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Refer to the [Warm Up Tutorial](#).

Upload your answers on this form **as a PDF**. This is an **individual** upload.

Q1) Windows 10 networking.

Do this question **before** you come to the week 1 lab. Use a Windows laptop or workstation.

Are you using a Home Router, Public Wireless or at Work? Home

To examine your network interfaces use the ipconfig tool.

Which types are active?

- WiFi
- Ethernet adapter VMnet1
- Ethernet Adapter VMnet8
- LAN Adapter

For the active device what are its ip addresses?

IPV4 192.168.0.13 IPV6 fe80::89e7:9603:ffa4:f120%18

Is the IPv4 address public or private? private

How is this address allocated? These addresses are assigned automatically as when they join the network they will be dynamically configured to the network. As the end number of the IPv4 address is 13, this would mean that this is the 13th device on the home network.

There is a third address for the active device called a **physical** or **MAC** address.

Run ipconfig again with a command option (*you need to figure it out by yourself*) to see and note the MAC address.

What is the ipconfig option? Ipconfig /all

What is the MAC address? 4C-1D-96-D4-57-BF

Now look at your internet gateway.

Type **netstat -r**

Look at the IPV4 Route table.

What is the gateway IPV4 address? 192.168.0.1

How does it compare with your IP V4 address found above? The IPv4 address uses 32 bits which means it contains 4 octets separated by dots. However, the MAC address is 48 bits.

Now look at UTS on the network.

Type `nslookup uts.edu.au`.

The results are the DNS and the UTS **public** IPV4 address starting with **54**.

Record DNS. uts.edu.au Record the UTS public IPv4 address 54.79.20.73

Explain how you can use the device IPv4, gateway and dns to figure out your location.

- Router DNS hijack as the hackers can overwrite the DNS settings and your requests can be redirected to malicious sites. This would result in an exposed IP address
 - The devices gateway such as routers and switches can be hacked and redirect your requests to their own subnet receiving private information. These packets will contain your IP address.
 - Using the IP address you are able to use third-party software to track and locate someone's location with their IP addresses which usually locates the ISP's location
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Close your windows cmd window by typing `exit`.

Submission:

Upload your answers **as a PDF** on this form to Canvas.