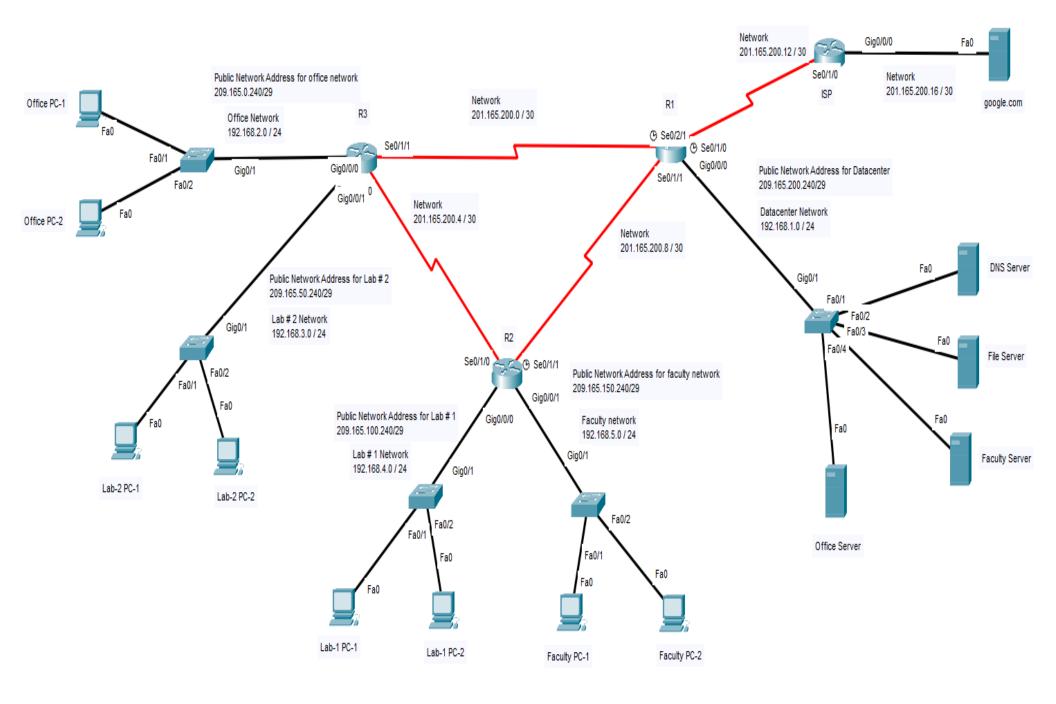
Assignment-2



Instructions: (Your report must be "Handwritten" like the first assignment)

You have to show the following things for every **Router**:

- 1. Basic Router Configurations
- **2. DHCP** configuration (While writing the dns part for dhcp, you must give the IP address of the DNS server in DataCenter Network)
- 3. Setup Console Password and Enable Password
- **<u>4.</u>** Configure the upper topology using **Dynamic Routing protocol** (**RIP**).

Configure the following things on necessary portion of the network:

- ➤ Configure an standard ACL-1 to prevent Office PC1 to access LAB # 1 Network. Also implement it on the proper Router and Interface.
- ➤ Configure an standard ACL-2 to prevent Faculty Network to access DNS Server. Also implement it on the proper Router and Interface.
- ✓ Configure an **Static NAT** for **DataCenter Network**
- ✓ Configure Dynamuc NAT's for Office Network, Faculty Network, Lab#1 Network & Lab#2 Network

Inside Router 3

R3 > em

R3# conft

R3 (contia) # int 0100/0/0

P3 (contio-if) II no shutdom

II ip address 192.168.2.1 255.255.255.0

exit

P3 (contio) # int 0100/011

P3 (config-if) # no shutdown

ip address 192.168.3.1 255.28.253.0

11 exit

P3 (config) II int se 0/1/1

R3(nonfig-if) IT no shuldown

It ip address 201.165.200.1 255.255.255.252

II exit

P3 (config) # int se 0/1/0

P3(confio-if) H no snutdom

F 1P addross 201.165.200.5 255.255.255.252

Il exit

R3 (contis) #

(I)

(I)

Inside R2

P2>en P2 H conft 22(contio) # int se 0/1/0 R2 (contio-if) I no shutdown It ip address 201.165.200.6 255.253.253.252 dexit 22 (contis) I int 019 0/010 22 (config-if)# no shuldown II ip address 192.168.4.1 255.255.255.252 I exit 22 (confis) H int gig 0/0/1 22 (config-if) # no shutdown # ip address 192.168.5.1 255.255 255.252 Hexit 22 (contio) # int se 0/1/1 R2 (confid-if) to no shuldown # ip address 201.165.200.10 255.255.255.252 # eyit

BS(config) #

Inside P1

Rijen

RI H conf t

P1 (contio) # int se 0/1/1

PI (config-if) II no shutdown

ip address 201.165.200.9 255.255.255.252 # exit

PI (autio) II int 01801010

PI (confio-if) # no shutdown

1p address 192.168.1.1 255.255.255.0

PI (contis) II int se 0/1/0

PI (config-if) II no shutdown

ipaddross 201.165.200.13 255.255.255.252 # eyit

Ri(condis) It int se 0/2/1

PI (conting-if) # no shuldown

1p address 201.165.200.2 255.255.255.252 # exit

DI/confio) #

Inside ISP Router

Isp to ont t

ISP (contio) to int se 0/1/0

ISP (contin-if) It no shutdom

Hip address 201.165.200.14 255.255.255.252 Heyit

ISP (condis) 11 int 0100/0/0

ISD (confic-1) # no shutdown

10 address 201.165.200.17 255.255.255.252 # exit

- OHCO Contisuration

Inside Isp router

since we have just one server (google.com), we don't need to configure DHEP hero.

there marmual assigned inddress for the sorver,

IP : 201.165.200.18

subnet: 255.255.255.252

ons: 8.8.8 (00006.com)

(M)

for Data Center we will be assisming the 1 p. subnet mask manually - wont be assigning dos-server s address since each one is individual server:

for DNS Server 10: 192.188.1.2 File server 1p. 192.168.1.3 Faculty Server, ip: 192.168.1.4 office server, ip: 192.168.1.5

Subnet for each one of 'em; 255.255.255.

I for other routers to access DNS server (midth dhep). threse nots are to translated to public (NAT).]

RI (contin) # ip not inside source state 192 188.1.2 209.165.200.212 Il 19 nat ivide source stutic 192 168 1.3 209 165:200. 243 # ip not inside source spotic 192.168.14 209.165.200.244 # ip not inside source static 192 168 1.5 209 165. 200. 245 # int 018 0/0/0

PI (confio-if) # ip not inside PI (entis) II int se 0/2/1 # exit P1 (00019) # int se 0/1/0 PI (emig-if) & ip not out H exit PI (cortio) # int 50/1/1 RI (omtio) if) H ip not out # exit

PI (contio-if) # ip not out # exit RI (contia) #

I now other powers can use DNS server's public IP as their ens-server)

V

R2 (confis) # ip ducp pool FacultyNet

R2 (ducp-comfis) # network 192.168.5.0 255.255.255.0

default rowlar 192.168.5.1

dus-server 209.165.200.242

exit

P2(confis) # ip dhop pool Lab1_Net

P2(dhop-confis) # notwork 192.168.4.0 255.255.255.0

default-rowler 192.168.4.1

dns-server 209.185.200.242

exit

P2(confis) #

Tinside R3

P3(confis) # ip dhep pool tab2-Net

P3(dhep-confis) # network 192.168 3.0 255.255.255.0

default-router 192.168.3.1

dns-server 299.165.200 2 42

exit

P3 (confis) # 10 dhep pool officeNet
P3 (dhep-emfis) # network 192.168.2.0 255.255.255.0

default-router 192.168.2.1

dns-server 209.165.200.242

exit



Dynamic Routing (RIP) Config

Inside P3

P3(config) II router rip

version 2

network 192 168 2.0

the network 192.168.3.0

netroll 201.165.200.4

network 201.165. 200.0

I exit

Inside R2

R2 (confi) # rowler rip

I version 2

network 201.165.200.4

H network 192. 168. 4.0

network 192.168.5.0

network 201.165.200.8

exit

1

Inside R1

PI (confid) It rowler rip

Version 2

network 201. 165.200.8

network 201.165.200 0

H network 201.165.200.12

network 192. 168.1.0

oxit

Inside Isp

ISP (confis) It rower rip

version 2

network 201.165.200.12

network 201.165.200.16

exit

+ceass Control List Configuration 11 - 1

I to prevent office pc 1 from accessing LAB 1 Net.

Inside P2

int gra 0/0/0

exit

II to prevent faculty Network from accessing "ONS server"

Inside P1

p1 (contis) # access-list 2 deny 192.168.5.0 0.00.255

access-list 2 permit any
int 2000/0/0

PI (conficit) It is access-group 2 out

NOTE:

I ACL-2 will block faculty Net not only from accessing the DNS server but also from accessing the whole Data Center Net. To block "Just DNS server", we (probably) need extended ACLIT

Il Strolle Nort

Dorth Center's Network is already configured (Pase 5)

[and on Isp's notwork, gragle's server is atready assigned a public address (201.165.200.18)]

Dynamic Nat

II Inside #3

P3 (confid) II int gigo/0/0

R3 (rentio-if) [] is not inside

Devit

P3 (confis) II int signor1

23 (config-14) I is not outside

Il eyt

P3 (confis) a int secvill

P3 (config-if) H is not out

exit

Psyconfie if int section

Psyconfie if all ip not out

The pit

P3 (confit) It ip not prof officenet 209.165.0.240
209.165.0.247 notmark 255.255.248

ip not pool tab2Net 209.165.50.240 209.165.50.247 natmark 255.255.255.248

access-list 1 permit 192.168.20 0.00.255

If not inside source list I NAT pool officeNet

If ip not inside source list 2 NAT pool labornet

exit

P2 (confid) # int 20/1/0
P2 (confid) # ip not out
exit

P2 (confid) # int 20/1/1

P2 (confid) # ip not out
exit

P2 (config II int 2000/20
P2 (config II in not inside

H evit

P2 (config II int 2000/01)

P2 (config II) II in not inside

H evit

P2 (cm/10) # ip not pool Lab1Net 209.165.100.240
209.165.100.247 notmask 255.253.255.248

1) ip not pool faculty Net 209. 165. 150. 240 209. 165. 150. 247 netmask 255. 255. 255. 248

access-list 3 permit 192 168.4.0 0.0.0.255

access-list 4 permit 192 168 5.0 0.0.0.255

Il ip not inside source list 3 NAT pool Labornet Il ip not inside source list a NAT pool facultyNet Hexit

RI (config) It ip rouse 000.0 0.000 201.163.200.14

to create ISD NAT configuration: 750 (confid) # / 10 rowte 201.105.200.12 251.251.251.252 201.165.200.12.13

Password Set up & Ale Write (save)

Inside P1

RI (confi) I console o

PI (config-line) II password rout3r1

H login

exit

PI (config) Il enuble secret < >

H exit

RI II WE

Inside P2

P2 (antig) It console o

P2 (conficience) # password routst-2

I 10817

Dexit

P2 (contio) II enable secret () I exit P2 II WI Inside R3 R3 (confi) II console o P3 (config-line) II password rout31-3 # login # exit PS (config) # enable secret & # axit P3 II WT Inside ISP TSP (confid) It console O ISP (config-line) A password 1sproutsr # Login # exit ISO (config) Il enable secret L H exit ISP II WI