Experiment 1.3

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Branch: CSE **Section/Group:** 807 B

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Subject Name: Computer Networks **Subject Code: 21CSH-256**

1. **Aim : Configure and Understand working of network devices Hub, Switch, Routers**

2. **Theory:**
   a. **Switch:** Switches refer to the networking devices that operate at an OSI model's layer 2 or data link layer. They establish connections between networked devices and employ packet switching to transmit, receive, or forward data packets or frames over the network.

   Method:

   1. Attach required devices Switch in the packet tracer software.
   2. Assign IP address to devices.
   3. Select source and destination and drop packet from source to destination.
   4. Go to Simulation mode and click capture/Play.
   5. Simulation will start and packet will only be accepted by destination.

   b. **Hub:** A hub is a physical layer networking device which is used to connect multiple devices in a network. They are generally used to connect computers in a LAN.A hub has many ports in it. A computer which intends to be connected to the network is plugged in to one of these ports

   Method:

   1. Attach required devices Router in the packet tracer software.
   2. Assign IP address to devices.
   3. Select source and destination and drop packet from source to destination.
   4. Go to Simulation mode and click capture/Play.
   5. Simulation will start and packet will only be accepted by destination.

   c. **Router:** Routers are networking devices operating at layer 3 or a network layer of the

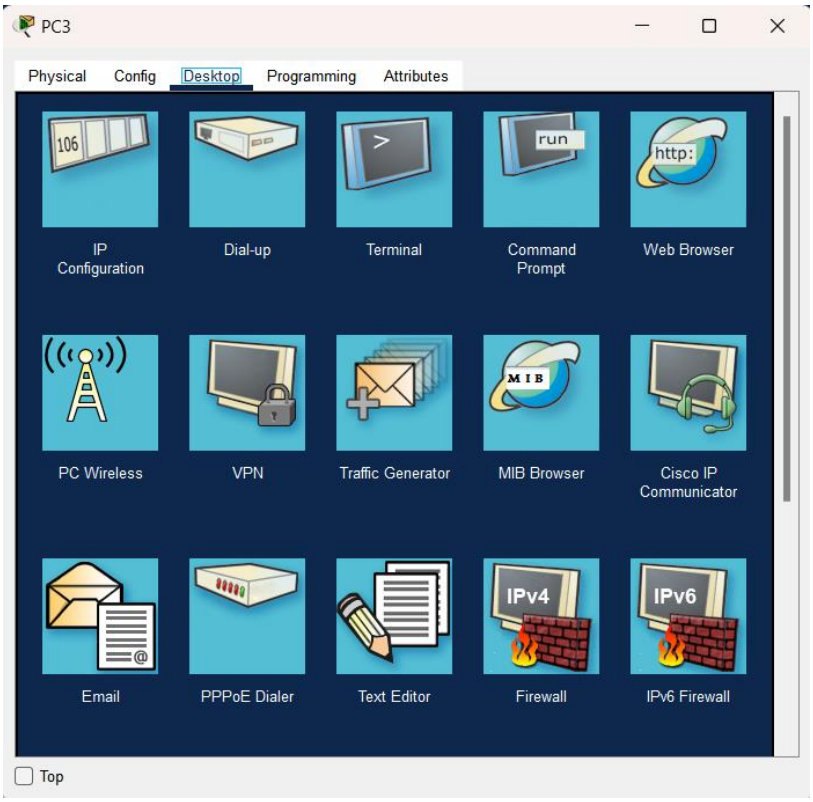
OSI model. They are responsible for receiving, analysing, and forwarding data packets among the connected computer networks.

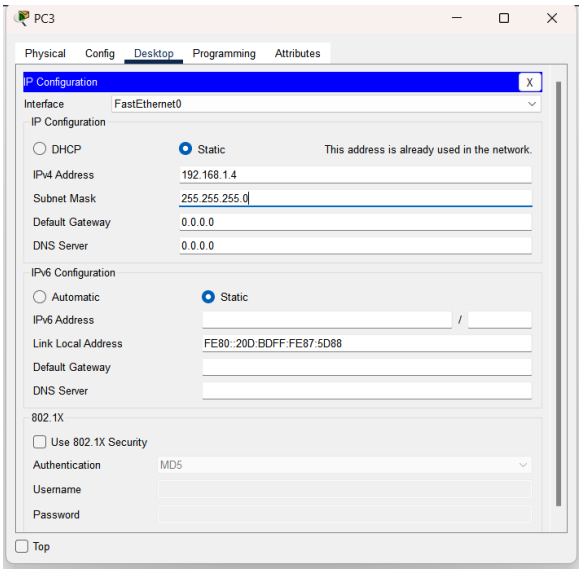
Method:

1. Attach required devices Router in the packet tracer software.
2. Assign IP address to devices.
3. Select source and destination and drop packet from source to destination.
4. Go to Simulation mode and click capture/Play.
5. Simulation will start and packet will only be accepted by destination.

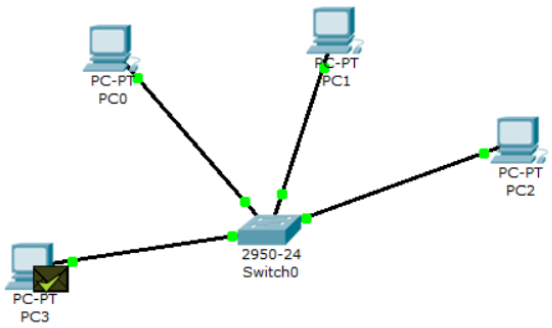
3. Screenshot of Outputs:

IP CONFIG

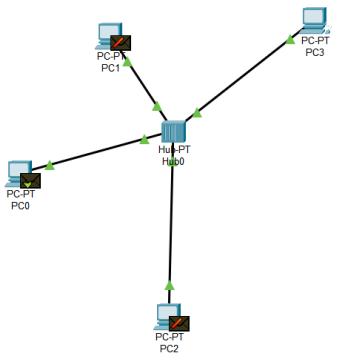



PC3
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
This address is already used in the network.
IPv4 Address
192.168.1.4
Subnet Mask
255.255.255.0
Default Gateway
0.0.0.0
DNS Server
0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address
FE80::20D:BDFF:FE87:5D88
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password
Top

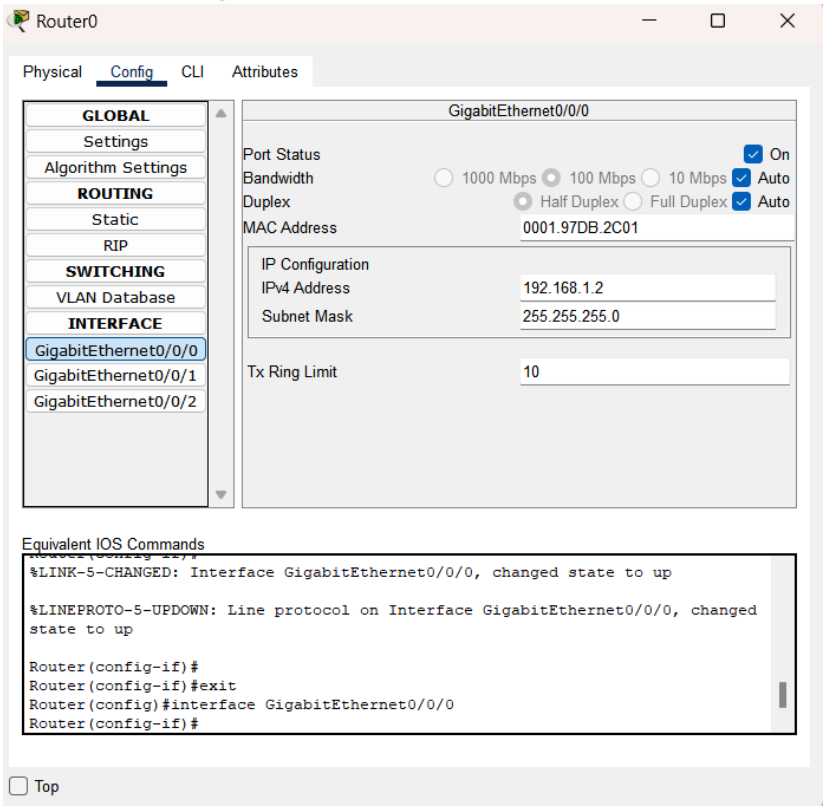
Switch:-


PC-PT
PC0
PC-PT
PC1
PC-PT
PC2
2950-24
Switch0
PC-PT
PC3

Hub;-


PC-PT
PC1
PC-PT
PC3
PC-PT
PC0
PC-PT
PC2

Router Config:



Router:-