Packet Tracer - Propagate a Default Route in OSPFv2

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Addressing Table

Device	Interface	IPv4 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	
	S0/0/1	192.168.10.5	255.255.255.252	
R2	G0/0	172.16.2.1	255.255.255.0	N/A
	S0/0/0	172.16.3.2	255.255.255.252	
	S0/0/1	192.168.10.9	255.255.255.252	
	S0/1/0	209.165.200.225	255.255.255.224	
R3	G0/0	192.168.1.1	255.255.255.0	N/A
	S0/0/0	192.168.10.6	255.255.255.252	
	S0/0/1	192.168.10.10	255.255.255.252	
PC1	NIC	172.16.1.2	255.255.255.0	172.16.1.1
PC2	NIC	172.16.2.2	255.255.255.0	172.16.2.1
PC3	NIC	192.168.1.2	255.255.255.0	192.168.1.1
Web Server	NIC	64.100.1.2	255.255.255.0	64.100.1.1

Objectives

Part 1: Propagate a Default Route

Part 2: Verify Connectivity

Background

In this activity, you will configure an IPv4 default route to the Internet and propagate that default route to other OSPF routers. You will then verify the default route is in downstream routing tables and that hosts can now access a web server on the Internet.

Instructions

Part 1: Propagate a Default Route

Step 1: Test connectivity to the Web Server

a. From PC1, PC2, and PC3, attempt to ping the Web Server IP address, 64.100.1.2.

Were any of the pings successful?

R: The ping failed on each pcs.

What message did you receive, and which device issued the message?
R: On some pcs we have the Request time out in some petition of the 4 of each ping but letter of two "request time out error" we had the Reply from 172.16.2.1: Destination host unreachable.

b. Examine the routing tables on routers R1, R2, and R3.

What statement is present in the routing tables that indicates that the pings to the Web Server will fail?
R: The configuration of the routing tables allow to communicate with the others networks but the message on each route "Gateway of last resort is not set" is the problem that causes the failure.

Step 2: Configure a default route on R2.

Configure **R2** with a directly attached default route to the Internet.

```
R2(config)# ip route 0.0.0.0 0.0.0.0 Serial0/1/0
```

Note: Router will give a warning that if this interface is not a point-to-point connection, it may impact performance. You can ignore this warning because it is a point-to-point connection.

Step 3: Propagate the route in OSPF.

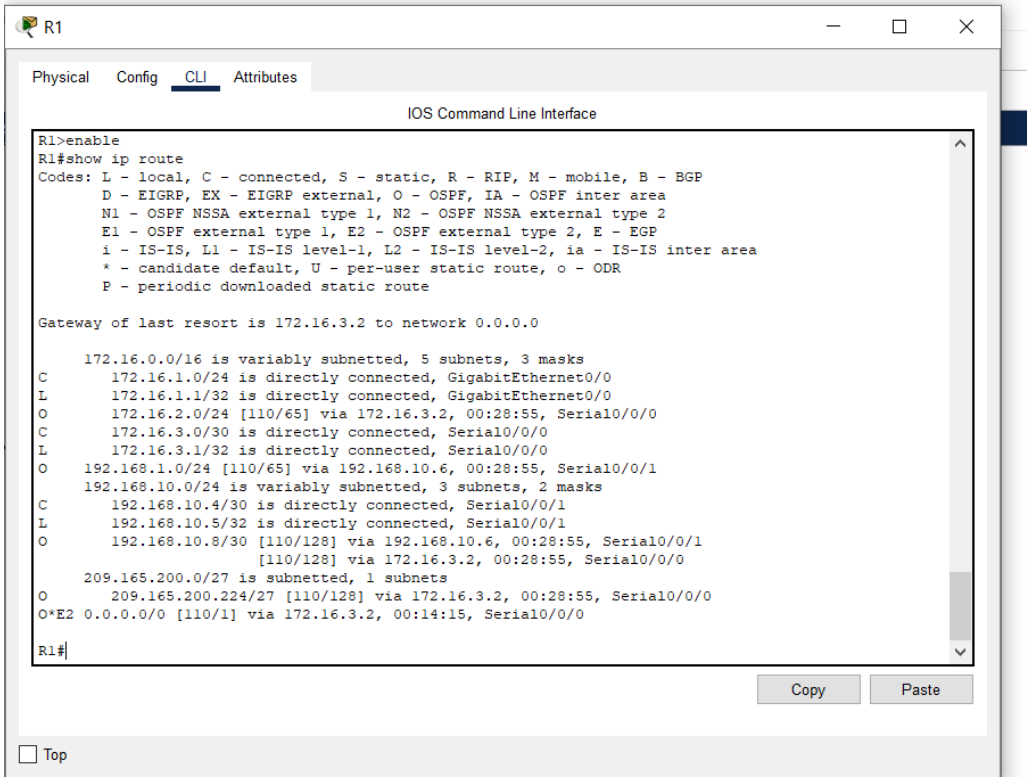
Configure OSPF to propagate the default route in OSPF routing updates.

```
R2(config)# router ospf 1
R2(config-router)# default-information originate
```

Step 4: Examine the routing tables on R1 and R3.

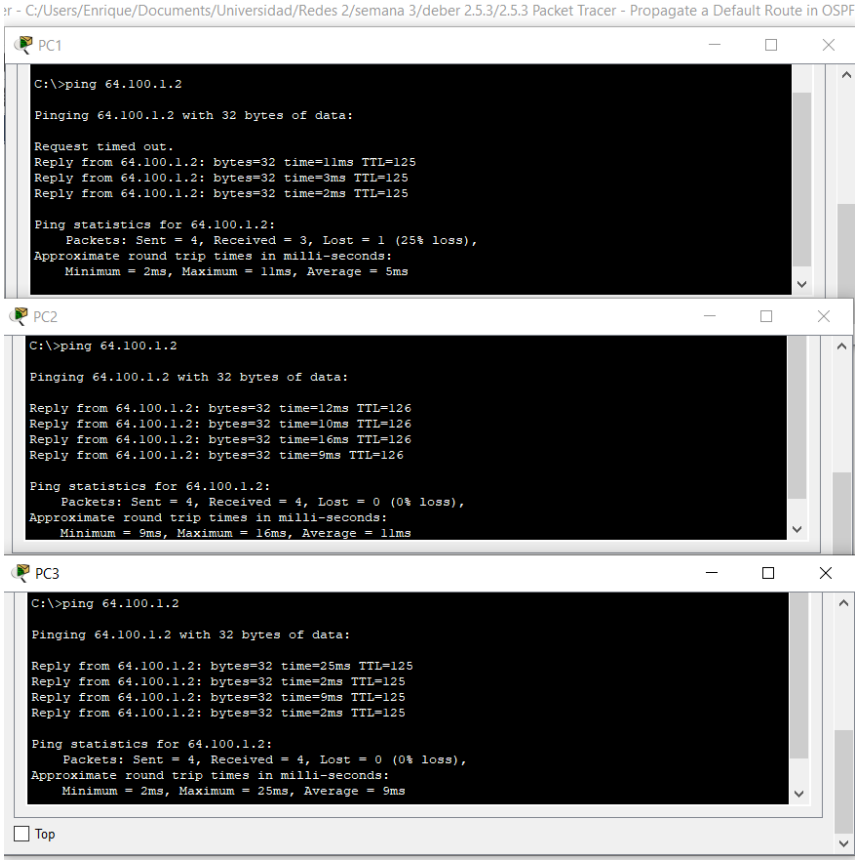
Examine the routing tables of **R1** and **R3** to verify that the route has been propagated.

```
R1> show ip route
<output omitted>
Gateway of last resort is 172.16.3.2 to network 0.0.0.0
<output omitted>
O*E2 0.0.0.0/0 [110/1] via 172.16.3.2, 00:00:08, Serial0/0/0
!-------------------------
R3> show ip route
<output omitted>
Gateway of last resort is 192.168.10.9 to network 0.0.0.0
<output omitted>O*E2 0.0.0.0/0 [110/1] via 192.168.10.9, 00:08:15, Serial0/0/1
```



Part 2: Verify Connectivity

Verify that **PC1**, **PC2**, and **PC3** can ping the web server.



ScreenShoot of activity: