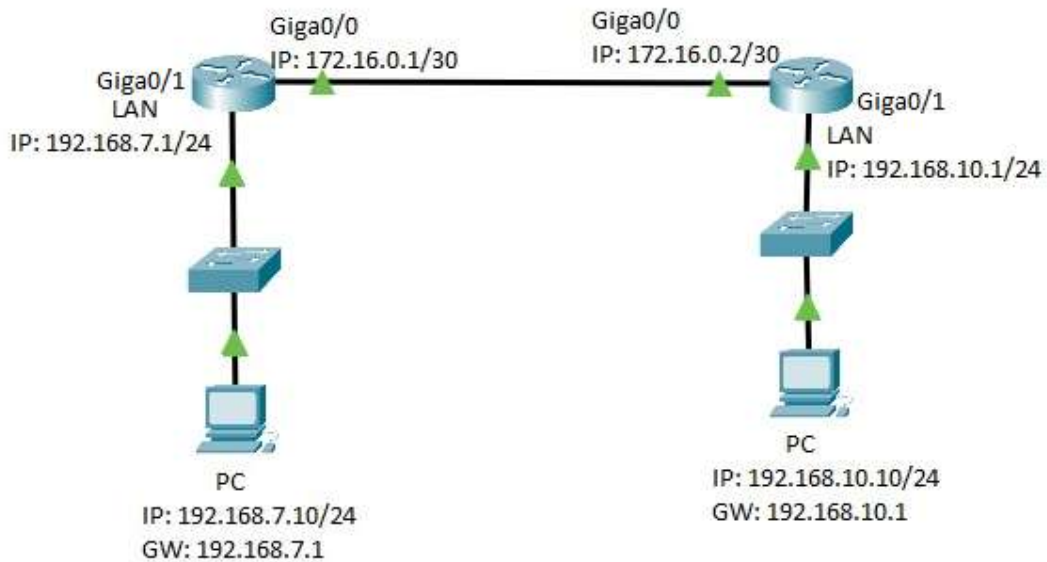


Verify OSPF Routing



Router 1 Configuration

```
interface Loopback1
ip address 1.1.1.1 255.255.255.255
!
interface GigaEthernet0/0
ip address 172.16.0.1 255.255.255.252
!
interface GigaEthernet0/1
ip address 192.168.7.1 255.255.255.0
!
router ospf 10
network 172.16.0.0 255.255.255.252 area 0
network 192.168.7.0 255.255.255.0 area 0
network 1.1.1.1 255.255.255.255 area 0
!
```

Router 2 Configuration

```
interface Loopback2
ip address 2.2.2.2 255.255.255.255
!
interface GigaEthernet0/0
ip address 172.16.0.2 255.255.255.252
!
interface GigaEthernet0/1
ip address 192.168.10.1 255.255.255.0
!
```

router ospf 10
network 192.168.10.0 255.255.255.0 area 0
network 2.2.2.2 255.255.255.255 area 0
network 172.16.0.0 255.255.255.252 area 0

Router 1

```
Router_1#  
Router_1#show ip route  
Codes: C - connected, S - static, R - RIP, B - BGP, BC - BGP connected  
D - EIGRP, EX - external EIGRP, O - OSPF, OIA - OSPF inter area  
ON1 - OSPF NSSA external type 1, ON2 - OSPF NSSA external type 2  
OE1 - OSPF external type 1, OE2 - OSPF external type 2, L - Local  
DHCP - DHCP type, L1 - IS-IS level-1, L2 - IS-IS level-2  
IA - ISIS inter-level, I - IPSEC type  
  
VRF ID: 0  
  
C 1.1.1.1/32 is directly connected, Loopback1  
O 2.2.2.2/32 [110,2] via 172.16.0.2 (on GigEthernet0/0)  
C 172.16.0.0/30 is directly connected, GigEthernet0/0  
C 192.168.7.0/24 is directly connected, GigEthernet0/1  
O 192.168.10.0/24 [110,2] via 172.16.0.2 (on GigEthernet0/0)  
Router_1#  
Router_1#  
Router_1#  
Router_1#show ip ospf neighbor  
-----  
OSPF process: 10  
  
AREA: 0  
  
Neighbor ID Pri State DeadTime Neighbor Addr Interface  
192.168.10.1 1 FULL/BDR 37 172.16.0.2 GigEthernet0/  
0  
-----  
Router_1#  
Router_1#
```

```
Router_1#  
Router_1#show ip ospf  
OSPF process: 10, Router ID: 192.168.7.1, 0x1c7c9904  
Distance: intra-area 110, inter-area 110, external 150  
SPF schedule delay 5 secs, Hold time between two SPFs 10 secs  
SPFV:0(0), TOs:23, SChDs:42, RTAB_REV:10, upd_cnt:1  
All Rtrs support Demand-Circuit.  
MPLS TE helper support enabled.  
MPLS TE enabled  
Number of virtual-links is 0(UP: 0).  
Number of areas is 1  
AREA: 0, 0x1c7c9904  
Number of interface in this area is 3(UP: 3)  
Number of MPLS-TE enabled interface in this area is 0(UP: 0)  
Area authentication type: None  
All Rtrs in this area support Demand-Circuit.  
Incremental-SPF disabled.  
The maximum number of non-default ASF-LSAs is not limited.  
There are 0 non-default ASF-LSAs in the LSDB now.  
Age Interval 60. ASF-LSA age hash-num-interval 501.  
  
Router_1#  
Router_1#show ip ospf data  
Router_1#show ip ospf database  
-----  
OSPF process: 10  
(Router ID: 192.168.7.1)  
  
AREA: 0  
Router Link States  
Link ID ADV Router Age Seq Num Checksum Link Count  
192.168.10.1 192.168.10.1 162 0x8000000d 0x63c2 3  
192.168.7.1 192.168.7.1 1673 0x80000010 0xf937 3  
Net Link States  
Link ID ADV Router Age Seq Num Checksum  
172.16.0.1 192.168.7.1 1673 0x80000002 0x6bbd  
-----  
Router_1#  
Router_1#
```

Router 1 connected PC Snapshot

```
C:\WINDOWS\system32\cmd.exe
C:\Users\Harshad>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet 2:

   Connection-specific DNS Suffix  . : 
   IPv6 Address . . . . . : 2485:208:1410:30a::a
   Link-local IPv6 Address . . . . . : fe80::504a-f08-1446:4cb%17
   IPv4 Address. . . . . : 192.168.7.10
   Subnet Mask . . . . . : 255.255.255.0
   Default Gateway . . . . . : 192.168.7.1

Wireless LAN adapter Local Area Connection* 4:

   Media State . . . . . : Media disconnected
   Connection-specific DNS Suffix  . : 

Wireless LAN adapter Wi-Fi:

   Media State . . . . . : Media disconnected
   Connection-specific DNS Suffix  . : 

Ethernet adapter Bluetooth Network Connection:

   Media State . . . . . : Media disconnected
   Connection-specific DNS Suffix  . : 

C:\Users\Harshad>
C:\Users\Harshad>ping 192.168.10.10

Pinging 192.168.10.10 with 32 bytes of data:
Reply from 192.168.10.10: bytes=32 time=3ms TTL=126
Reply from 192.168.10.10: bytes=32 time=1ms TTL=126
Reply from 192.168.10.10: bytes=32 time=1ms TTL=126
Reply from 192.168.10.10: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.10.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 3ms, Average = 1ms

C:\Users\Harshad>
```

Router 2

```
Router 2#
Router 2#show ip route
route
Router 2#show ip route
-- Show route table
Codes: C - connected, S - static, R - RIP, B - BGP, BC - BGP connected
       D - EIGRP, EX - external EIGRP, O - OSPF, OIA - OSPF inter area
       ON1 - OSPF NSSA external type 1, ON2 - OSPF NSSA external type 2
       OE1 - OSPF external type 1, OE2 - OSPF external type 2, L - Local
       DHCP - DHCP type, L1 - IS-IS level-1, L2 - IS-IS level-2
       IA - ISIS inter-level, I - IPSEC type

VRF ID: 0

O 1.1.1.1/32 [110,2] via 172.16.0.1 (on GigaEthernet0/0)
C 2.2.2.2/32 is directly connected, Loopback0
C 172.16.0.0/30 is directly connected, GigaEthernet0/0
O 192.168.7.0/24 [110,2] via 172.16.0.1 (on GigaEthernet0/0)
C 192.168.10.0/24 is directly connected, GigaEthernet0/1

Router 2#
Router 2#show ip ospf ne
Router 2#show ip ospf nei
Router 2#show ip ospf neighbor

-----
OSPF process: 10
-----

Neighbor ID Pri State DeadTime Neighbor Addr Interface
192.168.7.1 1 FULL/DR 37 172.16.0.1 GigaEthernet0/0
0

Router 2#
Router 2#
```

```
Router 2#
Router 2#show ip ospf
OSPF process: 10, Router ID: 192.168.10.1, 0x1c7c9504
Discontiguous inter-area 110, inter-area 110, external 150
SPF schedule delay 5 secs, Hold time between two SPFs 10 secs
SPFVTV:(0), T0s:20, SChDa:2s, RTAB_REV:9, upd_cnt:1
All Rtrs support Demand-Circuit.
IETF GR helper support enabled.
MPLS TE enabled
Number of virtual-links is 0 (UP: 0).
Number of areas is 1
AREA: 0, 0x1c7c96bc
Number of interface in this area is 3 (UP: 3)
Number of MPLS-TE enabled interface in this area is 0 (UP: 0)
Area authentication type: None
All Rtrs in this area support Demand-Circuit.
Incremental-SPF disabled.
The maximum number of non-default ASE-LSAs is not limited.
There are 0 non-default ASE-LSAs in the LSDB now.
Age Interval 60. ASE-LSA age hash-num-interval 501.

Router 2#
Router 2#
Router 2#show ip ospf datab
Router 2#show ip ospf database

-----
OSPF process: 10
(Router ID: 192.168.10.1)
-----

AREA: 0
Router Link States
Link ID ADV Router Age Seq Num Checksum Link Count
192.168.10.1 192.168.10.1 500 0x8000000d 0x63e2 3
192.168.7.1 192.168.7.1 328 0x80000011 0x738 3
Net Link States
Link ID ADV Router Age Seq Num Checksum
172.16.0.1 192.168.7.1 328 0x80000003 0x69be

Router 2#
Router 2#
Router 2#
```

Router 2 connected PC Snapshot

```
C:\Windows\System32\cmd.exe
Reply from 192.168.7.1: bytes=32 time<1ms TTL=254
Reply from 192.168.7.1: bytes=32 time<1ms TTL=254
Reply from 192.168.7.1: bytes=32 time<1ms TTL=254
Ping statistics for 192.168.7.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\Windows\System32>ipconfig
Windows IP Configuration

Ethernet adapter Bluetooth Network Connection:
    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 3:
    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:
    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Ethernet adapter Ethernet:
    Connection-specific DNS Suffix  . :
    IPv6 Address . . . . . : fd83:d2ba:83c8:d2c
    Link-local IPv6 Address . . . . . : fe80:25ad:1bf3:hc8e:dd38%3
    IPv4 Address. . . . . : 192.168.10.10
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.10.1

Tunnel adapter isatap.{9576471D-E1B9-4F11-A72F-8B7E8E7CD966}:
    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

C:\Windows\System32>ping 192.168.7.10

Pinging 192.168.7.10 with 32 bytes of data:
Reply from 192.168.7.10: bytes=32 time=2ms TTL=126
Reply from 192.168.7.10: bytes=32 time=1ms TTL=126
Reply from 192.168.7.10: bytes=32 time=1ms TTL=126
Reply from 192.168.7.10: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.7.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms
C:\Windows\System32>
```