Packet Tracer - Configure Basic EIGRP with IPv4

# Addressing Table

| Device | Interface | IP Address | Subnet Mask | Default Gateway |
| --- | --- | --- | --- | --- |
| R1 | G0/0 | 172.16.1.1 | 255.255.255.0 | N/A |
| R1 | S0/0/0 | 172.16.3.1 | 255.255.255.252 | N/A |
| R1 | S0/0/1 | 192.168.10.5 | 255.255.255.252 | N/A |
| R2 | G0/0 | 172.16.2.1 | 255.255.255.0 | N/A |
| R2 | S0/0/0 | 172.16.3.2 | 255.255.255.252 | N/A |
| R2 | S0/0/1 | 192.168.10.9 | 255.255.255.252 | N/A |
| R3 | G0/0 | 192.168.1.1 | 255.255.255.0 | N/A |
| R3 | S0/0/0 | 192.168.10.6 | 255.255.255.252 | N/A |
| R3 | S0/0/1 | 192.168.10.10 | 255.255.255.252 | N/A |
| PC1 | NIC | 172.16.1.10 | 255.255.255.0 | 172.16.1.1 |
| PC2 | NIC | 172.16.2.10 | 255.255.255.0 | 172.16.2.1 |
| PC3 | NIC | 192.168.1.10 | 255.255.255.0 | 192.168.1.1 |

# Objectives

Part 1: Configure EIGRP

Part 2: Verify EIGRP Routing

# Background / Scenario

In this activity, you will implement basic EIGRP including network commands, passive interfaces, and disabled automatic summarization. You will then verify your EIGRP configuration by using a variety of show commands and by testing end-to-end connectivity.

# Instructions

## Configure EIGRP

### Enable the EIGRP routing process.

Enable the EIGRP routing process on each router using AS number 1. The configuration for **R1** is shown.

R1(config)# **router eigrp 1**

#### Question:

What is the range of numbers that can be used for AS numbers?

Type your answers here.

### Advertise directly connected networks.

* + - 1. Use the **show ip route** command to display the directly connected networks on each router.

#### Question:

How can you tell the difference between subnet addresses and interface addresses?

Type your answers here.

* + - 1. On each router, configure EIGRP to advertise the specific directly connected subnets. The configuration for **R1** is shown.

R1(config-router)# **network 172.16.1.0 0.0.0.255**

R1(config-router)# **network 172.16.3.0 0.0.0.3**

R1(config-router)# **network 192.168.10.4 0.0.0.3**

### Configure passive interfaces.

Configure the LAN interfaces to not advertise EIGRP updates. The configuration for **R1** is shown.

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

### Disable automatic summarization.

The topology contains discontiguous networks. Therefore, automatic summarization should be disabled on each router. The configuration for **R1** is shown.

R1(config-router)# **no auto-summary**

**Note**: Prior to IOS 15 auto-summary had to be manually disabled.

### Save the configurations.

## Verify EIGRP Routing

### Examine neighbor adjacencies.

#### Questions:

* + - 1. Which command displays the neighbors discovered by EIGRP?

Type your answers here.

* + - 1. All three routers should have two neighbors listed. How are the neighbor routers identified?

Type your answers here.

### Display the EIGRP routing protocol parameters.

#### Questions:

* + - 1. What command displays the parameters and other information about the current state of any active IPv4 routing protocol processes configured on the router?

Type your answers here.

* + - 1. On **R2**, enter the command you listed for 2a and answer the following questions:

How many routers are sharing routing information with **R2**?

Type your answers here.

Where is this information located under?

Type your answers here.

What is the maximum hop count?

Type your answers here.

### Verify end-to-end connectivity

PC1, PC2 and PC3 should now be able to ping each other. If not, troubleshoot your EIGRP configurations.

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