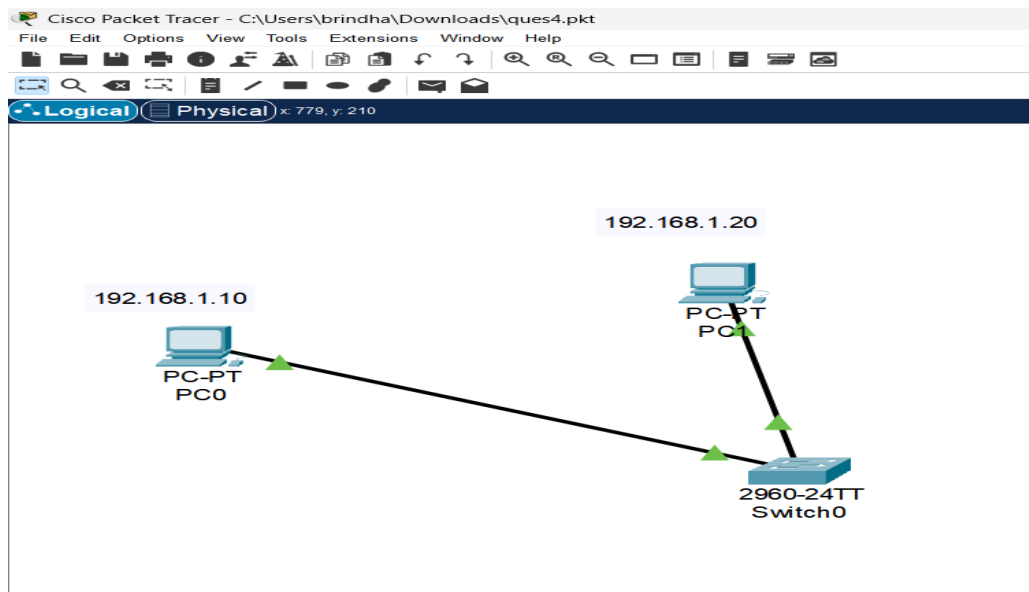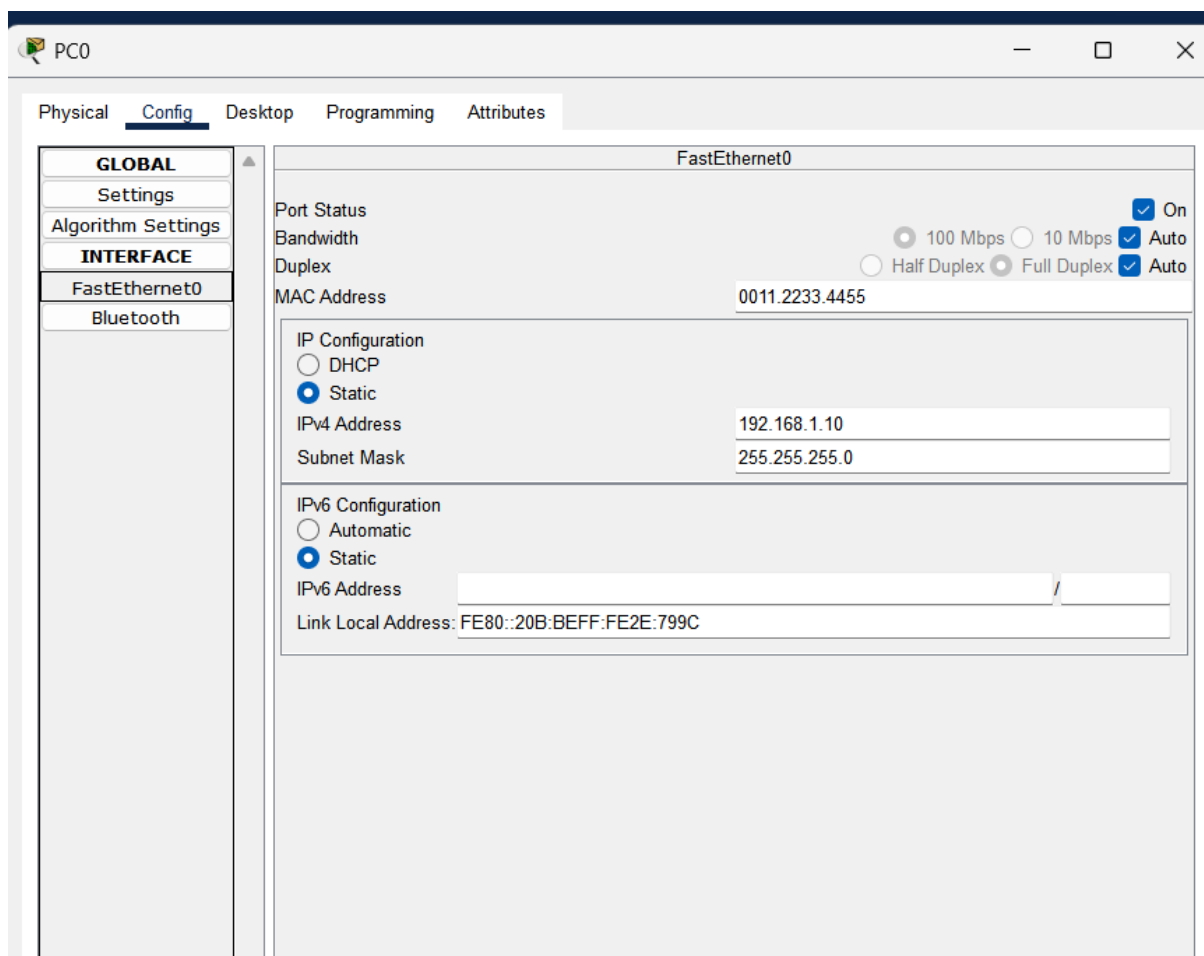**Q4. Configure static IP addresses, modify MAC addresses, and verify network connectivity using ping and ifconfig commands.**

MAC address modification: In Cisco Packet Tracer, we can manually change the MAC address of a PC through the Config tab under the FastEthernet0 interface.

Modified MAC in PC0 and PC1

PC1   — □ ×

Physical   Config   Desktop   Programming   Attributes

Command Prompt   X

```
    Connection-specific DNS Suffix..:
    Physical Address................: 0000.0CE6.76D0
    Link-local IPv6 Address.........: ::
    IPv6 Address....................: ::

C:\>ipconfig /all

FastEthernet0 Connection:(default port)

    Connection-specific DNS Suffix..:
    Physical Address................: 0011.2233.4456
    Link-local IPv6 Address.........: FE80::201:63FF:FE8A:8CB2
    IPv6 Address....................: ::
    IPv4 Address....................: 192.168.1.20
    Subnet Mask.....................: 255.255.255.0
    Default Gateway.................: ::
                                      192.168.1.1
    DHCP Servers....................: 0.0.0.0
    DHCPv6 IAID.....................:
    DHCPv6 Client DUID..............: 00-01-00-01-B5-02-77-24-00-11-22-33-44-56
    DNS Servers.....................: ::
                                      0.0.0.0

Bluetooth Connection:

    Connection-specific DNS Suffix..:
    Physical Address................: 0000.0CE6.76D0
    Link-local IPv6 Address.........: ::

C:\>ping 192.168.1.10

Pinging 192.168.1.10 with 32 bytes of data:

Reply from 192.168.1.10: bytes=32 time<1ms TTL=128
Reply from 192.168.1.10: bytes=32 time<1ms TTL=128
Reply from 192.168.1.10: bytes=32 time<1ms TTL=128
Reply from 192.168.1.10: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Physical   Config   Desktop   Programming   Attributes

Command Prompt   X

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig /all

FastEthernet0 Connection:(default port)

    Connection-specific DNS Suffix..:
    Physical Address................: 000B.BE2E.799C
    Link-local IPv6 Address.........: FE80::20B:BEFF:FE2E:799C
    IPv6 Address....................: ::
    IPv4 Address....................: 192.168.1.10
    Subnet Mask.....................: 255.255.255.0
    Default Gateway.................: ::
                                      192.168.1.1
    DHCP Servers....................: 0.0.0.0
    DHCPv6 IAID.....................:
    DHCPv6 Client DUID..............: 00-01-00-01-AA-60-DC-3D-00-0B-BE-2E-79-9C
    DNS Servers.....................: ::
                                      0.0.0.0

Bluetooth Connection:

    Connection-specific DNS Suffix..: |
    Physical Address................: 0001.4323.0A7B
    Link-local IPv6 Address.........: ::
    IPv6 Address....................: ::

C:\>ipconfig /all

FastEthernet0 Connection:(default port)

    Connection-specific DNS Suffix..:
    Physical Address................: 0011.2233.4455
    Link-local IPv6 Address.........: FE80::20B:BEFF:FE2E:799C
    IPv6 Address....................: ::
    IPv4 Address....................: 192.168.1.10
    Subnet Mask.....................: 255.255.255.0
    Default Gateway.................: ::
                                      192.168.1.1
    DHCP Servers....................: 0.0.0.0
    DHCPv6 IAID.....................:
    DHCPv6 Client DUID..............: 00-01-00-01-AA-60-DC-3D-00-11-22-33-44-55
    DNS Servers.....................: ::
                                      0.0.0.0
```

Network connectivity using ping and ifconfig commands

```
FastEthernet0 Connection:(default port)

   Connection-specific DNS Suffix..:
   Physical Address................: 0011.2233.4455
   Link-local IPv6 Address.........: FE80::20B:BEFF:FE2E:799C
   IPv6 Address....................: ::
   IPv4 Address....................: 192.168.1.10
   Subnet Mask.....................: 255.255.255.0
   Default Gateway.................: ::
                                     192.168.1.1
   DHCP Servers....................: 0.0.0.0
   DHCPv6 IAID.....................:
   DHCPv6 Client DUID..............: 00-01-00-01-AA-60-DC-3D-00-11-22-33-44-55
   DNS Servers.....................: ::
                                     0.0.0.0

Bluetooth Connection:

   Connection-specific DNS Suffix..:
   Physical Address................: 0001.4323.0A7B
   Link-local IPv6 Address.........: ::

C:\>ping 192.168.1.20

Pinging 192.168.1.20 with 32 bytes of data:

Reply from 192.168.1.20: bytes=32 time<1ms TTL=128
Reply from 192.168.1.20: bytes=32 time<1ms TTL=128
Reply from 192.168.1.20: bytes=32 time<1ms TTL=128
Reply from 192.168.1.20: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.20:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```