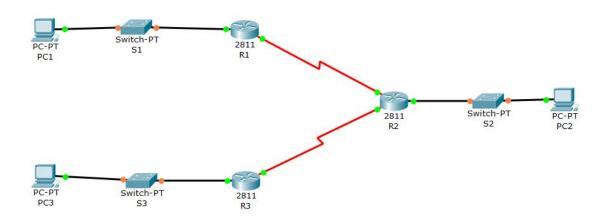
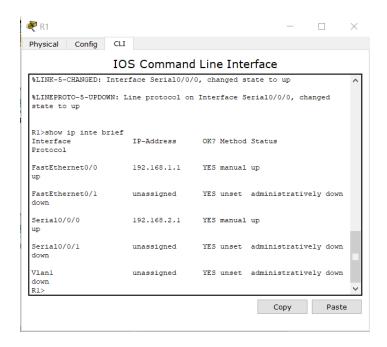
Lab 11 Practice 1

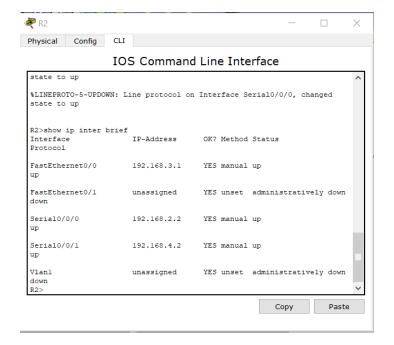
Task 1 - Prepare the Network



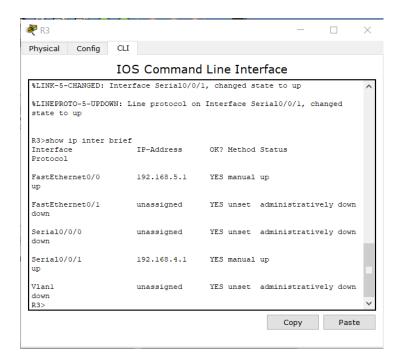
Task 3 - Configure and Activate Serial and Ethernet Address



Router 1



Router 2

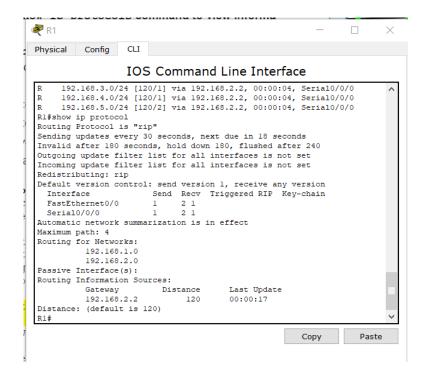


Router 3

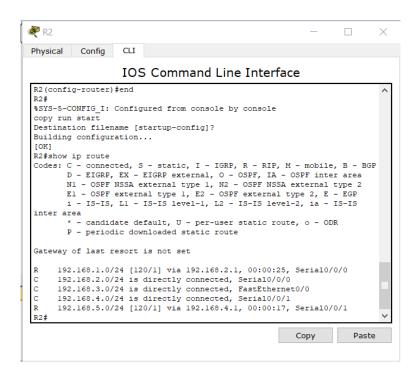
Task 5 - Verify RIP Routing



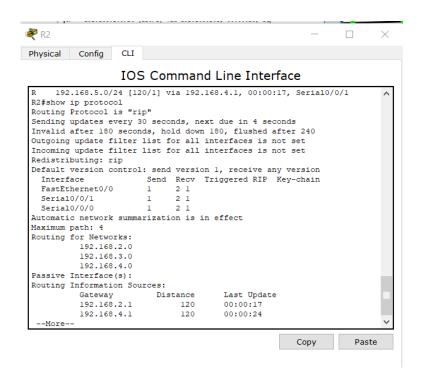
Router 1 IP Route



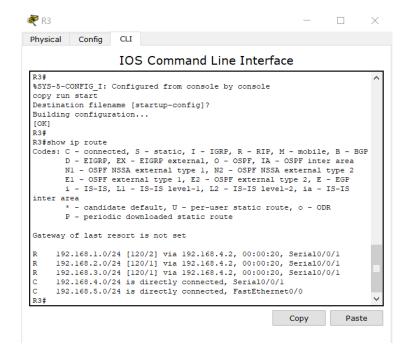
Router 1 IP Protocol



Router 2 IP Route



Router 2 IP Protocol



Router 3 IP Route



Router 3 IP Protocol

R1#debug ip rip

RIP protocol debugging is on

R1#RIP: received v1 update from 192.168.2.2 on Serial0/0/0

192.168.3.0 in 1 hops

192.168.4.0 in 1 hops

192.168.5.0 in 2 hops

RIP: sending v1 update to 255.255.255.255 via FastEthernet0/0 (192.168.1.1)

RIP: build update entries

network 192.168.2.0 metric 1

network 192.168.3.0 metric 2

network 192.168.4.0 metric 2

network 192.168.5.0 metric 3

RIP: sending v1 update to 255.255.255.255 via Serial0/0/0 (192.168.2.1)

RIP: build update entries

network 192.168.1.0 metric 1

RIP: received v1 update from 192.168.2.2 on Serial0/0/0

192.168.3.0 in 1 hops

192.168.4.0 in 1 hops

192.168.5.0 in 2 hops

undebug all

All possible debugging has been turned off

R1#

Router 1 debug IP RIP

R2#debug ip rip

RIP protocol debugging is on

R2#RIP: received v1 update from 192.168.2.1 on Serial0/0/0

192.168.1.0 in 1 hops

RIP: received v1 update from 192.168.4.1 on Serial0/0/1

192.168.5.0 in 1 hops

RIP: sending v1 update to 255.255.255.255 via FastEthernet0/0 (192.168.3.1)

RIP: build update entries

network 192.168.1.0 metric 2

network 192.168.2.0 metric 1

network 192.168.4.0 metric 1

network 192.168.5.0 metric 2

RIP: sending v1 update to 255.255.255.255 via Serial0/0/1 (192.168.4.2)

RIP: build update entries

network 192.168.1.0 metric 2

network 192.168.2.0 metric 1

network 192.168.3.0 metric 1

RIP: sending v1 update to 255.255.255.255 via Serial0/0/0 (192.168.2.2)

RIP: build update entries

network 192.168.3.0 metric 1

network 192.168.4.0 metric 1

network 192.168.5.0 metric 2

RIP: received v1 update from 192.168.2.1 on Serial0/0/0

192.168.1.0 in 1 hops

undebug all

All possible debugging has been turned off

R2#

Router 2 debug IP RIP

R3#debug ip rip RIP protocol debugging is on R3#RIP: sending v1 update to 255.255.255.255 via FastEthernet0/0 (192.168.5.1) RIP: build update entries network 192.168.1.0 metric 3 network 192.168.2.0 metric 2 network 192.168.3.0 metric 2 network 192.168.4.0 metric 1 RIP: sending v1 update to 255.255.255.255 via Serial0/0/1 (192.168.4.1) RIP: build update entries network 192.168.5.0 metric 1 RIP: received v1 update from 192.168.4.2 on Serial0/0/1 192.168.1.0 in 2 hops 192.168.2.0 in 1 hops 192.168.3.0 in 1 hops RIP: sending v1 update to 255.255.255.255 via FastEthernet0/0 (192.168.5.1) RIP: build update entries network 192.168.1.0 metric 3 network 192.168.2.0 metric 2 network 192.168.3.0 metric 2 network 192.168.4.0 metric 1 RIP: sending v1 update to 255.255.255.255 via Serial0/0/1 (192.168.4.1) RIP: build update entries network 192.168.5.0 metric 1

undebug all

R3#

All possible debugging has been turned off

Router 3 debug IP RIP

Lab 11 Practice 2

Task 3 Examine the Current Status of the Network

R2>show ip int brief
Interface IP-Address OK? Method Status Protocol
FastEthernet0/0 10.1.0.1 YES manual up up
FastEthernet0/1 unassigned YES unset administratively down down
Serial0/0/0 209.165.200.229 YES manual up up
Serial0/0/1 209.165.200.233 YES manual up up
Vlan1 unassigned YES unset administratively down down

From the R2 router, how many ICMP messages are successful when pinging PC1?

- 3/5 packets successfully sent (60%)

From the R2 router, how many ICMP messages are successful when pinging PC4?

- 3/5 packets successfully sent (60%)

From the PC1, is it possible to ping PC2?

- Yes

What is the success rate?

- 100%

From the PC1, is it possible to ping PC3?

- Yes

What is the success rate?

- 50%

From the PC1, is it possible to ping PC4?

- No

What is the success rate?

- 0%

From the PC4, is it possible to ping PC2?

- No

What is the success rate?

- 0%

From the PC4, is it possible to ping PC3?

- Yes

What is the success rate?

- 50%

R2>show ip route

Gateway of last resort is not set

10.0.0.0/16 is subnetted, 1 subnets C 10.1.0.0 is directly connected, FastEthernet0/0 R 172.30.0.0/16 [120/1] via 209.165.200.230, 00:00:03, Serial0/0/0 [120/1] via 209.165.200.234, 00:00:03, Serial0/0/1 209.165.200.0/30 is subnetted, 2 subnets C 209.165.200.228 is directly connected, Serial0/0/0 C 209.165.200.232 is directly connected, Serial0/0/1

R1>show ip route

Gateway of last resort is not set

R 10.0.0.0/8 [120/1] via 209.165.200.229, 00:00:17, Serial0/0/0 172.30.0.0/16 is variably subnetted, 3 subnets, 2 masks R 172.30.0.0/16 [120/2] via 209.165.200.229, 00:01:07, Serial0/0/0 C 172.30.1.0/24 is directly connected, FastEthernet0/0 C 172.30.2.0/24 is directly connected, FastEthernet0/1 209.165.200.0/30 is subnetted, 2 subnets C 209.165.200.228 is directly connected, Serial0/0/0 R 209.165.200.232 [120/1] via 209.165.200.229, 00:00:17, Serial0/0/0

R3>show ip route

Gateway of last resort is not set

R 10.0.0.0/8 [120/1] via 209.165.200.233, 00:00:18, Serial0/0/1

172.30.0.0/16 is variably subnetted, 5 subnets, 3 masks

R 172.30.0.0/16 [120/2] via 209.165.200.233, 00:02:02, Serial0/0/1

C 172.30.100.0/24 is directly connected, FastEthernet0/0

C 172.30.110.0/24 is directly connected, Loopback0

C 172.30.200.16/28 is directly connected, Loopback1

C 172.30.200.32/28 is directly connected, Loopback2

209.165.200.0/30 is subnetted, 2 subnets

R 209.165.200.228 [120/1] via 209.165.200.233, 00:00:18, Serial0/0/1

C 209.165.200.232 is directly connected, Serial0/0/1

R2#debug ip rip

RIP protocol debugging is on

R2#RIP: received v2 update from 209.165.200.230 on Serial0/0/0

172.30.0.0/16 via 0.0.0.0 in 1 hops

RIP: received v2 update from 209.165.200.234 on Serial0/0/1

172.30.0.0/16 via 0.0.0.0 in 1 hops

RIP: sending v2 update to 224.0.0.9 via Serial0/0/1 (209.165.200.233)

RIP: build update entries

10.0.0.0/8 via 0.0.0.0, metric 1, tag 0

209.165.200.228/30 via 0.0.0.0, metric 1, tag 0

RIP: sending v2 update to 224.0.0.9 via Serial0/0/0 (209.165.200.229)

RIP: build update entries

10.0.0.0/8 via 0.0.0.0, metric 1, tag 0

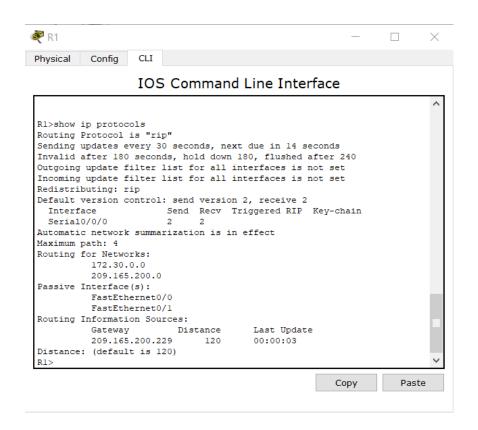
209.165.200.232/30 via 0.0.0.0, metric 1, tag 0

undebug all

All possible debugging has been turned off

R2#

Task 4 Configure RIP Version 2



Router 1 new IP Protocol

Task 5 Examine the Automatic Summarization of Routes

What entries are included in the RIP updates sent out from R3?

R3#debug ip rip RIP protocol debugging is on R3#RIP: sending v2 update to 224.0.0.9 via Loopback0 (172.30.110.1) RIP: build update entries 10.0.0.0/8 via 0.0.0.0, metric 2, tag 0 172.30.0.0/16 via 0.0.0.0, metric 16, tag 0 172.30.100.0/24 via 0.0.0.0, metric 1, tag 0 172.30.200.16/28 via 0.0.0.0, metric 1, tag 0 172.30.200.32/28 via 0.0.0.0, metric 1, tag 0 209.165.200.0/24 via 0.0.0.0, metric 1, tag 0 RIP: sending v2 update to 224.0.0.9 via Loopback1 (172.30.200.17) RIP: build update entries 10.0.0.0/8 via 0.0.0.0, metric 2, tag 0 172.30.0.0/16 via 0.0.0.0, metric 16, tag 0 172.30.100.0/24 via 0.0.0.0, metric 1, tag 0 172.30.110.0/24 via 0.0.0.0, metric 1, tag 0 172.30.200.32/28 via 0.0.0.0, metric 1, tag 0 209.165.200.0/24 via 0.0.0.0, metric 1, tag 0 RIP: sending v2 update to 224.0.0.9 via Loopback2 (172.30.200.33) RIP: build update entries 10.0.0.0/8 via 0.0.0.0, metric 2, tag 0 172.30.0.0/16 via 0.0.0.0, metric 16, tag 0 172.30.100.0/24 via 0.0.0.0, metric 1, tag 0 172.30.110.0/24 via 0.0.0.0, metric 1, tag 0 172.30.200.16/28 via 0.0.0.0, metric 1, tag 0 209.165.200.0/24 via 0.0.0.0, metric 1, tag 0 RIP: sending v2 update to 224.0.0.9 via Serial0/0/1 (209.165.200.234) RIP: build update entries 172.30.0.0/16 via 0.0.0.0, metric 1, tag 0 RIP: received v2 update from 209.165.200.233 on Serial0/0/1 10.0.0.0/8 via 0.0.0.0 in 1 hops 209.165.200.228/30 via 0.0.0.0 in 1 hops undebug all All possible debugging has been turned off

R3#

On R2, what routes are in the RIP updates that are received from R3?

R2#debug ip rip

RIP protocol debugging is on

R2#RIP: received v2 update from 209.165.200.234 on Serial0/0/1

172.30.0.0/16 via 0.0.0.0 in 1 hops

RIP: sending v2 update to 224.0.0.9 via Serial0/0/1 (209.165.200.233)

RIP: build update entries

10.0.0.0/8 via 0.0.0.0, metric 1, tag 0

209.165.200.228/30 via 0.0.0.0, metric 1, tag 0

RIP: sending v2 update to 224.0.0.9 via Serial0/0/0 (209.165.200.229)

RIP: build update entries

10.0.0.0/8 via 0.0.0.0, metric 1, tag 0

209.165.200.232/30 via 0.0.0.0, metric 1, tag 0

RIP: received v2 update from 209.165.200.230 on Serial0/0/0

172.30.0.0/16 via 0.0.0.0 in 1 hops

undebug all

All possible debugging has been turned off

R2#

Task 7 Examine Routing Table

What entries are included in the RIP updates sent out from R1?

R1#debug ip rip

RIP protocol debugging is on

R1#RIP: received v2 update from 209.165.200.229 on Serial0/0/0

10.1.0.0/16 via 0.0.0.0 in 1 hops

172.30.100.0/24 via 0.0.0.0 in 2 hops

172.30.110.0/24 via 0.0.0.0 in 2 hops

172.30.200.16/28 via 0.0.0.0 in 2 hops

172.30.200.32/28 via 0.0.0.0 in 2 hops

209.165.200.232/30 via 0.0.0.0 in 1 hops

RIP: sending v2 update to 224.0.0.9 via Serial0/0/0 (209.165.200.230)

RIP: build update entries

172.30.1.0/24 via 0.0.0.0, metric 1, tag 0

172.30.2.0/24 via 0.0.0.0, metric 1, tag 0

On R2, what routes are in the RIP updates that are received from R1?

R2#debug ip rip

RIP protocol debugging is on

R2#RIP: received v2 update from 209.165.200.230 on Serial0/0/0

172.30.1.0/24 via 0.0.0.0 in 1 hops

172.30.2.0/24 via 0.0.0.0 in 1 hops

RIP: received v2 update from 209.165.200.234 on Serial0/0/1

172.30.100.0/24 via 0.0.0.0 in 1 hops

172.30.110.0/24 via 0.0.0.0 in 1 hops

172.30.200.16/28 via 0.0.0.0 in 1 hops

172.30.200.32/28 via 0.0.0.0 in 1 hops

RIP: received v2 update from 209.165.200.230 on Serial0/0/0

172.30.1.0/24 via 0.0.0.0 in 1 hops

172.30.2.0/24 via 0.0.0.0 in 1 hops

RIP: sending v2 update to 224.0.0.9 via Serial0/0/1 (209.165.200.233)

RIP: build update entries

10.1.0.0/16 via 0.0.0.0, metric 1, tag 0

172.30.1.0/24 via 0.0.0.0, metric 2, tag 0

172.30.2.0/24 via 0.0.0.0, metric 2, tag 0

209.165.200.228/30 via 0.0.0.0, metric 1, tag 0

RIP: sending v2 update to 224.0.0.9 via Serial0/0/0 (209.165.200.229)

RIP: build update entries

10.1.0.0/16 via 0.0.0.0, metric 1, tag 0

172.30.100.0/24 via 0.0.0.0, metric 2, tag 0

172.30.110.0/24 via 0.0.0.0, metric 2, tag 0

172.30.200.16/28 via 0.0.0.0, metric 2, tag 0

172.30.200.32/28 via 0.0.0.0, metric 2, tag 0

209.165.200.232/30 via 0.0.0.0, metric 1, tag 0

undebug all

All possible debugging has been turned off

R2#

Are the subnet masks now included in the routing updates?

- Yes

Task 8 Verify Network Connectivity

From R2, how many ICMP messages are successful when pinging PC1?

- 4/5 successfully sent (80%)

From R2, how many ICMP messages are successful when pinging PC4?

- 4/5 successfully sent (80%)

From PC1, is it possible to ping PC2?

- Yes

What is the success rate?

- 75%

From PC1, is it possible to ping PC3?

- Yes

What is the success rate?

- 75%

From PC1, is it possible to ping PC4?

- Yes

What is the success rate?

- 100%

From PC4, is it possible to ping PC2?

- Yes

What is the success rate?

- 100%

From PC4, is it possible to ping PC3?

- Yes

What is the success rate?

- 100%