

## Lab 1

Creating a topology and simulate sending a simple PDU from source to destination using hub and switch as connecting devices.

### Observations

#### \* Steps:

1. Select 2 end devices - PC0 & PC1 and a hub and connect it. Configure gateway and IP address for both PCs. (Same gateway for PC0 and PC1 and different IP address for PC0 and PC1)
2. Simple PDU <sup>msg</sup> is transferred from PC0 to Hub0 and then from Hub0 to PC1 and is decapsulated.
3. Select 2 more PCs and connect the switch.
4. Connect hub and switch.
5. Once again a simple PDU was simulated.
6. Message is sent from PC0 to hub and from hub to PC1, but message is rejected at switch. Here source → PC0 and destination PC1. Message sent back from PC1 to PC0 and accepted.

Source  
Destination  
PC0  
PC1  
Message is sent from PC0 to hub and from hub to PC1 and switch. Message rejected at PC1.

Message is sent from switch to PC2 and PC3.  
Message rejected at PC2 and accepted at PC3.

- \* Layer 1 decapsulated the data
- \* Layer 2 removes the header (decapsulate)
- \* Layer 3 accepts the data

#### Outcome:

- \* Switch is an intelligent device & hub is a dumb device.
- \* Hub only broadcasts but switch sends it to particular destination.
- \* Switch → data link layer, maintains switch table.