19/11/22 Exp 3 - Configuring the default route to th...

Topology
router

10.0.0.10

20.0.0.10   30 0.0.20

1/0   1/0   3/0   2/0

20.0.0.10   20.0.0.4   0/0   40.0.0.10

0/0

PC

10.00 0.1

PC

40.0.0.1
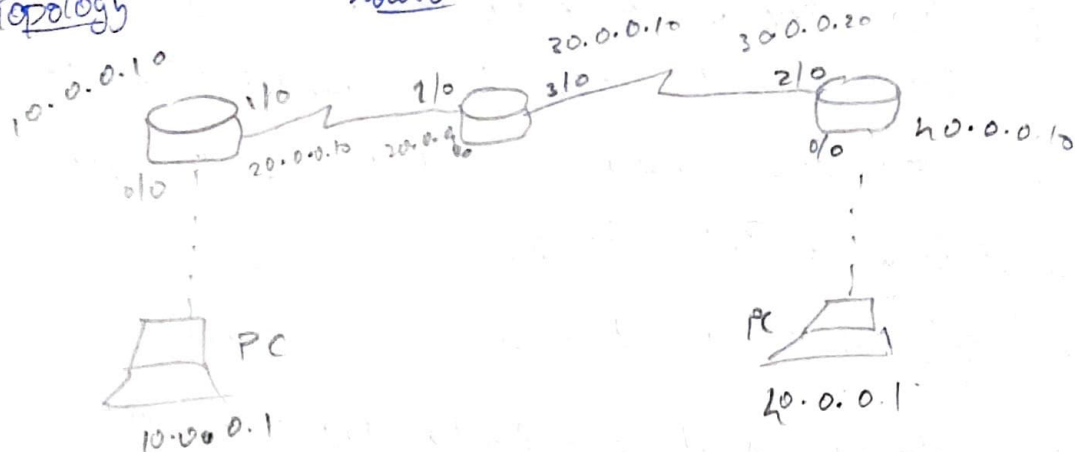
Procedure - • Place 3 generic routers & 2 generic PC's
- • Connect the devices
- • Place the nodes & ip addresses
- • Click PC → config → fastethernet, set IP address
          → Settings → set gateway address (router ip address)

Do this for all PC's

- • Connect the fast ethernet ports through CLI for router
- • Connect the serial ports to next hop addresses usin (directly connected) through CLI

- • Default route command :- @ip route 0.0.0.0   0.0.0.0
                                      next hop address

- • Use the default route command to connect the router to all the networks available

Simulation mode :- • Select simple PDU
- • Click on 2 PC's

Obs-
Runtime mode :- • Click on PC → Desktop → Command prompt
- • Now ping to all the individual ip address of the ports of routers
- • After the prev step, Ping from one PC to the last PC

Observation

- after entering show ip route command

ex- S* 0.0.0.do [1/0] via 20.0.0.20 is
   shown
      S* indicates that the router is connected to
      all the available networks via that hop address

Learning - It is a len cumbersome process than
defining all ip routes. for all networks

Simulation mode -> The PDU travels from source
   PC to the routers and then to the destination PC
   a sends a message back that it is received successfully

Runtime :- After pinging
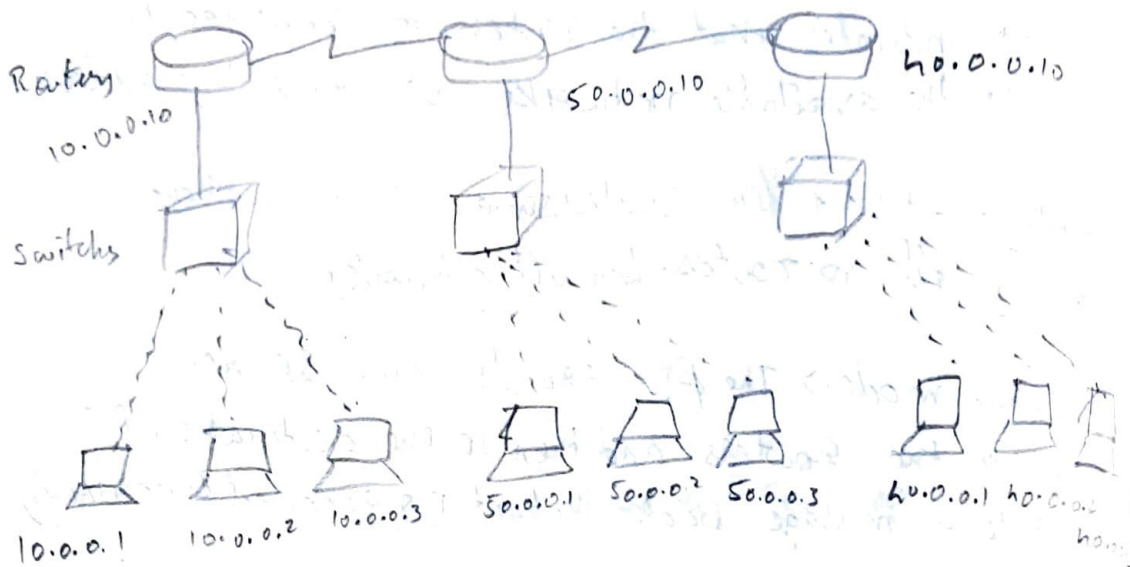   For some cases there may be a request time out
      error
      Ping again, Now there the will be no packet loss
      nor request time error.
      The router requires some time to know the
      the routes

Aim: Default route with many PC's, switches & routers

Topology:-

Router
10.0.0.10

50.0.0.10

40.0.0.10

Switchs

10.0.0.1   10.0.0.2   10.0.0.3   50.0.0.1   50.0.0²   50.0.0.3   40.0.0.1 40.0.0.0
                                                                           40...

Procedure:-
• Click on PC's -> Set gateway address + IPaddress
• Place Connect PC's to generic Switches & then connect them to the network of routers
• Click router -> CLI -> Set IP addresses for the ports
• To make the routers learn about other networks that are n't connected directly use command ip route 0.0.0.0 0.0.0.0 next hop address for each serial port of the router
• Click on PC -> Desktop -> Command prompt -> Ping

Observation:-
• The light on the switch stays amber for a while + after setting the ip address it turns to green
• Pinging occurs successfully to all the end devices