Part 1: Configure RIPv2

Step 2: Configure RIPv2 on R2. a. Enter RIP protocol configuration mode.

**R2(config)#router rip**

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

**R2(config-router)#version 2**

**R2(config-router)#no auto-summary**

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

**R2(config-router)#network 192.168.3.0**

**R2(config-router)#network 192.168.4.0**

**R2(config-router)#network 192.168.2.0**

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

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

e. Save the configuration.

**R2#copy run start**

**Destination filename [startup-config]?**

**Building configuration…**

**[OK]**

**Repeating the tasks for router 3**

**R3>en**

**R3#conf t**

**Enter configuration commands, one per line. End with CNTL/Z.**

**R3(config)#rip**

**^**

**% Invalid input detected at '^' marker.**

**R3(config)#router rip**

**R3(config-router)#version 2**

**R3(config-router)#no auto-summary**

**R3(config-router)#network 192.168.5.0**

**R3(config-router)#network 192.168.4.0**

**R3(config-router)#passive-interface**

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

**%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, ch**

**R3(config-router)#passive-interface gig 0/0**

**R3(config-router)#exit**

**R3(config)#exit**

**R3#**

**%SYS-5-CONFIG\_I: Configured from console by console**

**c**

**% Ambiguous command: "c"**

**R3#copy run start**

**Destination filename [startup-config]?**

**Building configuration...**

**[OK]**

**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.

**Router 1**

R1>show ip route

Codes: L - local, C - connected, S - static, 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 0.0.0.0 to network 0.0.0.0

192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks

C 192.168.1.0/24 is directly connected, GigabitEthernet0/0

L 192.168.1.1/32 is directly connected, GigabitEthernet0/0

192.168.2.0/24 is variably subnetted, 2 subnets, 2 masks

C 192.168.2.0/24 is directly connected, Serial0/0/0

L 192.168.2.1/32 is directly connected, Serial0/0/0

R 192.168.3.0/24 [120/1] via 192.168.2.2, 00:00:23, Serial0/0/0

R 192.168.4.0/24 [120/1] via 192.168.2.2, 00:00:23, Serial0/0/0

R 192.168.5.0/24 [120/2] via 192.168.2.2, 00:00:23, Serial0/0/0

209.165.200.0/24 is variably subnetted, 2 subnets, 2 masks

C 209.165.200.224/30 is directly connected, Serial0/0/1

L 209.165.200.225/32 is directly connected, Serial0/0/1

**Router 2**

R2>show ip route

Codes: L - local, C - connected, S - static, 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 192.168.2.1 to network 0.0.0.0

R 192.168.1.0/24 [120/1] via 192.168.2.1, 00:00:04, Serial0/0/0

192.168.2.0/24 is variably subnetted, 2 subnets, 2 masks

C 192.168.2.0/24 is directly connected, Serial0/0/0

L 192.168.2.2/32 is directly connected, Serial0/0/0

192.168.3.0/24 is variably subnetted, 2 subnets, 2 masks

C 192.168.3.0/24 is directly connected, GigabitEthernet0/0

L 192.168.3.1/32 is directly connected, GigabitEthernet0/0

192.168.4.0/24 is variably subnetted, 2 subnets, 2 masks

C 192.168.4.0/24 is directly connected, Serial0/0/1

L 192.168.4.2/32 is directly connected, Serial0/0/1

R 192.168.5.0/24 [120/1] via 192.168.4.1, 00:00:24, Serial0/0/1

R\* 0.0.0.0/0 [120/1] via 192.168.2.1, 00:00:04, Serial0/0/0

**Router 3**

**R3>show ip route**

**Codes: L - local, C - connected, S - static, 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 192.168.4.2 to network 0.0.0.0**

**R 192.168.1.0/24 [120/2] via 192.168.4.2, 00:00:07, Serial0/0/1**

**R 192.168.2.0/24 [120/1] via 192.168.4.2, 00:00:07, Serial0/0/1**

**R 192.168.3.0/24 [120/1] via 192.168.4.2, 00:00:07, Serial0/0/1**

**192.168.4.0/24 is variably subnetted, 2 subnets, 2 masks**

**C 192.168.4.0/24 is directly connected, Serial0/0/1**

**L 192.168.4.1/32 is directly connected, Serial0/0/1**

**192.168.5.0/24 is variably subnetted, 2 subnets, 2 masks**

**C 192.168.5.0/24 is directly connected, GigabitEthernet0/0**

**L 192.168.5.1/32 is directly connected, GigabitEthernet0/0**

**R\* 0.0.0.0/0 [120/2] via 192.168.4.2, 00:00:07, Serial0/0/1**

**Ping Check from PC1**

**Cisco Packet Tracer PC Command Line 1.0**

**C:\>ping 192.168.3.0**

**Pinging 192.168.3.0 with 32 bytes of data:**

**Reply from 192.168.2.2: bytes=32 time=1ms TTL=254**

**Reply from 192.168.2.2: bytes=32 time=2ms TTL=254**

**Reply from 192.168.2.2: bytes=32 time=1ms TTL=254**

**Reply from 192.168.2.2: bytes=32 time=2ms TTL=254**

**Ping statistics for 192.168.3.0:**

**Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),**

**Approximate round trip times in milli-seconds:**

**Minimum = 1ms, Maximum = 2ms, Average = 1ms**

**C:\>ping 64.100.0.10**

**Pinging 64.100.0.10 with 32 bytes of data:**

**Request timed out.**

**Reply from 64.100.0.10: bytes=32 time=1ms TTL=126**

**Reply from 64.100.0.10: bytes=32 time=1ms TTL=126**

**Reply from 64.100.0.10: bytes=32 time=10ms TTL=126**

**Ping statistics for 64.100.0.10:**

**Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),**

**Approximate round trip times in milli-seconds:**

**Minimum = 1ms, Maximum = 10ms, Average = 4ms**

**C:\>ping 192.168.5.0**

**Pinging 192.168.5.0 with 32 bytes of data:**

**Reply from 192.168.4.1: bytes=32 time=10ms TTL=253**

**Reply from 192.168.4.1: bytes=32 time=13ms TTL=253**

**Reply from 192.168.4.1: bytes=32 time=3ms TTL=253**

**Reply from 192.168.4.1: bytes=32 time=2ms TTL=253**

**Ping statistics for 192.168.5.0:**

**Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),**

**Approximate round trip times in milli-seconds:**

**Minimum = 2ms, Maximum = 13ms, Average = 7ms**

**Ping Check from PC2**

**Cisco Packet Tracer PC Command Line 1.0**

**C:\>ping 192.168.1.0**

**Pinging 192.168.1.0 with 32 bytes of data:**

**Reply from 192.168.2.1: bytes=32 time=1ms TTL=254**

**Reply from 192.168.2.1: bytes=32 time=1ms TTL=254**

**Reply from 192.168.2.1: bytes=32 time=1ms TTL=254**

**Reply from 192.168.2.1: bytes=32 time=1ms TTL=254**

**Ping statistics for 192.168.1.0:**

**Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),**

**Approximate round trip times in milli-seconds:**

**Minimum = 1ms, Maximum = 1ms, Average = 1ms**

**C:\>ping 64.100.0.10**

**Pinging 64.100.0.10 with 32 bytes of data:**

**Request timed out.**

**Reply from 64.100.0.10: bytes=32 time=9ms TTL=125**

**Reply from 64.100.0.10: bytes=32 time=11ms TTL=125**

**Reply from 64.100.0.10: bytes=32 time=2ms TTL=125**

**Ping statistics for 64.100.0.10:**

**Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),**

**Approximate round trip times in milli-seconds:**

**Minimum = 2ms, Maximum = 11ms, Average = 7ms**

**C:\>ping 192.168.3.0**

**Pinging 192.168.3.0 with 32 bytes of data:**

**Reply from 192.168.3.1: bytes=32 time<1ms TTL=255**

**Reply from 192.168.3.2: bytes=32 time<1ms TTL=255**

**Reply from 192.168.3.1: bytes=32 time<1ms TTL=255**

**Reply from 192.168.3.2: bytes=32 time<1ms TTL=255**

**Reply from 192.168.3.1: bytes=32 time<1ms TTL=255**

**Reply from 192.168.3.2: bytes=32 time<1ms TTL=255**

**Reply from 192.168.3.1: bytes=32 time=1ms TTL=255**

**Ping statistics for 192.168.3.0:**

**Packets: Sent = 4, Received = 7, Lost = 0 (0% loss),**

**Approximate round trip times in milli-seconds:**

**Minimum = 0ms, Maximum = 1ms, Average = 0ms**

**Ping Check from PC 3**

**Pinging 192.168.1.0 with 32 bytes of data:**

**Reply from 192.168.2.1: bytes=32 time=2ms TTL=253**

**Reply from 192.168.2.1: bytes=32 time=11ms TTL=253**

**Reply from 192.168.2.1: bytes=32 time=2ms TTL=253**

**Reply from 192.168.2.1: bytes=32 time=3ms TTL=253**

**Ping statistics for 192.168.1.0:**

**Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),**

**Approximate round trip times in milli-seconds:**

**Minimum = 2ms, Maximum = 11ms, Average = 4ms**

**C:\>ping 64.100.0.10**

**Pinging 64.100.0.10 with 32 bytes of data:**

**Reply from 64.100.0.10: bytes=32 time=12ms TTL=124**

**Reply from 64.100.0.10: bytes=32 time=11ms TTL=124**

**Reply from 64.100.0.10: bytes=32 time=21ms TTL=124**

**Reply from 64.100.0.10: bytes=32 time=11ms TTL=124**

**Ping statistics for 64.100.0.10:**

**Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),**

**Approximate round trip times in milli-seconds:**

**Minimum = 11ms, Maximum = 21ms, Average = 13ms**

**C:\>ping 192.168.3.0**

**Pinging 192.168.3.0 with 32 bytes of data:**

**Reply from 192.168.4.2: bytes=32 time=10ms TTL=254**

**Reply from 192.168.4.2: bytes=32 time=11ms TTL=254**

**Reply from 192.168.4.2: bytes=32 time=1ms TTL=254**

**Reply from 192.168.4.2: bytes=32 time=2ms TTL=254**

**Ping statistics for 192.168.3.0:**

**Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),**

**Approximate round trip times in milli-seconds:**

**Minimum = 1ms, Maximum = 11ms, Average = 6ms**