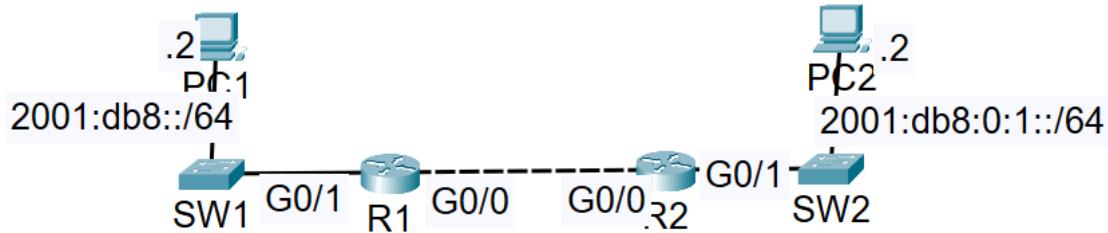


## Network Topology:

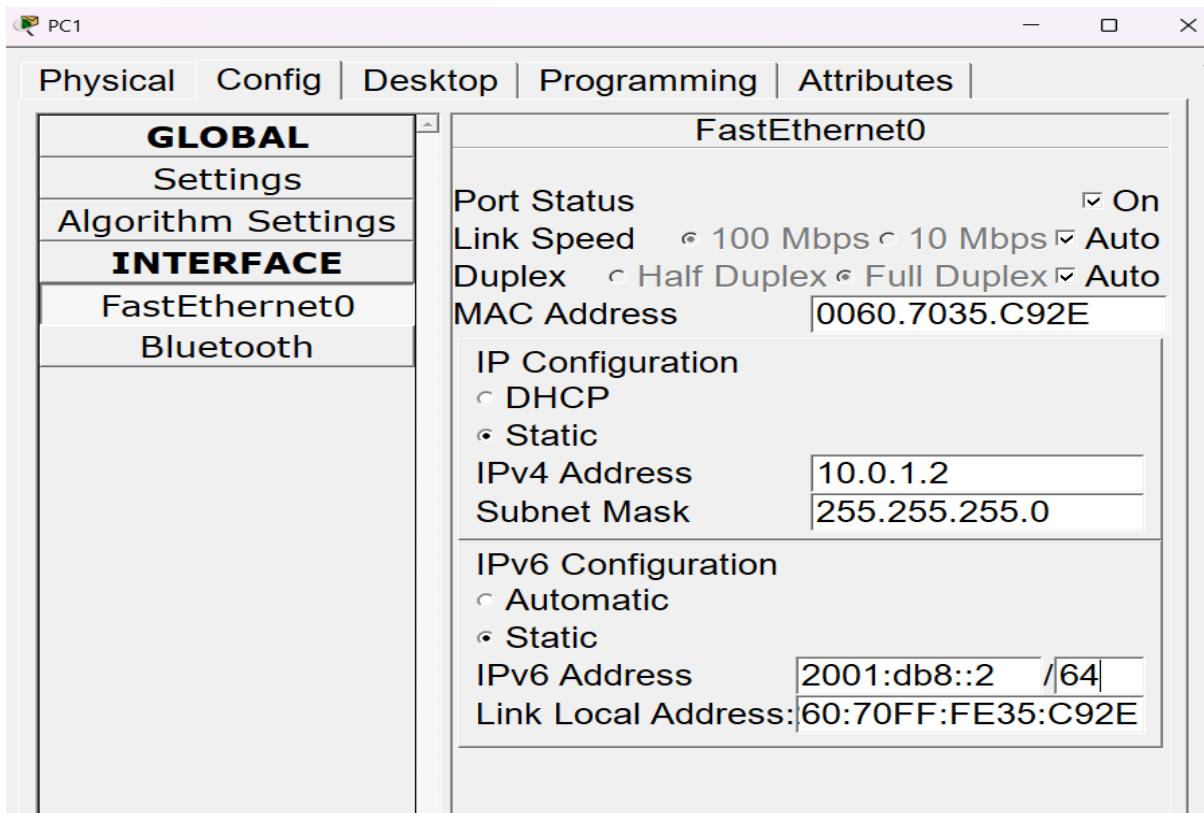


### R1 CLI:

```
R1>en
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#do sh int g0/1
GigabitEthernet0/1 is up, line protocol is up (connected)
Hardware is CN Gigabit Ethernet, address is 0030.f236.4502 (bia 0030.f236.4502)
Internet address is 10.0.1.254/24
MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is RJ45
output flow-control is unsupported, input flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00,
Last input 00:00:08, output 00:00:05, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0 (size/max/drops); Total output drops: 0
Queueing strategy: fifo
Output queue :0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    0 watchdog, 1017 multicast, 0 pause input
    0 input packets with dribble condition detected
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 unknown protocol drops
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier
    0 output buffer failures, 0 output buffers swapped out

R1(config)#int g0/1
R1(config-if)#ipv6 address 2001:db8::/64 eui-64
R1(config-if)#do sh ipv6 int br
GigabitEthernet0/0      [up/up]
    unassigned
GigabitEthernet0/1      [up/up]
    FE80::230:F2FF:FE36:4502
    2001:DB8::230:F2FF:FE36:4502
GigabitEthernet0/2      [administratively down/down]
    unassigned
Vlan1                  [administratively down/down]
    unassigned
```

## PC1 configuration:



R1's g0/1 IPv6 address is given as the default gateway.

R2 CLI:

The screenshot shows the IOS Command Line Interface for R2. The top navigation bar includes Physical, Config, CLI, and Attributes, with CLI selected. Below it is the title 'IOS Command Line Interface'. The terminal window displays the following configuration commands:

```

R2>en
R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#do sh int g0/1
GigabitEthernet0/1 is up, line protocol is up (connected)
  Hardware is CN Gigabit Ethernet, address is 0001.63b0.b802 (bia 0001.63b0.b802)
  Internet address is 10.0.2.254/24
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is RJ45
  output flow-control is unsupported, input flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00,
  Last input 00:00:08, output 00:00:05, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0 (size/max/drops); Total output drops: 0
  Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    0 watchdog, 1017 multicast, 0 pause input
    0 input packets with dribble condition detected

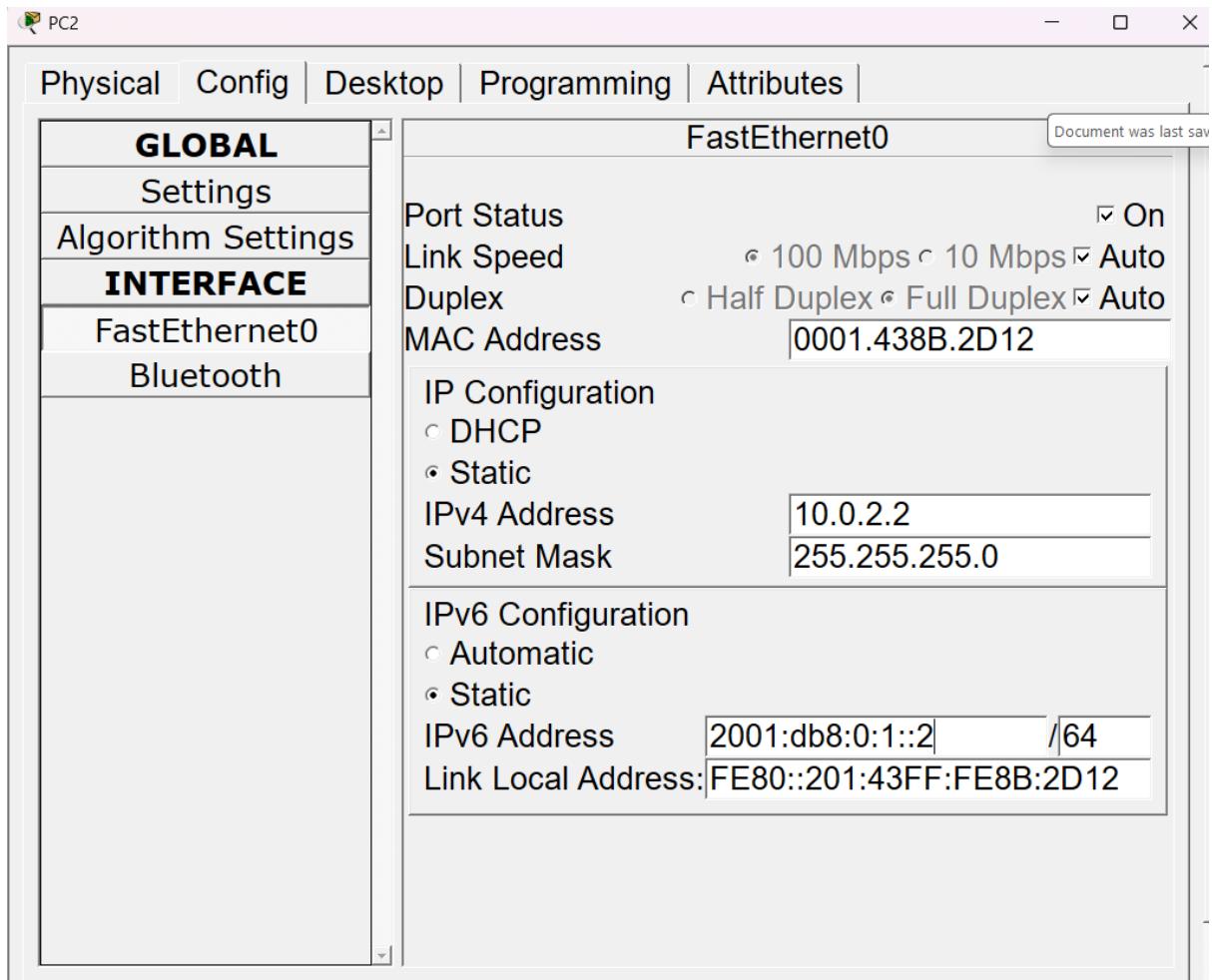
R2(config)#int g0/1
R2(config-if)#ipv6 address 2001:db8:0:1/64 0201:63FF:FEB0:B802
^
* Invalid input detected at '^' marker.

R2(config-if)#ipv6 address 2001:db8:0:1:0201:63FF:FEB0:B802/64
R2(config-if)#do sh ipv6 int br
GigabitEthernet0/0      [up/up]
  unassigned
GigabitEthernet0/1      [up/up]
  FE80::201:63FF:FEB0:B802
  2001:DB8:0:1:201:63FF:FEB0:B802
GigabitEthernet0/2      [administratively down/down]
  unassigned
Vlan1                  [administratively down/down]
  unassigned

```

At the bottom right of the terminal window are 'Copy' and 'Paste' buttons.

## PC2 Configuration:



And R2's g0/1 IPv6 address is given as the default gateway.

### R1 CLI:

```

via Null0, receive
R1(config)#ipv6 route 2001:db8:0:1::/64 g0/0 FE80::201:63FF:FE80:B801
R1(config)#do sh ipv6 int br
GigabitEthernet0/0 [up/up]
    FE80::230:FF:FE36:4501
GigabitEthernet0/1 [up/up]
    FE80::230:F2FF:FE36:4502
    2001:DB8::230:F2FF:FE36:4502
GigabitEthernet0/2 [administratively down/down]
    unassigned
Vlan1 [administratively down/down]
    unassigned
R1(config)#do sh ipv6 route
IPv6 Routing Table - 4 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:DB8::/64 [0/0]
    via GigabitEthernet0/1, directly connected
L  2001:DB8::230:F2FF:FE36:4502/128 [0/0]
    via GigabitEthernet0/1, receive
S  2001:DB8:0:1::/64 [1/0]
    via FE80::201:63FF:FE80:B801, GigabitEthernet0/0
L  FF00::/8 [0/0]
    via Null0, receive
R1(config)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

```

## R2 CLI:

---

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to down
R2(config-if)#no shutdown
R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up
R2(config-if)#exit
R2(config)#do sh ipv6 int br
GigabitEthernet0/0                [up/up]
  FE80::201:63FF:FEBO:B801
GigabitEthernet0/1                [up/up]
  FE80::201:63FF:FEBO:B802
  2001:DB8:0:1:201:63FF:FEBO:B802
GigabitEthernet0/2                [administratively down/down]
  unassigned
Vlan1                           [administratively down/down]
  unassigned
R2(config)#do sh ipv6 route
IPv6 Routing Table - 4 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
S  2001:DB8::/64 [1/0]
  via FE80::230:F2FF:FE36:4501, GigabitEthernet0/0
C  2001:DB8:0:1::/64 [0/0]
  via GigabitEthernet0/1, directly connected
L  2001:DB8:0:1:201:63FF:FEBO:B802/128 [0/0]
  via GigabitEthernet0/1, receive
L  FF00::/8 [0/0]
  via Null0, receive
R2(config)#

```

## PC1 ping:

```
C:\>ping 2001:db8:0:1::2

Pinging 2001:db8:0:1::2 with 32 bytes of data:

Reply from 2001:DB8:0:1::2: bytes=32 time=1ms TTL=126
Reply from 2001:DB8:0:1::2: bytes=32 time<1ms TTL=126
Reply from 2001:DB8:0:1::2: bytes=32 time<1ms TTL=126
Reply from 2001:DB8:0:1::2: bytes=32 time=1ms TTL=126

Ping statistics for 2001:DB8:0:1::2:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
  Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

## PC2 ping:

```
C:\>ping 2001:db8::2

Pinging 2001:db8::2 with 32 bytes of data:

Reply from 2001:DB8::2: bytes=32 time<1ms TTL=126

Ping statistics for 2001:DB8::2:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
  Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```