Lab-1(21-06-2023)

-1BM21CS209

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

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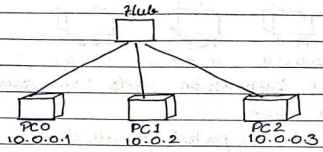
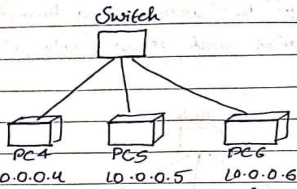
Hub:



* The packets transmission starts from source device and reaches the hub.
* Hub sends the packets to all other devices connected to it.
* The destinated device receives the packets and sends back an acknowledgement stating it has received the packets.
* Other devices ignore the packets
* The packets transmission takes place in the above scenario everytime.

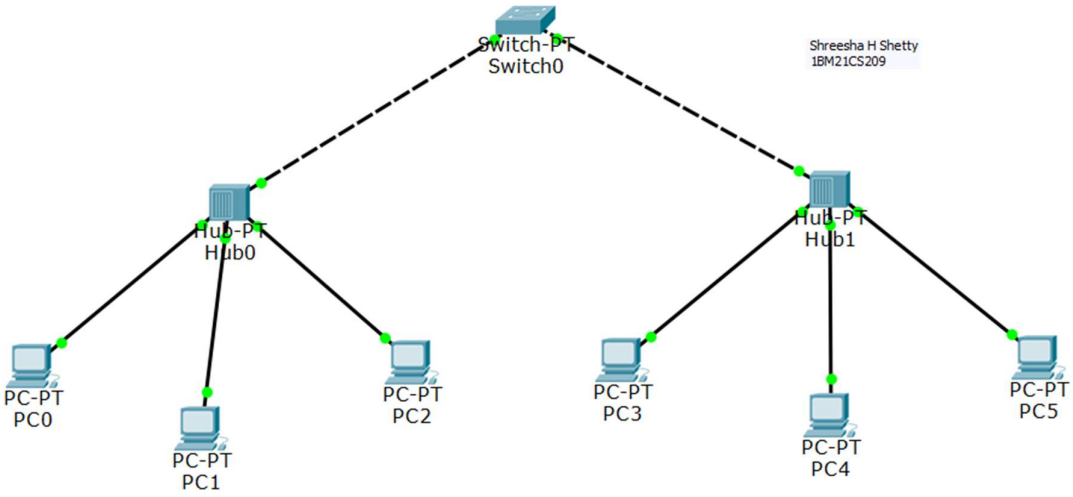
(from 10.0.0.1)
PC > ping 10.0.0.2

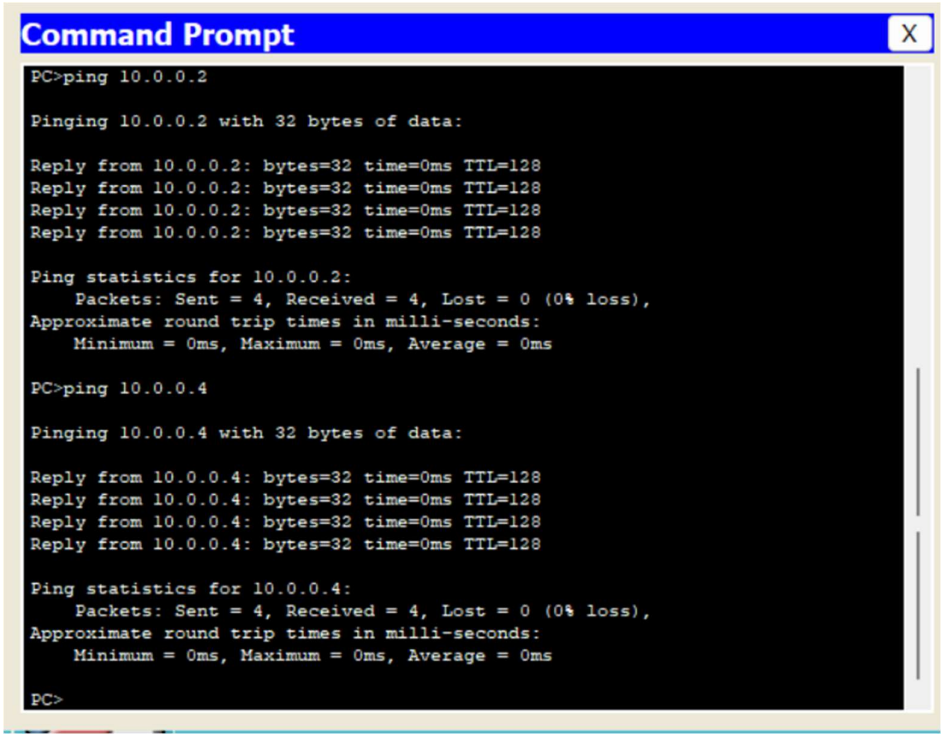
Switch:



* The packet transmission starts from source device and reaches the switch.
* Switch sends the packets to all devices connected to it
* The destinated device receives the packet and sends an acknowledgment back to switch stating it has received the packet.
* Switch remembers the device sending the acknowledgement and only communicates with that device for further transmission.
* Other devices do not receive the packets from next transmission

(from 10.0.0.5)
PC> ping 10.0.0.3





Outcomes:

HUB

1. Using HUB the connection is established immediately.

2. The HUB broadcasts the data packets to all the output interfaces except the incoming input interface.

SWITCH:

1. The switch takes approximately 30 seconds to establish the connection.

2. At first it broadcasts it to all the output interfaces except the incoming interface to create a switching table and then sends the data packet to only the destination device.