William Prado
04-22-2025

Static or Dynamic

Routing Protocols

Distance Vector	Link State	Hybrid	External
Second Hand	Actual	EIGRP	BGP
"Hops"	everybody		"internet"
RIP/IGRP	Not rumor		
	CPU/RAM		
	metrics		
	Cost, Hops, Bandwidth		
	OSPF, IS-IS.		
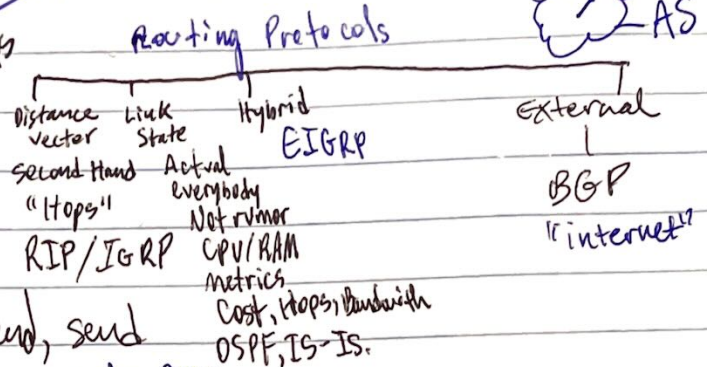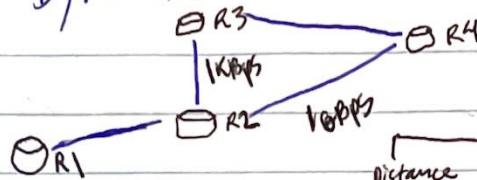
- Do Dion exam 2 by the weekend, send
Practice the dion test until you get 90%
ICMP = ping
BGP = different autonomous system.

Thursday * Firewall

Private Addresses.

Class A	Class A	10.X.X.X	255.0.0.0 /8
	Class B	172. .32	255.255.0.0 /16
	Class C	192.168 -	255.255.255.0 /24
	APIPA	169.254.X.X	255.255.0.0 /16 Automatic

/
windows

NAT. Network Address Translation

X.X.X.X

||||||||.||||||||.|||||||||.|||||||||

/30 only give 2 host.

Private 10
172.16 - 17.31
192.168

(NAT)

10.10.10.2
↳ packet

Dest.	Src	segment
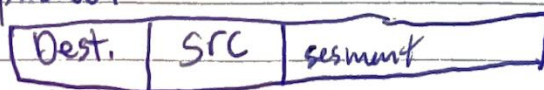
2.4.9.8   10.10.10.2

web server
2.4.9.8

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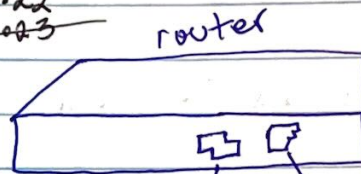$600.00   Fiber   1GBps.

range   Public   Address

209.6.7.16
              :17
              :18
lease can only use :19   /29
       these   :20
       addresses   :21
                     :22
                     :23
                     router

WAN
10.10.10. 254   WAN 209.6.4.18

switch   ISP
                209.6.4.18
NAT
10.10.10.254

Private IP
Not publicly Registered

NAT translate
Public to private
Private to public.

youtube
Sunny   NAT - SNAT, DNAT, PAT & Port forwarding.
Problem. security vulnevability
         IP address exhausting

NAT improves security.

4 types of NAT.
 • Static NAT (SNAT)   — Never change, manually assign.
 • Dynamic NAT (DNAT) - outbound traffic, Available from lease
 • PAT (Port Address Translation).
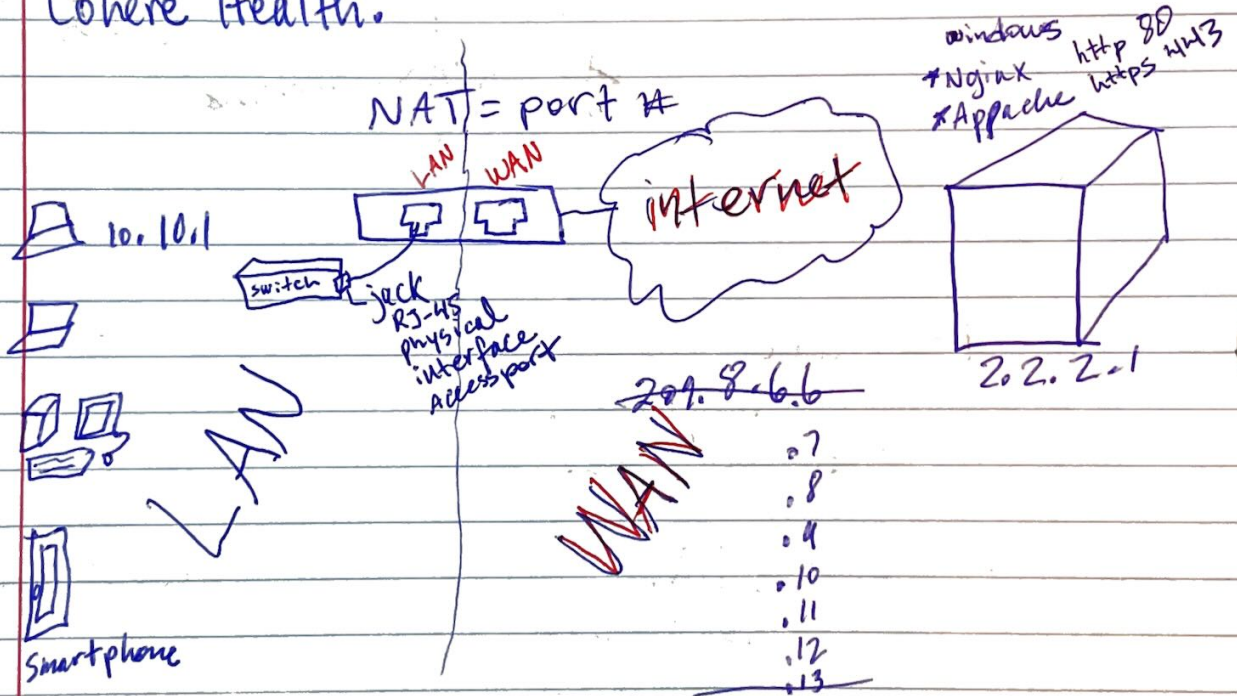 • Port Forwarding.

   Static

| 10.10.10.2 | 209.6.7.18 |
| 10.10.10.6 | 209.6.7.19 |

+	middle
A+	Pen+
Net +	Cysa+
Sec +	CISA
CCNA	CISC
AWS	

1st. → CC   sign up for this in 3 months.

＊ Tomorrow speaker is Darrell J. Stinson VP of IT + Security at Cohere Health.

NAT = port #

windows   http 80
＊Nginx   https 443
＊Appache

LAN   WAN
internet

switch ⌐ jack
        RJ-45
        physical
        interface
        Access port

10.10.1

LAN

2.2.2.1

209.8.6.6
.7
.8
.9
.10
.11
.12
.13

WAN

7. Application - http 80   SSH 22
                Ftp 23   DHCP
                DNS 53   SMTP 25

209.8.6.6
209.8.6.7   /30
       .8
       .9

Email - smtp port 25
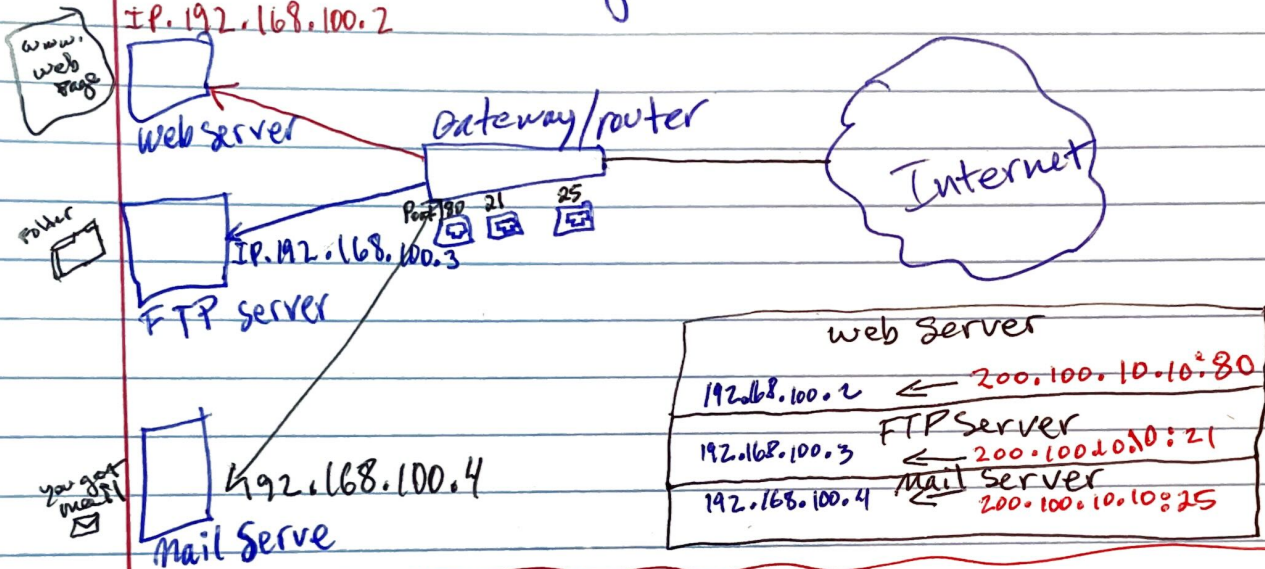
1 IP address use PAT.
PAT associating one IP address w/ ~~unique~~ unique port #.

Socket IP address

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Port for wording

IP. 192.168.100.2

www. web page

web server

folder

IP.192.168.100.3

FTP server

you got mail!

K92.168.100.4

Mail Serve

Gateway/router

Port 80 21 25

Internet

web server		
192.68.100.2	←	200.100.10.10:80
FTP Server		
192.168.100.3	←	200.100.10.10:21
Mail Server		
192.168.100.4	←	200.100.10.10:25

MDF has the box
IDF has the rack.