Configuring Dynamic Routing Using OSPFv2

Learning Objective: Configure and verify OSPFv2 for routing

Description: OSPFv2 is the most popularly used routing protocol in business today. You will learn how to configure it for multiple context.

- Configure S0/0/0 on NYEDGE1 and NYEDGE2

```
NYEDGE1#config t
NYEDGE1(config)#int s0/0/0
NYEDGE1(config-if)#ip address 10.0.12.1 255.255.255.252
NYEDGE1(config-if)#no shutdown
```

```
NYEDGE2#config t
NYEDGE2(config)#int s0/0/0
NYEDGE2(config-if)#ip address 10.0.12.2 255.255.255.252
NYEDGE2(config-if)#no shutdown
NYEDGE2(config-if)#do ping 10.0.12.1
```

- 3.4.a Neighbor adjacencies

```
NYEDGE1#show ip protocols
```

```
NYEDGE1#configure terminal
NYEDGE1(config)#router ospf 1
NYEDGE1(config-router)#router-id 1.1.1.1
NYEDGE1(config-router)#network 192.168.16.0 0.0.0.255 area 0
NYEDGE1(config-router)#network 172.14.0.0 0.0.0.255 area 0
NYEDGE1(config-router)#network 10.0.12.0 0.0.0.3 area 0
NYEDGE1(config-router)#exit
NYEDGE1(config)#exit
NYEDGE1#show ip protocols [note process-id,router-id,AD]
```

```
NYEDGE2#configure terminal
NYEDGE2(config)#router ospf 1
NYEDGE2(config)#router-id 2.2.2.2
NYEDGE2(config-router)#exit
NYEDGE2(config)#int g0/0
NYEDGE2(config-if)#ip ospf 1 area 0
NYEDGE2(config-if)#int g0/1
NYEDGE2(config-if)#ip ospf 1 area 0
NYEDGE2(config-if)#int s0/0/0
NYEDGE2(config-if)#ip ospf 1 area 0
NYEDGE2#show ip protocols [note process-id,router-id,AD]
```

- Set the router-id after ospfv2 configuration

```
NYWAN1#configure terminal
NYWAN1(config)#router ospf 1
NYWAN1(config-router)#
NYWAN1(config-router)#network 192.168.16.0 0.0.0.255 area 0
NYWAN1(config-router)#network 172.14.0.0 0.0.0.255 area 0
NYWAN1(config-router)#network 10.0.12.0 0.0.0.3 area 0
NYWAN1(config-router)#exit
NYWAN1(config)#exit
NYWAN1#show ip protocols [note process-id,router-id,AD]
NYWAN1(config)#router ospf 1
NYWAN1(config-router)#router-id 3.3.3.3
NYWAN1(config-router)#do clear ip ospf process
NYWAN1(config-router)#do show ip protocols
```

    - 3.4.b Point-to-point (–/FULL)
        - `show ip ospf neighbor`
    - 3.4.c Broadcast (DR/BDR selection)
        - `show ip ospf neighbor`
    - 3.4.d Router ID
        - By default, the Highest IP address active on router as the OSPF router config starts.

        - Manually configure in two ways.
            - Set a loopback address
            - Set a router-id in the router process

Endnotes, external and etc.

3.4 Configure and verify single area OSPFv2

- 3.4.a Neighbor adjacencies
- 3.4.b Point-to-point
- 3.4.c Broadcast (DR/BDR selection)
- 3.4.d Router ID