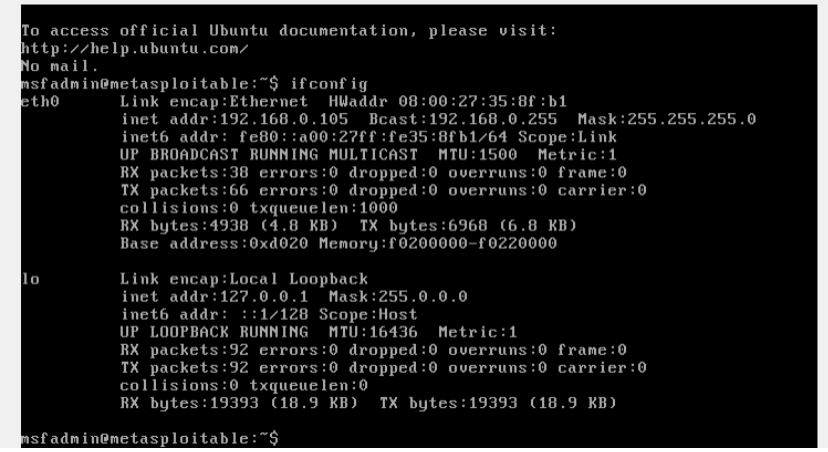
Task 1: Scan Your Local Network for Open Ports Objective: Learn to discover open ports on devices in your local network to understand network exposure. Tools: Nmap (free), Wireshark (optional)

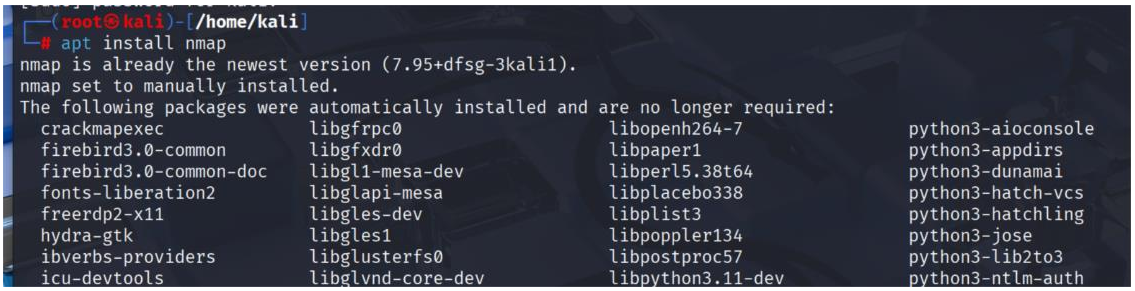
STEP 1: open Metasploit and login into it



We get Metasploit Ip : 192.168.0.105

Step 2: Install nmap on kali Linux with the command :

Apt install nmap



Step 3 : Nmap command to tcp scan port:

nmap –sT 192.168.0.105

```
┌──(root㉿kali)-[/home/kali]
└─# nmap -sT 192.168.0.105
Starting Nmap 7.95 ( https://nmap.org ) at 2025-07-05 11:36 EDT
Nmap scan report for 192.168.0.105
Host is up (0.0060s 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
```

This command gives open port state and services use by ports.

Step 4:` nmap service version scan with this command:

nmap –sV 192.168.0.105

```
┌──(root㉿kali)-[/home/kali]
└─# nmap -sV 192.168.0.105
Starting Nmap 7.95 ( https://nmap.org ) at 2025-07-05 11:45 EDT
Nmap scan report for 192.168.0.105
Host is up (0.0012s 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
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)
```

This command give services version which is used by host.

Step 5: Os detection scan using nmap:

nmap –sS –O 192.168.0.105

```
┌──(root㉿kali)-[/home/kali]
└─# nmap -sS -O 192.168.0.105
Starting Nmap 7.95 ( https://nmap.org ) at 2025-07-05 11:50 EDT
Nmap scan report for 192.168.0.105
Host is up (0.0020s 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
```

```
File  Actions  Edit  View  Help
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: 08:00:27:35:8F:B1 (PCS Systemtechnik/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 2.22 seconds
```

This scan also detect host os.

Step 6: all port scan using nmap:

nmap –sS –p- 192.168.0.105

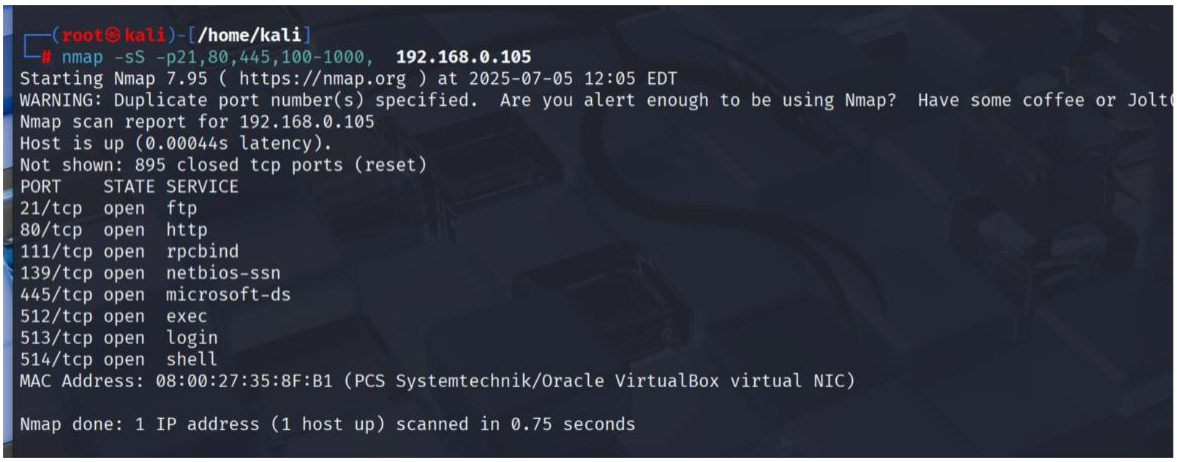
```
┌──(root㉿kali)-[/home/kali]
└─# nmap -sS -p- 192.168.0.105
Starting Nmap 7.95 ( https://nmap.org ) at 2025-07-05 11:57 EDT
Nmap scan report for 192.168.0.105
Host is up (0.00080s latency).
Not shown: 65505 closed tcp ports (reset)
PORT     STATE SERVICE
21/tcp   open  ftp
22/tcp   open  ssh
23/tcp   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
3632/tcp open  distccd
5432/tcp open  postgresql
```

This scan all port of the host system and provide details.

Step 7: specific port scan of victim :

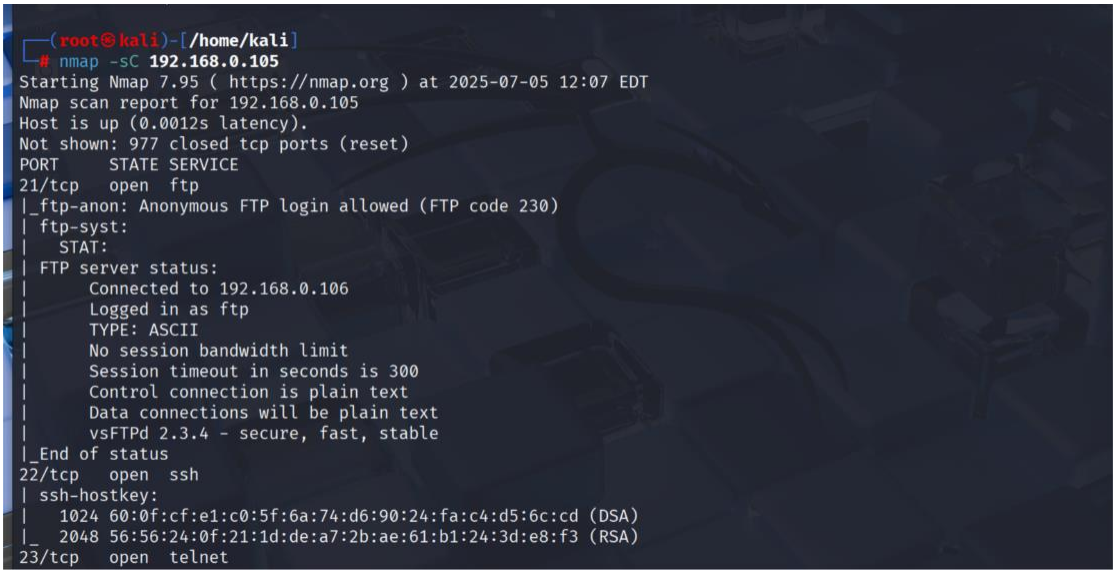
nmap –sS –p21,80.445, 100-1000, 192.168.0.105

(here 21,80, 445 are port number and 100-1000 is the range we have given)



Step8: default script scan:

nmap –sC 192.168.0.105



Step 9: Aggressive scan (which include services, os and default scripting scan)

nmap -A 192.168.0.105

```
┌──(root㉿kali)-[/home/kali]
└─# nmap -A 192.168.0.105
Starting Nmap 7.95 ( https://nmap.org ) at 2025-07-05 12:14 EDT
Nmap scan report for 192.168.0.105
Host is up (0.0015s latency).
Not shown: 977 closed tcp ports (reset)
PORT     STATE SERVICE     VERSION
21/tcp   open  ftp         vsftpd 2.3.4
| ftp-syst:
|   STAT:
| FTP server status:
|      Connected to 192.168.0.106
|      Logged in as ftp
|      TYPE: ASCII
|      No session bandwidth limit
|      Session timeout in seconds is 300
|      Control connection is plain text
|      Data connections will be plain text
|      vsFTPd 2.3.4 - secure, fast, stable
|_End of status
|_ftp-anon: Anonymous FTP login allowed (FTP code 230)
22/tcp   open  ssh         OpenSSH 4.7p1 Debian 8ubuntu1 (protocol 2.0)
| ssh-hostkey:
|   1024 60:0f:cf:e1:c0:5f:6a:74:d6:90:24:fa:c4:d5:6c:cd (DSA)
|_  2048 56:56:24:0f:21:1d:de:a7:2b:ae:61:b1:24:3d:e8:f3 (RSA)
23/tcp   open  telnet      Linux telnetd
```

```
File  Actions  Edit  View  Help
|      SSL2_RC4_128_WITH_MD5
|_     SSL2_RC2_128_CBC_WITH_MD5
53/tcp   open  domain      ISC BIND 9.4.2
| dns-nsid:
|_  bind.version: 9.4.2
80/tcp   open  http        Apache httpd 2.2.8 ((Ubuntu) DAV/2)
|_http-server-header: Apache/2.2.8 (Ubuntu) DAV/2
|_http-title: Metasploitable2 - Linux
111/tcp  open  rpcbind     2 (RPC #100000)
| rpcinfo:
|   program version    port/proto  service
|   100000  2            111/tcp   rpcbind
|   100000  2            111/udp   rpcbind
|   100003  2,3,4       2049/tcp   nfs
|   100003  2,3,4       2049/udp   nfs
|   100005  1,2,3      43320/tcp   mountd
|   100005  1,2,3      58691/udp   mountd
|   100021  1,3,4      42298/tcp   nlockmgr
|   100021  1,3,4      45489/udp   nlockmgr
|   100024  1          41173/tcp   status
|_  100024  1          59746/udp   status
139/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
445/tcp  open  netbios-ssn Samba smbd 3.0.20-Debian (workgroup: WORKGROUP)
512/tcp  open  exec        netkit-rsh rexecd
513/tcp  open  login?
514/tcp  open  tcpwrapped
1099/tcp open  java-rmi    GNU Classpath grmiregistry
```

```
Host script results:
|_nbstat: NetBIOS name: METASPLOITABLE, NetBIOS user: <unknown>, NetBIOS MAC: <unknown> (unknown)
| smb-os-discovery:
|   OS: Unix (Samba 3.0.20-Debian)
|   Computer name: metasploitable
|   NetBIOS computer name:
|   Domain name: localdomain
|   FQDN: metasploitable.localdomain
|_  System time: 2025-07-05T12:15:37-04:00
|_smb2-time: Protocol negotiation failed (SMB2)
| smb-security-mode:
|   account_used: guest
|   authentication_level: user
|   challenge_response: supported
|_  message_signing: disabled (dangerous, but default)
|_clock-skew: mean: 1h01m04s, deviation: 2h00m00s, median: 1m04s

TRACEROUTE
HOP RTT     ADDRESS
1   1.52 ms 192.168.0.105

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 24.46 seconds
```

Key learning: how to scan vulnerabilities using Nmap different scan