

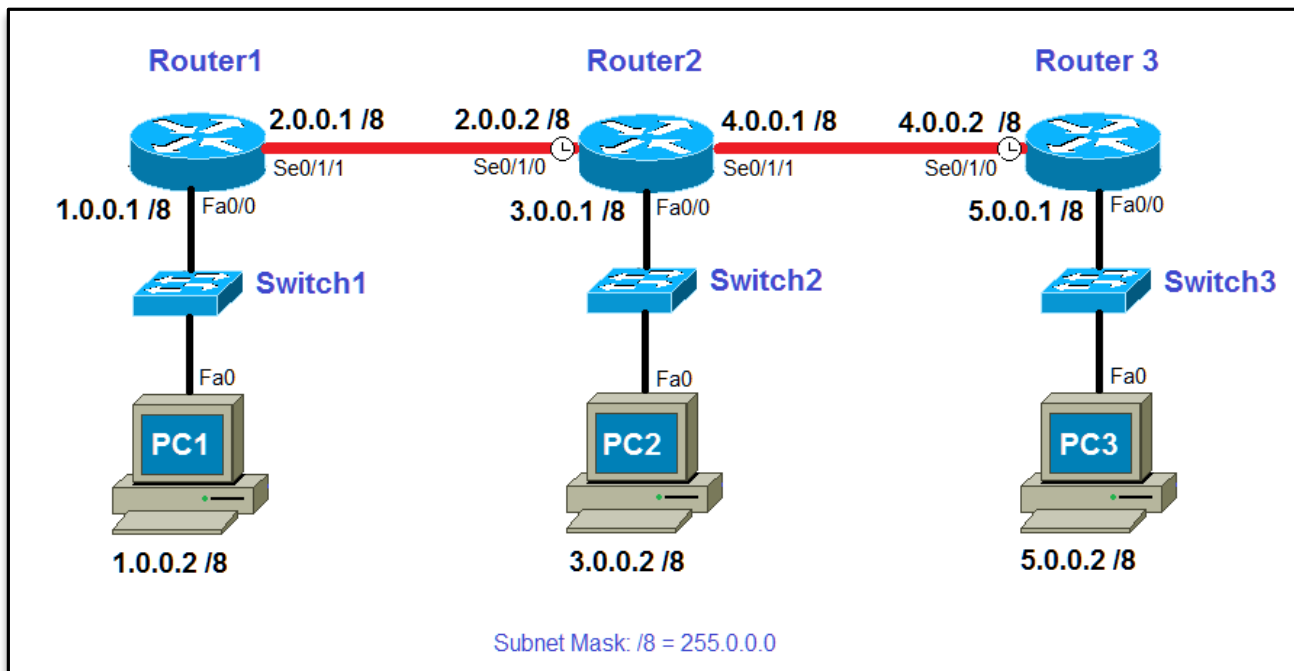
## Packet Tracer Mini-Lab 12: Supplement

### Setting Up RIP Routing Using 3 Routers

**CAVEAT:** THE LABS IN CC2-180 MAY NOT WORK ENTIRELY AS PLANNED. WE WILL BE UTILIZING BOTH A SERVER 2012 R2 HOST PC AND VIRTUAL MACHINES (VMs) ON THE HOST PC, IN WHICH CASE THERE MAY BE UNFORESEEN ISSUES. AS SUCH WE WILL LIKELY GET SOME UNEXPECTED 'REAL WORLD' TROUBLESHOOTING PRACTICE AND MAY EVEN HAVE TO "WING IT"

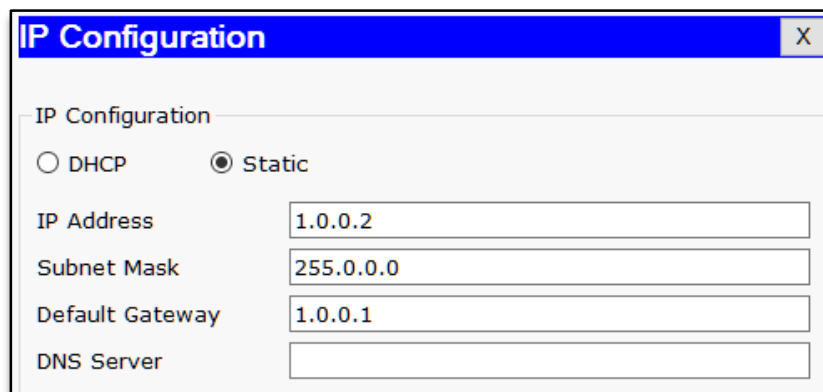
### Mini-Lab 12 Objective

The lab provides further practice in a simulated environment using Cisco's Packet Tracer application.



1. Create three small **networks** using **3 PC** hosts, **3 Switches**, and **3 Routers** connected with **6 copper straight-through** cables, and **2 serial cables** (DCE on the right-hand side). **WIC-2T** modules added to the routers for the serial connections. Router **host names** are to be set the same as the display names (**Router1, Router2, Router3**).

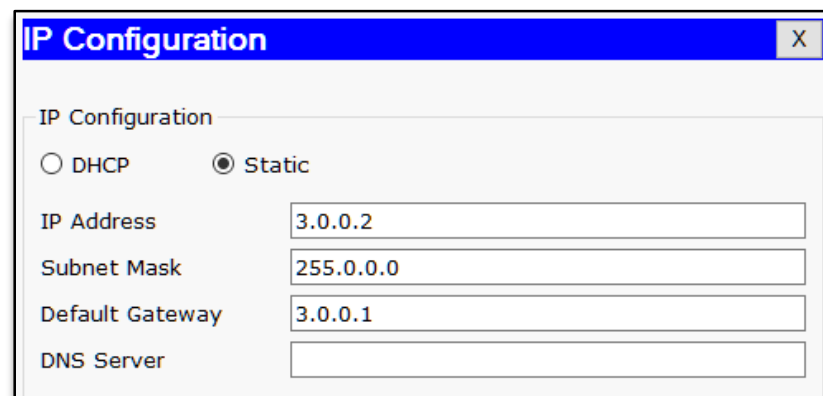
2. Select **PC1**, then **Desktop** tab, then **IP Configuration** and give it the following **address information**:



The screenshot shows the 'IP Configuration' dialog box for PC1. The 'Static' radio button is selected. The IP Address is 1.0.0.2, Subnet Mask is 255.0.0.0, and Default Gateway is 1.0.0.1. The DNS Server field is empty.

Field	Value
IP Address	1.0.0.2
Subnet Mask	255.0.0.0
Default Gateway	1.0.0.1
DNS Server	

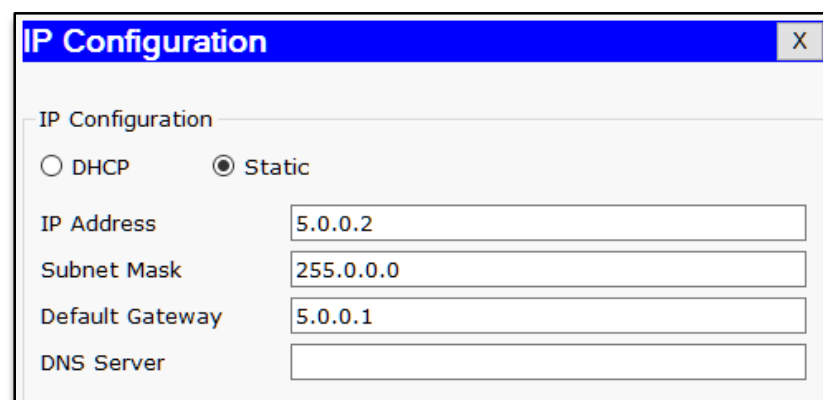
3. Select **PC2**, then **Desktop** tab, then **IP Configuration** and give it the following **address information**:



The screenshot shows the 'IP Configuration' dialog box for PC2. The 'Static' radio button is selected. The IP Address is 3.0.0.2, Subnet Mask is 255.0.0.0, and Default Gateway is 3.0.0.1. The DNS Server field is empty.

Field	Value
IP Address	3.0.0.2
Subnet Mask	255.0.0.0
Default Gateway	3.0.0.1
DNS Server	

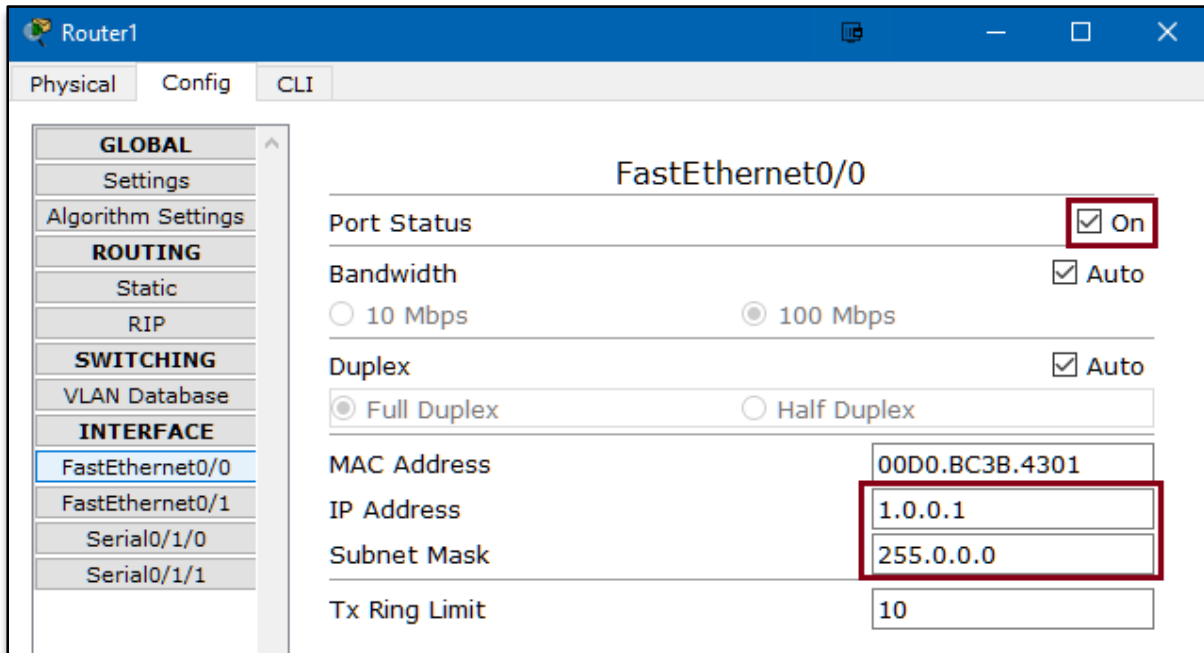
4. Select **PC3**, then **Desktop** tab, then **IP Configuration** and give it the following **address information**:



The screenshot shows the 'IP Configuration' dialog box for PC3. The 'Static' radio button is selected. The IP Address is 5.0.0.2, Subnet Mask is 255.0.0.0, and Default Gateway is 5.0.0.1. The DNS Server field is empty.

Field	Value
IP Address	5.0.0.2
Subnet Mask	255.0.0.0
Default Gateway	5.0.0.1
DNS Server	

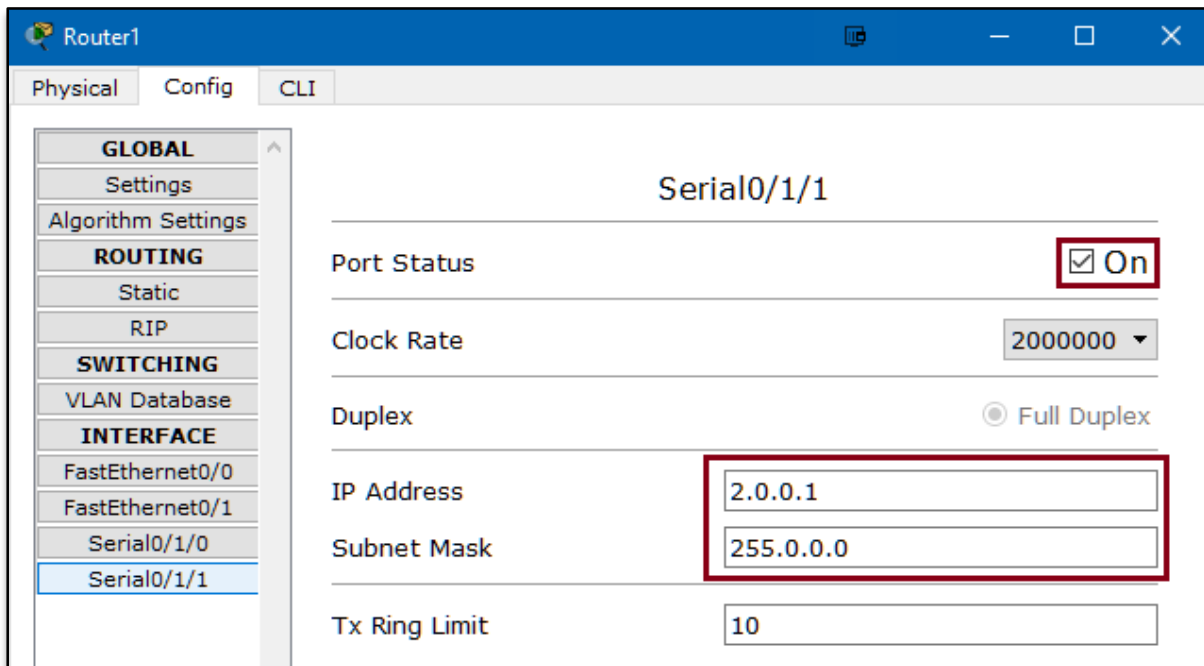
5. Select **Router1**, select **Config** tab, then **FastEthernet0/0** and set up as the following:



The screenshot shows the configuration page for the FastEthernet0/0 interface on Router1. The interface is currently selected in the left-hand menu. The configuration fields are as follows:

Field	Value
Port Status	<input checked="" type="checkbox"/> On
Bandwidth	<input checked="" type="checkbox"/> Auto
Speed	<input type="radio"/> 10 Mbps <input checked="" type="radio"/> 100 Mbps
Duplex	<input checked="" type="checkbox"/> Auto
Duplex Mode	<input checked="" type="radio"/> Full Duplex <input type="radio"/> Half Duplex
MAC Address	00D0.BC3B.4301
IP Address	1.0.0.1
Subnet Mask	255.0.0.0
Tx Ring Limit	10

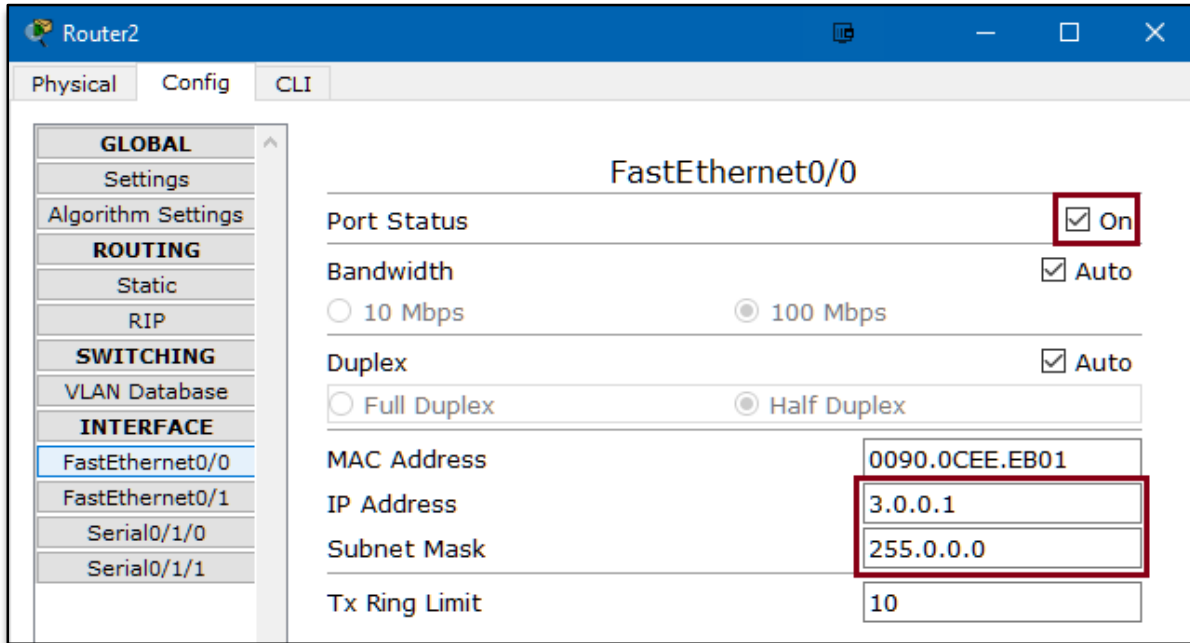
6. Next, select **Serial0/1/1** and set up as the following:



The screenshot shows the configuration page for the Serial0/1/1 interface on Router1. The interface is currently selected in the left-hand menu. The configuration fields are as follows:

Field	Value
Port Status	<input checked="" type="checkbox"/> On
Clock Rate	2000000
Duplex	<input checked="" type="radio"/> Full Duplex
IP Address	2.0.0.1
Subnet Mask	255.0.0.0
Tx Ring Limit	10

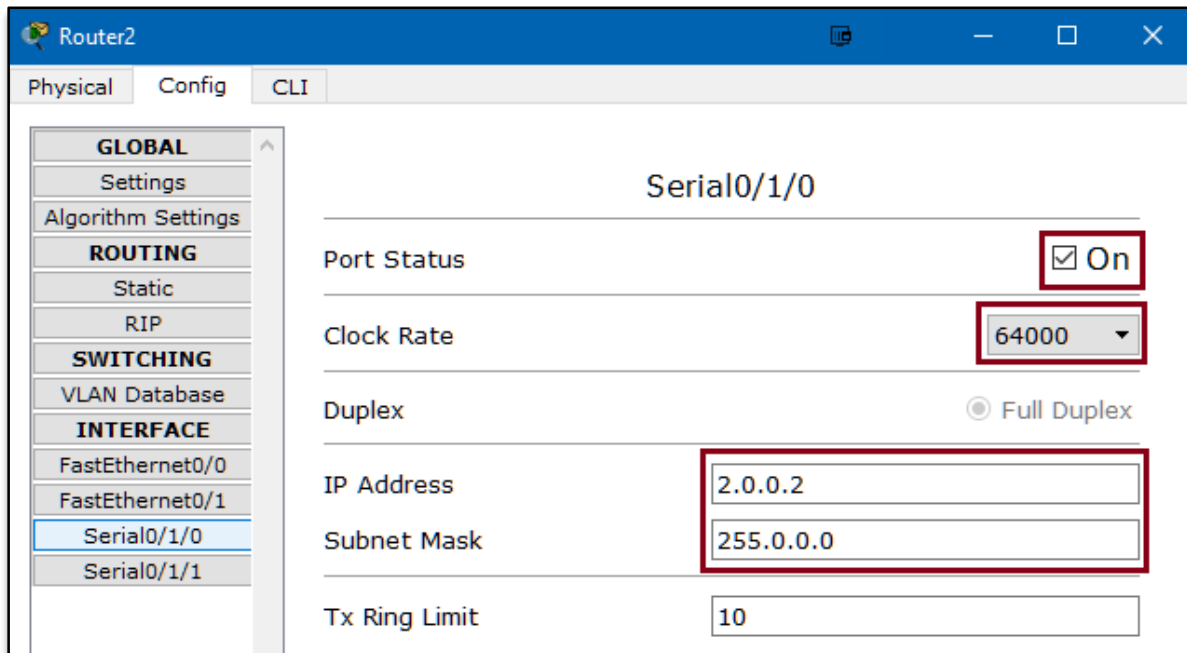
7. Select **Router2**, then the **Config** tab, then **FastEthernet0/0** and set up as the following:



The screenshot shows the configuration page for the FastEthernet0/0 interface on Router2. The interface is currently set to 'On'. The bandwidth is set to 'Auto' (100 Mbps). The duplex is set to 'Auto' (Half Duplex). The MAC address is 0090.0CEE.EB01. The IP address is 3.0.0.1 and the subnet mask is 255.0.0.0. The Tx Ring Limit is 10.

Parameter	Value
Port Status	<input checked="" type="checkbox"/> On
Bandwidth	<input checked="" type="checkbox"/> Auto
Duplex	<input checked="" type="checkbox"/> Auto
MAC Address	0090.0CEE.EB01
IP Address	3.0.0.1
Subnet Mask	255.0.0.0
Tx Ring Limit	10

8. Next, select **Serial0/1/0** and set up as the following:



The screenshot shows the configuration page for the Serial0/1/0 interface on Router2. The interface is currently set to 'On'. The clock rate is set to 64000. The duplex is set to 'Full Duplex'. The IP address is 2.0.0.2 and the subnet mask is 255.0.0.0. The Tx Ring Limit is 10.

Parameter	Value
Port Status	<input checked="" type="checkbox"/> On
Clock Rate	64000
Duplex	<input checked="" type="radio"/> Full Duplex
IP Address	2.0.0.2
Subnet Mask	255.0.0.0
Tx Ring Limit	10

9. Next, select **Serial0/1/1** and set up as the following:

The screenshot shows the configuration page for the Serial0/1/1 interface on Router2. The interface is selected in the left-hand menu. The configuration fields are as follows:

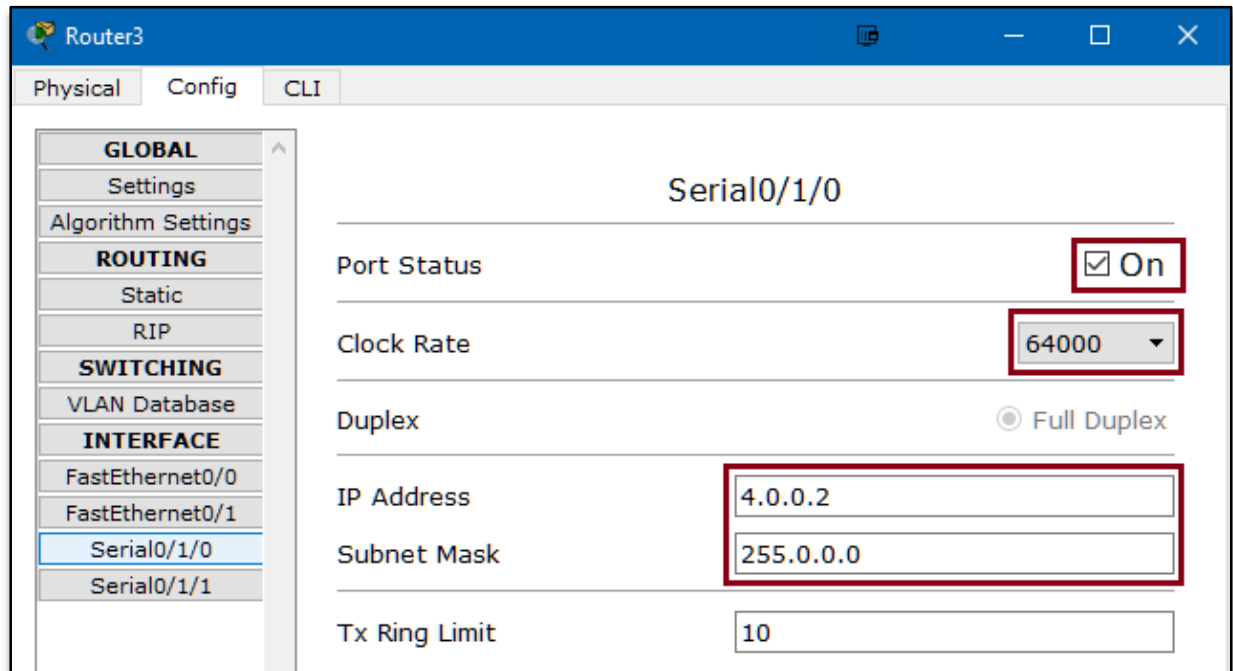
Field	Value
Port Status	<input checked="" type="checkbox"/> On
Clock Rate	2000000
Duplex	<input type="radio"/> Full Duplex
IP Address	4.0.0.1
Subnet Mask	255.0.0.0
Tx Ring Limit	10

10. Select **Router3**, then the **Config** tab, then **FastEthernet0/0** and set up as the following:

The screenshot shows the configuration page for the FastEthernet0/0 interface on Router3. The interface is selected in the left-hand menu. The configuration fields are as follows:

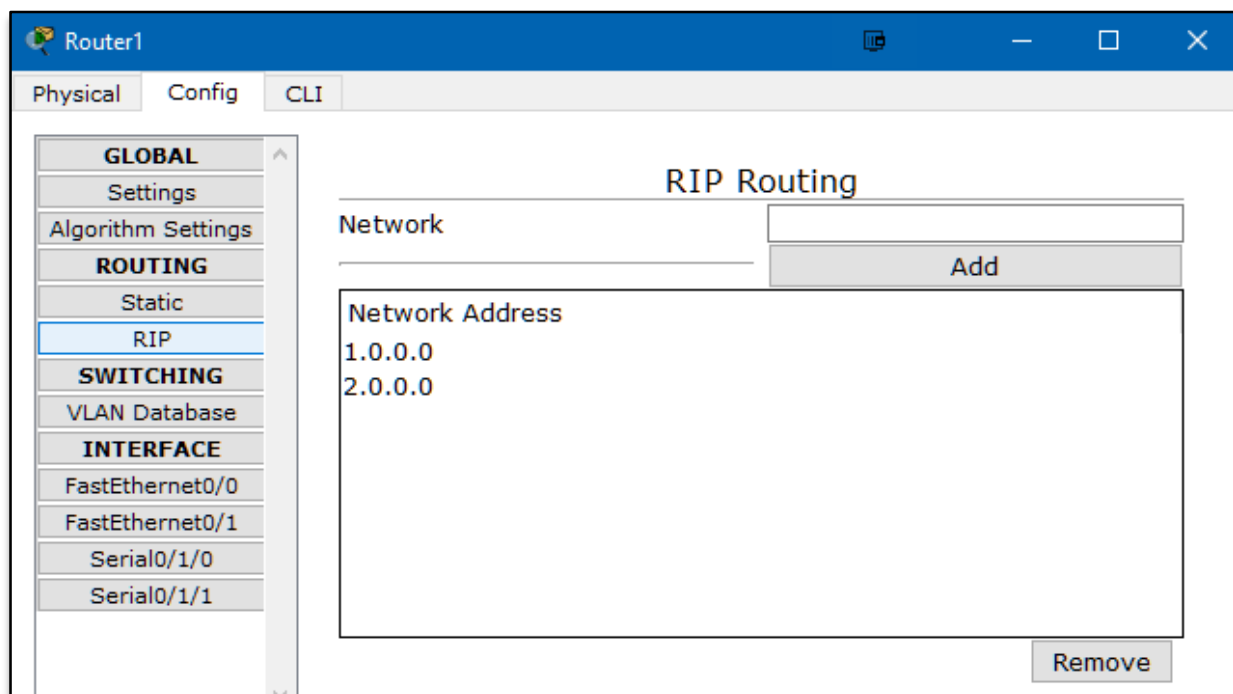
Field	Value
Port Status	<input checked="" type="checkbox"/> On
Bandwidth	<input checked="" type="checkbox"/> Auto
Duplex	<input checked="" type="checkbox"/> Auto
MAC Address	00E0.A350.EA01
IP Address	5.0.0.1
Subnet Mask	255.0.0.0
Tx Ring Limit	10

11. Next, select **Serial0/1/0** and set up as the following:

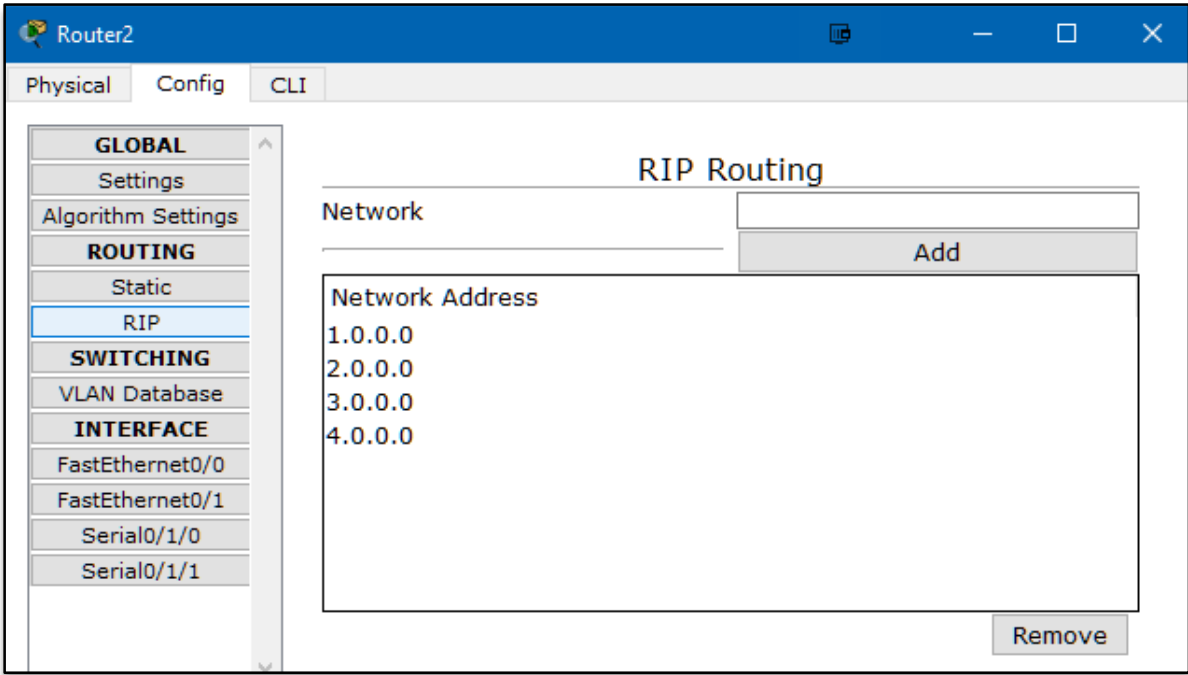


For setting up the routing routes, we can either use static routing or dynamic routing using a routing protocol. For this mini-lab, we're going to use the RIP routing protocol.

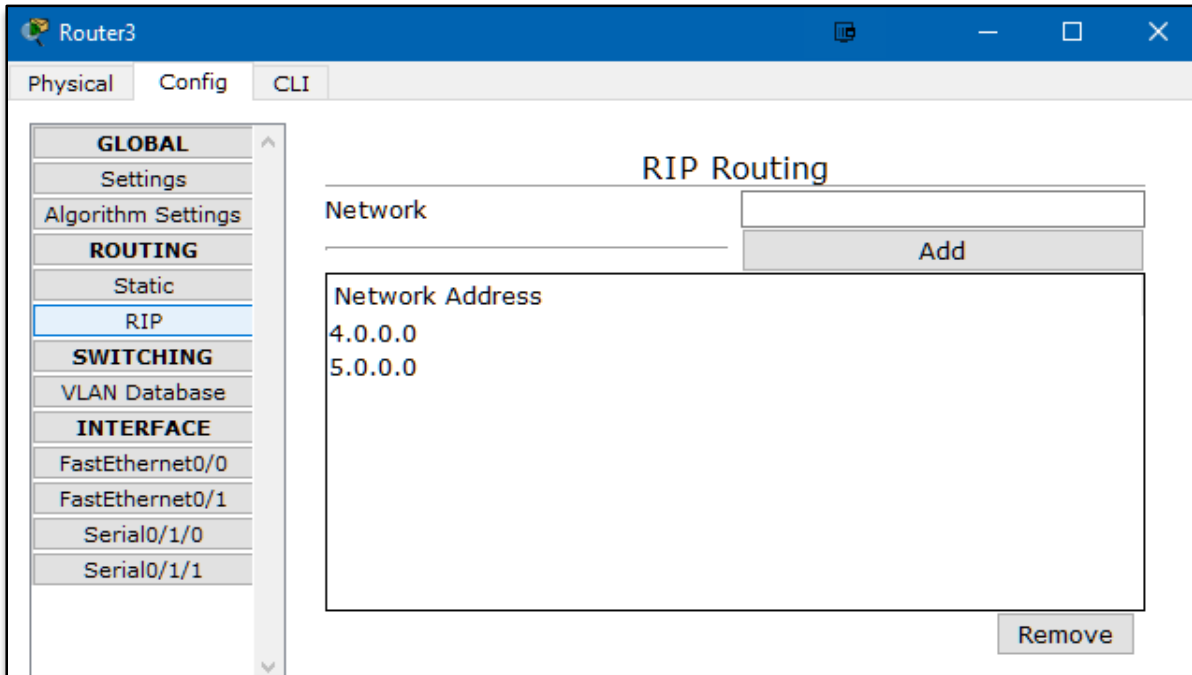
12. Select **Router1**, then **Config** tab, then under **ROUTING** select **RIP** and setup as the following:



13. Select **Router2**, then **Config** tab, then under **ROUTING** select **RIP** and setup as the following:



14. Select **Router3**, then **Config** tab, then under **ROUTING** select **RIP** and setup as the following:



That's it, we're done! Now we should test the network environment by ping each of the devices in the network from devices on all sides of the network.

15. Click on **PC1**, and select the **Desktop** tab.

16. Select **Command Prompt**, and try pinging each of the following:

- a. Ping 1.0.0.2 (PC1)
- b. ping 1.0.0.1 (Router 1 fa0/0)
- c. ping 2.0.0.1 (router 1 se0/1/1)
- d. ping 2.0.0.2 (router 2 se0/1/0)
- e. ping 3.0.0.1 (router 2 fa0/0)
- f. ping 3.0.0.2 (PC2)
- g. ping 4.0.0.1 (router 2 se0/1/1)
- h. ping 4.0.0.2 (router 3 se0/1/0)
- i. ping 5.0.0.1 (router 3 fa0/0)
- j. ping 5.0.0.2 (PC3)

```
Command Prompt
Pinging 3.0.0.2 with 32 bytes of data:

Reply from 3.0.0.2: bytes=32 time=1ms TTL=126
Reply from 3.0.0.2: bytes=32 time=5ms TTL=126
Reply from 3.0.0.2: bytes=32 time=1ms TTL=126
Reply from 3.0.0.2: bytes=32 time=3ms TTL=126

Ping statistics for 3.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 5ms, Average = 2ms

PC>ping 5.0.0.2

Pinging 5.0.0.2 with 32 bytes of data:

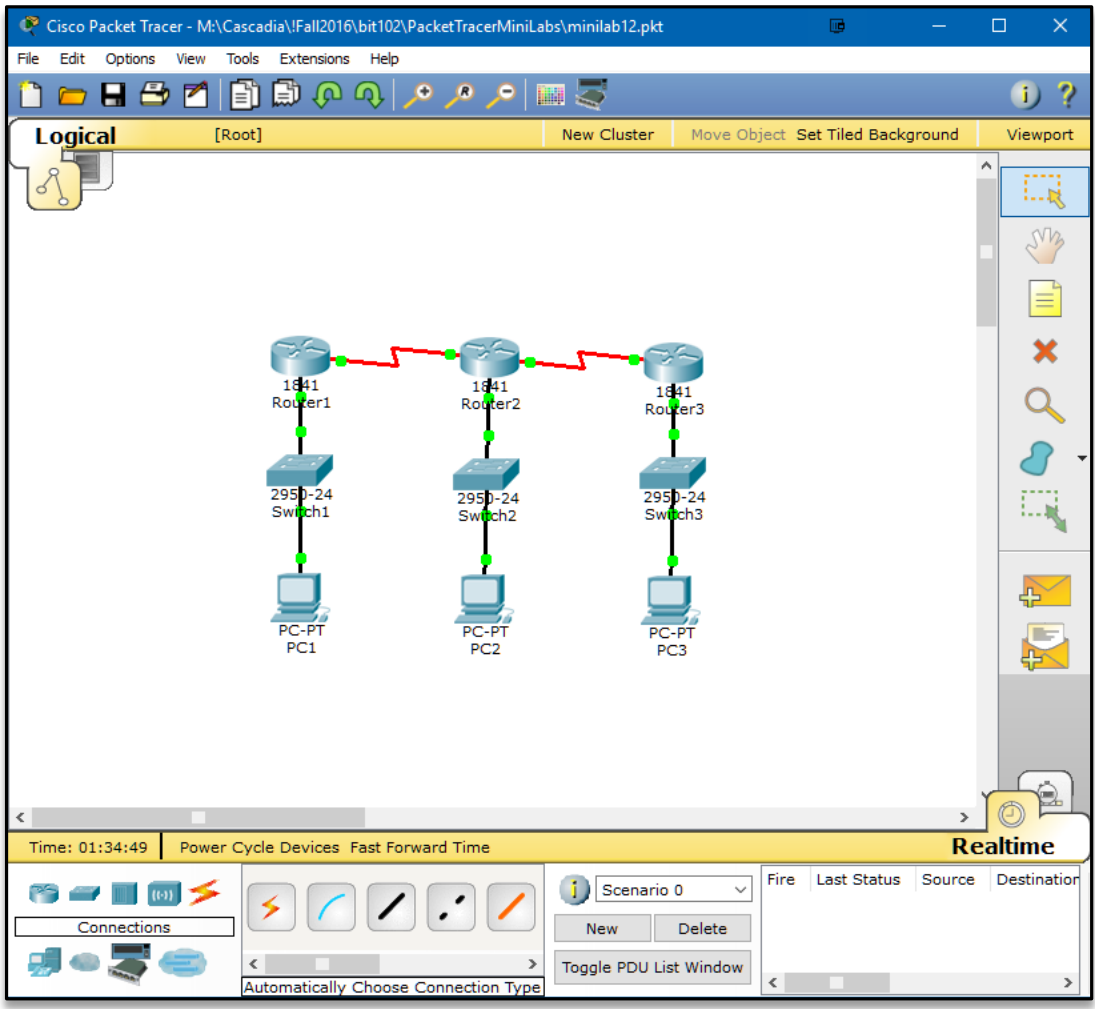
Reply from 5.0.0.2: bytes=32 time=2ms TTL=125
Reply from 5.0.0.2: bytes=32 time=7ms TTL=125
Reply from 5.0.0.2: bytes=32 time=2ms TTL=125
Reply from 5.0.0.2: bytes=32 time=2ms TTL=125

Ping statistics for 5.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 7ms, Average = 3ms
```

17. Next, from **PC2**, ping **PC1** and **PC3**

18. Next, from **PC3**, ping **PC2** and **PC1**





**END OF MINI-LAB 12**