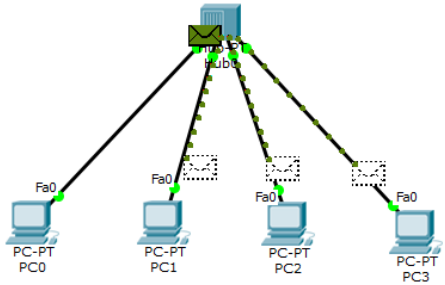
Experiment -1

Aim: Create a topology and simulate sending a simple PDU from source to destination using hub and switch as connecting devices and demonstrate ping message.

hub:

File Edit Options View Tools Extensions Help

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



Simulation Panel

Event List

Vis.	Time(sec)	Last Device	At Device	Type	Info
	0.000	--	PC0	ICMP	
	0.001	PC0	Hub0	ICMP	
	0.002	Hub0	PC1	ICMP	
	0.002	Hub0	PC2	ICMP	
	0.002	Hub0	PC3	ICMP	

Reset Simulation | Constant Delay | Capturing...

Play Controls

Back | Auto Capture / Play | Capture / Forward

Event List Filters - Visible Events

ACL Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, RADIUS, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP

Edit Filters | Show All/None

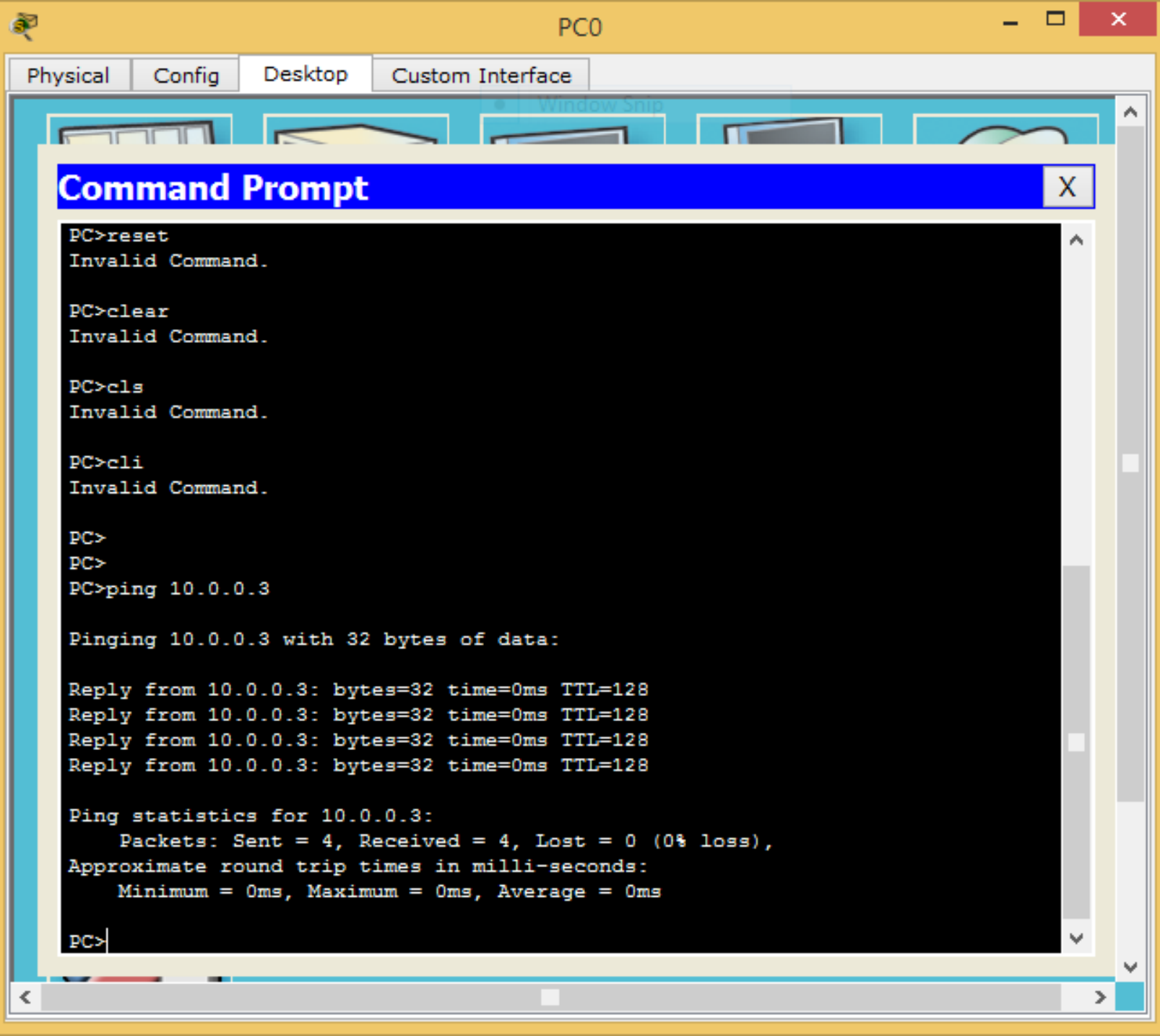
Time: 00:43:46.766 | Power Cycle Devices | PLAY CONTROLS: Back | Auto Capture / Play | Capture / Forward | Event List | Simulation

Connections

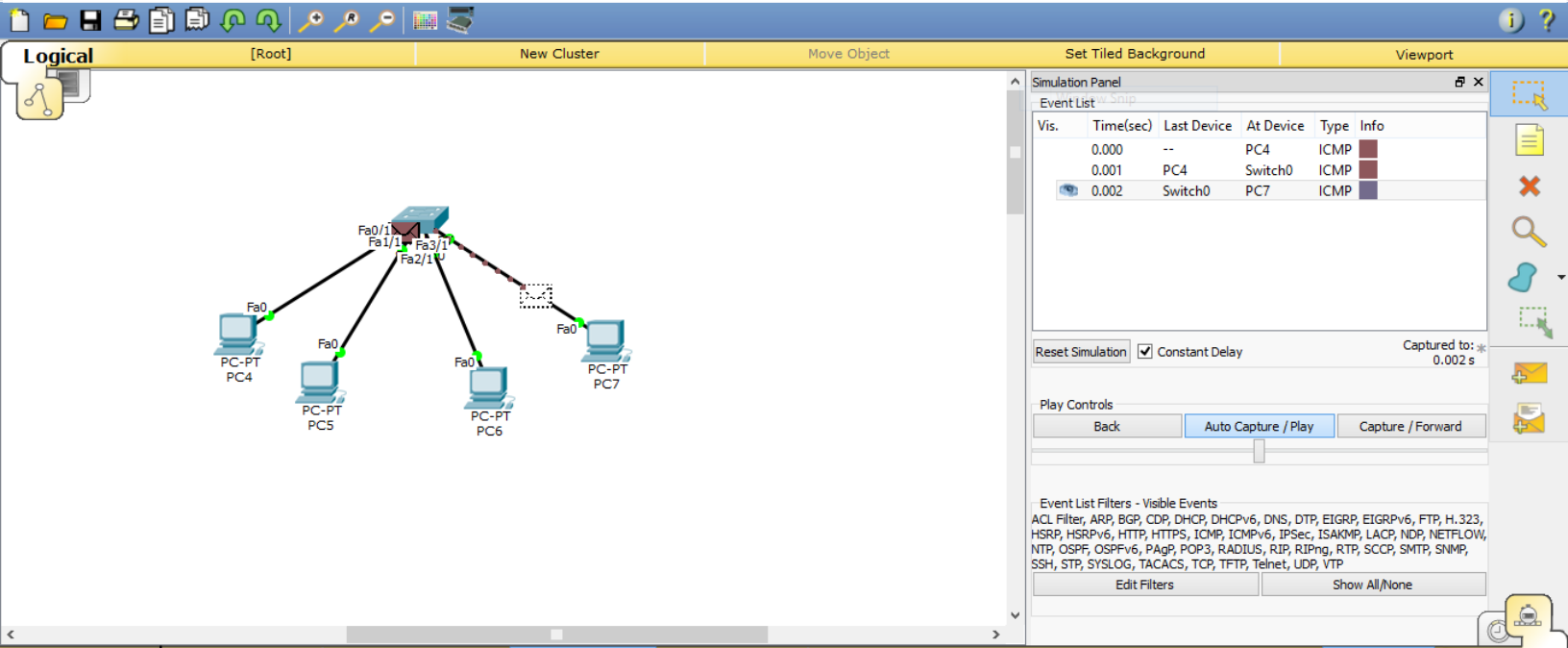
Copper Straight-Through

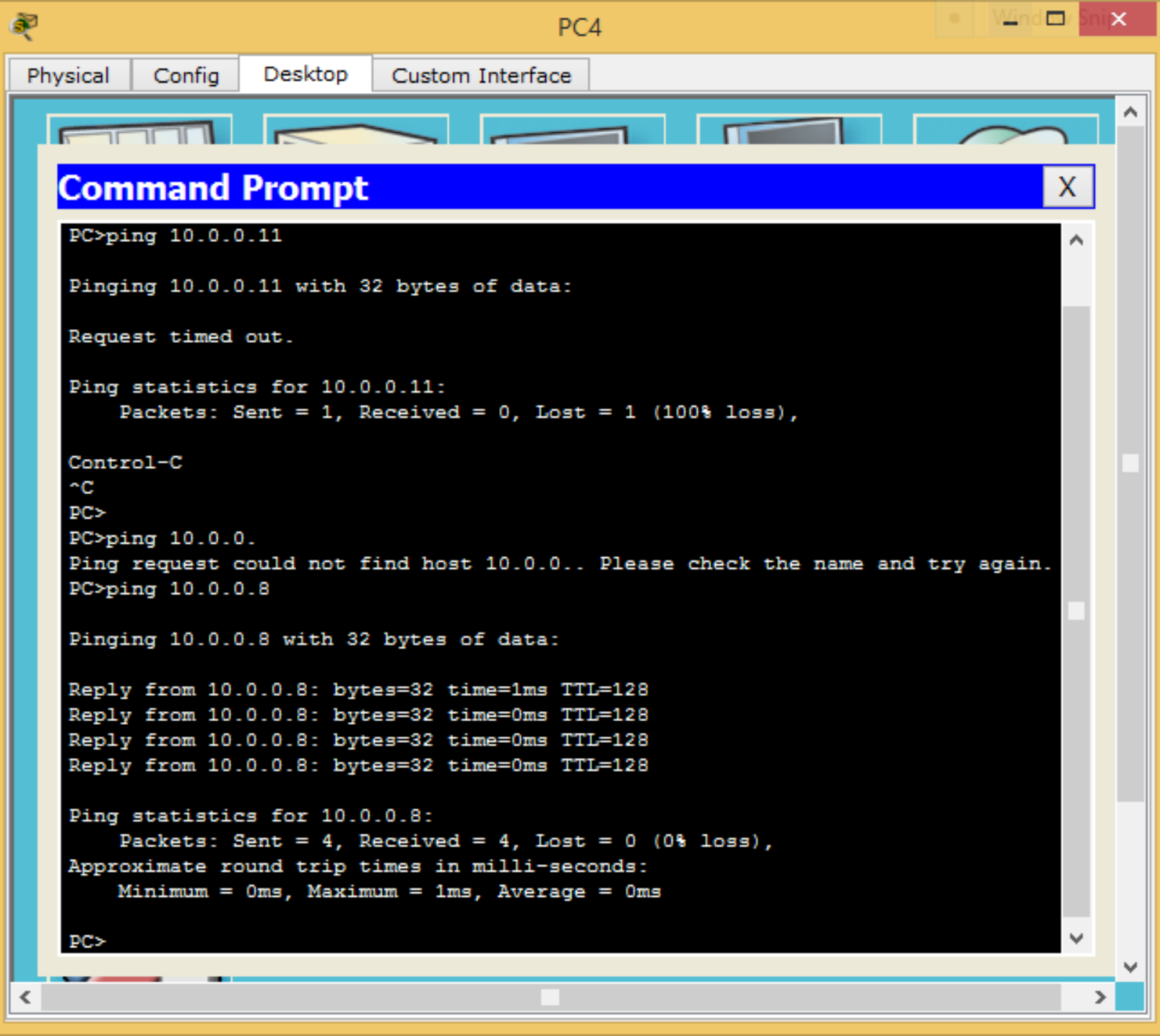
Scenario 0 | New | Delete | Toggle PDU List Window

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
	In Progress	PC0	PC2	ICMP		0.000	N	0


PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
X
PC>reset
Invalid Command.
PC>clear
Invalid Command.
PC>cls
Invalid Command.
PC>cli
Invalid Command.
PC>
PC>
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=0ms 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 = 0ms, Average = 0ms
PC>

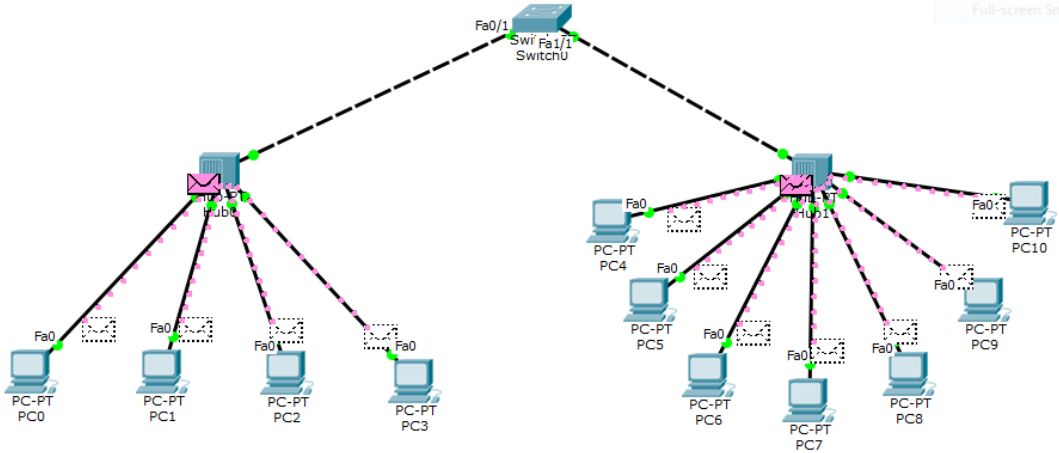
switch:


Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Fa0/1
Fa1/1
Fa3/1
Fa2/1
Fa0
PC-PT
PC4
Fa0
PC-PT
PC5
Fa0
PC-PT
PC6
Fa0
PC-PT
PC7
Simulation Panel
Event List
Vis.
Time(sec)
Last Device
At Device
Type
Info
0.000
--
PC4
ICMP
0.001
PC4
Switch0
ICMP
0.002
Switch0
PC7
ICMP
Reset Simulation
Constant Delay
Captured to:
0.002 s
Play Controls
Back
Auto Capture / Play
Capture / Forward
Event List Filters - Visible Events
ACL Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, RADIUS, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP
Edit Filters
Show All/None
Time: 00:43:27.544
Power Cycle Devices
PLAY CONTROLS:
Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Connections
Copper Straight-Through
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
In Progress
PC4
PC7
ICMP
0.000
N
0


PC4
Physical
Config
Desktop
Custom Interface
Command Prompt
X
PC>ping 10.0.0.11
Pinging 10.0.0.11 with 32 bytes of data:
Request timed out.
Ping statistics for 10.0.0.11:
Packets: Sent = 1, Received = 0, Lost = 1 (100% loss),
Control-C
^C
PC>
PC>ping 10.0.0.
Ping request could not find host 10.0.0.. Please check the name and try again.
PC>ping 10.0.0.8
Pinging 10.0.0.8 with 32 bytes of data:
Reply from 10.0.0.8: bytes=32 time=1ms TTL=128
Reply from 10.0.0.8: bytes=32 time=0ms TTL=128
Reply from 10.0.0.8: bytes=32 time=0ms TTL=128
Reply from 10.0.0.8: bytes=32 time=0ms TTL=128
Ping statistics for 10.0.0.8:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
PC>

Hybrid:

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



Time: 00:29:54.245 | Power Cycle Devices | PLAY CONTROLS: Back | Auto Capture / Play | Capture / Forward | Event List | Simulation

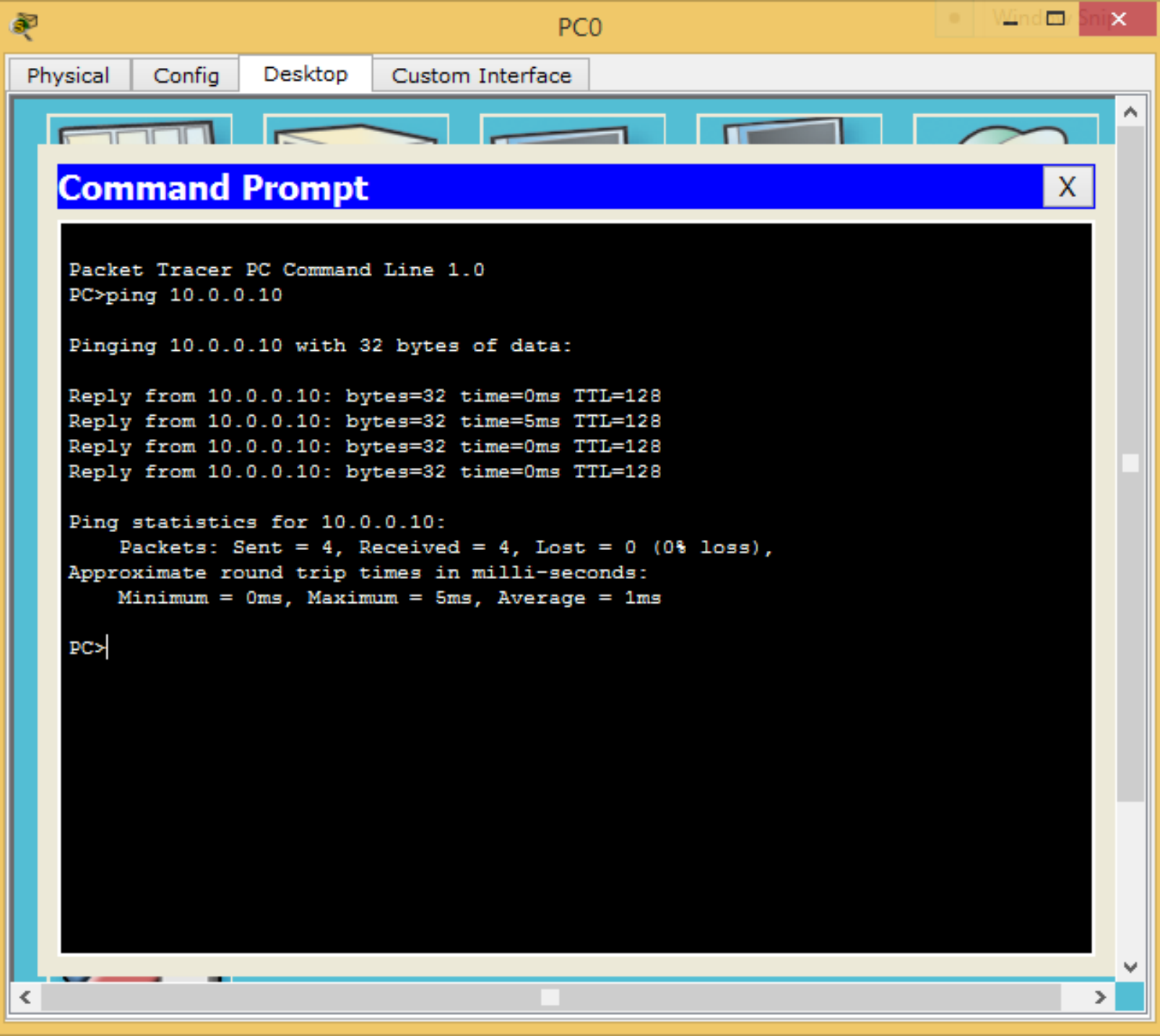
Connections

Copper Straight-Through

Scenario 0 | New | Delete | Toggle PDU List Window

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
	Successful	PC0	PC8	ICMP		0.000	N	0

ENG 04:38 15-06-2023


PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
X
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.10
Pinging 10.0.0.10 with 32 bytes of data:
Reply from 10.0.0.10: bytes=32 time=0ms TTL=128
Reply from 10.0.0.10: bytes=32 time=5ms TTL=128
Reply from 10.0.0.10: bytes=32 time=0ms TTL=128
Reply from 10.0.0.10: bytes=32 time=0ms TTL=128
Ping statistics for 10.0.0.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 5ms, Average = 1ms
PC>

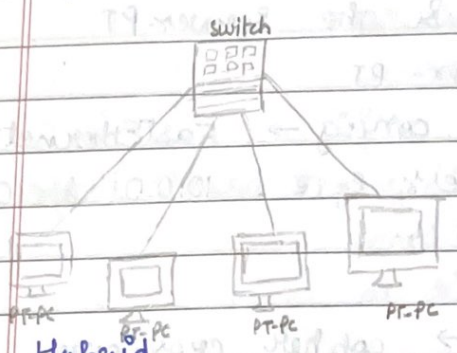
15-6-2023

EXPERIMENT - 2

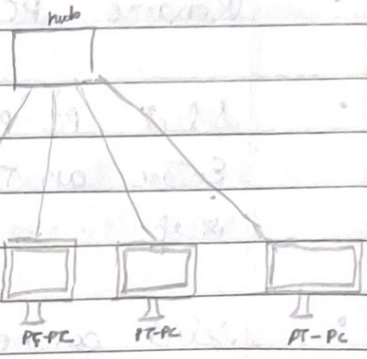
Aim: Create a topology and simulate sending a simple PDU from source to destination using hub and switch as connecting devices and demonstrate ping message.

Topology:

switch:



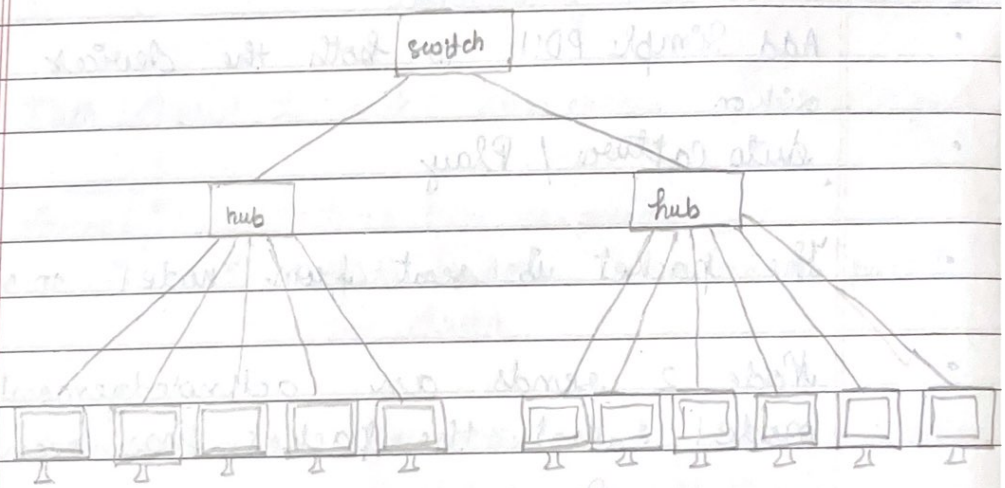
hub:



Hybrid:

?

?



?

Procedure for hub:

- Select a hub from the bottom toolbar.
- select 3 generic PC-PT and insert them into the logical interface
- Add IP Address for each of them.
- Connections, copper straight-through is used to connect the hub and the generic PC-PT.
- Simple PDU's are added to the source and to the destination.
- And the simulation is started.
- Finally an acknoledgement is recived by the

for Realtime

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=12
Reply from 10.0.0.3: bytes= 32 time = 0ms 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 Recieved = 4, Lost=0 (0% loss),
Approximate round Trip times in milli-seconds:
Minimum = 0ms, Maximum=0ms, Average = 0ms

PC>.

Procedure for switch.

- Consider a generic switch.
- Place upto 10 generic PT-PC's on the logical interface.
- Add an IP address for each of them.
- connect the PT-PC's to the switch. using copper straight-through.
- Simple PDU's are added the source and to the destination devices
- And simulation is started
- It initially broadcasts, after it identifies which node it must send the information so its unicasted
- Finally an acknolodgement is ~~send~~ recived by the node.

realtime :-

PC> ping 10.0.0.11
Pinging 10.0.0.11 with 32 bytes of data:

Request timed out.
Ping statistics for 10.0.0.11:
Packets : Send = 1, Received = 0, host = 1 (100% loss)

Control - C
^C
PC>
PC> ping 10.0.0.8

Bafna Gold
Date: Page:

Pinging 10.0.0.8 with 32 byter of data:

Reply from 10.0.0.8 : byter = 32 time = 1ms TTL=128
Reply from 10.0.0.8 : byter = 32 time = 0 ms TTL=128
Reply from 10.0.0.8 : byter = 32 time = 0 ms TTL=128
Reply from 10.0.0.8 : byter = 32 time = 0 ms TTL=128

Ping statistics for 10.0.0.8 :.
Packets : Sent = 4, recieved = 4, lost = 0 (0% loss).
Approximate round trip times in milli-seconds:
Minimum = 0 ms, Maximum = 1ms, Average = 0ms

⇒ Procedure for switch and hubs:-

- consider two hubs.
- Place PT-PC's on to the logical interface.
- Add an IP address for each of them.
- connect the PT-PC's to the hubs using copper straight through.
- Then these two hubs will be connected to a switch.
- Simple PDU's are added to the source and to the destination devices.
- Simulation is started
- Finally the acknoledgement is recived by the node 1.

real time :-

Packet Tracer PC command line 1.0
PC > ping 10.0.0.10
Pinging 10.0.0.10 with 32 bytes of data :

Replying from 10.0.0.10: bytes=32 time=0ms TTL=
Reply from 10.0.0.10 bytes= 32 time= 5ms TTL=
Reply from 10.0.0.10: bytes= 32 time= 0ms TTL=
Reply from 10.0.0.10: bytes = 32 times= 0ms TTL=

Ping statistics for 10.0.0.10:
Packets: Sent= 4, Recieved = 4, host= 0 (0
Approximate round trip times in milli-second
Minimum = 0ms, Maximum = 5ms, Average = 1

9/10

PC>

N
22/6/23