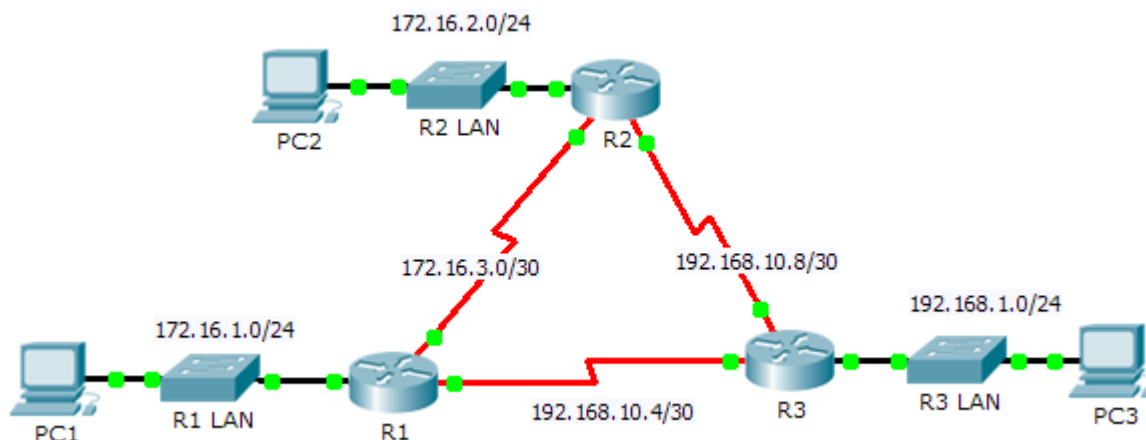# Packet Tracer – Configuring Basic EIGRP with IPv4

Topology

Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	G0/0	172.16.1.1	255.255.255.0	N/A
	S0/0/0	172.16.3.1	255.255.255.252	N/A
	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
	S0/0/0	172.16.3.2	255.255.255.252	N/A
	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
	S0/0/0	192.168.10.6	255.255.255.252	N/A
	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

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

Part 1:   Configure EIGRP

Step 1:   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
```

What is the range of numbers that can be used for AS numbers? **1 a 65 535**

Step 2:   Advertise directly connected networks.

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

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

Las subredes se identifican con una c, y las direcciones de enlaces se identifican con una L.

b.   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
```

Step 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
```

Step 4:   Disable automatic summarization.

The topology contains discontiguous networks. Therefore, disable automatic summarization 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.

Step 5:   Save the configurations.

Part 2:   Verify EIGRP Routing

Step 1:   Examine neighbor adjacencies.

a.   Which command displays the neighbors discovered by EIGRP? **show ip eigrp neighbors**

b.   All three routers should have two neighbors listed. The output for **R1** should look similar to the following:

```
IP-EIGRP neighbors for process 1
H   Address         Interface      Hold Uptime    SRTT   RTO   Q   Seq
```

```
                                  (sec)           (ms)        Cnt  Num
0    172.16.3.2       Se0/0/0      14    00:25:05  40     1000  0   28
1    192.168.10.6     Se0/0/1      12    00:13:29  40     1000  0   31
```

Step 2: Display the EIGRP routing protocol parameters.

a. What command displays the parameters and other information about the current state of any active IPv4 routing protocol processes configured on the router? Show ip protocols

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

How many routers are sharing routing information with **R2**? 2

Where is this information located under? Routing information sources

What is the maximum hop count? 100

Step 3: Verify end-to-end connectivity

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

Suggested Scoring Rubric

Activity Section	Question Location	Possible Points	Earned Points
Part 1: Configure EIGRP	Step 1	2	
	Step 2a	2	
Part 1 Total		**4**	
Part 2: Verify EIGRP Routing	Step 1a	5	
	Step 2a	5	
	Step 2b	6	
Part 2 Total		**16**	
Packet Tracer Score		**80**	
Total Score		**100**	