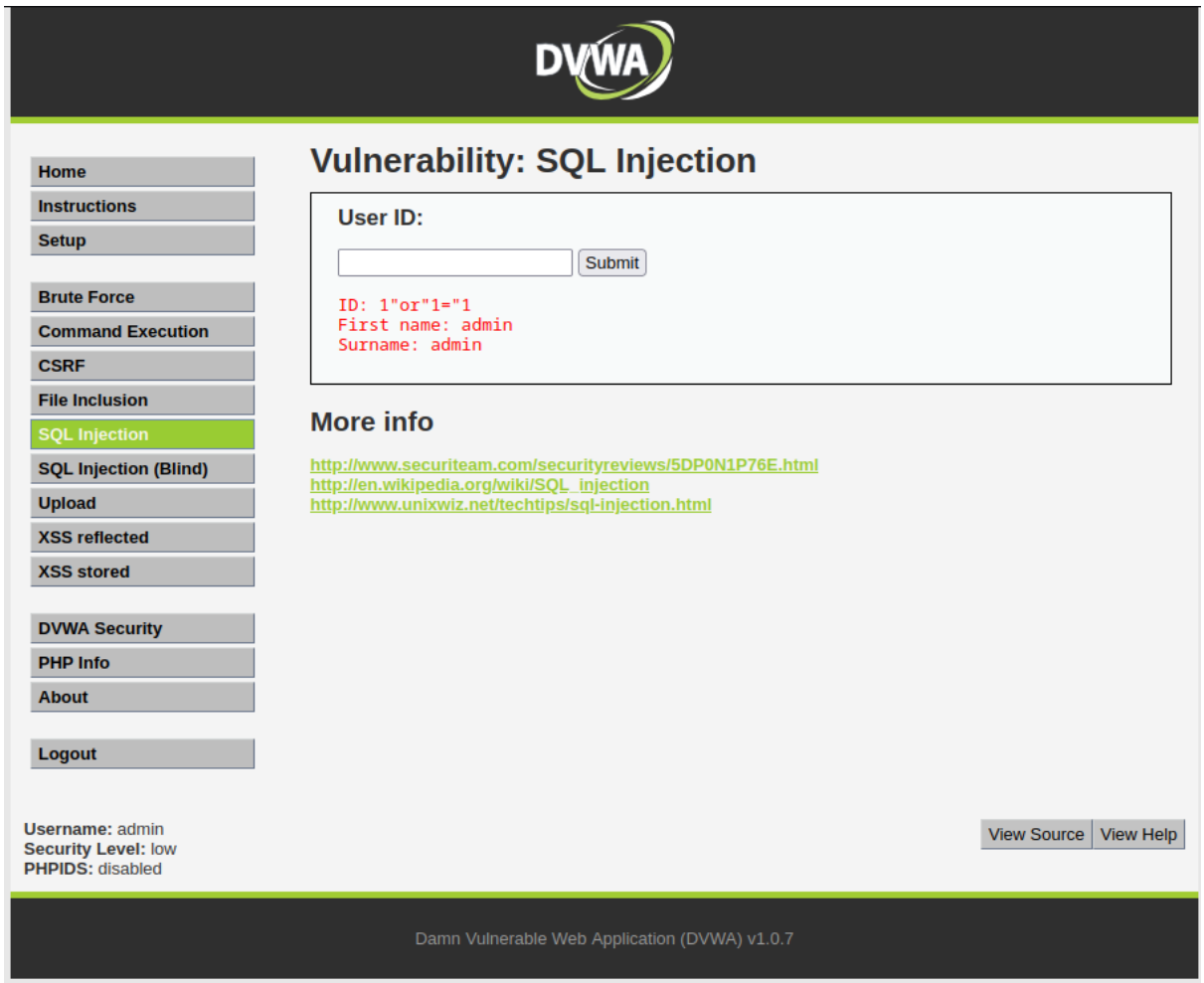


After login then make sure that **DVWA Security** is set to **low.**



1a) SQL injection on DVWA

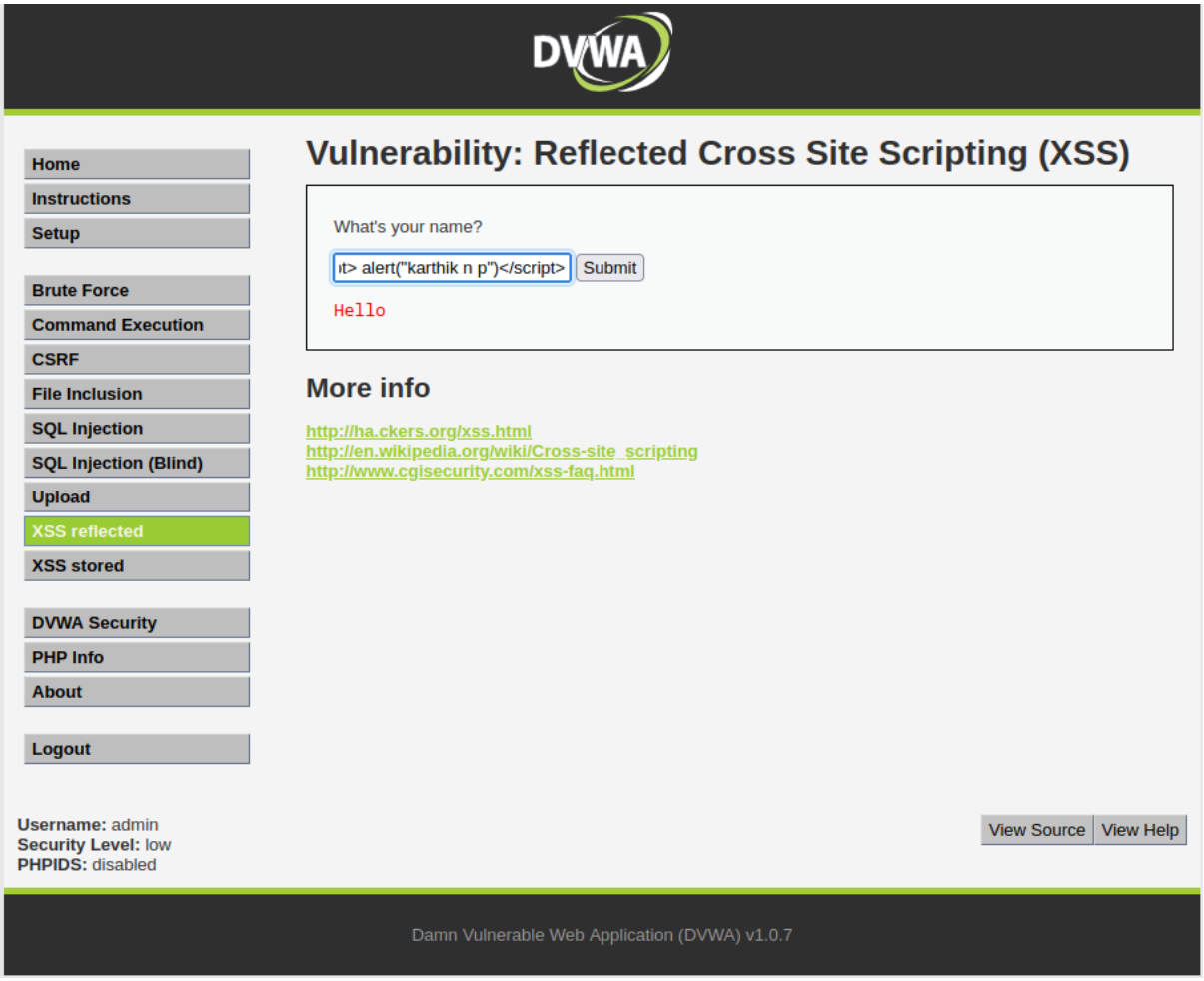
We can use SQL Injection option then we enter a query **1”or”1=”1** in the provided field after that we can see the information provided in that field.



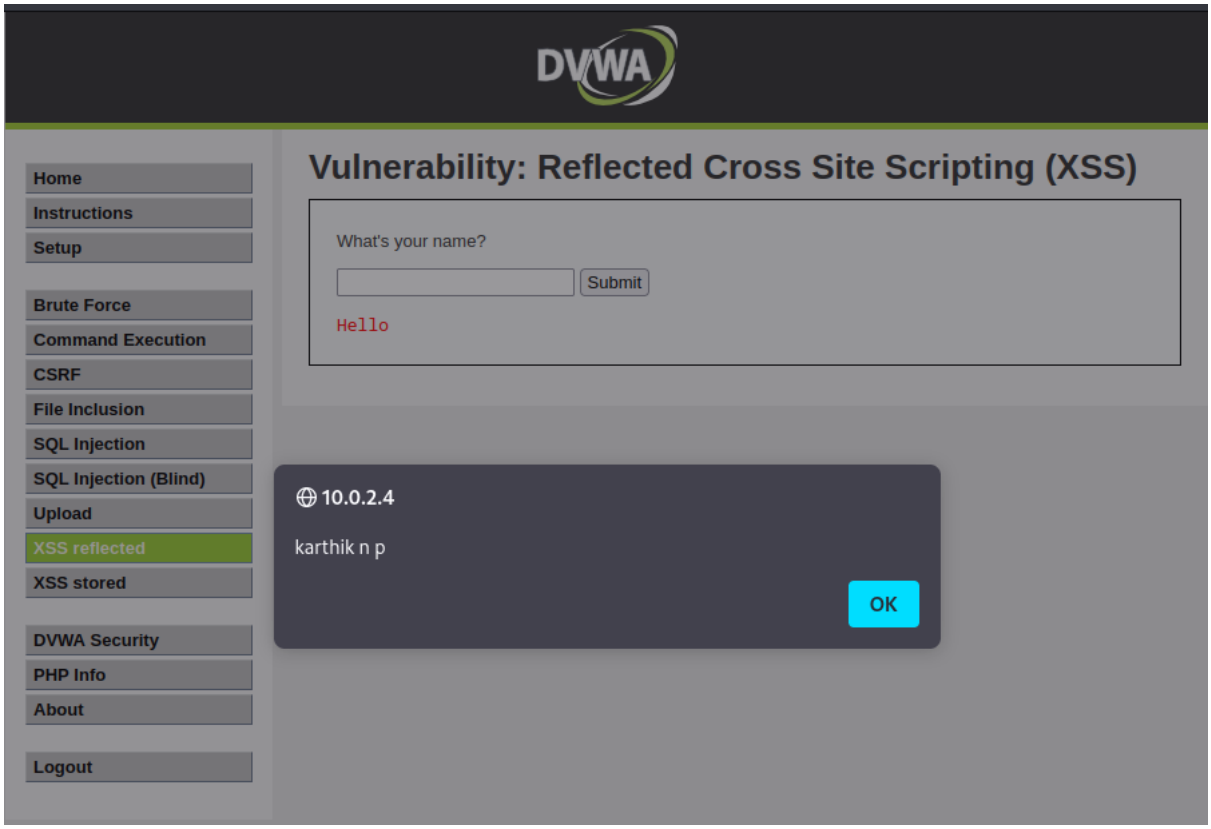
Similarly we can use the SQL Injection (Blind) for the same purpose.

1b) Perform Cross-site scripting on DVWA

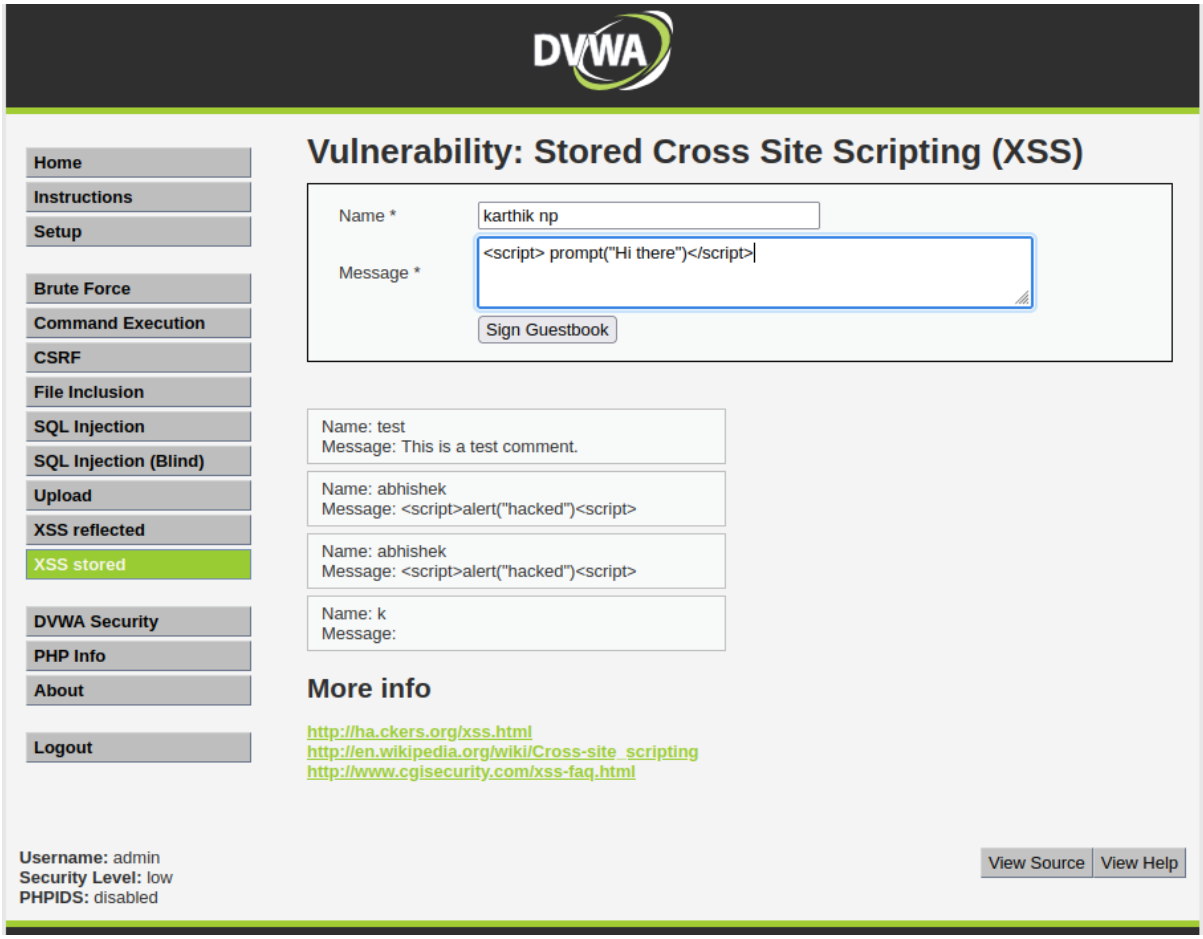
XSS reflected option is used to display the message on the screen whatever is enterd in the field provided here we use the **<script>alert(”karthik n p”)</script>** command to display the text.

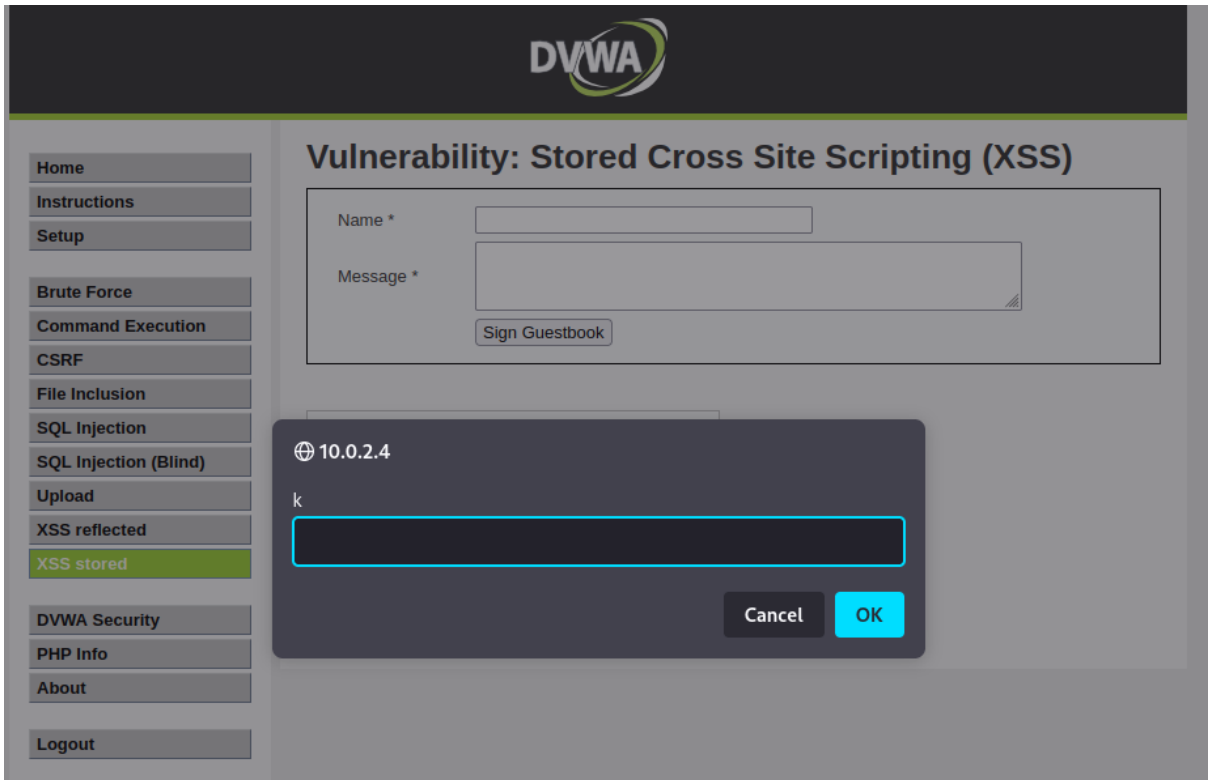


So it pop up a alert message by displaying the message provided in the alert command.



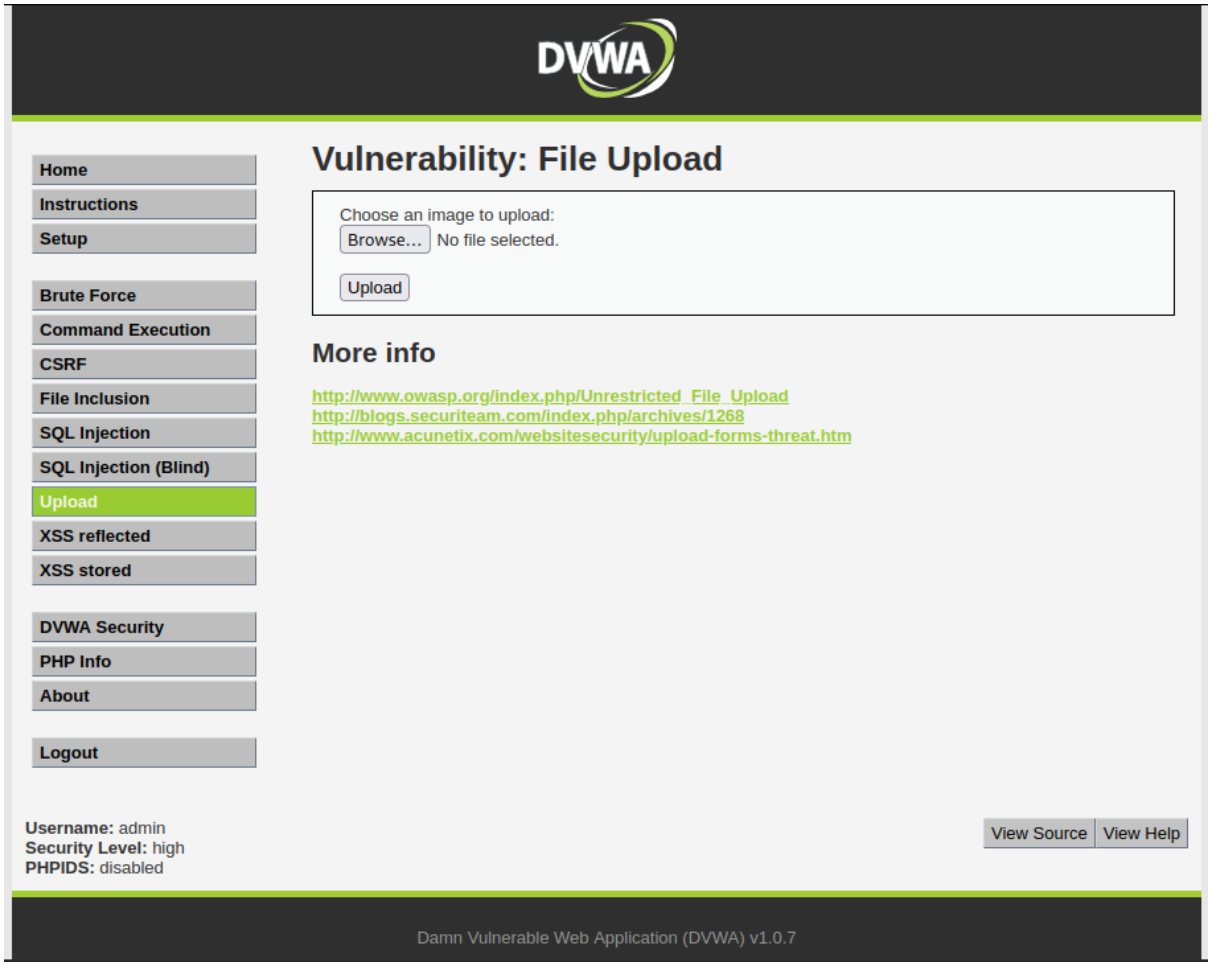
The difference between **XSS reflected** and **XSS stored** is that in XSS stored method we can store the procedure and can use afterwards also which is not possible in XSS reflect method.

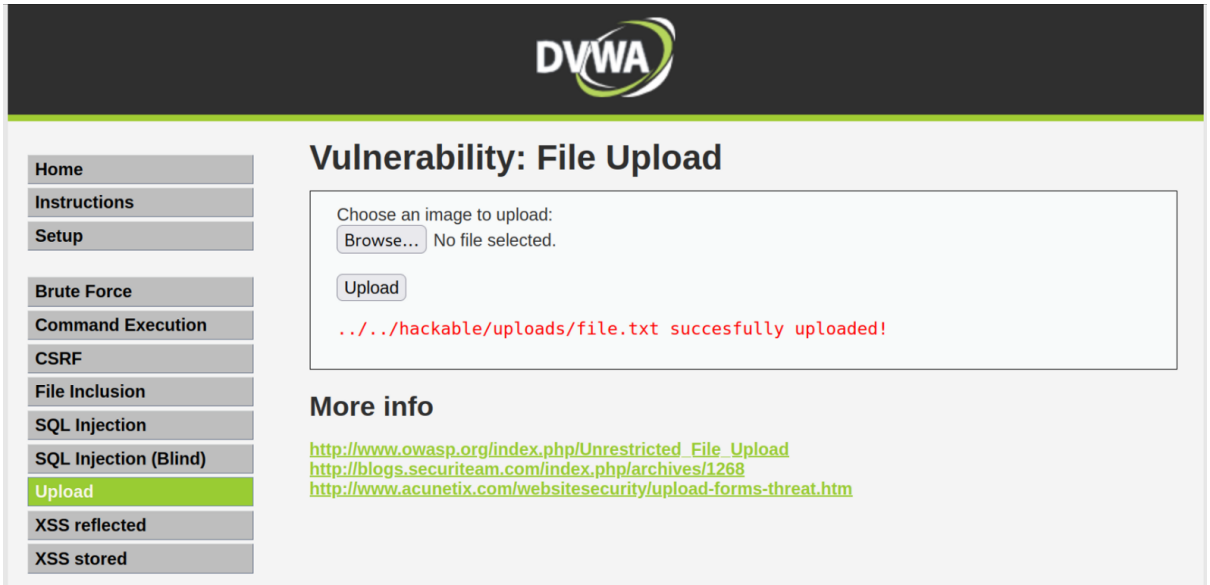

DVWA
Vulnerability: Stored Cross Site Scripting (XSS)
Home
Instructions
Setup
Brute Force
Command Execution
CSRF
File Inclusion
SQL Injection
SQL Injection (Blind)
Upload
XSS reflected
XSS stored
DVWA Security
PHP Info
About
Logout
Name *
karthik np
Message *
<script> prompt("Hi there")</script>
Sign Guestbook
Name: test
Message: This is a test comment.
Name: abhishek
Message: <script>alert("hacked")<script>
Name: abhishek
Message: <script>alert("hacked")<script>
Name: k
Message:
More info
http://ha.ckers.org/xss.html
http://en.wikipedia.org/wiki/Cross-site_scripting
http://www.cgisecurity.com/xss-faq.html
Username: admin
Security Level: low
PHPIDS: disabled
View Source
View Help


DVWA
Vulnerability: Stored Cross Site Scripting (XSS)
Home
Instructions
Setup
Brute Force
Command Execution
CSRF
File Inclusion
SQL Injection
SQL Injection (Blind)
Upload
XSS reflected
XSS stored
DVWA Security
PHP Info
About
Logout
Name *
Message *
Sign Guestbook
10.0.2.4
k
Cancel
OK

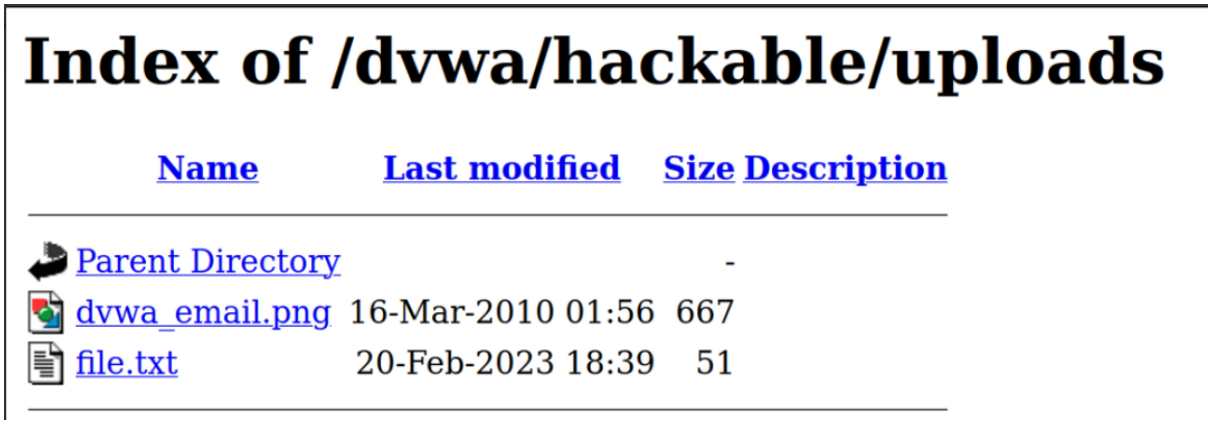
1c) Perform File upload DVWA

Upload option is used to upload a file which resides in the user machine.





After uploading the file if we change the url to **/dvwa/hackable/uploads** then we can view the contents of the uploaded file.



2a) Sniffing with wire shark in kali linux

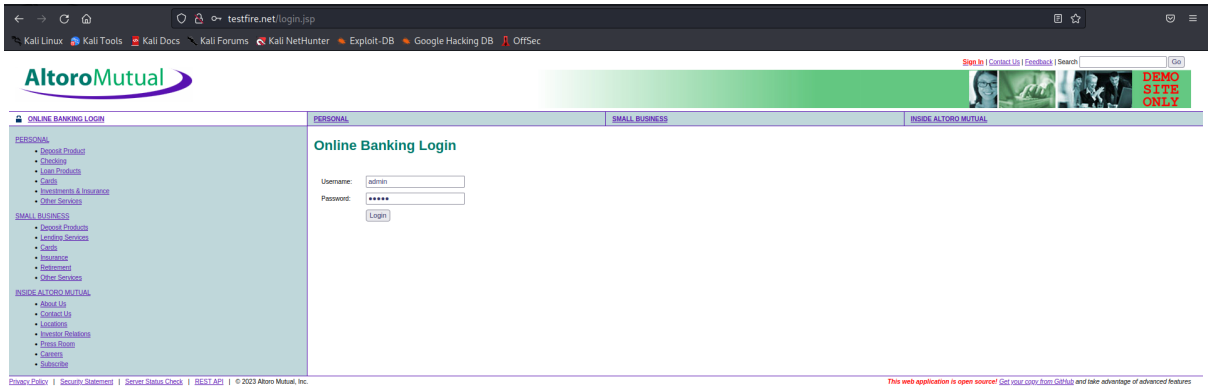
The text describes how to use Wireshark, a network packet analyzer tool, to sniff HTTP traffic and capture login credentials. It instructs the reader to log into a test website called testfire.net, then use Wireshark to analyze the HTTP traffic from logging in. By examining the HTTP POST request, the username and password used to log into the website can be discovered.

Getting super user privilage using the command

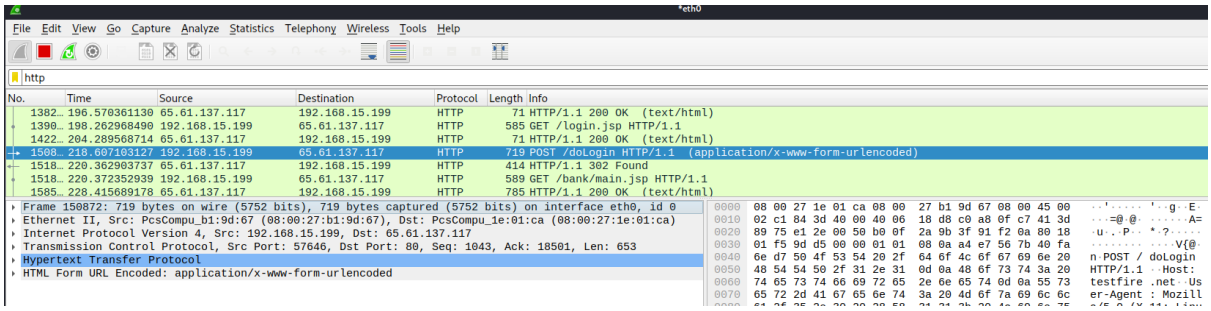
$ sudo su

Then we have to search **wireshark** in the terminal to use it

After that we have to search **<u>testfire.net</u>** in the browser inside the kali linux then we should login to the website by providing username as **admin** and password as **admin**

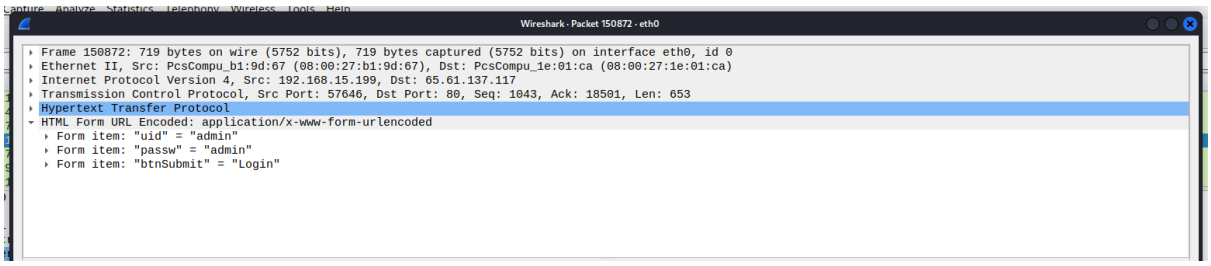


Then we come back to the **wireshark** tool which was opened previously then we search **http** in the search bar in order to get information about http connection, we should search for **http post methods** then we should doble click on that connection.



After doble clicking that connection we should search for **Hypertext Transfer Protocol** in the dropdown we can see the username and password we entered in

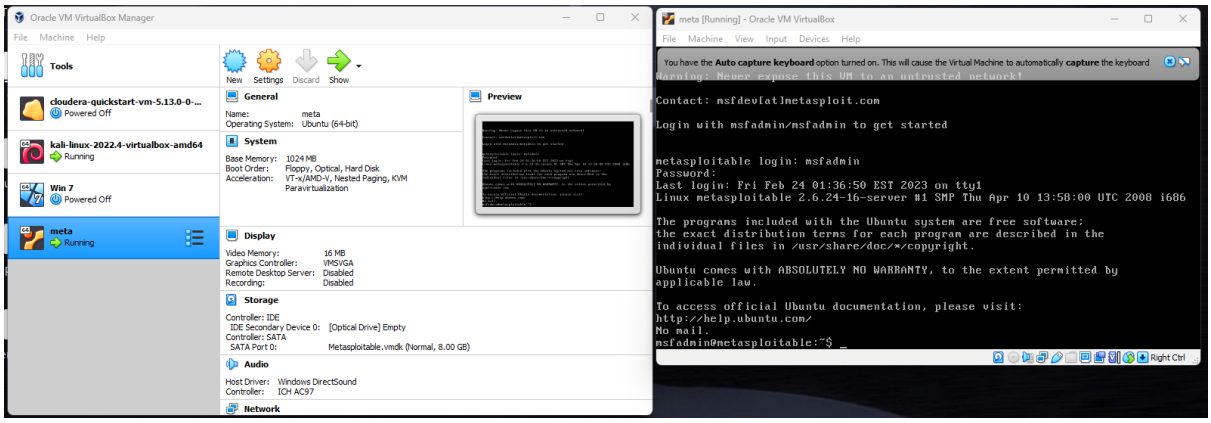
the **testfire.net.**

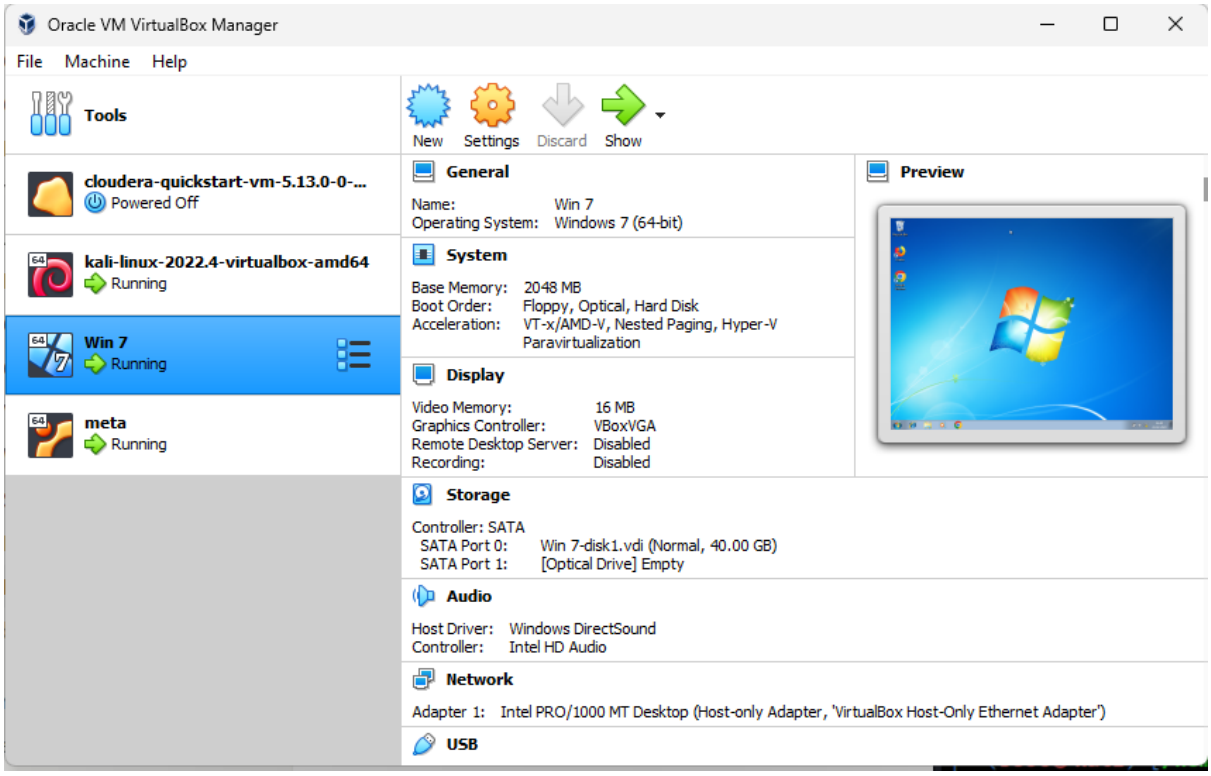


2b) Sniffing with Ettercap in kali linux

The text describes how to perform a man-in-the-middle attack using Kali Linux, Metasploitable, and Windows 7 virtual machines. The attacker scans the network to find the IP addresses of the Windows 7 and Metasploitable machines. They then use ettercap to intercept traffic between the two machines. When the user on Windows 7 logs into the DVWA website on Metasploitable, the attacker is able to see the username and password that was entered.

We set all three machine that is kali,Metasploitable and Windows 7 to **Host only adapter** and start them.





Getting super user privilage using the command

$ sudo su

then we search for the available ip addresses using the command **#nbtscan 192.168.56.0/24.**when we run that commnad we see the ip addresses of **Windows 7** and **Metasploitable** machine**.**

```
┌──(kali㉿kali)-[~/Desktop]
└─$ sudo su
[sudo] password for kali:
┌──(root㉿kali)-[/home/kali/Desktop]
└─# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.56.102  netmask 255.255.255.0  broadcast 192.168.56.255
        inet6 fe80::f041:29be:71b0:a9c5  prefixlen 64  scopeid 0x20<link>
        ether 08:00:27:b1:9d:67  txqueuelen 1000  (Ethernet)
        RX packets 1934  bytes 510575 (498.6 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 1948  bytes 169963 (165.9 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 126  bytes 12024 (11.7 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 126  bytes 12024 (11.7 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0


┌──(root㉿kali)-[/home/kali/Desktop]
└─# nbtscan  192.168.56.0/24
Doing NBT name scan for addresses from 192.168.56.0/24

IP address       NetBIOS Name     Server    User             MAC address
-------------------------------------------------------------------------------
192.168.56.1     KARTHIKNP        <server>  <unknown>        0a:00:27:00:00:14
192.168.56.103   WINDOWS7-PC      <server>  <unknown>        08:00:27:9e:37:29
192.168.56.101   METASPLOITABLE   <server>  METASPLOITABLE   00:00:00:00:00:00
192.168.56.255  Sendto failed: Permission denied

┌──(root㉿kali)-[/home/kali/Desktop]
└─# ettercap -G

ettercap 0.8.3.1 copyright 2001-2020 Ettercap Development Team
```

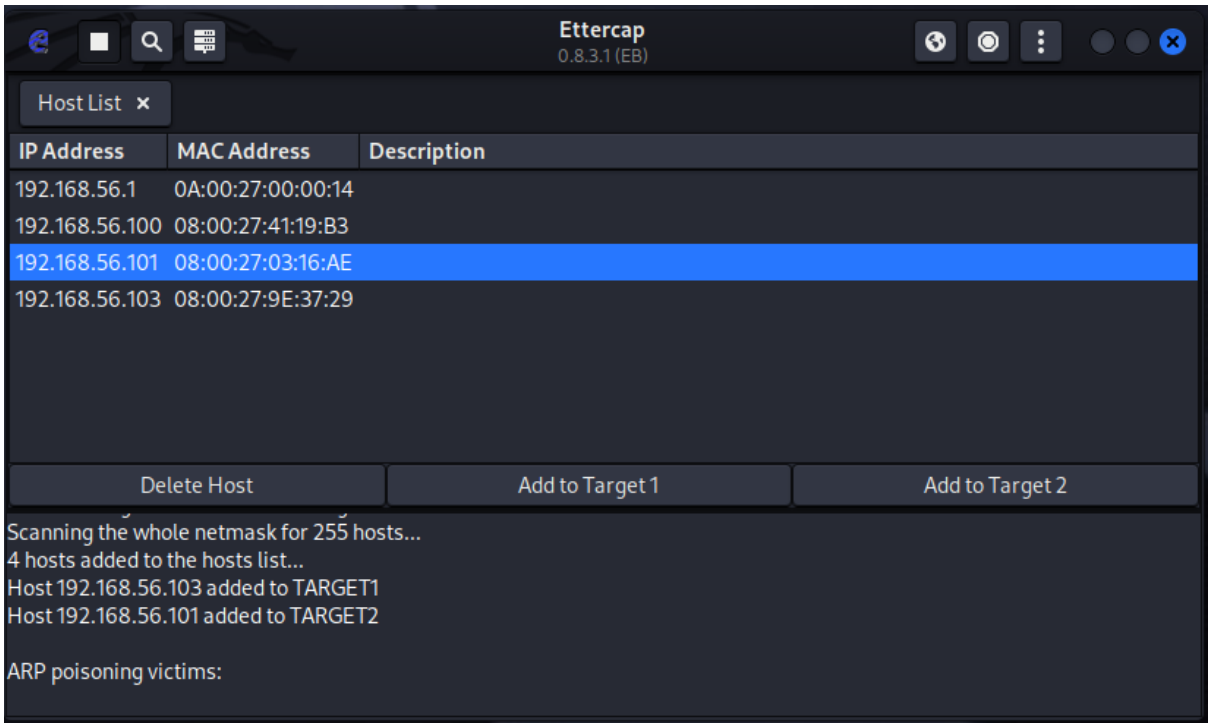
Then we open the tool called ettercap using the command **ettercap -G.**

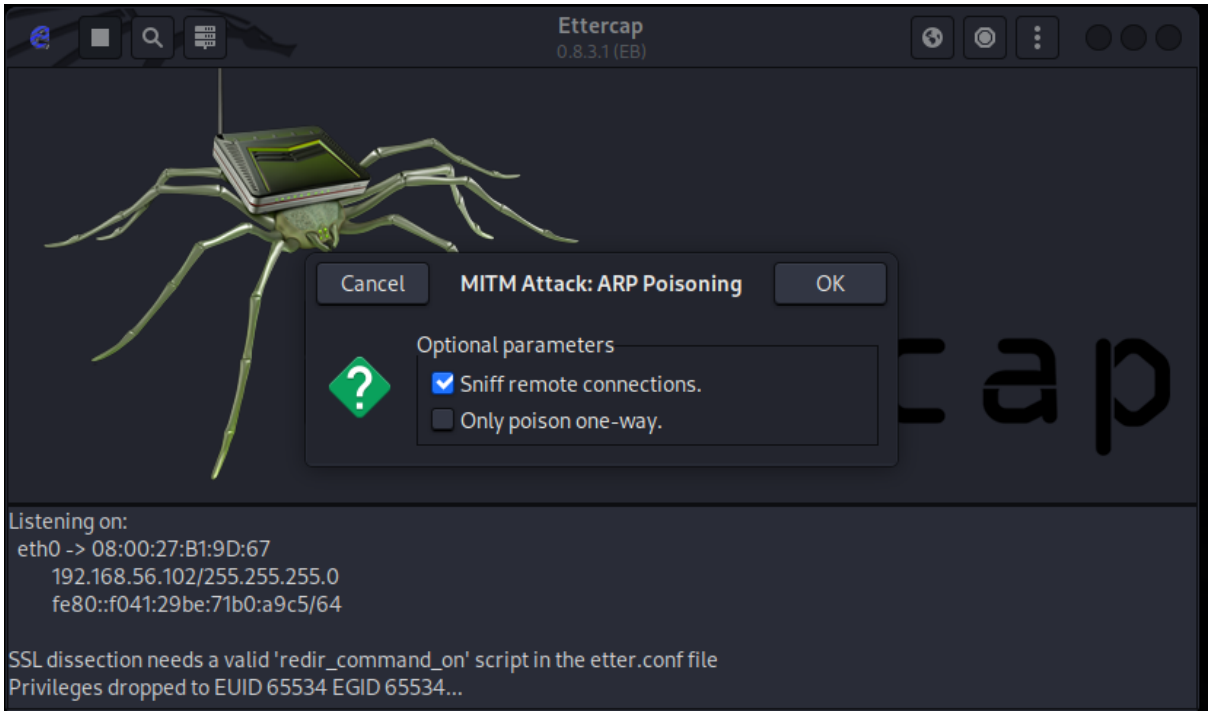
Then we scan for hosts using the option **Scan for hosts** which will be present under the **Hosts** option.

After that we have to set Targets using the option **Add to Target 1** and **Add to Target 2.**

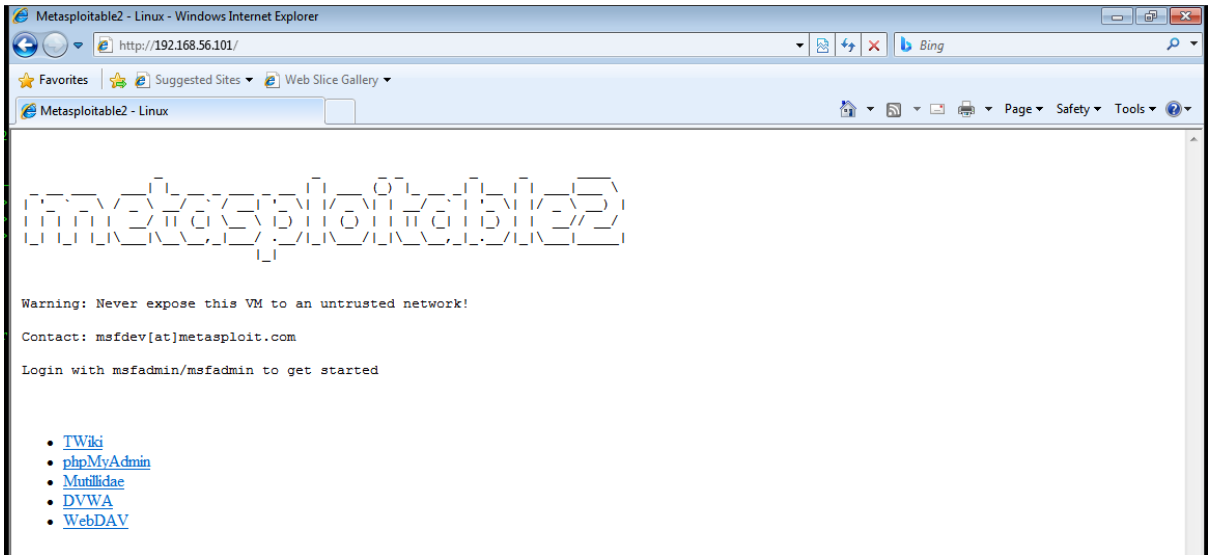
Target 1 → Windows 7

Target 2→ Metasploitable

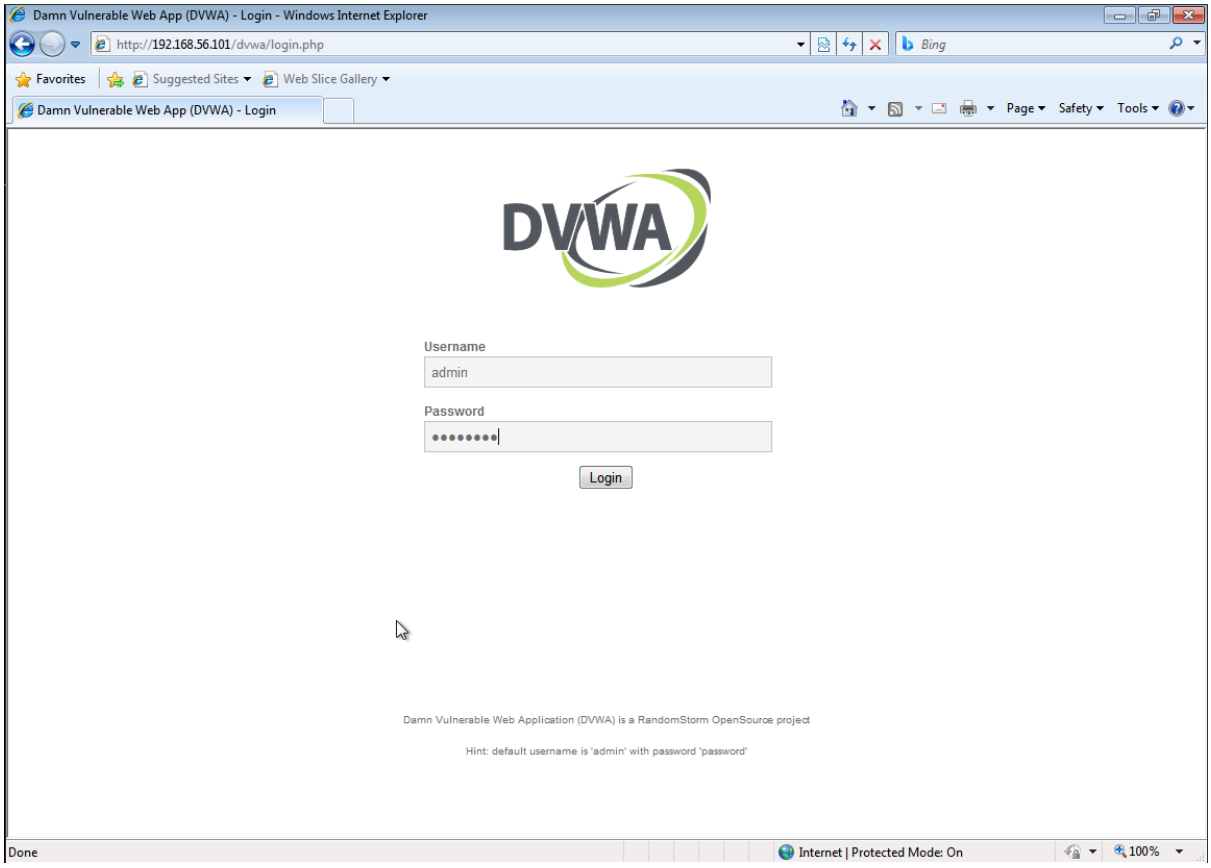




Then we have to note down the ip address of the **Metasploitable** and search it in the URL of the browser inside the **WIndows 7**.

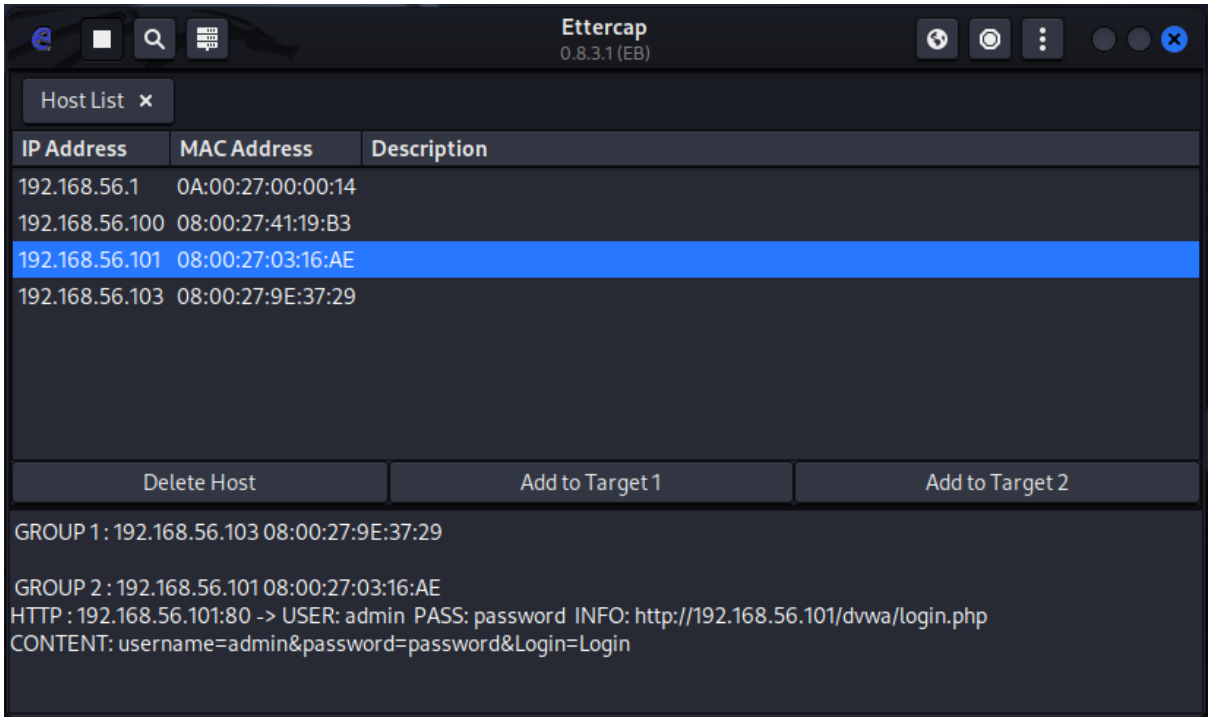


Login to the DVWA by providing Username as **admin** and Password as **password.**



In the ettercap [Kali] we can see the username and password we entered in the DVWA [Windows 7]

as **username=admin&password=password&Login=Login.**


Ettercap
0.8.3.1 (EB)
Host List
IP Address
MAC Address
Description
192.168.56.1 0A:00:27:00:00:14
192.168.56.100 08:00:27:41:19:B3
192.168.56.101 08:00:27:03:16:AE
192.168.56.103 08:00:27:9E:37:29
Delete Host
Add to Target 1
Add to Target 2
GROUP 1 : 192.168.56.103 08:00:27:9E:37:29
GROUP 2 : 192.168.56.101 08:00:27:03:16:AE
HTTP : 192.168.56.101:80 -> USER: admin PASS: password INFO: http://192.168.56.101/dvwa/login.php
CONTENT: username=admin&password=password&Login=Login