Date : 05/11/2022

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Course Code and Name : Computer Networks (2CS502)

Experiment No : 7

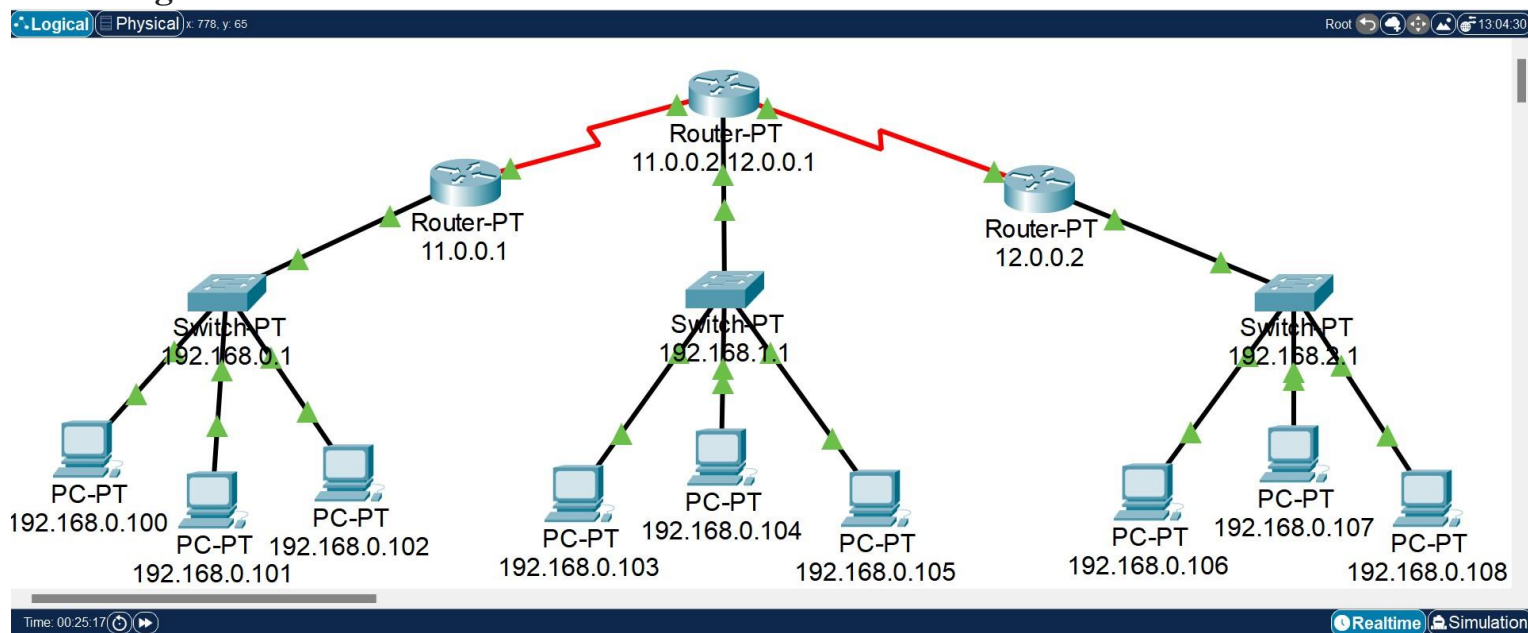-

- **Aim:** Internetworking with routers: Design a three or four simple networks (with 3 to 4 hosts) and connect via Router. Perform simulation and trace how routing is done in packet transmission.
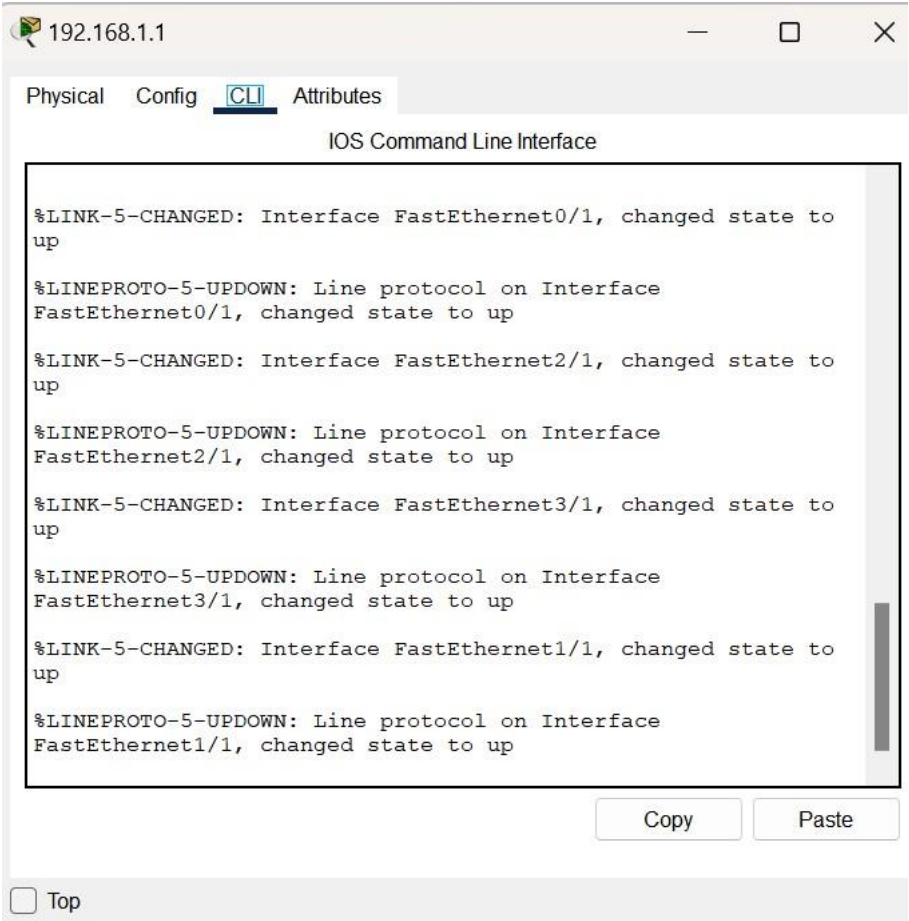 1: Experiment on same subnet
  2: Perform Experiment across the subnet and observe functioning of Router by selecting suitable pair of Source and destination
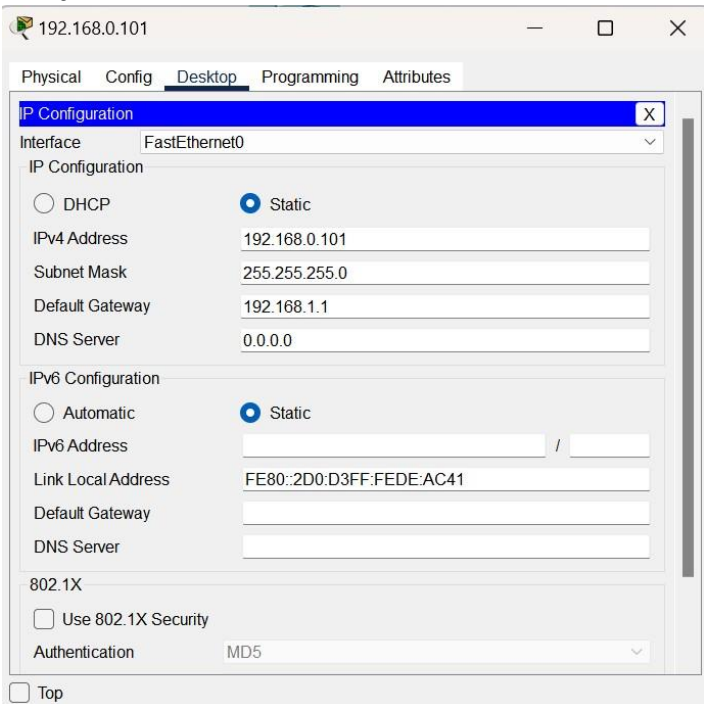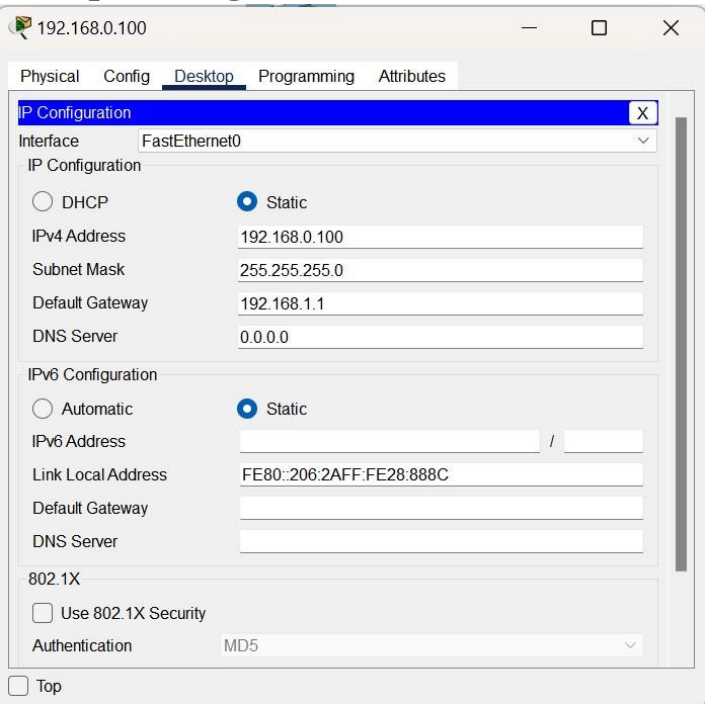

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Step 1: Add Routers, Switches and PCs to workspace connect them to with as shown in the below figure.

Step 2: Assign default gateway to all the switch from the command line interface.

Step 3: Assign the IP address and default gateway to all the PCs in the network.

192.168.0.102

Physical | Config | Desktop | Programming | Attributes

IP Configuration X

Interface: FastEthernet0

IP Configuration

- ( ) DHCP
- (●) Static

IPv4 Address: 192.168.0.102
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.1.1
DNS Server: 0.0.0.0

IPv6 Configuration

- ( ) Automatic
- (●) Static

IPv6 Address: /
Link Local Address: FE80::2D0:BCFF:FEE0:A32A
Default Gateway:
DNS Server:

802.1X

[ ] Use 802.1X Security
Authentication: MD5

[ ] Top

192.168.0.103

Physical | Config | Desktop | Programming | Attributes

IP Configuration X

Interface: FastEthernet0

IP Configuration

- ( ) DHCP
- (●) Static

IPv4 Address: 192.168.0.103
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.2.1
DNS Server: 0.0.0.0

IPv6 Configuration

- ( ) Automatic
- (●) Static

IPv6 Address: /
Link Local Address: FE80::20A:F3FF:FEED:1974
Default Gateway:
DNS Server:

802.1X

[ ] Use 802.1X Security
Authentication: MD5

[ ] Top

192.168.0.104

Physical | Config | Desktop | Programming | Attributes

IP Configuration X

Interface: FastEthernet0

IP Configuration

- ( ) DHCP
- (●) Static

IPv4 Address: 192.168.0.104
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.2.1
DNS Server: 0.0.0.0

IPv6 Configuration

- ( ) Automatic
- (●) Static

IPv6 Address: /
Link Local Address: FE80::260:3EFF:FEDC:5330
Default Gateway:
DNS Server:

802.1X

[ ] Use 802.1X Security
Authentication: MD5

[ ] Top

192.168.0.105

Physical | Config | Desktop | Programming | Attributes

IP Configuration X

Interface: FastEthernet0

IP Configuration

- ( ) DHCP
- (●) Static

IPv4 Address: 192.168.0.105
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.2.1
DNS Server: 0.0.0.0

IPv6 Configuration

- ( ) Automatic
- (●) Static

IPv6 Address: /
Link Local Address: FE80::210:11FF:FE6D:79A1
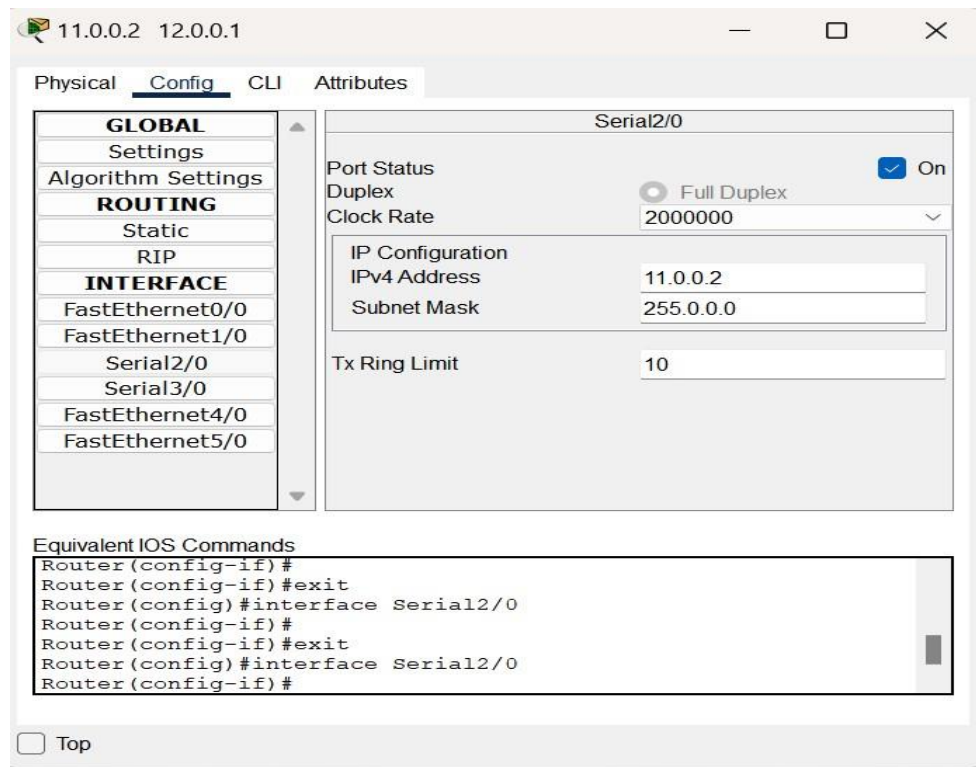Default Gateway:
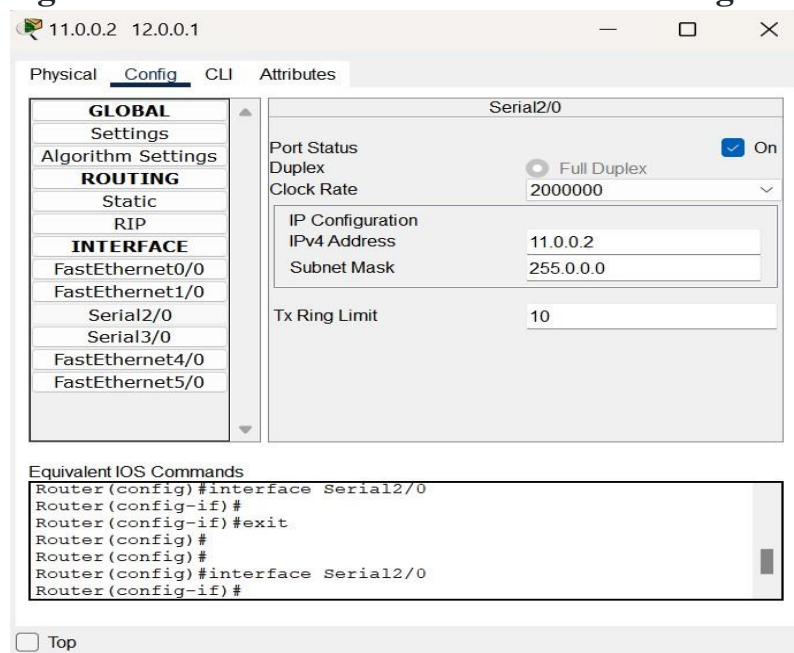DNS Server:

802.1X

[ ] Use 802.1X Security
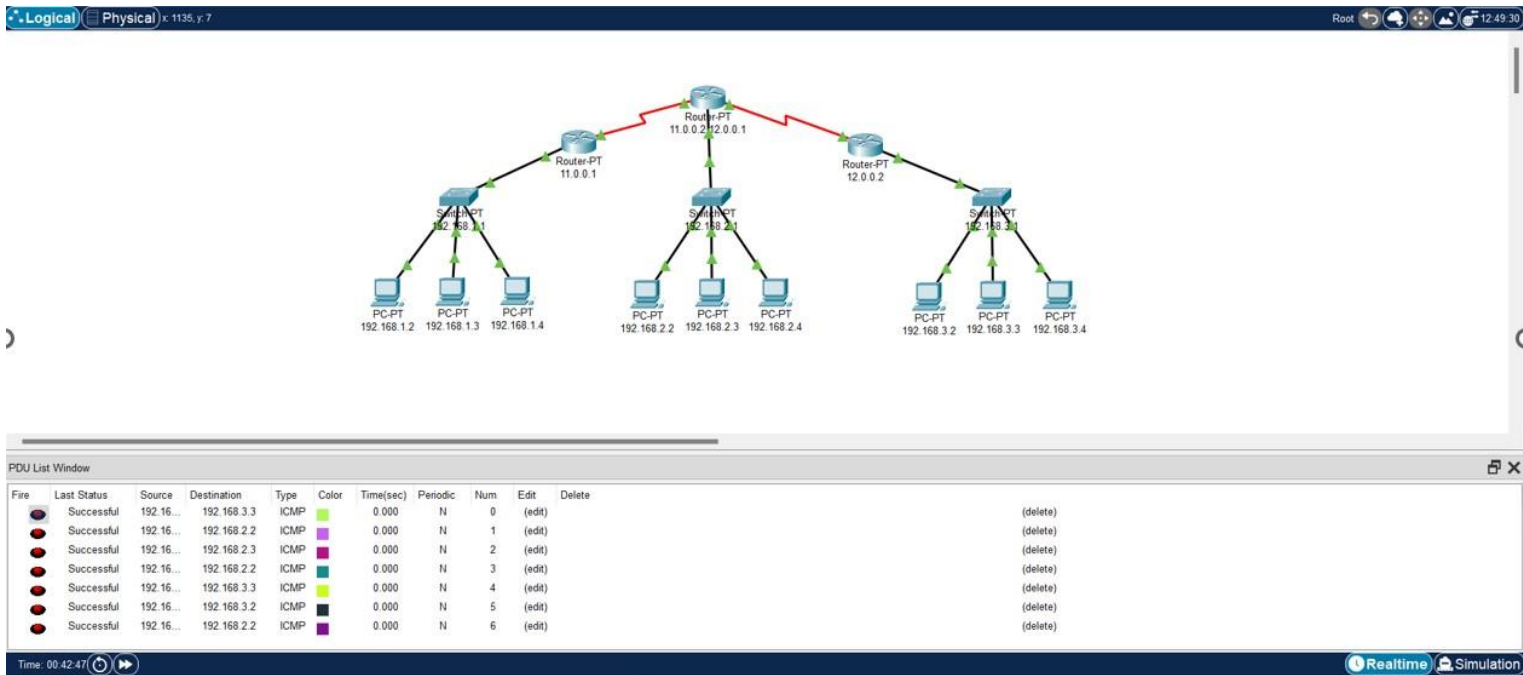Authentication: MD5

[ ] Top

Step 4: Assign IP address to all the routers appropriately.

Step 5: Set Static routing for all the three router from static routing section.

Step 6: Check all the connection by sending some packets from on network to another.

・ **Conclusion:**

By learning this practical, I learn about Internetworking with routers.