

## Content and objective of the project

### 1. Map the network

- Present a network map showing all the devices in your network
- Display via diagram if the devices are connected via wireless or ethernet
- Display devices Internal IP Address
- Display devices mac address (last 3 bytes)
- Display router's internal IP address
- Display router's external IP address (last 2 blocks)
- Display devices names
- Display the DNS and DHCP addresses in your network
- Display your Internet Service Provider (ISP)
- Display the OS and version of your device

### 2. Commands and Websites

- Screenshot the commands and websites used to show how you obtained the information for the above points
- Add description for each screenshot to explain the commands / websites that you used

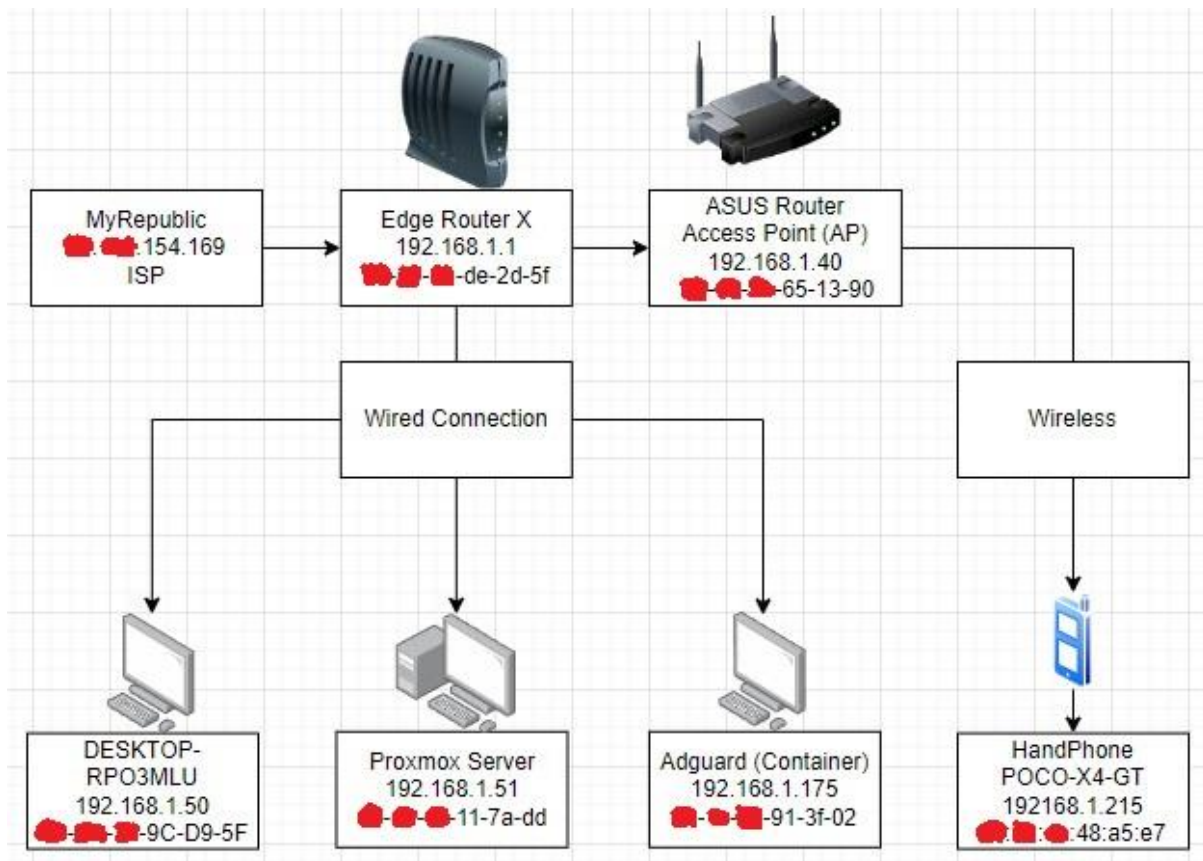
### 3. Wireshark

- Run wireshark and capture the information of your device (laptop / computer) going to 1 of the websites (you decide)
- What is the IP Address of the website you visited? Show it from Wireshark and take a screenshot

### 4. Submission

- Unit, name, student code in the PDF document
- submit to my email: ryan@cfcsea.com
- (OPTIONAL, after watching steganography lesson) Use method 2 to zip the pdf and then hide the zip behind a picture
- email subject: \*\*project: My Network <student name>\*\*
- Deadline: 18th Aug 2023 23:59

This is the network map of my current connected devices in my network.



S/N	Device Name	IP Address	Mac Address
01	Edge Router X	192.168.1.1	de:2d:5f
02	Asus Router	192.168.1.40	65:13:90
03	DESKTOP-RPO3MLU	192.168.1.50	9C:D9:5F
04	Proxmox Server	192.168.1.51	11:7a:dd
05	Adguard	192.168.1.175	91:3f:02
06	POCO-X4-GT	192.168.1.215	48:a5:e7

To look for the mac address of the following devices.

Open CMD and type “arp -a” to search the IP address and the mac address.

```
C:\Users\Mirro>arp -a

Interface: 192.168.1.50 --- 0x4
 Internet Address      Physical Address      Type
 192.168.1.1          de-2d-5f             dynamic
 192.168.1.40         65-13-90             dynamic
 192.168.1.51         11-7a-dd             dynamic
 192.168.1.175        91-3f-02             dynamic
```

Edge Router X IP address is 192.168.1.1, mac address is de:2d:5f

Asus Router IP address is 192.168.1.40, mac address is 65:13:90

Proxmox Server IP address is 192.168.1.51, mac address 11:7a:dd

Adguard IP address is 192.168.1.175, mac address 91:3f:02

### To look for the mac address of DESKTOP-RPO3MLU

Open “CMD”, and type “ipconfig /all”, the mac address is shown at the Physical Address

```
Host Name . . . . . : DESKTOP-RPO3MLU
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : Edge

Ethernet adapter Ethernet:

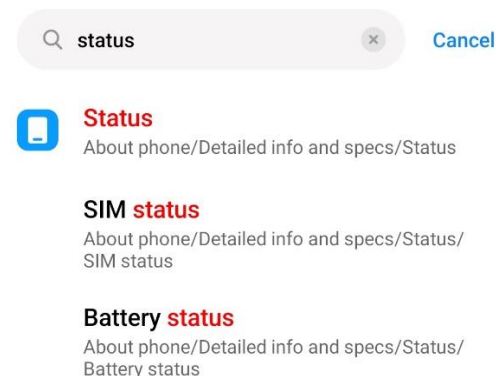
Connection-specific DNS Suffix . : Edge
Description . . . . . : Intel(R) Ethernet Connection I217-V
Physical Address. . . . . : 9C-D9-5F
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::a1fb:62b6:8341:a16f%4(Preferred)
IPv4 Address. . . . . : 192.168.1.50(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : Wednesday, 16 August 2023 4:05:34 pm
Lease Expires . . . . . : Thursday, 17 August 2023 5:40:02 pm
Default Gateway . . . . . : 192.168.1.1
DHCP Server . . . . . : 192.168.1.1
DHCPv6 IAID . . . . . : 117221908
DHCPv6 Client DUID. . . . . : 00-01-00-01-2B-3C-DB-20-FC-AA-14-9C-D9-5F
DNS Servers . . . . . : 192.168.1.175
NetBIOS over Tcpip. . . . . : Enabled
Connection-specific DNS Suffix Search List :
Edge
```

The IP address of DESKTOP-RPO3MLU is “192.168.1.50”

The mac address of DESKTOP-RPO3MLU is “9C:D9:5F”

### To find the POCO-X4-GT IP address and mac address

first open the settings on Handphone, search for “Status”.



Click on status to find the IP address and mac address

#### DEVICE IDENTIFIERS

#### IP address

fe80::8f69:79cc:9d63:93de  
192.168.1.215

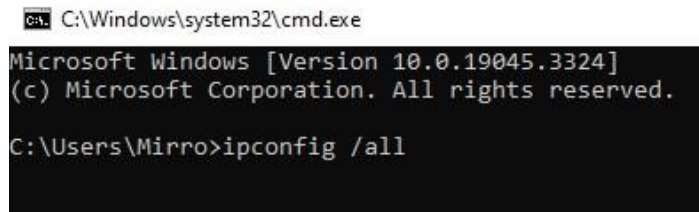
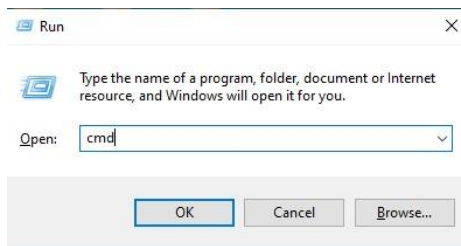
#### Device Wi-Fi MAC address

88:52:eb:48:a5:e7

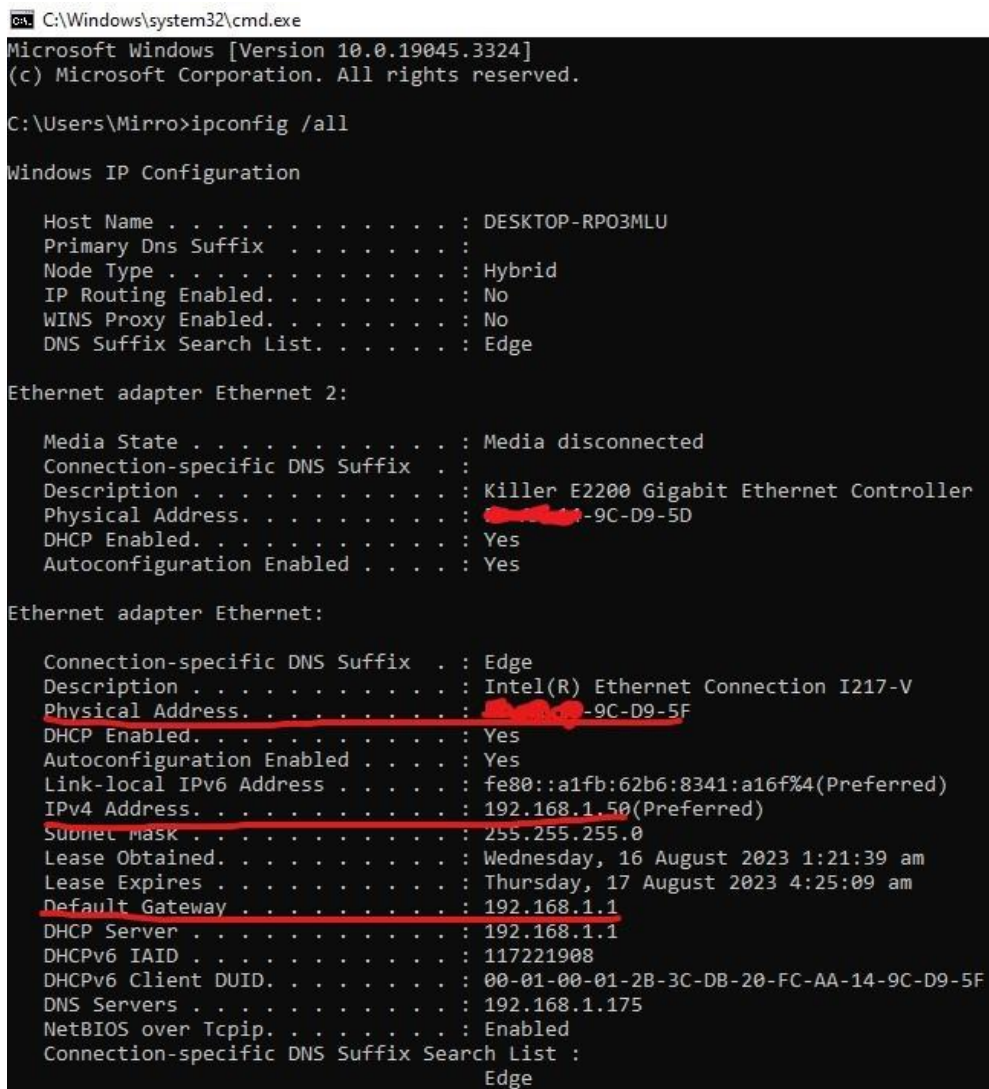
The IP address of POCO-X4-GT is “192.168.1.215”, the mac address of Handphone is “48:a5:e7”

Find the device's internal "IP address", "mac address" and the router internal "IP address".

Click "Window key + R" on the keyboard to open the Run. Type in CMD



Then type "ipconfig /all" and hit enter



Based on IP config /all:

The device's internal "IP address" is "192.168.1.50".

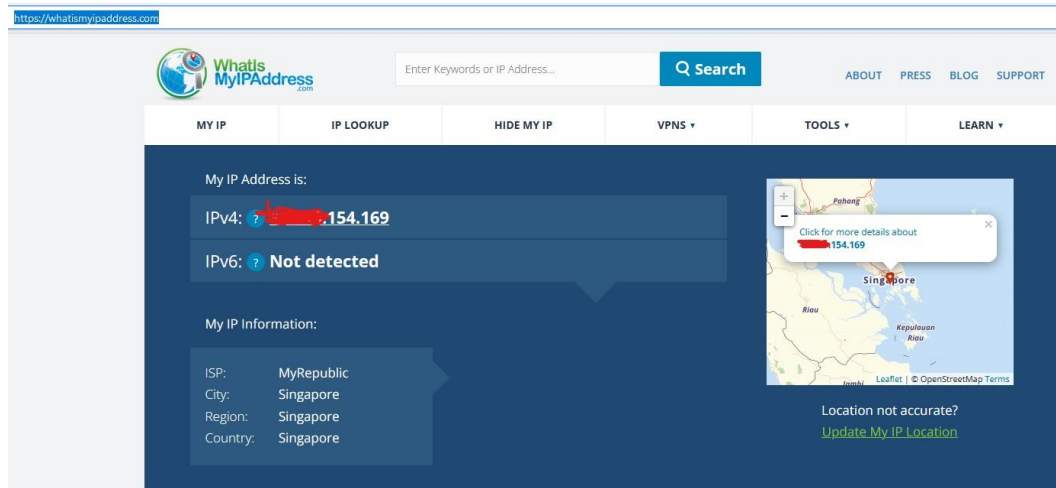
The device's "mac address" is "9C-D9-5F".

The router internal "IP address" is "192.168.1.1"

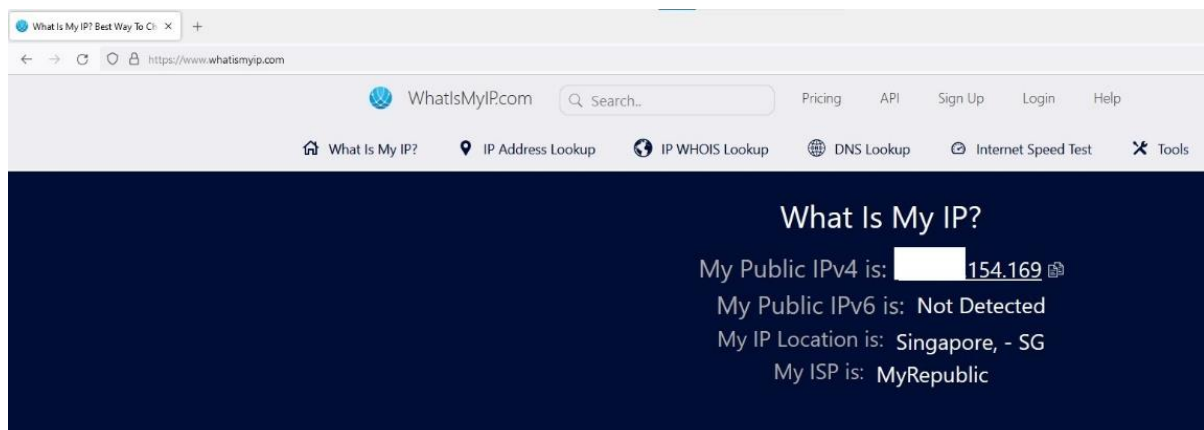
## Display router's external IP address (last 2 blocks)

## Display your Internet Service Provider (ISP)

I was able to find my router's external IP address at online such as <https://whatismyipaddress.com/>



And <https://www.whatismyip.com/>



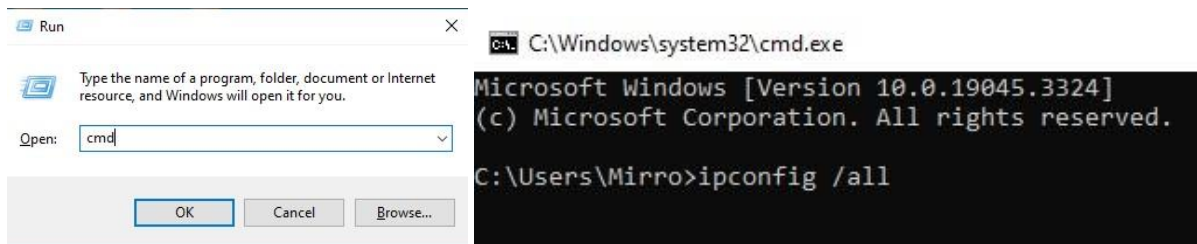
my router's external IP address is xxx.xxx.154.169

The Internet Service Provider is MyRepublic.



## Display the DNS and DHCP addresses in your Network

Click “Window key + R” on the keyboard to open the Run. Type in “cmd”



Then type “ipconfig /all” and hit enter

```

Host Name . . . . . : DESKTOP-RP03MLU
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : Edge

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : Edge
    Description . . . . . : Intel(R) Ethernet Connection I217-V
    Physical Address. . . . . : [REDACTED]-9C-D9-5F
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    Link-local IPv6 Address . . . . . : fe80::a1fb:62b6:8341:a16f%4(Preferred)
    IPv4 Address. . . . . : 192.168.1.50(Preferred)
    Subnet Mask . . . . . : 255.255.255.0
    Lease Obtained. . . . . : Wednesday, 16 August 2023 4:05:34 pm
    Lease Expires . . . . . : Thursday, 17 August 2023 5:40:02 pm
    Default Gateway . . . . . : 192.168.1.1
    DHCP Server . . . . . : 192.168.1.1
    DHCPv6 IAID . . . . . : 117221908
    DHCPv6 Client DUID. . . . . : 00-01-00-01-2B-3C-DB-20-FC-AA-14-9C-D9-5F
    DNS Servers . . . . . : 192.168.1.175
    NetBIOS over Tcpip. . . . . : Enabled
    Connection-specific DNS Suffix Search List :
                                Edge
  
```

The DHCP address is 192.168.1.1 & the DNS address is 192.168.1.175

I was able to find the “DHCP server” to pick up the packets in “Wireshark”, I opened CMD and type “ipconfig /renew” to send the request while “Wireshark” is still scanning.

**C:\Users\Mirro>ipconfig /renew**

dhcp						
No.	Time	Source	Destination	Protocol	Length	Info
3	1.785712	192.168.1.50	192.168.1.1	DHCP	358	DHCP Request - Transaction ID 0xa72a4fab
4	1.787713	192.168.1.1	192.168.1.50	DHCP	342	DHCP ACK - Transaction ID 0xa72a4fab

Type in “dhcp” in “wireshark” to find the address. The dhcp server is “192.168.1.1”

dns			
No.	Time	Source	Destination
11	4.145147	192.168.1.50	192.168.1.175
12	4.146721	192.168.1.175	192.168.1.50

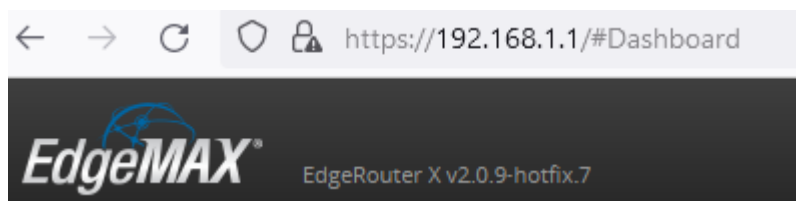
Type in “dns” in “wireshark” to find the address. The dns server is “192.168.1.175”

**Display the OS and version of your device**

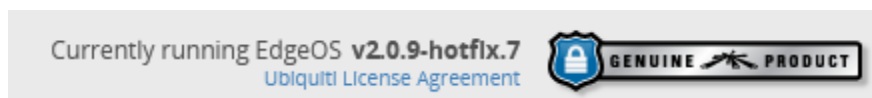
S/N	Device	OS	Version
1	EdgeRouter X	EdgeOS	v2.0.9-hotfix.7
2	Asus Router	ASUSWRT	386.11
3	DESKTOP-RPO3MLU	Windows 10	22H2
4	Proxmox Server	Proxmox Virtual Environment	7.3-1
5	Adguard	Debian 11	Kernel 5.15.74-1-pve
6	POCO-X4-GT	MIUI	MIUI Global 14.0.5

1) To find the OS and version of EdgeRouter X

Login into the Web Interface, 192.168.1.1 (Page 4)

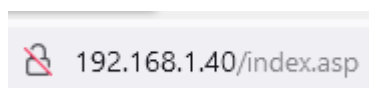


Under the system tab, I was able to find the OS and version



EdgeRouter X is using EdgeOS, the version is v2.0.9-hotfix.7

2) To find the OS and version of Asus Router



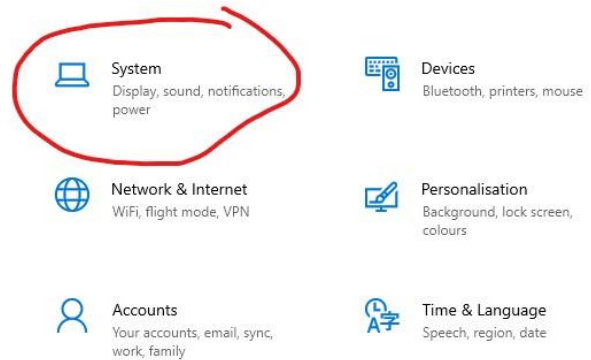
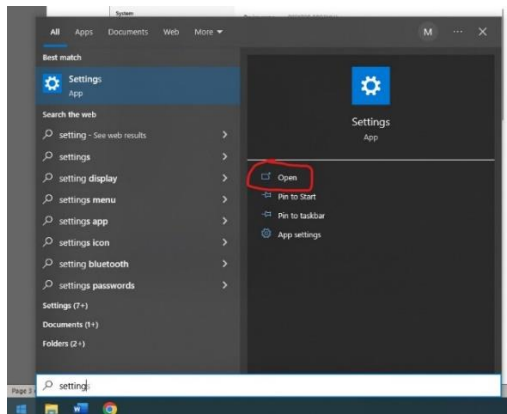
Login into the Web Interface, 192.168.1.40 (Page 2 using arp -a)



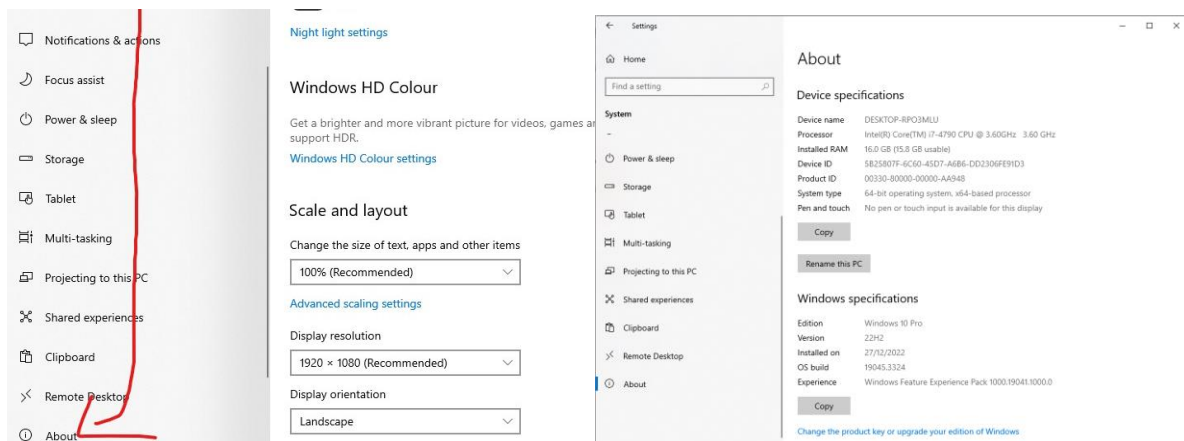
Asus Router is using ASUSWRT, the version is 386.11

## 3) To find the OS and version of DESKTOP-RPO3MLU

Click on the “Start” button, then type “Settings”, on the setting menu, click on the “System”

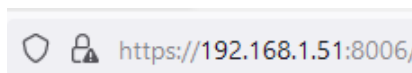


On the “Setting” program, scroll down to “About” and click “About” settings.



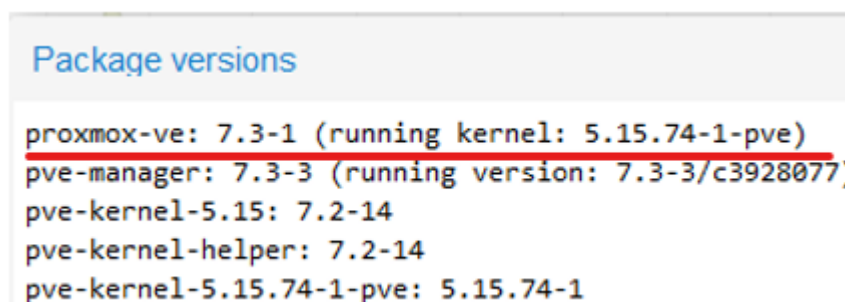
DESKTOP-RPO3MLU is using Microsoft Window 10 pro, 22H2 version

## 4) To find the OS and version of Proxmox Server



CPU(s)	4 x Intel(R) Celeron(R) CPU N3450 @ 1.10GHz (1 Socket)
Kernel Version	Linux 5.15.74-1-pve #1 SMP PVE 5.15.74-1 (Mon, 14 Nov 2022 20:17:15 +0100)
PVE Manager Version	pve-manager/7.3-3/c3928077

Login into the Web Interface, 192.168.1.51 (Page 2 using arp -a)



Proxmox Server is using Proxmox Virtual Environment, the version is 7.3-1



5) To find the OS and version of Adguard

It displayed the version when I login.

```
Debian GNU/Linux 11 adguard tty1

adguard login: root
Password:
Linux adguard 5.15.74-1-pve #1 SMP PVE 5.15.74-1 (Mon, 14 Nov 2022 20:17:15 +0100) x86_64
```

Type cat /etc/os-release to find the OS

```
root@adguard:~# cat /etc/os-release
PRETTY_NAME="Debian GNU/Linux 11 (bullseye)"
NAME="Debian GNU/Linux"
VERSION_ID="11"
VERSION="11 (bullseye)"
VERSION_CODENAME=bullseye
ID=debian
HOME_URL="https://www.debian.org/"
SUPPORT_URL="https://www.debian.org/support"
BUG_REPORT_URL="https://bugs.debian.org/"
```

Type "uname -a" and it will display the version

```
root@adguard:~# uname -a
Linux adguard 5.15.74-1-pve #1 SMP PVE 5.15.74-1 (Mon, 14 Nov 2022 20:17:15 +0100) x86_64 GNU/Linux
```

I also able to find the details on my proxmox setting

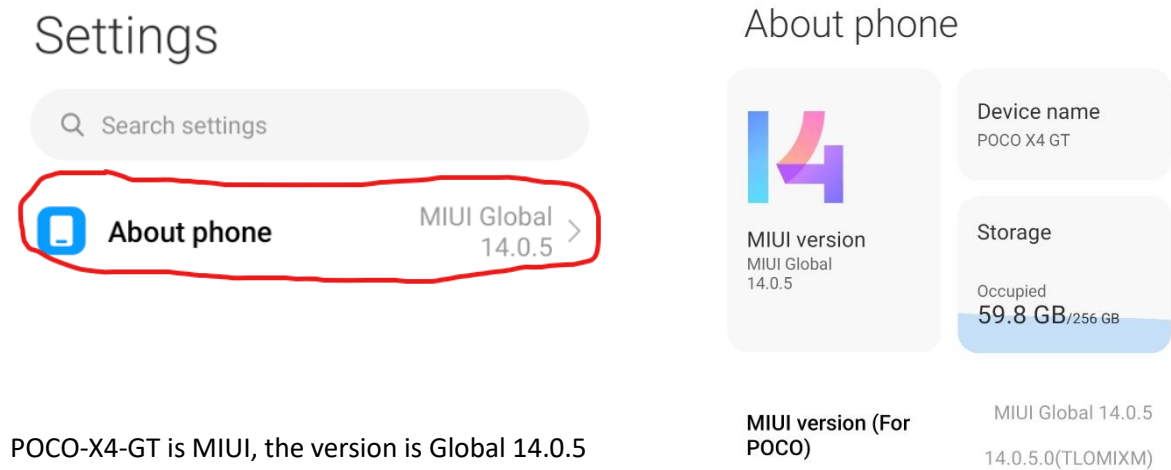
Start at boot	Yes
Start/Shutdown order	order=any
OS Type	debian
Architecture	amd64
/dev/console	Enabled
TTY count	2
Console mode	tty
Protection	No
Unprivileged container	Yes
Features	nesting=1

Adguard is using Debian 11, the version is Kernel 5.15.74-1-pve

6) To find the OS and version of POCO-X4-GT

Go to the setting of Phone and click about phone

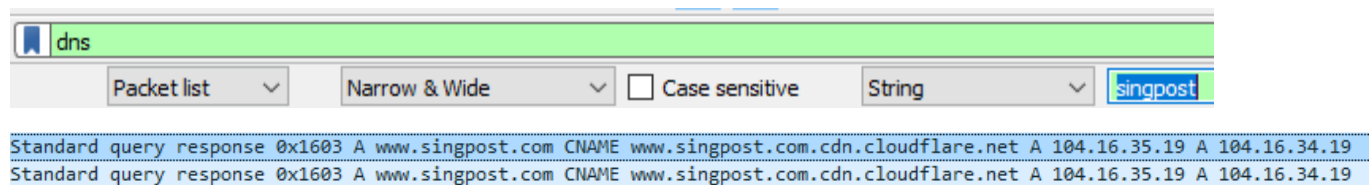
Click on About phone



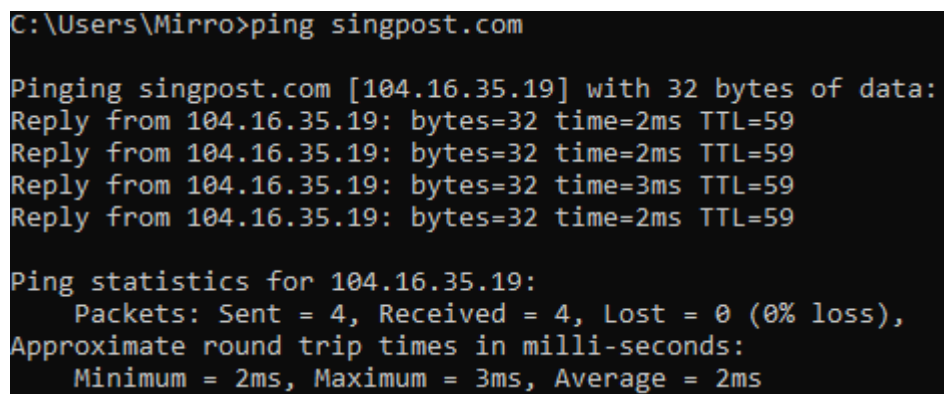
**Run wireshark and capture the information of your device (laptop / computer) going to 1 of the websites (you decide)**

I ran "Wireshark" on Computer (DESKTOP-RPO3MLU) and the website I choose is "singpost.com".

On the filter for "dns" and search for "singpost".



The result I got is "104.16.35.19"



I also ping "singpost.com", also got the same reply as "104.16.35.19"