

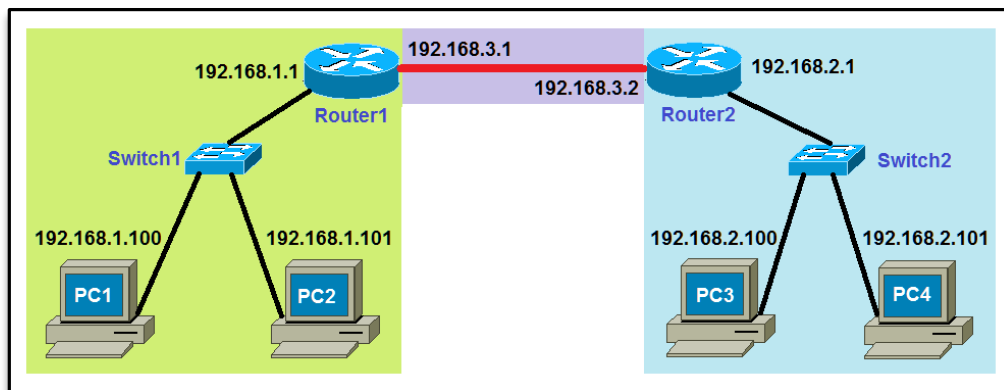
Packet Tracer Mini-Lab 07: Supplement

Configuring 2 LANs/2 Routers using the CLI and RIP in Packet Tracer

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 07 Objective

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

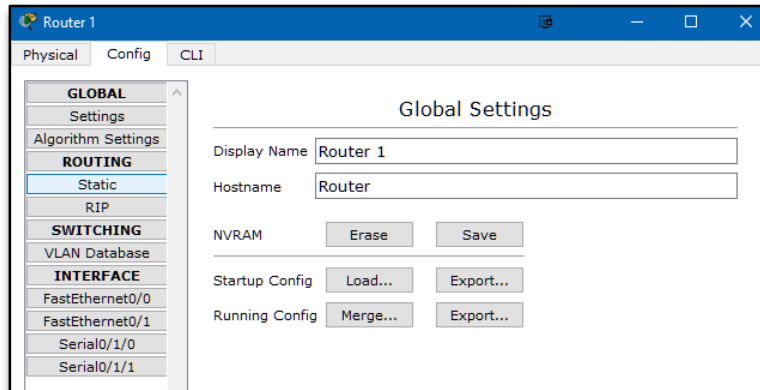


INSTRUCTIONS: You can use the **Packet Tracer project** (e.g., **minilab05.pkt**) created in **Mini-Lab 5**, which we are going to modify before starting this lab (we are going to remove the static routes in both routers, so the devices will no longer be able to ping across all the networks, then instead of using static routes we'll use the RIP routing protocol).

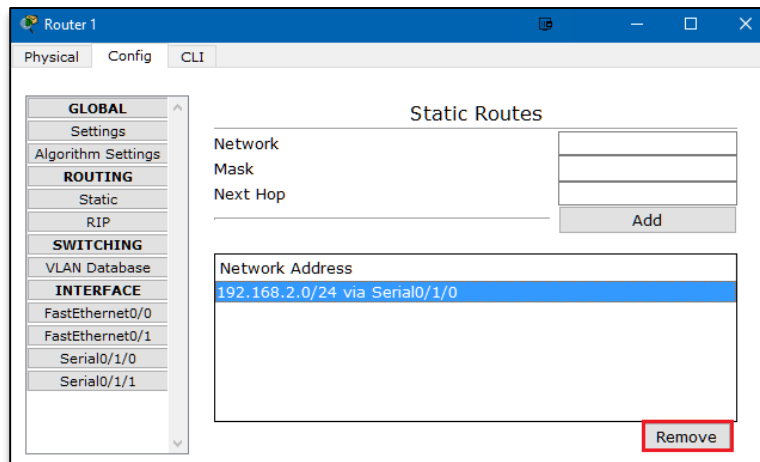
Make a copy of that project and rename it to **minilab07.pkt** (or whatever naming convention you used previously).

If you do not have a copy of the previous project, then you will have to work through **Mini-Lab 5** and save the project first before starting this lab (making sure to make a second copy of the completed lab then renaming that copy appropriately).

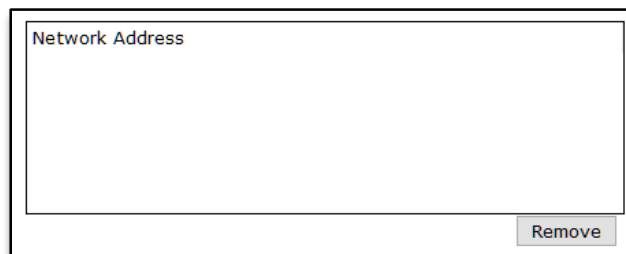
1. Open the copy of the project (e.g., copied/renamed **minilab07.pkt**) you created from the previous Mini-Lab 5 project (e.g., **minilab05.pkt**)
2. Click on **Router 1** and select the **Config** tab.



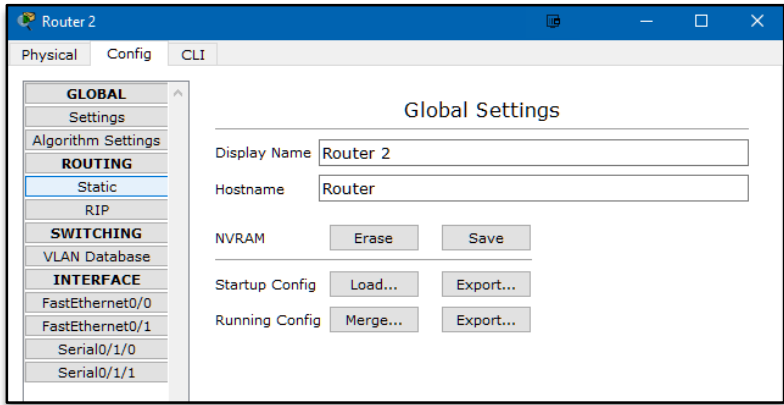
3. Under **ROUTING**, select the **Static** bar.
4. In the **Static Routes** box, select **192.168.2.0/24 via Serial0/1/0**, then click the **Remove** button.



5. The **static route** will be removed.

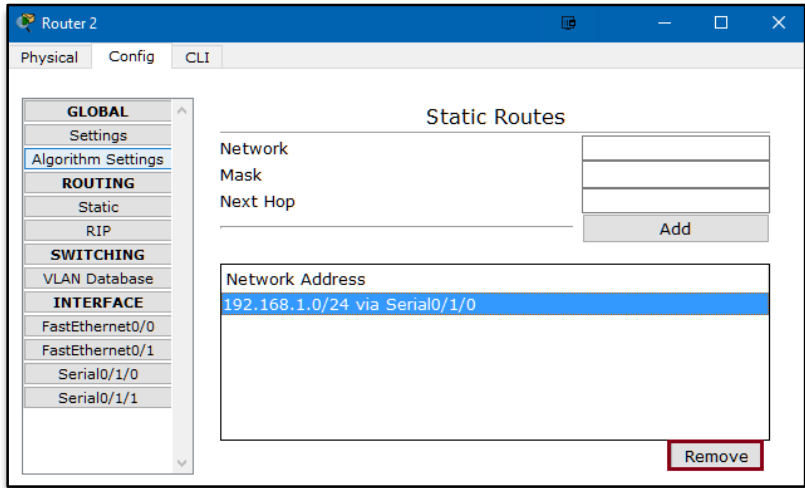


6. Close the window, and click on **Router 2** and select the **Config** tab.

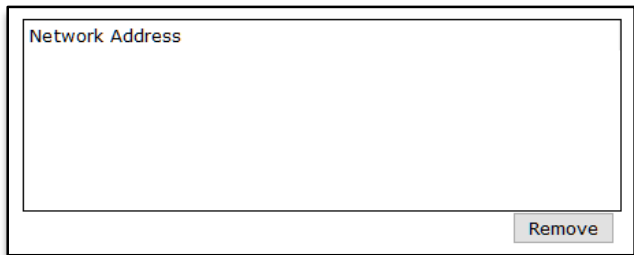


7. Under **ROUTING**, select the **Static** bar.

8. In the **Static Routes** box, select **192.168.1.0/24 via Serial0/1/0**, then click the **Remove** button.



9. The **static route** will be removed.



10. From **PC 1**, try pinging **PC 4 (192.168.2.101)**. You should get a **Destination host unreachable** response, because that portion of the network can no longer be found. This is what we want 😊

```
Command Prompt

Packet Tracer PC Command Line 1.0
PC>ping 192.168.2.101

Pinging 192.168.2.101 with 32 bytes of data:

Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.

Ping statistics for 192.168.2.101:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

11. Close the windows, and click on **Router 1** again and select the **CLI** tab.

```
Router 1
Physical Config CLI
IOS Command Line Interface

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to administratively down
%LINK-5-CHANGED: Interface Vlan1, changed state to administratively down
%SYS-5-CONFIG_I: Configured from console by console
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#no ip route 192.168.2.0 255.255.255.0 Serial0/1/0
Router(config)#
```

12. In the CLI window, use the **Enter** key to bring up the **Router>** prompt, then type **enable**.

```
Router>enable
Router#
```

13. At the Router# prompt, type **config t**

```
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#
```

14. At the **Router(config)#** prompt, type **router rip**

```
Router#conf t
Enter configuration commands:
Router(config)#router rip
Router(config-router)#
```

15. At the **Router(config-router)#** prompt, type **network 192.168.1.0**, then **Enter** key, then **network 192.168.3.0**, then the **Enter** key again.

```
Router(config)#router rip
Router(config-router)#network 192.168.1.0
Router(config-router)#network 192.168.3.0
Router(config-router)#
```

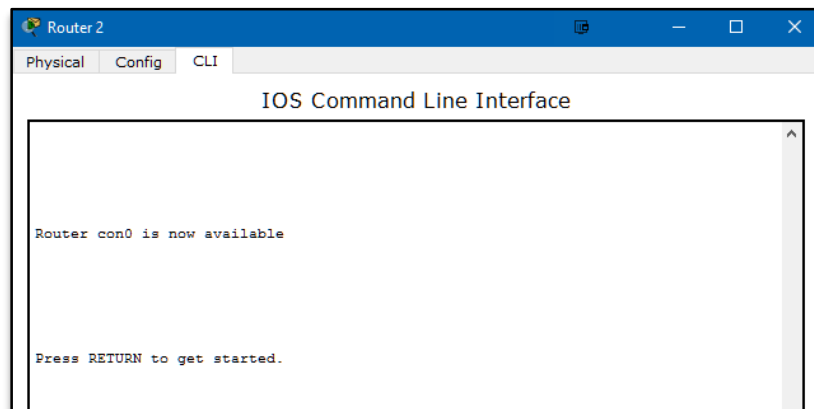
16. At the prompt, type **exit** to return to the previous prompt, then type **exit** again, then the **Enter** key.

```
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#
```

17. If you want, you can see the running router configuration by typing **show run** and navigating down through the CLI window using the **Enter** key.

```
interface Serial0/1/0
 ip address 192.168.3.1 255.255.255.0
 clock rate 64000
!
interface Serial0/1/1
 no ip address
 shutdown
!
interface Vlan1
 no ip address
 shutdown
!
router rip
 network 192.168.1.0
 network 192.168.3.0
!
ip classless
```

18. Close the window, and click on **Router 2**, then the **CLI** tab.



19. Click in the window and hit the **Enter** key to bring up the **Router>** prompt.

```
Router>
```

20. At the **Router>** prompt, type **enable** to bring up the **Router#** prompt, then type **conf t** to bring up the **Router(config)#** prompt.

```
Router>enable
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
```

21. At the **Router(config)#** prompt, type **router rip**

```
Router#conf t
Enter configuration commands:
Router(config)#router rip
Router(config-router)#
```

22. At the **Router(config-router)#** prompt, type **network 192.168.2.0**, then **Enter** key, then **network 192.168.3.0**, then the **Enter** key again.

```
Router>enable
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 192.168.2.0
Router(config-router)#network 192.168.3.0
Router(config-router)#
```

23. At the prompt, type **exit** to return to the previous prompt, then type **exit** again, then the **Enter** key.

```
Router(config)#router rip
Router(config-router)#network 192.168.2.0
Router(config-router)#network 192.168.3.0
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#
```

24. At this stage, we can have a look at the route configuration by typing in **show ip route**, then hitting **Enter** key.

```
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

R    192.168.1.0/24 [120/1] via 192.168.3.1, 00:00:09, Serial0/1/0
C    192.168.2.0/24 is directly connected, FastEthernet0/0
C    192.168.3.0/24 is directly connected, Serial0/1/0
Router#
```

This tells us that Router 2 knows about all the connected networks 😊

25. Close the window, because that's it. You're all done! Now **all devices** should be able to **ping all** the **interfaces** and other **devices** successfully 😊

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

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

- a. Ping 192.168.1.100 (itself)
- b. ping 192.168.1.101 (PC2)
- c. ping 192.168.1.1 (Router 1 fa0/0)
- d. ping 192.168.3.1 (router 1 s0/1/0)
- e. ping 192.168.3.2 (router 2 s0/1/0)
- f. ping 192.168.2.1 (router 2 fa0/0)
- g. ping 192.168.2.100 (PC3)
- h. ping 192.168.2.101 (PC4)

```
Command Prompt
Pinging 192.168.2.101 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.101: bytes=32 time=5ms TTL=126
Reply from 192.168.2.101: bytes=32 time=1ms TTL=126
Reply from 192.168.2.101: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.2.101:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 5ms, Average = 2ms

PC>ping 192.168.2.101

Pinging 192.168.2.101 with 32 bytes of data:

Reply from 192.168.2.101: bytes=32 time=7ms TTL=126
Reply from 192.168.2.101: bytes=32 time=2ms TTL=126
Reply from 192.168.2.101: bytes=32 time=1ms TTL=126
Reply from 192.168.2.101: bytes=32 time=2ms TTL=126

Ping statistics for 192.168.2.101:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 7ms, Average = 3ms

PC>
```

28. Test doing the same from **PC2**, **PC3**, and **PC4**.

END OF MINI-LAB 07