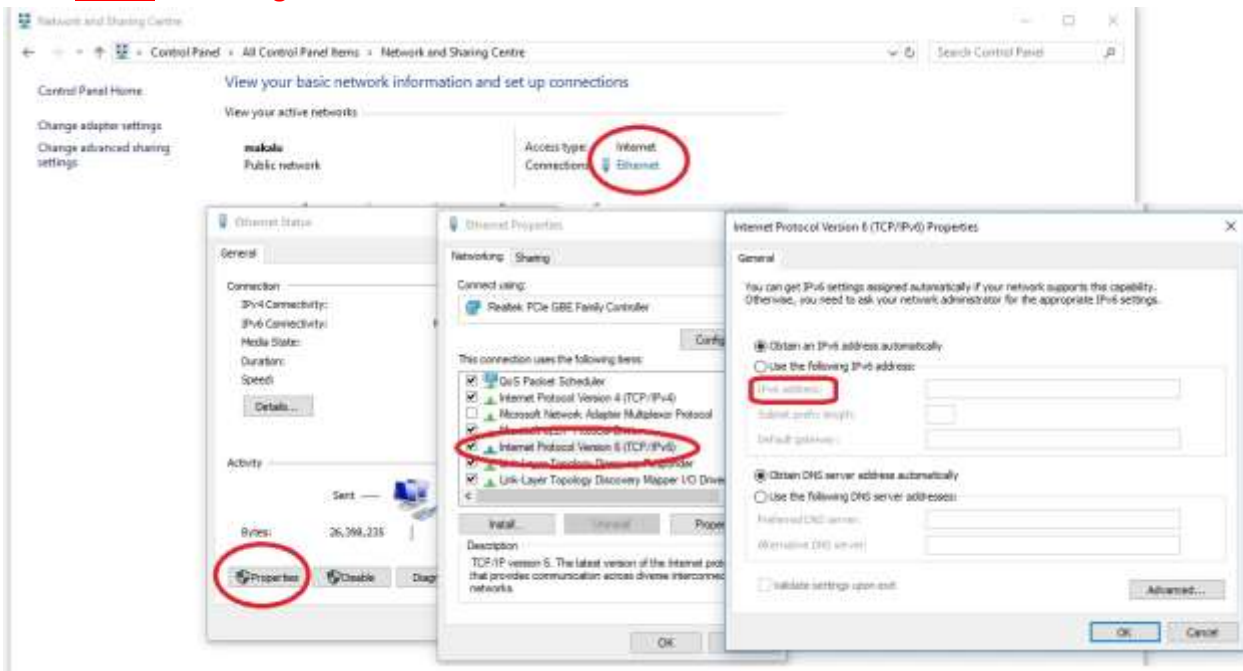


Download and Install latest version of Packet Tracer more than 6.0

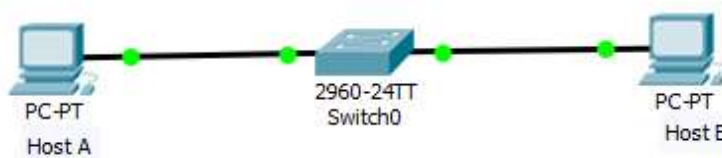
Note: Registration should be done online

Lab 1: IPv6 configuration in Microsoft OS.

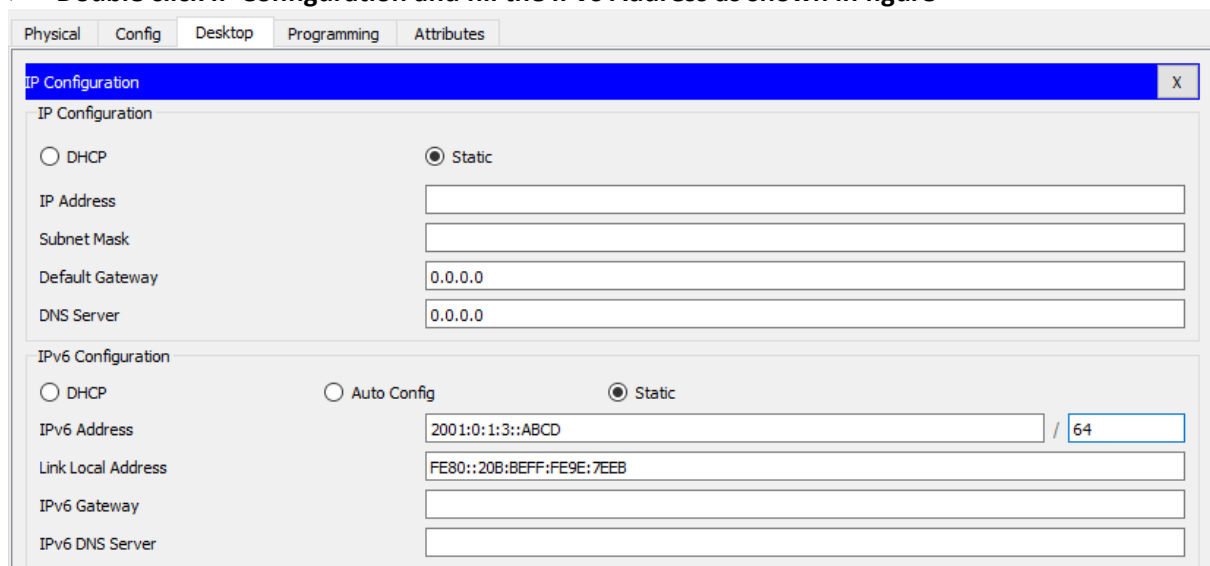


Lab 2: Static IPv6 configuration in between two hosts and Auto configuration in IPv6 and recheck using EUI-64 (EUI-64 (Extended Unique Identifier) is a method we can use to automatically configure IPv6 host addresses. )

- Host A: 2001:0:1:3::ABCD
- Host B: 2001:0:1:3::BCDE
- Link-local address is just for your local area network, they are not routable, and can be used for internal communications e.g.192.168.0.1 or 10.1.1.1. or FE80::/10
- Add devices and connect with them as shown in figure.



- Double click Host A
- Double click IP Configuration and fill the IPv6 Address as shown in figure





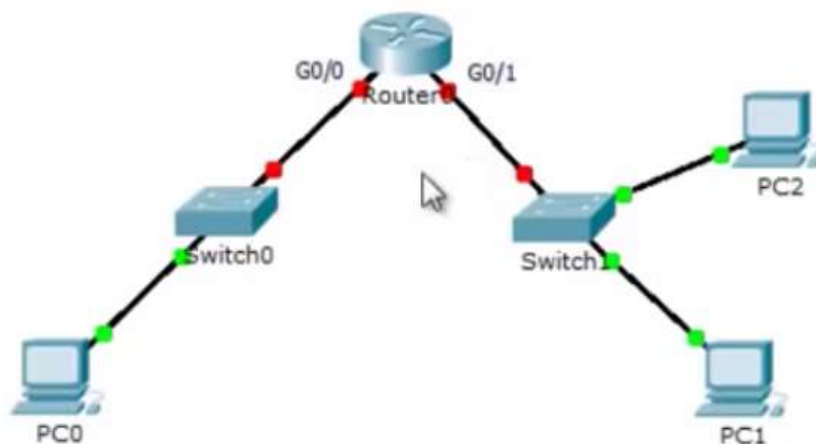
- Same as Host B - 2001:0:1:3::BCDE
- 2001::/16 - IPv6 global addresses are similar to IPv4 public addresses
- Subnet ID – 64 bits long. Contains the site prefix (obtained from a Regional Internet Registry) and the subnet ID (subnets within the site). Interface ID – 64 bits long, typically composed of a part of the MAC address of the interface.
- Here is a graphical representation of the two parts of an global IPv6 address:

3 bits	45 bits	16 bits	64 bits
001	Global Routing Prefix	Subnet ID	Interface ID

- Then, Double command prompt
- Ping – ping 2001:0:1:3::ABCD

### Lab 3: IPv6 Unicast Routing

- Design a network as shown in figure



- Double click Router

--- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: no

I

Press RETURN to get started!

```

Router>enable
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ipv6 unicast-routing
Router(config)#int g0/0
Router(config-if)#ipv6 address FE80::1 link
Router(config-if)#ipv6 address FE80::1 link-local
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, change
to up

Router(config-if)#int g0/1
Router(config-if)#ipv6 address FE80::1 link-local
Router(config-if)#no shut
  
```

I

## Double click Router

```
Physical Config CLI
IOS Command Line Interface

Router>enable
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int g0/0
Router(config-if)#ipv6 address 2001:DB8:AAAA:A::1/64
Router(config-if)#no shut
Router(config-if)#int g0/1 I
Router(config-if)#ipv6 address 2001:DB8:AAAA:B::1/64
Router(config-if)#
```

- Double click PC then

**IP Configuration**

IP Configuration

DHCP  Static

IP Address

Subnet Mask

Default Gateway

DNS Server

**IPv6 Configuration**

DHCP  Auto Config  Static IPv6 auto config successful.

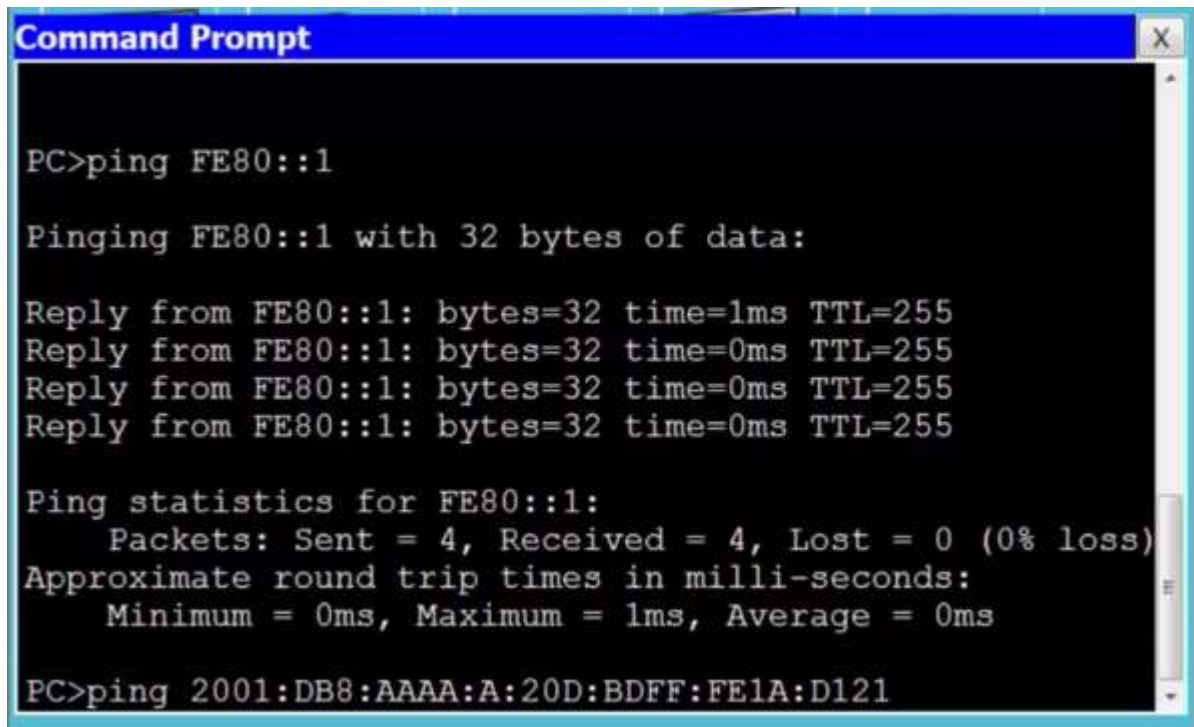
IPv6 Address  /

Link Local Address

IPv6 Gateway

IPv6 DNS Server

- Open command prompt



```
Command Prompt

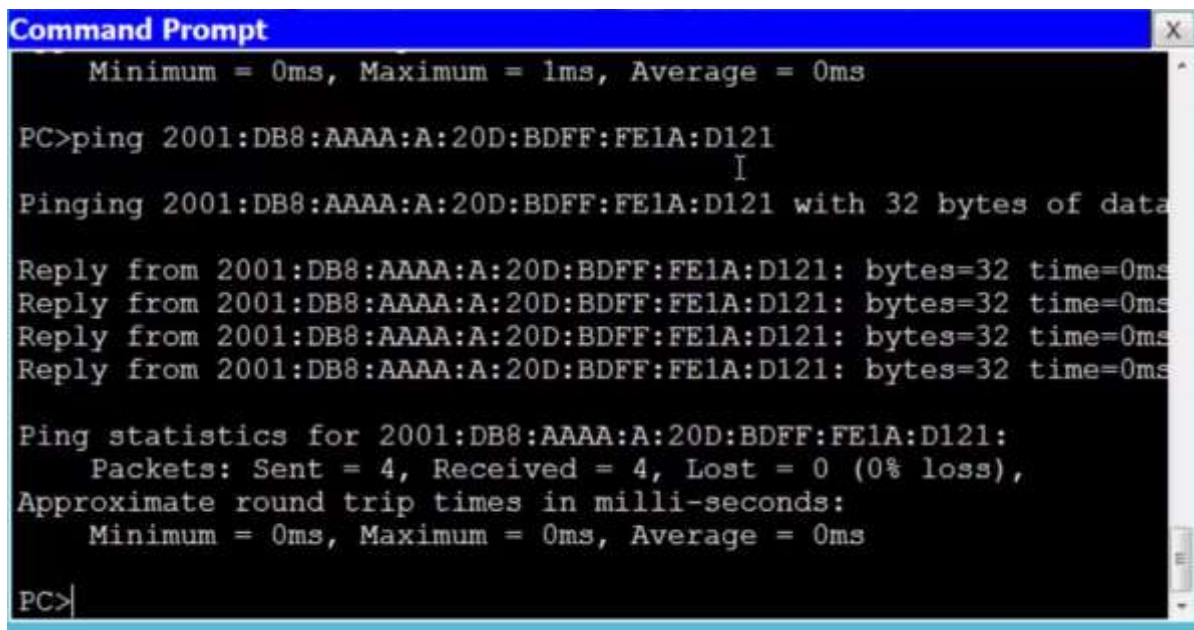
PC>ping FE80::1

Pinging FE80::1 with 32 bytes of data:

Reply from FE80::1: bytes=32 time=1ms TTL=255
Reply from FE80::1: bytes=32 time=0ms TTL=255
Reply from FE80::1: bytes=32 time=0ms TTL=255
Reply from FE80::1: bytes=32 time=0ms TTL=255

Ping statistics for FE80::1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss)
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>ping 2001:DB8:AAAA:A:20D:BDFE:FE1A:D121
```



```
Command Prompt

    Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>ping 2001:DB8:AAAA:A:20D:BDFE:FE1A:D121
I
Pinging 2001:DB8:AAAA:A:20D:BDFE:FE1A:D121 with 32 bytes of data:

Reply from 2001:DB8:AAAA:A:20D:BDFE:FE1A:D121: bytes=32 time=0ms
Reply from 2001:DB8:AAAA:A:20D:BDFE:FE1A:D121: bytes=32 time=0ms
Reply from 2001:DB8:AAAA:A:20D:BDFE:FE1A:D121: bytes=32 time=0ms
Reply from 2001:DB8:AAAA:A:20D:BDFE:FE1A:D121: bytes=32 time=0ms

Ping statistics for 2001:DB8:AAAA:A:20D:BDFE:FE1A:D121:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>
```

- Double click router and then
- Type show run
- and enter twice

## IOS Command Line Interface

```
!  
interface GigabitEthernet0/0  
  no ip address  
  duplex auto  
  speed auto  
  ipv6 address FE80::1 link-local  
  ipv6 address 2001:DB8:AAAA:A::1/64  
!  
interface GigabitEthernet0/1  
  no ip address  
  duplex auto  
  speed auto  
  ipv6 address FE80::1 link-local  
  ipv6 address 2001:DB8:AAAA:B::1/64  
!  
interface Vlan1
```