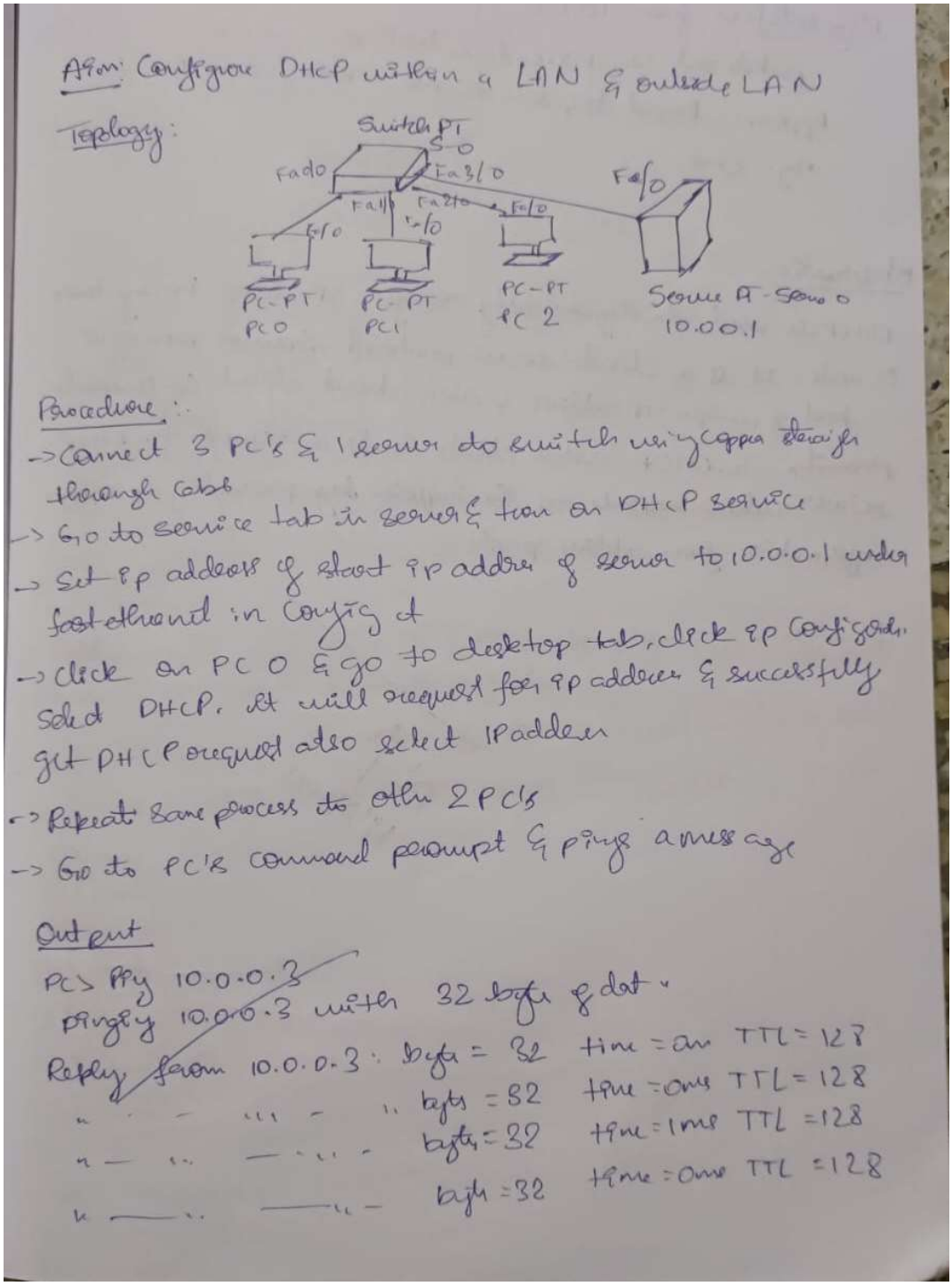
WEEK 4

Configure DHCP within a LAN and outside LAN.

OBSERVATION:



Ping statistics for 10.0.0.3:

Packets sent = 4, Received = 4, lost = 0

Approx Round trip time in ms. min = 0ms, max = 1ms

Avg = 0ms

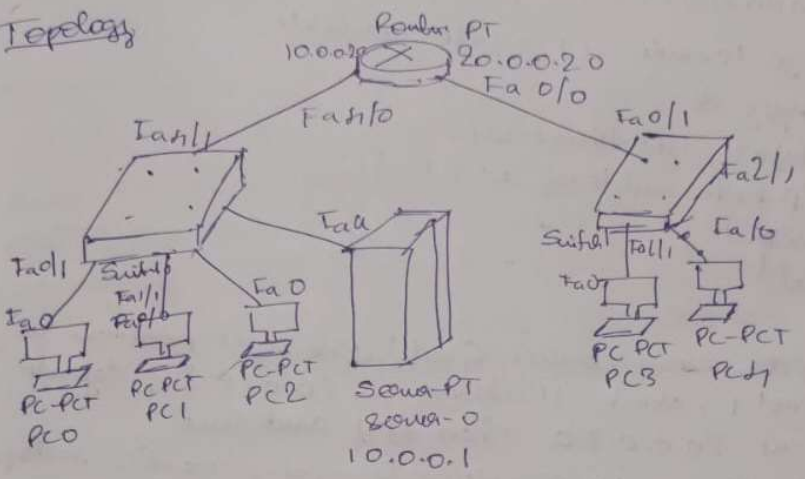
Observation:

DHCP is used to dynamically assign IP address to any device or node. It is a client-server protocol. Server manages a pool of unique IP address & also about client configuration parameter. In DHCP enable clients sends a request to DHCP server which responds to the request by providing IP configuration information from address pools.

NP
19/7/2023

Aim: Configure DHCP within a LAN and outside LAN

Topology



Procedure:

1. Add a router, a switch & 2 PCs to previous program & connect the router to both switches.
2. Set the server IP address & services & with help of server set the first 3 PCs IP address with following commands.
   (i) No
   (ii) enable
   (iii) config t
   (iv) interface fast ethernet 1/0
   (v) IP address 10.0.0.20 255.0.0.0
   (vi) no shut
   (vii) exit
   (viii) interface fast ethernet 0/0
   (ix) IP address 20.0.0.20 255.0.0.0
   (x) No shut
   (xi) Exit

(x) exit
(xi) show ip route

4. Now go to server & set gateway as 10.0.0.20
5. Again go to router CLI & follow commands
   (i) Config t
   (ii) interface fastethernet 0/0
   (iii) ip helper-address 10.0.0.1
   (iv) no shut
   (v) exit

6. Now go to server services & add one more pool name as server Pool-1, start IP address as 20.0.0.2 & default gateway as 20.0.0.20. Then add and save
7. Now set other 2PCs IP address by going to their Desktop IP Configuration & select DHCP which will automatically generate its IP address
8. Now the Network is complete & ready to send packets from PC to other by typing Ping IP address in cmd

Output:

PC> Ping 20.0.0.2

Pinging 20.00.2 with 32 bytes of ~~address~~ data

Request timed out

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

" " bytes:32 time=ms TTL=127

" " " bytes:32 time=ms TTL=127

Ping stats for 20.0.0.2:

Packets sent = 4, Received = 3 lost = 1

Approx Round trip time in ms: min: 0ms max: 0ms average: 0ms

Observation:

DHCP is used to assign IP address dynamically to different devices. To assign continuous IP address we create a server pool. where we assign the starting address and a default gateway no. For PC's under d/f switches we create a d/f server pool again & start. This takes care of delivering the packets to correct destination IP address & also sends back ack to initial device.

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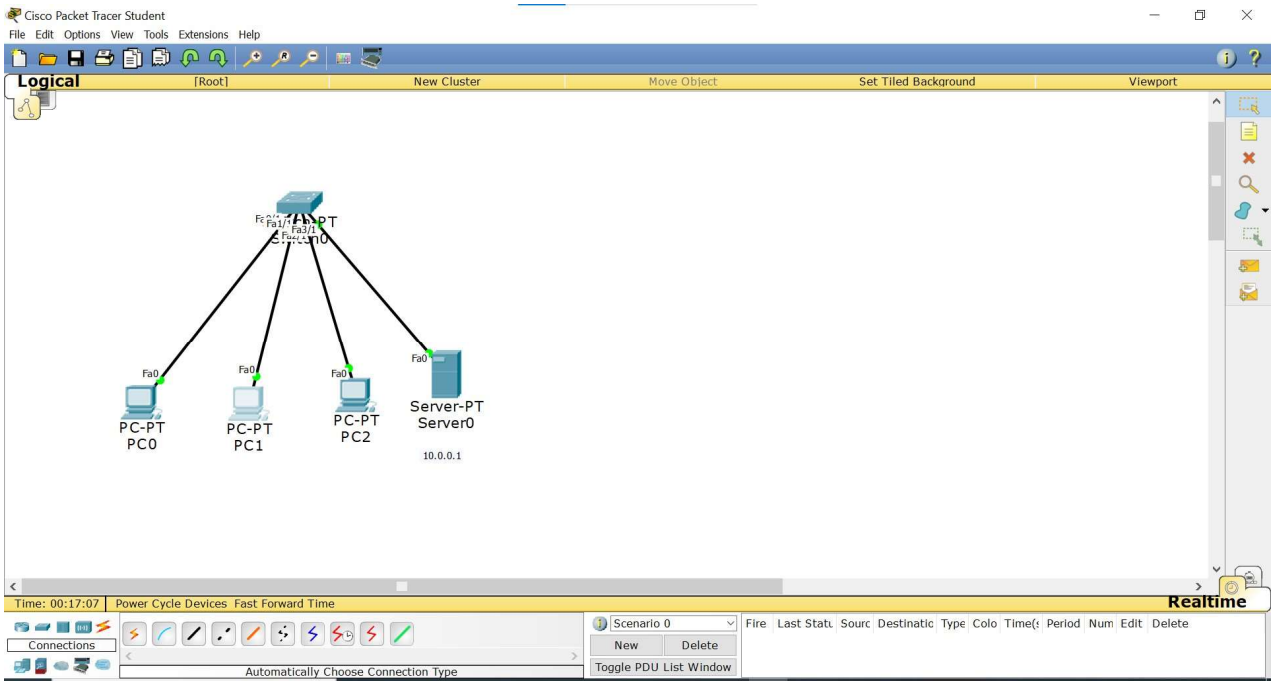
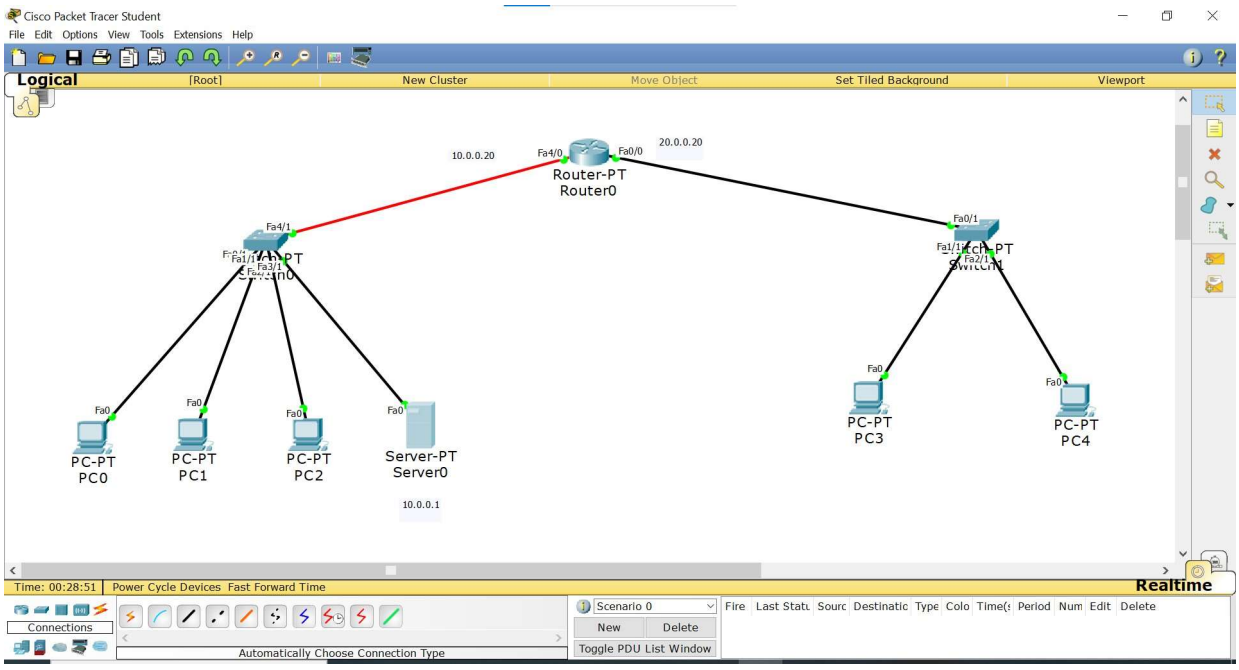
19/7/2023

TOPOLOGY:

PROGRAM 4.1:

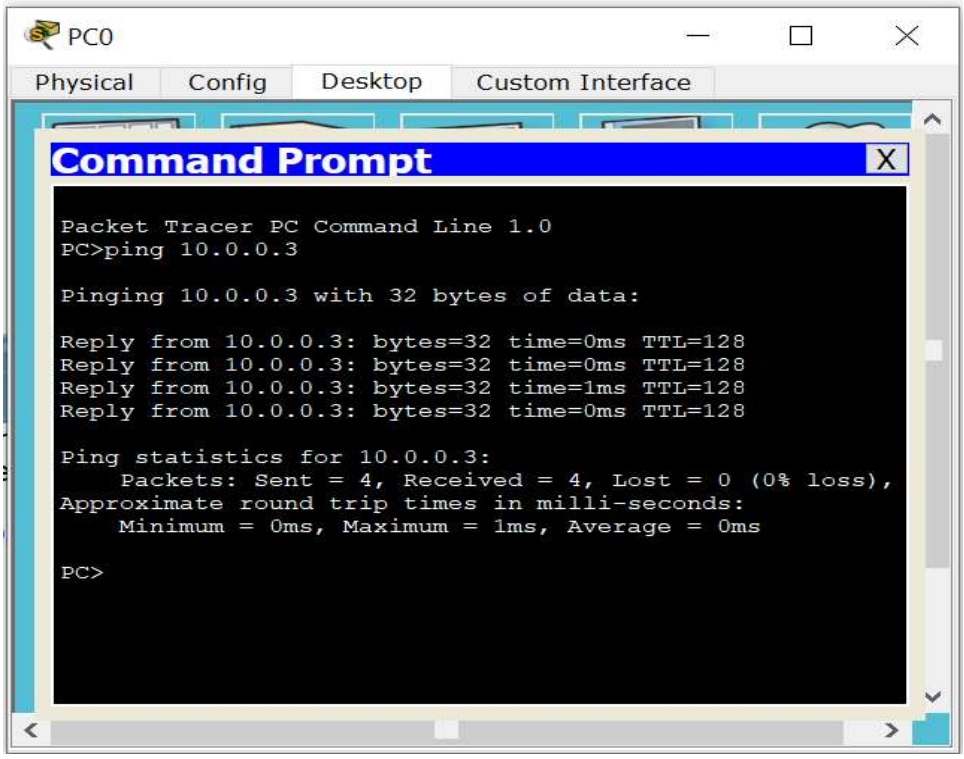


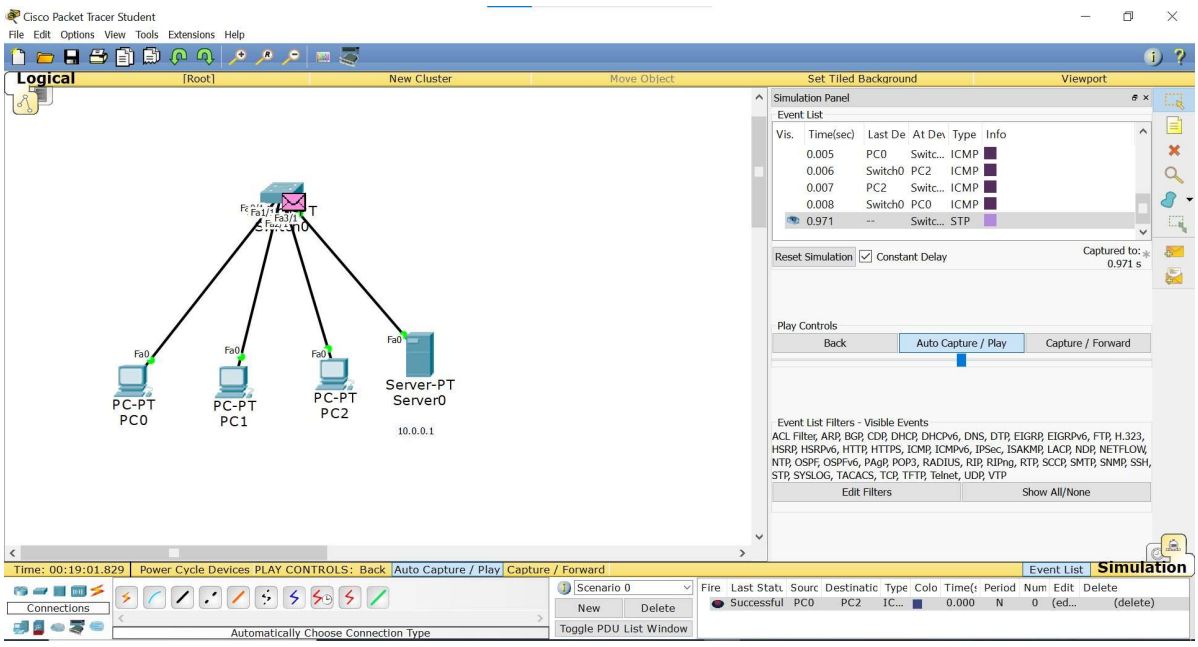
PROGRAM 4.2:



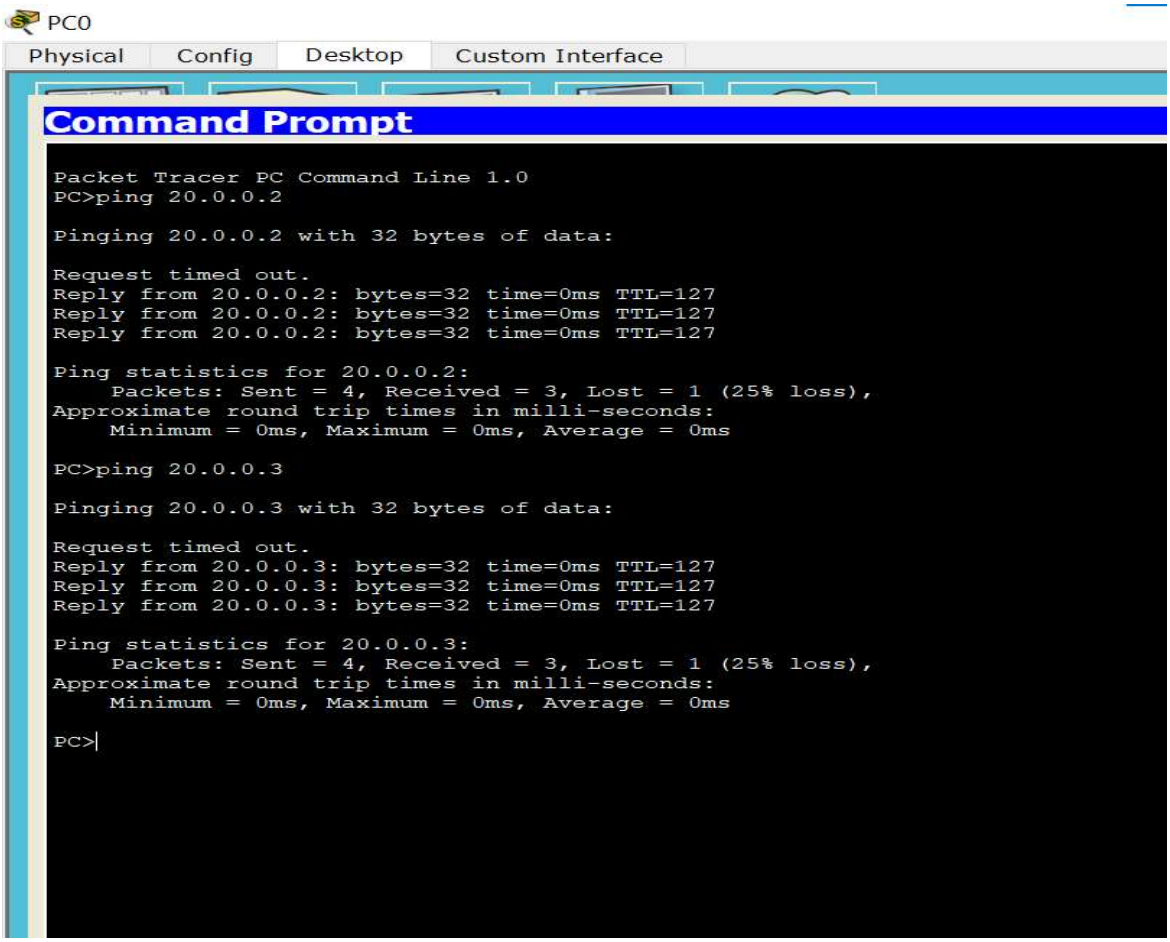
OUTPUT:

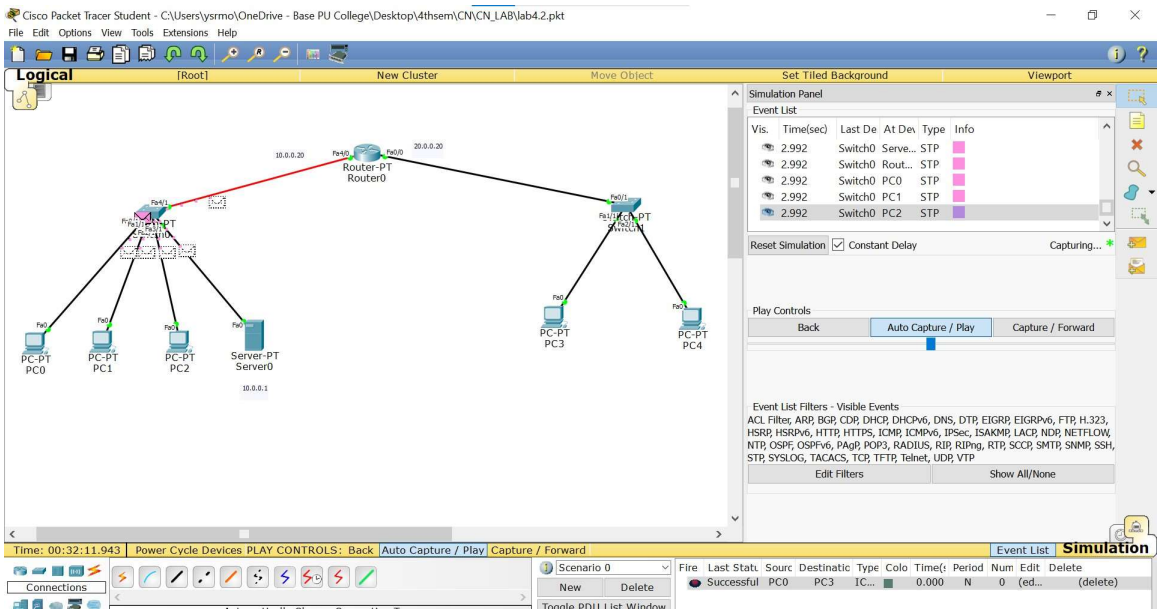
PROGRAM 4.1:





PROGRAM 4.2:


PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
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 milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>ping 20.0.0.3
Pinging 20.0.0.3 with 32 bytes of data:
Request timed out.
Reply from 20.0.0.3: bytes=32 time=0ms TTL=127
Reply from 20.0.0.3: bytes=32 time=0ms TTL=127
Reply from 20.0.0.3: bytes=32 time=0ms TTL=127
Ping statistics for 20.0.0.3:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>


Cisco Packet Tracer Student - C:\Users\ysrmo\OneDrive - Base PU College\Desktop\4thsem\CN\CN_LAB\lab4.2.pkt
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Router-PT
Router0
PC-PT
PC0
PC-PT
PC1
PC-PT
PC2
Server-PT
Server0
PC-PT
PC3
PC-PT
PC4
Simulation Panel
Event List
Reset Simulation
Constant Delay
Capturing...
Play Controls
Back
Auto Capture / Play
Capture / Forward
Edit Filters
Show All/None
Time: 00:32:11.943
Power Cycle Devices PLAY CONTROLS: Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Connections
Scenario 0
New
Delete