Exercise 4: Configuration of IP Address in Router And Switch

Objective: To demonstrate the configuration of IP Address in router and switch

Pre-requisite: IP Address, Range of IP Address and Classes of IP Address

Components:

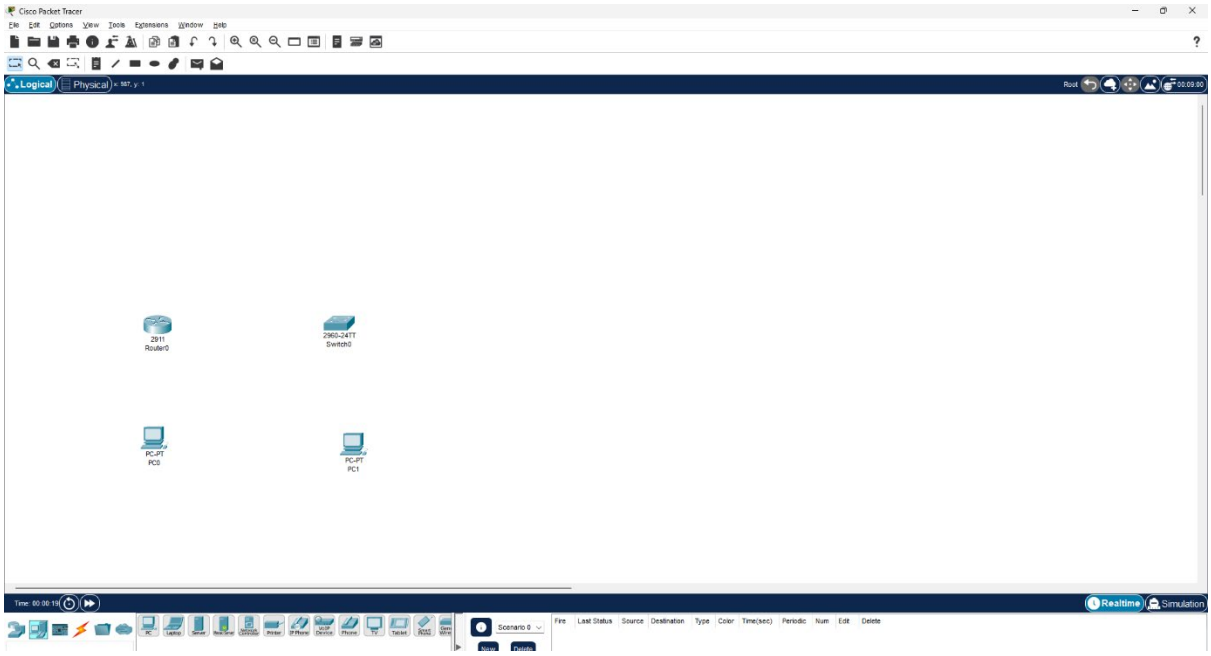
Devices	Required Nos
PCs	2
Copper Straight Through	2
Copper cross-over Cables	1
Router	1
Switch	1

Addressing Table:

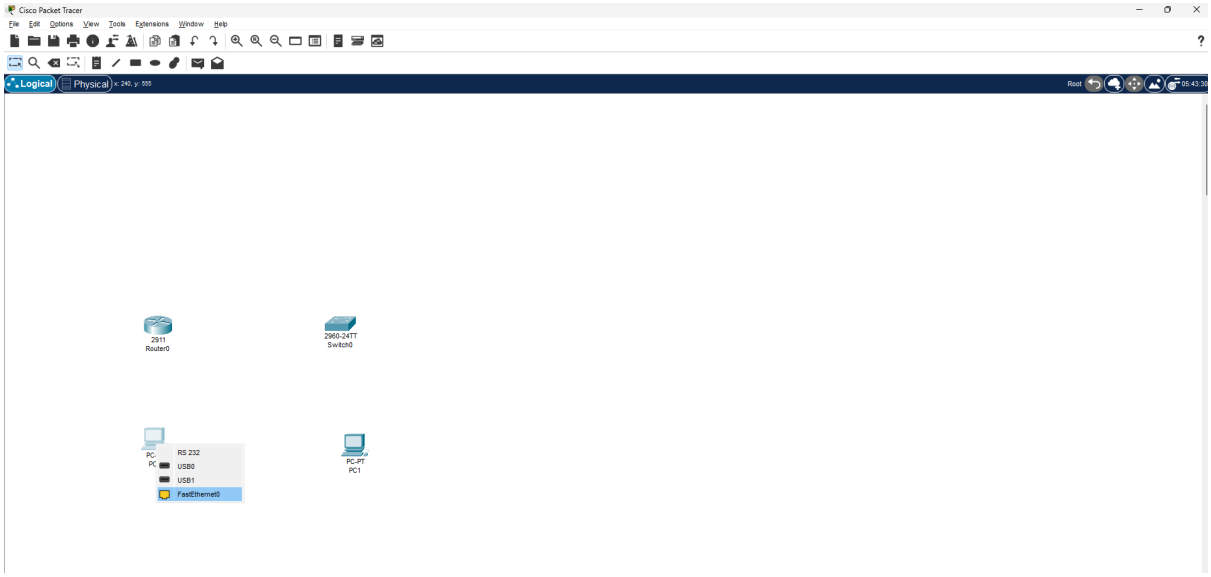
Device	Interface	IP Address	Subnet Mask	Gateway
PC0	Fa0/0	192.168.0.2	255.255.255.0	192.168.0.1
PC1	Fa0/0	192.168.1.3	255.255.255.0	192.168.1.1
Router0	Gigabit 0/0	192.168.0.1	255.255.255.0	-
	Gigabit 0/1	192.168.1.1	255.255.255.0	-
Switch	VLAN 1	192.168.1.2	255.255.255.0	192.168.1.1

Procedure:

Step 1: Drag 2 PCs , a router and a switch in the console area.

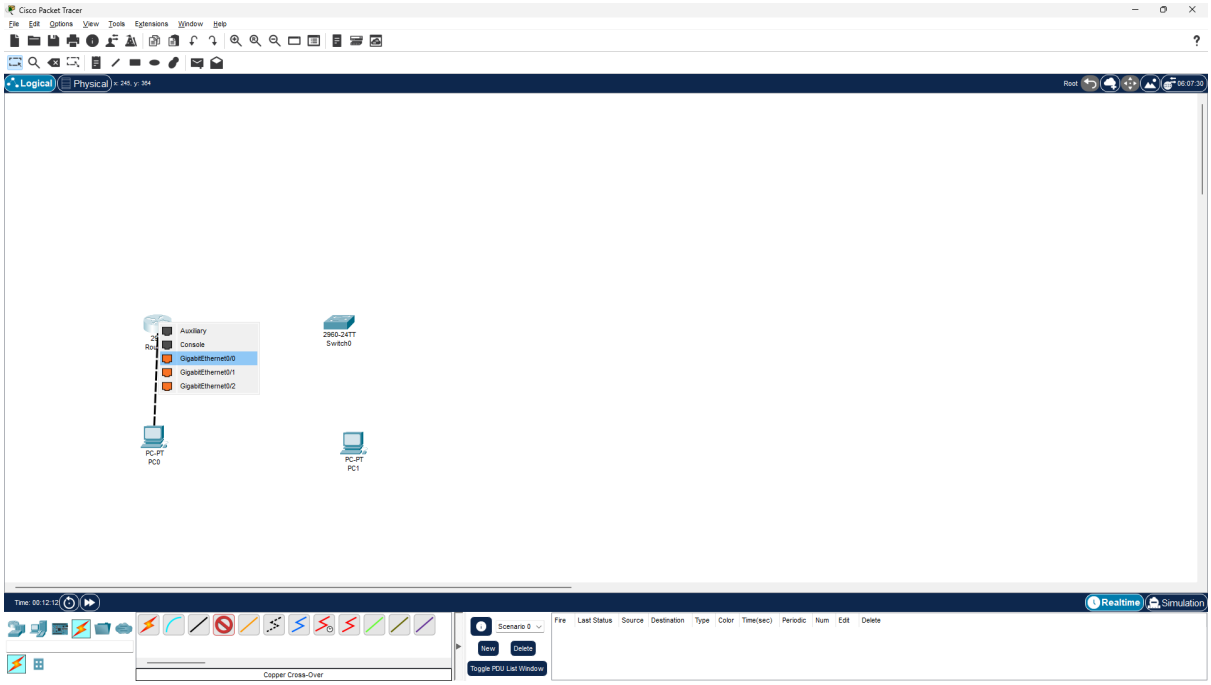


Step 2: Select Connectivity & Copper cross-over cable. Click on PC0 to get the interface options. Select Fa0/0

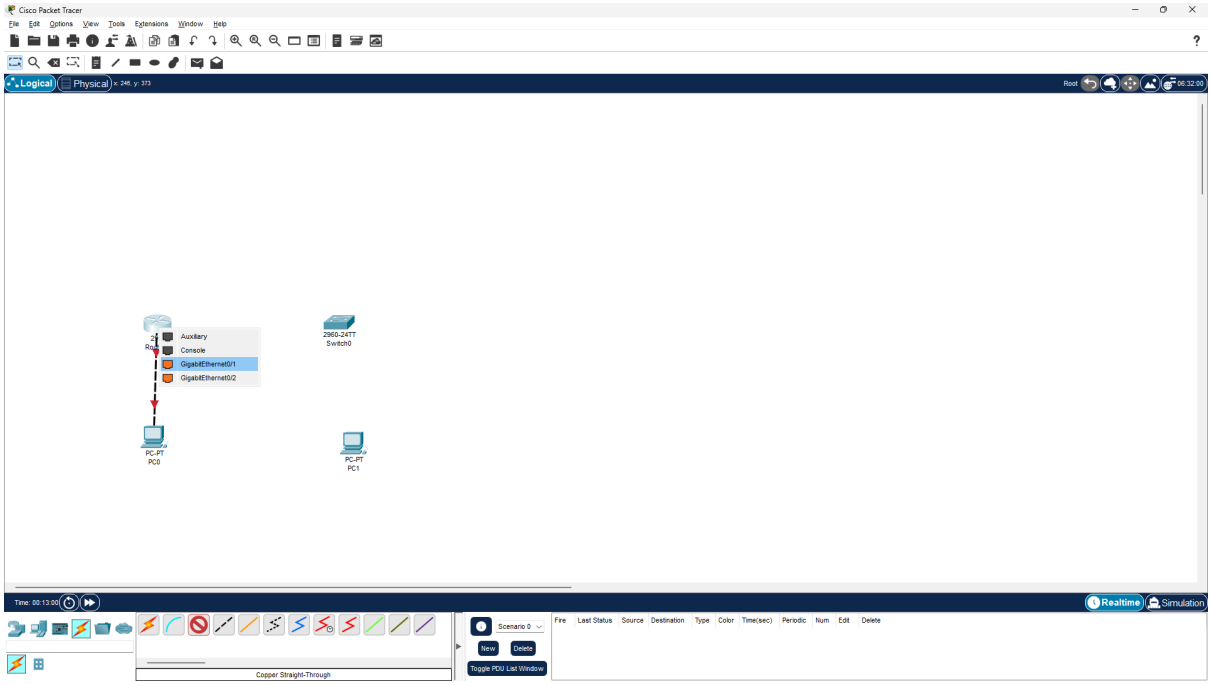


Ponnuri Aniruddha
RA2112704010015

Step 3: Click on router0 to get the interface options and select GigabitEthernet0/0.

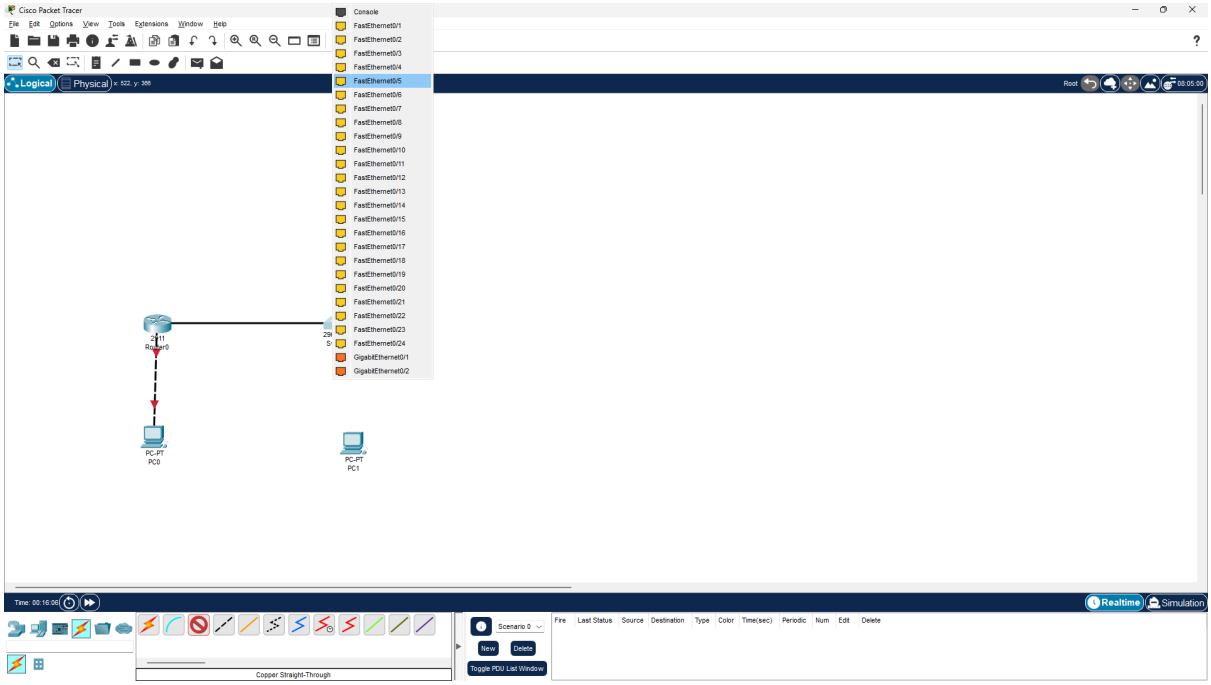


Step 4: Now PC0 and Router0 are physically connected. Again select copper Straight cable and again click on Router0 to get the interface options and select GigabitEthernet0/1.

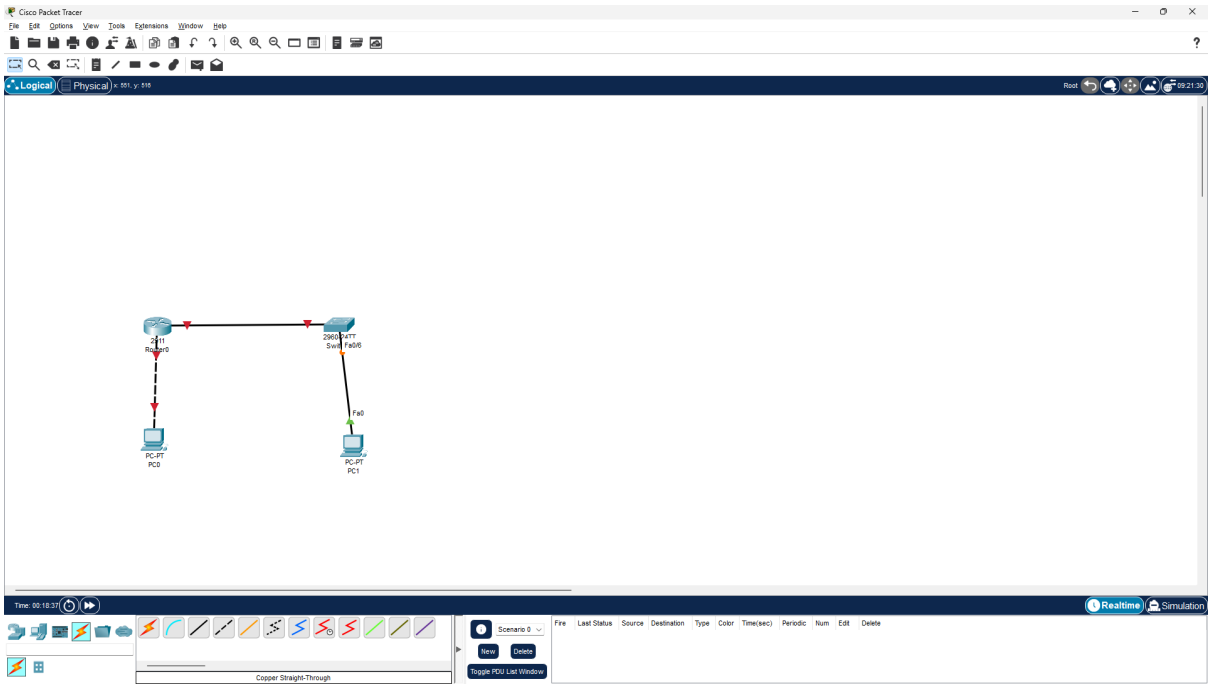


Ponnuri Aniruddha
RA2112704010015

Step 5: Click on Switch router0 to get the interface options and select FastEthernet0/5.



Step 7: Click on PC1 to get the interface options and select Fa0/0. And Connect it to FastEthernet0/6 port on the Switch similar to PC-0.

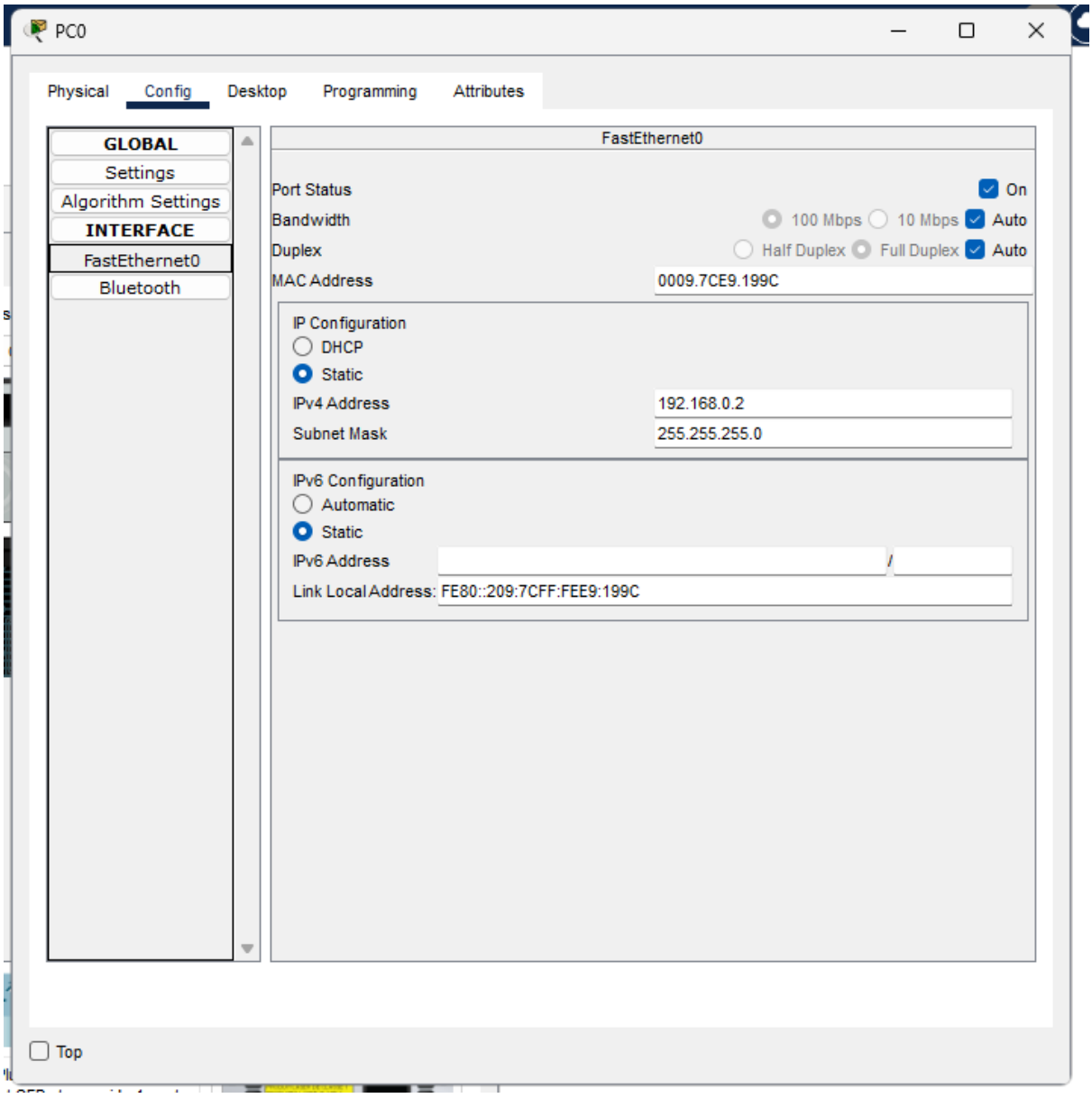


Ponnuri Aniruddha
RA2112704010015

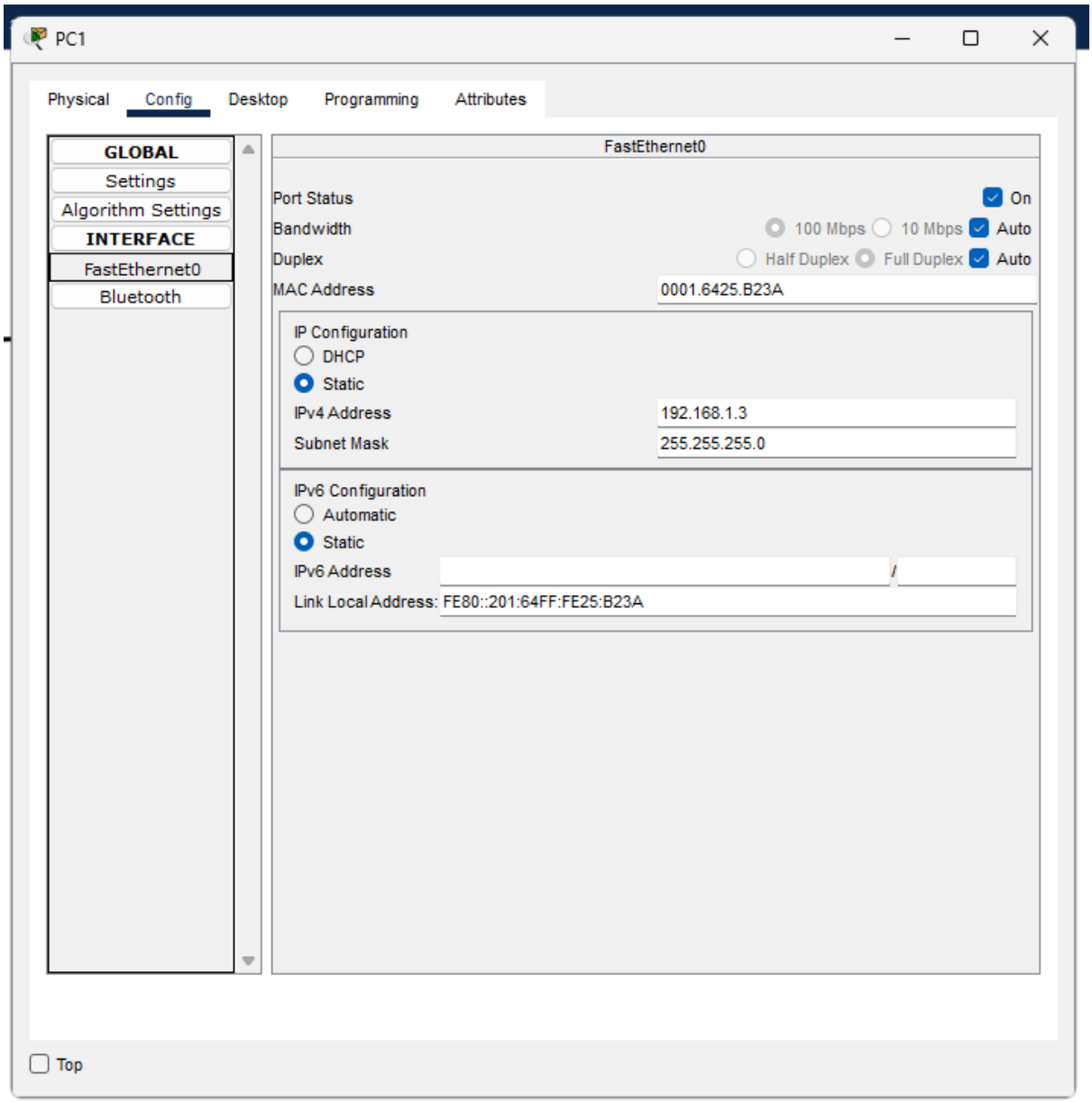
Step 8: Now the PCs are physically connected through Router and Switch.

To establish logical connectivity,

- Click on PC0.
- Select Config tab.
- Click on FastEhternet0/0 in the left pane.
- Configure the ip address 192.168.0.2 and subnet mask 255.255.255.0



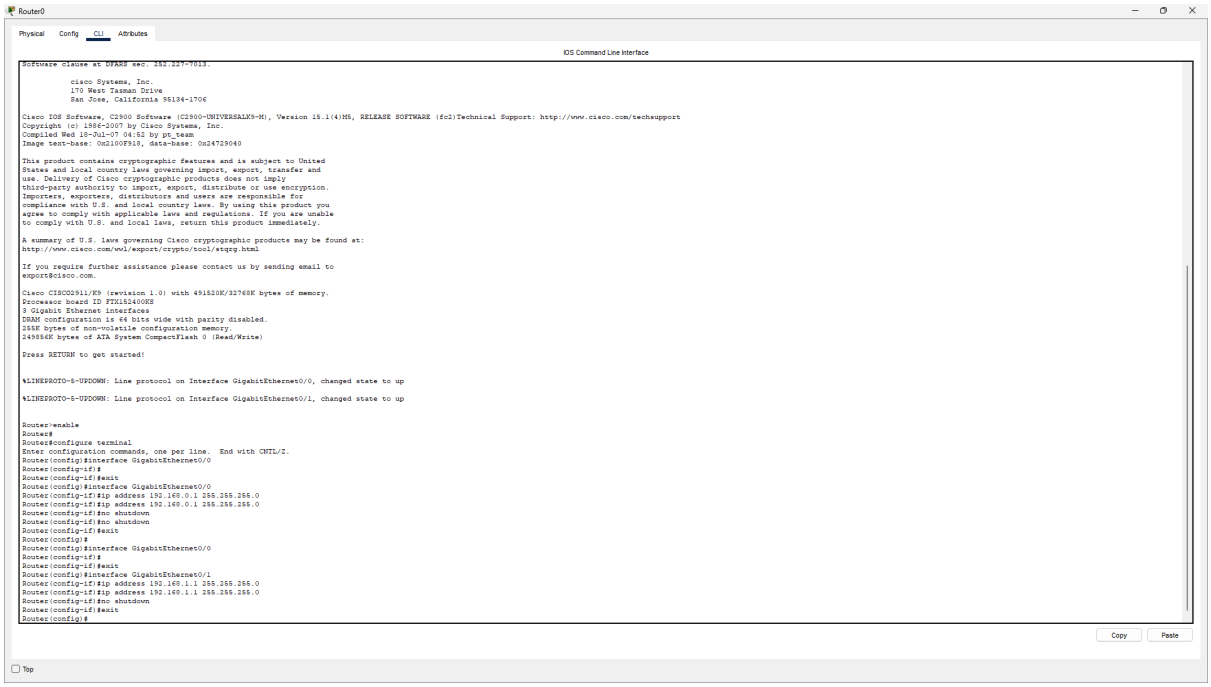
Step 9: Repeat the same procedure for PC1 and Configure the ip address 192.168.1.3 and subnet mask 255.255.255.0



Ponnuri Aniruddha
RA2112704010015

Step 10: Router configuration

- Click on Router0 and select CLI.
- Press ENTER to start configuring Router1.
- Type enable to activate the privileged mode.
- Type config t(configure terminal) to access the configuration menu.
- Configure interfaces of Router1:
- Type interface FastEthernet0/0 to access FastEthernet0/0 and Configure the FastEthernet0/0 interface with the IP address 192.168.10.1 and Subnet mask 255.255.255.0.
- Type interface FastEthernet0/1 to access GigabitEthernet0/0 and Configure the FastEthernet0/1 interface with IP address 192.168.20.1 and Subnet mask 255.255.255.0.
- Type no shutdown to finish.



Ponnuri Aniruddha
RA2112704010015

Step 11: Switch Configuration

1. Console into the switch and enable privileged EXEC mode.

    Switch> **enable**

2. Enter configuration mode.

    Switch# **config terminal**

3. Assign a device name to the switch.

    Switch(config)# **hostname S1**

4. Configure and activate the VLAN interface on the switch S1.

    S1(config)# **interface vlan 1**

    S1(config-if)# **ip address 192.168.1.2 255.255.255.0**

    S1(config-if)# **no shutdown**

    S1(config-if)# **exit**

5. Configure the default gateway for the switch S1.

    S1(config)# **ip default-gateway 192.168.1.1**

    S1(config-if)# **exit**

Switch0

Physical Config CLI Attributes

```
Processor board ID FOC1010X104
Last reset from power-on
1 Virtual Ethernet interface
24 FastEthernet interfaces
2 Gigabit Ethernet interfaces
The password-recovery mechanism is enabled.
64K bytes of flash-simulated non-volatile configuration memory.
Base ethernet MAC Address       : 00:0A:F3:50:6A:5C
Motherboard assembly number     : 73-10390-03
Power supply part number        : 341-0097-02
Motherboard serial number       : FOC10093R12
Power supply serial number      : AZS1007032H
Model revision number           : B0
Motherboard revision number     : B0
Model number                    : WS-C2960-24TT-L
System serial number            : FOC1010X104
Top Assembly Part Number        : 800-27221-02
Top Assembly Revision Number    : A0
Version ID                      : V02
CLEI Code Number                : COM3L00BRA
Hardware Board Revision Number  : 0x01

Switch Ports Model              SW Version            SW Image
------ ----- -----              ----------            ----------
*    1 26    WS-C2960-24TT-L    15.0(2)SE4            C2960-LANBASEK9-M

Cisco IOS Software, C2960 Software (C2960-LANBASEK9-M), Version 15.0(2)SE4, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2013 by Cisco Systems, Inc.
Compiled Wed 26-Jun-13 02:49 by mnguyen



Press RETURN to get started!


%LINK-5-CHANGED: Interface FastEthernet0/5, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up

%LINK-5-CHANGED: Interface FastEthernet0/6, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/6, changed state to up


S1>
S1>
S1>
S1>
S1>enable
S1#config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
S1(config)#hostname S1
S1(config)#interface vlan1
S1(config-if)#ip address 192.168.1.2 255.255.255.0
S1(config-if)#no shutdown
S1(config-if)#exit
S1(config)#ip default-gateway 192.168.1.1
S1(config)#exit
S1#
%SYS-5-CONFIG_I: Configured from console by console
```

Top

Ponnuri Aniruddha
RA2112704010015

Step 12: Now both the PCs are physically and logically connected. To check the logical connectivity,

- Click on PC1.
- Select Desktop tab.
- Click on Command Prompt icon.
- Type ping 192.168.0.2 to fetch the output as follows