

## WEEK 1

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

### OBSERVATION:

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⑦ Create a Topology and simulate sending a simple 'pdu' from source to destination using switch and hub as connecting devices.

Aim → To create a topology and simulate sending a simple pdu from source to destination using switch and hub as connecting devices.

Topology:

```
graph TD
    Hub[Hub-PT] --- PC0[PC-PT PC0]
    Hub --- PC3[PC-PT PC3]
    Hub --- PC2[PC-PT PC2]
    Switch[Switch-PT] --- PC4[PC-PT PC4]
    Switch --- PC5[PC-PT PC5]
    Switch --- PC6[PC-PT PC6]
    Hub --- Switch
```

Procedure:

- ① Select 3 pc's and drag into the logical workspace and also drag Hub and connect the Hub to three pc's with Copper straight through connection.
- ② Again select 3 pc's and switch and drag into the logical workspace and connect switch to three pc's with copper straight through connection.
- ③ Now wait till all connections turns green.
- ④ No by passing 'pdu' from one pc to another pc within the Hub & Switch networks.
- ⑤ Now connect hub and switch with copper cross-over connection.
- ⑥ Now wait till that connection turns green.

- ⑦ After that they passing the 'pdu' from one of the pc's in the Hub connection network to one of the pc's in the switch connection network.
- ⑧ observe the 'pdu' transfer in the logical workspace in simulation box

→ Observation: Pinging 10.0.0.6 with 32 bytes of data:  
 Reply from 10.0.0.6: bytes=32 time=6ms  
 Reply from 10.0.0.6: bytes=32 time=6ms TTL=128  
 Reply from 10.0.0.6: bytes=32 time=6ms TTL=128  
 Reply from 10.0.0.6: bytes=32 time=6ms TTL=128

Ping statistics for 10.0.0.6:

Packets: Sent=4, Received=4, Lost=0 (0% loss)

Approximate round trip times in milliseconds:

Minimum=6ms, Maximum=6ms, Average=6ms.

→ Conclusion: We connected two pc's through a Cisco-switch and verified the packet transfer by pinging pc.  
 We concluded that Hub transmits data to all devices on a network regardless of whether the datagram contains an mac address or not whereas switch transmits data to the devices on a network by checking the mac addresses.



Switch :

port-2

Fast ethernet 0

Ip address

10.0.0.3/8

PC-1

Port-1

Fast ethernet 0

Ip address

10.0.0.2/8

PC-2

port-0

Fast ethernet 0

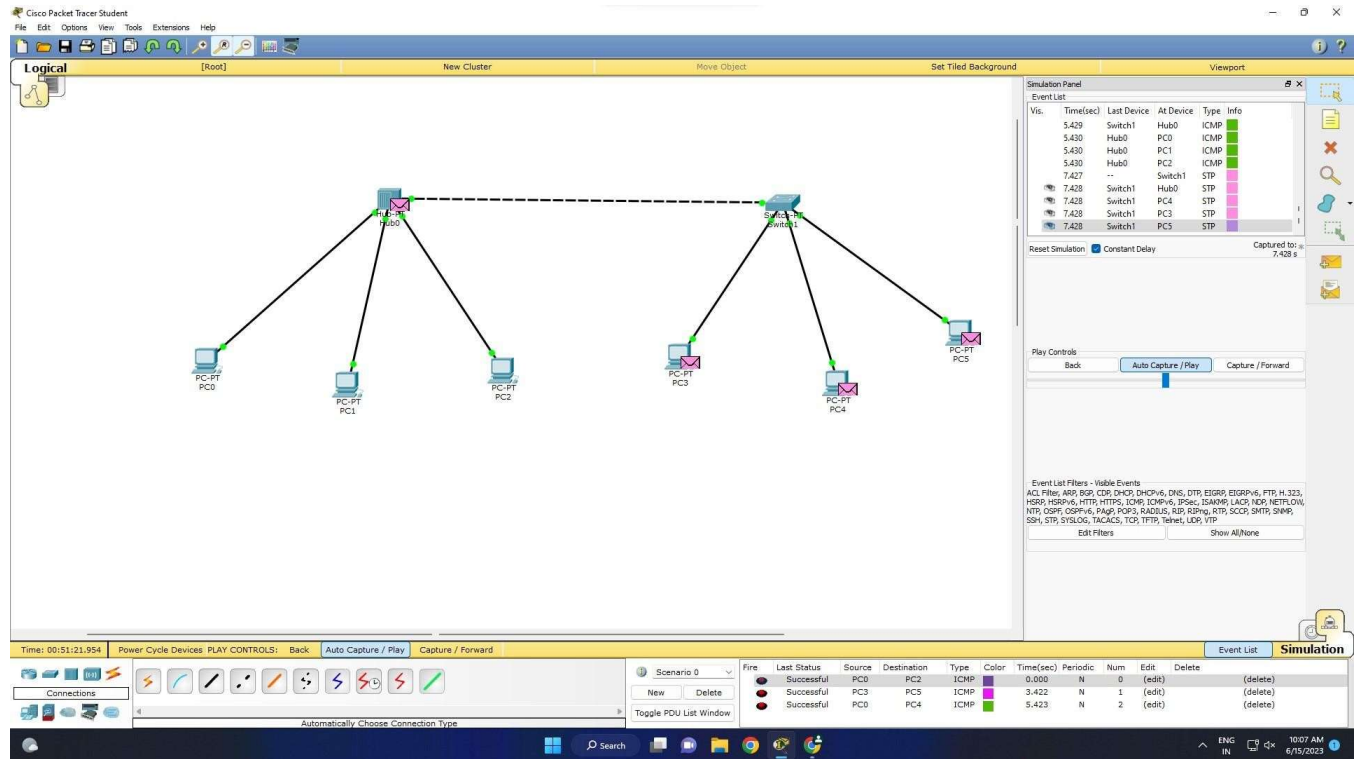
Ip address

10.0.0.1/8

PC-3

ALP  
15/6/2023

# OUTPUT:



```
Packet Tracer PC Command Line 1.0
PC>ping 192.160.1.5
Pinging 192.160.1.5 with 32 bytes of data:
Reply from 192.160.1.5: bytes=32 time=0ms TTL=128
Reply from 192.160.1.5: bytes=32 time=0ms TTL=128
Reply from 192.160.1.5: bytes=32 time=0ms TTL=128
Reply from 192.160.1.5: bytes=32 time=0ms TTL=128
Ping statistics for 192.160.1.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>ping 192.160.1.5
Pinging 192.160.1.5 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.160.1.5:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
PC>192.160.1.2
Invalid Command.
PC>ping 192.160.1.2
Pinging 192.160.1.2 with 32 bytes of data:
Reply from 192.160.1.2: bytes=32 time=0ms TTL=128
Reply from 192.160.1.2: bytes=32 time=0ms TTL=128
Reply from 192.160.1.2: bytes=32 time=0ms TTL=128
Reply from 192.160.1.2: bytes=32 time=0ms TTL=128
Ping statistics for 192.160.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>
```

