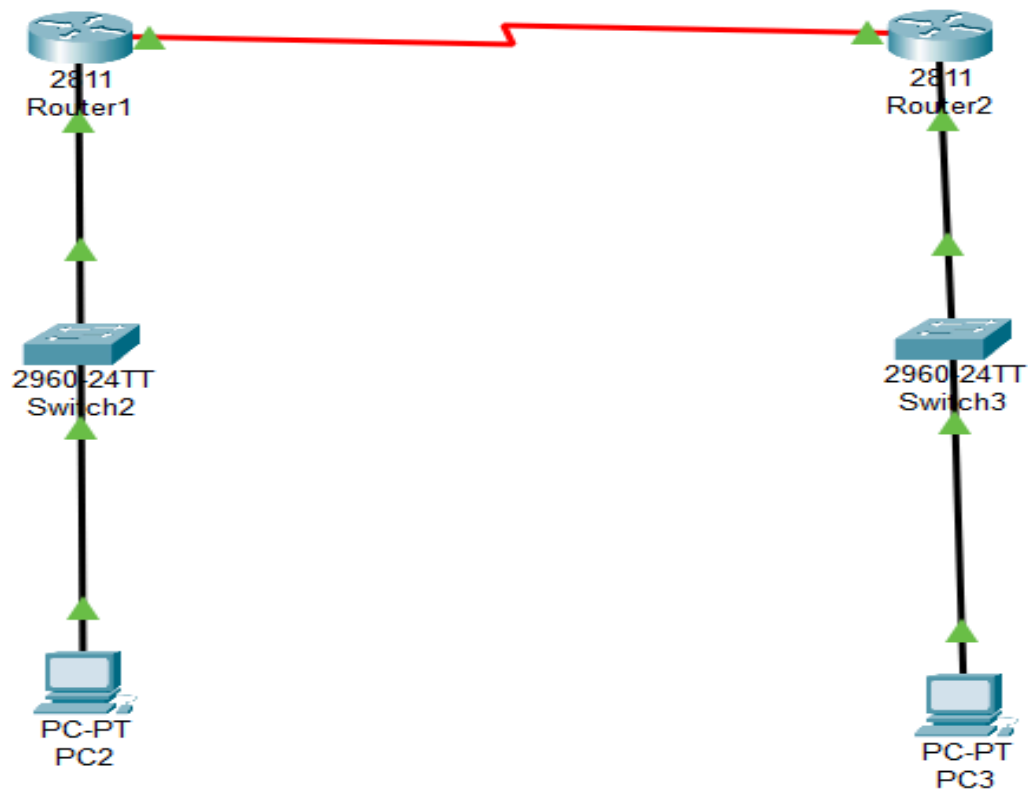


- Logical Network Topology



Reference Table

Table 1 provides the IP addresses and masks for all necessary interfaces used to complete this lab.

Table 1 IP Addresses, Subnet Masks, and VLAN Assignments for Lab 2

Computer/Interface – R1	IPv6 Address
FA0/0	2001:C16C:0000:0002:0000:0000:0000:0000/64
S0/0/0	2001:C16C:0000:0001:0000:0000:0000:0001/64
Computer/Interface – R2	IPv6 Address
FA0/0	2001:C16C:0000:0003:0000:0000:0000:0000/64
S0/0/1	2001:C16C:0000:0001:0000:0000:0000:0002/64

- Router 1 #sh ipv6 interface

```
R1-LAN#sh ipv6 interface
Serial0/0/0 is up, line protocol is up
IPv6 is enabled, link-local address is FE80::2E0:8FFF:FE9A:A301
No Virtual link-local address(es):
Global unicast address(es):
  2001:C16C:0:1::1, subnet is 2001:C16C:0:1::/64
Joined group address(es):
  FF02::1
  FF02::2
  FF02::1:FF00:1
  FF02::1:FF9A:A301
MTU is 1500 bytes
ICMP error messages limited to one every 100 milliseconds
ICMP redirects are enabled
ICMP unreachable are sent
ND DAD is enabled, number of DAD attempts: 1
ND reachable time is 30000 milliseconds
ND advertised reachable time is 0 (unspecified)
ND advertised retransmit interval is 0 (unspecified)
ND router advertisements are sent every 200 seconds
ND router advertisements live for 1800 seconds
ND advertised default router preference is Medium
Hosts use stateless autoconfig for addresses.
```

- Router 2 #sh ipv6 interface

```
R2-LAN#sh ipv6 interface
Serial0/0/1 is up, line protocol is up
IPv6 is enabled, link-local address is FE80::2D0:FFFF:FED0:6601
No Virtual link-local address(es):
Global unicast address(es):
  2001:C16C:0:1::2, subnet is 2001:C16C:0:1::/64
Joined group address(es):
  FF02::1
  FF02::2
  FF02::1:FF00:2
  FF02::1:FFD0:6601
MTU is 1500 bytes
ICMP error messages limited to one every 100 milliseconds
ICMP redirects are enabled
ICMP unreachable are sent
ND DAD is enabled, number of DAD attempts: 1
ND reachable time is 30000 milliseconds
ND advertised reachable time is 0 (unspecified)
ND advertised retransmit interval is 0 (unspecified)
ND router advertisements are sent every 200 seconds
ND router advertisements live for 1800 seconds
ND advertised default router preference is Medium
Hosts use stateless autoconfig for addresses.
```

- Router 1 #show running-config

```
R1-LAN#show running-config
Building configuration...

Current configuration : 789 bytes
!
version 15.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R1-LAN
!
!
!
!
!
!
!
no ip cef
ipv6 unicast-routing
!
no ipv6 cef
!
!
!
!
license udi pid CISCO2811/K9 sn FTX1017RSIC-
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
```

```
!  
!  
!  
!  
!  
!  
interface FastEthernet0/0  
  no ip address  
  duplex auto  
  speed auto  
  shutdown  
!  
interface FastEthernet0/1  
  no ip address  
  duplex auto  
  speed auto  
  shutdown  
!  
interface Serial0/0/0  
  no ip address  
  ipv6 address 2001:C16C:0:1::1/64  
  clock rate 128000  
!  
interface Serial0/0/1  
  no ip address  
  clock rate 2000000  
  shutdown  
!  
interface Vlan1  
  no ip address  
  shutdown  
!  
ip classless  
!  
ip flow-export version 9  
!  
!  
!  
!  
!
```

```
interface Serial0/0/1
  no ip address
  clock rate 2000000
  shutdown
!
interface Vlan1
  no ip address
  shutdown
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
  login
!
!
!
end
```

- Router 2 #show running-config

```
R2-LAN#show running-config
Building configuration...

Current configuration : 770 bytes
!
version 15.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R2-LAN
!
!
!
!
!
!
!
!
no ip cef
ipv6 unicast-routing
!
no ipv6 cef
!
!
!
!
license udi pid CISCO2811/K9 sn FTX10179I8K-
!
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
```

```
!  
!  
!  
!  
!  
interface FastEthernet0/0  
  no ip address  
  duplex auto  
  speed auto  
  shutdown  
!  
interface FastEthernet0/1  
  no ip address  
  duplex auto  
  speed auto  
  shutdown  
!  
interface Serial0/0/0  
  no ip address  
  clock rate 2000000  
  shutdown  
!  
interface Serial0/0/1  
  no ip address  
  ipv6 address 2001:C16C:0:1::2/64  
!  
interface Vlan1  
  no ip address  
  shutdown  
!  
ip classless  
!  
ip flow-export version 9  
!  
!  
!  
!  
!  
!  
line con 0  
.  
!  
line aux 0  
!  
line vty 0 4  
  login  
!  
!  
!  
end
```

- Router 1 #sh ipv6 int brief

```
R1-LAN#sh ipv6 int brief
FastEthernet0/0      [administratively down/down]
    unassigned
FastEthernet0/1      [administratively down/down]
    unassigned
Serial0/0/0          [up/up]
    FE80::2E0:8FFF:FE9A:A301
    2001:Cl6C:0:1::1
Serial0/0/1          [administratively down/down]
    unassigned
Vlan1                [administratively down/down]
    unassigned
```

- Router 2 #sh ipv6 int brief

```
R2-LAN#sh ipv6 int brief
FastEthernet0/0      [administratively down/down]
    unassigned
FastEthernet0/1      [administratively down/down]
    unassigned
Serial0/0/0          [administratively down/down]
    unassigned
Serial0/0/1          [up/up]
    FE80::2D0:FFFF:FED0:6601
    2001:Cl6C:0:1::2
Vlan1                [administratively down/down]
    unassigned
```

- Router 1 #show ipv6 route

```
R1-LAN#show ipv6 route
IPv6 Routing Table - 3 entries
Codes: C - Connected, L - Local, S - Static, R - RIP, B - BGP
       U - Per-user Static route, M - MIPv6
       I1 - ISIS L1, I2 - ISIS L2, IA - ISIS interarea, IS - ISIS summary
       ND - ND Default, NDp - ND Prefix, DCE - Destination, NDr - Redirect
       O - OSPF intra, OI - OSPF inter, OE1 - OSPF ext 1, OE2 - OSPF ext 2
       ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2
       D - EIGRP, EX - EIGRP external
C    2001:Cl6C:0:1::/64 [0/0]
    via Serial0/0/0, directly connected
L    2001:Cl6C:0:1::1/128 [0/0]
    via Serial0/0/0, receive
L    FF00::/8 [0/0]
    via Null0. receive
```


- Router 2 #show ipv6 route

```
R2-LAN#sh ipv6 route
IPv6 Routing Table - 3 entries
Codes: C - Connected, L - Local, S - Static, R - RIP, B - BGP
        U - Per-user Static route, M - MIPv6
        I1 - ISIS L1, I2 - ISIS L2, IA - ISIS interarea, IS - ISIS summary
        ND - ND Default, NDp - ND Prefix, DCE - Destination, NDr - Redirect
        O - OSPF intra, OI - OSPF inter, OE1 - OSPF ext 1, OE2 - OSPF ext 2
        ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2
        D - EIGRP, EX - EIGRP external
C   2001:C16C:0:1::/64 [0/0]
    via Serial0/0/1, directly connected
L   2001:C16C:0:1::2/128 [0/0]
    via Serial0/0/1, receive
L   FF00::/8 [0/0]
    via Null0, receive
```

- Router 1 ping to Router 2

```
R1-LAN#ping 2001:C16C:0:1::2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 2001:C16C:0:1::2, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/11/30 ms
```

- Router 2 ping to Router 1

```
R2-LAN#ping 2001:C16C:0:1::1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 2001:C16C:0:1::1, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 11/25/53 ms
```

- Router 1 #sh ipv6 int brief

```
R1-LAN#sh ipv6 int brief
FastEthernet0/0          [up/up]
    FE80::2E0:8FFF:FE9A:A301
    2001:C16C:0:2:2E0:8FFF:FE9A:A301
FastEthernet0/1          [administratively down/down]
    unassigned
Serial0/0/0              [up/up]
    FE80::2E0:8FFF:FE9A:A301
    2001:C16C:0:1::1
Serial0/0/1              [administratively down/down]
    unassigned
Vlan1                    [administratively down/down]
    unassigned
```

- Router 2 #sh ipv6 int brief

```
R2-LAN#sh ipv6 int brief
FastEthernet0/0          [up/up]
    FE80::2D0:FFFF:FED0:6601
    2001:C16C:0:3:2D0:FFFF:FED0:6601
FastEthernet0/1          [administratively down/down]
    unassigned
Serial0/0/0              [administratively down/down]
    unassigned
Serial0/0/1              [up/up]
    FE80::2D0:FFFF:FED0:6601
    2001:C16C:0:1::2
Vlan1                    [administratively down/down]
    unassigned
```

- Router 1 #sh ipv6 route

```
R1-LAN#sh ipv6 route
IPv6 Routing Table - 5 entries
Codes: C - Connected, L - Local, S - Static, R - RIP, B - BGP
       U - Per-user Static route, M - MIPv6
       I1 - ISIS L1, I2 - ISIS L2, IA - ISIS interarea, IS - ISIS summary
       ND - ND Default, NDp - ND Prefix, DCE - Destination, NDr - Redirect
       O - OSPF intra, OI - OSPF inter, OE1 - OSPF ext 1, OE2 - OSPF ext 2
       ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2
       D - EIGRP, EX - EIGRP external
C   2001:C16C:0:1::/64 [0/0]
    via Serial0/0/0, directly connected
L   2001:C16C:0:1::1/128 [0/0]
    via Serial0/0/0, receive
C   2001:C16C:0:2::/64 [0/0]
    via FastEthernet0/0, directly connected
L   2001:C16C:0:2:2E0:8FFF:FE9A:A301/128 [0/0]
    via FastEthernet0/0, receive
L   FF00::/8 [0/0]
    via Null0, receive
```

- Router 2 #sh ipv6 route

```
R2-LAN#sh ipv6 route
IPv6 Routing Table - 5 entries
Codes: C - Connected, L - Local, S - Static, R - RIP, B - BGP
        U - Per-user Static route, M - MIPv6
        I1 - ISIS L1, I2 - ISIS L2, IA - ISIS interarea, IS - ISIS summary
        ND - ND Default, NDp - ND Prefix, DCE - Destination, NDr - Redirect
        O - OSPF intra, OI - OSPF inter, OE1 - OSPF ext 1, OE2 - OSPF ext 2
        ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2
        D - EIGRP, EX - EIGRP external
C   2001:C16C:0:1::/64 [0/0]
    via Serial0/0/1, directly connected
L   2001:C16C:0:1::2/128 [0/0]
    via Serial0/0/1, receive
C   2001:C16C:0:3::/64 [0/0]
    via FastEthernet0/0, directly connected
L   2001:C16C:0:3:2D0:FFFF:FED0:6601/128 [0/0]
    via FastEthernet0/0, receive
L   FF00::/8 [0/0]
    via Null0, receive
```