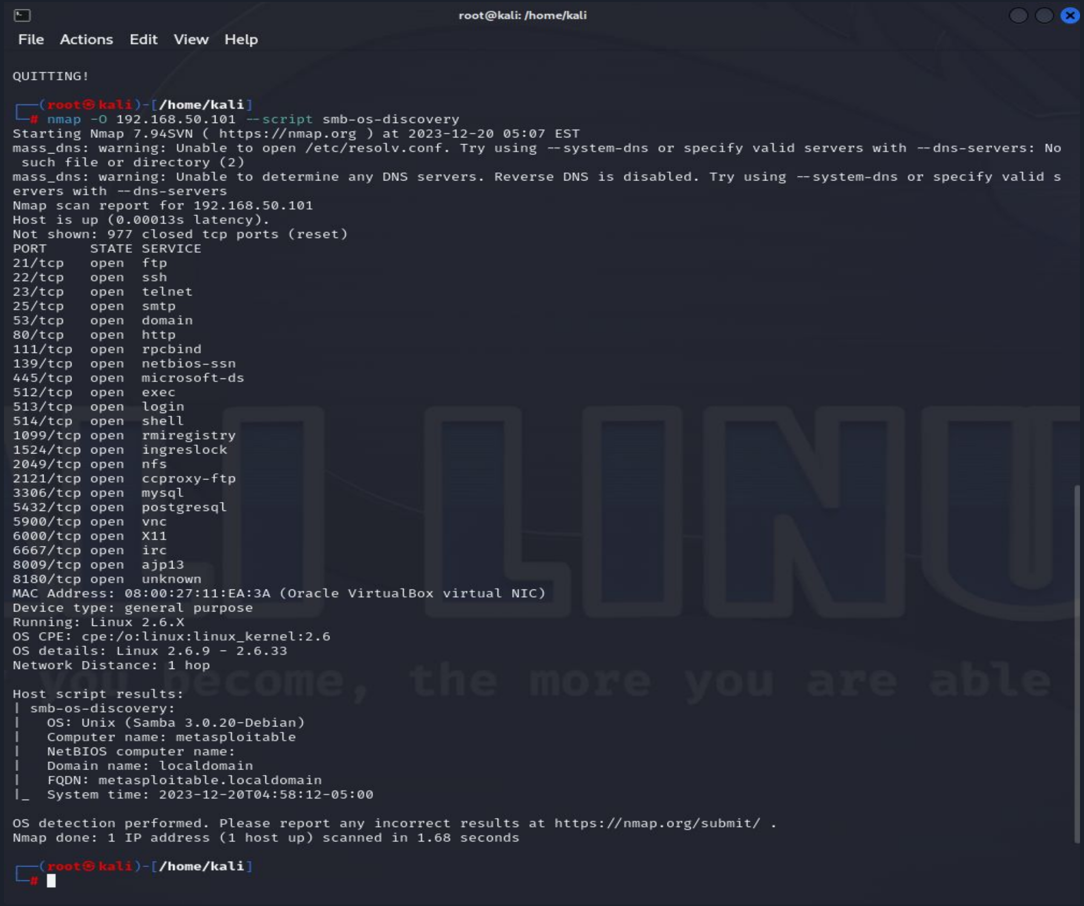
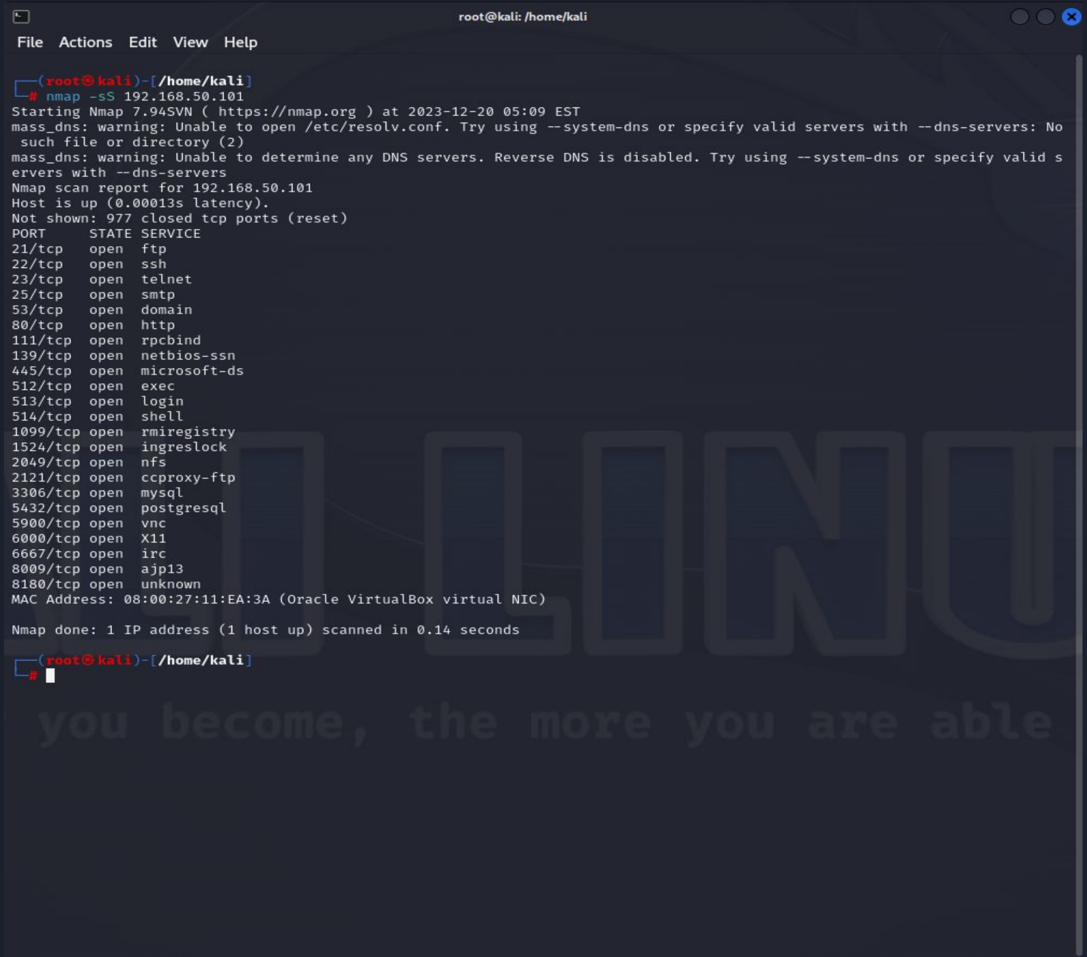
ESERCIZIO S5L3
NMAP Introduzione

PARTE 1: METASPLOITABLE
OS Fingerprint



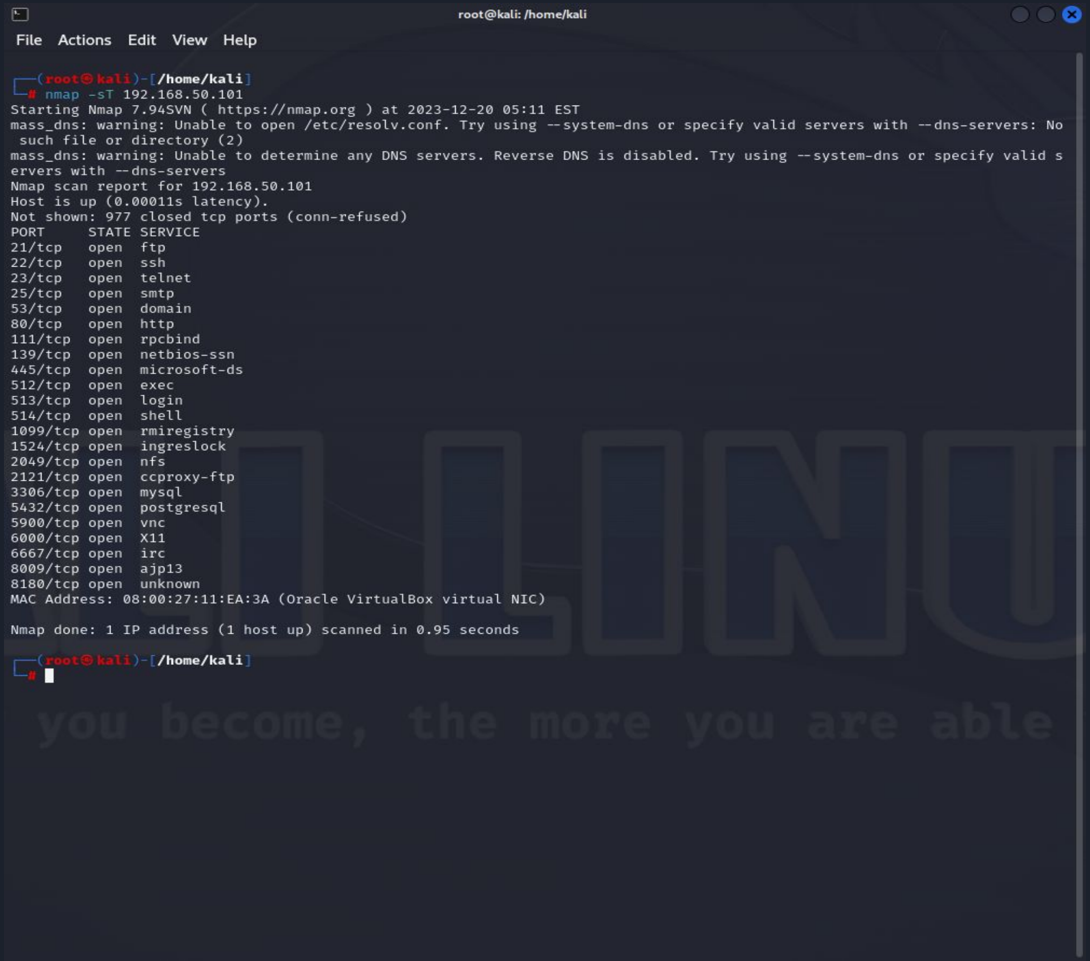
```
QUITTING!

┌──(root㉿kali)-[/home/kali]
└─# nmap -O 192.168.50.101 --script smb-os-discovery
Starting Nmap 7.94SVN ( https://nmap.org ) at 2023-12-20 05:07 EST
mass_dns: warning: Unable to open /etc/resolv.conf. Try using --system-dns or specify valid servers with --dns-servers: No
 such file or directory (2)
mass_dns: warning: Unable to determine any DNS servers. Reverse DNS is disabled. Try using --system-dns or specify valid s
ervers with --dns-servers
Nmap scan report for 192.168.50.101
Host is up (0.00013s 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: 08:00:27:11:EA:3A (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

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: 2023-12-20T04:58:12-05:00

OS detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 1.68 seconds

┌──(root㉿kali)-[/home/kali]
└─# 
```

SYN SCAN



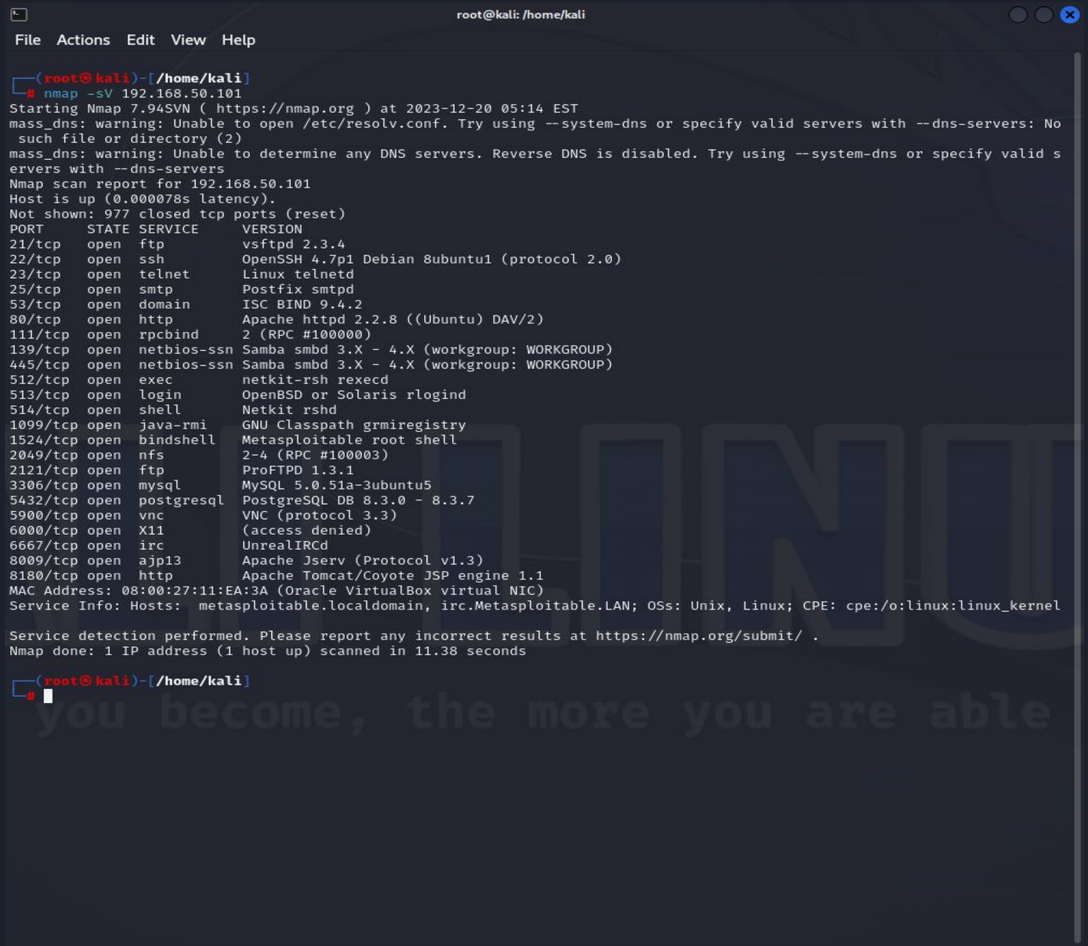
```
┌──(root㉿kali)-[/home/kali]
└─# nmap -sS 192.168.50.101
Starting Nmap 7.94SVN ( https://nmap.org ) at 2023-12-20 05:09 EST
mass_dns: warning: Unable to open /etc/resolv.conf. Try using --system-dns or specify valid servers with --dns-servers: No
 such file or directory (2)
mass_dns: warning: Unable to determine any DNS servers. Reverse DNS is disabled. Try using --system-dns or specify valid s
ervers with --dns-servers
Nmap scan report for 192.168.50.101
Host is up (0.00013s 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: 08:00:27:11:EA:3A (Oracle VirtualBox virtual NIC)

Nmap done: 1 IP address (1 host up) scanned in 0.14 seconds

┌──(root㉿kali)-[/home/kali]
└─# 
```

TCP CONNECT



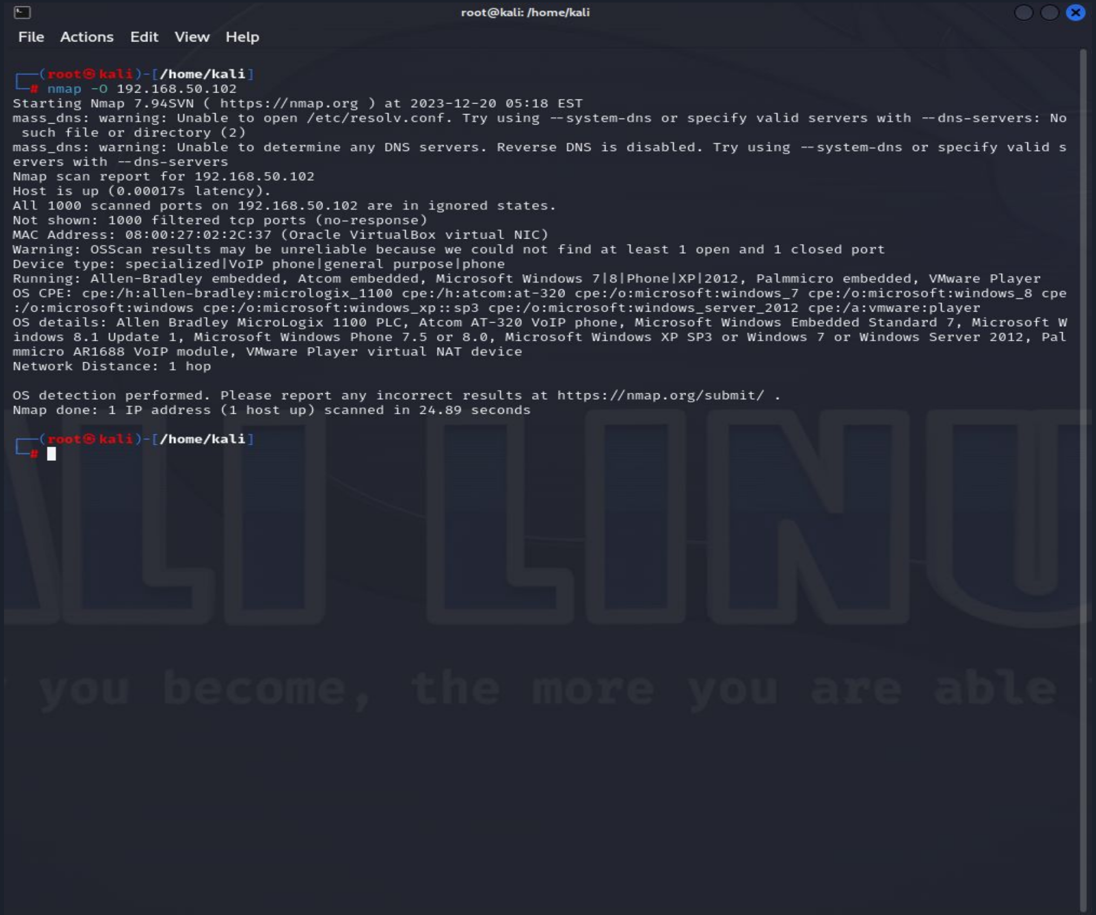
```
┌──(root㉿kali)-[/home/kali]
└─# nmap -sT 192.168.50.101
Starting Nmap 7.94SVN ( https://nmap.org ) at 2023-12-20 05:11 EST
mass_dns: warning: Unable to open /etc/resolv.conf. Try using --system-dns or specify valid servers with --dns-servers: No
 such file or directory (2)
mass_dns: warning: Unable to determine any DNS servers. Reverse DNS is disabled. Try using --system-dns or specify valid s
ervers with --dns-servers
Nmap scan report for 192.168.50.101
Host is up (0.00011s 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: 08:00:27:11:EA:3A (Oracle VirtualBox virtual NIC)

Nmap done: 1 IP address (1 host up) scanned in 0.95 seconds

┌──(root㉿kali)-[/home/kali]
└─# 
```

VERSION DETECTION



```
┌──(root㉿kali)-[/home/kali]
└─# nmap -sV 192.168.50.101
Starting Nmap 7.94SVN ( https://nmap.org ) at 2023-12-20 05:14 EST
mass_dns: warning: Unable to open /etc/resolv.conf. Try using --system-dns or specify valid servers with --dns-servers: No
 such file or directory (2)
mass_dns: warning: Unable to determine any DNS servers. Reverse DNS is disabled. Try using --system-dns or specify valid s
ervers with --dns-servers
Nmap scan report for 192.168.50.101
Host is up (0.000078s 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        netkit-rsh rexecd
513/tcp  open  login       OpenBSD or Solaris rlogind
514/tcp  open  shell       Netkit rshd
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: 08:00:27:11:EA:3A (Oracle VirtualBox virtual NIC)
Service Info: Hosts:  metasploitable.localdomain, irc.Metasploitable.LAN; 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 11.38 seconds

┌──(root㉿kali)-[/home/kali]
└─# 
```

PARTE 2: WINDOWS 7
OS Fingerprint



```
┌──(root㉿kali)-[/home/kali]
└─# nmap -O 192.168.50.102
Starting Nmap 7.94SVN ( https://nmap.org ) at 2023-12-20 05:18 EST
mass_dns: warning: Unable to open /etc/resolv.conf. Try using --system-dns or specify valid servers with --dns-servers: No
 such file or directory (2)
mass_dns: warning: Unable to determine any DNS servers. Reverse DNS is disabled. Try using --system-dns or specify valid s
ervers with --dns-servers
Nmap scan report for 192.168.50.102
Host is up (0.00017s latency).
All 1000 scanned ports on 192.168.50.102 are in ignored states.
Not shown: 1000 filtered tcp ports (no-response)
MAC Address: 08:00:27:02:2C:37 (Oracle VirtualBox virtual NIC)
Warning: OSScan results may be unreliable because we could not find at least 1 open and 1 closed port
Device type: specialized|VoIP phone|general purpose|phone
Running: Allen-Bradley embedded, Atcom embedded, Microsoft Windows 7|8|Phone|XP|2012, Palmmicro embedded, VMware Player
OS CPE: cpe:/h:allen-bradley:micrologix_1100 cpe:/h:atcom:at-320 cpe:/o:microsoft:windows_7 cpe:/o:microsoft:windows_8 cpe
:/o:microsoft:windows cpe:/o:microsoft:windows_xp::sp3 cpe:/o:microsoft:windows_server_2012 cpe:/a:vmware:player
OS details: Allen Bradley MicroLogix 1100 PLC, Atcom AT-320 VoIP phone, Microsoft Windows Embedded Standard 7, Microsoft W
indows 8.1 Update 1, Microsoft Windows Phone 7.5 or 8.0, Microsoft Windows XP SP3 or Windows 7 or Windows Server 2012, Pal
mmicro AR1688 VoIP module, VMware Player virtual NAT device
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 24.89 seconds

┌──(root㉿kali)-[/home/kali]
└─# 
```

SPIEGAZIONE ESERCIZIO

Oggi abbiamo avuto un introduzione al potente e molto utilizzato tool NMAP con questo semplice esercizio. Dopo aver settato le macchine sulla stessa subnet e con lo stesso gateway abbiamo effettuato i test elencati nelle slide precedenti e come da esercizio, sia per Metasploitable che Windows 7.

La differenza tra il TCP scan e il SYN scan su Meta e’ che con il primo metodo viene effettuato il completo 3 way handshake (SYN-SYN ACK-ACK) e il sistema rifiuta la richiesta con l errore (connection refused), invece con SYN scan non effettuando il 3WH completo (SYN-SYN ACK) per lasciare meno tracce ed essere piu’ stealth non gli restituisce nella stessa risposta “connection refused” ma “reset”.

Infine Windows 7 restituisce i risultati visibili sulla slide precedente a questa a causa di regole mancanti all’interno del firewall che bloccano qualsiasi chiamata esterna attraverso tutti i protocolli diversi da ICMPv4 (nel caso dei nostri scan TCP e UDP ad esempio). Per risolvere questo problema quindi bisogna aggiungere una regola specifica che fa passare queste richieste da specifici ip o qualsiasi ip in base alle necessita’.