LAB-02

Transfer of message from PCs to hub:

→ Given:
- PC6, PC7 and PC8 are connected to Hub3 through copper-straight wires.
- Connections & IP addresses are established.

01. i) Objective:
Simulate the transfer of simple PDUs via the connection of PCs and a hub.

Procedure:
→ Connect PC6, PC7 and PC8 to Hub3 through copper straight-through wires.
→ Change the IP addresses as 10.0.0.10, 10.0.0.11 and 10.0.0.12 respectively.
→ Add simple PDUs from PC6 to PC7.
→ After the status is successful, simulate the same using Auto Capture / Play.
→ The flow of messages work as:
  → PC6 to Hub
  → Hub to PC6, PC7 and PC8
  → Acknowledgement of receive by PC6 to Hub.
  → Hub to PC6, PC7 and PC8.
  → Acknowledgement by PC6.

Diagram:
→

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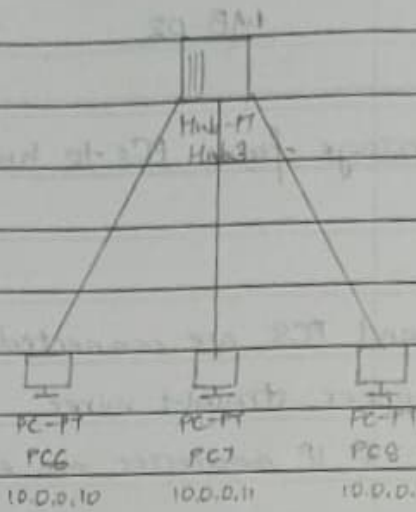


o* ii) Objective:

Simulate the tranfer of simple PDUs via the connection of PCs and a switch

Procedure:

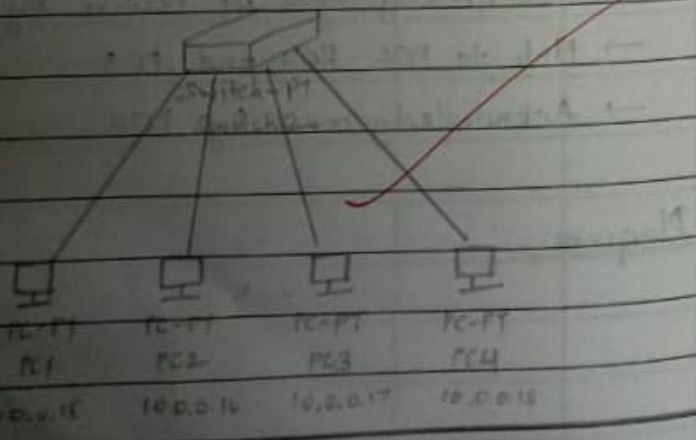
→ Connect 4 end devices PC1, PC2, PC3 and PC4 to the switch with the mentioned IP address

→ Select simple PDU, PC1 as start and PC4 as destination and simulate.

→ Connect these through copper straight-through cables

→ The message will be sent from PC1 to PC4 and the acknowledgement will be sent in return

Diagram:



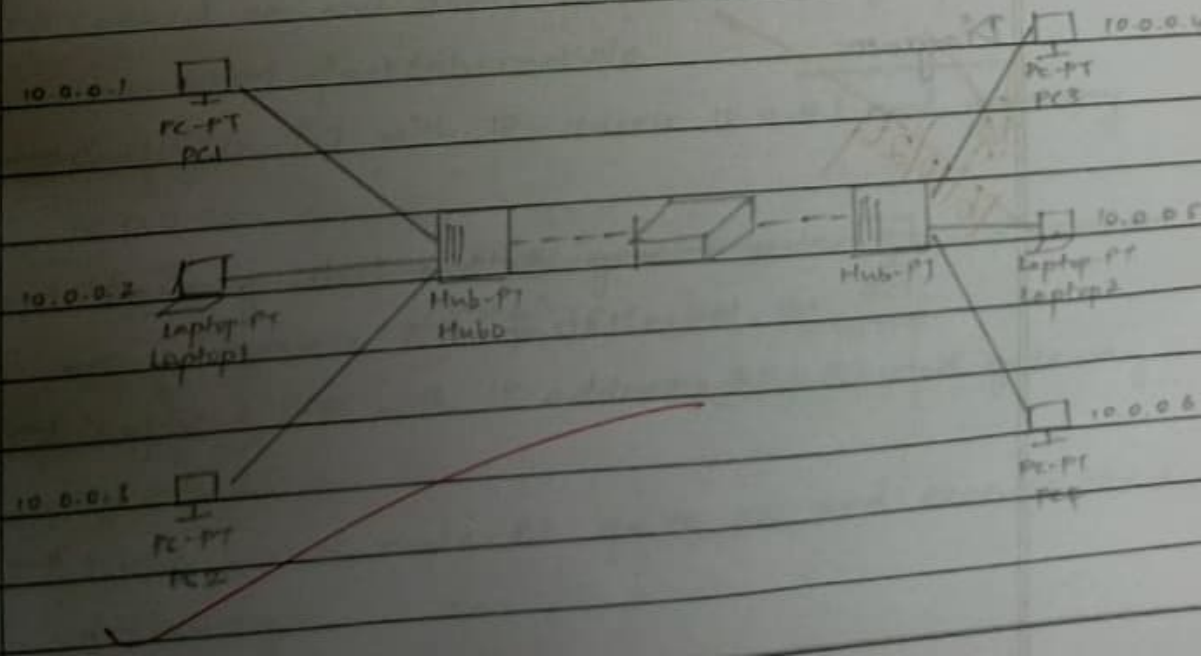
04(iii) Objective:

Simulate the transfer of simple PDU from source to destination using switch, hub and end devices and demonstrate the ping message.

Procedure:

→ Connect the 3 end user devices PC1, PC2 and PC3 with mentioned IP addresses to a hub and further connect it to a switch.
→ The connection between the hub and a switch is through a crossover cable.
→ Then connect the switch to another hub with 3 end user devices with mentioned IP addresses.
→ Select simple PDU and assign any one of the former three PCs as start node and the latter as destination.
→ The ping message successfully happens from PC1 to PC6.
→ While the hub will broadcast to all devices, the switch will communicate only to the specific device to which data flow is intended.

Diagram:



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02.8 Objective:
To create a simple network consisting of two end devices and simulating communication between them through a router.

Procedure:
→ Place 2 generic PCs and one generic router and connect the PCs to the router's fastethernet using copper crossover wire.
→ Select PC1 config → Fastethernet 0 and set up IP addresses & default gateway as in figure.
→ Select the router's CLI and execute:
> enable
config terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shut
exit
(similarly connect PC1)
→ ping 20.0.0.10 It is noticed that PC0 successfully pings PC1 with 32 bytes of data.

Diagram: