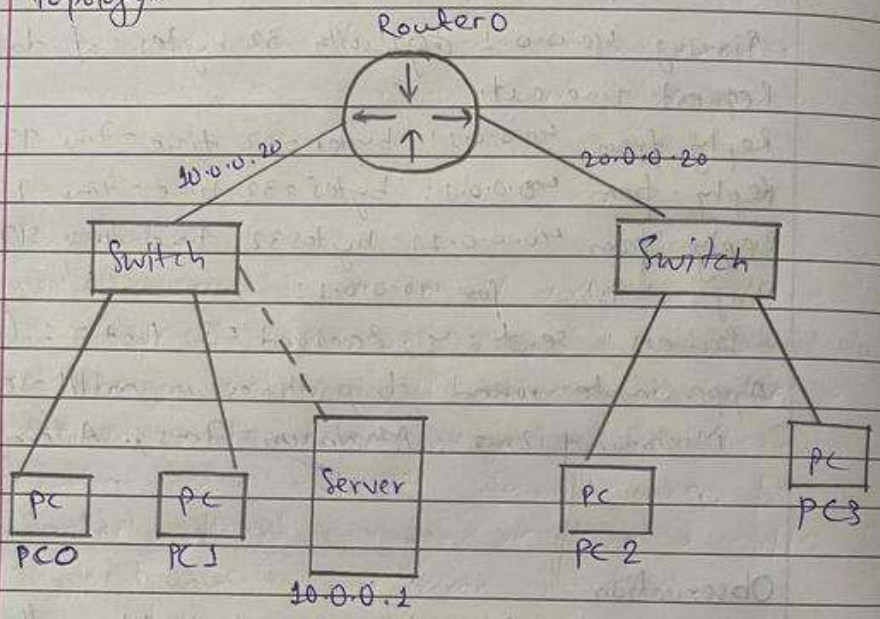
(DHCP)

Date 22/07/2023
Page 20

Experiment: 4

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

Topology:



Procedure

1. Select two or more PC and a server connecting to switch and another network with only end devices and switch.
2. Connect both switches to router
3. Set IP address of server as 10.0.0.1
4. Now, go to services < select DHCP < save the current IP address 20.0.0.2
5. Now, check the IP address of other devices in the network in the IP configuration in desktop(PC).
6. Now in the CLI of router, enable follow steps-

```
>enable
#config t.
```

interface fastethernet 4/0
ip address 10.0.0.10 255.00.0
no shut
exit
interface fastethernet 0/0
ip address 20.0.0.20 255.0.0.0
no shut
exit

7. Go to server < config < gateway 10.0.0.20
8. 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.

9. Now go to server < services < DHCP < add new IP address 20.0.0.2
10. To check the connection, go to the IP configuration of PC outside the network and click on DHCP and IP gateway will be visible.

Result

form server from PC2 to PC0 whose ip address is 10.0.0.2

PC> ping 10.0.0.2

pinging 10.0.0.2 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 statics for 20.0.0.2
Packets sent = 4, received = 3, lost = 1 (25% loss)
Approximate round trip times in milli-seconds
minimum = 0ms, Maximum = 0ms, Average = 0ms.

Observation

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

1-3-23