Packet Tracer - Configure OSPFv2 in Single Area (Instructor Version)

Instructor Note: Red font color or gray highlights indicate text that appears in the instructor copy only.

Addressing Table

Device	Interface	IP Address	Subnet Mask
R1	G0/0	172.16.1.1	255.255.255.0
	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
	S0/0/0	172.16.3.2	255.255.255.252
	S0/0/1	192.168.10.9	255.255.255.252
R3	G0/0	192.168.1.1	255.255.255.0
	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
PC2	NIC	172.16.2.2	255.255.255.0
PC3	NIC	192.168.1.2	255.255.255.0

Objectives

Part 1: Configure OSPFv2 Routing

Part 2: Verify the Configurations

Background

In this activity, the IP addressing is already configured. You are responsible for configuring the three router topology with basic single area OSPFv2 and then verifying connectivity between end devices.

Note: The topology is the same one used in the chapter examples. In addition, the student practiced the configuration of this topology in the Syntax Checker activities. Therefore, the student should be able to complete this activity with minimal assistance.

Instructions

Part 1: Configure OSPFv2 Routing

Step 1: Configure OSPF on the R1, R2 and R3.

Use the following requirements to configure OSPF routing on all three routers:

o   Process ID 10

- o Router ID for each router: R1 = 1.1.1.1; R2 = 2.2.2.2; R3 = 3.3.3.3
- o Network address for each interface
- o LAN interface set to passive (do not use the **default** keyword)

Step 2: Verify OSPF routing is operational.

On each router, the routing table should now have a route to every network in the topology.

Step 3: Verify the Configurations

Each PC should be able to ping the other two PCs. If not, check your configurations.

Answer Scripts

Router R1

```
enable
conf t
router ospf 10
 router-id 1.1.1.1
 network 172.16.1.0 0.0.0.255 area 0
 network 172.16.3.0 0.0.0.3 area 0
 network 192.168.10.4 0.0.0.3 area 0
 passive-interface GigabitEthernet0/0
end
```

Router R2

```
enable
conf t
router ospf 10
 router-id 2.2.2.2
 network 172.16.2.0 0.0.0.255 area 0
 network 172.16.3.0 0.0.0.3 area 0
 network 192.168.10.8 0.0.0.3 area 0
 passive-interface GigabitEthernet0/0
end
```

Router R3

```
enable
conf t
router ospf 10
 router-id 3.3.3.3
 network 192.168.1.0 0.0.0.255 area 0
 network 192.168.10.4 0.0.0.3 area 0
 network 192.168.10.8 0.0.0.3 area 0
 passive-interface GigabitEthernet0/0
end
```