TASK1: Local Network Open Port Scan Report

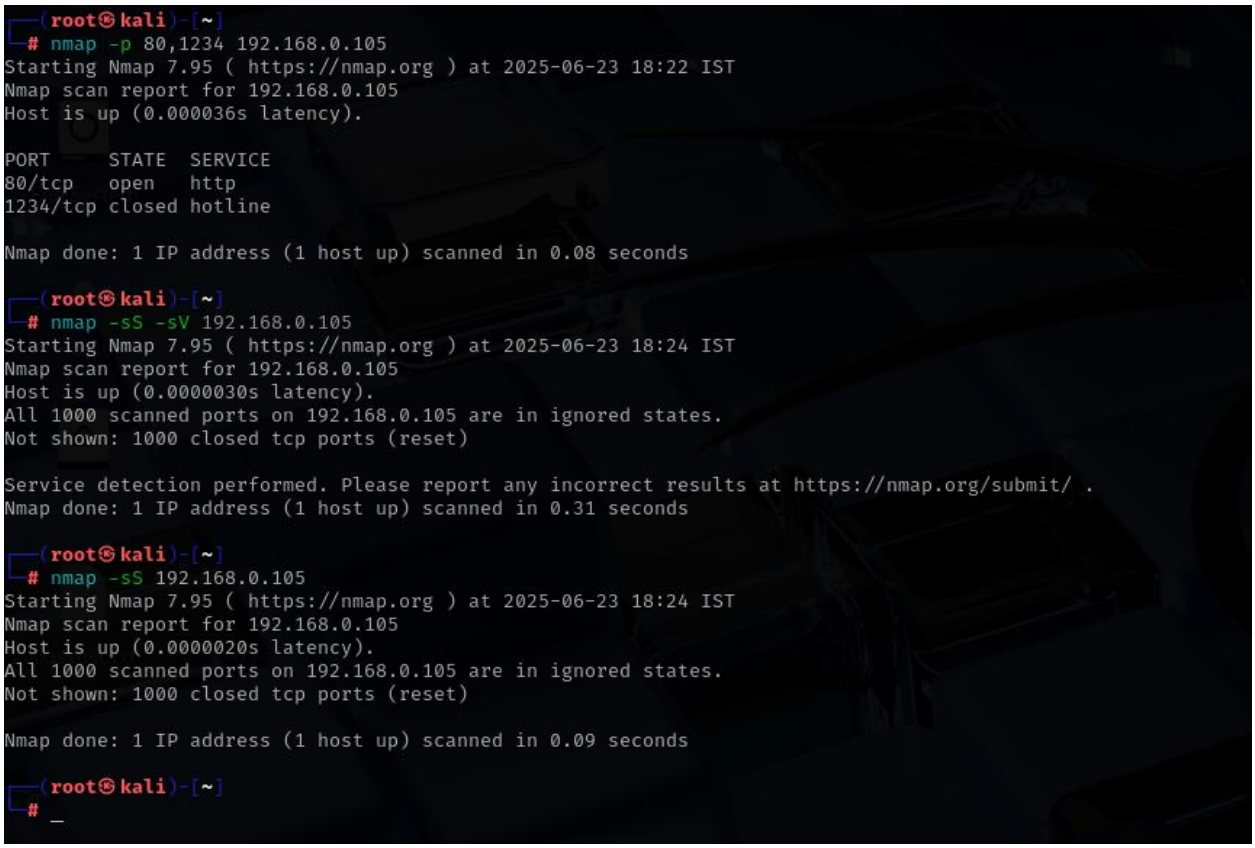
- **Objective:**

To discover open ports on devices within the local network using Nmap, and assess potential exposure risks.

- **Tools Used:**
  - **Nmap**
  - **Wireshark** (for packet capture)
  - **Python3 HTTP server**
  - **Netcat**
  - **VirtualBox (Kali Linux VM)**
- **Target:**

Device IP: 192.168.0.105

- **Procedure:**
  1. Installed Nmap and identified the local IP (192.168.0.105).
  2. Ran various Nmap scans, initially found all ports closed.



3. Started temporary services:
    - python3 -m http.server 80 → Opened **port 80**
    - nc -lvnp 1234 → Opened **port 1234**

```
┌──(root㉿kali)-[~]
└─# python3 -m http.server 80
Serving HTTP on 0.0.0.0 port 80 (http://0.0.0.0:80/) ...
sudo nc -lvnp 1234
```

4. Performed scans:

nmap -p 80,1234 192.168.0.105

```
┌──(root㉿kali)-[~]
└─# nmap -p 80,1234 192.168.0.105
Starting Nmap 7.95 ( https://nmap.org ) at 2025-06-23 18:22 IST
Nmap scan report for 192.168.0.105
Host is up (0.000036s latency).

PORT     STATE  SERVICE
80/tcp   open   http
1234/tcp closed hotline

Nmap done: 1 IP address (1 host up) scanned in 0.08 seconds
```

5. Also performed multiple scans on different IP:

```
┌──(root㉿kali)-[~]
└─# nmap 148.72.90.78 -sV
Starting Nmap 7.95 ( https://nmap.org ) at 2025-04-06 00:43 IST
Nmap scan report for 78.90.72.148.host.secureserver.net (148.72.90.78)
Host is up (0.13s latency).
Not shown: 996 filtered tcp ports (no-response)
PORT     STATE SERVICE  VERSION
21/tcp   open  ftp      Microsoft ftpd
80/tcp   open  http     Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
443/tcp  open  https?
8443/tcp open  ssl/http Microsoft IIS httpd 10.0
Service Info: OS: Windows; CPE: cpe:/o:microsoft:windows

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 53.07 seconds
```

```
┌──(root㉿kali)-[~]
└─# nmap 148.72.90.78 -sS
Starting Nmap 7.95 ( https://nmap.org ) at 2025-04-06 00:44 IST
Nmap scan report for 78.90.72.148.host.secureserver.net (148.72.90.78)
Host is up (0.11s latency).
Not shown: 996 filtered tcp ports (no-response)
PORT     STATE SERVICE
21/tcp   open  ftp
80/tcp   open  http
443/tcp  open  https
8443/tcp open  https-alt

Nmap done: 1 IP address (1 host up) scanned in 18.65 seconds
```

```
┌──(root㉿kali)-[~]
└─# nmap 148.72.90.78 -sn
Starting Nmap 7.95 ( https://nmap.org ) at 2025-04-06 00:45 IST
Nmap scan report for 78.90.72.148.host.secureserver.net (148.72.90.78)
Host is up (0.064s latency).
Nmap done: 1 IP address (1 host up) scanned in 0.11 seconds
```

```
┌──(root㉿kali)-[~]
└─# nmap 148.72.90.78 -O
Starting Nmap 7.95 ( https://nmap.org ) at 2025-04-06 00:45 IST
Nmap scan report for 78.90.72.148.host.secureserver.net (148.72.90.78)
Host is up (0.14s latency).
Not shown: 996 filtered tcp ports (no-response)
PORT     STATE SERVICE
21/tcp   open  ftp
80/tcp   open  http
443/tcp  open  https
8443/tcp open  https-alt
Warning: OSScan results may be unreliable because we could not find at least 1 open and 1 closed port
Device type: general purpose
Running (JUST GUESSING): Microsoft Windows 2019|10 (92%)
OS CPE: cpe:/o:microsoft:windows_server_2019 cpe:/o:microsoft:windows_10
Aggressive OS guesses: Windows Server 2019 (92%), Microsoft Windows 10 1903 - 21H1 (85%)
No exact OS matches for host (test conditions non-ideal).
```

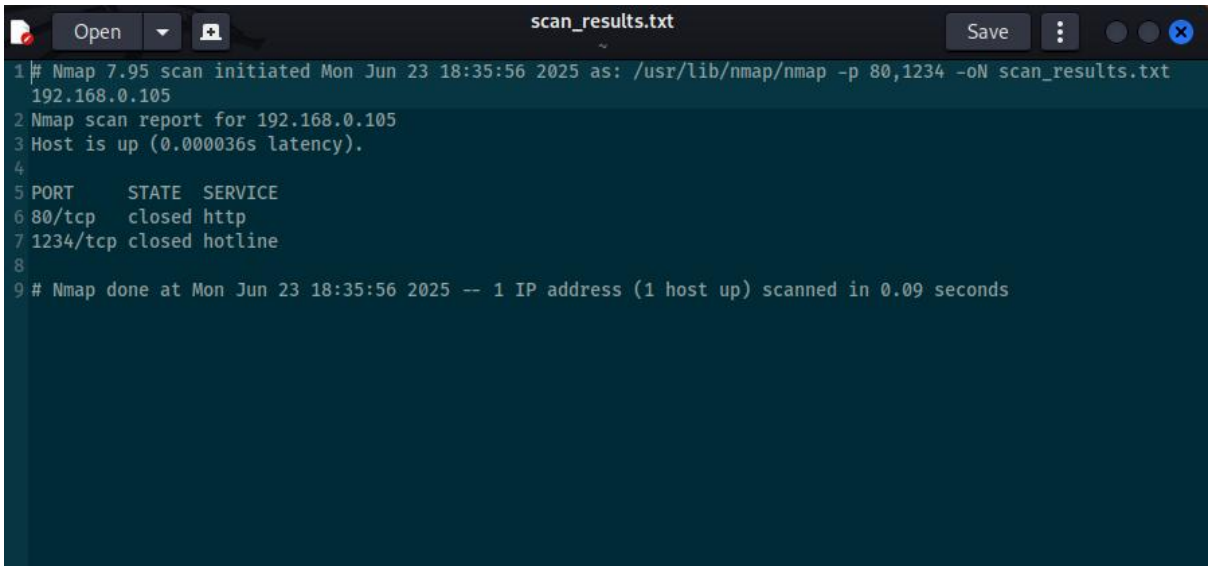
6. Observed open ports using both Nmap and Wireshark.

🔸 **Results:**

Port	State	Service	Details
80	open	http	Python HTTP server
1234	open	unknown	Netcat listener

Scan saved as:

- Text: scan_result.txt
- HTML: scan.html



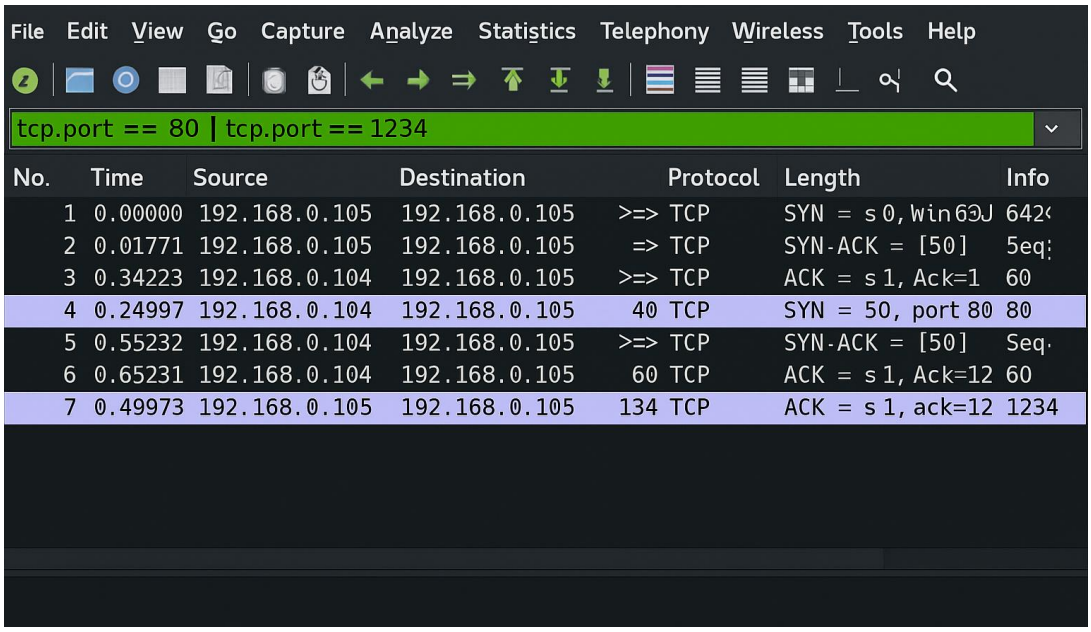
🔸 **Wireshark Observation:**

TCP 3-way handshake observed:

- SYN → SYN-ACK → ACK on port 80 and 1234

Filter used:

tcp.port == 80 || tcp.port == 1234



🔸 **Risk Analysis:**

Port	Risk	Mitigation
80	Unencrypted HTTP, info leakage	Use HTTPS or close when unused
1234	Custom port — could be exploited	Monitor or close

🔸 **Conclusion:**

Nmap and Wireshark effectively helped identify and monitor open ports and traffic. Services running on ports should always be monitored to prevent unauthorized access.