

**Step 5:** Enable dynamic routing to configure RIPv2 on R1, R2, and R3.

**Step 6:** Verify RIP Routing.

1. Use the **show ip route** command to verify that each router has all the networks in the topology entered in the routing table.

Router2

Physical Config CLI

IOS Command Line Interface

```
Router>en
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 192.168.2.253, 00:00:23, Serial0/0/0
C    192.168.2.0/30 is subnetted, 1 subnets
C      192.168.2.252 is directly connected, Serial0/0/0
C    192.168.3.0/24 is directly connected, FastEthernet0/0
C    192.168.4.0/30 is subnetted, 1 subnets
C      192.168.4.252 is directly connected, Serial0/0/1
R    192.168.5.0/24 [120/1] via 192.168.4.253, 00:00:00, Serial0/0/1
Router#
```

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192.168.3.0/24

192.168.4.252/30

192.168.5.0/24

Router1 Router2 Router3

2950-24 Switch2 2950-24 Switch3

PC-PT PC3

Time: 00:33:06 Power Cycle Devices Fast Forward Time

Scenario 0

New Delete

Toggle PDU List Window

Fire Last Status Source Destination

Successful PC1 PC2

Thursday, November 11, 2021

56°F Clear 2:09 AM

Mohammed Ameen Motasem Ali Ababneh

Router3

IOS Command Line Interface

```
Router>en
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
        * - 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 [120/2] via 192.168.4.254, 00:00:25, Serial0/0/0
R    192.168.2.0/24 [120/1] via 192.168.4.254, 00:00:25, Serial0/0/0
R    192.168.3.0/24 [120/1] via 192.168.4.254, 00:00:25, Serial0/0/0
C    192.168.4.0/30 is subnetted, 1 subnets
     C    192.168.4.252 is directly connected, Serial0/0/0
C    192.168.5.0/24 is directly connected, FastEthernet0/0
Router#
```

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Router1 Router2 Router3

2950-24 Switch2

2950-24 Switch3

PC-PT PC3

192.168.3.0/24

192.168.4.252/30

192.168.5.0/24

Time: 00:34:19 Power Cycle Devices Fast Forward Time

Scenario 0

New Delete

Toggle PDU List Window

Fire Last Status Source Destination

Successful PC1 PC2

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192.168.3.0/24

Router1

Physical Config CLI

### IOS Command Line Interface

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

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

C    192.168.1.0/24 is directly connected, FastEthernet0/0
     192.168.2.0/30 is subnetted, 1 subnets
C       192.168.2.252 is directly connected, Serial0/0/0
R       192.168.3.0/24 [120/1] via 192.168.2.254, 00:00:26, Serial0/0/0
R       192.168.4.0/24 [120/1] via 192.168.2.254, 00:00:26, Serial0/0/0
R       192.168.5.0/24 [120/2] via 192.168.2.254, 00:00:26, Serial0/0/0
Router#
```

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PC-PT PC1

PC-PT PC3

0:31:41 Power Cycle Devices Fast Forward Time

Realtime

Scenario 0

New Delete

Toggle PDU List Window

Fire	Last Status	Source	Destination	T
	Successful	PC1	PC2	I

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56°F Clear ENG 2:07 AM

2. Use the **show ip protocols** command to view information about the routing processes.

Router1

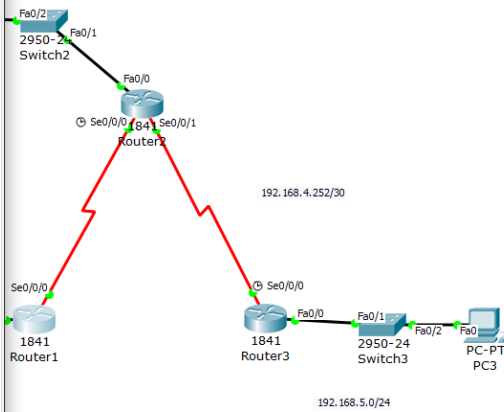
Physical Config CLI

### IOS Command Line Interface

```

R 192.168.4.0/24 [120/1] via 192.168.2.254, 00:00:26, Serial0/0/0
R 192.168.5.0/24 [120/2] via 192.168.2.254, 00:00:26, Serial0/0/0
Router#show ip protocols
Routing Protocol is "rip"
  Sending updates every 30 seconds, next due in 6 seconds
  Invalid after 180 seconds, hold down 180, flushed after 240
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Redistributing: rip
    Default version control: send version 2, receive 2
    Interface          Send Recv Triggered RIP Key-chain
    FastEthernet0/0      2      2
    Serial0/0/0          2      2
  Automatic network summarization is in effect
  Maximum path: 4
  Routing for Networks:
    192.168.0.0
    192.168.1.0
    192.168.2.0
  Passive Interface(s):
  Routing Information Sources:
    Gateway         Distance    Last Update
    192.168.2.254    120        00:00:03
  Distance: (default is 120)
Router#
  
```

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Time: 00:32:39 Power Cycle Devices Fast Forward Time

Scenario 0

New Delete

Toggle PDU List Window

Fire	Last Status	Source	Destination	T
Successful		PC1	PC2	I

Router2

Physical Config CLI

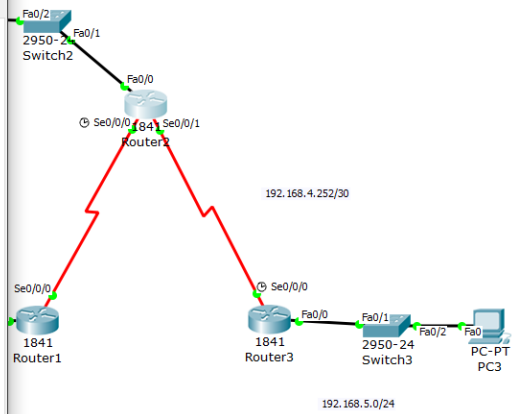
IOS Command Line Interface

```

R 192.168.5.0/24 [120/1] via 192.168.4.253, 00:00:00, Serial0/0/1
Router#show ip proto
Routing Protocol is "rip"
Sending updates every 30 seconds, next due in 7 seconds
Invalid after 180 seconds, hold down 180, flushed after 240
Outgoing update filter list for all interfaces is not set
Incoming update filter list for all interfaces is not set
Redistributing: rip
Default version control: send version 2, receive 2
Interface          Send Recv Triggered RIP Key-chain
FastEthernet0/0    2      2
Serial0/0/0        2      2
Serial0/0/1        2      2
Automatic network summarization is in effect
Maximum path: 4
Routing for Networks:
  192.168.2.0
  192.168.3.0
  192.168.4.0
Passive Interface(s):
Routing Information Sources:
  Gateway         Distance      Last Update
  192.168.2.253   120           00:00:09
  192.168.4.253   120           00:00:15
--More--

```

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Time: 00:33:48 Power Cycle Devices Fast Forward Time

Realtime

Scenario 0

Fire Last Status Source Destination

Successful PC1 PC2

Toggle PDU List Window

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56°F Clear

ENG 2:10 AM

Router

Physical Config CLI

### IOS Command Line Interface

```

192.168.4.0/30 is subnetted, 1 subnets
C 192.168.4.252 is directly connected, Serial0/0/0
C 192.168.5.0/24 is directly connected, FastEthernet0/0
Router#show ip proto
Routing Protocol is "rip"
  Sending updates every 30 seconds, next due in 11 seconds
  Invalid after 180 seconds, hold down 180, flushed after 240
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Redistributing: rip
    Default version control: send version 2, receive 2
  Interface                Send Recv Triggered RIP Key-chain
  FastEthernet0/0           2      2
  Serial0/0/0               2      2
Automatic network summarization is in effect
Maximum path: 4
Routing for Networks:
  192.168.4.0
  192.168.5.0
Passive Interface(s):
Routing Information Sources:
  Gateway         Distance      Last Update
  192.168.4.254   120           00:00:21
Distance: (default is 120)
Router#
  
```

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Time: 00:35:39 Power Cycle Devices Fast Forward Time

Realtime

Scenario 0

New Delete

Toggle PDU List Window

Fire Last Status Source Destination

Successful PC1 PC2

56°F Clear 2:12 AM

### 3. Test and Verify the Configurations.

From the host PC1, is it possible to ping PC2? **yes**

From the host PC1, is it possible to ping PC3? **yes**

From the host PC2, is it possible to ping PC3? **yes**

Time: 00:35:39 Power Cycle Devices Fast Forward Time

Realtime

Scenario 0

New Delete

Toggle PDU List Window

Fire Last Status Source Destination

Successful PC1 PC2

Successful PC1 PC2

Successful PC2 PC3

56°F Clear 2:13 AM

