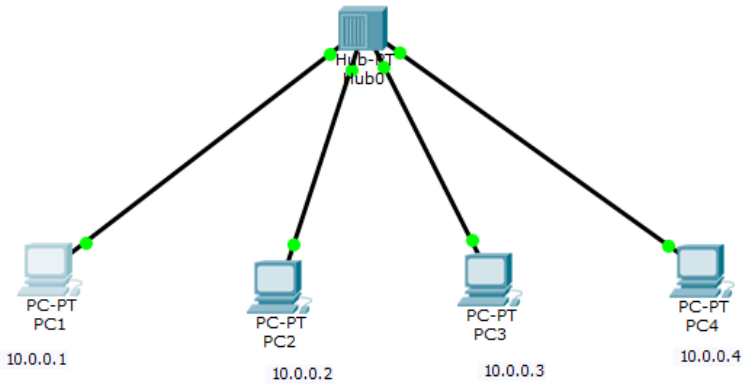


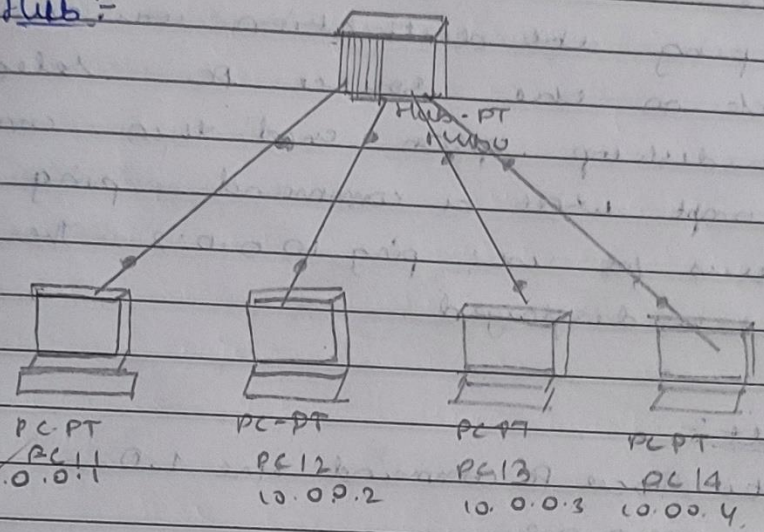

```
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.3

Pinging 10.0.0.3 with 32 bytes of data:

Reply from 10.0.0.3: bytes=32 time=1ms TTL=128
Reply from 10.0.0.3: bytes=32 time=1ms TTL=128
Reply from 10.0.0.3: bytes=32 time=1ms TTL=128
Reply from 10.0.0.3: bytes=32 time=1ms 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 = 1ms, Maximum = 1ms, Average = 1ms

PC>
```

Experiment-1

Aim: To 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:

Hub:



Procedure:

1) select PC from end devices in the bottom toolbar and place them in the workspace.
2) add the ip address for each one of them by selecting the PC, and fastethernet option in config add IP address.
3) connect the PC with the hub using copper straight through to different ports to add an extra port select hub and add a port in physical device by turning on the hub again

connection is active.

*) select the source and destination and add the simple PDU from source to destination.

*) Hub sends the message to all devices in network but only the destination PC sends back acknowledgment the acknowledge message is also sent to all device but only accepted by the source.

*) To ping the destination source click on the source PC select the desktop option and then command prompt write a command ping destination IP address for ex: ping 10.0.0.2. The output will be displayed.

Result:

Packet Tracer PC command line 1.0.

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=4ms TTL=128
Reply from 10.0.0.3 : bytes=32 time=4ms TTL=128
Reply from 10.0.0.3 : bytes=32 time=4ms TTL=128
Reply from 10.0.0.3 : bytes=32 time=4ms 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=4ms, Maximum=4ms, Average=4ms

Bafna Gold
Date: Page:

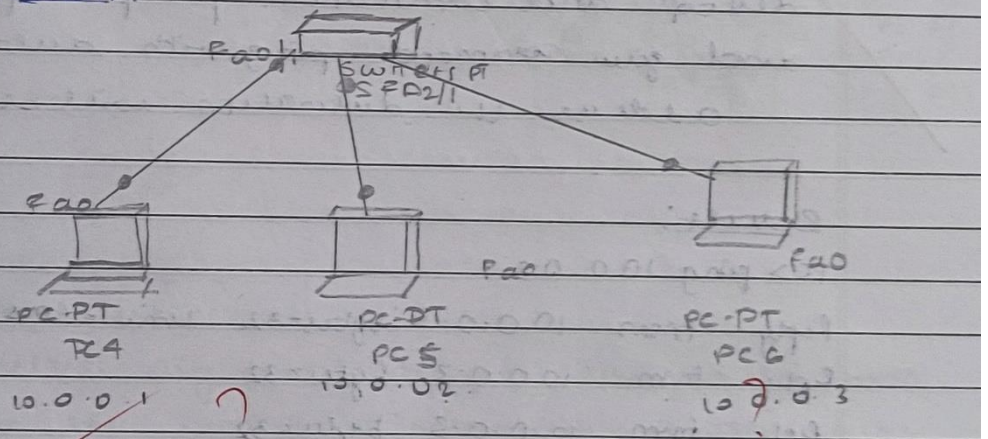
Observation:

*) the message is sent from source to all devices in network but every the device rejects the message except destination and acknowledge message from destination is sent to other devices in network through the hub.

*) message goes from source to hub and then other devices.
the acknowledge message is accepted by only the source device.

Topology

switch:



Procedure:

*) select pc's from realtime mode and place on workspace.

*) place a generic switch on the workspace connect each one of the pc's using copper straight through connection with the switch add IP address to the pc's and select the source and destination

* add simple PDU to the source and destination in simulation mode select auto capture/play after the connection lights green.

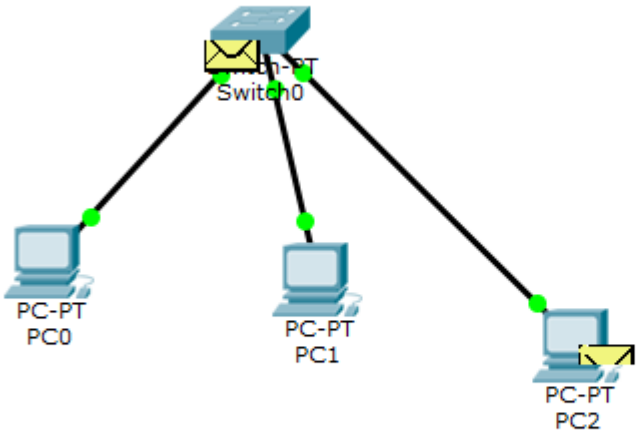
observation:

* the message is sent from source to the switch. switch sends the message to destination device.
* In return the acknowledge message from destination is sent to the source.
* to observe output in realtime mode the source is selected and select desktop and command prompt option and give command ping with destination address. the destination will be pinged.

Result:

PC> ping 10.0.0.3

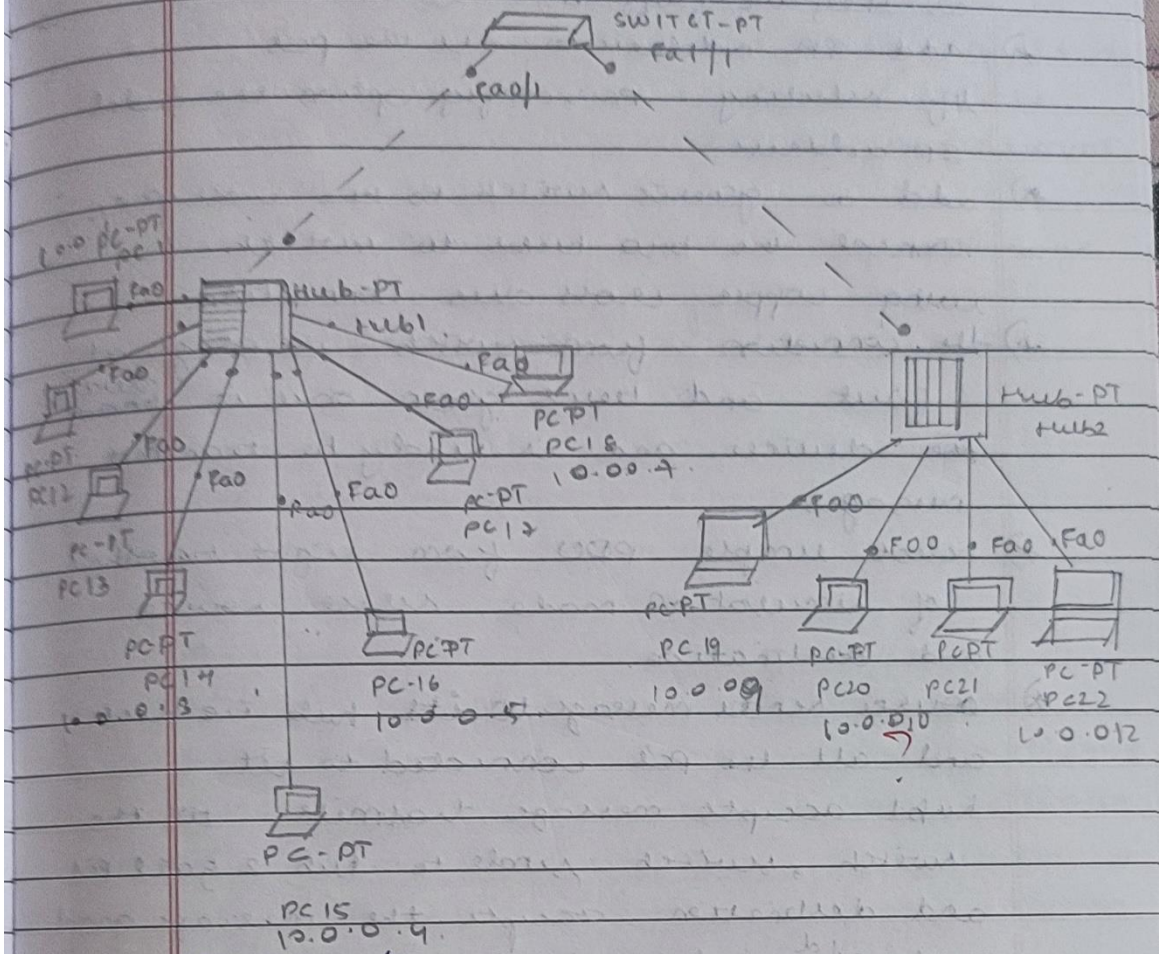
Reply from 10.0.0.3 : bytes=32 time = 6ms TTL = 128
Reply from 10.0.0.3 : bytes=32
Reply from 10.0.0.3 : bytes=32
Reply from 10.0.0.3 : bytes=32



Command Prompt X

```
Packet Tracer PC Command Line 1.0
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=4ms TTL=128
Reply from 10.0.0.3: bytes=32 time=4ms TTL=128
Reply from 10.0.0.3: bytes=32 time=4ms TTL=128
Reply from 10.0.0.3: bytes=32 time=4ms 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 = 4ms, Maximum = 4ms, Average = 4ms

PC>
```

Topology:



Procedure:

1) select any number of pc's and add them to the workspace. maximum number of pc's that can be connected are 10 by adding ports.
2) add ports to the hub by selecting hub and adding ports. ~~by switching off the~~ hub and then add ports then the hub on connections are given indicating the active network.
3) add some more pcs to the workspace and connect them to another hub.

*) use copper straight through connection as they are of different level.
*) add IP address to all the pc's, by selecting pc, config option the add IP address.
*) add a generic switch to the workspace, connect the two hubs to switch using copper cross over connection.
*) the connection from switch is orange at first and turns green once it finds the devices and is ready to transmit messages.
*) select simple PDU from right toolbar of simulation mode. select source and destination.
*) source sends message to its hub i.e hub1 and all the pc's connected to it. hub1 accepts message transmits to the switch, switch sends to hub 2 & all pcs and destination accepts the message and acknowledgement is also sent back.

Observation:

*) Once you select the source pc in hub1. and destination pc in hub2. source sends message to the hub it is connected to and all other pc's connected to the same hub i.e, hub1. and is accepted by hub1.
*) Hub1 transmits the message to the switch which forwards it to hub 2,
*) message from hub2 is sent to all pc's connected to it. the message is accepted by

destination pc of hub 2.
* Acknowledgement from destination is sent to hub 2 (the hub it is connected to) and all the PCs connected to the same hub. hub 2 accepts acknowledgement forwards it to switch.
* Switch sends the acknowledge message to the hub1 containing source and then hub1 sends the message to its PCs.
* acknowledgement is received by the source in hub 1.

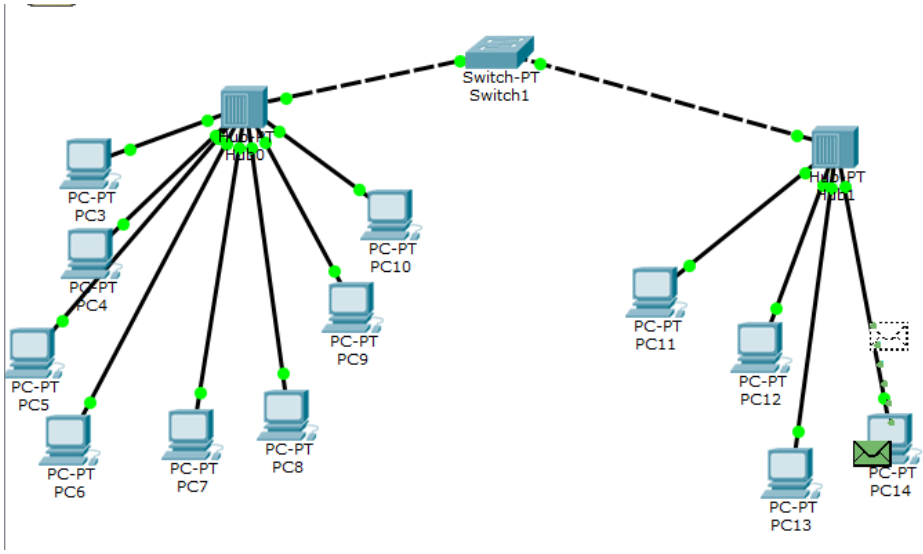
Result:

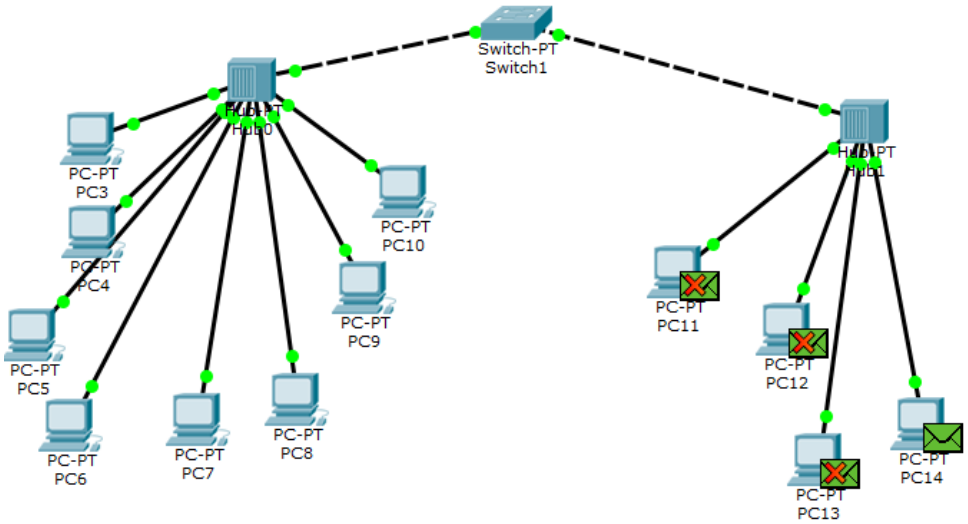
PC> ping 10.0.0.9

Pinging 10.0.0.9 with 32 bytes of data:
Reply from 10.0.0.9 : bytes = 32 time = 17ms TTL = 128
Reply from 10.0.0.9 : bytes = 32 time = 8ms TTL = 128
Reply from 10.0.0.9 : bytes = 32 time = 8ms TTL = 128
Reply from 10.0.0.9 : bytes = 32 time = 8ms TTL = 128
Ping statistics for 10.0.0.9:
Packets : sent = 4, Received = 4, Lost = 0 (0% loss).
Approximate round trip times in milli-seconds:
Minimum = 8ms, Maximum = 17ms, Average = 10ms

9/10

22/6/23


Switch-PT
Switch1
Hub-PT
Hub0
Hub-PT
Hub1
PC-PT
PC3
PC-PT
PC4
PC-PT
PC5
PC-PT
PC6
PC-PT
PC7
PC-PT
PC8
PC-PT
PC9
PC-PT
PC10
PC-PT
PC11
PC-PT
PC12
PC-PT
PC13
PC-PT
PC14


Switch-PT
Switch1
Hub-PT
Hub0
Hub-PT
Hub1
PC-PT
PC3
PC-PT
PC4
PC-PT
PC5
PC-PT
PC6
PC-PT
PC7
PC-PT
PC8
PC-PT
PC9
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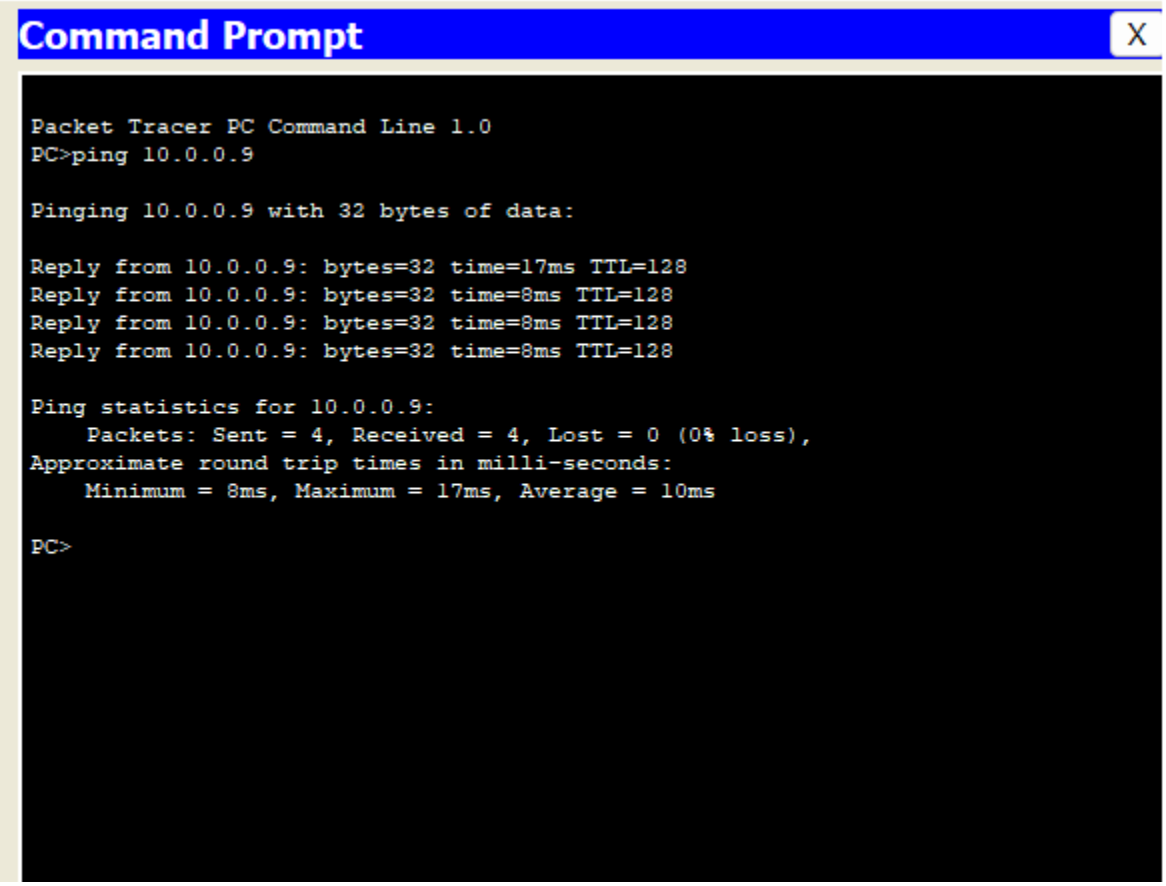
PC10
PC-PT
PC11
PC-PT
PC12
PC-PT
PC13
PC-PT
PC14


Command Prompt
X
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.9
Pinging 10.0.0.9 with 32 bytes of data:
Reply from 10.0.0.9: bytes=32 time=17ms TTL=128
Reply from 10.0.0.9: bytes=32 time=8ms TTL=128
Reply from 10.0.0.9: bytes=32 time=8ms TTL=128
Reply from 10.0.0.9: bytes=32 time=8ms TTL=128
Ping statistics for 10.0.0.9:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 8ms, Maximum = 17ms, Average = 10ms
PC>