Impacket Guide: SMB/MSRPC



hackingarticles.in/impacket-guide-smb-msrpc

Raj May 7, 2020

There have been many Red Team scenarios, Capture the Flag challenges where we face the Windows Server. After exploiting and getting the initial foothold in the server, it is tough to extract the data and as well as there are scenarios where we couldn't get onto the server per se. But using the SMB, we can execute commands remotely on the server. The SecureAuth visualized this, and they gave us one of the most amazing collections of Python classes for working on different protocols. This collection is named Impacket.

Official GitHub Repository: SecureAuthCorp /impacket

Table of Contents

- Introduction to SMB
- Introduction to MSRPC
- Configurations Used in Practical
- Impacket Categories
- Installation
- smbclient.py
- lookupsid.py
- reg.py
- rpcdump.py
- samrdump.py
- services.py
- ifmap.py
- opdump.py
- getArch.py
- · netview.py
- Conclusion

Introduction to SMB

The SMB is a network protocol which is also known as the Server Message Block protocol. It is used to communicate between a client and a server. It can be used to share the files, printers and some other network resources. It was created by IBM in the 1980s.

Introduction to MSRPC

MSRPC or Microsoft Remote Procedure Call is a modified version of DCE/RPC. It was created by Microsoft to seamlessly create a client/server model in Windows. The Windows Server domain protocols are entirely based on MSRPC.

Configurations Used in Practical

Attacker Machine

OS: Kali Linux 2020.1IP Address: 168.1.112

Target Machine

OS: Windows Server 2016IP Address: 168.1.105

Impacket Categories

- Remote Execution
- Kerberos
- Windows Secrets
- Server Tools/MiTM Attacks
- WMI
- Known Vulnerabilities
- SMB/MSRPC
 - smbclient.py
 - lookupsid.py
 - o reg.py
 - o rpcdump.py
 - samrdump.py
 - o services.py
 - o ifmap.py
 - o opdump.py
 - getArch.py
 - netview.py
- MSSQL / TDS
- File Formats
- Other

Installation

Before using the Impacket tool kit on our system, we need to install it. The installation process is quite simple. First, head to the GitHub Repository by clicking here. Then using the git clone command, we clone the complete repository to our Attacker Machine. After cloning we can see that there is a setup.py file, let us install it. After installation, we will head to the examples directory and use the scripts as per our convenience.

```
git clone https://github.com/SecureAuthCorp/impacket.git
cd impacket/
ls
python setup.py install
```

```
root@kali:~# git clone https://github.com/SecureAuthCorp/impacket.git
Cloning into 'impacket' ...
remote: Enumerating objects: 6, done.
remote: Counting objects: 100% (6/6), done.
remote: Compressing objects: 100% (6/6), done.
remote: Total 17915 (delta 1), reused 0 (delta 0), pack-reused 17909
Receiving objects: 100% (17915/17915), 5.91 MiB | 1.09 MiB/s, done.
Resolving deltas: 100% (13681/13681), done.
             :~# cd impacket/
             :~/impacket# ls
ChangeLog examples impacket LICENSE MANIFEST.in README.md requirements.txt setup.py
             :~/impacket# python setup.py install
running install
running bdist_egg
running egg_info
creating impacket.egg-info
writing requirements to impacket.egg-info/requires.txt
writing impacket.egg-info/PKG-INFO
writing top-level names to impacket.egg-info/top_level.txt
writing dependency_links to impacket.egg-info/dependency_links.txt writing manifest file 'impacket.egg-info/SOURCES.txt' reading manifest file 'impacket.egg-info/SOURCES.txt'
reading manifest template 'MANIFEST.in'
warning: no files found matching 'tests' under directory 'examples' warning: no files found matching '*.txt' under directory 'examples'
writing manifest file 'impacket.egg-info/SOURCES.txt
installing library code to build/bdist.linux-x86_64/egg
```

smbclient.py

There are moments where we needed to perform multiple actions between the attacker machine and the target machine. It can be listing shares and files, renaming some file, uploading the binaries or downloading files from the target machine. There are some situations where we even need to create a folder or two on the target machine. Performing such actions can get tricky while working with a shell that can be detected or can close at any time. The smbclient.py script helps us in these situations. It can connect to the Target Machine with the help of a bunch of attributes.

Requirements:

- Domain
- Username
- Password/Password Hash
- Target IP Address

When we provide the following parameters to the smbclient in such a format as shown below and we will get connected to the target machine and we have an smb shell which can run a whole range of commands like dir, cd, pwd, put, rename, more, del, rm, mkdir, rmdir, info, etc

Syntax:

smbclient.py [domain]/[user]:[password/password hash]@[Target IP Address]

Command:

smbclient.py ignite/Administrator:Ignite@987@192.168.1.105

lookupsid.py

A Security Identifier (SID) is a unique value of variable length that is used to identify a user account. Through a SID User Enumeration, we can extract the information about what users exist and their data. Lookupsid script can enumerate both local and domain users. There is a Metasploit module too for this attack. If you are planning on injecting a target server with a golden or a silver ticket then one of the things that are required is the SID of the 500 user. Lookupsid.py can be used in that scenario. When we provide the following parameters to the Lookupsid in such a format as shown below.

Requirements:

- Domain
- Username
- Password/Password Hash
- Target IP Address

Syntax:

lookupsid.py [domain]/[user]:[password/password hash]@[Target IP Address]

Command:

lookupsid.py ignite/Administrator:Ignite@987@192.168.1.105

```
:~/impacket/examples# lookupsid.py ignite/Administrator:Ignite@987@192.168.1.105
Impacket v0.9.21.dev1+20200220.181330.03cbe6e8 - Copyright 2020 SecureAuth Corporation
[*] Brute forcing SIDs at 192.168.1.105
[*] StringBinding ncacn_np:192.168.1.105[\pipe\lsarpc]
[*] Domain SID is: S-1-5-21-3523557010-2506964455-2614950430
498: IGNITE\Enterprise Read-only Domain Controllers (SidTypeGroup)
500: IGNITE\Administrator (SidTypeUser)
501: IGNITE\Guest (SidTypeUser)
502: IGNITE\krbtgt (SidTypeUser)
503: IGNITE\DefaultAccount (SidTypeUser)
512: IGNITE\Domain Admins (SidTypeGroup)
513: IGNITE\Domain Users (SidTypeGroup)
514: IGNITE\Domain Guests (SidTypeGroup)
515: IGNITE\Domain Computers (SidTypeGroup)
516: IGNITE\Domain Controllers (SidTypeGroup)
517: IGNITE\Cert Publishers (SidTypeAlias)
518: IGNITE\Schema Admins (SidTypeGroup)
519: IGNITE\Enterprise Admins (SidTypeGroup)
520: IGNITE\Group Policy Creator Owners (SidTypeGroup)
521: IGNITE\Read-only Domain Controllers (SidTypeGroup)
522: IGNITE\Cloneable Domain Controllers (SidTypeGroup)
```

This Impacket script is ripped straight out of the reg.exe of the Windows OS. Reg.exe is an executable service that can read, modify and delete registry values when used with eh combination of the query, add, delete keywords respectively. We can even begin to express the importance of access to the registry. Registry controls each and every aspect of the system. It can be used to gain information about the various policies, software and also alter some of those policies.

Requirements:

- Domain
- Username
- Password/Password Hash
- Target IP Address
- Registry Key Name

Syntax:

reg.py [domain]/[user]:[password:password hash]@[Target IP Address] [action] [action parameter]

Command:

```
reg.py ignite/Administrator:Ignite@987@192.168.1.105 query -keyName
HKLM\\SOFTWARE\\Policies\\Microsoft\\Windows -s
```

```
:~/impacket/examples# reg.py ignite/Administrator:Ignite@987@192.168.1.105 query
 -keyName HKLM\\SOFTWARE\\Policies\\Microsoft\\Windows -s
Impacket v0.9.21.dev1+20200220.181330.03cbe6e8 - Copyright 2020 SecureAuth Corporation
SOFTWARE\Policies\Microsoft\Windows\Appx\
SOFTWARE\Policies\Microsoft\Windows\BITS\
SOFTWARE\Policies\Microsoft\Windows\CurrentVersion\
SOFTWARE\Policies\Microsoft\Windows\CurrentVersion\Internet Settings\
SOFTWARE\Policies\Microsoft\Windows\CurrentVersion\Internet Settings\Cache\
SOFTWARE\Policies\Microsoft\Windows\DataCollection\
SOFTWARE\Policies\Microsoft\Windows\EnhancedStorageDevices\
        TCGSecurityActivationDisabled
                                        REG_DWORD
SOFTWARE\Policies\Microsoft\Windows\IPSec\
SOFTWARE\Policies\Microsoft\Windows\IPSec\Policy\
SOFTWARE\Policies\Microsoft\Windows\IPSec\Policy\Local\
SOFTWARE\Policies\Microsoft\Windows\iSCSI\
SOFTWARE\Policies\Microsoft\Windows\Network Connections\
        NC PersonalFirewallConfig
                                        REG DWORD
SOFTWARE\Policies\Microsoft\Windows\NetworkConnectivityStatusIndicator\
                        REG_SZ
        (Default)
SOFTWARE\Policies\Microsoft\Windows\NetworkProvider\
SOFTWARE\Policies\Microsoft\Windows\NetworkProvider\HardenedPaths\
SOFTWARE\Policies\Microsoft\Windows\safer\
SOFTWARE\Policies\Microsoft\Windows\safer\codeidentifiers\
                                REG_DWORD
        authenticodeenabled
                                                 0×0
SOFTWARE\Policies\Microsoft\Windows\SettingSync\
        EnableBackupForWin8Apps REG_DWORD
SOFTWARE\Policies\Microsoft\Windows\System\
```

rpcdump.py

RPC or Remote Procedure Call is when a computer program causes a procedure to execute in different address space which is coded as a normal procedure call. This script can enumerate those endpoints for us. It also matches them to some of the well-known endpoints in order to identify them.

Requirements:

- Domain
- Username
- Password/Password Hash
- Target IP Address

Syntax:

rpcdump.py [domain]/[user]:[Password/Password Hash]@[Target IP Address]

Command:

rpcdump.py ignite/Administrator:Ignite@987@192.168.1.105

```
:~/impacket/examples# rpcdump.py ignite/Administrator:Ignite@987@192.168.1.105
Impacket v0.9.21.dev1+20200220.181330.03cbe6e8 - Copyright 2020 SecureAuth Corporation
[*] Retrieving endpoint list from 192.168.1.105
Protocol: N/A
Provider: N/A
UUID
        : E40F7B57-7A25-4CD3-A135-7F7D3DF9D16B v1.0 Network Connection Broker server endpoint
Bindings:
           ncalrpc:[LRPC-8538476c13e927aa7c]
           ncalrpc:[OLE19B8B9EAFA57BA2F284B628B8354]
ncalrpc:[LRPC-8dc1857a520f6b0258]
           ncalrpc:[LRPC-e2a01d54b6c94b0c01]
Protocol: N/A
Provider: N/A
UUID
        : 0D3E2735-CEA0-4ECC-A9E2-41A2D81AED4E v1.0
Bindings:
           ncacn_np:\\WIN-S0V7KMTVLD2[\pipe\LSM_API_service]
           ncalrpc:[LSMApi]
          ncalrpc:[LSMAP1]
ncalrpc:[LRPC-0ccef775b10278cb09]
ncalrpc:[actkernel]
ncalrpc:[umpo]
Protocol: N/A
Provider: N/A
UUID
        : 880FD55E-43B9-11E0-B1A8-CF4EDFD72085 v1.0 KAPI Service endpoint
Bindings:
           ncalrpc:[LRPC-8538476c13e927aa7c]
           ncalrpc:[OLE19B8B9EAFA57BA2F284B628B8354]
           ncalrpc:[LRPC-8dc1857a520f6b0258]
           ncalrpc:[LRPC-e2a01d54b6c94b0c01]
Protocol: N/A
Provider: N/A
         : 3A9EF155-691D-4449-8D05-09AD57031823 v1.0
UUID
Bindings:
           ncalrpc:[LRPC-4c0ab5dfb927efec0d]
           ncalrpc:[ubpmtaskhostchannel]
           ncacn_np:\\WIN-S0V7KMTVLD2[\PIPE\atsvc]
ncacn_ip_tcp:192.168.1.105[49670]
           ncacn_np:\\WIN-S0V7KMTVLD2[\pipe\SessEnvPublicRpc]
```

samrdump.py

Samrdump is an application that retrieves sensitive information about the specified target machine using the Security Account Manager (SAM). It is a remote interface that is accessible under the Distributed Computing Environment / Remote Procedure Calls (DCE/RPC) service. It lists out all the system shares, user accounts, and other useful information about the target's presence in the local network. The image clearly shows us all the user accounts that are held by the remote machine. Inspecting all the available shares for sensitive data and accessing other user accounts can further reveal valuable information.

Requirements:

- Domain
- Username
- Password/Password Hash
- Target IP Address

Syntax:

samrdump.py [domain]/[user]:[Password/Password Hash]@[Target IP Address]

Command:

samrdump.py ignite/Administrator:Ignite@987@192.168.1.105

```
l:~/impacket/examples# samrdump.py ignite/Administrator:Ignite@987@192.168.1.105
Impacket v0.9.21.dev1+20200220.181330.03cbe6e8 - Copyright 2020 SecureAuth Corporation
[*] Retrieving endpoint list from 192.168.1.105
Found domain(s):
 . IGNITE
  Builtin
[*] Looking up users in domain IGNITE
Found user: Administrator, uid = 500
Found user: Guest, uid = 501
Found user: krbtgt, uid = 502
Found user: DefaultAccount, uid = 503
Found user: yashika, uid = 1601
Found user: geet, uid = 1602
Found user: aarti, uid = 1603
Found user: $PI1000-3MFD4LDN1VTV, uid = 1625
Found user: SM_195ac04be8c140048, uid = 1626
Found user: SM_4c397e3a678c4b169, uid = 1627
Found user: SM_20db1747e41e4819a, uid = 1628
Found user: SM_8fbff1f05b7c418da, uid = 1629
Found user: SM_fafb5649db9644c49, uid = 1630
Found user: SM_c0b1758feadf42abb, uid = 1631
Found user: SM_555a8cdd81f14d9a8, uid = 1632
Found user: SM_8b7c24749eae46cfa, uid = 1633
Found user: SM_a5503dd828c64f048, uid = 1634
Found user: HealthMailboxf574a3a, uid = 1636
Found user: HealthMailbox06b7664, uid = 1637
Found user: HealthMailbox1eb4aa3, uid = 1638
Found user: HealthMailbox0a5a569, uid = 1641
Found user: HealthMailboxd7cfd99, uid = 1642
Found user: HealthMailbox41cc604, uid = 1643
Found user: HealthMailbox0ab8a6a, uid = 1644
Found user: HealthMailbox0bc5951, uid = 1645
Found user: HealthMailbox55e60d4, uid = 1646
Found user: HealthMailboxb6dd973, uid = 1647
Found user: HealthMailbox23061dc, uid = 1648
Found user: SVC_SQLService, uid = 1655
Found user: kavish, uid = 1656
Administrator (500)/FullName: Administrator Administrator (500)/UserComment:
Administrator (500)/PrimaryGroupId: 513
```

services.py

The services script of the Impacket communicates with Windows services with the help of MSRPC Interface. It can start, stop, delete, read status, config, list, create and change any service. While working on Red Teaming assignments there were so many tasks that could have been simplified if only, we have access to the services of the Target machine. This makes it all a simple task.

Requirements:

- Domain
- Username
- Password/Password Hash
- Target IP Address
- Action

Syntax:

services.py [domain]/[user]:[Password/Password Hash]@[Target IP Address] [Action]

Command:

services.py ignite/Administrator:Ignite@987@192.168.1.105 list

```
root@kal1:~/impacket/examples# services.py ignite/Administrator:Ignite@987@192.168.1.105 list
Impacket v0.9.21.dev1+20200220.181330.03cbe6e8 - Copyright 2020 SecureAuth Corporation
[*] Listing services available on target
                           1394ohci
                                                                                    1394 OHCI Compliant Host Controller -
                               3ware
                                                                                                                                     STOPPED
                                                                                                      Microsoft ACPI Driver
                                ACPI
                                                                                                                                     RUNNING
                            AcpiDev
                                                                                                        ACPI Devices driver
                                                                                                                                     STOPPED
                             acpiex
                                                                                                   Microsoft ACPIEx Driver
                                                                                                                                     RUNNING
                                                                                        ACPI Processor Aggregator Driver -
ACPI Power Meter Driver -
                                                                                                                                     STOPPED
                           acpipagr
                            AcpiPmi
                                                                                                                                     STOPPED
                                                                                                    ACPI Wake Alarm Driver
                           acpitime
                                                                                                                                     STOPPED
                            ADP80XX
                                                                                                                       ADP80XX -
                                                                                                                                     STOPPED
                                                                                 Active Directory Web Services -
Ancillary Function Driver for Winsock -
Application Compatibility Cache -
AllJoyn Router Service -
                                ADWS
                                                                                                                                     RUNNING
                                                                                                                                     RUNNING
                                 AFD
                                                                                                                                     RUNNING
                            ahcache
                                                                                                                                     STOPPED
                           AJRouter
                                                                                       Application Layer Gateway Service
                                                                                                                                     STOPPED
                                 ALG
                                                                                                   AMD K8 Processor Driver
                                                                                                                                     STOPPED
                                                                                                       AMD Processor Driver
                                                                                                                                     STOPPED
                            amdsata
                                                                                                                       amdsata
                                                                                                                                     STOPPED
                                                                                                                        amdsbs
                                                                                                                                     STOPPED
                            amdxata
                                                                                                                       amdxata
                                                                                                                                     STOPPED
                         AppHostSvc
                                                                                         Application Host Helper Service
                                                                                                                                     RUNNING
                               AppID
                                                                                                                 AppID Driver
                                                                                                                                     STOPPED
                           AppIDSvc
                                                                                                       Application Identity
                                                                                                                                     STOPPED
                            Appinfo
                                                                                                   Application Information -
                                                                                                                                     STOPPED
                                                                                                 Smartlocker Filter Driver
                     applockerfltr
                                                                                                                                     STOPPED
                            AppMgmt
                                                                                                    Application Management -
                                                                                                                                     STOPPED
                      AppReadiness
                                                                                                               App Readiness
                                                                                                                                     STOPPED
```

ifmap.py

Ifmap scripts initially bind to the MGMT interface of the Target machine. Then it fetches a list of interface IDs. Then it adds those IDs to another large list of UUIDs it already has in its database. Then it tries to bind each of the interfaces and reports the status of the interface. The status can be listed or listening. Its ability to gather information is unmatched. There is a Metasploit Module that works quite similar to this script is "auxiliary/scanner/dcerpc/endpoint_mapper" The list of UUIDs (Universal Unique Identifier) which are running endpoint-mapper mapped to the unique services. After getting these services, an attacker can search on the internet to find if any of these services are vulnerable to Overflow over RPC.

Requirements:

- Target IP Address
- Target Port
- Hostname (optional)

Syntax:

ifmap.py [Target IP Address] [Target Port]

Command:

ifmap.py 192.168.1.105 135

:~/impacket/examples# ifmap.py 192.168.1.105 135 Procotol: N/A Provider: rpcss.dll UUID : 00000136-0000-0000-C000-000000000046 v0.0: listed, listening Protocol: [MS-DCOM]: Distributed Component Object Model (DCOM) Remote Provider: rpcss.dll : 000001A0-0000-0000-C000-000000000046 v0.0: listed, listening UUID Procotol: N/A Provider: rpcss.dll UUID : 0B0A6584-9E0F-11CF-A3CF-00805F68CB1B v1.0: other version listed, listening Procotol: N/A Provider: rpcss.dll UUID : 0B0A6584-9E0F-11CF-A3CF-00805F68CB1B v1.1: listed, listening Procotol: N/A Provider: rpcss.dll UUID : 1D55B526-C137-46C5-AB79-638F2A68E869 v1.0: listed, listening Procotol: N/A Provider: rpcss.dll UUID : 412F241E-C12A-11CE-ABFF-0020AF6E7A17 v0.0: other version listed, listening Procotol: N/A Provider: rpcss.dll : 412F241E-C12A-11CE-ABFF-0020AF6E7A17 v0.2: listed, listening Protocol: [MS-DCOM]: Distributed Component Object Model (DCOM) Remote Provider: rpcss.dll : 4D9F4AB8-7D1C-11CF-861E-0020AF6E7C57 v0.0: listed, listening UUID Procotol: N/A Provider: rpcss.dll : 64FE0B7F-9EF5-4553-A7DB-9A1975777554 v1.0: listed, listening Protocol: [MS-DCOM]: Distributed Component Object Model (DCOM) Remote

opdump.py

This script binds to the given hostname:port and connects to the DCERPC (Distributed Computing Environment/ Remote Procedure Calls) interface. After connecting, it tries to call each of the first 256 operation numbers in turn and reports the outcome of each call. This generates a burst of TCP connections to the given host:port!

It gives the output as follows:

```
op 0 (0x00): rpc_x_bad_stub_data
op 1 (0x01): rpc_x_bad_stub_data
op 2 (0x02): rpc_x_bad_stub_data
op 3 (0x03): success
op 4 (0x04): rpc_x_bad_stub_data
ops 5-255: nca_s_op_rng_error
```

rpc_x_bad_stub_data, rpc_s_access_denied, and success generally means there's an operation at that number.

Requirements:

- IP Address
- Hostname (optional)
- Port Interface Version

Syntax:

opdump.py [Target IP Address] [Port Interface Version]

Command:

opdump.py 192.168.1.105 135 99FCFEC4-5260-101B-BBCB-00AA0021347A 0.0

```
potakeli:~/impacket/examples# opdump.py 192.168.1.105 135 99FCFEC4-5260-101B-BBCB-00AA0021347A 0.0 op 0 (0×00): rpc_x_bad_stub_data op 1 (0×01): rpc_x_bad_stub_data op 2 (0×02): rpc_x_bad_stub_data op 3 (0×03): success op 4 (0×04): rpc_x_bad_stub_data op 5 (0×05): success op 6-255: nca_s_op_rng_error_
```

getArch.py

All PDUs (Protocol Data Unit) encoded with the NDR64 transfer syntax must use a value of 0x10 for the data representation format label. This value is used only in the transfers of the x64 bit systems. This scripts when provided with a target tried to communicate with the target system and collects the value of the data representation format label. Then it matches it to the NDR64 syntax stored in its code. Then it can provide the information to the attacker if the Operating System is a 64 bit or 32-bit system. We can also provide a list of targets and it can work simultaneously on all the targets.

Requirements:

Target IP Address

Syntax:

```
getArch.py -target [Target IP Address]
```

getArch.py -targets [Target List]

Command:

```
getArch.py -targets /root/Desktop/target.txt
```

```
rootikeli:~/impacket/examples# cat /root/Desktop/target.txt

192.168.1.103
192.168.1.106
192.168.1.106
192.168.1.106
192.168.1.106
192.168.1.106
192.168.1.106
192.168.1.103 is 64-bit
192.168.1.105 is 64-bit
192.168.1.106 is 64-bit
```

netview.py

It is an enumeration tool. It requires the domain name to enumerate hosts. It can also be provided with a list of hosts or targets. Once a list is gathered then netview checks each of the following:

- IP addresses
- Shares
- Sessions
- Logged On Users

Once finding the information it doesn't stop. It keeps looping over the hosts found and keeps a detailed track of who logged in/out from remote servers. It keeps the connections with the target systems and it is very stealthy as it just sends few DCERPC packets. This script requires that the attacker machine is able to resolve the domain machine's NetBIOS names. This can be achieved by setting the DNS on the attacker machine to the domain DNS.

Requirements:

- Domain
- Target IP Address
- Username

Syntax:

netview.py [domain]/[User] -target [Target IP Address] -users [User List] netview.py [domain]/[User] -targets [Target List] -users [User List]

Command:

netview.py ignite/Administrator -targets /root/Desktop/target.txt -users
/root/Desktop/user.txt

```
Password:

[*] Importing targets

[*] Got 3 machines

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)

[*] SmB SessionError: STATUS_ACCOUNT_DISABLED(The referenced account is currently disabled and may not be logged on to.)
```

Conclusion

In this article, we discussed the scripts in the Impacket Toolkit that can interact with the SMB/MSRPC services on a target system. Impacket has many categories which will further explore in due time.

Author: Pavandeep Singh is a Technical Writer, Researcher and Penetration Tester. Can be Contacted on **Twitter** and **LinkedIn**