

# CFC Project 1 (My Network)

CFC020823

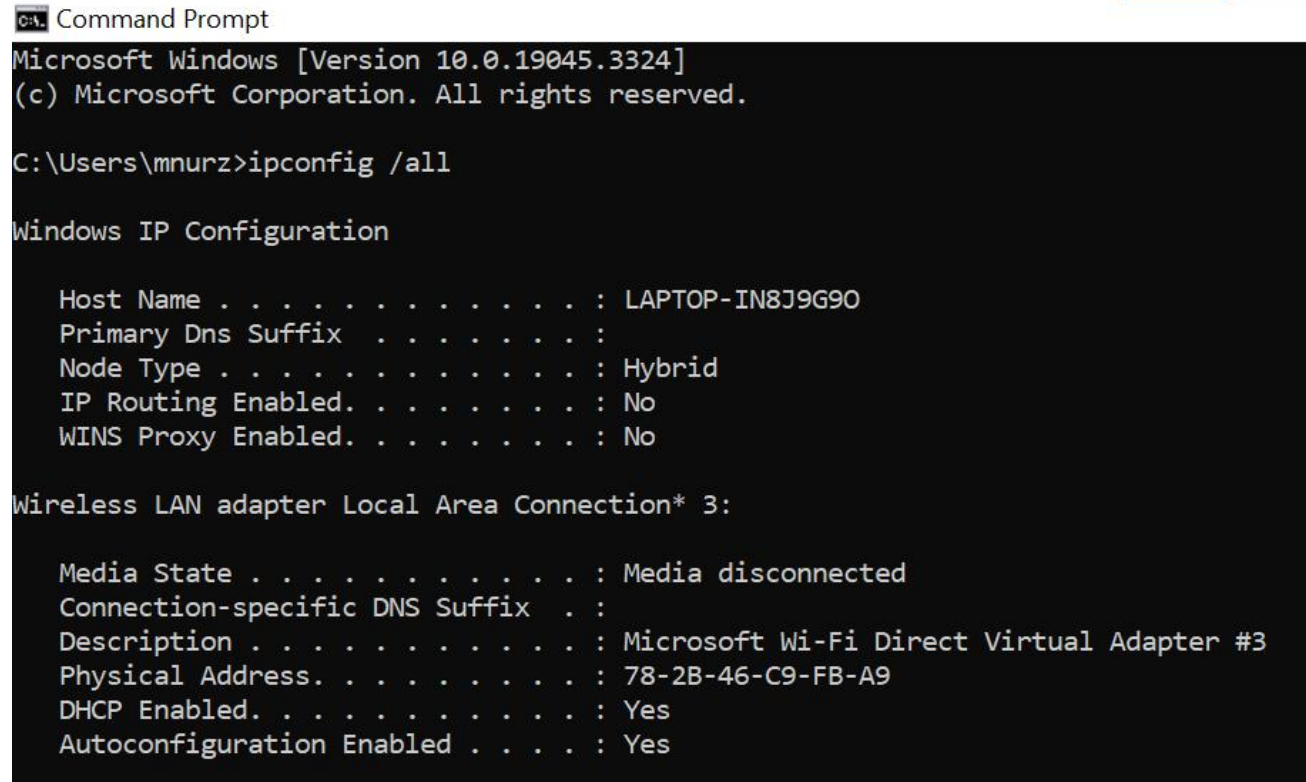
Intro to cyber (XE Basics)

Zulkarnaen

S17

# Mapping my home network

- Using the command “ipconfig /all” to view all IP configurations.
- Allows to find key information for my network.



```
Command Prompt
Microsoft Windows [Version 10.0.19045.3324]
(c) Microsoft Corporation. All rights reserved.

C:\Users\mnurz>ipconfig /all

Windows IP Configuration

Host Name . . . . . : LAPTOP-IN8J9G90
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No

Wireless LAN adapter Local Area Connection* 3:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter #3
Physical Address. . . . . : 78-2B-46-C9-FB-A9
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
```

- Default gateway = Router's internal IP address.

```
Default Gateway . . . . . : 192.168.1.254
```

- IPv4 address = My laptop's IP address.

```
IPv4 Address. . . . . : 192.168.1.111
```

- DHCP server address.

```
DHCP Server . . . . . : 192.168.1.254
```

- DNS server address.

```
DNS Servers . . . . . : 192.168.1.254
```

- Physical address = MAC address.

```
Physical Address. . . . . : C9-FB-A8
```

# Devices connected to my network

- 1 method is to use the command `arp -a` to find some devices connected to the network.
- Tally *Interface* with *IPv4* from the results of `ipconfig` to find devices's MAC address.

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

Interface: 192.168.5.1 --- 0x4
    Internet Address      Physical Address      Type
    192.168.5.254         00-50-56-e8-61-21     dynamic
    192.168.5.255         ff-ff-ff-ff-ff-ff     static
    224.0.0.2             01-00-5e-00-00-02     static
    224.0.0.22            01-00-5e-00-00-16     static
    224.0.0.251           01-00-5e-00-00-fb     static
    224.0.0.252           01-00-5e-00-00-fc     static
    224.77.77.77          01-00-5e-4d-4d-4d     static
    239.255.255.250       01-00-5e-7f-ff-fa     static
    255.255.255.255       ff-ff-ff-ff-ff-ff     static

Interface: 192.168.1.111 --- 0xd
    Internet Address      Physical Address      Type
    192.168.1.95          74-93-da-40-cd-9d     dynamic
    192.168.1.97          74-93-da-40-c6-b0     dynamic
    192.168.1.119         14-eb-b6-70-ee-5d     dynamic
    192.168.1.254         48-d5-39-67-71-3b     dynamic
    192.168.1.255         ff-ff-ff-ff-ff-ff     static
    224.0.0.2             01-00-5e-00-00-02     static
    224.0.0.22            01-00-5e-00-00-16     static
    224.0.0.251           01-00-5e-00-00-fb     static
    224.0.0.252           01-00-5e-00-00-fc     static
    224.77.77.77          01-00-5e-4d-4d-4d     static
    239.255.255.250       01-00-5e-7f-ff-fa     static
    255.255.255.255       ff-ff-ff-ff-ff-ff     static
```

# Device's details (LAPTOP-IN8J9G9O)

1. Go to start > *settings* > *system* > *about*.
2. Under *device specifications* > *system type* > to find system type info.
3. Under *Windows specifications* > to find info on OS build and version.

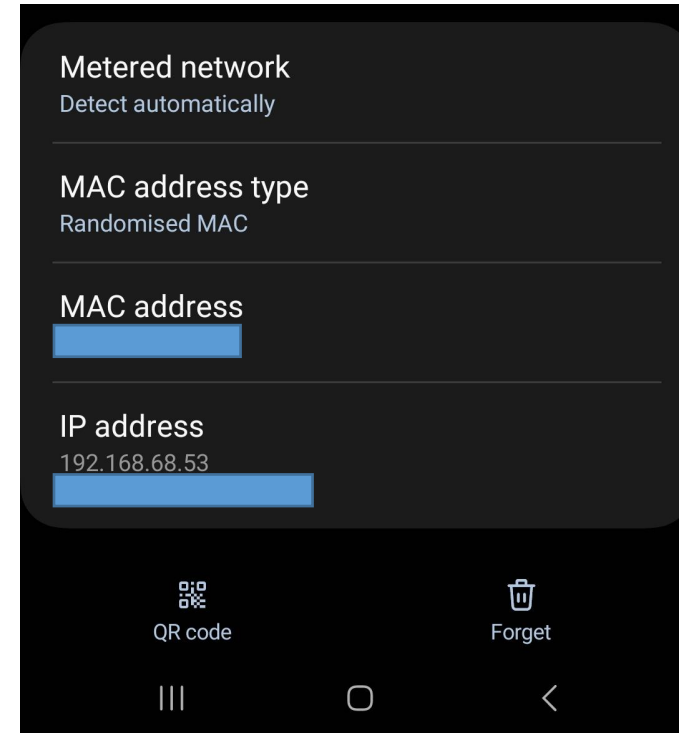
Device name	LAPTOP-IN8J9G9O
Processor	
Installed RAM	
Device ID	
Product ID	
System type	64-bit operating system, x64-based processor
Pen and touch	No pen or touch input is available for this display

## Windows specifications

Edition	Windows 10 Home
Version	22H2
Installed on	
OS build	19045.3324
Experience	Windows Feature Experience Pack 1000.19041.1000.0

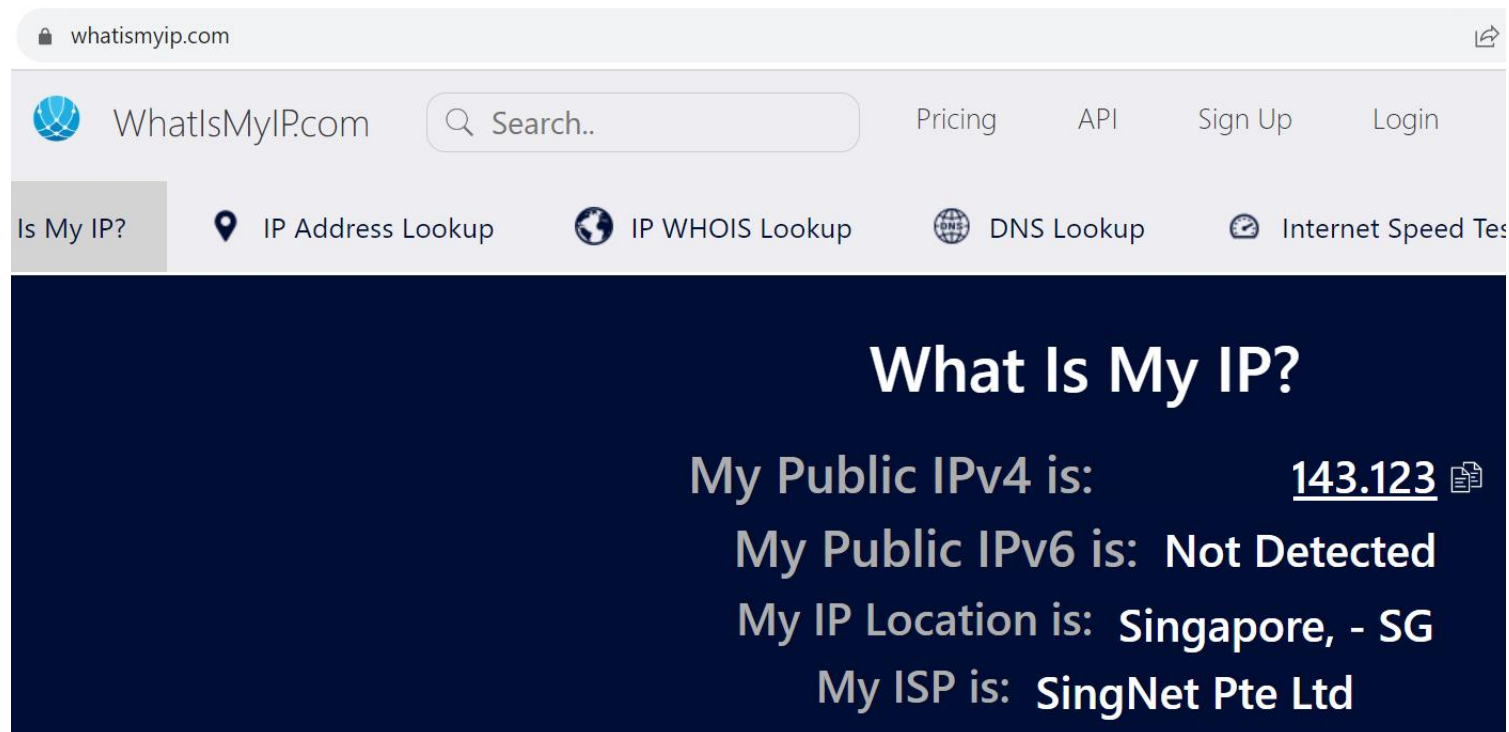
# Device's details (Samsung S22)

1. Go to *settings > about phone >* to find all the information about phone.
2. Go to *connections > wifi > settings* on the connected network > *view more >* to find IP address & MAC address.



# Whatismyip.com

- Used this website as a quick way to find my external/public IP address.




The screenshot shows the homepage of Whatismyip.com. The browser address bar displays 'whatismyip.com'. The website header includes the logo, a search bar, and links for Pricing, API, Sign Up, and Login. A navigation bar below the header contains links for 'Is My IP?', 'IP Address Lookup', 'IP WHOIS Lookup', 'DNS Lookup', and 'Internet Speed Test'. The main content area has a dark blue background with the title 'What Is My IP?'. Below the title, it displays the following information: 'My Public IPv4 is: 143.123' (with a copy icon), 'My Public IPv6 is: Not Detected', 'My IP Location is: Singapore, - SG', and 'My ISP is: SingNet Pte Ltd'.

whatismyip.com

WhatIsMyIP.com Search.. Pricing API Sign Up Login

Is My IP? IP Address Lookup IP WHOIS Lookup DNS Lookup Internet Speed Test

## What Is My IP?

My Public IPv4 is: 143.123 

My Public IPv6 is: Not Detected

My IP Location is: Singapore, - SG

My ISP is: SingNet Pte Ltd

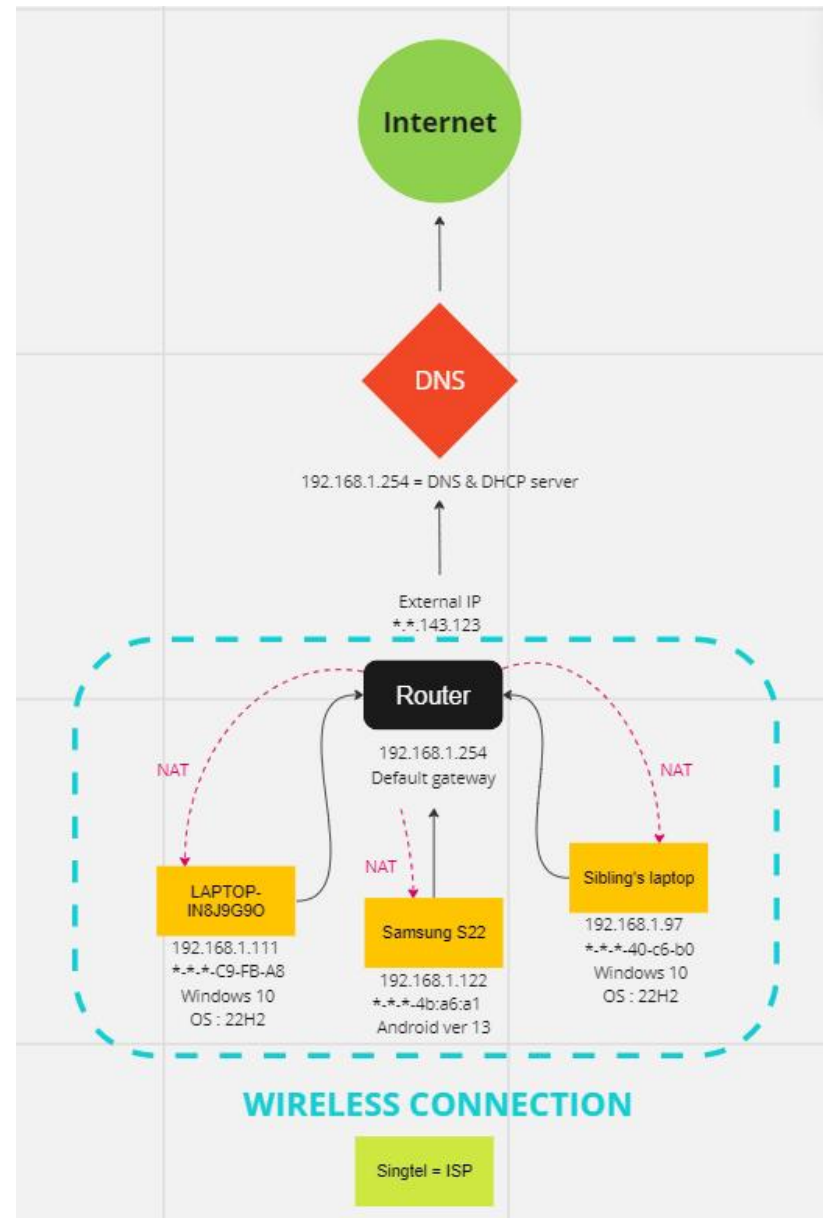
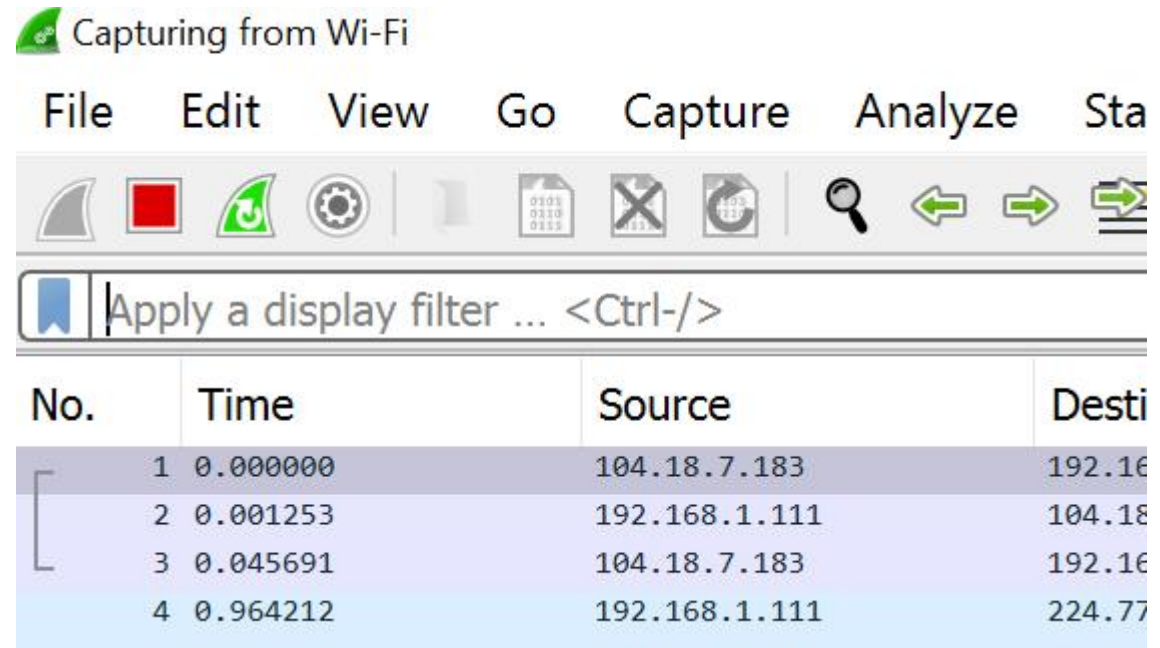


Diagram of home network



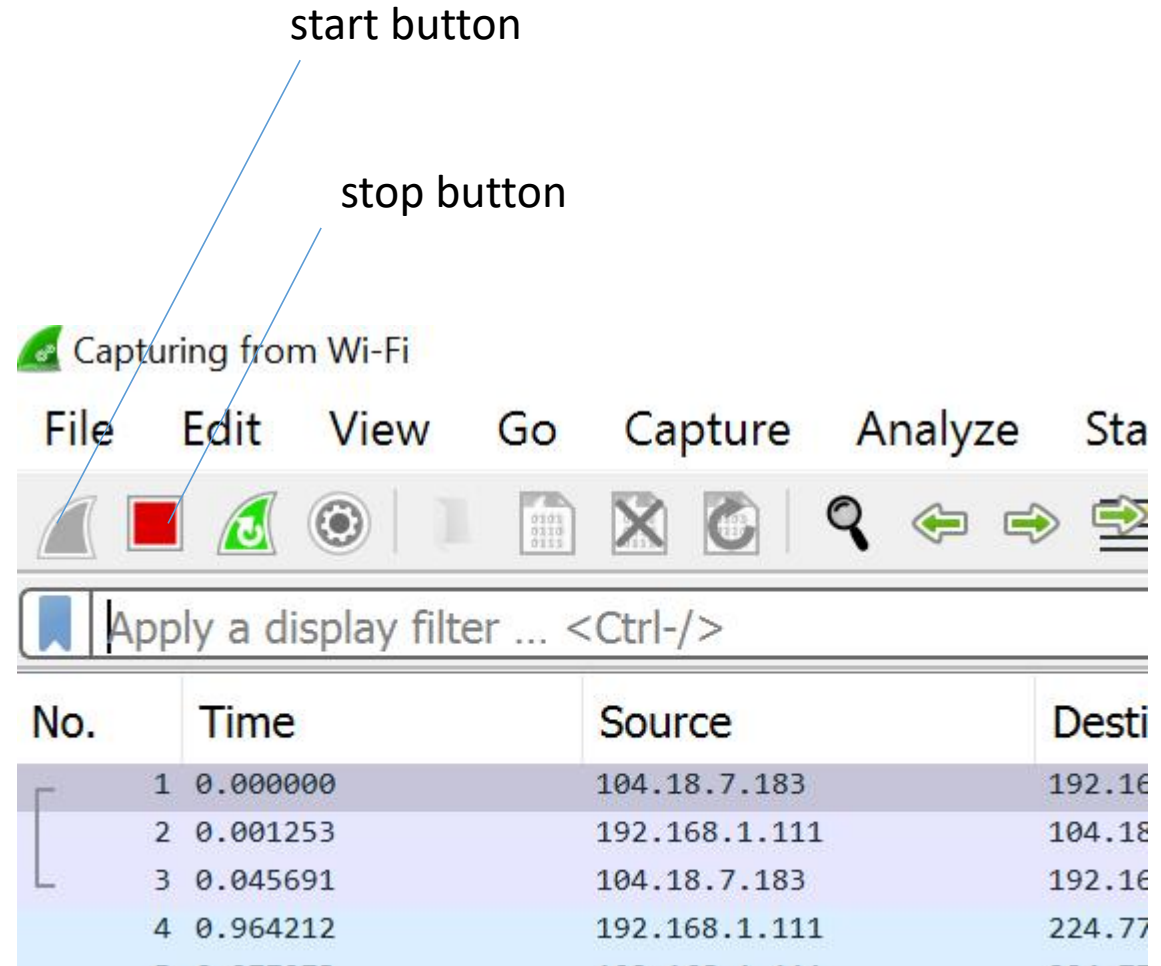
# Wireshark

- A free and open-source packet analyzer.
- Here's an illustration to show how to find a website's IP address.



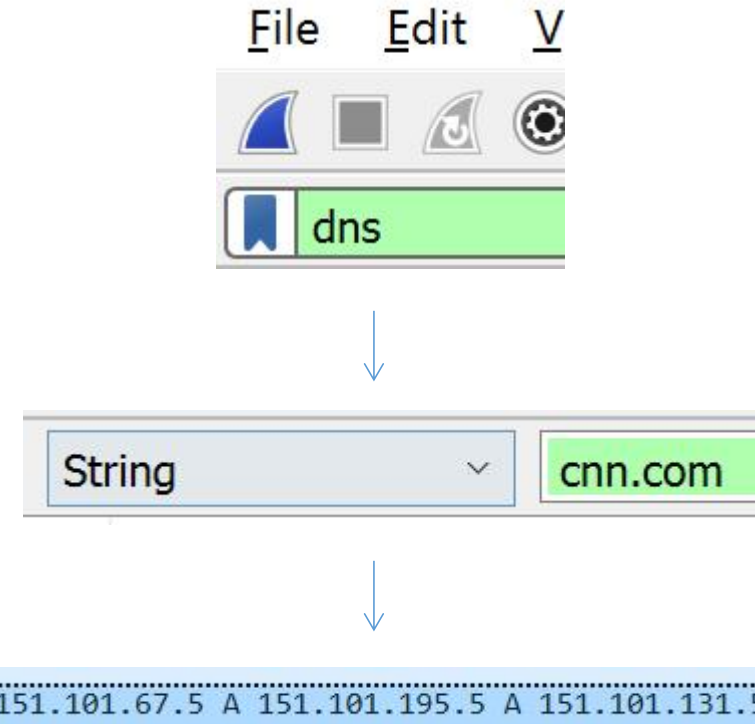
# Wireshark

1. Begin capture by pressing start capturing button.
2. Go to web browser > key in website domain name > allow website to load.
3. Press the stop button.
4. Wireshark has captured the activity.



# Wireshark

5. Filter by *dns* to view only DNS protocol.
6. Search for website using *string* to further narrow down the displayed packets.
7. IP address of website can be found after analyzing.



# Wireshark

- Full view of the display.
- Win 10 to DNS server = Query
- DNS server to Win 10 = Response

The image shows the Wireshark network protocol analyzer interface. The top menu bar includes File, Edit, View, Go, Capture, Analyze, Statistics, Telephony, Wireless, Tools, and Help. Below the menu is a toolbar with various icons. The main display area is divided into three panes. The top pane shows the packet list with columns: No., Time, Source, Destination, Protocol, Length, and Info. The middle pane shows the packet details for the selected packet (No. 441). The bottom pane shows the packet bytes. The search bar at the top right is set to 'dns' and 'cnn.com'. The packet list shows a series of DNS queries and responses. The selected packet (No. 441) is a DNS query response from 192.168.1.254 to 192.168.1.111, containing IP addresses for edition.cnn.com.

No.	Time	Source	Destination	Protocol	Length	Info
226	37.466106	192.168.1.111	192.168.1.254	DNS	75	Standard query 0x6b67 A ssl.gstatic.com
227	37.466931	192.168.1.111	192.168.1.254	DNS	75	Standard query 0x2943 HTTPS ssl.gstatic.com
228	37.490968	192.168.1.254	192.168.1.111	DNS	91	Standard query response 0x6b67 A ssl.gstatic.com A 142.251.10.94
229	37.490968	192.168.1.254	192.168.1.111	DNS	132	Standard query response 0x2943 HTTPS ssl.gstatic.com SOA ns1.google.com
247	37.648417	192.168.1.111	192.168.1.254	DNS	75	Standard query 0xb5f0 A docs.google.com
248	37.648901	192.168.1.111	192.168.1.254	DNS	75	Standard query 0x7a36 HTTPS docs.google.com
249	37.666665	192.168.1.254	192.168.1.111	DNS	125	Standard query response 0x7a36 HTTPS docs.google.com SOA ns1.google.com
250	37.672636	192.168.1.254	192.168.1.111	DNS	171	Standard query response 0xb5f0 A docs.google.com A 74.125.200.101 A 74.125.200.139 A 74.125.200.113 A 74.1...
439	67.378761	192.168.1.111	192.168.1.254	DNS	75	Standard query 0xac15 A edition.cnn.com
440	67.379520	192.168.1.111	192.168.1.254	DNS	75	Standard query 0x3090 HTTPS edition.cnn.com
441	67.399623	192.168.1.254	192.168.1.111	DNS	139	Standard query response 0xac15 A edition.cnn.com A 151.101.67.5 A 151.101.195.5 A 151.101.131.5 A 151.101....
442	67.400121	192.168.1.254	192.168.1.111	DNS	152	Standard query response 0x3090 HTTPS edition.cnn.com SOA ns-47.awsdns-05.com