



Network Lab

Lech 4: LAN Network

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The Different Between Switch & Hub and Router

Hubs and switches are networking devices that connect multiple devices on a network, but switches offer many more advanced features and capabilities than hubs¹. The main differences between hubs and switches are:

Hubs can only work on the OSI model's physical layer, while switches can work on a data link layer, making them more efficient than hubs.

Switches can join a large number of computers within a single LAN, while hubs connect multiple Ethernet systems to make one segment.

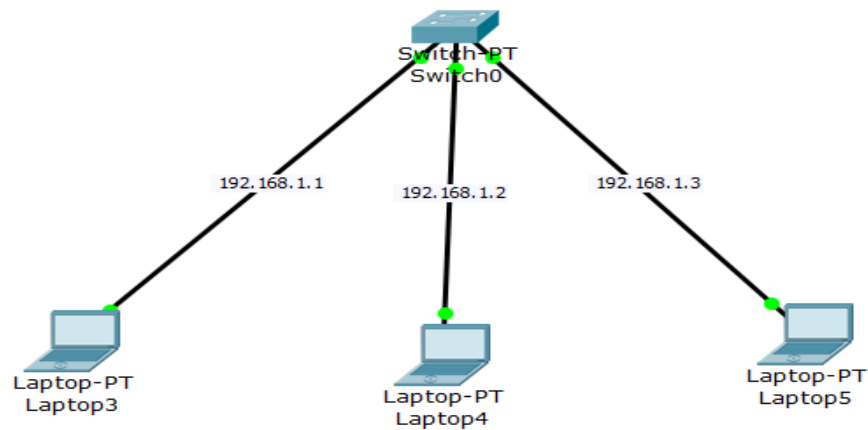
Hubs are basic network devices that operate at the Physical Layer and they do not perform packet filtering or addressing function; they send the data packets to all the connected devices.

Switches are performed packet filtering or addressing function; they send the data packets to specific devices. while

The **Router** transfers data between 2 computers (sender and receiver).

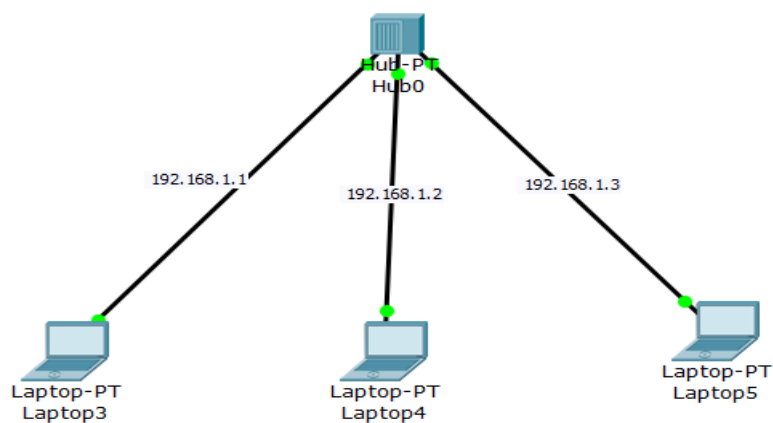
Switch configures:

Connect one switch (PT) and 3 PC, only allocation IP address to each pc and send message.



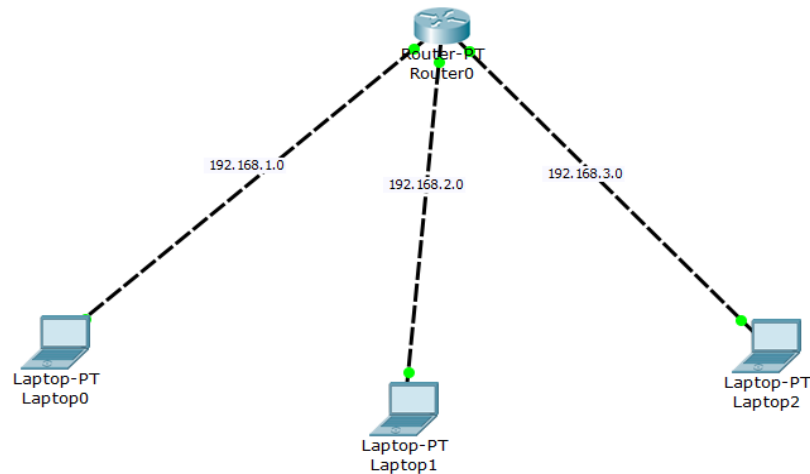
Hub configures:

Connect one Hub (PT) and 3 PC, only allocation IP address to each pc and send message.

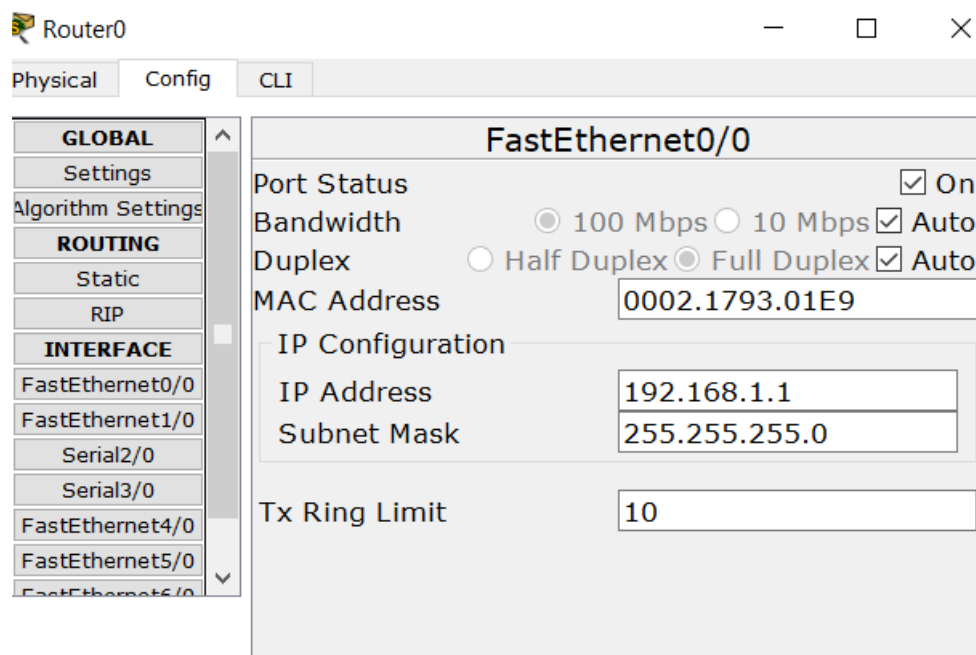


Router configures:

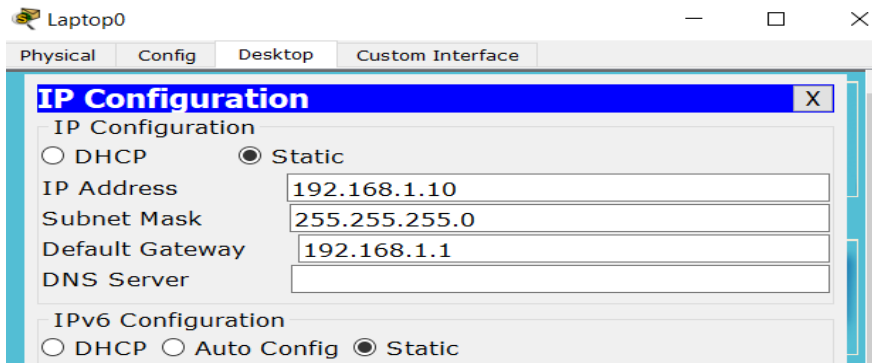
Insert one router and 3 pc as showed in this topology



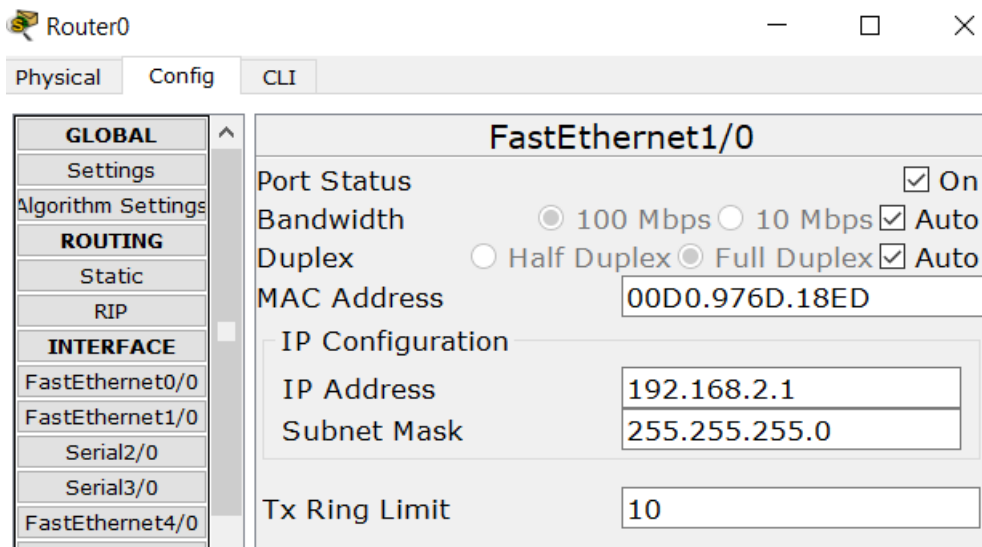
- Enter to f0/0 and put IP Within the first network



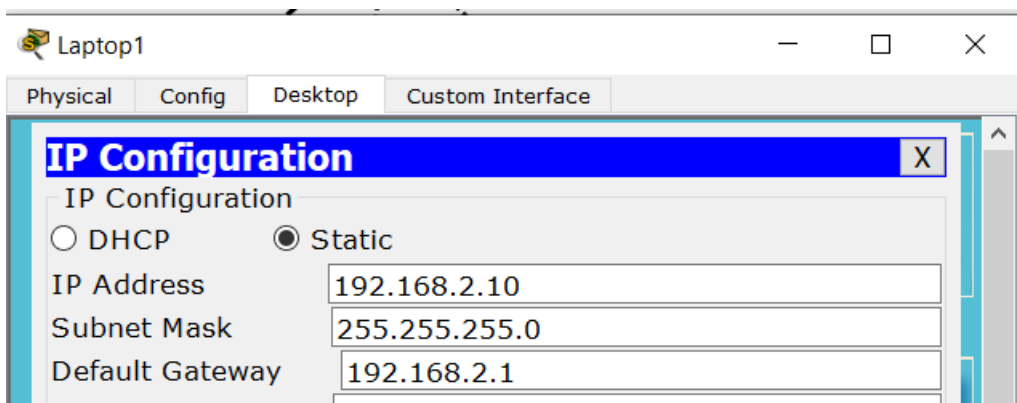
- Enter to laptop 0 and put IP and gateway



- Enter to f1/0 and put IP Within the second network



- Enter to laptop 1 and put IP Within the second network



- Add fastEthernet to connect the third pc

Router0

Physical Config CLI

Physical Device View

Zoom In Original Size Zoom Out

MODULES

- T-ROUTER-NM-1AM
- PT-ROUTER-NM-1CFE
- T-ROUTER-NM-1CF
- T-ROUTER-NM-1CG
- T-ROUTER-NM-1FF
- T-ROUTER-NM-1FG
- PT-ROUTER-NM-1S
- PT-ROUTER-NM-1SS

Customize Icon in Physical View

Customize Icon in Logical View

The PT-ROUTER-NM-1CFE Module provides one Fast-Ethernet interface for use with copper media. Ideal for a wide range of LAN applications, the Fast Ethernet network modules support many internetworking features and standards. Single port network modules offer autosensing 10/100BaseTX or 100BaseFX Ethernet. The TX (copper) version supports virtual LAN (VLAN) deployment.

- Check off/on, in router before add port

Router0

Physical Config CLI

Physical Device View

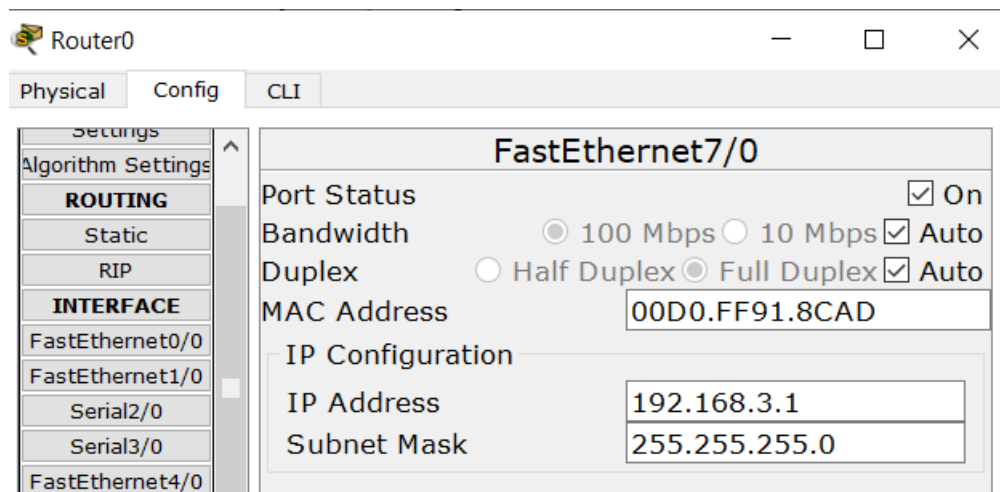
Zoom In Original Size Zoom Out

MODULES

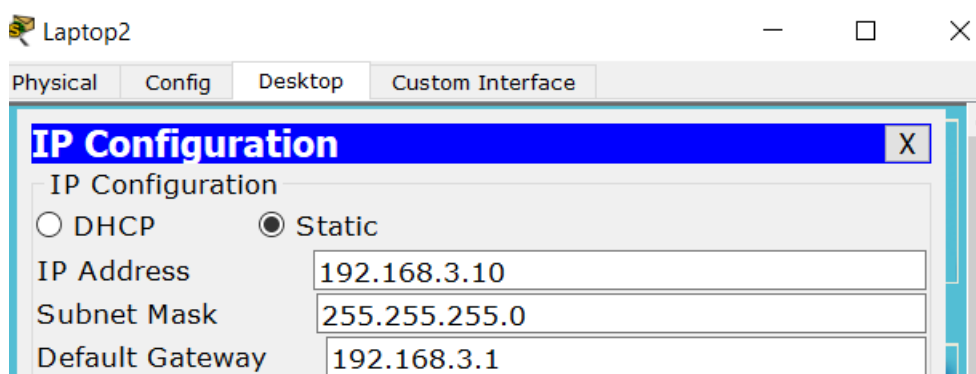
- T-ROUTER-NM-1AM
- PT-ROUTER-NM-1CFE
- T-ROUTER-NM-1CF
- T-ROUTER-NM-1CG
- T-ROUTER-NM-1FF
- T-ROUTER-NM-1FG
- PT-ROUTER-NM-1S
- PT-ROUTER-NM-1SS

Packet Tracer Router

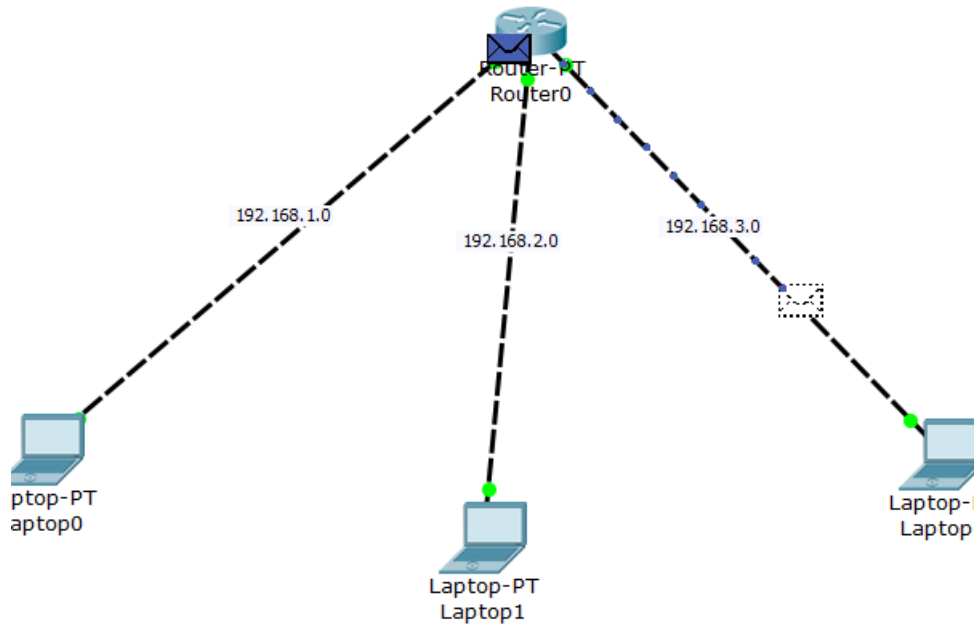
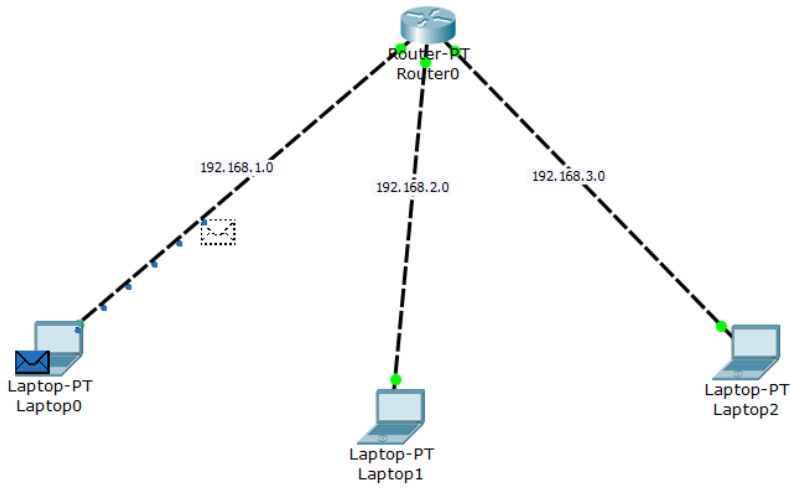
- Enter to f7/0 and put IP Within the third network

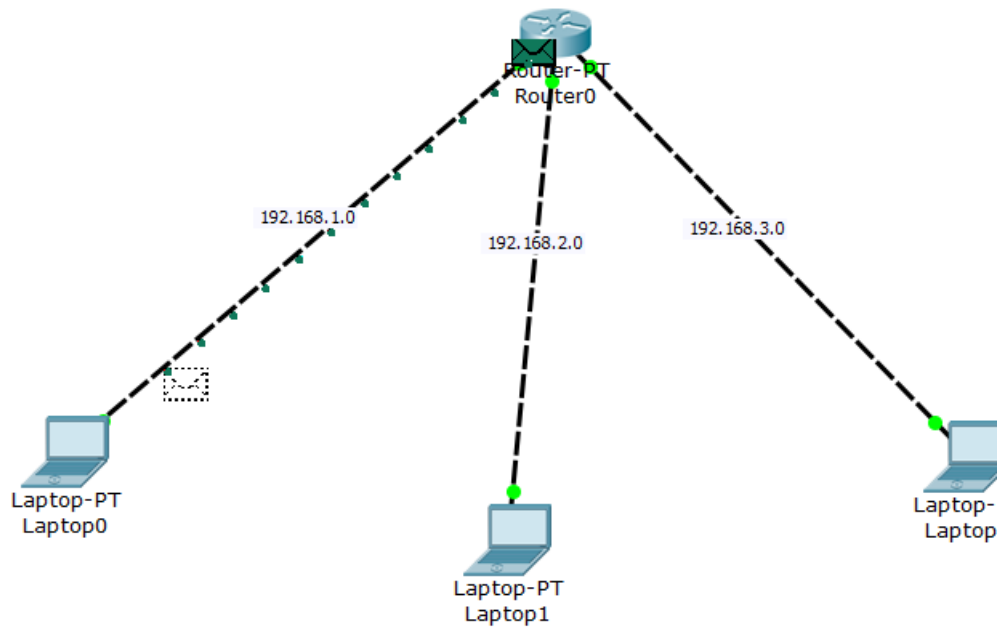


- Enter to laptop 2 and put IP Within the third network



- Send message from lap0 to lap2





Thank you