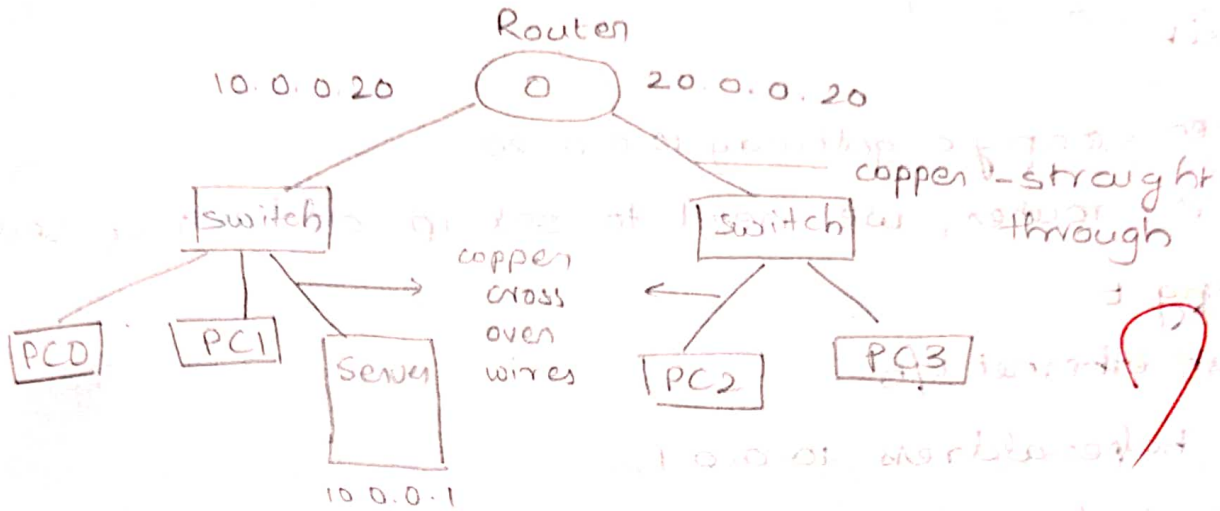


Experiment - 4

Aim: Connection of server LAN within and outside the network using switches and routers

Topology:



Procedure

- select two or more PC and a server connecting to a switch and another network with only end device and switch
- devices and switch
- connect both switches to router
- set IP address of server to ^{as} ~~router~~ 10.0.0.1
- go to services < select DHCP < save the current IP address
- Now, check the IP addresses of other devices in the network in the IP configuration in desktop.
- following commands are given in CLI of router
 - > enable
 - # config t
 - # interface fastethernet 4/0

Ip address 10.0.0.10 255.0.0.0

no shut

exit

interface fastEthernet 0/0

Ip address 20.0.0.20 255.0.0.0

no shut

exit

- server <config> gateway 10.0.0.20
- Now in router, we need to set ip address of server

config t

fast ethernet 0/0

ip helper-address 10.0.0.1

no shut

exit

- Now go to server <services> DHCP < add new IP address 20.0.0.2

- To check connection, IP configuration of PC outside the network click DHCP and IP gateway will be visible

Ping output

packet tracer PC command line 1.0

PC > ping 20.0.0.2

pinging 20.0.0.2 with 32 bytes of data:

Request timed out

Reply from 20.0.0.2: bytes = 32 time = 0ms TTL=127

Reply from 20.0.0.2: bytes = 32 time = 0ms TTL=127

Reply from 20.0.0.2: bytes = 32 time = 0ms TTL=127

Ping statistics for 20.0.0.2

Packets sent = 4, received = 3, lost = 1 (25% loss),

Approximate round trip times in milliseconds:

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

Observation:

- DHCP is used to assign IP addresses dynamically to different devices.
- To assign continuous IP addresses we create a server pool where we assign the starting IP address and a default gateway number for PCs under different switches we create a different server pool again and start.
- ⑨ This takes care of delivering the packet to correct destination IP address and also sends back the Ack to the initial device.

