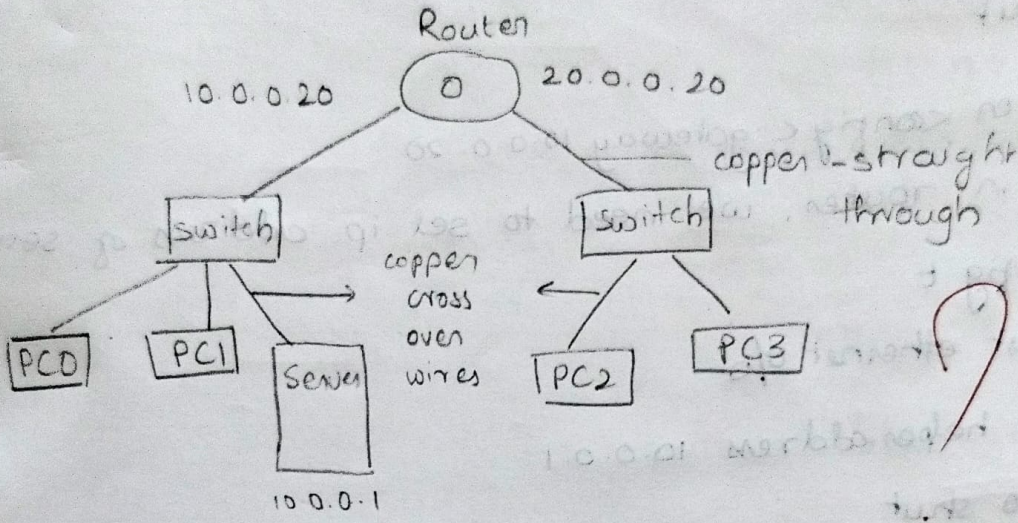
Experiment - 4

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 devices and switch
- devices and switch
- connect both switches to router
- set IP address of server as 10.0.0.1
- go to service< 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, in 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 statics for 20.0.0.2

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

Approximate round trip times in millie-seconds:

minimum = 0 ms, Maximum = 0 ms, Average = 0 ms.

Observation:

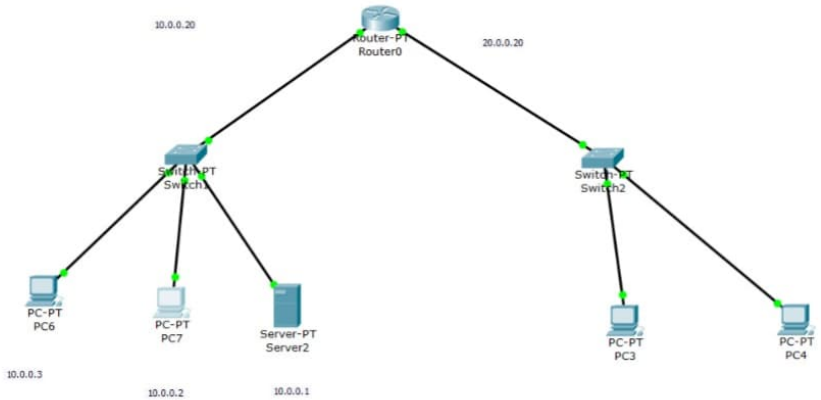
- DHCP is used to assign IP addresses dynamically to different devices.
- To assign continuous IP address we create a server pool where we assign the starting IP address and a default gateway number for PC's under different switches we create a different server pool again and start.

(9) This takes care of delivering the packets to correct destination IP address and also sends back the Ack to the initial device.

Cisco Packet Tracer Student - E:\4th sem\CN lab\4.pkt

File Edit Options View Tools Extensions Help

Logical [Root] New Cluster Move Object Set Tiled Background Viewport



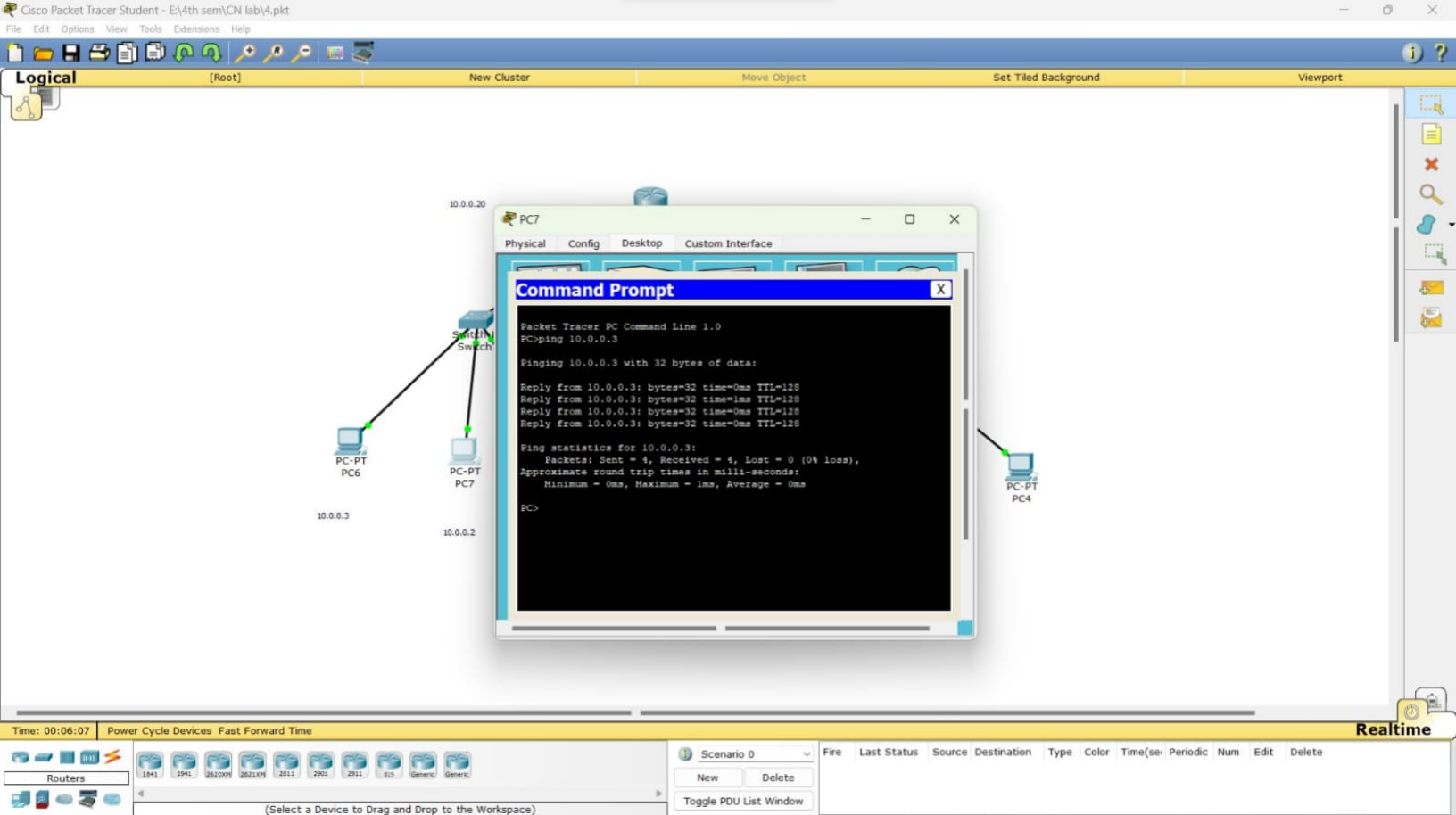
Time: 00:06:58 Power Cycle Devices Fast Forward Time Realtime

Routers

(Select a Device to Drag and Drop to the Workspace)

Scenario 0 New Delete Toggle PDU List Window

Fire | Last Status | Source | Destination | Type | Color | Time(se | Periodic | Num | Edit | Delete


Cisco Packet Tracer Student - E:\4th sem\CN lab\4.pkt
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
10.0.0.20
PC7
Physical
Config
Desktop
Custom Interface
Command Prompt
X
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.3
Pinging 10.0.0.3 with 32 bytes of data:
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=1ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Ping statistics for 10.0.0.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
PC>
Switch
PC-PT
PC6
PC-PT
PC7
PC-PT
PC4
10.0.0.3
10.0.0.2
Time: 00:06:07
Power Cycle Devices Fast Forward Time
Realtime
Routers
(Select a Device to Drag and Drop to the Workspace)
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(se
Periodic
Num
Edit
Delete