**Packet Tracer – Configuring OSPFv2 in a Single Area**

**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 | 172.16.1.2 | 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 |

**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.

**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:

-       Process ID 10

-       Router ID for each router: R1 = 1.1.1.1; R2 = 2.2.2.2; R3 = 3.3.3.3

-       Network address for each interface

-       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.

**Part 2:     Verify the Configurations**

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

Router 1 Configuration Commands

R1>en

R1#config t

R1(config)#router ospf 10

R1(config-router)#router-id 1.1.1.1

R1(config-router)#network 172.16.1.0 0.0.0.255 area 0

R1(config-router)#network 192.168.10.4 0.0.0.3 area 0

R1(config-router)#network 172.16.3.0 0.0.0.3 area 0

R1(config-router)#passive-int g0/0

00:13:00: %OSPF-5-ADJCHG: Process 10, Nbr 2.2.2.2 on Serial0/0/0 from LOADING to FULL, Loading Done 00:15:07: %OSPF-5-ADJCHG: Process 10, Nbr 3.3.3.3 on Serial0/0/1 from LOADING to FULL, Loading Done

Router 2 Configuration Commands

R2>en R2

R2#conf t

R2(config)#router ospf 10

R2(config-router)#router-id 2.2.2.2

R2(config-router)#network 172.16.2.0 0.0.0.255 area 0

R2(config-router)#network 172.16.3.0 0.0.0.3 area 0

00:13:00: %OSPF-5-ADJCHG: Process 10, Nbr 1.1.1.1 on Serial0/0/0 from LOADING to FULL, Loading Done

R2(config-router)#network 192.168.10.8 0.0.0.3 area 0

R2(config-router)#passive-int g0/0

00:16:38: %OSPF-5-ADJCHG: Process 10, Nbr 3.3.3.3 on Serial0/0/1 from LOADING to FULL, Loading Done

Router 3 Configuration Commands

R3>en

R3#conf t

R3(config)#router ospf 10

R3(config-router)#router-id 3.3.3.3

R3(config-router)#network 192.168.10.4 0.0.0.3 area 0

R3(config-router)#network 192.168.1.0 0.0.0.3 area 0

00:15:07: %OSPF-5-ADJCHG: Process 10, Nbr 1.1.1.1 on Serial0/0/0 from LOADING to FULL, Loading Done

R3(config-router)#network 192.168.10.8 0.0.0.3 area 0

R3(config-router)# 00:16:38: %OSPF-5-ADJCHG: Process 10, Nbr 2.2.2.2 on Serial0/0/1 from LOADING to FULL, Loading Done

R3(config-router)#passive-int g0/0