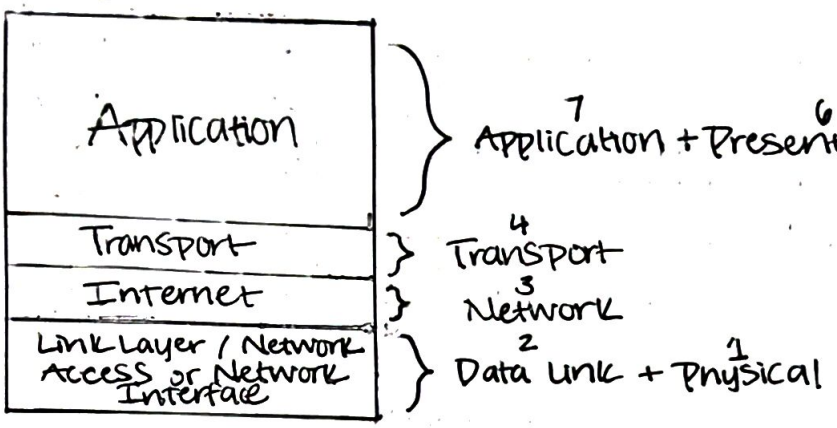
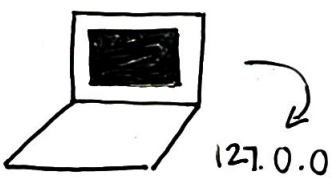
TCP- IP Model



03|25 class

IPv4 uses dotted decimal notation
127.XX.XX.XX -> "loopback", TESTING

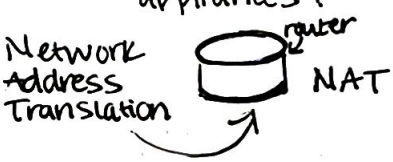


127.0.0.1 is used to ping yourself. NOT assigned as IP add to anyone)

Syntax X.X.X.X
1.0.0.1 (first device)
1.0.0.2
1.0.0.3

223.255.255.254 (last device)

Not enough IP addresses for all appliances



IPv6 has 128-bits

X.X.X.X.
IIII . IIII. IIII. IIII IPv4

X.X.X.X X
IIII. IIII . IIII. IIII ..... IIII IPv6

1). has 8 blocks (quatets)
2). block = 16 bits
3) Uses Hex
4). 2^{128} = 128 bits

CLASS
A: 10.X.X.X
10.255.256.254
B: 172.16.X.X
172.32.X.X
C: 192.168.X.X
192.168.X.X

192.168.255.254

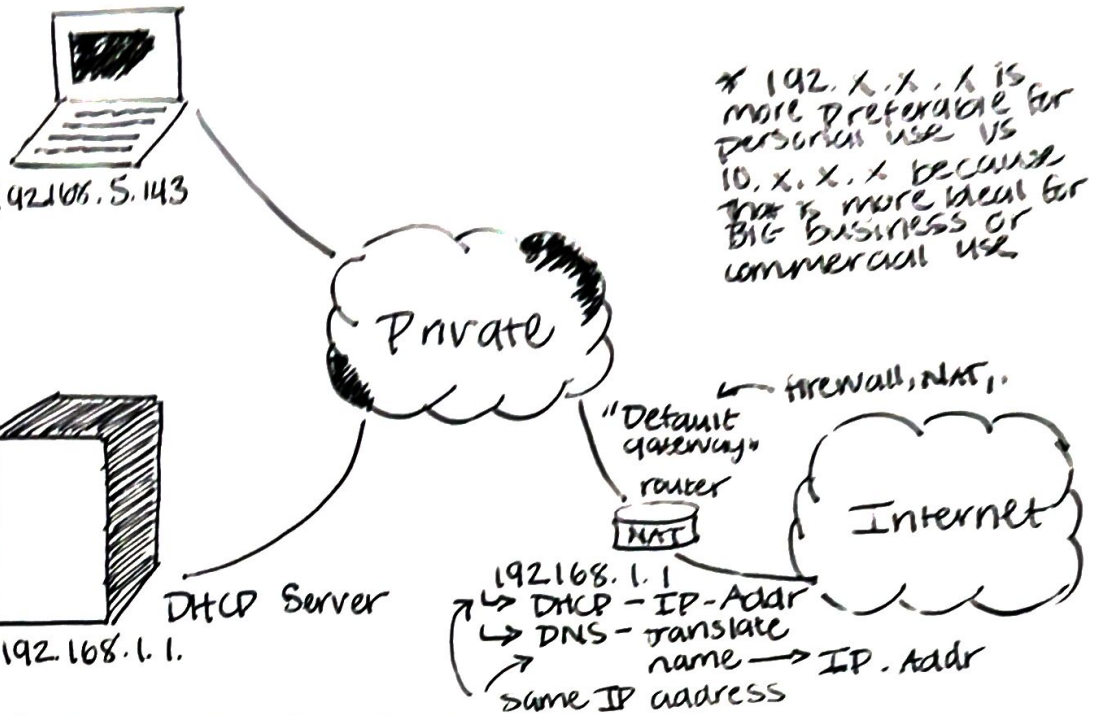
2 ways to get IP address
1). Manual configuration
2). Dynamic configuration

Another word for "rule" is "Protocal"

Manual
192.168.0.1
192.168.0.2

192.168.0.10

Dynamic



* 192.x.x.x is more preferable for personal use vs 10.x.x.x because that is more ideal for BIG business or commercial use

IPv

DNS
If DNS is killed, whole network goes down.

2 commands in Linux in adjacent to ipconfig in Window
1). ip (option) (object) (subcommands)
2). if (

* know the diff between control c and Z in Linux!

WINDOW:	LINUX:
ipconfig / all	ip
	if config

Permanent changes to network setting
1). nmcli (command line interface)
2). nmtui (text-based menu)
3). nmgui (graphic user interface)

* Which one of these commands would allow you to make network changes with text-based menu

Static — you don't want these to change because they are services

1). Email	192.168.8.1
2). File	192.168.8.2
3). Database	192.168.8.3
4). Printer	192.168.8.4
5). DHCP	
6). DNS	

DHCP Server
1). Gives out IP addresses
2). Subnet Mask ???
3) Gives default gateway → (1) router, (2) NAT, (3) firewall
4) DHCP Server (itself)
5). DNS server

Commands: LINUX → dhclient -r
WINDOW → ipconfig / Release
ipconfig / Renew

* Sometimes you can have 2 different DHCP server

Difference between
HOST (provides a service)
CLIENT (opposite of a server) ≠ server
DEVICE (server can be a device)