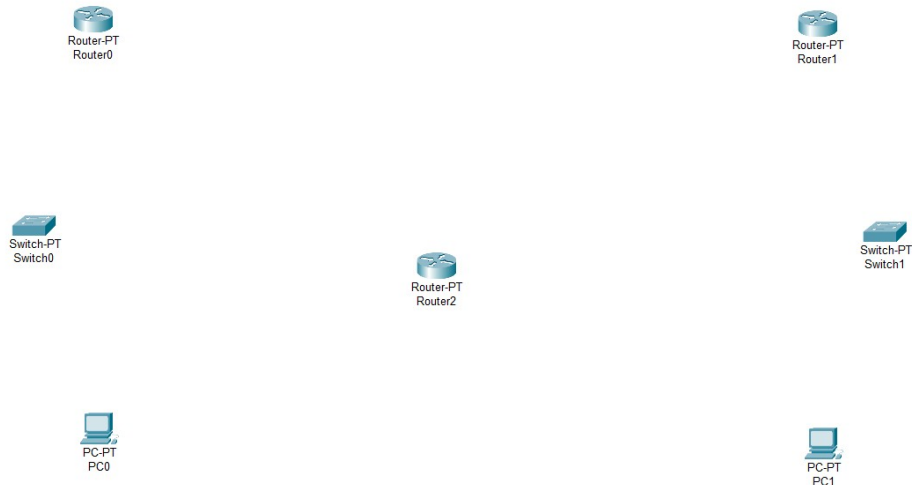


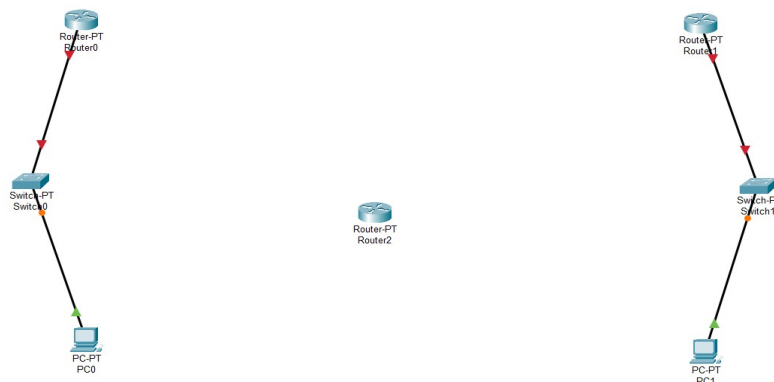
# RIP Dynamic Routing

Step 1: Arrange the components as shown in the picture.

---



Step 2 : Connect the pc , switch and the router using the “copper straight through” (black) wire



Step 3 : Connect all three routers using the serial DTE (red) via series.

Step 4 : Configure the PC0 as shown in the picture

The screenshot shows the configuration window for PC0. The 'Desktop' tab is selected. The 'IP Configuration' section is expanded, showing the 'FastEthernet0' interface. The 'IP Configuration' section has two radio buttons: 'DHCP' (unselected) and 'Static' (selected). The 'Static' configuration includes the following fields:

Field	Value
IPv4 Address	10.10.10.2
Subnet Mask	255.0.0.0
Default Gateway	10.10.10.1
DNS Server	0.0.0.0

The 'IPv6 Configuration' section also has two radio buttons: 'Automatic' (unselected) and 'Static' (selected). The 'Static' configuration includes the following fields:

Field	Value
IPv6 Address	
Link Local Address	FE80::202:17FF:FECC:A1DC
Default Gateway	
DNS Server	

The '802.1X' section is also visible, with the 'Use 802.1X Security' checkbox unchecked. The 'Authentication' dropdown is set to 'MD5'. The 'Username' and 'Password' fields are empty.

Step 5 : Configure the PC1 as shown in the picture

The screenshot shows the configuration window for PC1. The 'Desktop' tab is selected. The 'IP Configuration' section is expanded, showing the 'FastEthernet0' interface. The 'IP Configuration' section has two radio buttons: 'DHCP' (unselected) and 'Static' (selected). The 'Static' configuration includes the following fields:

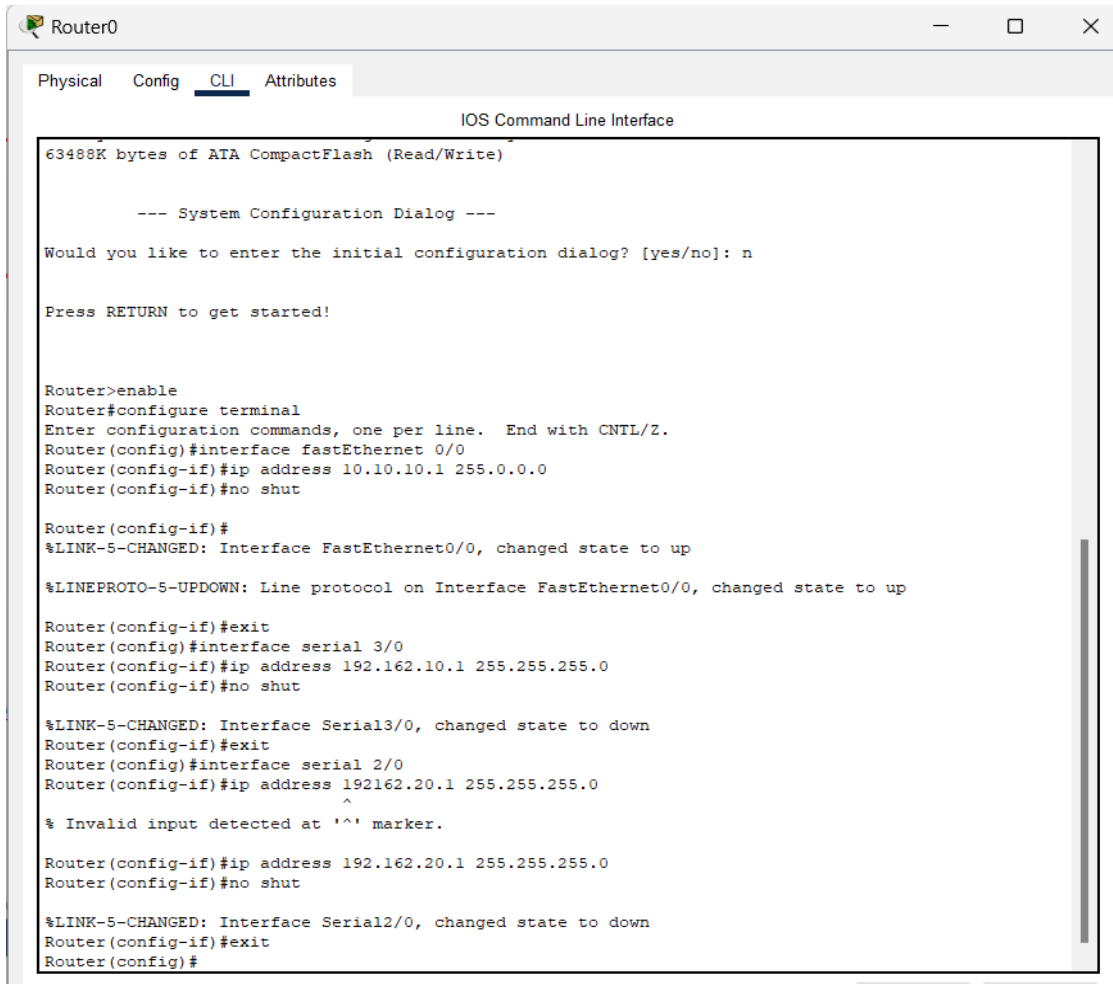
Field	Value
IPv4 Address	20.20.20.2
Subnet Mask	255.0.0.0
Default Gateway	20.20.20.1
DNS Server	0.0.0.0

The 'IPv6 Configuration' section also has two radio buttons: 'Automatic' (unselected) and 'Static' (selected). The 'Static' configuration includes the following fields:

Field	Value
IPv6 Address	
Link Local Address	FE80::201:43FF:FEC9:5C23
Default Gateway	
DNS Server	

The '802.1X' section is also visible, with the 'Use 802.1X Security' checkbox unchecked. The 'Authentication' dropdown is set to 'MD5'. The 'Username' and 'Password' fields are empty.

Step 6 :Follow all the steps as shown in the picture  
In router 0



The screenshot shows the Router0 CLI interface with the following text:

```
Router0
Physical Config CLI Attributes
IOS Command Line Interface
63488K bytes of ATA CompactFlash (Read/Write)

--- System Configuration Dialog ---

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

Press RETURN to get started!

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 10.10.10.1 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

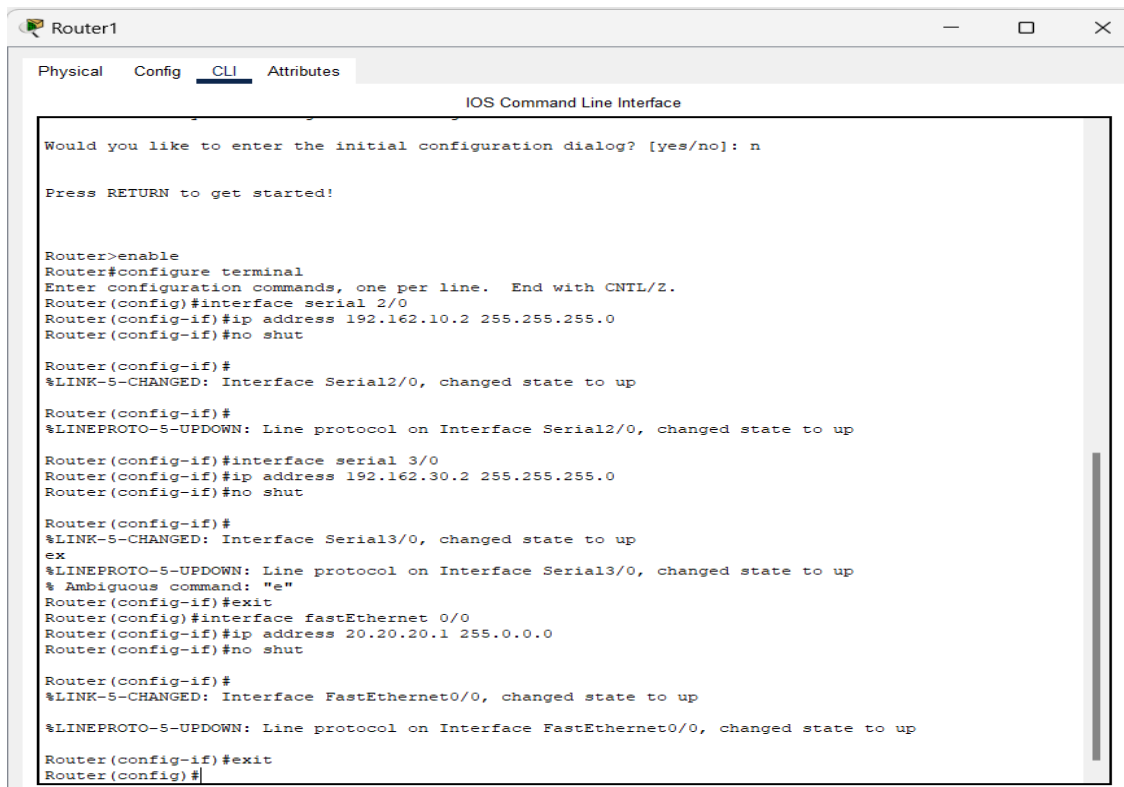
Router(config-if)#exit
Router(config)#interface serial 3/0
Router(config-if)#ip address 192.162.10.1 255.255.255.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#exit
Router(config)#interface serial 2/0
Router(config-if)#ip address 192.162.20.1 255.255.255.0
^
% Invalid input detected at '^' marker.

Router(config-if)#ip address 192.162.20.1 255.255.255.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#exit
Router(config)#
```

Step 7 :Follow all the steps as shown in the picture  
In router 1



Router1

Physical Config CLI Attributes

IOS Command Line Interface

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

Press RETURN to get started!

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface serial 2/0
Router(config-if)#ip address 192.162.10.2 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#interface serial 3/0
Router(config-if)#ip address 192.162.30.2 255.255.255.0
Router(config-if)#no shut

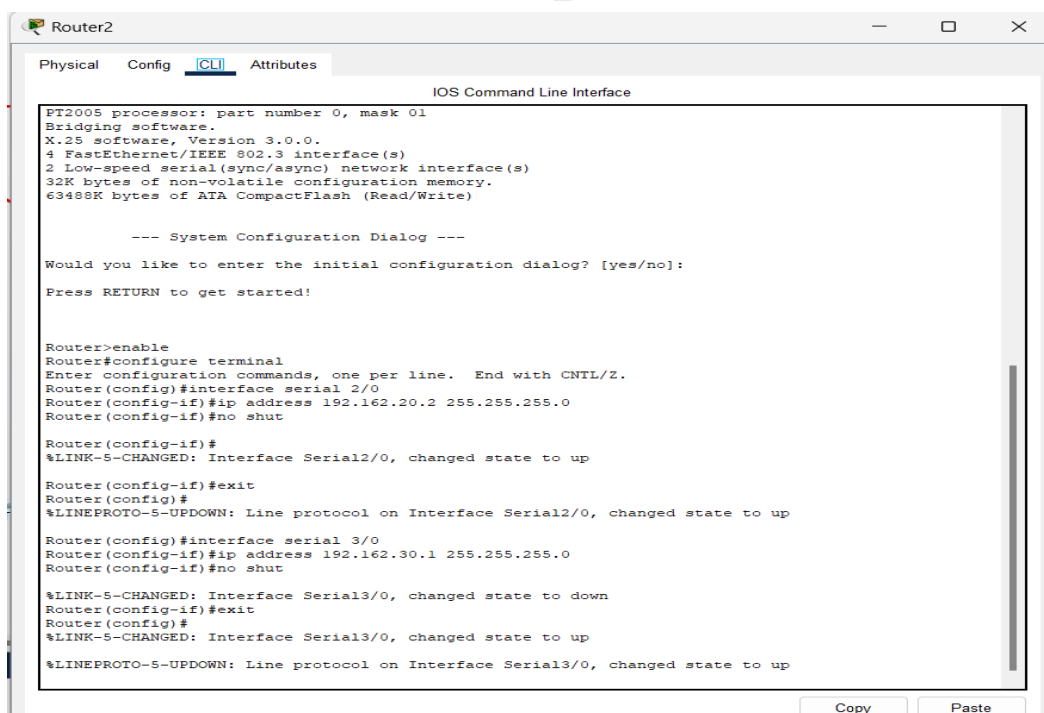
Router(config-if)#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up
ex
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up
% Ambiguous command: "e"
Router(config-if)#exit
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 20.20.20.1 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#
```

Step 8 :Follow all the steps as shown in the picture  
In router 2



Router2

Physical Config CLI Attributes

IOS Command Line Interface

```
FT200S processor: part number 0, mask 01
Bridging software.
X.25 software, Version 3.0.0.
4 FastEthernet/IEEE 802.3 interface(s)
2 Low-speed serial(sync/async) network interface(s)
32K bytes of non-volatile configuration memory.
63488K bytes of ATA CompactFlash (Read/Write)

--- System Configuration Dialog ---

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

Press RETURN to get started!

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface serial 2/0
Router(config-if)#ip address 192.162.20.2 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#exit
Router(config)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

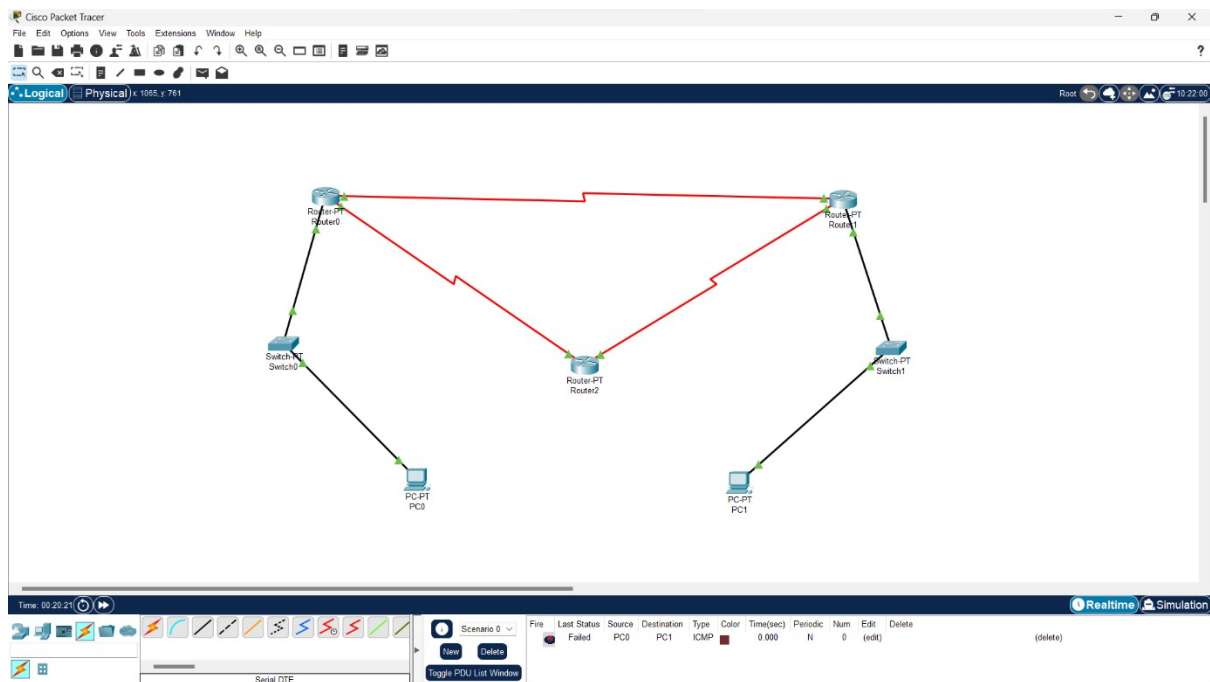
Router(config)#interface serial 3/0
Router(config-if)#ip address 192.162.30.1 255.255.255.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#exit
Router(config)#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up
```

Copy Paste

Step 9 : After doing all those steps above , it should be like this below , now , click the message icon which is below the undo button and click on PC0. A message box icon appears on top of the PC0 . Now click on PC1 with the same cursor.



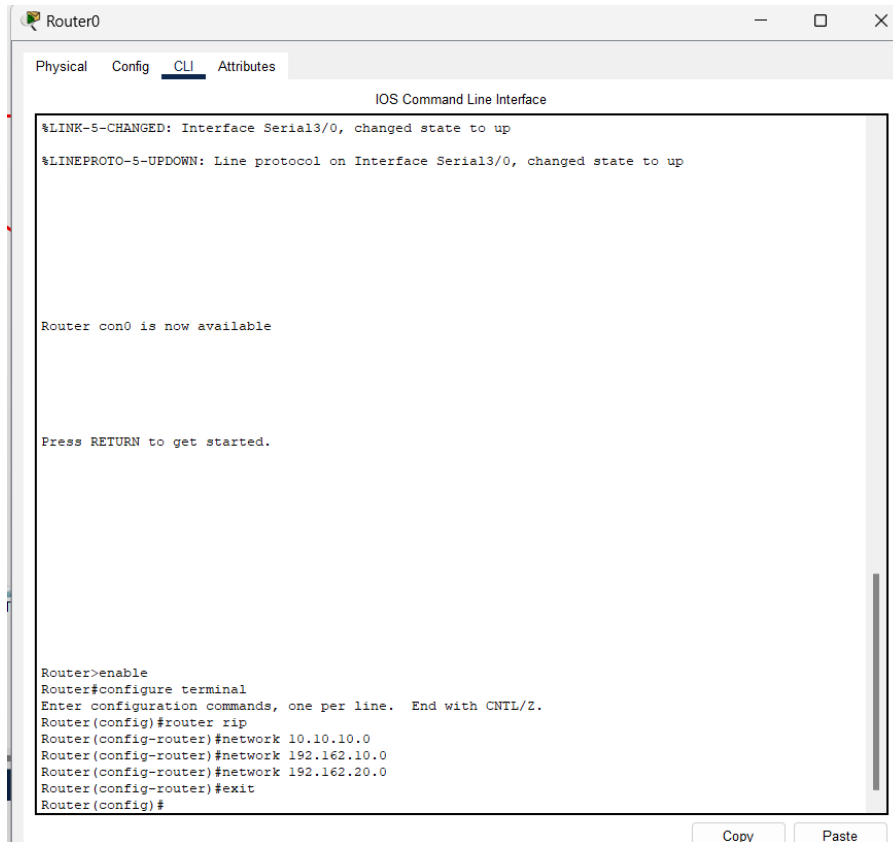
**IT SHOULD FAIL**

Reason : The router should know each other but at this point , the router doesn't know each other.

This is when RIP(dynamic routing) comes into action. It introduces the other two routers and their destinations.

[it indicates failed in the bottom right corner of the app]

Step 10 : Use router rip for router 0 using the command shown in the picture



The screenshot shows the Router0 CLI interface with the following text:

```
Router0
Physical Config CLI Attributes
IOS Command Line Interface

%LINK-5-CHANGED: Interface Serial3/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

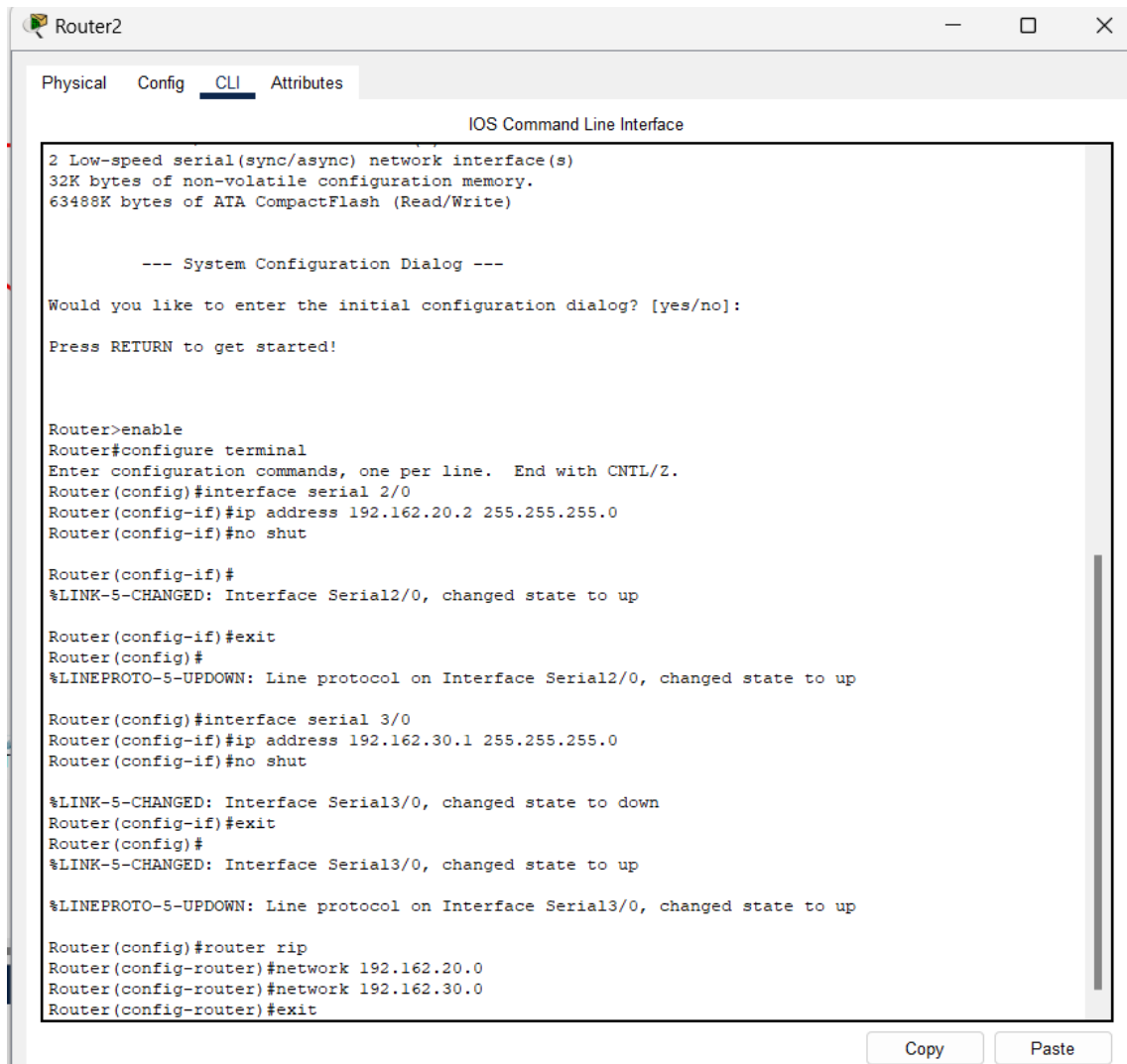
Router con0 is now available

Press RETURN to get started.

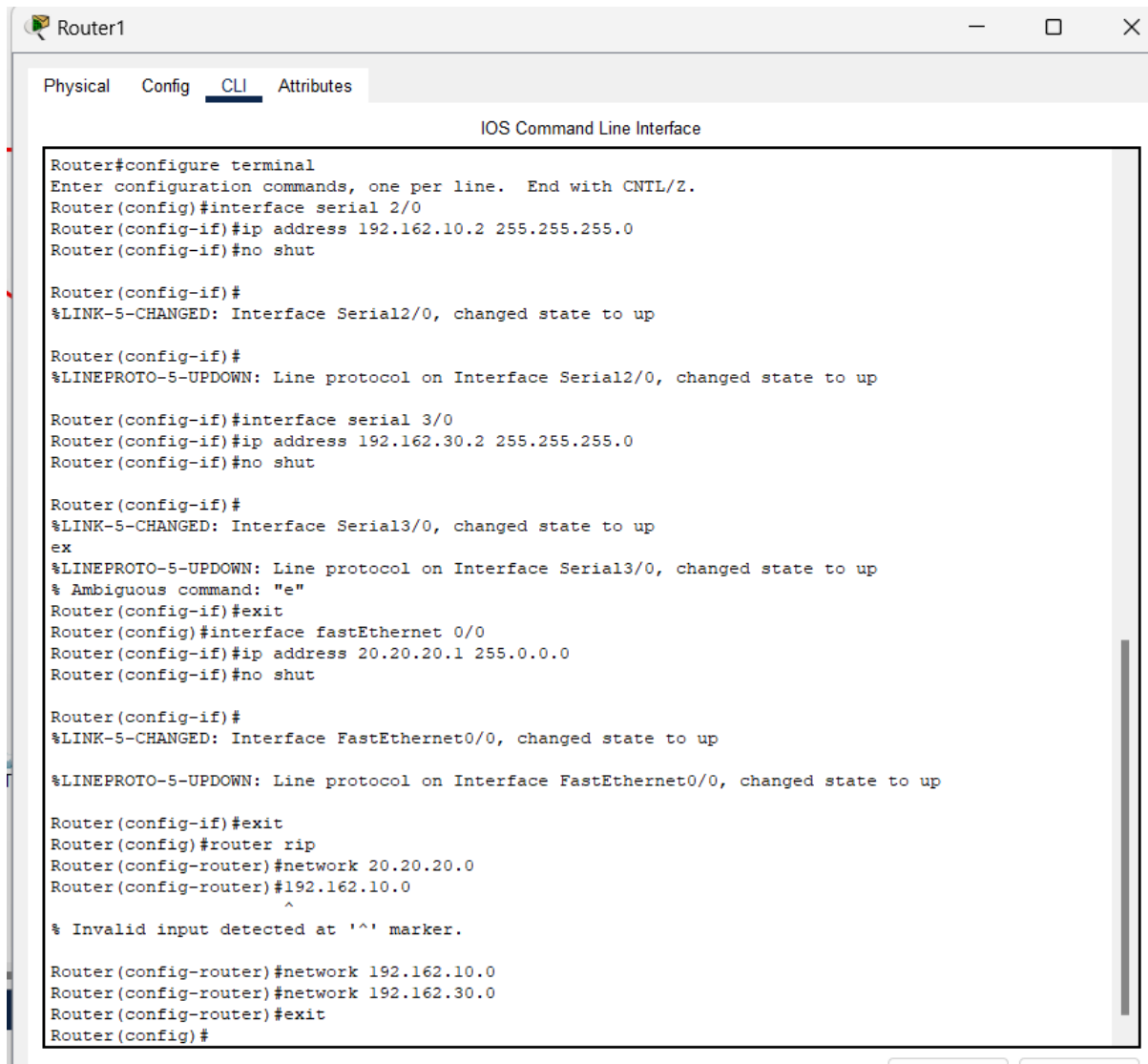
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 10.10.10.0
Router(config-router)#network 192.162.10.0
Router(config-router)#network 192.162.20.0
Router(config-router)#exit
Router(config)#
```

At the bottom of the window, there are 'Copy' and 'Paste' buttons.

Step 11 : Use router rip for router 2 using the command shown in the picture



Step 12 : Use router rip for router 1 using the command shown in the picture



```
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface serial 2/0
Router(config-if)#ip address 192.162.10.2 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#interface serial 3/0
Router(config-if)#ip address 192.162.30.2 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up
ex
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up
% Ambiguous command: "e"
Router(config-if)#exit
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 20.20.20.1 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

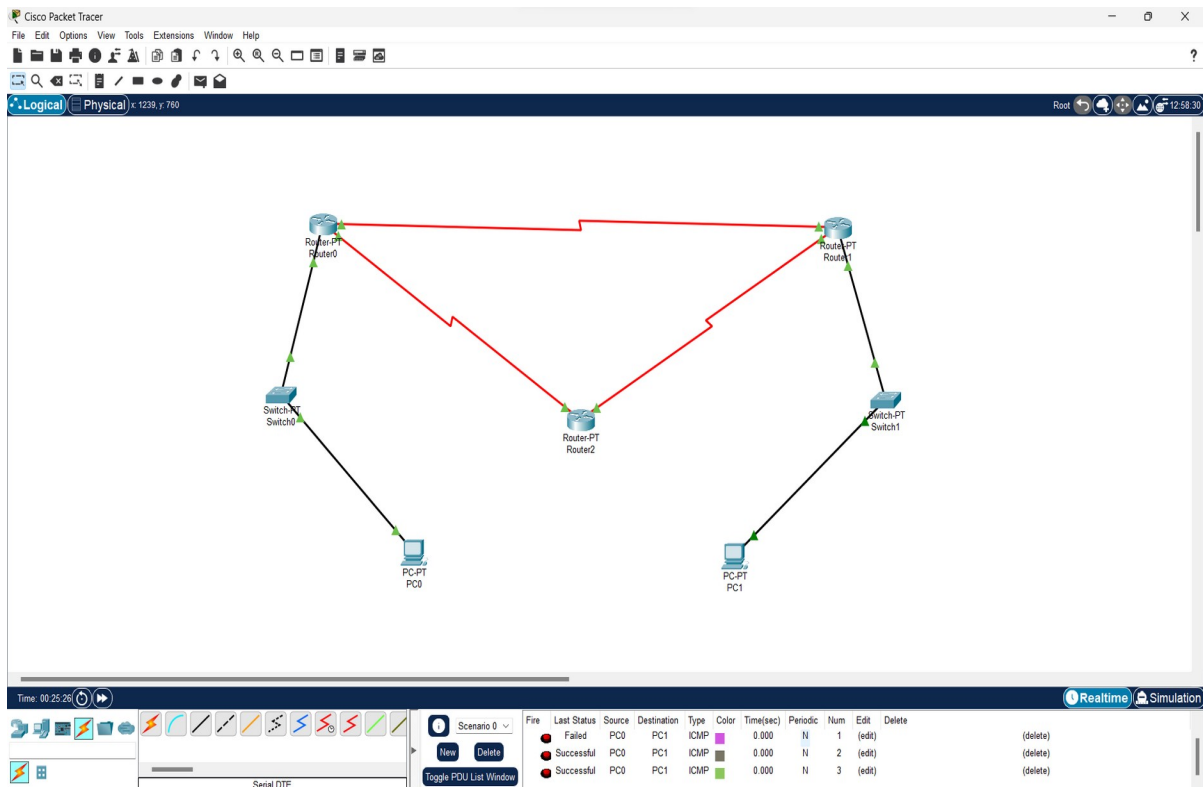
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 20.20.20.0
Router(config-router)#192.162.10.0
^
% Invalid input detected at '^' marker.

Router(config-router)#network 192.162.10.0
Router(config-router)#network 192.162.30.0
Router(config-router)#exit
Router(config)#
```

Now repeat the message step and it should be successful





tucy032

It should be something like this.