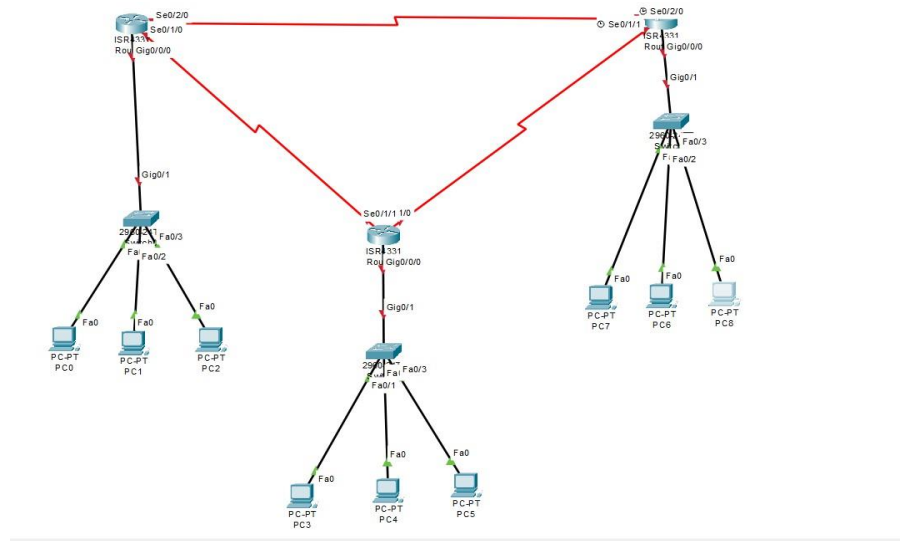
 <b>Marwadi University</b> Marwadi Chandarana Group	<b>Marwadi University</b> <b>Faculty of Engineering and Technology</b> <b>Department of Information and Communication Technology</b>	
<b>Subject: Computer Networks (01CT0503)</b>	<b>Aim: Perform dynamic routing protocol (RIP) and analyze the results.</b>	
<b>Experiment No: 06</b>	<b>Date: 01-08-2024</b>	<b>Enrolment No: 92200133021</b>


**Aim:** Perform dynamic routing protocol (RIP) and analyze the results.

First, connect each pc to a switch. This lets the PCs communicate locally within their own network. Routers need to communicate using Serial Cables, but they don't support them directly. To fix this, we add a NIM-2T module to each router, which provides two serial ports for connecting the routers with serial cables.



Now write the commands in the CLI. Make sure to use no shut to enable each interface, making the port logically "up."

So in each router, go to the Config section, then select RIP to enable the Routing Information Protocol.

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PC4

Physical Config Desktop Programming Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth


FastEthernet0

Port Status ☒ On  
Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto  
Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto  
MAC Address 0001.9732.E02E

IP Configuration  
☐ DHCP  
☒ Static  
IPv4 Address 11.0.0.3  
Subnet Mask 255.0.0.0

IPv6 Configuration  
☐ Automatic  
☒ Static  
IPv6 Address   
Link Local Address: FE80::201:97FF:FE32:E02E

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<b>Subject: Computer Networks (01CT0503)</b>	<b>Aim: Perform dynamic routing protocol (RIP) and analyze the results.</b>	
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Router0

Physical **Config** CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0/0

GigabitEthernet0/0/1

GigabitEthernet0/0/2

Serial0/1/0

Serial0/1/1

Serial0/2/0

Serial0/2/1

GigabitEthernet0/0/0

Port Status ☒ On

Bandwidth ☒ 1000 Mbps ☐ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0001:9697:1A01

IP Configuration

IPv4 Address 10.0.0.1

Subnet Mask 255.0.0.0

Tx Ring Limit 10

Equivalent IOS Commands


```

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed
state to up

Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
          
```

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```

Physical  Config  CLI  Attributes
IOS Command Line Interface

4194304K bytes of physical memory.
3207167K bytes of flash memory at bootflash:.
0K bytes of WebUI ODM Files at webui:.

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]:

Press RETURN to get started!

Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#no ip address
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up


%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed
state to up

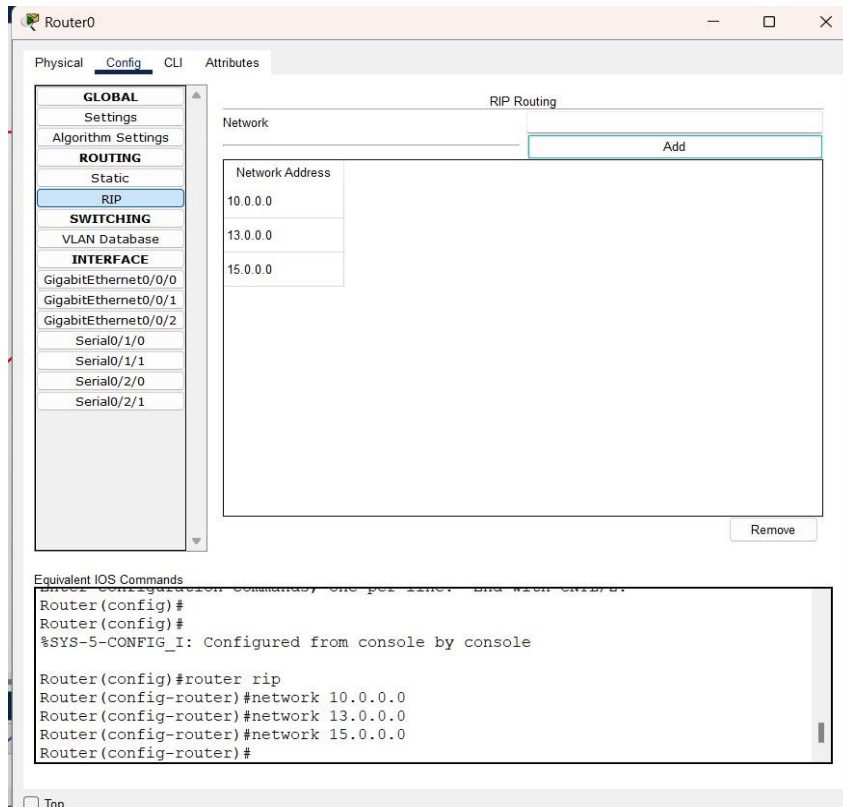
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#

```


So after doing these now its time to add the networks that the router is directly connected to. For example, if Router 1 is connected to networks 10.0.0.0, 13.0.0.0, and 15.0.0.0, add each network by typing it into the field and clicking Add.

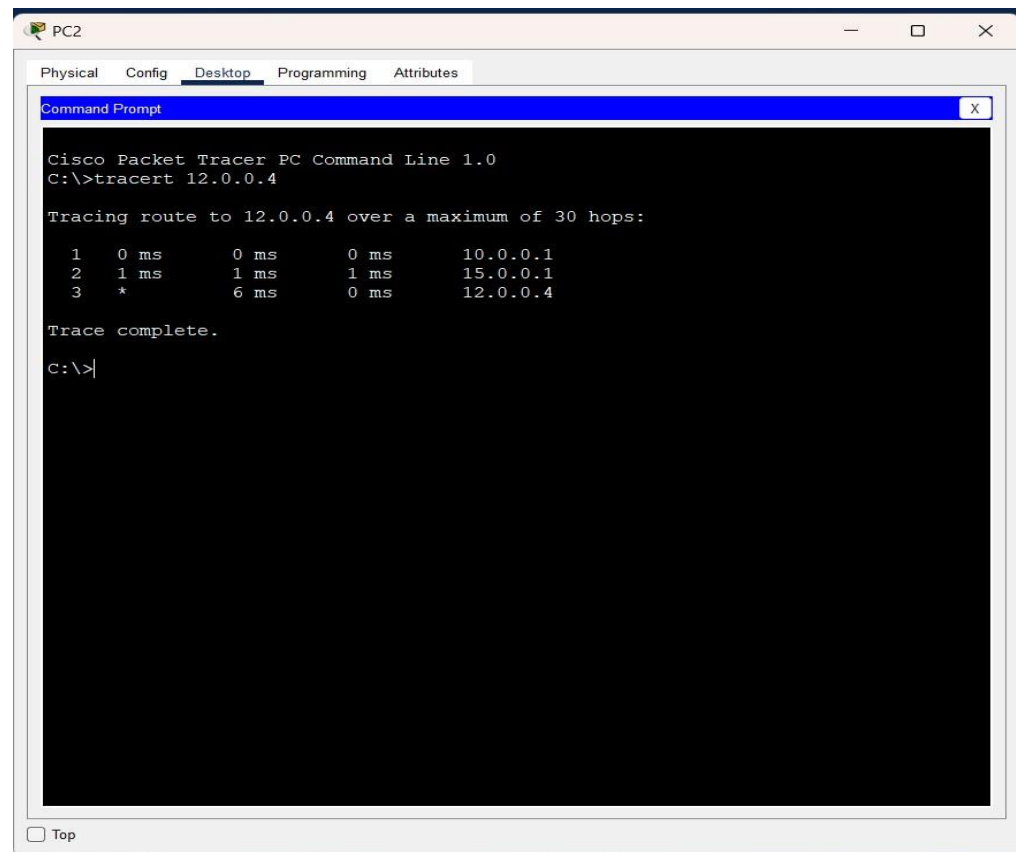
To confirm everything is connected, you can trace routes between devices. Open the Command Prompt on any PC and use the command.

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Now since everything is done let's check and trace the route to a device in the 12.0.0.0 network to confirm that routing is working correctly.

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```

PC2
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>tracert 12.0.0.4

Tracing route to 12.0.0.4 over a maximum of 30 hops:

 1  0 ms    0 ms    0 ms    10.0.0.1
 2  1 ms    1 ms    1 ms    15.0.0.1
 3  *        6 ms    0 ms    12.0.0.4

Trace complete.
C:\>

```

And RIP has given us the route to that device.

**Conclusion:** This RIP experiment demonstrated basic dynamic routing, enabling successful connectivity between network segments. RIP allows routers to automatically learn and share routes without complex setup. Using serial cables with routers requires adding compatible modules (like NIM-2T) to support the connection type.