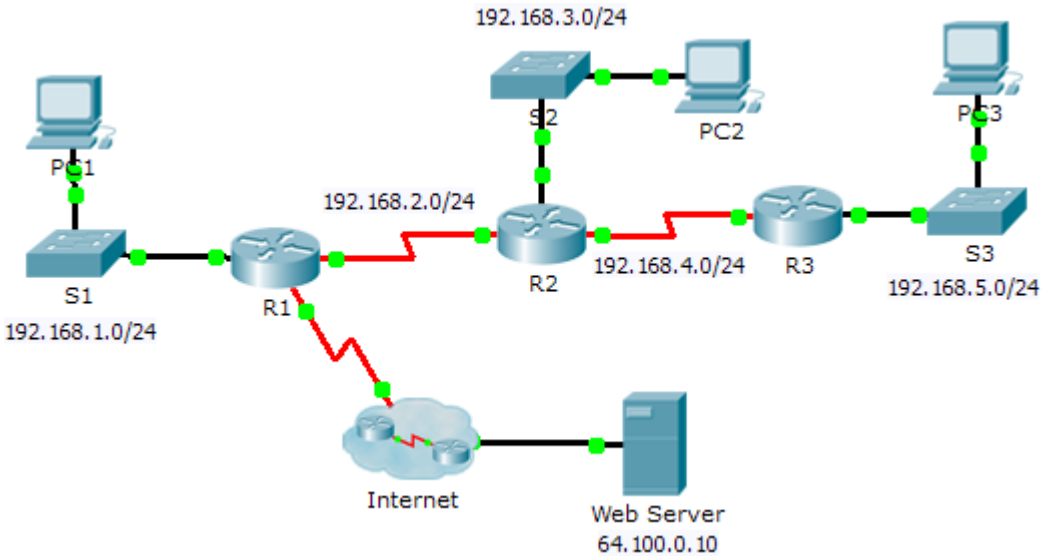
Packet Tracer – Configuring RIPv2

Topology



Objectives

Part 1: Configure RIPv2

Part 2: Verify Configurations

Background

Although RIP is rarely used in modern networks, it is useful as a foundation for understanding basic network routing. In this activity, you will configure a default route, RIP version 2, with appropriate network statements and passive interfaces, and verify full connectivity.

Part 1: Configure RIPv2

Step 1: Configure RIPv2 on R1.

a. Use the appropriate command to create a default route on **R1** for all Internet traffic to exit the network through S0/0/1.

Answer: R1(config)#ip route 0.0.0.0 0.0.0.0 s0/0/1

b. Enter RIP protocol configuration mode.

Answer: R1(config)#router rip

c. Use version 2 of the RIP protocol and disable the summarization of networks.

Answer:

R1(config-router)#version 2

R1(config-router)#no auto-summary

d. Configure RIP for the networks that connect to **R1**.

Answer:

R1(config-router)#network 192.168.1.0

R1(config-router)#network 192.168.2.0

e. Configure the LAN port that contains no routers so that it does not send out any routing information.

Answer: R1(config-router)#passive-interface g0/0

f. Advertise the default route configured in step 1a with other RIP routers.

Answer: R1(config-router)#default-information originate

g. Save the configuration.

Step 2: Configure RIPv2 on R2.

a. Enter RIP protocol configuration mode.

Answer: R2(config)#router rip

b. Use version 2 of the RIP protocol and disable the summarization of networks.

Answer:

R2(config-router)#version 2

R2(config-router)#no auto-summary

c. Configure RIP for the networks directly connected to **R2**.

Answer:

R2(config-router)#network 192.168.2.0

R2(config-router)#network 192.168.3.0

R2(config-router)#network 192.168.4.0

d. Configure the interface that contains no routers so that it does not send out routing information.

Answer: R2(config-router)#passive-interface g0/0

e. Save the configuration.

Step 3: Configure RIPv2 on R3

Repeat Step 2 on **R3**.

Part 2: Verify Configurations

Step 1: View routing tables of R1, R2, and R3.

a. Use the appropriate command to show the routing table of **R1**. RIP (R) now appears with connected (C) and local (L) routes in the routing table. All networks have an entry. You also see a default route listed.

b. View the routing tables for **R2** and **R3**. Notice that each router has a full listing of all the 192.168.x.0 networks and a default route.

R1>en

R1> show ip route

R2>en

R2> show ip route

R3>show ip route

Step 2: Verify full connectivity to all destinations.

Every device should now be able to ping every other device inside the network. In addition, all devices should be able to ping the **Web Server**.

From PC-1:

C:\>ping 192.168.3.10

Pinging 192.168.3.10 with 32 bytes of data:

Reply from 192.168.3.10: bytes=32 time=2ms TTL=126
Reply from 192.168.3.10: bytes=32 time=1ms TTL=126
Reply from 192.168.3.10: bytes=32 time=1ms TTL=126
Reply from 192.168.3.10: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.3.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\>ping 192.168.5.10

Pinging 192.168.5.10 with 32 bytes of data:

Reply from 192.168.5.10: bytes=32 time=3ms TTL=125
Reply from 192.168.5.10: bytes=32 time=2ms TTL=125
Reply from 192.168.5.10: bytes=32 time=3ms TTL=125
Reply from 192.168.5.10: bytes=32 time=3ms TTL=125

Ping statistics for 192.168.5.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 2ms, Maximum = 3ms, Average = 2ms

C:\>

From PC-2:

C:\>ping 192.168.1.10

Pinging 192.168.1.10 with 32 bytes of data:

Reply from 192.168.1.10: bytes=32 time=2ms TTL=126
Reply from 192.168.1.10: bytes=32 time=2ms TTL=126
Reply from 192.168.1.10: bytes=32 time=1ms TTL=126
Reply from 192.168.1.10: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.1.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\>ping 192.168.5.10

Pinging 192.168.5.10 with 32 bytes of data:

Reply from 192.168.5.10: bytes=32 time=2ms TTL=126
Reply from 192.168.5.10: bytes=32 time=1ms TTL=126
Reply from 192.168.5.10: bytes=32 time=2ms TTL=126
Reply from 192.168.5.10: bytes=32 time=9ms TTL=126

Ping statistics for 192.168.5.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 9ms, Average = 3ms

C:\>

From PC-3:

C:\>ping 192.168.1.10

Pinging 192.168.1.10 with 32 bytes of data:

Request timed out.
Reply from 192.168.1.10: bytes=32 time=2ms TTL=125
Reply from 192.168.1.10: bytes=32 time=2ms TTL=125
Reply from 192.168.1.10: bytes=32 time=3ms TTL=125

Ping statistics for 192.168.1.10:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 2ms, Maximum = 3ms, Average = 2ms

C:\>ping 192.168.3.10

Pinging 192.168.3.10 with 32 bytes of data:

Request timed out.
Reply from 192.168.3.10: bytes=32 time=2ms TTL=126
Reply from 192.168.3.10: bytes=32 time=1ms TTL=126
Reply from 192.168.3.10: bytes=32 time=2ms TTL=126

Ping statistics for 192.168.3.10:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\>

From All PC:

http://64.100.0.10