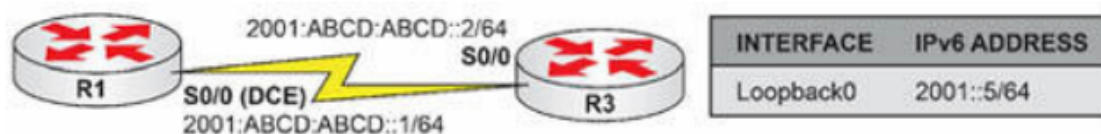


Configure, Verify, and Troubleshoot IPv6 Addresses

Lab Topology



Devices:

- R1 (Router)
- R3 (Router)

Lab Setup :

1. Assuming the devices, Router R1 and R3 are 1841 routers.
2. Configuring hostnames.
3. Adding Serial Ports to the 1841 Cisco Routers.
4. Connecting the 2 Routers using Serial DCE Cable On Serial 0/0 Interface on both the routers to get the following topology :



Configuring IPv6 Addresses and Loopback addresses to the serial ports in both the Routers
For Router R1 :

```
Router>
Router>enable
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname R1
R1(config)#exit
R1#
%SYS-5-CONFIG_I: Configured from console by console
```

```
R1#
R1#
R1#config
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#
R1(config)#ipv6 unicast-routing
R1(config)#interface Serial0/0/0
R1(config-if)#ipv6 address 2001:abcd:abcd::1/64
R1(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/0/0, changed state to down
R1(config-if)#
R1(config-if)#

R1#write memory
Building configuration...
[OK]
```

For Router R3 :

```
Router>enable
Router#config
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname R3
R3(config)#interface Serial0/0/0
R3(config-if)#ipv6 address 2001:abcd:abcd::2/64
R3(config-if)#no shutdown

R3(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up

R3(config-if)#interface lo
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up

^
% Invalid input detected at '^' marker.

R3(config-if)#ipv6 address 2001::5/64
R3(config-if)#exit
R3(config)#exit
R3#
%SYS-5-CONFIG_I: Configured from console by console

R3#write memory
Building configuration...
[OK]
R3#
```

Set Clock Rate on DCE Interface - Router R1

```
R1#config
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#interface Serial0/0/0
R1(config-if)#clock rate 72000
```

```
R1#
R1#show ipv6 interface brief
FastEthernet0/0          [administratively down/down]
    unassigned
FastEthernet0/1          [administratively down/down]
    unassigned
Serial0/0/0              [up/up]
    FE80::260:2FFF:FE3C:3701
    2001:ABCD:ABCD::1
Vlan1                    [administratively down/down]
    unassigned
```

```
R3#
R3#show ip interface brief
Interface                IP-Address      OK? Method Status          Protocol
FastEthernet0/0          unassigned      YES unset  administratively down down
FastEthernet0/1          unassigned      YES unset  administratively down down
Serial0/0/0              unassigned      YES unset  up              up
Vlan1                    unassigned      YES unset  administratively down down
R3#
```

```
R3#show ipv6 interface brief
FastEthernet0/0          [administratively down/down]
    unassigned
FastEthernet0/1          [administratively down/down]
    unassigned
Serial0/0/0              [up/up]
    FE80::2D0:D3FF:FED7:5801
    2001::5
    2001:ABCD:ABCD::2
Vlan1                    [administratively down/down]
    unassigned
R3#
```

Ping from R1 to R3

```
R1#ping ipv6 2001:abcd:abcd::2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 2001:abcd:abcd::2, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 5/5/6 ms
```