1841
R2

1841
R3

1841
R1

1841
R4

2950-24
Switch0

2950-24
Switch1

PC-PT
A1

PC-PT
A2

PC-PT
B1

PC-PT
B2

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, c


R1>en
R1#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#ipv6 unicast-routing
R1(config)#interface fastEthernet 0/0
R1(config-if)#ipv6 address 1::/64
R1(config-if)#no shutdown
R1(config-if)#exit
R1(config)#interface fastEthernet 0/1
R1(config-if)#no interface fastEthernet 0/1
% Removal of physical interfaces is not permitted
R1(config)#ipv6 address 1::1/64
                  ^
% Invalid input detected at '^' marker.

R1(config)#reload
            ^
% Invalid input detected at '^' marker.

R1(config)#interface fastEthernet 0/0
R1(config-if)#ipv6 address 1::1/64
R1(config-if)#no shutdown
R1(config-if)#exit
R1(config)#interface fastEthernet 0/1
R1(config-if)#ipv6 address 2::1/64
R1(config-if)#no shutdown
R1(config-if)#exit
R1(config)#exit
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#en
R1#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#no ipv6 address 1::/64
                   ^
% Invalid input detected at '^' marker.

R1(config)#interface fastEthernet 0/0
R1(config-if)#no ipv6 address 1::/64
R1(config-if)#no shutdown
R1(config-if)#exit
R1(config)#exit
R1#
%SYS-5-CONFIG_I: Configured from console by console
```

```
%SYS-5-CONFIG_I: Configured from console by console

R1#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 - I
       ND - ND Default, NDp - ND Prefix, DCE - Destination, ND
       O - OSPF intra, OI - OSPF inter, OE1 - OSPF ext 1, OE2
       ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2
       D - EIGRP, EX - EIGRP external
C    1::/64 [0/0]
      via ::, FastEthernet0/0
L    1::1/128 [0/0]
      via ::, FastEthernet0/0
C    2::/64 [0/0]
      via ::, FastEthernet0/1
L    2::1/128 [0/0]
      via ::, FastEthernet0/1
L    FF00::/8 [0/0]
      via ::, Null0
R1#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#ipv6 route 3::/64 2::2
R1(config)#ipv6 route 4::/64 2::2
R1(config)#ipv6 route 5::/64 2::2
R1(config)#exit
R1#
%SYS-5-CONFIG_I: Configured from console by console
exit
```

```
Press RETURN to get started!


Router>en
Router#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname R2
R2(config)#ipv6 unicast-routing
R2(config)#interface fastEthernet 0/0
R2(config-if)#ipv6 address 2::2/64
R2(config-if)#no shutdown

R2(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

R2(config-if)#exit
R2(config)#interface fastEthernet 0/1
R2(config-if)#ipv6 address 3::1/64
R2(config-if)#no shutdown

R2(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
exit
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
```

```
R2>en
R2#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#ipv6 route 1::/64 2::1
R2(config)#ipv6 route 4::/64 3::2
R2(config)#ipv6 route 5::/64 3::2
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]
R2#
```

```
Router>en
Router#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname R3
R3(config)#ipv6 unicast-routing
R3(config)#interface fastEthernet 0/0
R3(config-if)#ipv6 address 3::2/64
R3(config-if)#no shutdown

R3(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

R3(config-if)#exit
R3(config)#interface fastEthernet 0/1
R3(config-if)#no interface fastEthernet 0/1
% Removal of physical interfaces is not permitted
R3(config)#interface fastEthernet 0/1
R3(config-if)#ipv6 address 4::1/64
R3(config-if)#no shutdown

R3(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
exit
R3(config)#exit
R3#
%SYS-5-CONFIG_I: Configured from console by console

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
```

```
R3>sh ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set


R3>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   3::/64 [0/0]
     via ::, FastEthernet0/0
L   3::2/128 [0/0]
     via ::, FastEthernet0/0
C   4::/64 [0/0]
     via ::, FastEthernet0/1
L   4::1/128 [0/0]
     via ::, FastEthernet0/1
L   FF00::/8 [0/0]
     via ::, Null0
R3>
```

```
Router>en
Router#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname R4
R4(config)#ipv6 unicast-routing
R4(config)#interface fastEthernet 0/0
R4(config-if)#ipv6 address 4::2/64
R4(config-if)#no shutdown

R4(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

R4(config-if)#exit
R4(config)#interface fastEthernet 0/1
R4(config-if)#ipv6 address 5::1/64
R4(config-if)#no shutdown

R4(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
exit
R4(config)#exit
R4#
%SYS-5-CONFIG_I: Configured from console by console

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
```

```
R4>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   4::/64 [0/0]
     via ::, FastEthernet0/0
L   4::2/128 [0/0]
     via ::, FastEthernet0/0
C   5::/64 [0/0]
     via ::, FastEthernet0/1
L   5::1/128 [0/0]
     via ::, FastEthernet0/1
L   FF00::/8 [0/0]
     via ::, Null0
R4>en
R4#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
R4(config)#ipv6 route 1::/64 4::1
R4(config)#ipv6 route 2::/64 4::1
R4(config)#ipv6 route 3::/64 4::1
R4(config)#exit
R4#
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]
R4#exit
```

```
C:\>ping 5::10

Pinging 5::10 with 32 bytes of data:

Reply from 5::10: bytes=32 time=1ms TTL=124
Reply from 5::10: bytes=32 time=13ms TTL=124
Reply from 5::10: bytes=32 time<1ms TTL=124
Reply from 5::10: bytes=32 time<1ms TTL=124

Ping statistics for 5::10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 13ms, Average = 3ms


C:\>
```