Lab 2 – Network Discovery

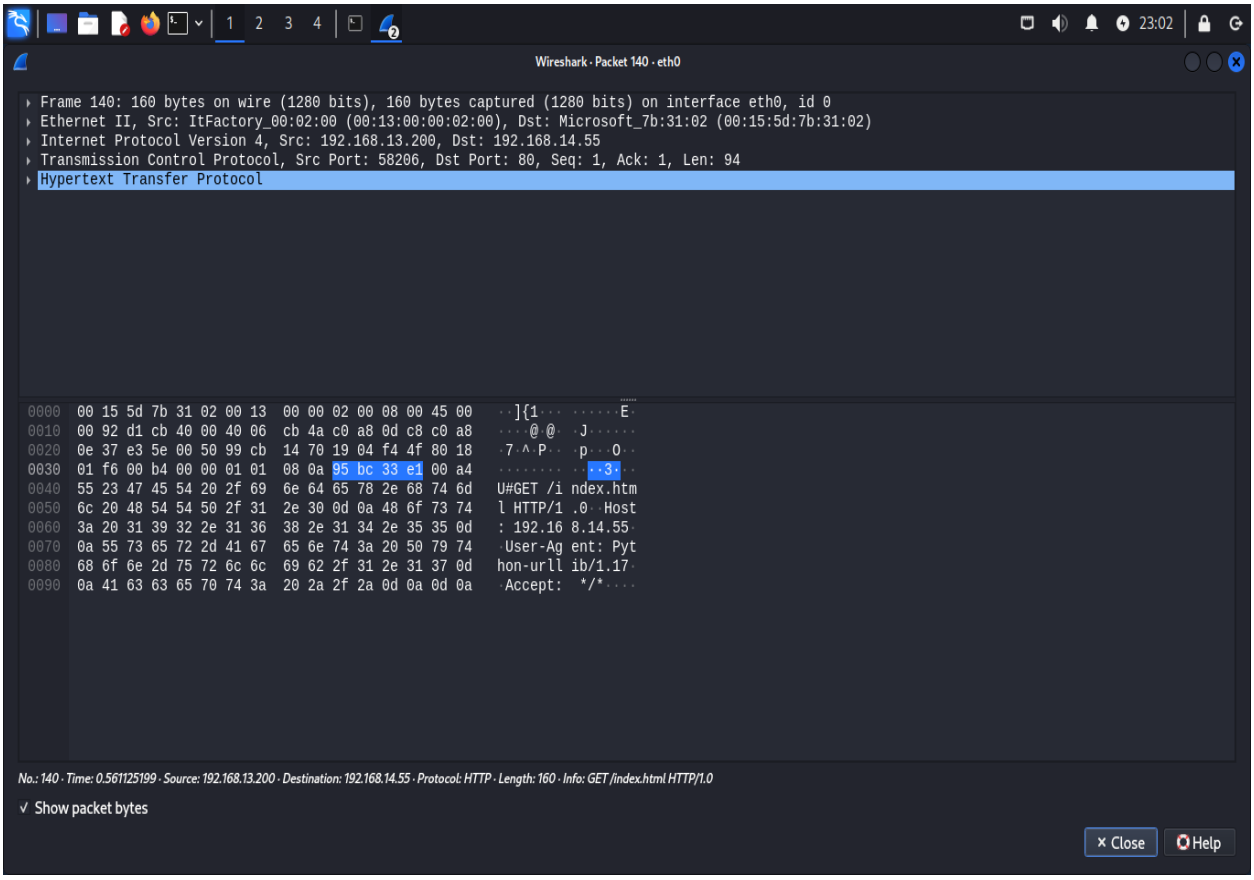
Part 1: OS-INT Collection and Password Cracking

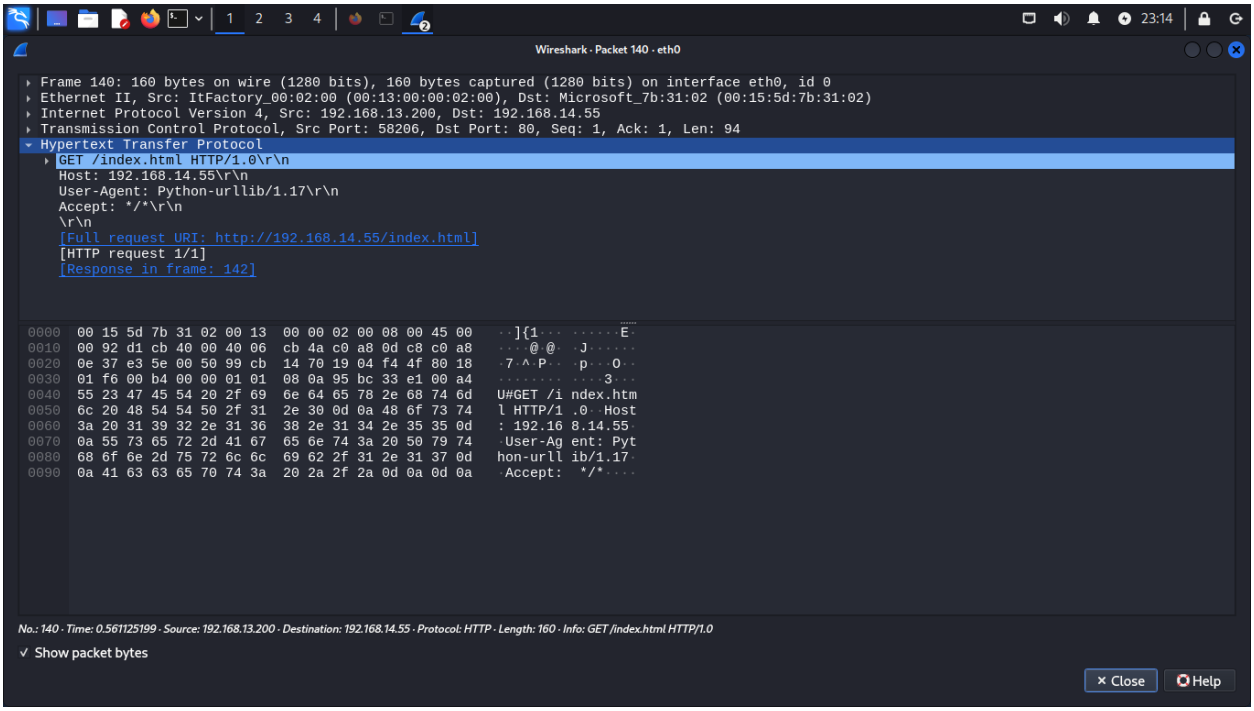
Step 1: Traffic Analysis to Identify Webserver IP

Objective: Find the IP address of the webserver within the target network 192.168.14.0/24.

Tools: We can use tools like tcpdump or Wireshark on Kali VM to monitor network traffic on the target subnet and then can filter for HTTP traffic to identify potential webservers.

Expected Outcome: Identify the IP address of the webserver from captured traffic.





Step 2: Website Access and Scraping

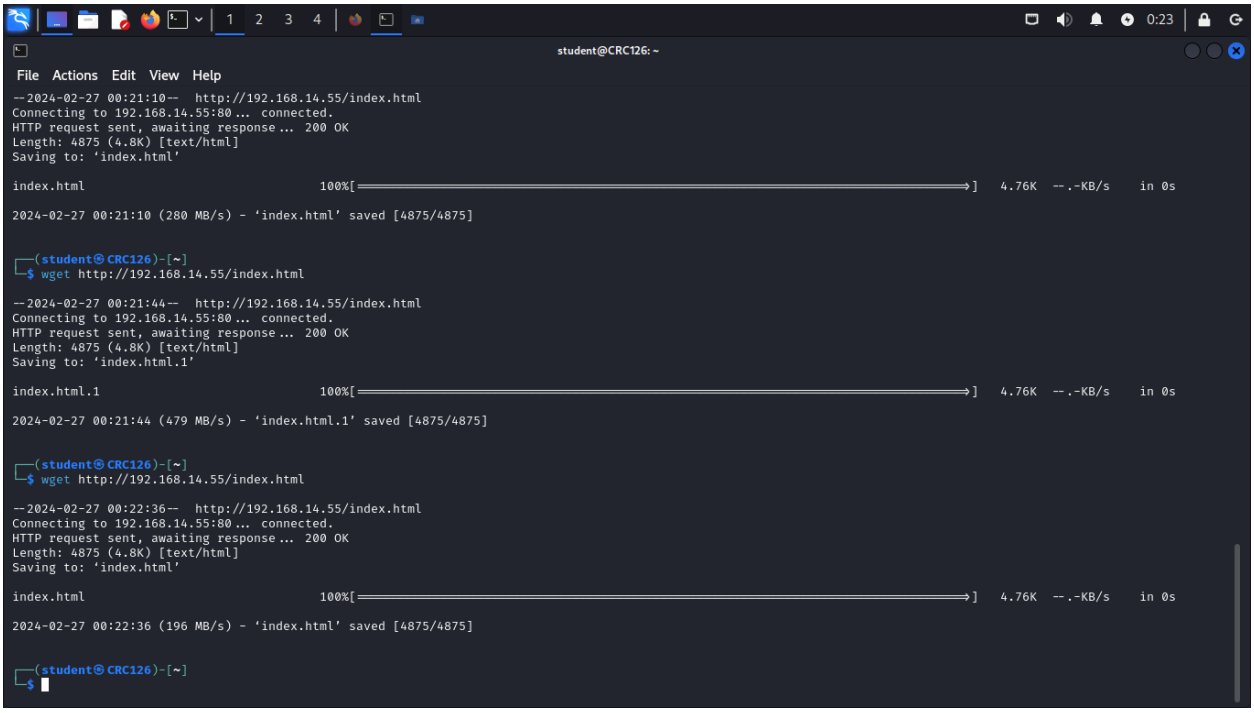
Objective: Access the webserver and scrape it for potential passwords.

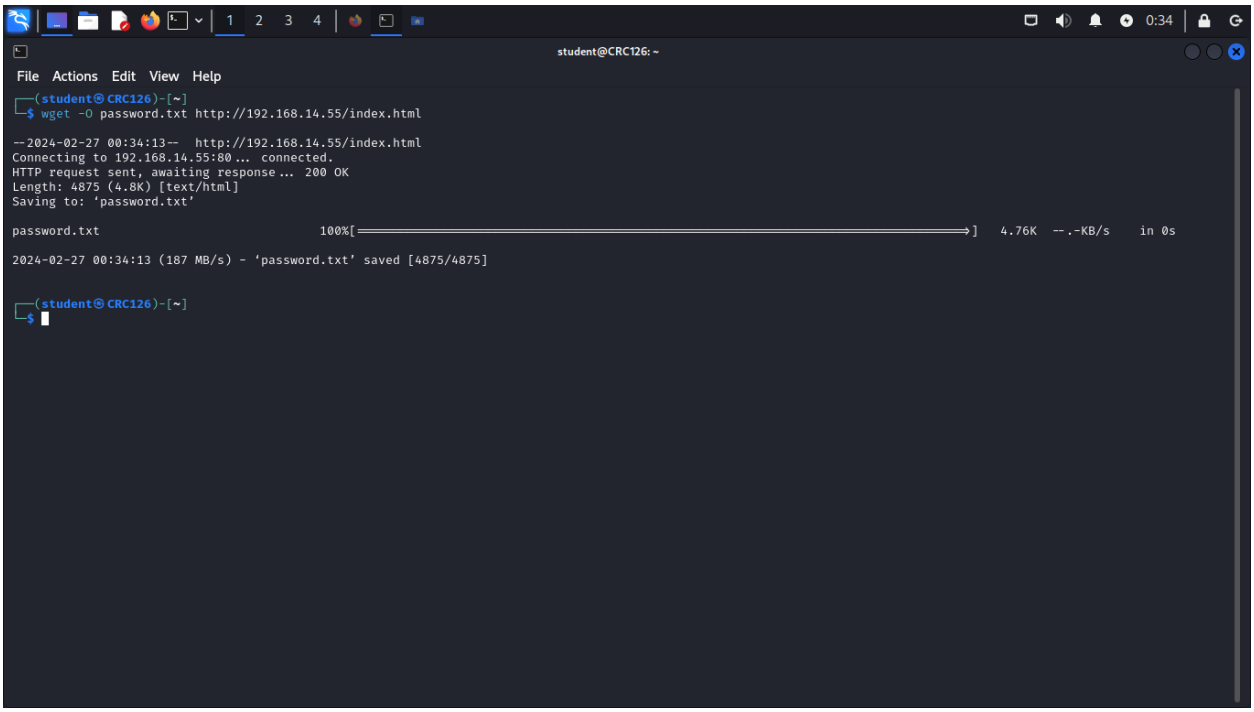
Tools: We can use a web browser to access the webserver via its IP address. For scraping, tools like wget, curl, or more sophisticated scrapers like BeautifulSoup (Python) can be used.

Scraping Example:

Manual: We can save webpage content and manually sift through it.

Automated (using wget): wget -r http://[webserver-ip]/ **(I used wget)**



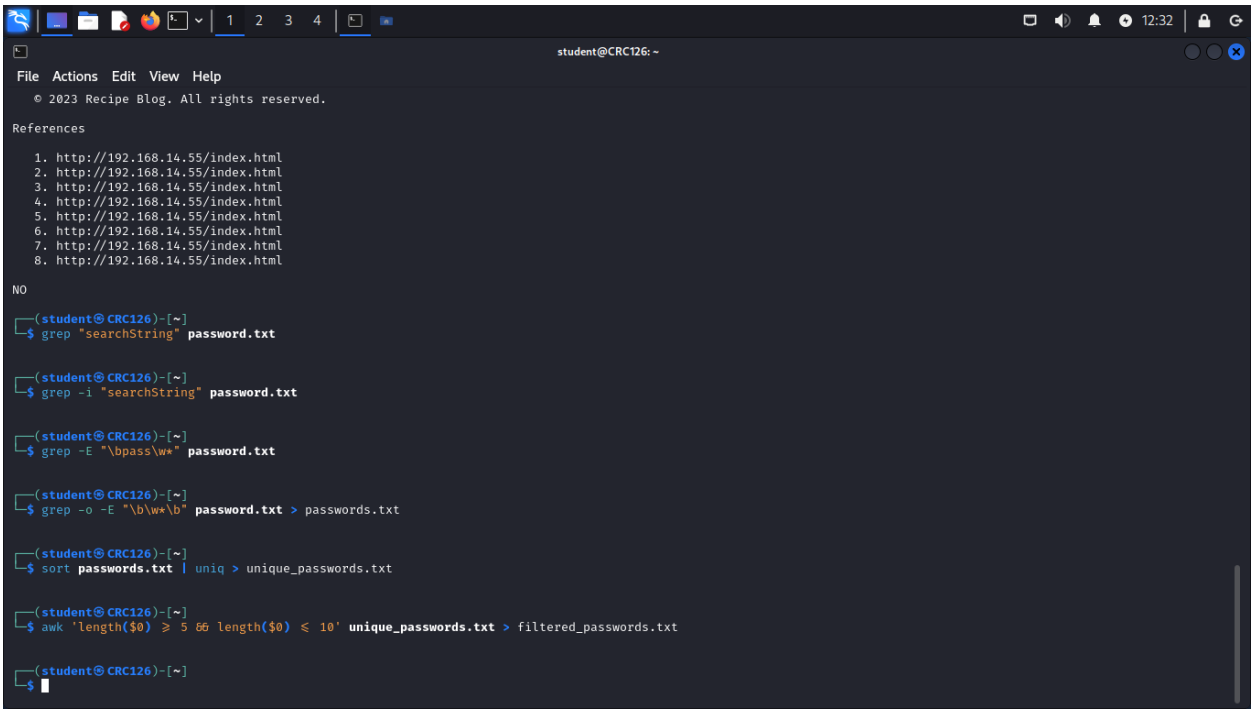


Step 3: Creating a Password List

Objective: Extract potential passwords from the scraped website content.

Method: We can analyze the content for likely passwords. We can look for any words or phrases that might be used as passwords, considering common patterns like the use of company names, common words, dates, etc.

Tools: Text processing tools like grep, awk, sed, or custom scripts can be helpful here. **(I used grep)**



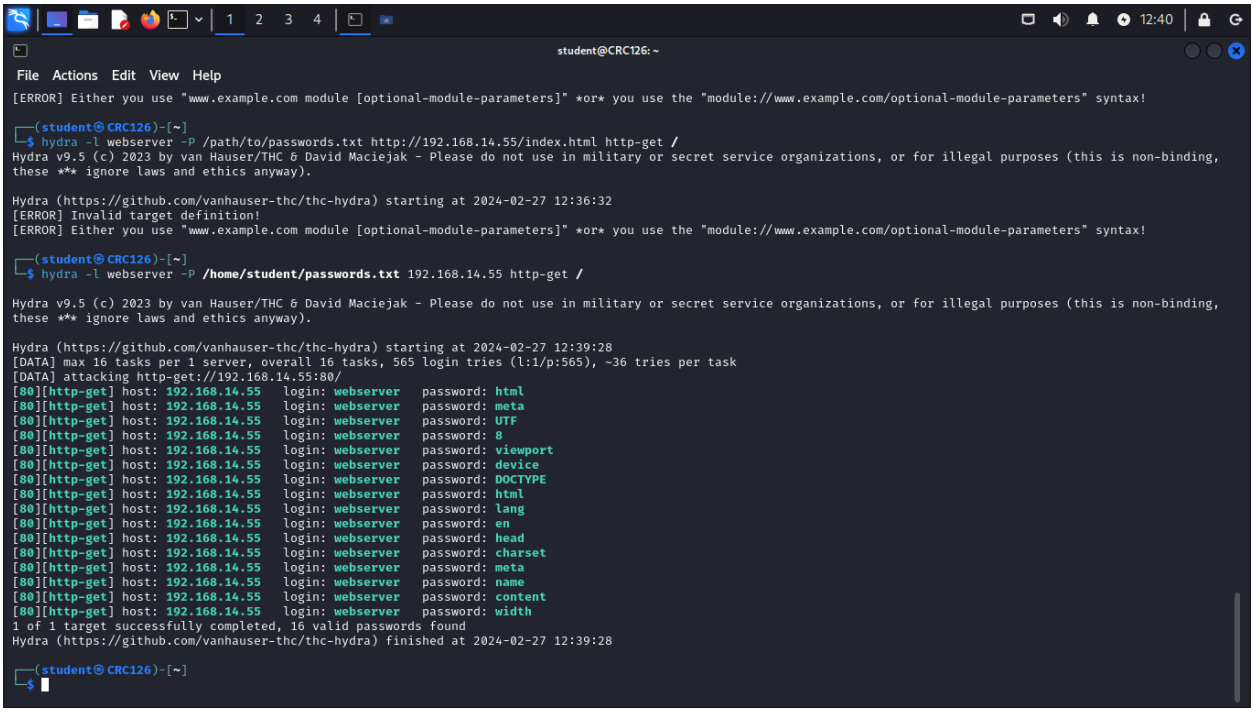
Step 4: Password Cracking

Objective: We can use the created password list to crack the webserver's "webserver" account password.

Tools: Password cracking tools like Hydra, John the Ripper, or Hashcat can be used.

Command Example (with Hydra): hydra -l webserver -P /path/to/passwordlist.txt [webserver-ip] http-get /**(I used Hydra)**

Expected Outcome: Obtain the password for the "webserver" account.



Part 2: Passive Network Discovery

This part involves identifying network resources and mapping network interconnections without actively probing the network (to avoid detection).

Step 1: Network Mapping from the Webserver

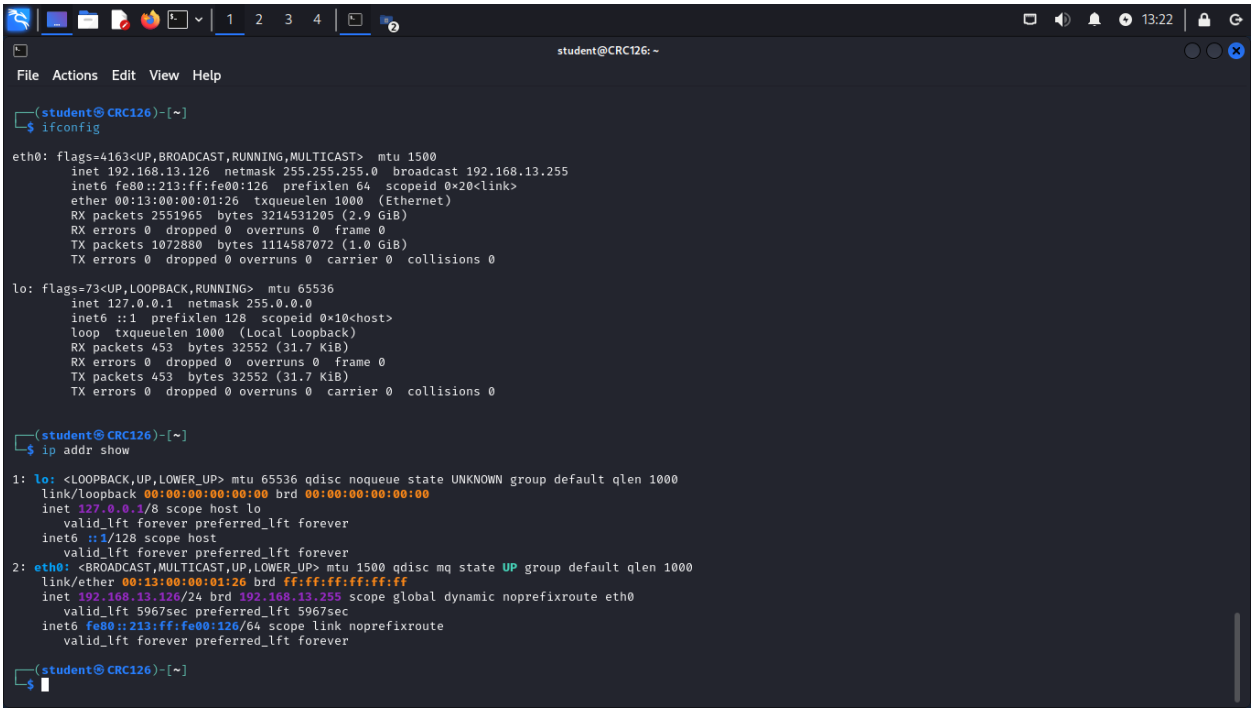
After gaining the access to the webserver: -

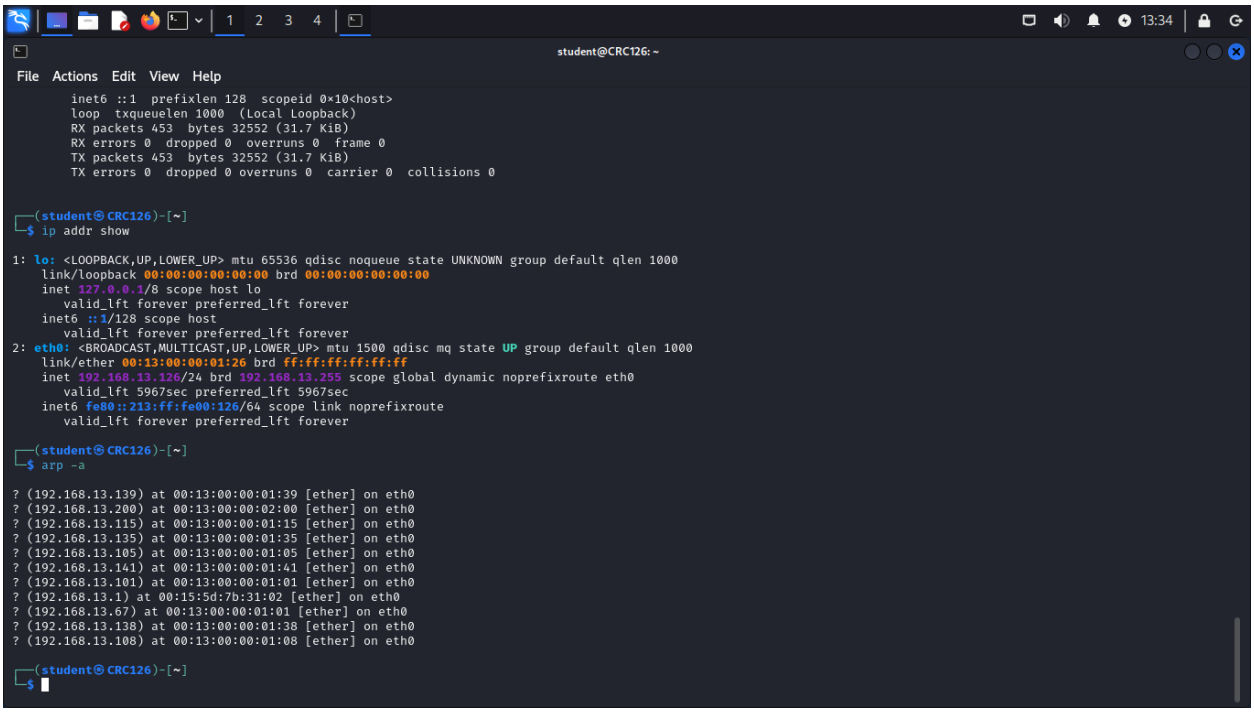
Internal Reconnaissance: We can use commands like ifconfig or ip addr to find out the webserver's IP configuration and identify the subnet mask.

Discover Network Peers: We can use passive scanning tools or techniques to identify other devices on the network without sending too much probing traffic. Tools like p0f can be useful for passive OS fingerprinting based on sniffed network traffic.

Stealthy Scanning: Tools like netscan or arp-scan can be used in a controlled manner to discover devices, but they might not be entirely passive.

Passive listening for ARP requests and responses on the network can also reveal IP and MAC addresses of devices communicating within the subnet.


1 2 3 4
13:22
student@CRC126: ~
File Actions Edit View Help
(student㉿CRC126)-[~]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 192.168.13.126 netmask 255.255.255.0 broadcast 192.168.13.255
inet6 fe80::213:ff:fe00:126 prefixlen 64 scopeid 0x20<link>
ether 00:13:00:00:01:26 txqueuelen 1000 (Ethernet)
RX packets 2551965 bytes 3214531205 (2.9 GiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 1072880 bytes 1114587072 (1.0 GiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 453 bytes 32552 (31.7 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 453 bytes 32552 (31.7 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
(student㉿CRC126)-[~]
$ ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
inet 127.0.0.1/8 scope host lo
valid_lft forever preferred_lft forever
inet6 ::1/128 scope host
valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
link/ether 00:13:00:00:01:26 brd ff:ff:ff:ff:ff:ff
inet 192.168.13.126/24 brd 192.168.13.255 scope global dynamic noprefixroute eth0
valid_lft 5967sec preferred_lft 5967sec
inet6 fe80::213:ff:fe00:126/64 scope link noprefixroute
valid_lft forever preferred_lft forever
(student㉿CRC126)-[~]
$


1 2 3 4
13:34
student@CRC126: ~
File Actions Edit View Help
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 453 bytes 32552 (31.7 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
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TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
(student㉿CRC126)-[~]
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link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
inet 127.0.0.1/8 scope host lo
valid_lft forever preferred_lft forever
inet6 ::1/128 scope host
valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
link/ether 00:13:00:00:01:26 brd ff:ff:ff:ff:ff:ff
inet 192.168.13.126/24 brd 192.168.13.255 scope global dynamic noprefixroute eth0
valid_lft 5967sec preferred_lft 5967sec
inet6 fe80::213:ff:fe00:126/64 scope link noprefixroute
valid_lft forever preferred_lft forever
(student㉿CRC126)-[~]
$ arp -a
? (192.168.13.139) at 00:13:00:00:01:39 [ether] on eth0
? (192.168.13.200) at 00:13:00:00:02:00 [ether] on eth0
? (192.168.13.115) at 00:13:00:00:01:15 [ether] on eth0
? (192.168.13.135) at 00:13:00:00:01:35 [ether] on eth0
? (192.168.13.105) at 00:13:00:00:01:05 [ether] on eth0
? (192.168.13.141) at 00:13:00:00:01:41 [ether] on eth0
? (192.168.13.101) at 00:13:00:00:01:01 [ether] on eth0
? (192.168.13.1) at 00:15:5d:7b:31:02 [ether] on eth0
? (192.168.13.67) at 00:13:00:00:01:01 [ether] on eth0
? (192.168.13.138) at 00:13:00:00:01:38 [ether] on eth0
? (192.168.13.108) at 00:13:00:00:01:08 [ether] on eth0
(student㉿CRC126)-[~]
$