

Program 1

To demonstrate the transmission of a simple PDU between 2 devices connected using a hub and a switch

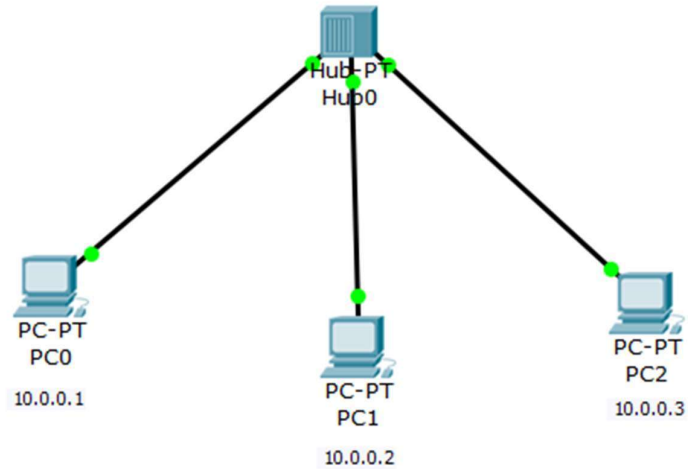


Figure 1: Using Hub

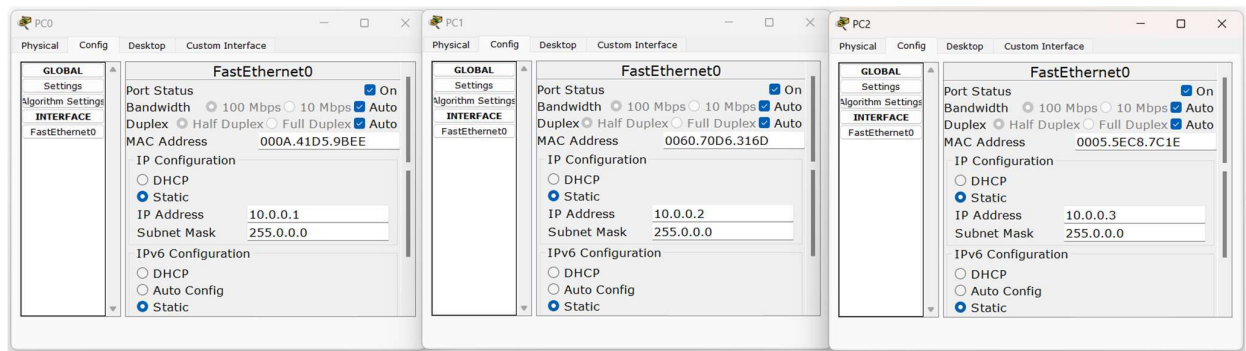


Figure 2: IP Addresses of the 3 PCs

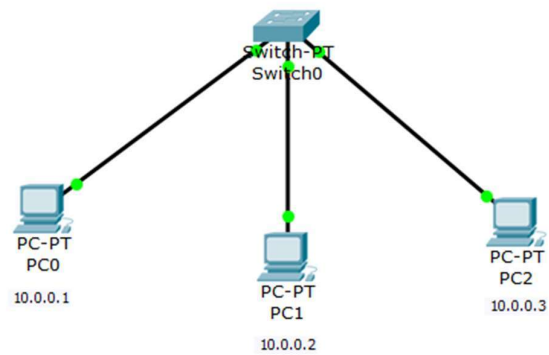


Figure 3: Using Switch

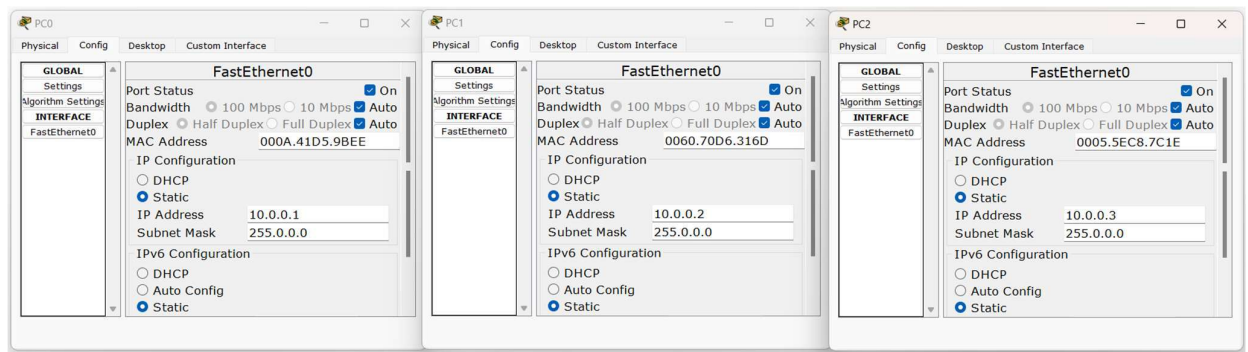
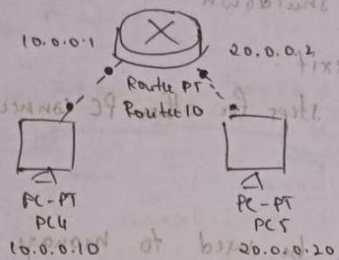


Figure 4: IP Addresses of the 3 PCs

Experiment 2

1. PC to Router:



Aim: To create simple network consisting of 2 PCs connected to the router, facilitating communication between the two PCs through router.

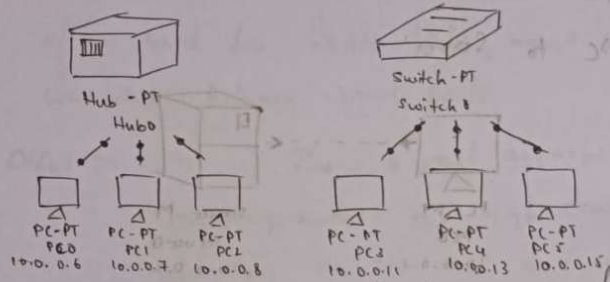
Topology: 2 PCs are connected to the router using Copper Cross-Over

Procedure:

1. Connect the 2 PCs to the router using Copper Cross Overs.
2. Open Config in the PC and configure the IP address and the gateway.
3. Do the same for the other PC.
4. Open CLI in the router and configure the Fast Ethernet Connection by following the commands.
 - > enable
 - > config terminal
 - > interface fastEthernet 0/0

Figure 5: Observation Book 1

2. Hub & Switch:



Aim: To create simple network consisting of 3 PCs connected to a central Hub and another network with 3 PCs connected to a switch. This connection will help observe the behaviour of data transmission using hub and switch devices.

Topology: 3 PCs are connected to a hub & switch using straight-through ethernet cables.

Observation: Hub broadcasts packets to all devices which may cause unnecessary traffic. Switch forwards packets only to appropriate device by learning MAC addresses, making it more efficient in reducing traffic.

Figure 6: Observation Book 2