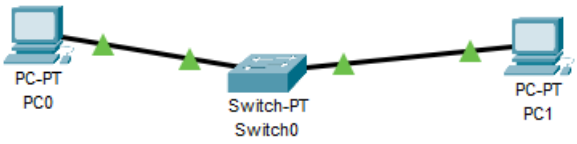
Question 3&4

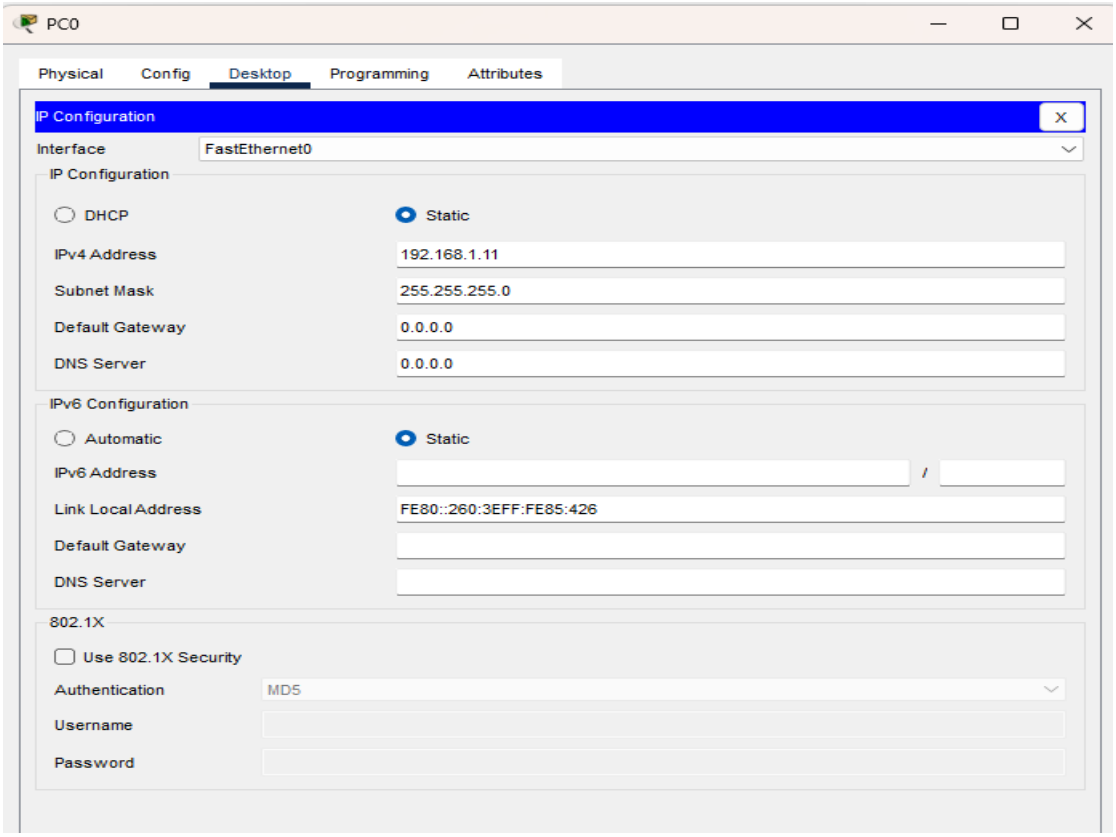
3. Configure static IP addresses, modify MAC addresses, and verify network connectivity using ping and ifconfig commands.

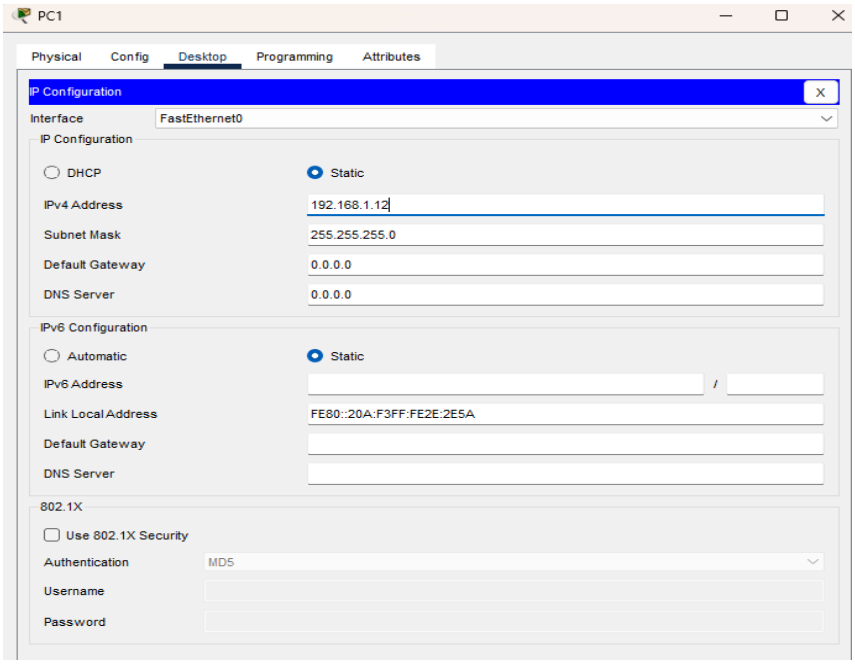
4. Troubleshoot Ethernet Communication with ping and traceroute Using cisco packet tracer

Network topology:

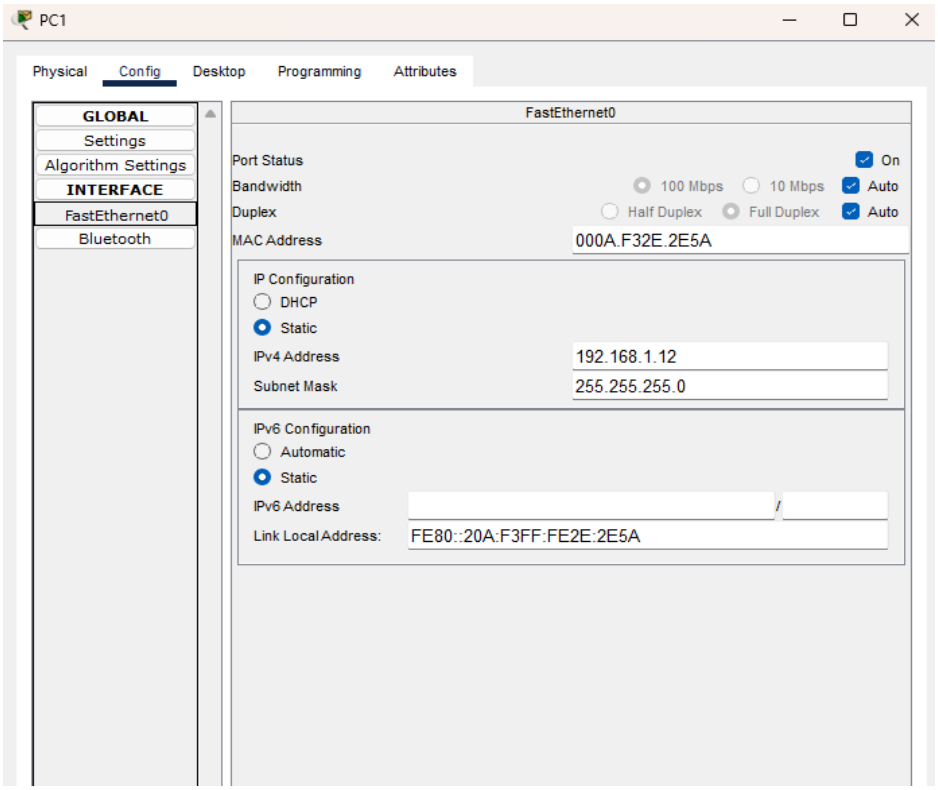


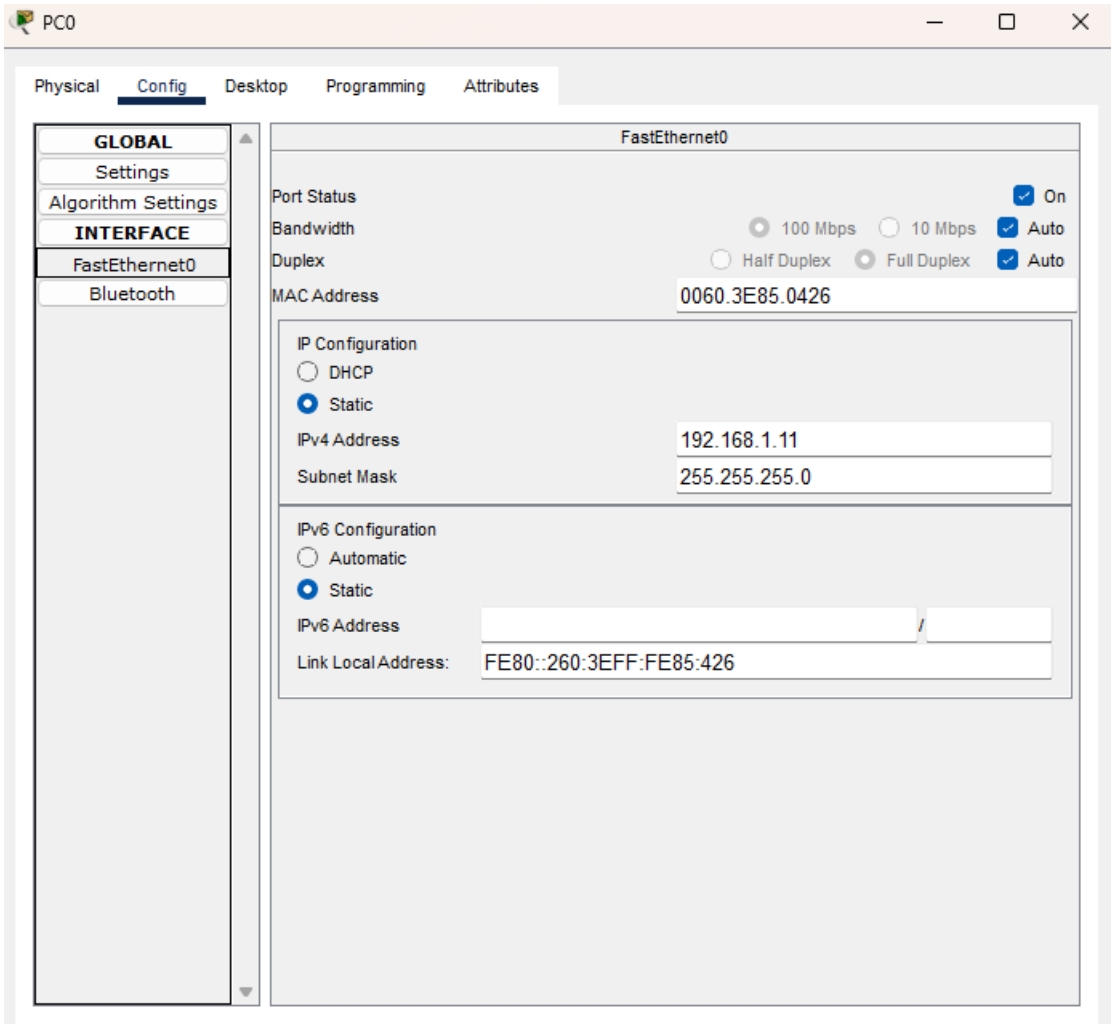
2.Configuring Static IP Address:



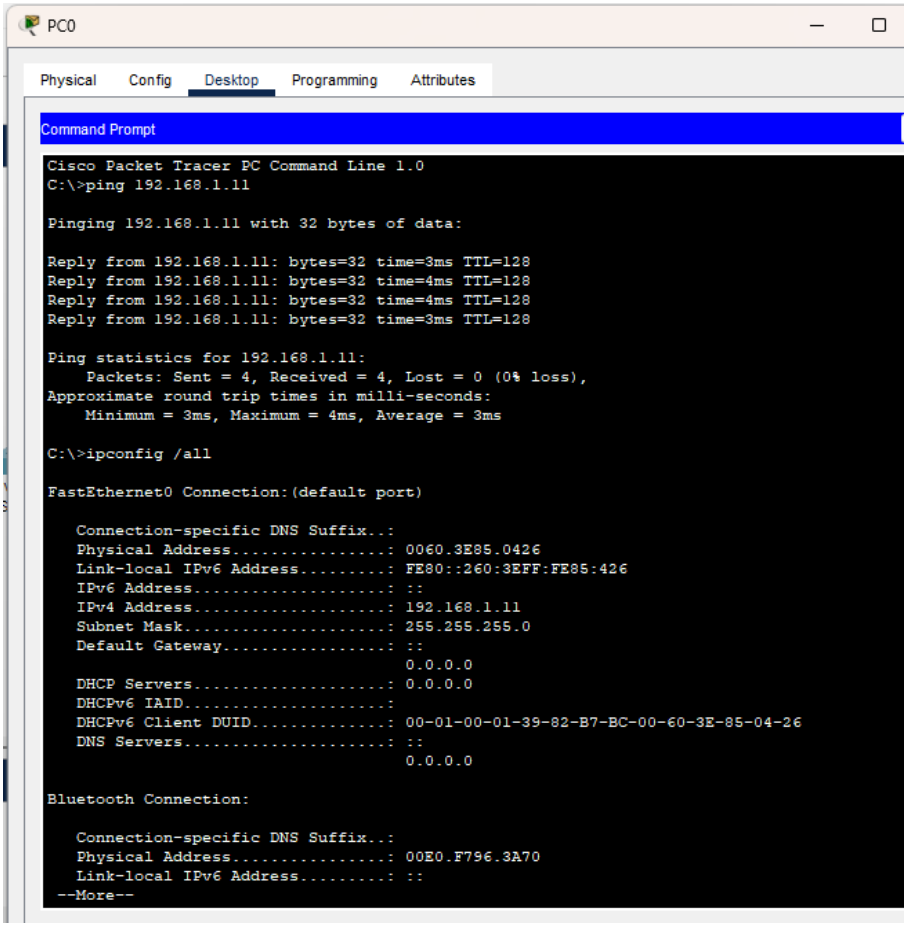


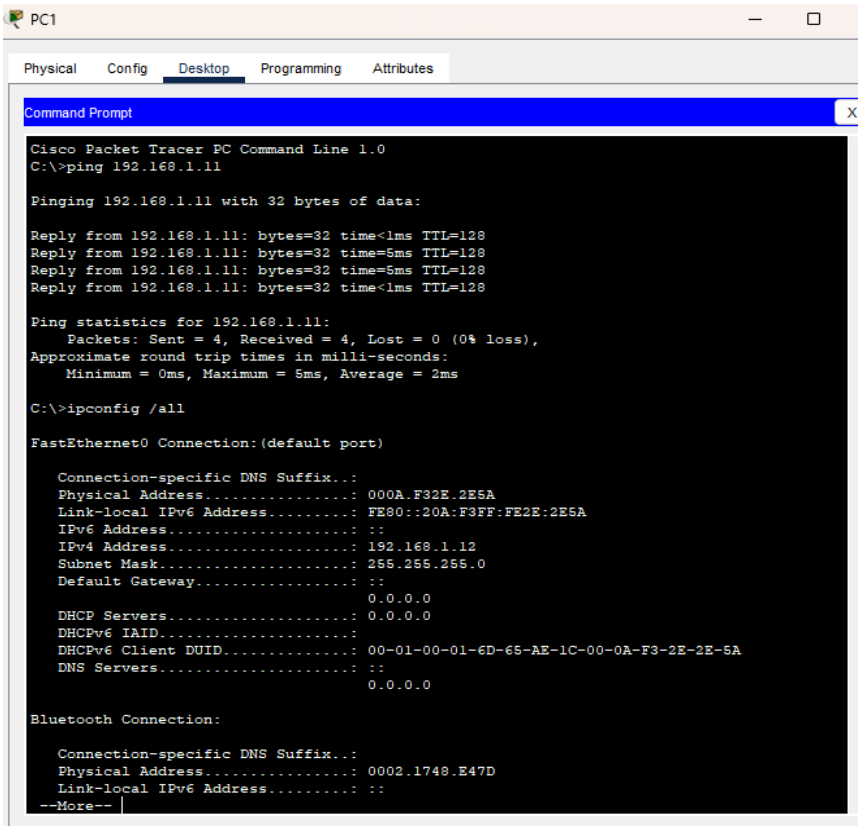
3)MAC ADDRESS:



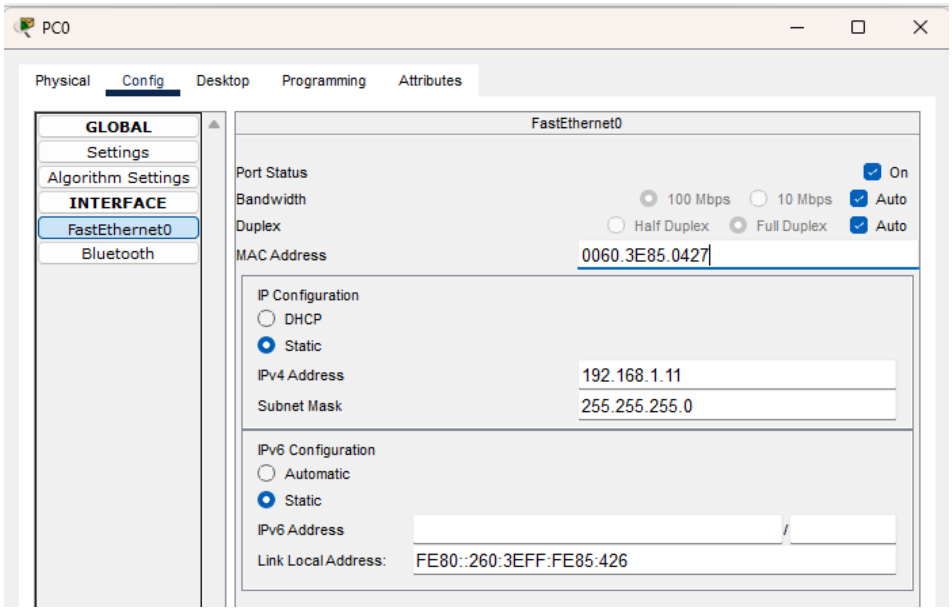

PC0
Physical
Config
Desktop
Programming
Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
Bluetooth
FastEthernet0
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0060.3E85.0426
IP Configuration
DHCP
Static
IPv4 Address
192.168.1.11
Subnet Mask
255.255.255.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address:
FE80::260:3EFF:FE85:426

4) Ping Connection and ipconfig Commands:

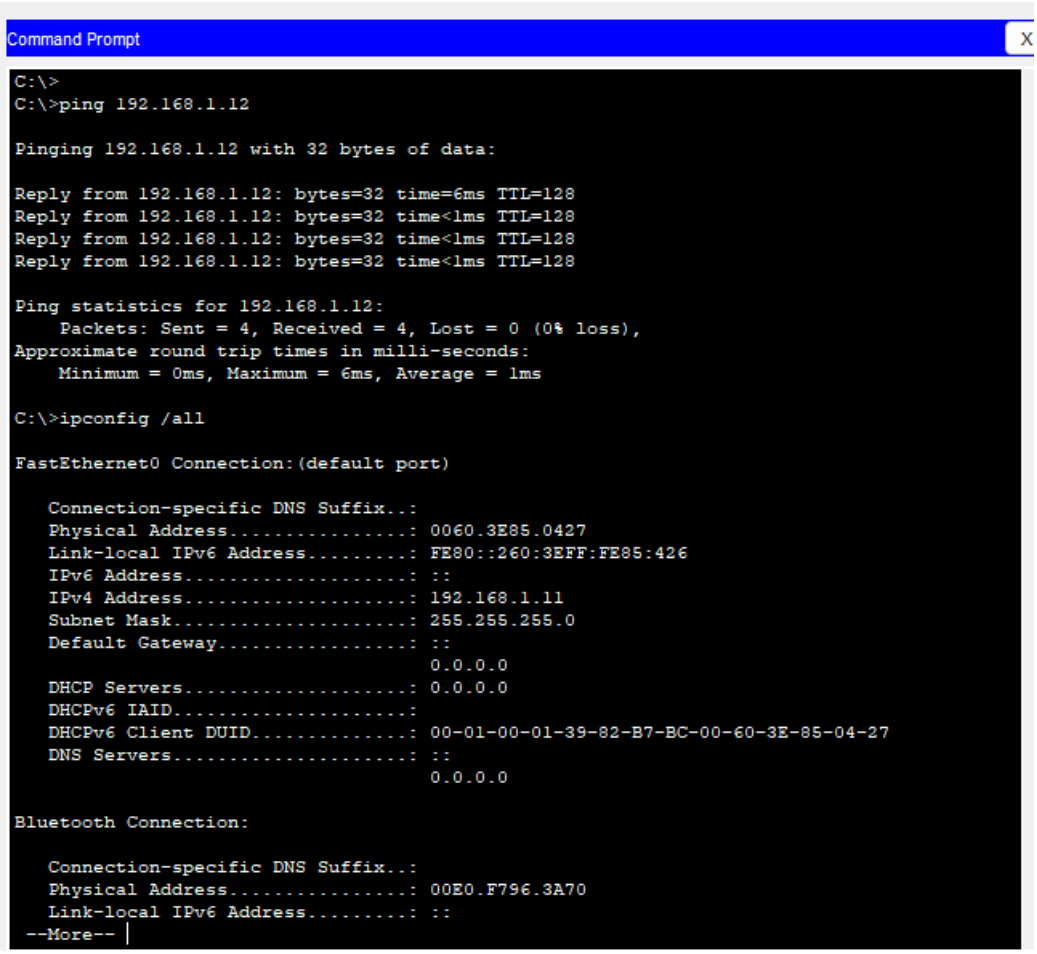




5) Mac address modification:



6) Ping and Switch MAC Table Check to ensure connectivity



8) Mac address table:

```
Switch>enable
Switch#show mac address-table
          Mac Address Table
-------------------------------------------

Vlan    Mac Address       Type        Ports
----    -----------       --------    -----

   1    000a.f32e.2e5a    DYNAMIC     Fa1/1
   1    0060.3e85.0427    DYNAMIC     Fa0/1
Switch#
```

9) Traceroute for troubleshooting

```
C:\>tracert 192.168.1.12

Tracing route to 192.168.1.12 over a maximum of 30 hops:

  1    0 ms      0 ms      0 ms      192.168.1.12

Trace complete.
```