Network Addressing

Address

- MAC Address

- IP Address

MAC

A **Media Access Control (MAC)** address is a 48-bit (6 bytes) address that is used for communication between two hosts in an Ethernet environment.

It is a hardware address, which means that it is stored in the firmware of the network card (NIC).

MAC addresses are usually written in the form of 12 hexadecimal digits. For example, consider the following MAC address:

D8-D3-85-EB-12-E3

How to find out your own MAC address?

IP Address

An IP address is a 32-bit number that identifies a host on a network

An IP address is usually written in the form of four decimal numbers separated by periods (.)

Example

<p style="text-align:center; color:red;">10.2.3.4</p>

How to find out your IP address?

- Using CMD

- Using Google

Private IP address of a system is the IP address which is used to communicate within the same network. Using private IP data or information can be sent or received within the same network.

Public IP address of a system is the IP address which is used to communicate outside the network. Public IP address is basically assigned by the ISP.

Private addresses ranges

- 10.0.0.0 – 10.255.255.255

- 172.16.0.0 – 172.31.255.255

- 192.168.0.0 – 192.168.255.255

Which information can we get from IP Address?

https://viewdns.info/

https://www.whatismyip.com/

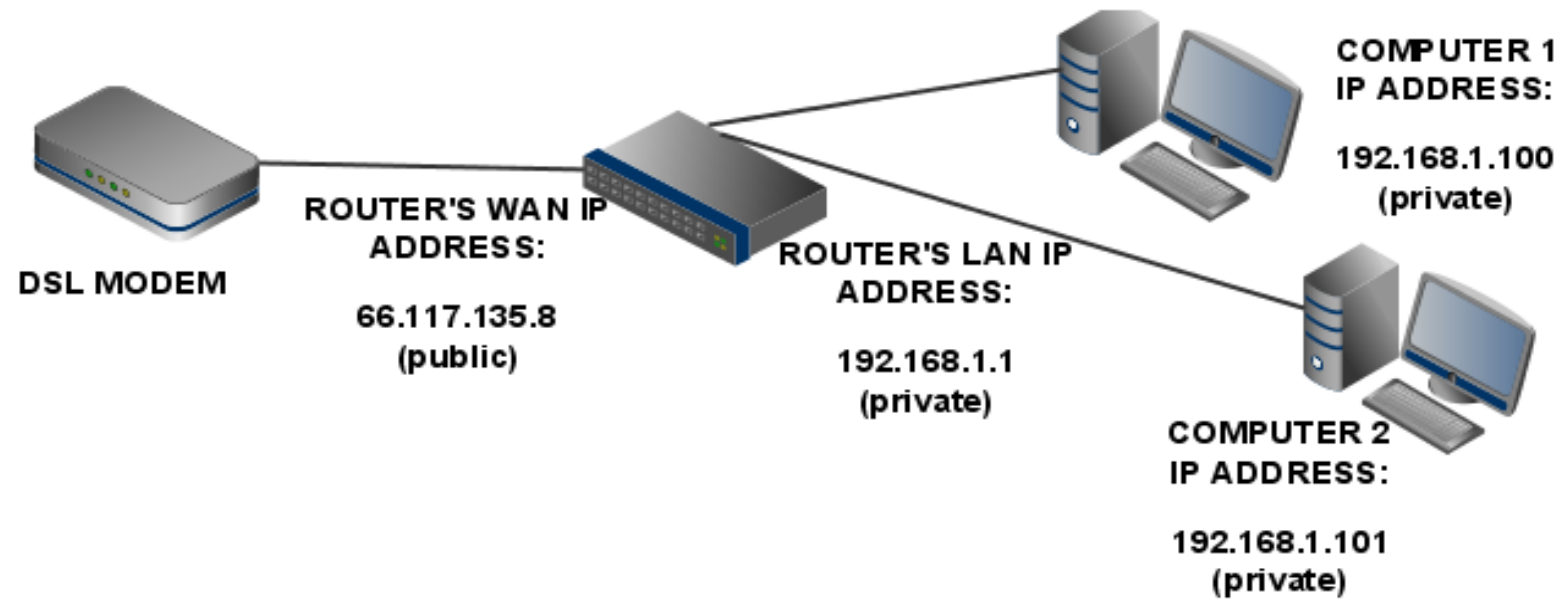https://whois.domaintools.com/

https://www.whois.com/whois/

182.73.197.20 (VIT)

182.72.39.10

182.72.39.9

How to map from Private Address to Public and vice versa?

Network Address Translation (NAT)

Network Address Translation (NAT) is a process in which one or more local IP address is translated into one or more Global IP address and vice versa in order to provide Internet access.

Default Gateway

Default Gateway: is an intermediate device between the local network and Global Network.

CMD: Tracert <Domain/IP>