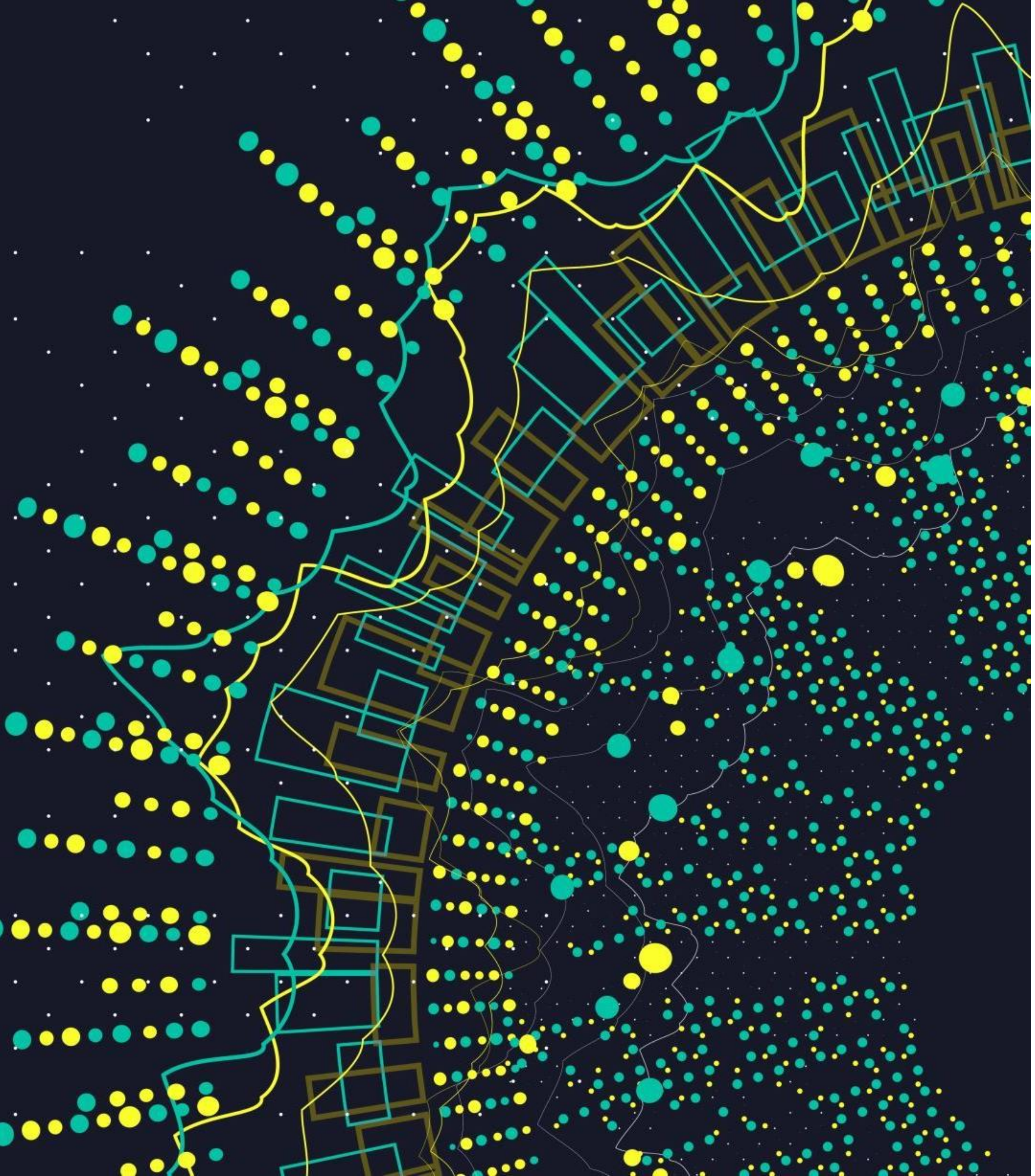


Scansione dei servizi con Nmap

Esercizio 3 Settimana 5

Si richiede allo studente di effettuare le seguenti scansioni sul target Metasploitable:

- OS fingerprint.
- Syn Scan.
- TCP connect - trovate differenze tra i risultati della scansioni TCP connect e SYN?
- Version detection.

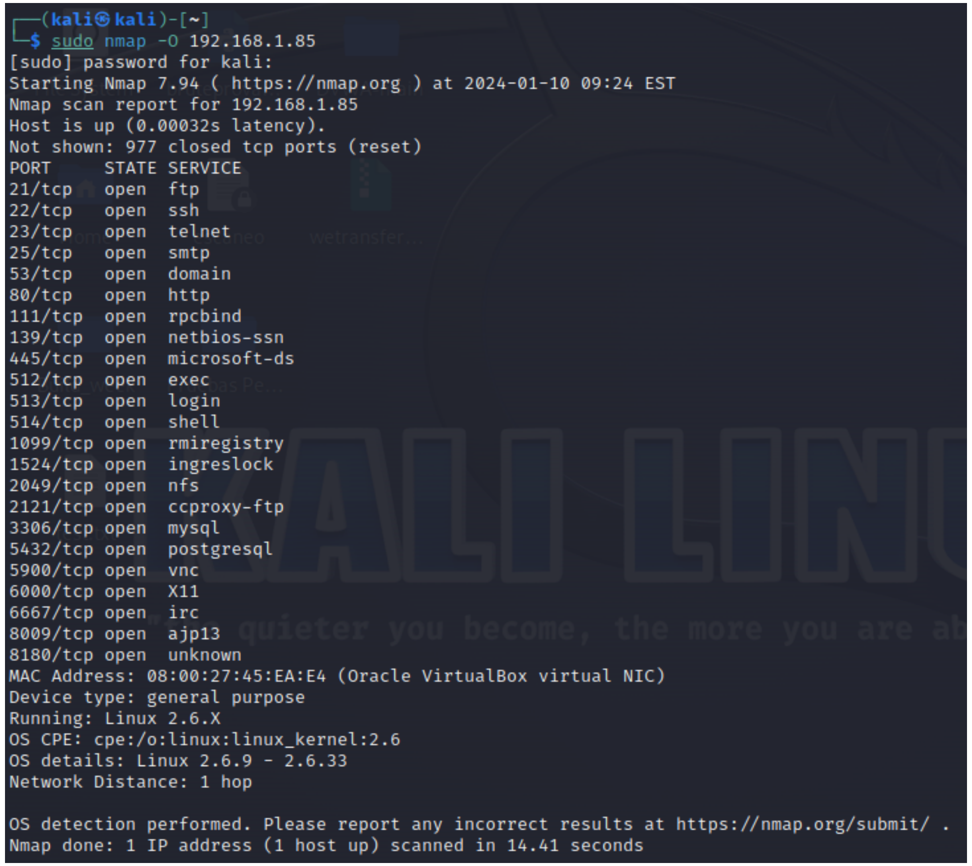
E la seguente sul target Windows 7:

- OS fingerprint.

A valle delle scansioni è prevista la produzione di un report contenente le seguenti info (dove disponibili):

- IP.
- Sistema Operativo.
- Porte Aperte.
- Servizi in ascolto con versione.

Scansione Os fingerprint



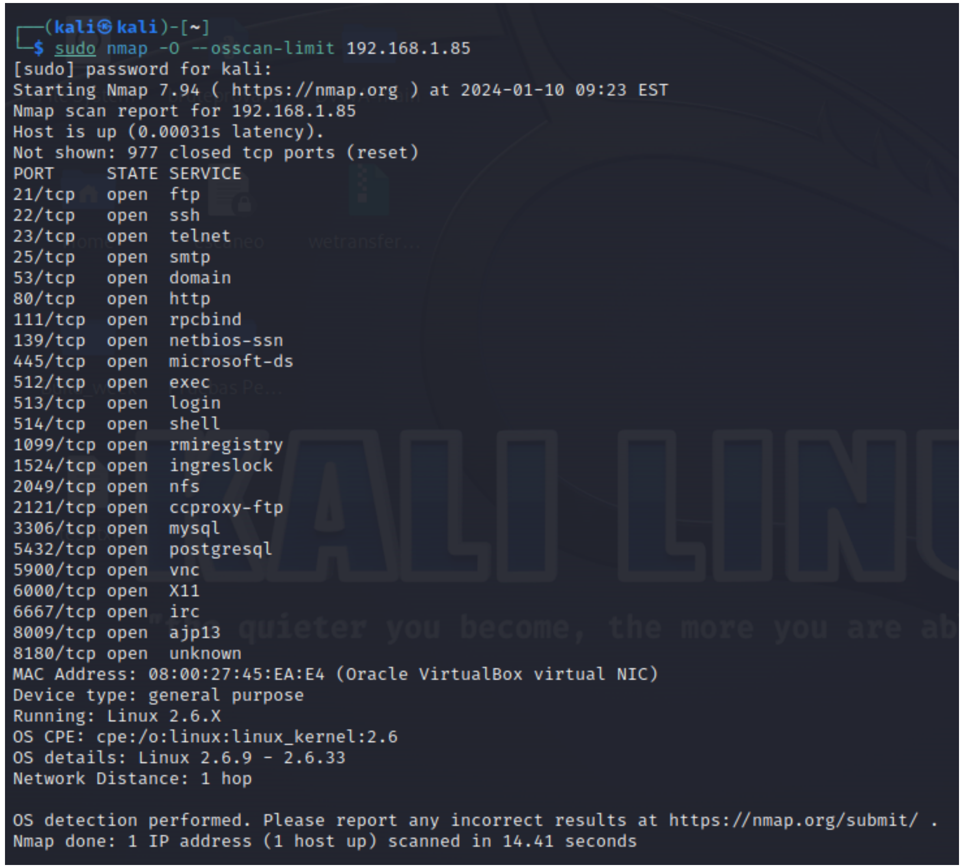
```
┌──(kali㉿kali)-[~]
└─$ sudo nmap -O 192.168.1.85
[sudo] password for kali:
Starting Nmap 7.94 ( https://nmap.org ) at 2024-01-10 09:24 EST
Nmap scan report for 192.168.1.85
Host is up (0.00032s latency).
Not shown: 977 closed tcp ports (reset)
PORT     STATE SERVICE
21/tcp   open  ftp
22/tcp   open  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: 08:00:27:45:EA:E4 (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 14.41 seconds
```

MODO: RUMOROSO

Comando: sudo nmap -O 192.168.1.85

Questo comando attraverso il servizio di root fa una scansione della macchina "192.168.1.85" e restituisce tutte le sue porte aperte e il modello della macchina

Scansione Os fingerprint



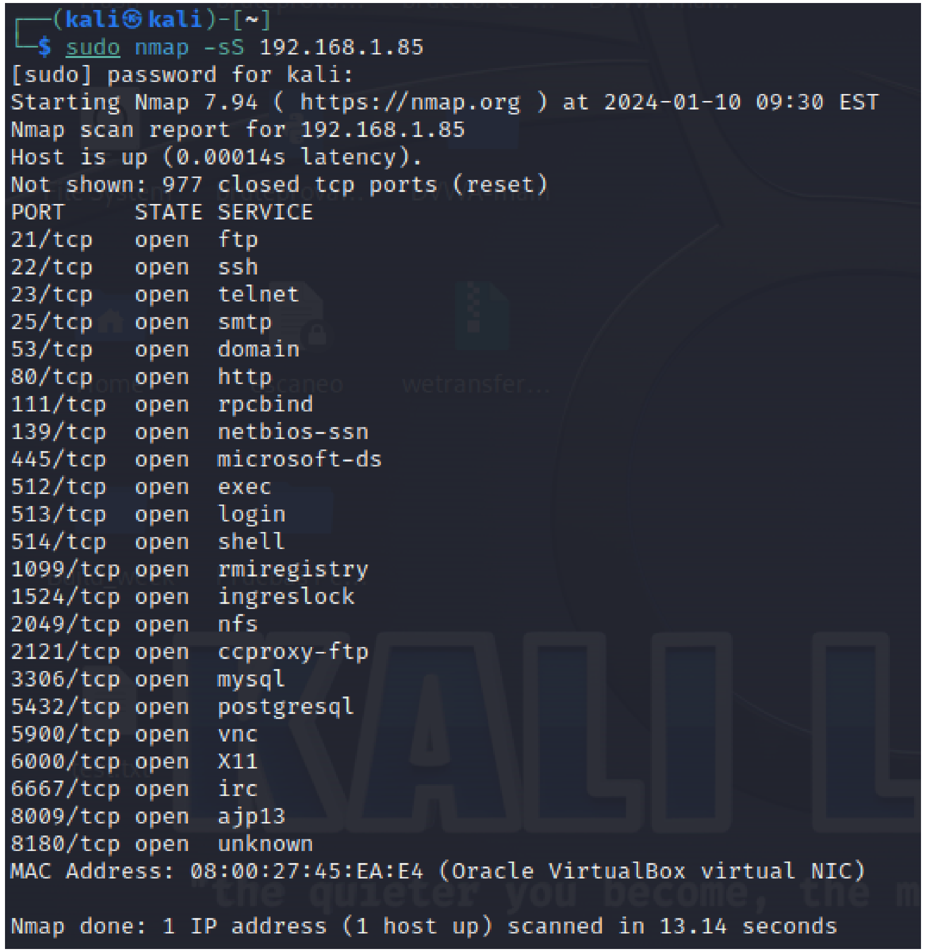
```
┌──(kali㉿kali)-[~]
└─$ sudo nmap -O --osscan-limit 192.168.1.85
[sudo] password for kali:
Starting Nmap 7.94 ( https://nmap.org ) at 2024-01-10 09:23 EST
Nmap scan report for 192.168.1.85
Host is up (0.00031s latency).
Not shown: 977 closed tcp ports (reset)
PORT     STATE SERVICE
21/tcp   open  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: 08:00:27:45:EA:E4 (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 14.41 seconds
```

MODO: SILENSIOSO

Comando: sudo nmap -O –oscan-limit 192.168.1.85

Questo comando fa le stesse cose del comando prevedente, ma in modo più silenzioso

Scansione Syn Scan



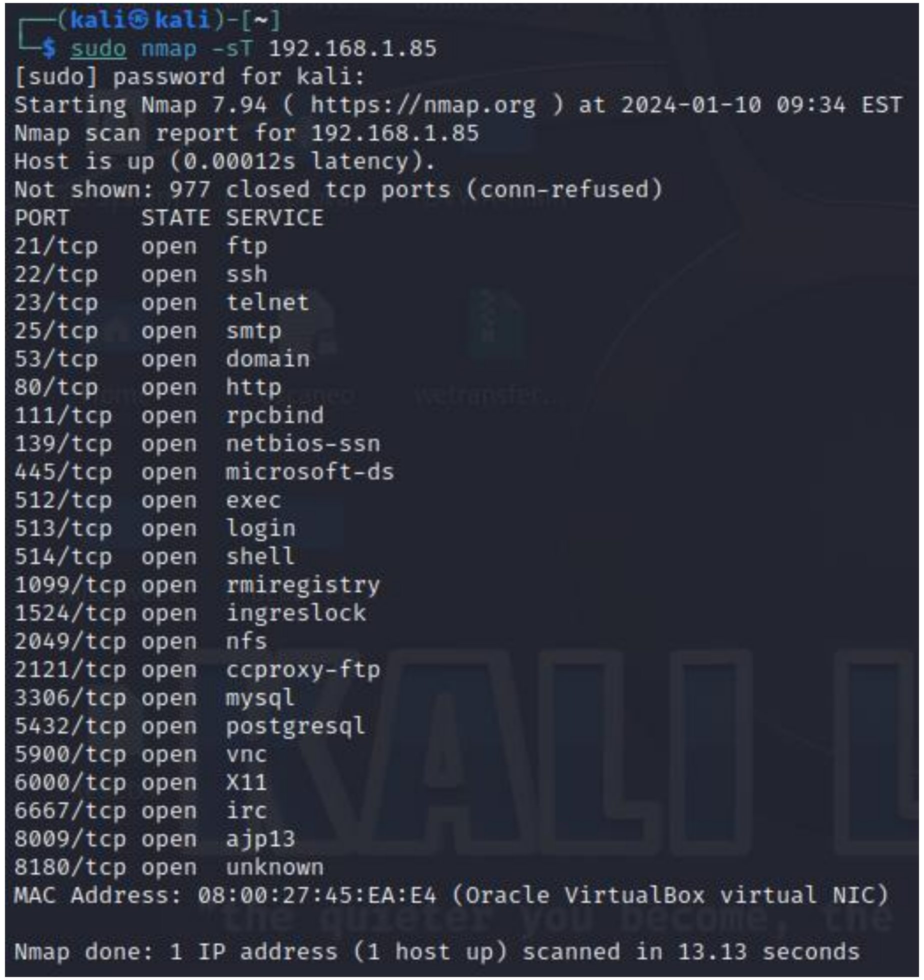
```
┌──(kali㉿kali)-[~]
└─$ sudo nmap -sS 192.168.1.85
[sudo] password for kali:
Starting Nmap 7.94 ( https://nmap.org ) at 2024-01-10 09:30 EST
Nmap scan report for 192.168.1.85
Host is up (0.00014s latency).
Not shown: 977 closed tcp ports (reset)
PORT     STATE SERVICE
21/tcp   open  ftp
22/tcp   open  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: 08:00:27:45:EA:E4 (Oracle VirtualBox virtual NIC)

Nmap done: 1 IP address (1 host up) scanned in 13.14 seconds
```

Comando: sudo nmap -sS 192.168.1.85

Il comando serve per vedere quali sono le porte aperte della macchina bersaglio " 192.168.1.85 ", lo fa chiudendo la comunicazione prima di terminare le 3 strette di mano "3 way handshake", così permettendo di essere meno invasivo.

Se volessimo essere ancora meno invasivi si può utilizzare il comando:
sudo nano -Pn -sS 192.168.1.85

Scansione TCP Connect



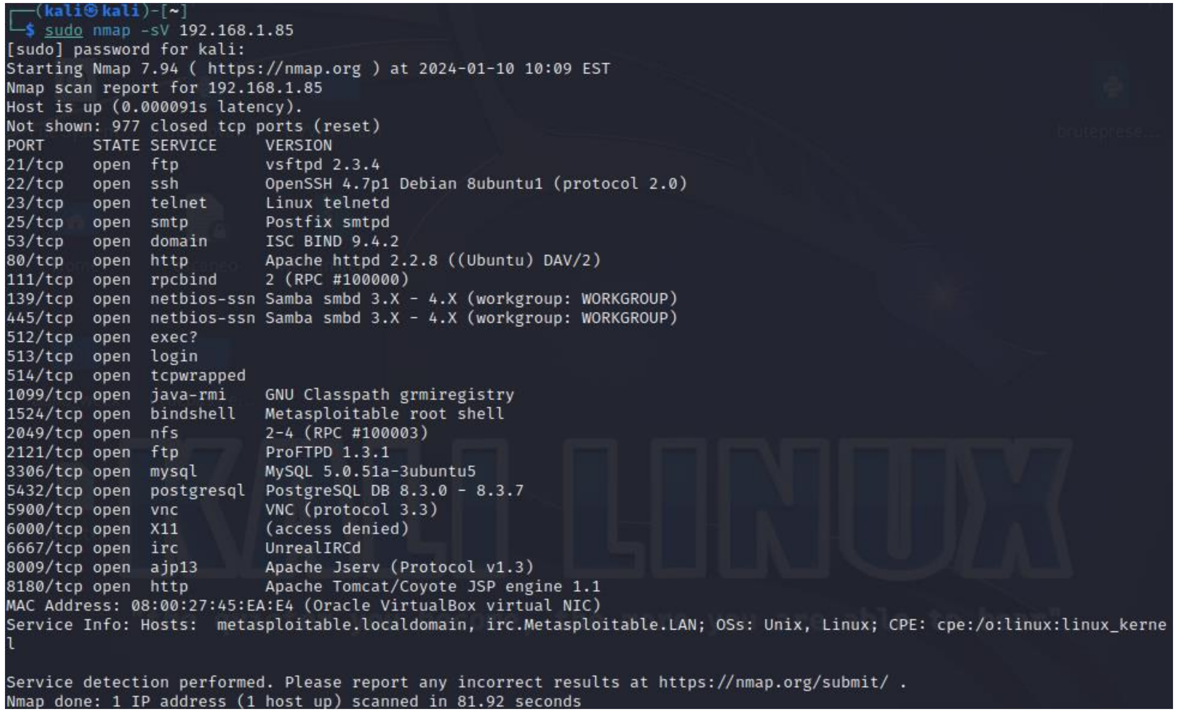
```
┌──(kali㉿kali)-[~]
└─$ sudo nmap -sT 192.168.1.85
[sudo] password for kali:
Starting Nmap 7.94 ( https://nmap.org ) at 2024-01-10 09:34 EST
Nmap scan report for 192.168.1.85
Host is up (0.00012s latency).
Not shown: 977 closed tcp ports (conn-refused)
PORT     STATE SERVICE
21/tcp   open  ftp
22/tcp   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
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: 08:00:27:45:EA:E4 (Oracle VirtualBox virtual NIC)

Nmap done: 1 IP address (1 host up) scanned in 13.13 seconds
```

Comando: sudo nmap -sT 192.168.1.85

Questo comando restituisce le porte aperte della macchina bersaglio effettuando un canale fra le due macchine, questo avviene perché si sono concluse le 3 strette di mano.

Scansione Version detection

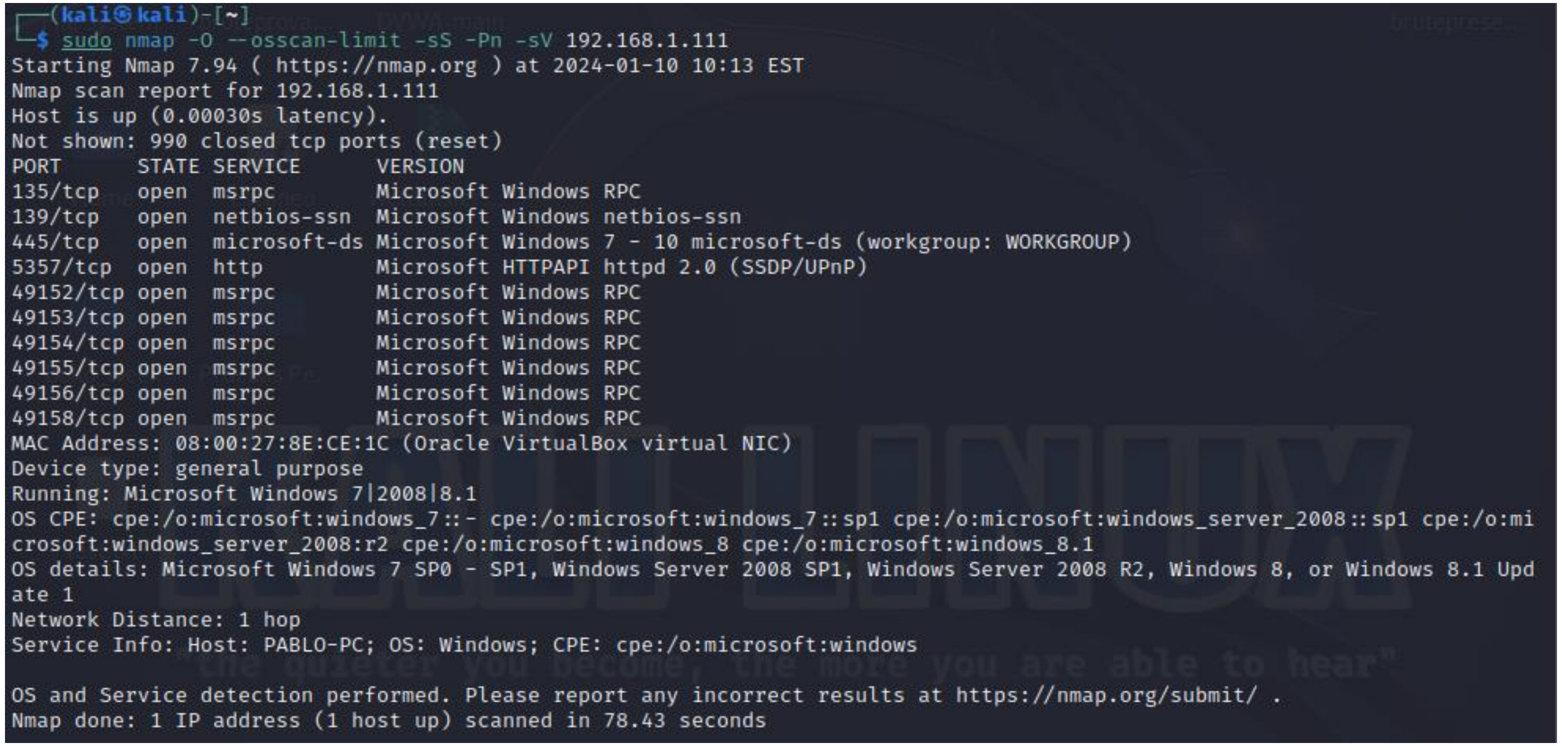
Comando: sudo nmap -sV 192.168.1.85



```
┌──(kali㉿kali)-[~]
└─$ sudo nmap -sV 192.168.1.85
[sudo] password for kali:
Starting Nmap 7.94 ( https://nmap.org ) at 2024-01-10 10:09 EST
Nmap scan report for 192.168.1.85
Host is up (0.000091s latency).
Not shown: 977 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)
512/tcp  open  exec?
513/tcp  open  login
514/tcp  open  tcpwrapped
1099/tcp open  java-rmi    GNU Classpath grmiregistry
1524/tcp open  bindshell   Metasploitable root shell
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)
6667/tcp open  irc         UnrealIRCd
8009/tcp open  ajp13       Apache Jserv (Protocol v1.3)
8180/tcp open  http        Apache Tomcat/Coyote JSP engine 1.1
MAC Address: 08:00:27:45:EA:E4 (Oracle VirtualBox virtual NIC)
Service Info: Hosts:  metasploitable.localdomain, irc.Metasploitable.LAN; OSs: Unix, Linux; CPE: cpe:/o:linux:linux_kerne
l

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 81.92 seconds
```

Il comando esegue una scansione abilitando la feature di «version detection», grazie alla quale oltre al servizio recuperiamo anche la versione e relativi dettagli.

Report della scansione del Windows 7



```
┌──(kali㉿kali)-[~]
└─$ sudo nmap -O --osscan-limit -sS -Pn -sV 192.168.1.111
Starting Nmap 7.94 ( https://nmap.org ) at 2024-01-10 10:13 EST
Nmap scan report for 192.168.1.111
Host is up (0.00030s latency).
Not shown: 990 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)
5357/tcp  open  http         Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
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
49158/tcp open  msrpc        Microsoft Windows RPC
MAC Address: 08:00:27:8E:CE:1C (Oracle VirtualBox virtual NIC)
Device type: general purpose
Running: Microsoft Windows 7|2008|8.1
OS CPE: cpe:/o:microsoft:windows_7::- cpe:/o:microsoft:windows_7::sp1 cpe:/o:microsoft:windows_server_2008::sp1 cpe:/o:mi
crosoft:windows_server_2008:r2 cpe:/o:microsoft:windows_8 cpe:/o:microsoft:windows_8.1
OS details: Microsoft Windows 7 SP0 - SP1, Windows Server 2008 SP1, Windows Server 2008 R2, Windows 8, or Windows 8.1 Upd
ate 1
Network Distance: 1 hop
Service Info: Host: PABLO-PC; OS: Windows; CPE: cpe:/o:microsoft:windows

OS and Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 78.43 seconds
```

Comando:
sudo nmap -O --osscan-limit -sS -Pn -sV
192.168.1.111

Il commando ci fornirà tutti i dettagli dalla macchina attaccante tra cui:

- Sistema operativo
- Porte aperte
- Servizio con la versione