#### Task 2

A) Sniffing - Identify the websites that have vulnerable protocols to sniff o FTP o POP3 oHTTP

### **For FTP PORT**

Vulnerable website: https://easyfashion.com.bd/

Step 1: Open Kali Linux and open the terminal and use the nmap tool to scan the port, first we will scan for the open Ftp port i.e 20 or 21. Find the Vulnerable Website Ip

```
🔙 📄 🍃 🍅 🖭 🗸 Workspace 1
File Actions Edit View Help
(kali@kali)-[~]

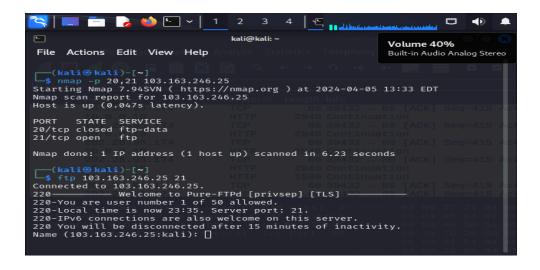
$ nmap -p 20,21 200~66.23.226.182
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-04-04 14:28 EDT
Failed to resolve "200~66.23.226.182".
WARNING: No targets were specified, so 0 hosts scanned.
Nmap done: 0 IP addresses (0 hosts up) scanned in 0.07 seconds
(kali@ kali)-[~]

$ nmap -p 20,21 66.23.226.182
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-04-04 14:29 EDT
Nmap scan report for vps2354181.trouble-free.net (66.23.226.182)
Host is up (0.23s latency).
PORT STATE
                SERVICE
20/tcp filtered ftp-data
21/tcp open
Nmap done: 1 IP address (1 host up) scanned in 3.42 seconds
┌──(kali®kali)-[~]
```

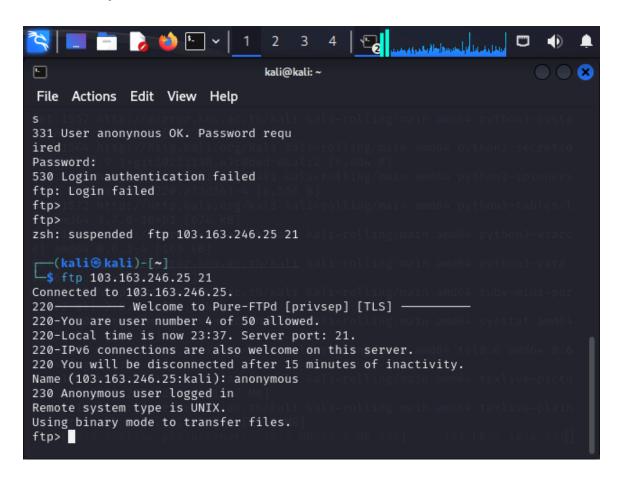
Step 2 : Start the Wireshark Tool in the Background and start capturing the packets

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|------------|--|-----------|------------|--------|------------------|--------------------|--------------|----------|--------|
| (0)        | I and the second   |           |            |        | *6               | eth0               |              |          |        |
| F          | ile <u>E</u> dit <u>V</u> iew <u>G</u> o <u>C</u> apture | Analyze S | Statistics | Tele   | phony            | Wirele             | ess To       | ols      | Help   |
| =          |  |           |            |        |                  |                    | <del>-</del> |          |        |
| 4          |  | ( Q       | ← →        | Lt.    | •←               | →                  |              | +        | -      |
|            | ftp  |           |            |        |                  |                    |              |          |        |
|            | Destination  | Protoco   | l Lengt    | h Info | ,                |                    |              |          |        |
| 5          | 10.0.0.10  | FTP       | 33         | 5 Res  | sponse           | e: 220             |              |          | - Weld |
|            | 103.163.246.25   | FTP       | 8          | 1 Red  | quest            | : USER             | anony        | yums     |        |
| 5          | 10.0.0.10  | FTP       | 10         | 7 Res  | sponse           | e: 331             | User         | ano      | nyums  |
|            | 103.163.246.25   | FTP       | 8          | 1 Red  | quest            | : PASS             | /003         | \030     | \032\6 |
| 5          | 10.0.0.10  | FTP       | 9          | 9 Res  | sponse           | e: 530             | Logi         | n au     | thenti |
| 5          | 10.0.0.10  | FTP       | 33         | 5 Res  | sponse           | e: 220             |              |          | - Weld |
|            | 103.163.246.25   | FTP       | 8          | 2 Red  | quest            | : USER             | anony        | ymou     | S      |
| 5          | 10.0.0.10  | FTP       | 9          | 6 Res  | sponse           | e: 230             | Anony        | ymou     | s user |
|            | 103.163.246.25   | FTP       | 7          | 2 Red  | quest            | : SYST             |              |          |        |
| 5          | 10.0.0.10  | FTP       |            |        |                  | e: 215             |              | Тур      | e: L8  |
|            | 103.163.246.25   | FTP       | 7          | 2 Rec  | quest            | : FEAT             |              |          |        |
|            | Frame 8: 335 bytes on w                                  | ire (2680 | hits       | 335    | 000              | ao <b>08</b>       | 00 27        | 7 21     | b1 d6  |
|            | Ethernet II, Src: Netge                                  |           |            |        |                  |                    | 41 42        |          |        |
|            | Internet Protocol Versi                                  |           |            |        |                  |                    |              |          | aa e0  |
|            | Transmission Control Pr                                  |           |            |        |                  |                    | e3 6a        |          | 00 00  |
|            | File Transfer Protocol                                   |           |            |        | 004              |                    | 50 32        |          |        |
|            | [Current working direct                                  |           |            |        | 005              |                    |              |          | 6f 6d  |
|            | Logi Louis Mol King dil 000                              | ٠.,]      |            |        | 000              | 0.                 | 00 00        |          | 0. 00  |

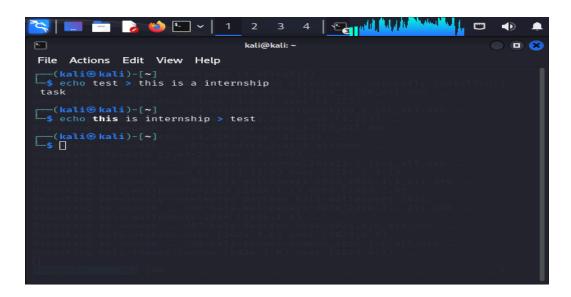
Step 3: Start Sending the Ftp data to the Vulnerable Website - FTP example.com 21



Step 4: Enter the user name to send the data to the website it is usually anonymous - Name: anonymous



Step 5: Create a text file that you want to upload on the website



Step 6: Use the Command PUT to upload the file on the server

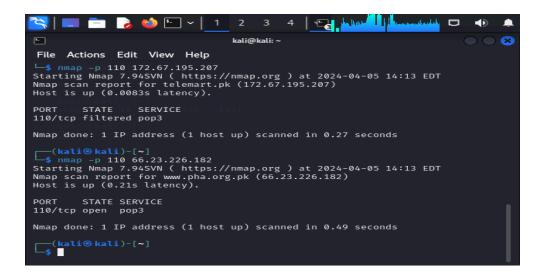
```
<u>-</u>
                                 kali@kali: ~
File Actions Edit View Help
(kali% kali)-[~]

$ ftp 103.163.246.25 21
Connected to 103.163.246.25.
220 ----- Welcome to Pure-FTPd [privsep] [TLS] -
220-You are user number 2 of 50 allowed.
220-Local time is now 23:46. Server port: 21.
220-IPv6 connections are also welcome on this server.
220 You will be disconnected after 15 minutes of inactivity.
Name (103.163.246.25:kali): anonymous
230 Anonymous user logged in
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> put test
local: test remote: test
229 Extended Passive mode OK (|||41917|)
550 Anonymous users may not overwrite existing files
ftp>
```

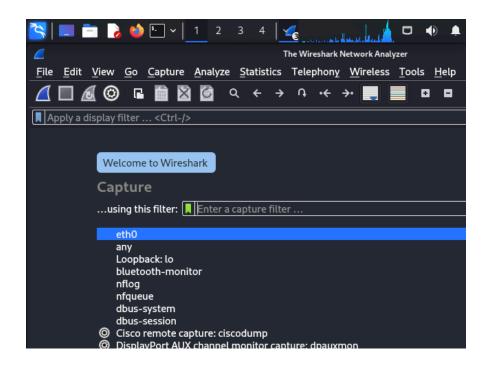
### For POP3 Open port

Website: https://www.pha.org.pk/index.php

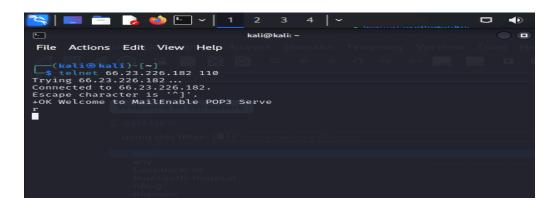
Step 1: Find the Vulnerable Website that has open port for POP3 protocol



Step 2: Start the Wireshark tool to capture the packets from the POP3 protocol that has open ports



Step 3: Now we can use the telnet command with pop3 to sniff the pop3 open port



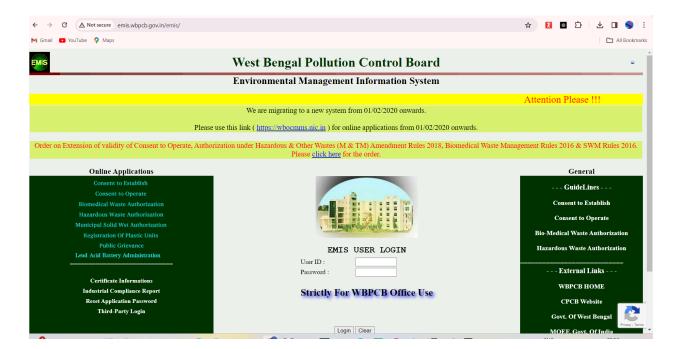
Step 4: Open wireshark and see the pop3 packet send

| <u>Fil</u> |                        | ew <u>G</u> o | <u>C</u> apture | <u>A</u> nalyze | <u>S</u> tatis | tics T | elep | *et<br>hon <u>y</u> | <u>W</u> irel |      | <u>T</u> 00 | <b>√</b><br>ols | )<br><u>H</u> elı | <b>A</b> |
|------------|------------------------|---------------|-----------------|-----------------|----------------|--------|------|---------------------|---------------|------|-------------|-----------------|-------------------|----------|
|            |                        | <b>(2)</b>    | · · · · · ·     |                 | <b>Q</b> ←     | →      | Դ    | •← ÷                | <b>&gt;</b> • |      |             | +               | -                 |          |
|            | рор                    |               |                 |                 |                |        |      |                     |               |      |             |                 |                   |          |
|            | Dest                   | tination      |                 | Pro             | tocol l        | .ength | Info | ,                   |               |      |             |                 |                   |          |
|            | 66.                    | 23.226.       | . 182           | POF             | ·              | 71     | C:   | 6666                | \006          |      |             |                 |                   |          |
|            | 66.                    | 23.226.       | . 182           | POF             | •              | 71     | c:   | 0000                | \006          |      |             |                 |                   |          |
|            | 66.                    | 23.226.       | . 182           | POF             | •              | 69     | c:   | /030                |               |      |             |                 |                   |          |
| 2          | 10.                    | 0.0.10        |                 | POF             | •              | 88     | s:   | -ERR                | Unkn          | own  | con         | nmar            | nd                |          |
|            | 66.                    | 23.226.       | . 182           | POF             | >              | 71     | c:   | 0000                | \006          |      |             |                 |                   |          |
|            | 66.                    | 23.226.       | . 182           | POF             | •              | 71     | c:   | 0000                | \006          |      |             |                 |                   |          |
| 2          | 10.                    | 0.0.10        |                 | POF             | >              |        |      |                     | Welco         | me 1 | to N        | ۱ai             | lEna              | abl      |
|            | <b>5</b> 0             | 74 5          |                 | (500            |                | 74     | b d  |                     |               |      | 0-          |                 | -                 |          |
|            | Frame 3:<br>Ethernet : |               |                 |                 |                |        |      |                     |               | C6   | 8e<br>06    |                 | 41                | af<br>00 |
|            | Internet               |               |                 |                 |                |        |      |                     |               |      | e4          | 98              | 00                | 6e       |
|            | Transmiss:             |               |                 |                 |                |        |      |                     |               | fb   |             | 03              | 00                | 00       |
|            | Post Offic             |               |                 | .,              |                |        |      | 0040                |               | 77   |             | f4              | ff                | fd       |
|            |                        |               |                 |                 |                |        |      |                     |               |      |             |                 |                   |          |

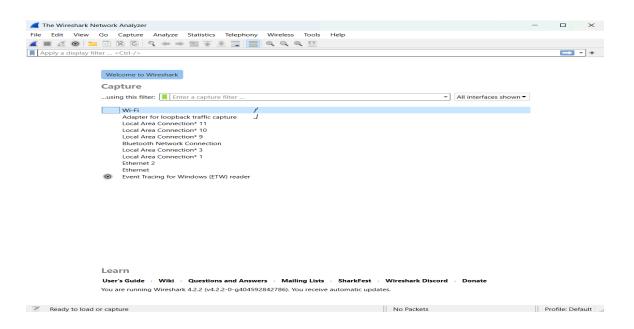
### For Http Website

Website: http://emis.wbpcb.gov.in/emis/login.do

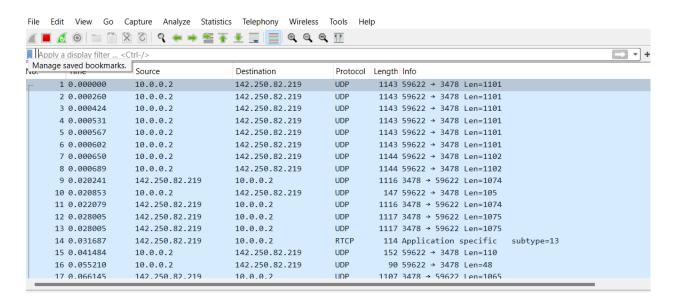
1. Find a website with the protocol HTTP and not HTTPS, this websites are not secured and vulnerable http sniffing



2. Open the Tool Wireshark to sniff the HTTP protocol and select WIFI if you are on Wifi else select ethernet



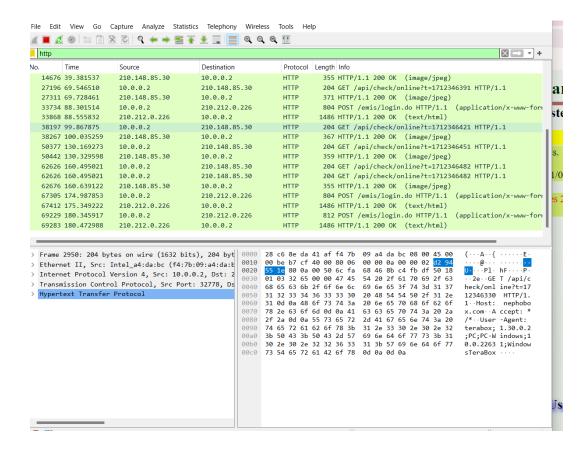
3. Start Capturing the Packets from that website in the wireshark tool



4. In the Website of the vulnerable Http, perform some activities like invalid user details or login or etc



5. Apply filter to the wireshark by selecting only HTTP protocol and see the data we sniffed



## B) Perform the ARP Poisoning Attack on your local network and perform sniffing.

# Tool used: Ettercap and Wireshark

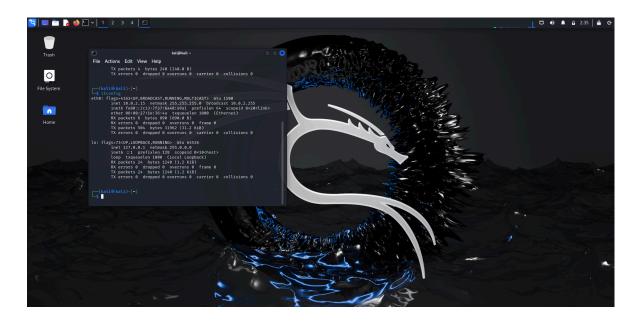
Step 1: Open the Windows 11 Machine and go to the command prompt and check for the Ip address and default gateway that is your router with Ipconfig command

```
C:\Users\simon>ipconfig
Windows IP Configuration
Ethernet adapter Ethernet:
    Media State . . . . . . . . . . . . Media disconnected
Connection-specific DNS Suffix . :
Ethernet adapter Ethernet 2:
    Connection-specific DNS Suffix .:
Link-local IPv6 Address . . . . : fe80::4fff:6eec:d16b:4ca2%3
IPv4 Address . . . . . : 192.168.56.1
Subnet Mask . . . . . . : 255.255.255.0
Default Gateway . . . . . :
Wireless LAN adapter Local Area Connection* 1:
    nedia State . . . . . . . . . . . Media disconnected
Connection-specific DNS Suffix . :
Wireless LAN adapter Local Area Connection* 3:
    Media State . .
                                                   . : Media disconnected
    Wireless LAN adapter Wi-Fi:
    Connection-specific DNS Suffix :
Link-local IPv6 Address . . . . : fe80::4689:d9ea:841a:68f8%9
IPv4 Address . . . . . : 10.0.0.5
Subnet Mask . . . . . . : 255.255.255.0
Default Gateway . . . . . : 10.0.0.1
Ethernet adapter Bluetooth Network Connection:
    Connection-specific DNS Suffix .:
```

Step 2: Type the arp -a command to check the mac address associated with the ip address

```
C:\Users\simon>arp -a
Interface: 192.168.56.1 --- 0x3
Internet Address Physical Address
192.168.56.255 ff-ff-ff-ff-ff
224.0.0.2 01-00-5e-00-00-02
224.0.0.22 01-00-5e-00-0-16
                                                                          static
                                                                          static
                                                                            static
   224.0.0.251
224.0.0.252
                                                                           static
                                       01-00-5e-00-00-fb
                                       01-00-5e-00-00-fc
01-00-5e-7f-ff-fa
                                                                            static
   239.255.255.250
                                                                            static
Interface: 10.0.0.5 --- 0x9
Internet Address Phys
                                        Physical Address
                                                                            Type
   10.0.0.1
10.0.0.8
10.0.0.255
                                        28-c6-8e-da-41-af
                                                                            dynamic
                                        08-00-27-1e-36-4a
                                                                            dynamic
                                        ff-ff-ff-ff-ff
                                                                            static
   224.0.0.2
224.0.0.22
224.0.0.251
224.0.0.252
239.255.102.18
239.255.255.250
255.255.255.255
                                       01-00-5e-00-00-02
                                                                            static
                                       01-00-5e-00-00-16
                                                                            static
                                                                           static
static
                                       01-00-5e-00-00-fb
                                      01-00-5e-00-00-fc
                                       01-00-5e-7f-66-12
01-00-5e-7f-ff-fa
ff-ff-ff-ff-ff-ff
                                                                            static
                                                                            static
                                                                            static
```

Step 3 : Go to the attacker machine called kali linux and open the terminal and check for the ip address with ifconfig command



Step 4: Then Go to the kali linux icon and search for sniffing and spoofing section and click on the tool ettercap on right side

Step 5 : Open the ettercap and keep the default settings as it is and click on the tick on the right side



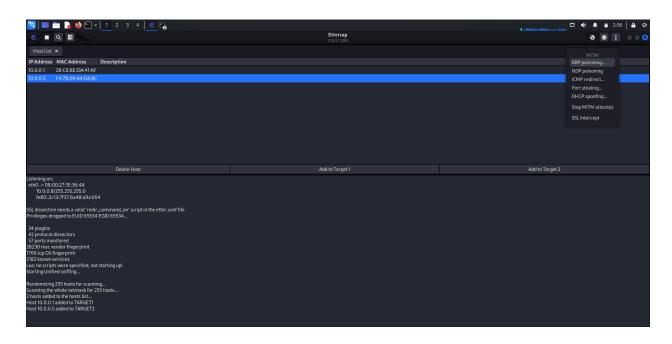
Step 6 : Click on three hamburger icon and select host and in hosts select scan for host, this will scan all the active host in your Network



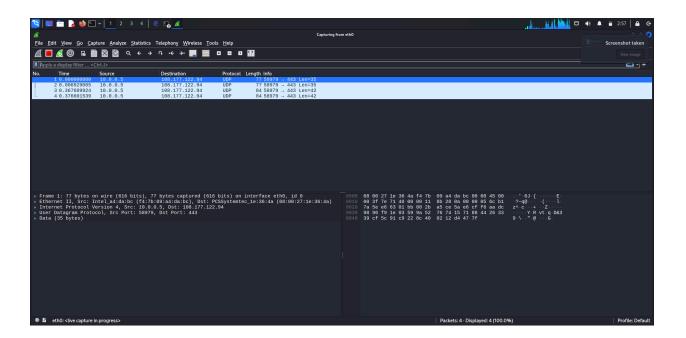
Step 7: After it is done scanning for the host, again click on Hosts and click on Hosts list to see all the host in the network



Step 8: After this all active hosts will be added to ettercap and now we can spoof the arp, Click on the target1 and add to target1 and then click on target2 and add to the target2, using the arp spoofing, click on small globe icon on the right side and then click on arp spoofing



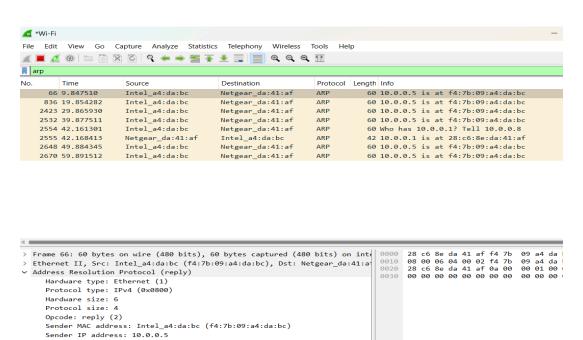
Step 9 : Click on the wireshark tool and then start sniffing of the packet in your kali linux machine



Step 10: Now go to your local machine and type the arp -a command in cmd to check the mac address, if it is changed or no, we can see that the mac address of the local mac is changed to attackers mac address

| C:\Users\simon>arp -a   |  |                                      |
|---|--|--------------------------------------|
| Interface: 192.168.56.1<br>Internet Address<br>192.168.56.255<br>224.0.0.2<br>224.0.0.22<br>224.0.0.251<br>224.0.0.252<br>239.255.255.250                 | 0x3 Physical Address ff-ff-ff-ff-ff-ff 01-00-5e-00-00-02 01-00-5e-00-00-fb 01-00-5e-00-00-fc 01-00-5e-7f-ff-fa | static<br>static                     |
| Interface: 10.0.0.5 Internet Address 10.0.0.1 10.0.0.8 10.0.0.255 224.0.0.2 224.0.0.22 224.0.0.251 224.0.0.252 239.255.102.18 239.255.255.250 255.255.255 |  | static<br>static<br>static<br>static |

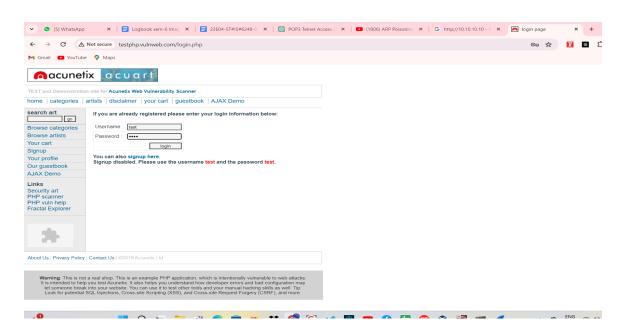
Step 11: Now open the Wireshark on your local machine and start capturing the packets and we can filter the packets by typing arp



Target MAC address: Netgear da:41:af (28:c6:8e:da:41:af)

Target IP address: 10.0.0.1

Step 12: Open any http Website on your local machine and login with username and password



Step 13: Now to your ettercap tool and you see that the password and username is gone to the attackers machine like this we can do ARP poisoning

