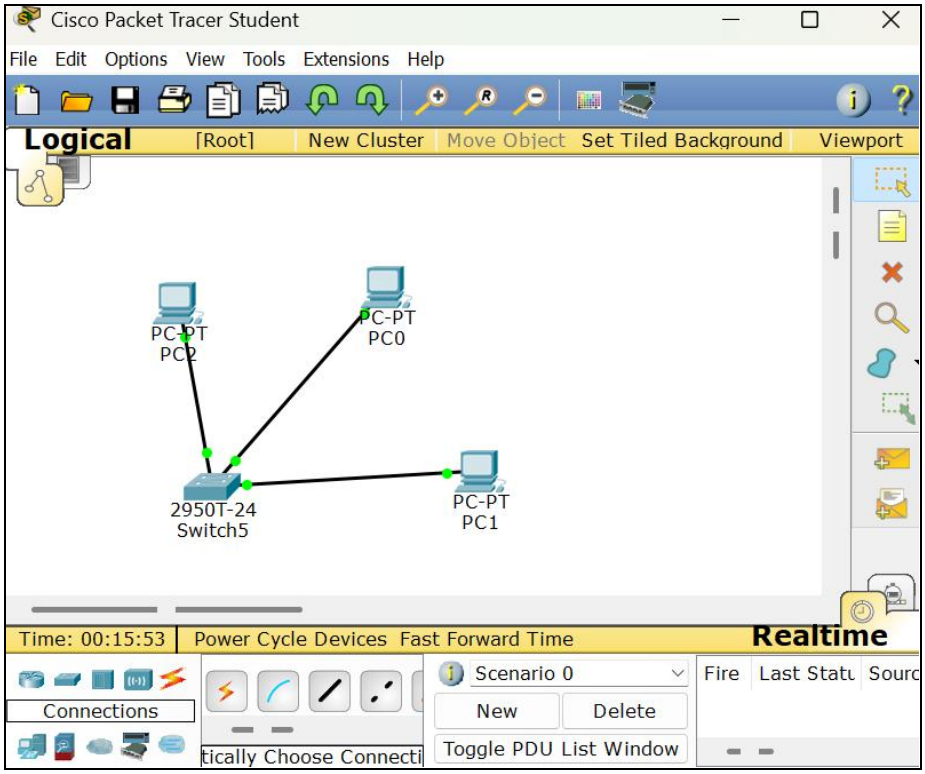
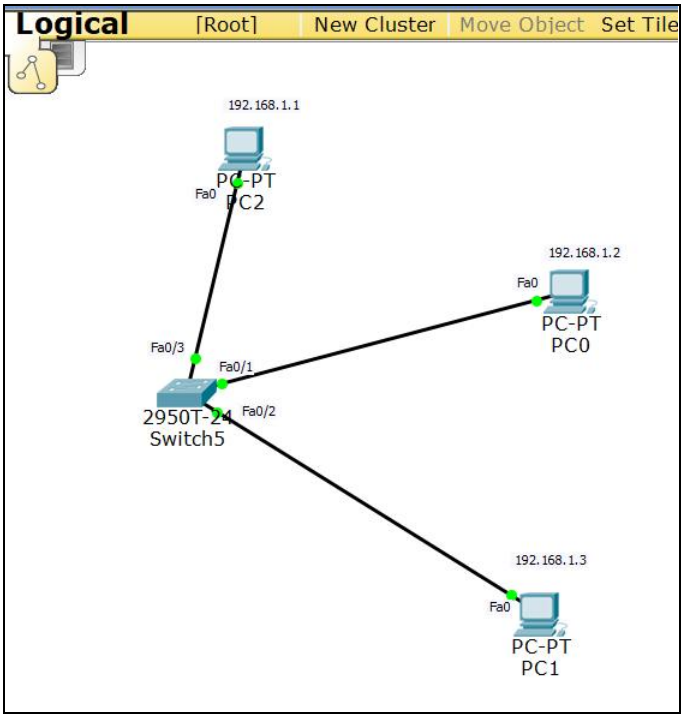
CONNECTING 3PCs TOGETHER WITH A SWITCH

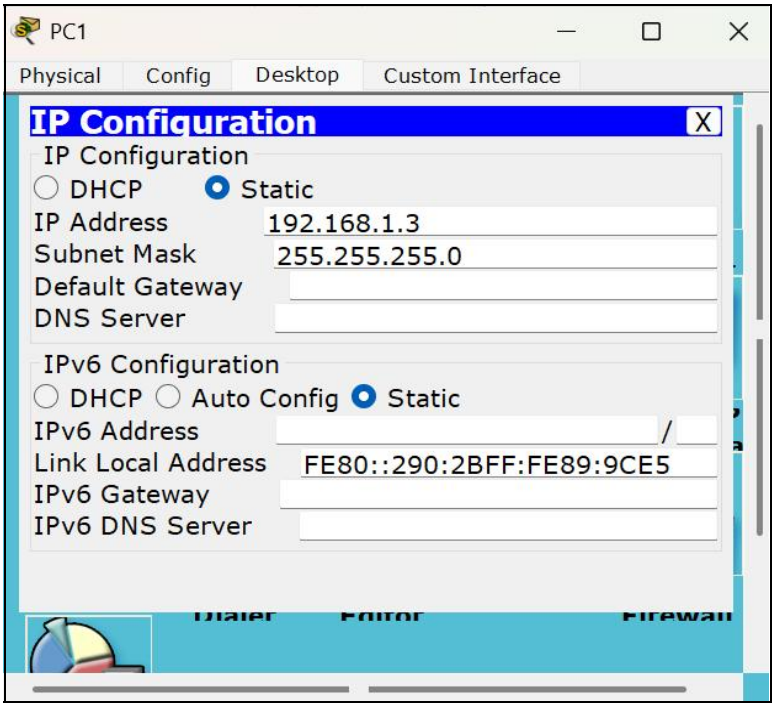
• Take three PCs and assign the following IPs:
PC0: 192.168.1.2 with subnet mask 255.255.255.0
PC1: 192.168.1.0 with subnet 255.255.255.0
PC2: 192.168.1.1 with subnet 255.255.255.0

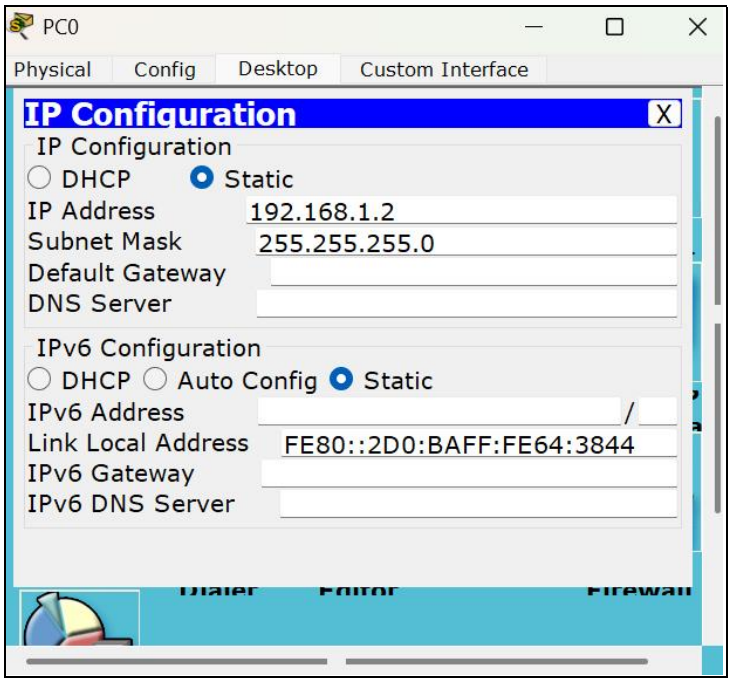
• Use the ping command to check the connectivity between the three systems.
• Did PC1 reply to PC2?
• Did PC1 reply to PC3?

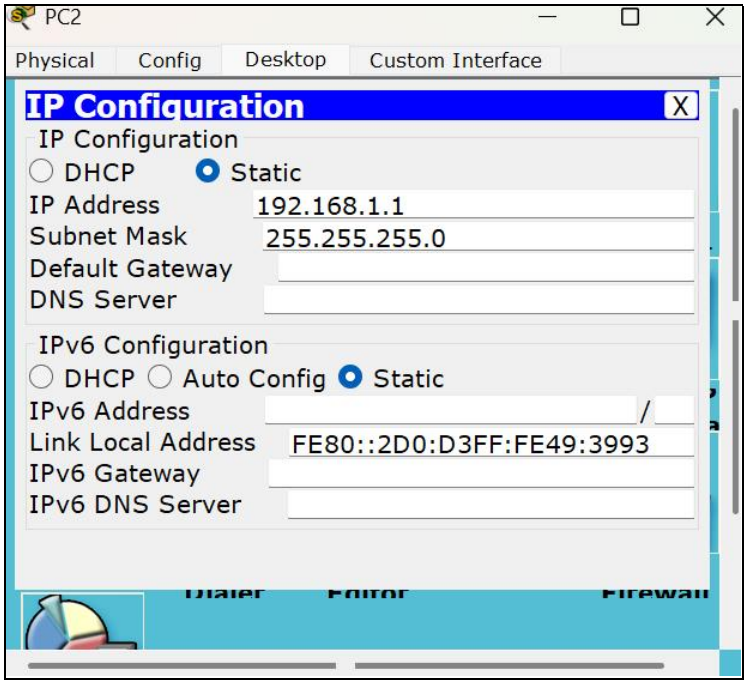




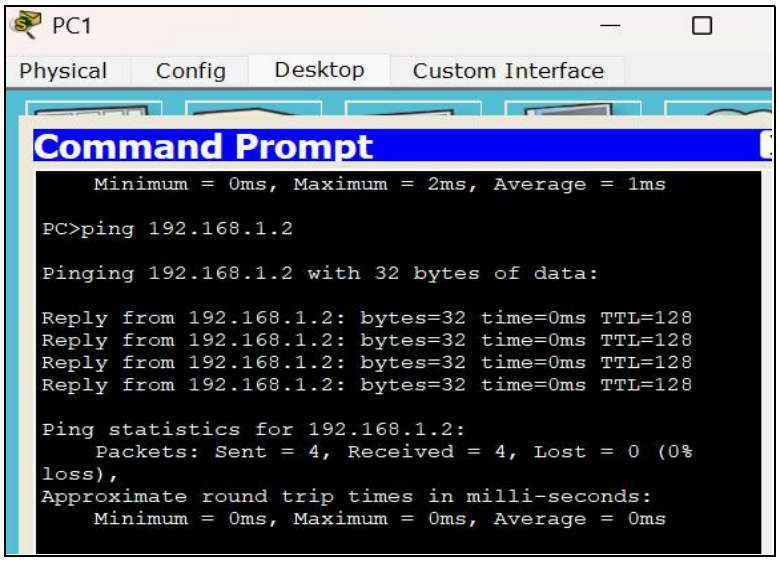
Configuring PC0, PC1, PC2 -ip addresses

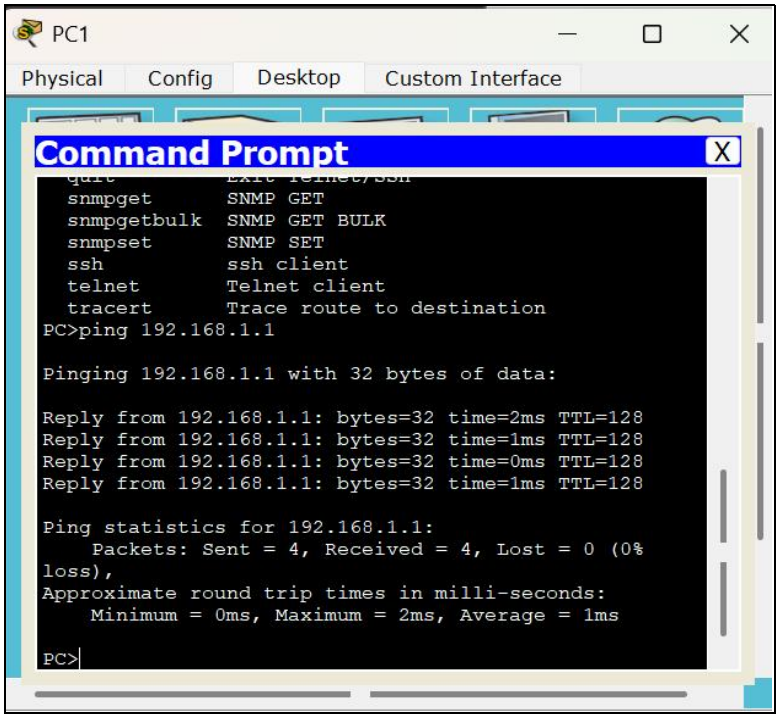



PC0
Physical
Config
Desktop
Custom Interface
IP Configuration
IP Configuration
DHCP
Static
IP Address
192.168.1.2
Subnet Mask
255.255.255.0
Default Gateway
DNS Server
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::2D0:BAFF:FE64:3844
IPv6 Gateway
IPv6 DNS Server

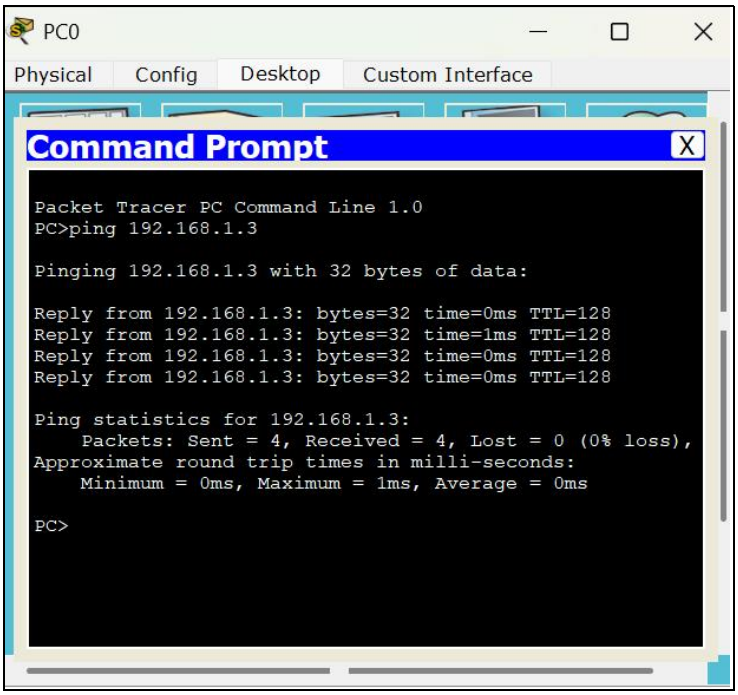

PC2
Physical
Config
Desktop
Custom Interface
IP Configuration
IP Configuration
DHCP
Static
IP Address
192.168.1.1
Subnet Mask
255.255.255.0
Default Gateway
DNS Server
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::2D0:D3FF:FE49:3993
IPv6 Gateway
IPv6 DNS Server

Configuring PC1's CLI and ping other two PCs



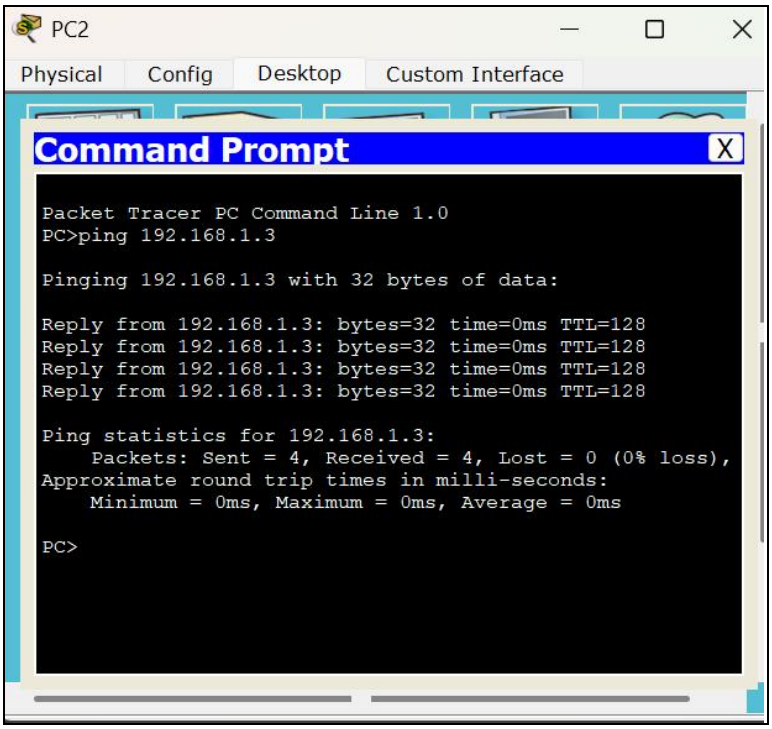


Configuring PC0’s CLI and ping other two PCs



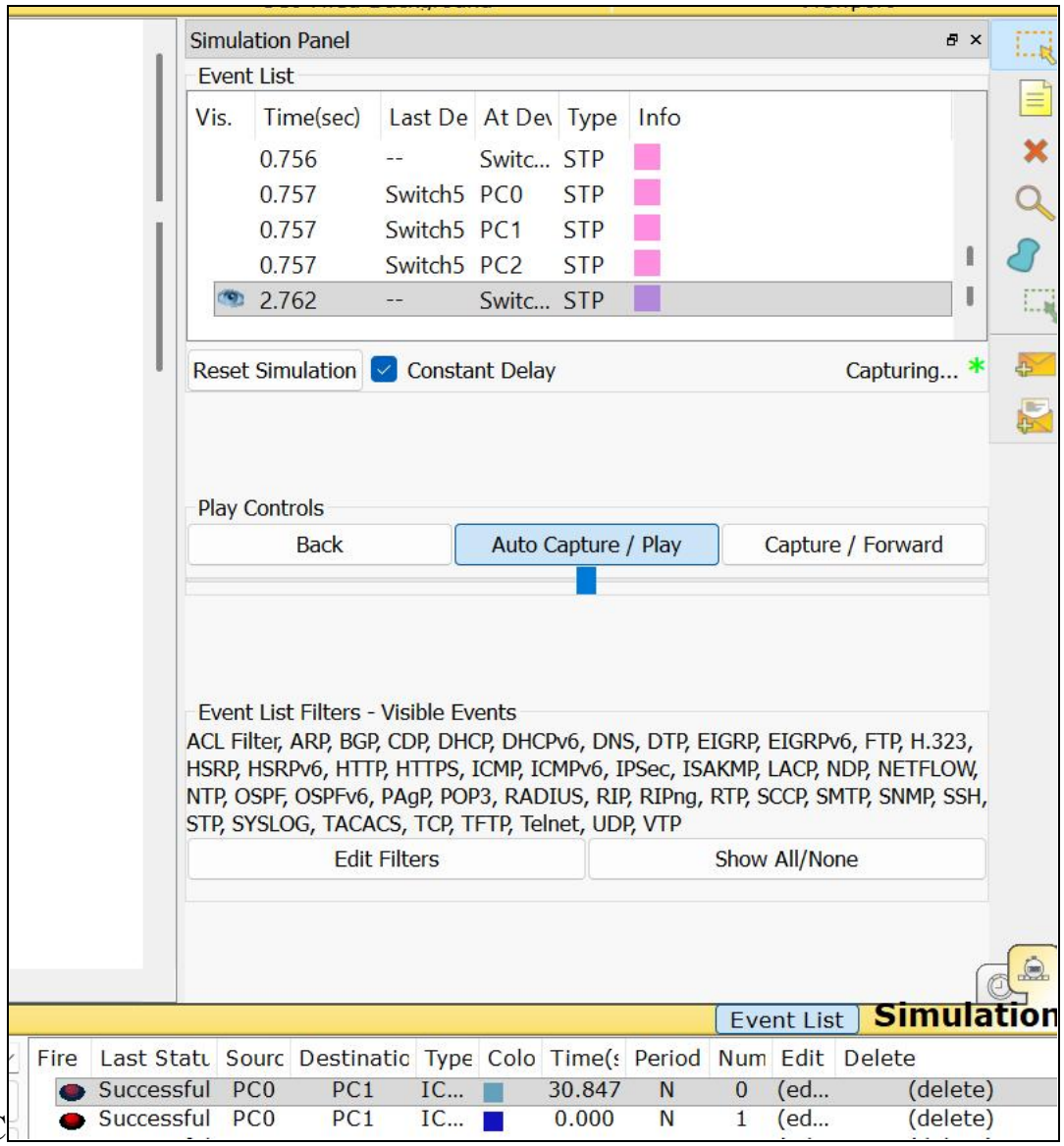

```
PC>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time=0ms TTL=128
Reply from 192.168.1.1: bytes=32 time=1ms TTL=128
Reply from 192.168.1.1: bytes=32 time=0ms TTL=128
Reply from 192.168.1.1: bytes=32 time=0ms TTL=128

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0%
loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

Configuring PC2's CLI and ping other two PCs

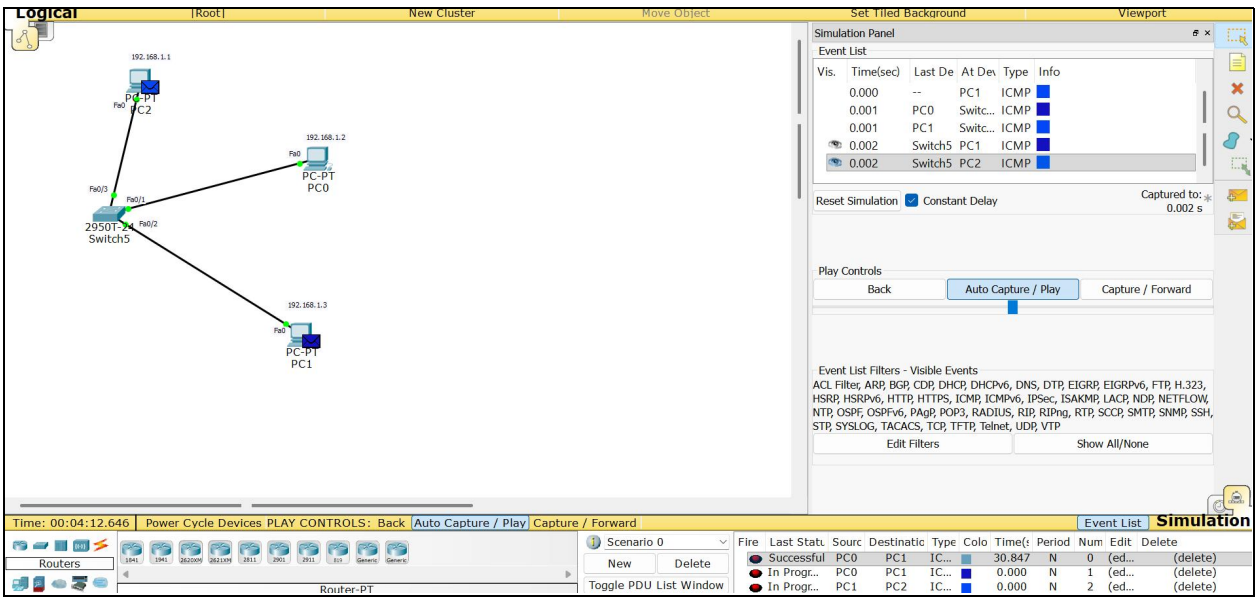


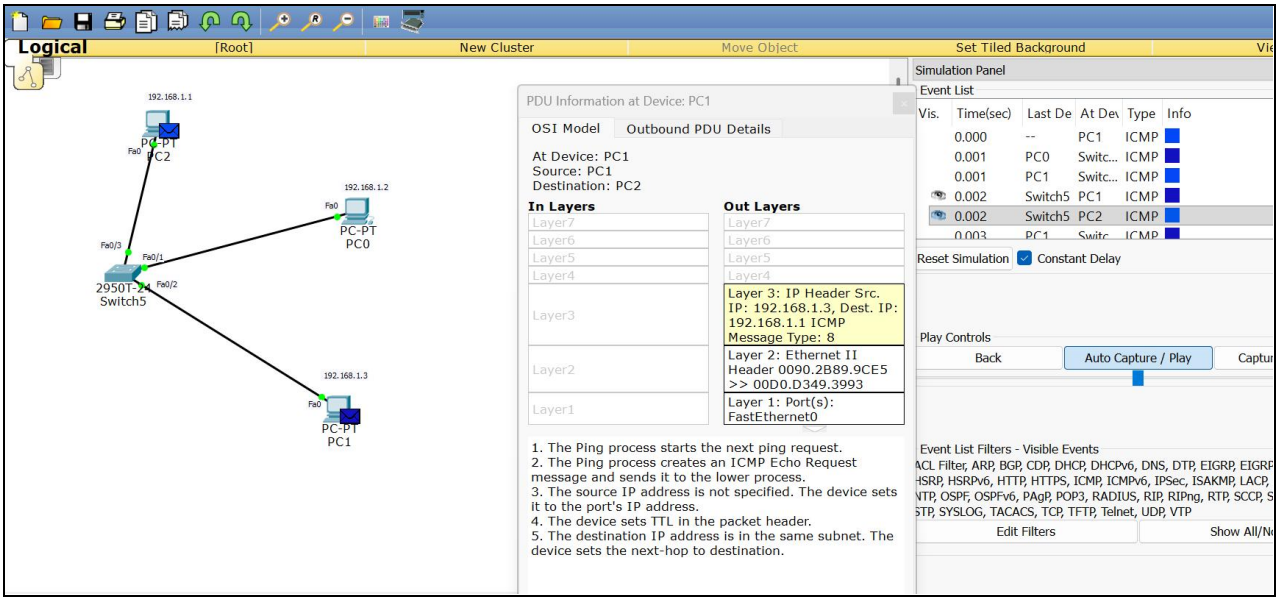

```
PC>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=0ms TTL=128
Reply from 192.168.1.2: bytes=32 time=0ms TTL=128
Reply from 192.168.1.2: bytes=32 time=0ms TTL=128
Reply from 192.168.1.2: bytes=32 time=0ms TTL=128

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0%
loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>
```

After pinging all PCs via CLI and checking it through simulation,



C




Logical
[Root]
New Cluster
Move Object
Set Tiled Background
192.168.1.1
PC-PT
PC2
Fa0
192.168.1.2
Fa0
PC-PT
PC0
Fa0/3
Fa0/1
2950T-24
Switch5
Fa0/2
192.168.1.3
Fa0
PC-PT
PC1
PDU Information at Device: PC1
OSI Model
Outbound PDU Details
At Device: PC1
Source: PC1
Destination: PC2
In Layers
Out Layers
Layer7
Layer6
Layer5
Layer4
Layer3
Layer2
Layer1
Layer 3: IP Header Src. IP: 192.168.1.3, Dest. IP: 192.168.1.1 ICMP Message Type: 8
Layer 2: Ethernet II Header 0090.2B89.9CE5 >> 00D0.D349.3993
Layer 1: Port(s): FastEthernet0
1. The Ping process starts the next ping request.
2. The Ping process creates an ICMP Echo Request message and sends it to the lower process.
3. The source IP address is not specified. The device sets it to the port's IP address.
4. The device sets TTL in the packet header.
5. The destination IP address is in the same subnet. The device sets the next-hop to destination.
Simulation Panel
Event List
Vis.
Time(sec)
Last De
At Dev
Type
Info
0.000 -- PC1 ICMP
0.001 PC0 Switc... ICMP
0.001 PC1 Switc... ICMP
0.002 Switch5 PC1 ICMP
0.002 Switch5 PC2 ICMP
Reset Simulation
Constant Delay
Play Controls
Back
Auto Capture / Play
Event List Filters - Visible Events
ACL Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRP
HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, LACP,
NTP, OSPF, OSPFv6, PAgP, POP3, RADIUS, RIP, RIPng, RTP, SCCP, S
STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP
Edit Filters
Show All/N