REPORT 23/11/2022

FACCILONGO DOMENICO

SCANSIONE DEI SERVIZI CON NMAP

TASK

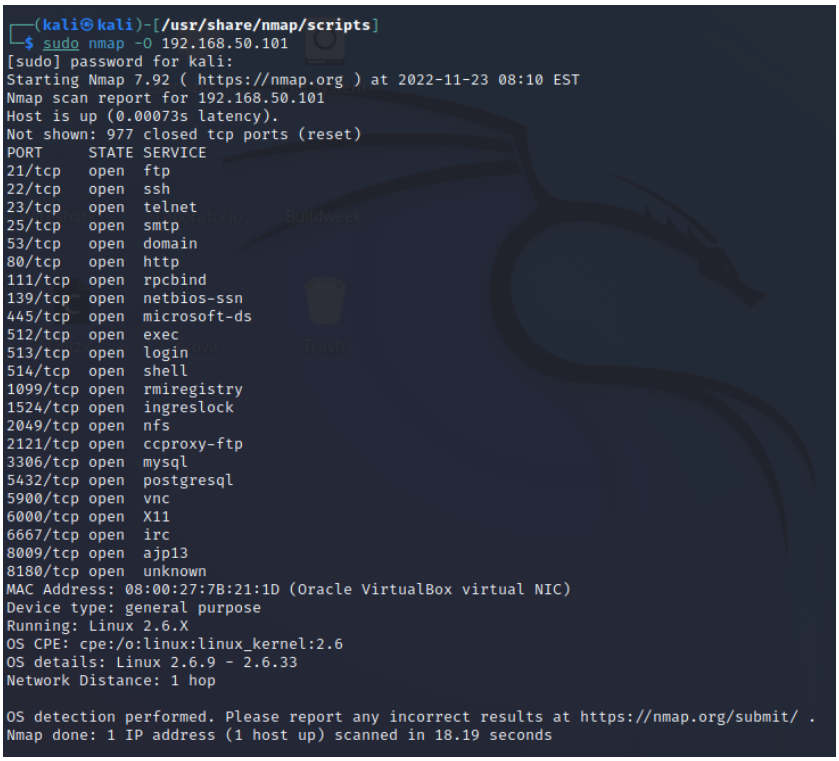
- Metaspoitable: (IP 192.168.50.101)
  - OS fingerprint
  - Syn Scan
  - TCP connect
  - Version detection

- Windows: (IP 192.168.50.102)
  - OS fingerprint

ANALISI E VALUTAZIONI

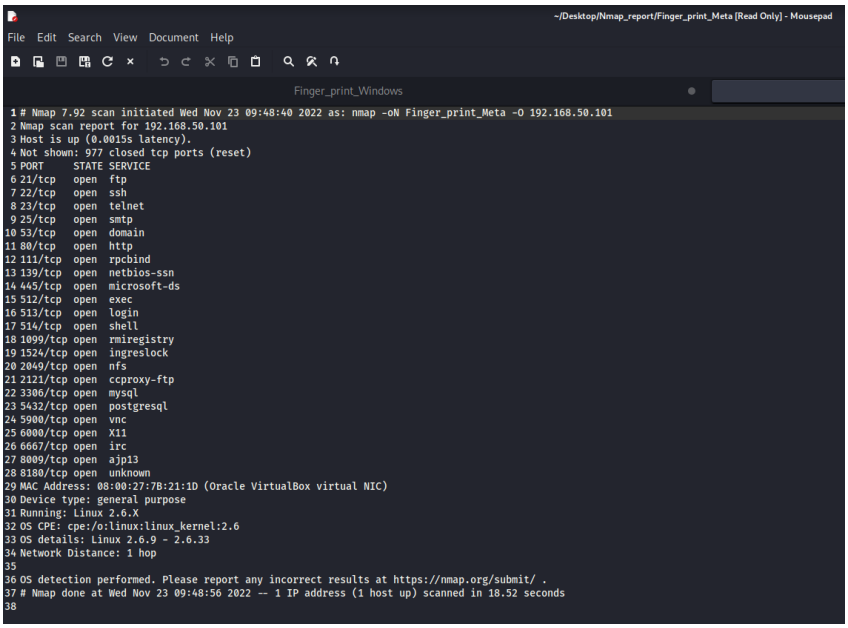
Iniziamo nello scansionare Metaspoitable con Nmap:

- nmap -O 192.168.50.101

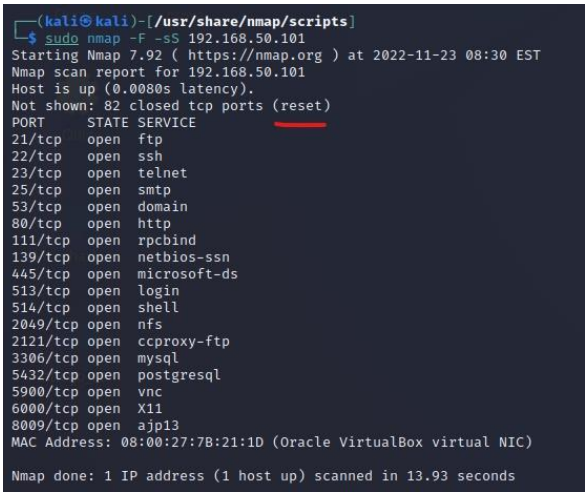


```
┌──(kali㉿kali)-[/usr/share/nmap/scripts]
└─$ sudo nmap -O 192.168.50.101
[sudo] password for kali:
Starting Nmap 7.92 ( https://nmap.org ) at 2022-11-23 08:10 EST
Nmap scan report for 192.168.50.101
Host is up (0.00073s latency).
Not shown: 977 closed tcp ports (reset)
PORT     STATE SERVICE
21/tcp   open  ftp
22/tcp   open  ssh
23/tcp   open  telnet
25/tcp   open  smtp
53/tcp   open  domain
80/tcp   open  http
111/tcp  open  rpcbind
139/tcp  open  netbios-ssn
445/tcp  open  microsoft-ds
512/tcp  open  exec
513/tcp  open  login
514/tcp  open  shell
1099/tcp open  rmiregistry
1524/tcp open  ingreslock
2049/tcp open  nfs
2121/tcp open  ccproxy-ftp
3306/tcp open  mysql
5432/tcp open  postgresql
5900/tcp open  vnc
6000/tcp open  X11
6667/tcp open  irc
8009/tcp open  ajp13
8180/tcp open  unknown
MAC Address: 08:00:27:7B:21:1D (Oracle VirtualBox virtual NIC)
Device type: general purpose
Running: Linux 2.6.X
OS CPE: cpe:/o:linux:linux_kernel:2.6
OS details: Linux 2.6.9 - 2.6.33
Network Distance: 1 hop

OS detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 18.19 seconds
```

Per creare il suo report in automatico basta usare il comando <nmap -oN “nome_file” -O 192.168.50.101>:



- nmap -F -sS 192.168.50.101



Ho usato -F per andare a scansionare le 100 porte più utilizzate e quindi una scansione più restrittiva

- nmap -F -sT 192.168.50.101

```
┌──(kali㉿kali)-[/usr/share/nmap/scripts]
└─$ sudo nmap -F -sT 192.168.50.101
Starting Nmap 7.92 ( https://nmap.org ) at 2022-11-23 08:31 EST
Nmap scan report for 192.168.50.101
Host is up (0.0058s latency).
Not shown: 82 closed tcp ports (conn-refused)
PORT     STATE SERVICE
21/tcp   open  ftp
22/tcp   open  ssh
23/tcp   open  telnet
25/tcp   open  smtp
53/tcp   open  domain
80/tcp   open  http
111/tcp  open  rpcbind
139/tcp  open  netbios-ssn
445/tcp  open  microsoft-ds
513/tcp  open  login
514/tcp  open  shell
2049/tcp open  nfs
2121/tcp open  ccproxy-ftp
3306/tcp open  mysql
5432/tcp open  postgresql
5900/tcp open  vnc
6000/tcp open  X11
8009/tcp open  ajp13
MAC Address: 08:00:27:7B:21:1D (Oracle VirtualBox virtual NIC)

Nmap done: 1 IP address (1 host up) scanned in 13.83 seconds
```

La differenza tra -sS e -sT sta proprio nel fatto che per le porte chiuse in una c'è "RESET" nell'altra "CONN-REFUSED". Per quest'ultima(l'sT) il three-way-handshake è completato per le porta aperte, a differenza delle porte chiuse.

- nmap -F -sV 192.168.50.101

```
┌──(kali㉿kali)-[/usr/share/nmap/scripts]
└─$ sudo nmap -F -sV 192.168.50.101
Starting Nmap 7.92 ( https://nmap.org ) at 2022-11-23 08:37 EST
Nmap scan report for 192.168.50.101
Host is up (0.0049s latency).
Not shown: 82 closed tcp ports (reset)
PORT     STATE SERVICE     VERSION
21/tcp   open  ftp         vsftpd 2.3.4
22/tcp   open  ssh         OpenSSH 4.7p1 Debian 8ubuntu1 (protocol 2.0)
23/tcp   open  telnet      Linux telnetd
25/tcp   open  smtp        Postfix smtpd
53/tcp   open  domain      ISC BIND 9.4.2
80/tcp   open  http        Apache httpd 2.2.8 ((Ubuntu) DAV/2)
111/tcp  open  rpcbind     2 (RPC #100000)
139/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
445/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
513/tcp  open  login?
514/tcp  open  shell       Netkit rshd
2049/tcp open  nfs         2-4 (RPC #100003)
2121/tcp open  ftp         ProFTPD 1.3.1
3306/tcp open  mysql       MySQL 5.0.51a-3ubuntu5
5432/tcp open  postgresql  PostgreSQL DB 8.3.0 - 8.3.7
5900/tcp open  vnc         VNC (protocol 3.3)
6000/tcp open  X11         (access denied)
8009/tcp open  ajp13       Apache Jserv (Protocol v1.3)
MAC Address: 08:00:27:7B:21:1D (Oracle VirtualBox virtual NIC)
Service Info: Host:  metasploitable.localdomain; OSs: Unix, Linux; CPE: cpe:/o:linux:linux_kernel

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 54.31 seconds
```

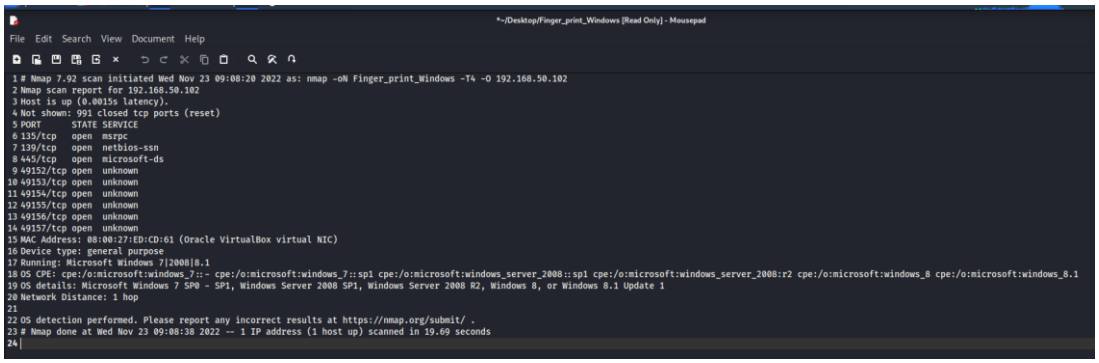
- nmap 192.168.50.101 –script smb-os-discovery

```
┌──(kali㉿kali)-[/usr/share/nmap/scripts]
└─$ sudo nmap 192.168.50.101 --script smb-os-discovery
Starting Nmap 7.92 ( https://nmap.org ) at 2022-11-23 08:28 EST
Nmap scan report for 192.168.50.101
Host is up (0.0031s latency).
Not shown: 977 closed tcp ports (reset)
PORT     STATE SERVICE
21/tcp   open  ftp
22/tcp   open  ssh
23/tcp   open  telnet
25/tcp   open  smtp
53/tcp   open  domain
80/tcp   open  http
111/tcp  open  rpcbind
139/tcp  open  netbios-ssn
445/tcp  open  microsoft-ds
512/tcp  open  exec
513/tcp  open  login
514/tcp  open  shell
1099/tcp open  rmiregistry
1524/tcp open  ingreslock
2049/tcp open  nfs
2121/tcp open  ccproxy-ftp
3306/tcp open  mysql
5432/tcp open  postgresql
5900/tcp open  vnc
6000/tcp open  X11
6667/tcp open  irc
8009/tcp open  ajp13
8180/tcp open  unknown
MAC Address: 08:00:27:7B:21:1D (Oracle VirtualBox virtual NIC)

Host script results:
| smb-os-discovery:
|   OS: Unix (Samba 3.0.20-Debian)
|   Computer name: metasploitable
|   NetBIOS computer name:
|   Domain name: localdomain
|   FQDN: metasploitable.localdomain
|_  System time: 2022-11-23T08:28:25-05:00

Nmap done: 1 IP address (1 host up) scanned in 16.09 seconds
```

Tale comando ci fornisce info più dettagliate riguardo all'Host (IP target), informazioni come Sistema operativo, il nome del computer…

Passiamo ora a Windows:

- nmap -oN “nome_file” -O 192.168.50.102 (per ottenere il report)



- nmap -sV 192.168.50.102

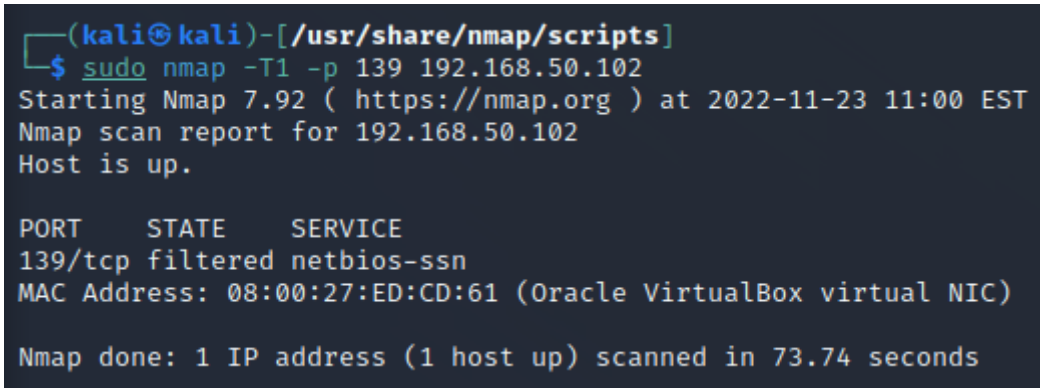
```
┌──(kali㉿kali)-[~/Desktop]
└─$ sudo nmap -sV 192.168.50.102
Starting Nmap 7.92 ( https://nmap.org ) at 2022-11-23 09:27 EST
Nmap scan report for 192.168.50.102
Host is up (0.00085s latency).
Not shown: 991 closed tcp ports (reset)
PORT      STATE SERVICE      VERSION
135/tcp   open  msrpc        Microsoft Windows RPC
139/tcp   open  netbios-ssn  Microsoft Windows netbios-ssn
445/tcp   open  microsoft-ds Microsoft Windows 7 - 10 microsoft-ds (workgroup: WORKGROUP)
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: 08:00:27:ED:CD:61 (Oracle VirtualBox virtual NIC)
Service Info: Host: DOMENICO-PC; OS: Windows; CPE: cpe:/o:microsoft:windows

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 76.47 seconds
```

Una cosa importante da notare è che questa scansione non sarebbe stata resa possibile se non avessimo prima disabilitato il firewall di Windows 7, di fatti l’errore sarebbe stato questo:

```
┌──(kali㉿kali)-[~/Desktop]
└─$ sudo nmap -Pn -O 192.168.50.102
Starting Nmap 7.92 ( https://nmap.org ) at 2022-11-23 09:22 EST
Nmap scan report for 192.168.50.102
Host is up (0.00050s latency).
All 1000 scanned ports on 192.168.50.102 are in ignored states.
Not shown: 1000 filtered tcp ports (no-response)
MAC Address: 08:00:27:ED:CD:61 (Oracle VirtualBox virtual NIC)
Too many fingerprints match this host to give specific OS details
Network Distance: 1 hop

OS detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 43.99 seconds
```

Al fine di poter scansionare Windows una soluzione alternativa sarebbe potuta essere la creazione di una regola Firewall in grado di poter bypassare il sistema di difesa di Windows e quindi permettere solo per Kali la scansione.

Un'altra alternativa è “provare” con il comando <nmap -T1 -p 139 192.168.50.102> in quanto il T1 è un tempo più ambio per l’invio dei pacchetti, fondamentale per deviare il “problema” firewall di windows. Abbiamo inserito pertanto una porta target, la quale si può evincere dallo screen precedente che è aperta ed inserita solo una per permettere una scansione più veloce a causa proprio dello svantaggio del T1. Il risultato sarà pressocchè questo:



In effetti il risultato ottenuto è proprio la scansione della porta con stato però “filtered”.