

**DEPARTMENT OF COMPUTER SCIENCE &
ENGINEERING - AI**

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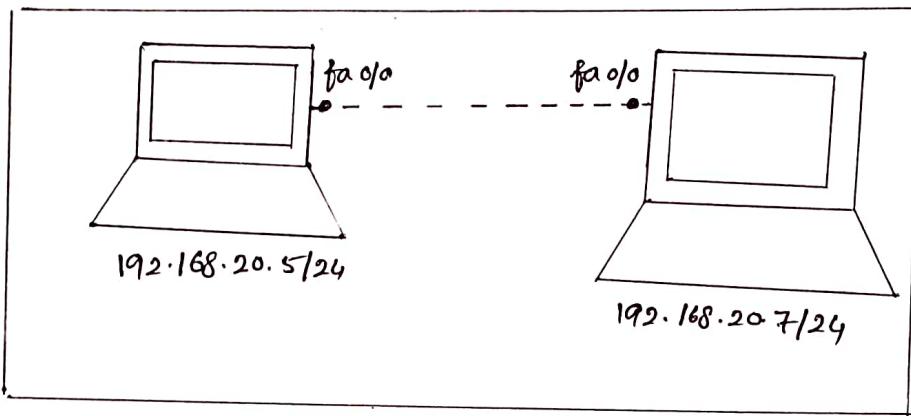
Course Code: PCC-CSM 592

Sl. No	Topic Name	Date of Experiment	Signature with Date	Remarks
1.	Assignment - 01	22.07.25	Rohadev 22/07/25	
2.	Assignment - 02	29.07.25	Rohadev 29/07/25	
3.	Assignment - 03	29.07.25	Rohadev 29/07/25	
4.	Assignment - 04	5.08.25	Rohadev 5/08/25	
5.	Assignment - 05	12.08.25	Kay 12/08/25	
6.	Assignment - 06	19.08.25	Rohadev 19/08/25	
7.	Assignment - 07	26.08.25	Kay 26/08/25	
8.	Assignment - 08	02-09-25	Kay 02/09/25	
9.	Assignment - 09	16-09-25	Rohadev 16/09/25	
10.	Assignment - 10	14-10-25	Rohadev 14/10/25	

Assignment - 01

Design a small point to point network involving two host machines configure IP addresses and check connectivity end to end.

Diagram:



Steps:

1. Open Cisco Packet Tracer.
2. choose two generic end devices.
3. choose copper cross over connections
4. Manually set the IP addresses of two end devices [Here 192.168.20.5 and 192.168.20.7 respectively]
5. choose the first end devices and go to the command prompt and write ping 192.168.20.5
6. Then the output will be:

Pinging 192.168.20.5 with 32 bytes of data:

Reply from 192.168.20.5: bytes=32 time=5ms TTL=128

Reply from 192.168.20.5 bytes=32 time=5ms TTL=128

Reply from 192.168.20.5 bytes=32 time=5ms TTL=128

Reply from 192.168.20.5 bytes=32 time=5ms TTL=128

Ping statistics for 192.168.20.5:

Packets: sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milliseconds:

Minimum = 4ms, Maximum = 8ms, Average = 6ms

7. Again write the command

Ping 192.168.20.7

8. Then the output will be same

9. choose the second end device, and go to the command.

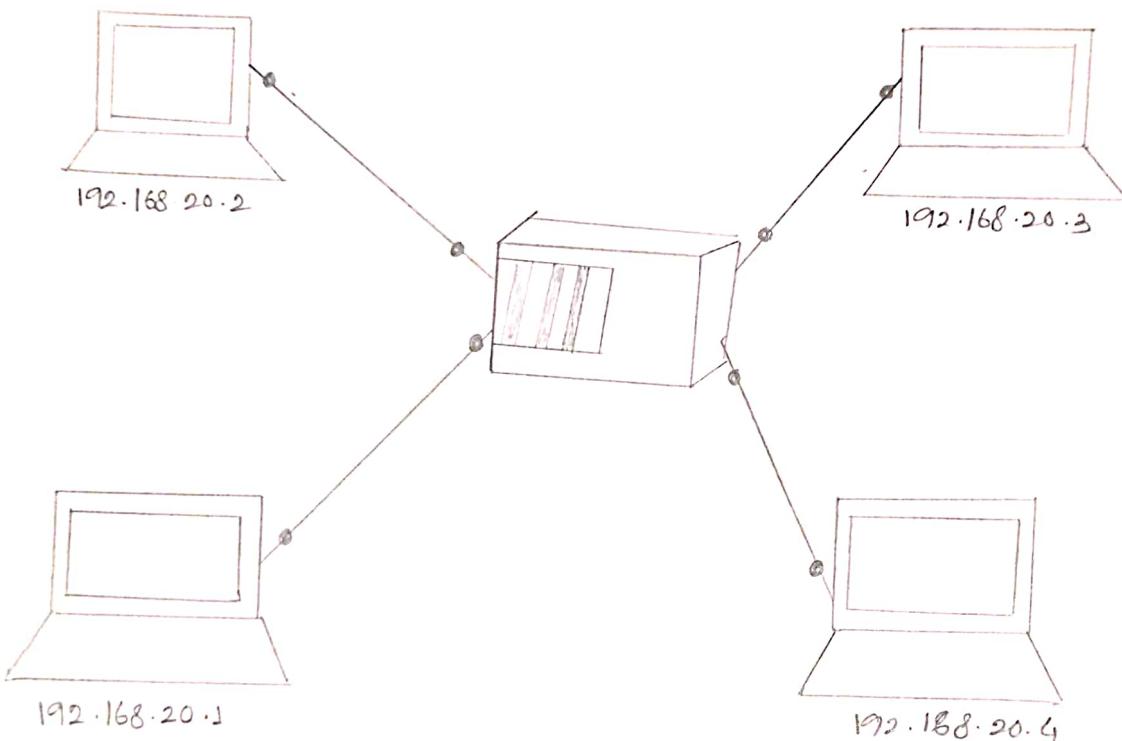
10. Some output will be generate.



Assignment - 02

Design a star topology using hubs and 4 end devices, configure IP addresses and check connectivity b/w 4 end devices.

Diagram:



Steps:

1. Open Cisco Packet Tracer.
2. choose 4 generic end devices.
3. choose 1 generic hub
4. choose copper straight-through connections
5. Manually set the IP addresses of 4 end devices. [Here, 192.168.20.1, 192.168.20.2, 192.168.20.3, 192.168.20.4 respectively]

6. choose the first end device and go to the command prompt and write

Ping 192.168.20.2

7. Then the output will be:-

Pinging 192.168.20.2 with 32 bytes of data:

Reply from 192.168.20.2: bytes=32 time=1ms TTL=128

Reply from 192.168.20.2: bytes=32 time=0ms TTL=128

Reply from 192.168.20.2: bytes=32 time=4294967295ms TTL=128

Reply from 192.168.20.2: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.20.2:

Packets: Sent=4, Received=4, Lost=0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum=0ms, Maximum=4294967295ms, Average=0ms

Ping 192.168.20.3

Then the output will be same (time may vary)

Ping 192.168.20.4

Then the output will be same

8. choose the second end device and go to the command prompt and write

Ping 192.168.20.1

Then the output will be same

Ping 192.168.20.3

Then the output will be same

Ping 192.168.20.4

Then the output will be same

9. choose the third end device and go to the command prompt and write

Ping 192.168.20.1

Then the output will be same

Ping 192.168.20.2

Then the output will be same

Ping 192.168.20.4

Then the output will be same

10. choose the fourth end device and go to the command prompt and write

Ping 192.168.20.1

Then the output will be same

Ping 192.168.20.2

Then the output will be same

Ping 192.168.20.3

Then the output will be same

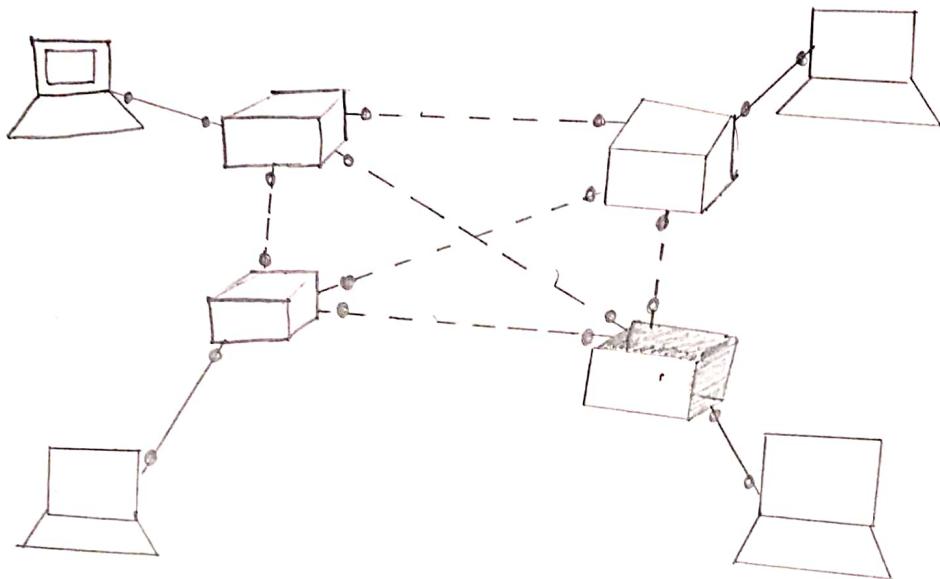
So the connection is successfully done

(Rahul)
29/07/23

Assignment-03

Design a Mesh topology using switch and 4 end devices, configure IP address and check connectivity.

Diagram:



Steps:

1. Open Cisco packet tracer
2. choose 4 switches (2960-24TT)
3. choose 4 end devices
4. connect each end device with switch by copper straight-through
5. connect each switch with all the other switches by copper cross over connection.
6. Manually set the IP address of the 4 end devices [Here, 192.168.20.1, 192.168.20.2, 192.168.20.3, 192.168.20.4]
7. choose the first end device and go to the command prompt and write Ping 192.168.20.2

8. Then the output will be-

Pinging 192.168.20.2 with 32 bytes of data:

Reply from 192.168.20.2: bytes = 32 time = 16ms TTL = 128

Reply from 192.168.20.2: bytes = 32 time = 8 ms TTL = 128

Reply from 192.168.20.2: bytes = 32 time = 8 ms TTL = 128

Reply from 192.168.20.2: bytes = 32 time = 8 ms TTL = 128

Ping statistics for 192.168.20.2:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 8ms, Maximum = 16ms, Average = 10ms.

Ping 192.168.20.3

Then the output will be same

Ping 192.168.20.4

Then the output will be same

9. choose the second end devices and go to command prompt and write

Ping 192.168.20.1

Then the output will be same

Ping 192.168.20.3

Then the output will be same

Ping 192.168.20.4

Then the output will be same

10. choose the third end device and go to command prompt and write -

Ping 192.168.20.1

Then the output will be same

Ping 192.168.20.2

Then the output will be same

Ping 192.168.20.4

Then the output will be same

11. choose the fourth end device and go to command prompt and write

Ping 192.168.20.1

Then the output will be same

Ping 192.168.20.2

Then the output will be same

Ping 192.168.20.3

Then the output will be same

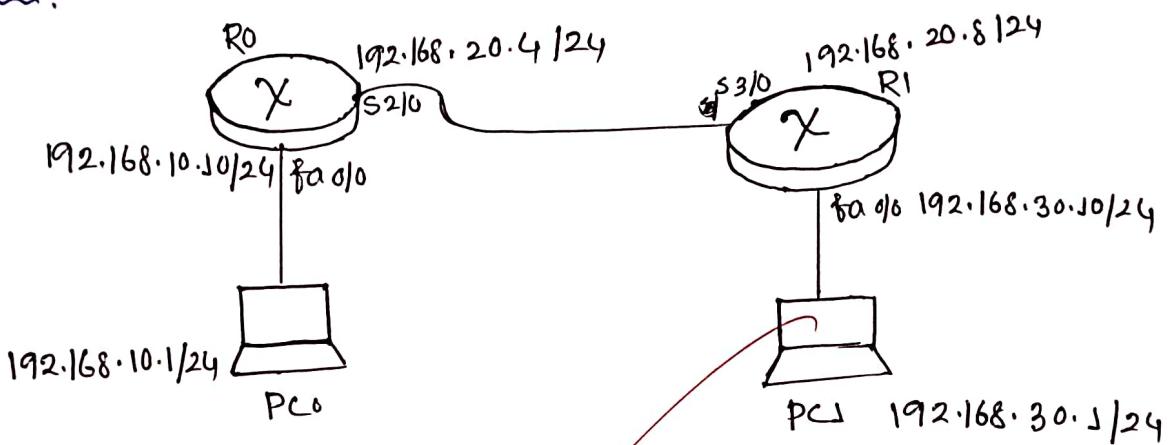
So the connection is successfully done

Bhalwad
29/04/25

Assignment-04

- * Configuration of static route in routers in a computer inter-network environment.

Diagram:



steps:

1. Open Cisco packet Tracer student
2. choose two generic routers and two generic end-devices (PC).
3. Connect the router and the PC with the connection named "copper-crossover".
4. Connect two routers using the connection named 'Serial DCE'
5. Go to PCs one by one and set their ip address manually
PC0 - 192.168.10.1
PC1 - 192.168.30.1

- 6'. Set the router10 configuration:

Router10 configuration:

Router > enable

Router # configure terminal

Enter configuration commands, one per line. End with CNTL/Z

Router (config) # hostname kolkata

kolkata (config) # line vty 0 5

kolkata (config-line) # password cisco

kolkata (config-line) # login

kolkata (config-exit) # exit

kolkata (config) # enable secret bwu

kolkata (config) # interface fa 0/0

kolkata (config-if) # ip address 192.168.10.10 255.255.255.0

kolkata (config-if) # no shutdown

kolkata (config-if) #

✓. LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

✓. LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0 changed state to up

kolkata (config-if) # exit

kolkata (config) # interface serial2/0

kolkata (config-if) # ip address 192.168.20.4 255.255.255.0

kolkata (config-if) # clock rate 56000

kolkata (config-if) # bandwidth 56

kolkata (config-if) # ~~exit~~ no shutdown

✓. LINK-5-CHANGED: Interface Serial2/0, changed state to down

kolkata (config-if) # exit

kolkata #

✓. SYS-5-CONFIG-I: Configured from console by console

Kolkata # copy run start

Destination filename [startup-config]? startup-config

Building configuration...

[OK]

Kolkata #

7. Now set the configuration at Router

configuration at Router:

Router>enable

Router# configure terminal

Enter configuration commands, one per line. End with CNTL/Z

Router(config)# hostname Delhi

Delhi(config)# line vty 0 5

Delhi(config-line)# password cisco

Delhi(config-line)# login

Delhi(config-line)# exit

Delhi(config)# enable secret bwu

Delhi(config)# interface Fa0/0

Delhi(config-if)# ip address 192.168.30.10 255.255.255.0

Delhi(config-if)# no shutdown

Delhi(config-if) #

y. LINK-5-CHANGED: Interface FastEthernet0/0, changed state
to up

y. LINEPROTO-5-UPDOWN: Line protocol on interface
FastEthernet0/0, changed state to up

Delhi (config-if) # exit

Delhi (config) # interface serial3/0

Delhi (config-if) # ip address 192.168.8 255.255.255.0

Delhi (config-if) # no shutdown

Delhi (config-if) #

✓.LINK-S-CHANGED: Interface serial3/0, changed state to up

Delhi (config-if) # exit

Delhi (config) # exit

✓.LINEPROTO-S-UPDOWN: Line protocol on Interface serial3/0, changed state up to up

Delhi #

✓.SYS-S-CONFIG-J: Configured from console by console

Delhi # copy running-config startup-config

Destination filename [startup-config]? startup-config

Building configuration...

[OK]

Delhi #

8. Now choose the PC0 and set the default gateway that is 192.168.10.10

9. choose the PC1 and set the Default Gateway that is 192.168.30.10

10. Set the router0 configuration

Network's route configuration at Router0

Kolkata>enable

Password: bwu [invisible]

Kolkata # configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Kolkata (config) # ip route 192.168.30.0 255.255.255.0 s2/0

Kolkata (config) # exit

Kolkata # sh ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

11. Set the Router's configuration

Network's route configuration of Router1

Delhi >enable

Password: bwu [invisible]

delhi # configure terminal

Enter configuration commands, one per line. End with CNTL/Z

delhi (config) # ip route 192.168.10.0 255.255.255.0 s3/0

delhi (config) # exit

delhi #

12. Then choose the first end device (PC0) and go to the command prompt and write

Ping 192.168.30.1

Then the output will be

Pinging 192.168.30.1 with 32 bytes of data:

Reply from 192.168.30.1: bytes = 32 time = 1 ms TTL = 128

Reply from 192.168.30.1: bytes = 32 time = 0 ms TTL = 128

Reply from 192.168.30.1: bytes = 32 time = 0 ms TTL = 128

Reply from 192.168.30.1: bytes = 32 time = 0 ms TTL = 128

Ping statistics for 192.168.30.1:

Packets: sent = 4, Received = 4, Lost = 0 (0% Loss),

Approximate round trip times in milli-seconds:

Minimum = 0 ms, Maximum = 18 ms, Average = 0.25 -

13. Finally choose the second end device (PC) and go to the command prompt and write it -

Ping 192.168.10.1

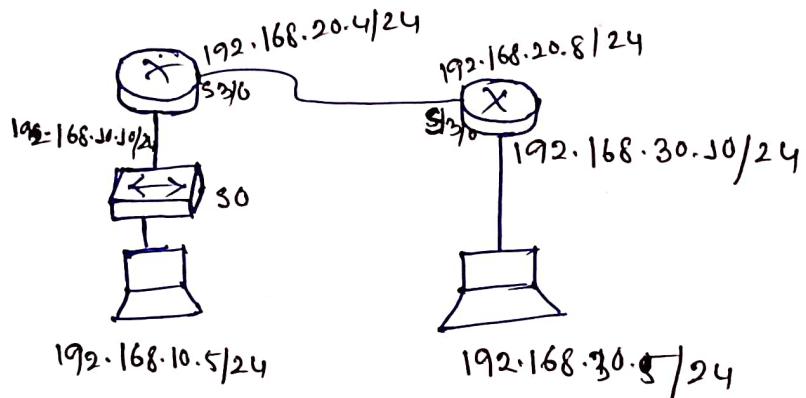
Then the output will be same.

~~PC1, PC2
12/08/25~~

Assignment - 5

Simulate a computer interface network and showcase the use of routing information Protocol (RIP-v1)

Diagram:



Steps:

1. Open Cisco Packet Tracer
2. Choose two generic end devices
3. choose two generic routers
4. choose one switch (2950-24)
5. Connect two router using the connection named serial DCE
6. Connect the router and switch using the connection copper straight-through
7. connect the switch with end device using the connection copper straight-through.
8. connect the router with P end device using the connection named Copper-cross-over.
9. Go to the PCs one by one and set their ip address manually
PC0 = 192.168.10.5
PC1 = 192.168.30.5

10. set the router0 configuration:

Router0 Configuration:

Router > enable

Router # Configure terminal

Router (config) # host name kolkata

Kolkata (config) # line vty 0 5

Kolkata (config-line) # login

Kolkata (config-line) # exit

Kolkata (config) # enable secret bwu

Kolkata (config) # interface fa 0/0

Kolkata (config-if) # ip address 192.168.10.10 255.255.255.0

Kolkata (config-if) # no shutdown

Kolkata (config-if) #

Kolkata (config-if) # exit

Kolkata (config) # interface serial 2/0

Kolkata (config-if) # ip address 192.168.20.4 255.255.255.0

Kolkata (config-if) # clock rate 56000

Kolkata (config-if) # bandwidth 56

Kolkata (config-if) # no shutdown

Kolkata (config-if) # exit

Kolkata #

Kolkata # copy run start

Destination filename [startup-config]? startup-config

Building configuration...

[OK]

Kolkata #

RIP activation of Router 0

Kolkata# config +

Kolkata (config) # router rip

Kolkata (config-router) # network 192.168.10.0

Kolkata (config-router) # exit

ii) Configuration at Router 1:

Configuration of Router 1:

Router>enable

Router# configure terminal

Router(config) # hostname Delhi

Delhi (config) # line vty 0 5

Delhi (config-line) # password cisco

Delhi (config-line) # login

Delhi (config-line) # exit

Delhi (config) # enable secret bwu

Delhi (config) # interface fa 0/0

Delhi (config-if) # ip address 192.168.30.10 255.255.255.0

Delhi (config-if) # no shutdown

Delhi (config-if) #

```
Delhi (config-if) # exit
Delhi (config) # interface serial 3/0
Delhi (config-if) # ip address 192.168.20.8 255.255.255.0
Delhi (config-if) # no shutdown
Delhi (config-if) #
Delhi (config-if) # exit
Delhi # (config) # exit
Delhi #
Delhi # copy running-config startup-config
Destination filename [startup-config]? startup-config
Building configuration...
[OK]
```

RIP advertising on Router

```
Delhi # config +
Delhi (config) # router rip
```

```
Delhi (config-router) # network 172.168.90.0
```

```
Delhi (config-router) # network 192.168.30.10
```

```
Delhi (config-router) # exit
```

12. Now choose the PCB and set the default gateway as
192.168.10.10

13. Then choose the PCJ and set the default gateway as
192.168.30.10

14) Then go to command prompt at PC₀ and write-
ping 192.168.30.5

Then the output will be

Pinging 192.168.30.5 with 32 bytes of data:

Reply from 192.168.30.5 bytes=32 time=6ms TTL=126

Reply from 192.168.30.5 bytes=32 time=1ms TTL=126

Reply from 192.168.30.5 bytes=32 time=1ms TTL=126

Reply from 192.168.30.5 bytes=32 time=1ms TTL=126

Ping statistics for 192.168.30.5:

Packets: Sent=4, Received=4, Lost=0 (0% loss),

Approximate round trip times in milliseconds:

Minimum=1ms, Maximum=6ms, Average=2ms

15) Then go to the command prompt at PC₁ and write

Ping 192.168.10.5

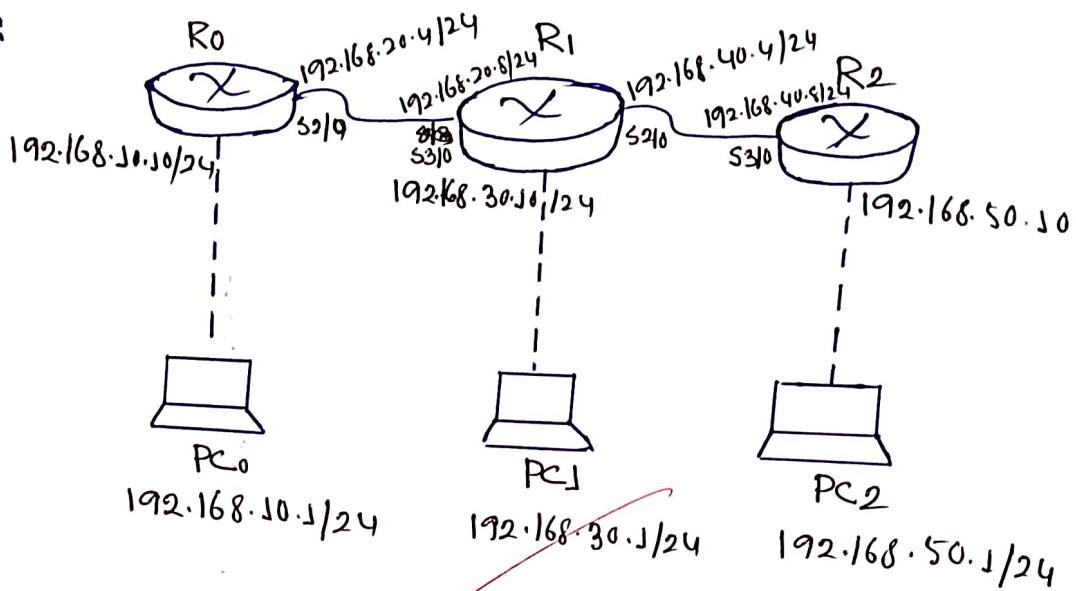
Then the output will be



Assignment - 6

Simulation of implementation of "Telnet" operation in a n/w environment.

Diagram:



Steps:

1. Open Cisco packet Tracer student
2. choose three generic routers and three end devices (PC).
3. Connect the router and PCs with connection, named 'copper-cross'.
4. Connect three routers using the connection named 'Serial DCE'
5. Go to PCs one by one and set their ip address manually

PC0 - 192.168.10.1

PC1 - 192.168.30.1

PC2 - 192.168.50.1

- 6) Now set their default gateway

PC0 - 192.168.10.10

PC1 - 192.168.30.10

PC2 - 192.168.50.10

7. Set the Router0 configuration:

Router>enable

Router# config t

Router(config)# hostname kolkata

kolkata(config)# line vty 0 5-

kolkata(config-line)# password cisco

kolkata(config-line)# login

kolkata(config-line)# exit

kolkata(config)# enable secret bwu

kolkata(config)# int fa 0/0

kolkata(config-if)# ip address 192.168.10.10 255.255.255.0

kolkata(config-if)# no shutdown

kolkata(config-if)# exit

kolkata(config)# int serial 2/0

kolkata(config-if)# ip add 192.168.20.4 255.255.255.0

kolkata(config-if)# clock rate 56000

kolkata(config-if)# bandwidth 56

kolkata(config-if)# no shutdown

kolkata(config-if)# exit

kolkata(config)# exit

kolkata# copy run start

Destination filename [startup-config]? startup-config
Building configuration...

[ok]

kolkata#

8) Set the Router1 configuration:

Router>enable

Router# config +

Router(config)# hostname delhi

delhi(config)# line vty 0 5

delhi(config-line)# password cisco

delhi(config-line)# login

delhi(config-line)# exit

delhi(config)# enable secret bwu

delhi(config)# int fa 0/0

delhi(config-if)# ip add 192.168.30.10 255.255.255.0

delhi(config-if)# no shutdown

delhi(config-if)# exit

delhi(config)# int serial 3/0

delhi(config-if)# ip add 192.168.20.8 255.255.255.0

delhi(config-if)# no shutdown

delhi(config-if)# exit

delhi(config)# int serial 2/0

delhi(config-if)# ip add 192.168.40.4 255.255.255.0

delhi(config-if)# clock rate 56000

delhi(config-if)# bandwidth 56

delhi(config-if)# no shutdown

delhi(config-if)# exit

delhi(config)# exit

delhi # copy run start

Destination filename [startup-config]? startup-config

Building configuration...

[ok]

delhi #

9. Set the Router12 configuration:

Router>enable

Router# config +

Router(config)# hostname mumbai

mumbai(config)# line vty 0's-

mumbai(config-line)# password ~~12345~~cisco

mumbai(config-line)# login

mumbai(config-line)# exit

mumbai(config)# enable secret bwu

mumbai(config)# int fa 0/0

mumbai(config-if)# ip address 192.168.50.10 255.255.255.0

mumbai(config-if)# no shutdown

mumbai(config-if)# exit

mumbai(config)# int serial 3/0

mumbai(config-if)# ip add 192.168.40.8 255.255.255.0

mumbai(config-if)# no shutdown

mumbai(config-if)# exit

mumbai(config)# exit

mumbai# copy run start

Destination filename [startup-config]? startup-config

Building configuration...

[ok]

mumbai#

10. Simulate the implementation of 'Telnet' operation in a n/w environment at Router0.

Go to Router1 and write it—

delhi# telnet 192.168.20.4

password: cisco

Kolkata#> enable

Kolkata#> conf

password: bwu

Kolkata: config +

Kolkata(config)# router rip

Kolkata(config-router)# netw 192.168.10.0

Kolkata(config-router)# netw 192.168.20.0

Kolkata(config-router)# exit

Kolkata(config)# exit

Kolkata# exit

[Connection to 192.168.20.4 closed by foreign host]

delhi#

11. Simulate the implementation of 'Telnet' operation in a n/w environment at Router1.

Go to Router2 and write it—

mumbai# telnet 192.168.40.4

password: cisco

delhi#>enable

password: bvu

delhi# config t

delhi(config)# router rip

delhi(config-router)# netw 192.168.20.0

delhi(config-router)# netw 192.168.30.0

delhi(config-router)# netw 192.168.40.0

delhi(config-router)# exit

delhi(config)# exit

delhi# exit

[connection to 192.168.40.4 closed by foreign host]

mumbai#

12. Simulate the implementation of 'Telnet' operation in a n/w environment at Router 2

Go to Router1 and write it—

delhi# telnet 192.168.40.8

password: cisco

mumbai>enable

password: bvu

mumbai# config t

mumbai(config)# router rip

mumbai(config-router)# netw 192.168.40.0

mumbai(config-router)# netw 192.168.50.0

mumbai(config-router)# exit

mumbai (config) # exit

mumbai # exit

[connection to 192.168.40.8 closed by foreign host]

delhi #

13. Now go to PC1's command prompt and write it -

Ping 192.168.40.8

Pinging 192.168.40.8 with 32 bytes of data:

Reply from 192.168.40.8: bytes = 32 time = 2ms TTL = 253

Reply from 192.168.40.8: bytes = 32 time = 2ms TTL = 253

Reply from 192.168.40.8: bytes = 32 time = 2ms TTL = 253

Reply from 192.168.40.8: bytes = 32 time = 57ms TTL = 253

Ping statistics for 192.168.40.8:

Packet: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 2ms, Maximum = 57ms, Average = 15ms

telnet 192.168.40.8

Trying 192.168.40.8... open

User Access verification

Password: cisco

mumbai>enable

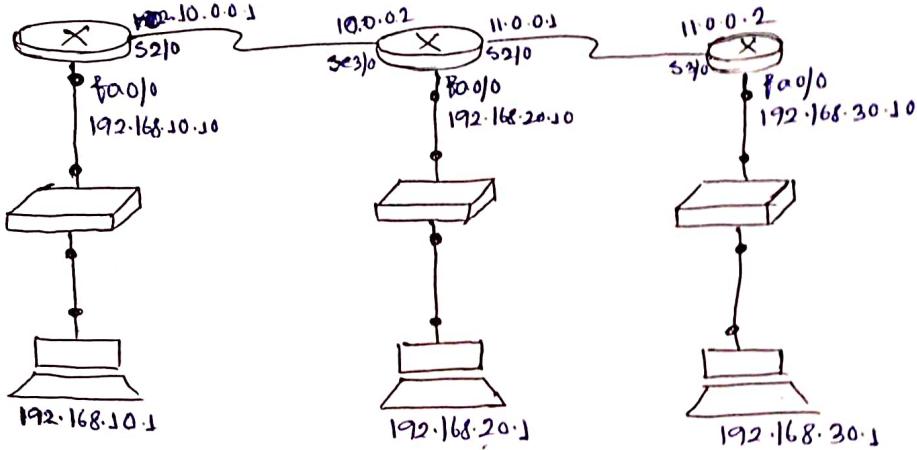
mumbai#

14. Go to PC1 and PC2's command prompt and write others ip addresses that is defined in configuration setup with this same command.

Bhavik
26/8/15

Assignment - 7

Diagram:



Steps:

- 1> Go to the Cisco packet tracer
- 2> choose three generic pcs and switches (2950-24) and three generic routers.
- 3> set the connection using the cable copper straight-through between router to switch and switch to pc.
- 4> set connect b/w router to router using serial DCE cable.
- 5> Now go to pc's ip configuration section and setup the ip address and default gateway.

PC0 : ip address 192.168.10.1
default gateway 192.168.10.10

PC1 : ip address 192.168.20.1
default gateway 192.168.20.10

PC2 : ip address 192.168.30.1
default gateway 192.168.30.10

6) Now configure the Router0

Router>enable

Router# config t

Router(config)# hostname kolkata

Kolkata(config)# line vty 0 s-

Kolkata(config-line)# password cisco

Kolkata(config-line)# login

Kolkata(config-line)# exit

Kolkata(config)# enable secret bhwu

Kolkata(config)# int fa 0/0

Kolkata(config-if)# ip add 192.168.10.10 255.255.255.0

Kolkata(config-if)# no shutdown

Kolkata(config-if)# exit

Kolkata(config)# int se2/0

Kolkata(config-if)# ip add 10.0.0.1 255.0.0.0

Kolkata(config-if)# clock rate 56000

Kolkata(config-if)# bandwidth 56

Kolkata(config-if)# no shutdown

Kolkata(config-if)# exit

Kolkata(config)# exit

Kolkata# copy run start

Destination filename [startup-config]? startup-config
Building configuration
[ok]

7) Now configure the Router

Router>enable

Router# config t

Router(config)# hostname delhi

delhi(config)# line vty 0 5

delhi(config-line)# password cisco

delhi(config-line)# login

delhi(config-line)# exit

delhi(config)# enable secret bwu

delhi(config)# int fa0/0

delhi(config-if)# ip add 192.168.20.10 255.255.255.0

delhi(config-if)# no shutdown

delhi(config-if)# exit

delhi(config)# int se3/0

delhi(config-if)# ip add 10.0.0.2 255.0.0.0

delhi(config-if)# no shutdown

delhi(config-if)# exit

delhi(config)# int se2/0

delhi(config-if)# ip add 11.0.0.1 255.0.0.0

delhi(config-if)# clock rate 56000

delhi(config-if)# bandwidth 5-6

delhi(config-if)# no shutdown

delhi(config-if)# exit

delhi(config)# exit

```
delhi# copy run start  
Destination filename [startup-config]? startup-config  
Building configuration...  
[OK]
```

delhi#

8) Now configure the Router2

Router> enable

Router# config +

Router(config)# hostname mumbai

mumbai(config)# line vty 0 5

mumbai(config-line)# password cisco

mumbai(config-line)# login

mumbai(config-line)# exit

mumbai(config)# enable secret bww

mumbai(config)# int fa 0/0

mumbai(config-if)# ip add 192.168.30.10 255.255.0 0 0.0.0.0

mumbai(config-if)# no shutdown

mumbai(config-if)# exit

mumbai(config)# int se 3/0

mumbai(config-if)# ip add 11.0.0.2 255.0.0.0

mumbai(config-if)# no shutdown

mumbai(config-if)# exit

mumbai(config)# exit

mumbai# copy run start

Destination filename [startup-config]? startup-config

Building configuration...

[OK]

mumbai#

9) Now configure EIGRP protocol to the Router10

Kolkata# config t

Kolkata(config)# int s2/0

Kolkata(config-if)# router eigrp 10

Kolkata(config-router)# netw 10.0.0.0

Kolkata(config-router)# netw 192.168.10.0

Kolkata(config-router)# exit

Kolkata(config)#

10) Now configure EIGRP protocol to the Router11

delhi# config t

delhi(config)# int s3/0

delhi(config-if)# router eigrp 10

delhi(config-router)# netw 10.0.0.0

delhi(config-router)# netw 192.168.2.0

delhi(config-router)# exit

delhi(config)# int se2/0

delhi(config-if)# router eigrp 10

delhi(config-router)# netw 11.0.0.0

delhi(config-router) # netw 192.168.20.0

delhi(config-router) # exit

delhi(config) #

11) Now configure EIGRP protocol to the Router2

mumbai # config t

mumbai(config) # int s3/0

mumbai(config-if) # router eigrp 10

mumbai(config-router) # netw 11.0.0.0

mumbai(config-router) # netw 192.168.30.0

mumbai(config-router) # exit

mumbai(config) #

12) Now go to the command prompt at the PC0 and write it -

ping 192.168.30.1

Then the output will be

Pinging 192.168.30.1 with 32 bytes of data:

Reply from 192.168.30.1: bytes=32 time=22ms TTL=125-

Reply from 192.168.30.1: bytes=32 time=2ms TTL=125-

Reply from 192.168.30.1: bytes=32 time=29ms TTL=125-

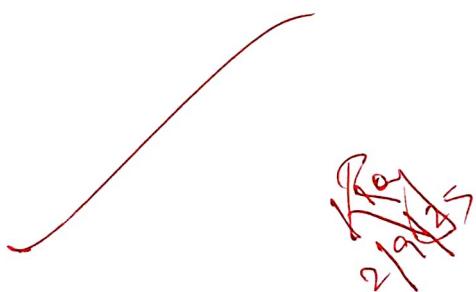
Reply from 192.168.30.1: bytes=32 time=2ms TTL=125-

Ping statistics for 192.168.30.1:

Packets: Sent=4, Received=4, Lost=0 (0% Loss),

Approximate round trip times in milli-seconds:

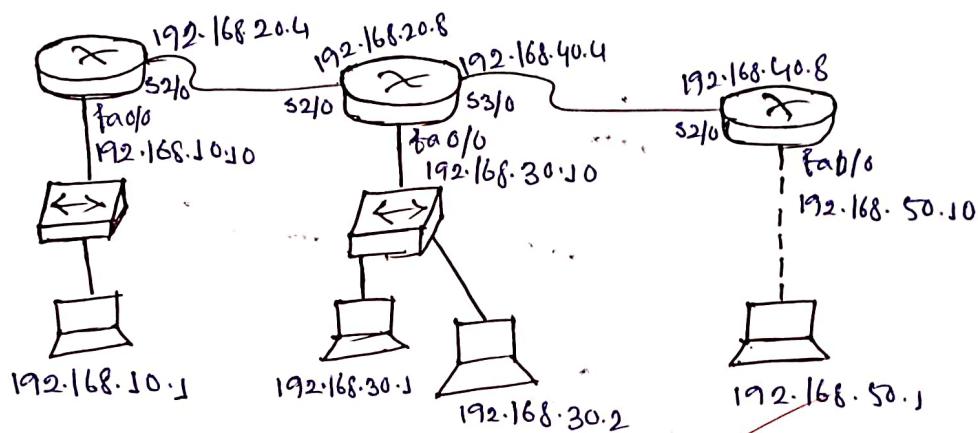
Minimum = 2 ms, Maximum = 29 ms, Average = 13 ms



Experiment-08

Problem statement: Simulate OSPF single area configuration using cisco Packet tracer.

Diagram:



Steps

- 1) Go to Cisco packet tracer
- 2) choose three generic routers and three PCs and three 2950-24 switch.
- 3) connect router to switch by using the connection names copper straight-through.
- 4) connect switch to PCs by using the connection named copper straight-through.
- 5) connect router to PC by using the connection named copper cross-over.
- 6) connect the routers to routers by the connection named Serial DCE

7) Now go to PCs and set the ip addresses and default gateways -

PC0: ip - 192.168.10.1

default gateway - 192.168.10.10

PC1: ip: 192.168.30.1

default gateway: 192.168.30.10

PC2: ip: 192.168.30.2

default gateway: 192.168.30.10

PC3: ip: 192.168.50.1

default gateway: 192.168.50.10

8) Now configure the router

Router> enable

Router# config +

Router(config)# hostname delhi

delhi(config)# line vty 0's-

delhi(config-line)# password cisco

delhi(config-line)# login

delhi(config-line)# exit

delhi(config)# enable secret bwu

delhi(config)# int fa 0/0

delhi(config-if)# ip add 192.168.10.10 255.255.255.0

```
delhi (config-if) # no shutdown  
delhi (config-if) # exit  
delhi (config) # int s2/0  
delhi (config-if) # ip add 192.168.20.4 255.255.255.0  
delhi (config-if) # clock rate 56000  
delhi (config-if) # bandwidth 56  
delhi (config-if) # no shutdown  
delhi (config-if) # exit  
delhi (config) # exit  
delhi # copy run start
```

Destination filename [startup-config] ? startup-config
Building configuration...

[OK]

delhi #

9) Now configure the Router

Router > enable

Router # config +

Router (config) # hostname kolkata

Kolkata (config) # line vty 0 5

Kolkata (config-line) # password cisco

Kolkata (config-line) # login

Kolkata (config-line) # exit

```
Kolkata(config) #enable secret level 1  
Kolkata(config) #int fa 0/0  
Kolkata(config-if) #ip add 192.168.30.10 255.255.255.0  
Kolkata(config-if) #no shutdown  
Kolkata(config-if) #exit  
Kolkata(config) #int s2/0  
Kolkata(config-if) #ip add 192.168.20.8 255.255.255.0  
Kolkata(config-if) #no shutdown  
Kolkata(config-if) #exit  
Kolkata(config) #int s3/0  
Kolkata(config-if) #ip add 192.168.40.4 255.255.255.0  
Kolkata(config-if) #clock rate 56000  
Kolkata(config-if) #bandwidth 56  
Kolkata(config-if) #no shutdown  
Kolkata(config-if) #exit  
Kolkata(config) #exit  
Kolkata# copy run start  
Destination filename [Startup-config]? Startup-config  
Building configuration...  
[OK]
```

Kolkata#

10> Now go configure Router2

```
Router>enable  
Router# config
```

```
Router(config) # hostname chennai  
chennai(config) # line vty 0 5  
chennai(config-line) # password cisco  
chennai(config-line) # login  
chennai(config-line) # exit  
chennai(config) # enable secret  
chennai(config) # int fa 0/0  
chennai(config-if) # ip add 192.168.50.10 255.255.255.0  
chennai(config-if) # no shutdown  
chennai(config-if) # exit  
chennai(config) # int se2/0  
chennai(config-if) # ip add 192.168.40.8 255.255.255.0  
chennai(config-if) # no shutdown  
chennai(config-if) # exit  
chennai(config) # exit  
chennai # copy run start
```

Destination filename [startup-config]? startup-config
Building configuration...

[OK]

chennai#

11) Now simulate the OSPF single area configuration of Router0
delhi# config t

delhi(config) # router ospf 1

delhi(config-router) # netw 192.168.10.10 0.0.0.0 area 0

```
delhi(config-router) # netw 192.168.20.4 0.0.0.0 area 0  
delhi(config-router) # exit  
delhi(config) #
```

12) Now configure the OSPF single area configuration at Router1

```
Kolkata # config +
```

```
Kolkata(config) # router ospf 2
```

```
Kolkata(config-router) # netw 192.168.20.8 0.0.0.0 area 0
```

```
Kolkata(config-router) # netw 192.168.30.10 0.0.0.0 area 0
```

```
Kolkata(config-router) # netw 192.168.40.4 0.0.0.0 area 0
```

```
Kolkata(config-router) # exit
```

```
Kolkata(config) #
```

13) Now simulate the OSPF single area configuration at Router2

```
chennai # config +
```

```
chennai(config) # router ospf 3
```

```
chennai(config-router) # netw 192.168.40.8 0.0.0.0 area 0
```

```
chennai(config-router) # netw 192.168.50.10 0.0.0.0 area 0
```

```
chennai(config-router) # exit
```

```
chennai(config) #
```

14) Now go to pc's command prompt and write it—

```
ping 192.168.50.1
```

Then the output will be

```
Pinging 192.168.50.1 with 32 bytes of data:
```

Reply from 192.168.50.1: bytes=32 time=42 ms TTL=125

Reply from 192.168.50.1: bytes=32 time=2 ms TTL=125

Reply from 192.168.50.1: bytes=32 time=2 ms TTL=125

Reply from 192.168.50.1: bytes=32 time=2 ms TTL=125

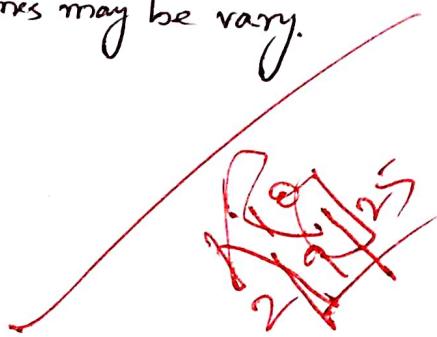
Ping statistics for 192.168.50.1:

Packets: Sent=4, Received=4, Lost=0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum=2 ms, Maximum=42 ms, Average=12 ms

- 15) Then go to others pcs and ping the others ip addresses,
then, the output will be same but times may be vary.

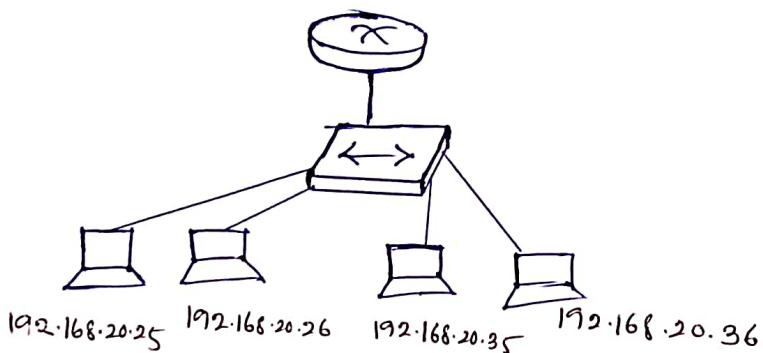


Assignment - 9

Problem statement:

Simulate a computer n/w to showcase establishment of VLAN on a switch.

Diagram:



Steps:

- 1> Open Cisco packet tracer
- 2> Select one generic Router, one 2950-24 switch and four generic end devices.

- 3> Now go to the PCs and setup the ip configuration

PC0 - ip: 192.168.20.25

default gateway: 192.168.20.16

PC1 - ip: 192.168.20.26

default gateway: 192.168.20.16

PC2 - ip: 192.168.20.35

default gateway: 192.168.20.32

PC3 - ip: 192.168.20.36

default gateway: 192.168.20.32

4) Now go to the switch and configure it

switch> enable

switch# config +

switch(config)# hostname s1

s1(config)# enable secret bwu

s1(config)# line console 0

s1(config-line)# password cisco

s1(config-line)# login

s1(config-line)# line vty 0 15

s1(config-line)# password telnet

s1(config-line)# login

s1(config-line)# banner motd "# This is my switch #"

s1(config)# int fa0/1

s1(config)# description this port is connected to vlam2 or sales vlam

s1(config-if)# int fa0/2

s1(config-if)# description this port is connected to vlam2 or sales vlam

s1(config-if)# int fa0/3

s1(config-if)# description this port is connected to vlam3 or accounts vlam

s1(config-if)# int fa0/4

s1(config-if)# description this port is connected to vlam 3 on accounts vlam

s1(config-if)# int vlm1

s1(config-if)# ip add 192.168.20.8 255.255.255.240

s1(config-if)# no shutdown

s1(config-if)# exit

s1(config)# int fa0/1

s1(config-if)# vlm 2

```
51 (config-vlan) # name sales
51 (config-vlan) # int fa 0/2
51 (config-if) # >> vlm 2
51 (config-vlan) # name sales
51 (config-vlan) # int fa 0/3
51 (config-if) # vlm 3
51 (config-vlan) # name accounts
51 (config-vlan) # int fa 0/4
51 (config-if) # vlm 3
51 (config-vlan) # name accounts
51 (config-vlan) # exit
51 (config) # int fa 0/1
51 (config-if) # switchport access vlm 2
51 (config-if) # int fa 0/2
51 (config-if) # switchport access vlm 2
51 (config-if) # int fa 0/3
51 (config-if) # switchport access vlm 3
51 (config-if) # int fa 0/6
51 (config-if) # switchport access vlm 3
51 (config-if) # exit
51 (config) #
```

5> Now go to the command prompt at PC0 and write the command
ping 192.168.20.26

Then the output will be

Pinging 192.168.20.26 with 32 bytes of data:

Reply from 192.168.20.26: bytes=32 time=0ms TTL=128

Ping statistics for 192.168.20.26:

Packets: Sent=4, Received=4, Lost=0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms.

6) Now ping to the other v/lan.

7) Go to PC0 and write the command in command prompt.

ping 192.168.20.35

Then the output will be

Pinging 192.168.20.35 with 32 bytes of data:

Request timed out.

Request timed out.

Request timed out.

Request timed out.

Ping statistics for 192.168.20.35:

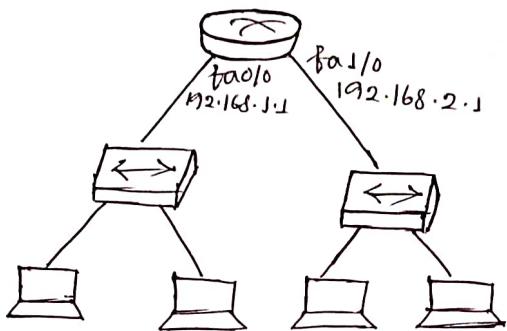
Packets: Sent=4, Received=0, Lost=4 (100% loss),

~~Request timed out~~

Experiment - 10

Problem statement: Implement or configure DHCP configuration.

Diagram



Steps:

- 1) Open Cisco packet tracer
- 2) choose one generic router, two 2950-24 switch and four generic PCs.
- 3) connect all the devices using copper straight-through wire.
- 4) Now go to router and configure it.

Router>enable

Router# config

Router (config)# hostname s1

s1 (config)# int fa0/0

s1 (config-if)# ip address 192.168.1.1 255.255.255.0

s1 (config-if)# no shutdown

s1 (config-if)# exit

s1 (config)# int fa1/0

s1 (config-if)# ip address 192.168.2.1 255.255.255.0

s1 (config-if)# no shutdown

```

S1 (config-if) # exit
S1 (config) # ip dhcp excluded-address 192.168.1.1
S1 (config) # ip dhcp excluded-address 192.168.2.1
S1 (config) # ip dhcp pool delhi
S1 (dhcp-config) # network 192.168.1.0 255.255.255.0
S1 (dhcp-config) # default-router 192.168.1.1
S1 (dhcp-config) # dns-server 8.8.8.8
S1 (dhcp-config) # exit
S1 (config) # ip dhcp pool koi
S1 (dhcp-config) # network 192.168.2.0 255.255.255.0
S1 (dhcp-config) # default-router 192.168.2.1
S1 (dhcp-config) # dns-server 8.8.8.8
S1 (dhcp-config) # exit
S1 (config) #

```

5) Now go to PCs and open ip configuration.

6) change ip configuration static to DHCP mode.

7) Now go to PCs command prompt and write
ping 192.168.2.2

Then the output will be

Pinging 192.168.2.2 with 32 bytes of data:

Reply from 192.168.2.2: bytes=32 time=1ms TTL=127

Reply from 192.168.2.2: bytes=32 time=0ms TTL=127

Reply from 192.168.2.2: bytes=32 time=0ms TTL=127

Reply from 192.168.2.2: bytes=32 time=0ms TTL=127

Ping statistics for 192.168.2.2:

Packets: Sent=4, Received=4, Lost=0 (0% loss).

Approximate round trip times in milli-seconds:

Minimum=0ms, Maximum=1ms, Average=0ms

~~Q3
14/10/25~~