

LAB 1

1BM21CS044

Create a topology and simulate sending a simple PDU from source to destination using switch and hub as connecting domain.

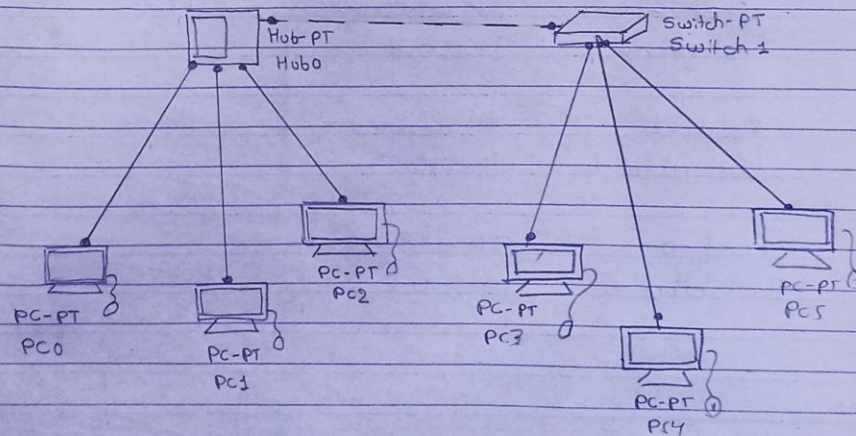
### Aim:

Create a topology and simulate sending a simple 'pdu' from source to destination using switch and hub as connecting domain.

### Procedure:-

- Connect 3 or more PC's and connect it to different ports of the hub
- also connect 2 or more PC's to switch.
- Configure each PC's by providing IP addresses 10.0.0.1, 10.0.0.2 so on.
- then also connect switch and hub
- To see the process of how packets are transferred, give sample PDU to both PC0 and PC1 and then run simulation.
- To check whether connection is successful or not, ping PC1 from PC0 to do this click on source PC select desktop then go to command prompt. Then run ping followed by IP address of PC1.

### Topology:-



### Observation:- Sending data packet from PC0 to PC3

#### Command prompt

pc > ping 10.0.0.4  
Pinging 10.0.0.4 with 32 bytes of data:

Reply from 10.0.0.4: bytes=32 time=6ms TTL=128

Reply from 10.0.0.4: bytes=32 time=6ms TTL=128

Reply from 10.0.0.4: bytes=32 time=6ms TTL=128

Reply from 10.0.0.4: bytes=32 time=6ms TTL=128

Result: We connected 2 pc's through a Cisco-switch and verified packet transfer by pinging PC.

We observed that hub transmits data to all devices on a network regardless of whether data packet contains any mac address or not whereas switch transmits data to devices on a network by checking mac addresses.

#### Switch:

Port 2	IP address:	PC-3
fast ethernet	10.0.0.4	
Port - 1	IP address	PC-4
fast ethernet	10.0.0.5	
Port - 0	IP address	PC-5
Fast ethernet	10.0.0.6	

N/A  
5/11/2023



Logical

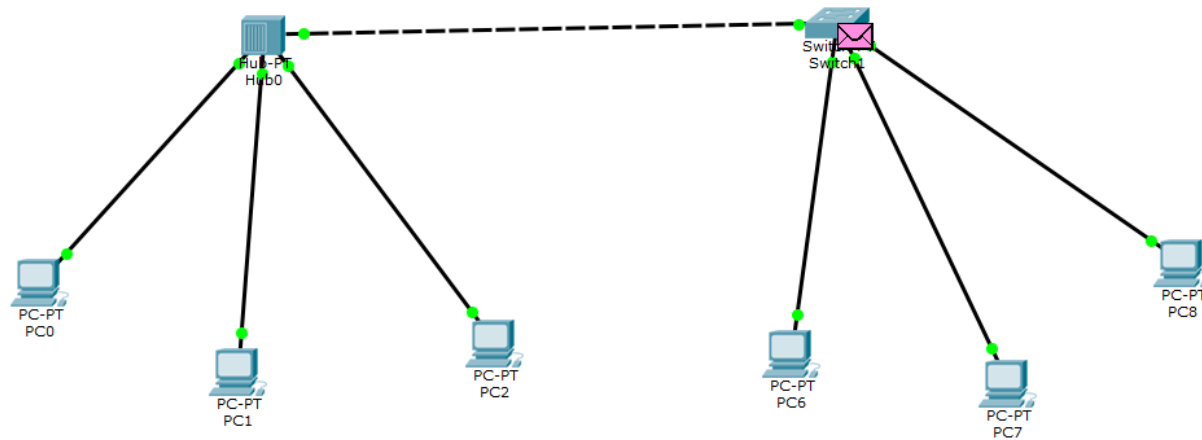
[Root]

New Cluster

Move Object

Set Tiled Background

Viewport



Simulation Panel

Event List

Vis.	Time(sec)	Last Device	At Device	Type	Info
	0.002	Hub0	PC2	ICMP	
	0.002	Hub0	Switch1	ICMP	
	0.003	Switch1	PC6	ICMP	
	0.004	PC6	Switch1	ICMP	
	0.005	Switch1	Hub0	ICMP	
	0.006	Hub0	PC0	ICMP	
	0.006	Hub0	PC1	ICMP	
	0.006	Hub0	PC2	ICMP	
	0.173	--	Switch1	STP	

Reset Simulation

☒ Constant DelayCaptured to:  
0.173 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: 00:09:49.335

Power Cycle Devices

PLAY CONTROLS:

Back

Auto Capture / Play

Capture / Forward



Connections



Copper Cross-Over



Scenario 0

New

Delete

Toggle PDU List Window

Fire

Last Status  
SuccessfulSource  
PC0Destination  
PC6Type  
ICMPColor  
BlueTime(sec)  
0.000Periodic  
NNum  
0Edit  
(edit)Delete  
(delete)

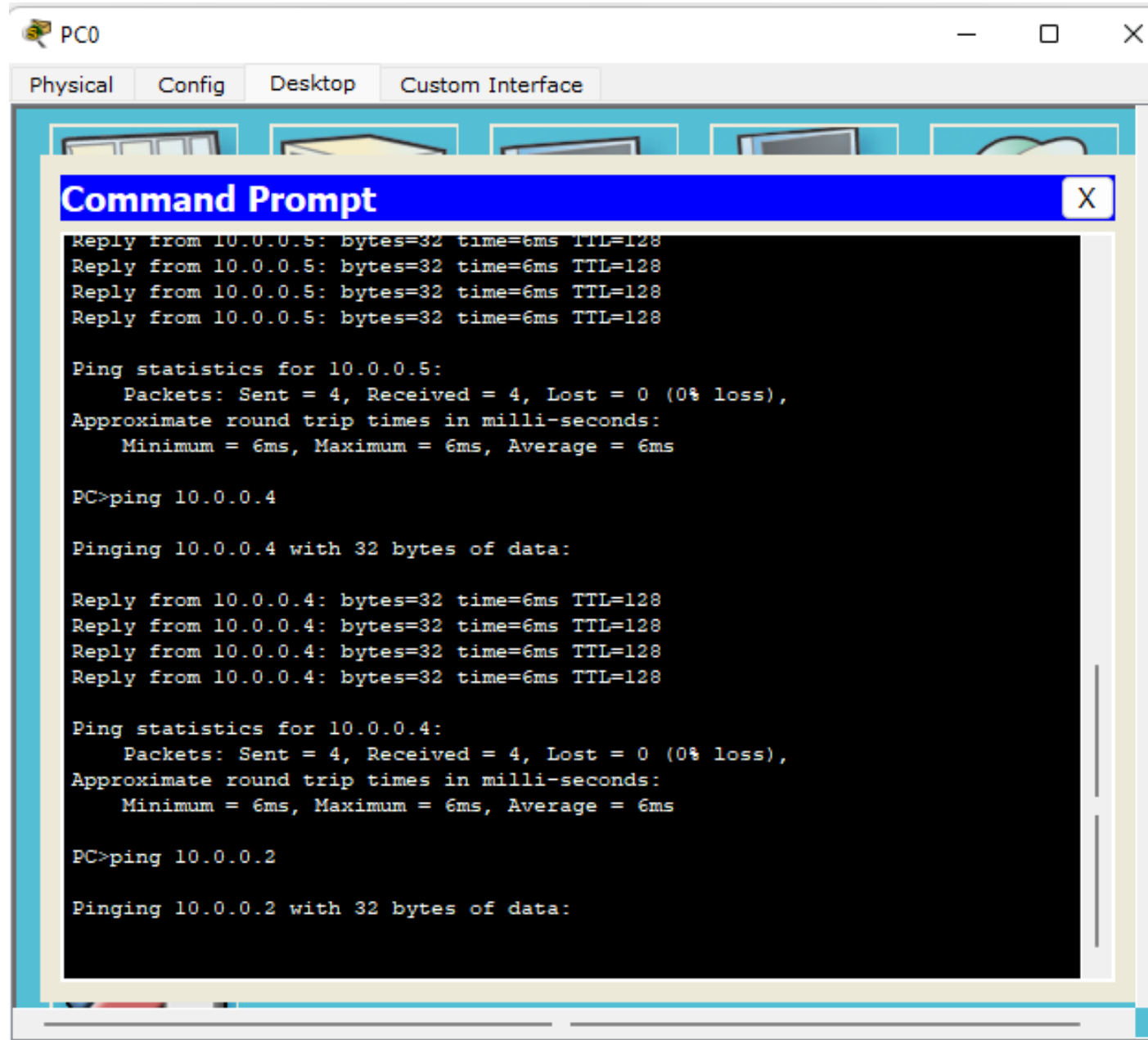
(delete)

Event List

Simulation

## Output:

PDU sent from pc0 to pc6



The screenshot shows a Packet Tracer PC0 desktop environment. A 'Command Prompt' window is open, displaying the results of several ping commands. The window has a blue title bar and a close button. The background shows a desktop with icons for folders and documents, and a taskbar at the bottom.

```
PC0
Physical Config Desktop Custom Interface

Command Prompt
Reply from 10.0.0.5: bytes=32 time=6ms TTL=128
Reply from 10.0.0.5: bytes=32 time=6ms TTL=128
Reply from 10.0.0.5: bytes=32 time=6ms TTL=128
Reply from 10.0.0.5: bytes=32 time=6ms TTL=128

Ping statistics for 10.0.0.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 6ms, Average = 6ms

PC>ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data:

Reply from 10.0.0.4: bytes=32 time=6ms TTL=128
Reply from 10.0.0.4: bytes=32 time=6ms TTL=128
Reply from 10.0.0.4: bytes=32 time=6ms TTL=128
Reply from 10.0.0.4: bytes=32 time=6ms TTL=128

Ping statistics for 10.0.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 6ms, Average = 6ms

PC>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:
```