

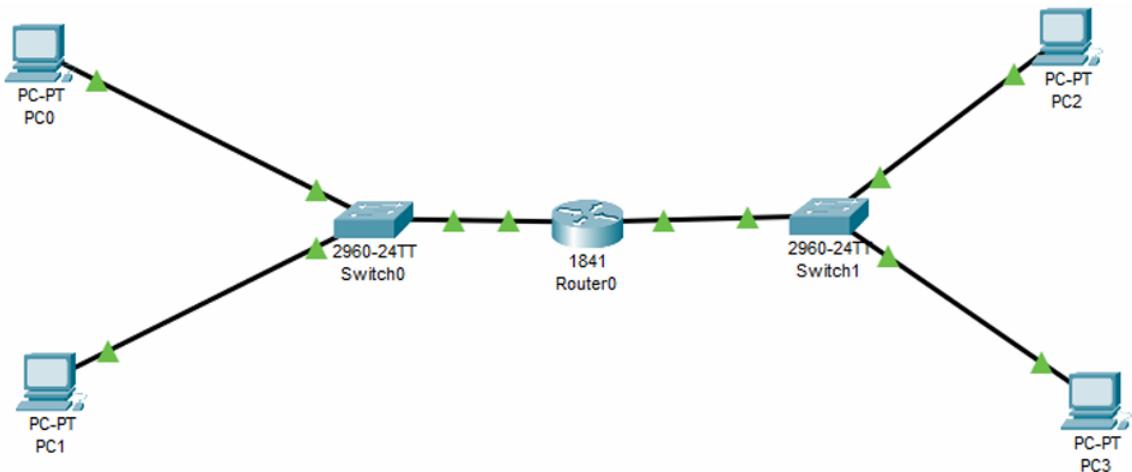
Practical – 2

Aim of the Practical :-

1. To configure a Local Area Network (LAN) with multiple switches and PCs, assign static IP addresses, and verify connectivity using Packet Tracer simulation
2. To configure a Client-Server Model with a PC and a Server connected using a router and a switch, assign static IP addresses, and verify connectivity using Packet Tracer simulation

Procedure :-

1. LAN with Multiple Switches and PC's



PC IPv4 Addresses :-

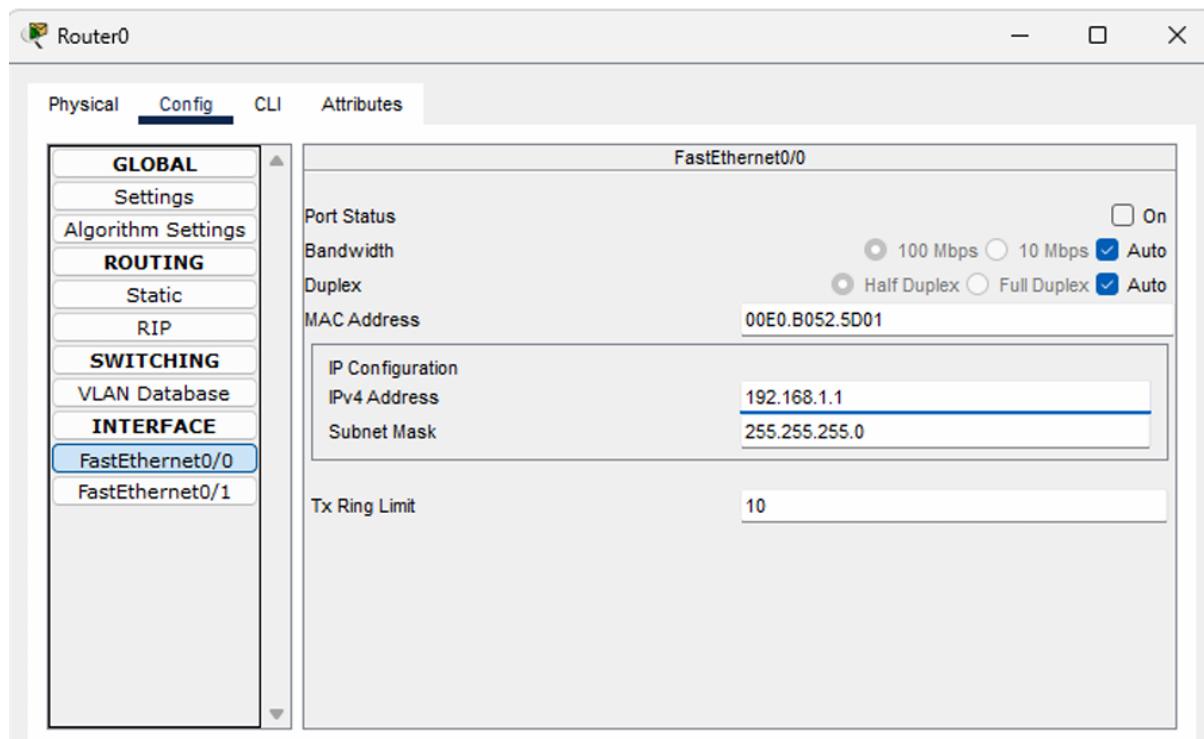
PC0 - 192.168.1.10 Default Gateway of PC0 - 192.168.1.1

PC1 - 192.168.1.20 Default Gateway of PC1 - 192.168.1.1

PC2 - 192.168.2.10 Default Gateway of PC2 - 192.168.2.1

PC3 - 192.168.2.20 Default Gateway of PC3 - 192.168.2.1

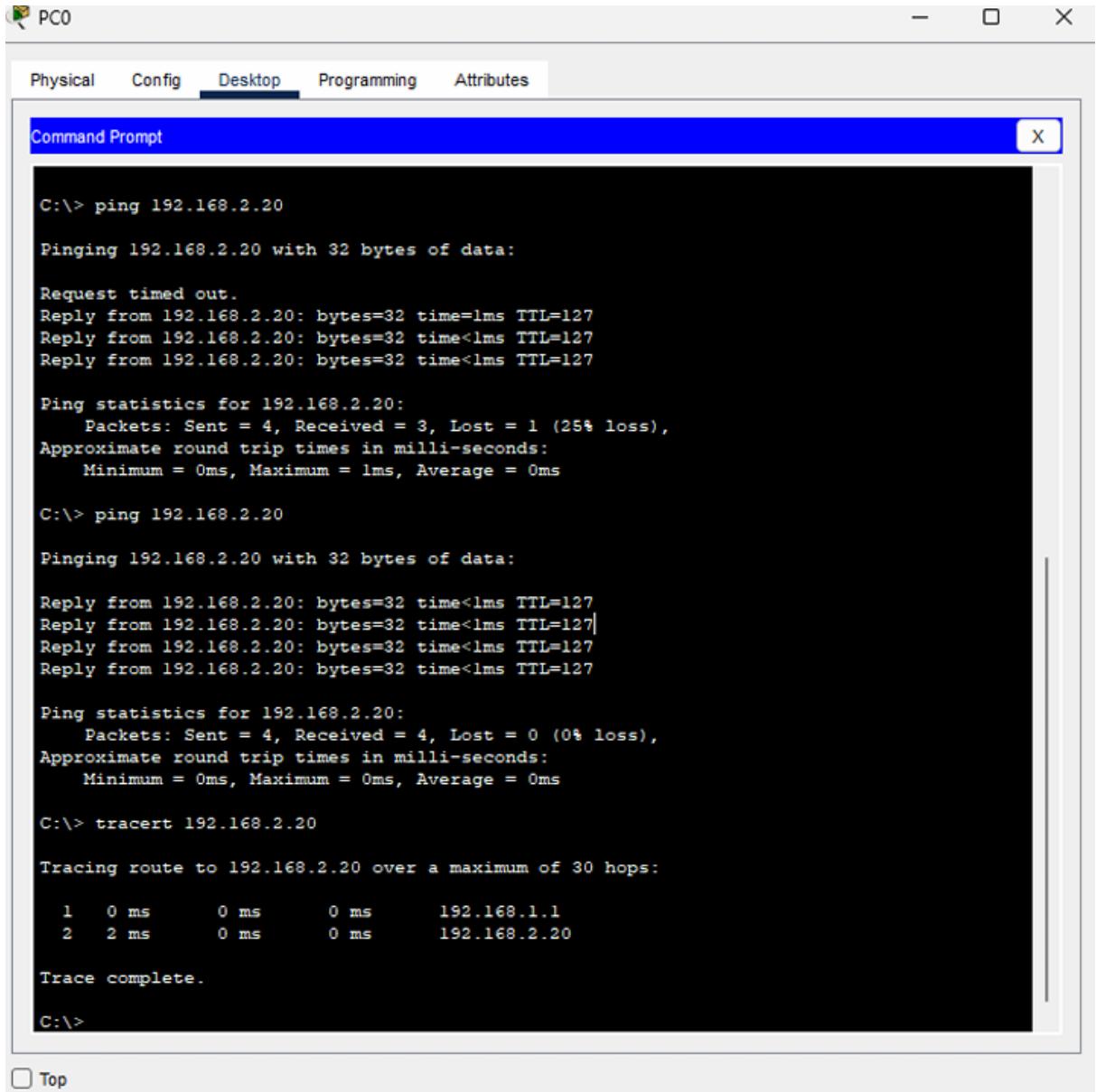
So we basically just connect two separate pc's to a switch and connect them to a router which we connect to a with a switch and then to two other pc's.



The router is used to connect two different networks and to monitor traffic in between the two different networks.

We also need to turn the port status on.

On pinging from PC0 to PC3, we get the following results



The screenshot shows a Windows Command Prompt window titled "PC0". The window has tabs at the top: Physical, Config, Desktop (which is selected), Programming, and Attributes. Below the tabs is a title bar with "Command Prompt" and a close button. The main area of the window displays command-line output:

```
C:\> ping 192.168.2.20

Pinging 192.168.2.20 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.20: bytes=32 time<1ms TTL=127
Reply from 192.168.2.20: bytes=32 time<1ms TTL=127
Reply from 192.168.2.20: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.20:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\> ping 192.168.2.20

Pinging 192.168.2.20 with 32 bytes of data:

Reply from 192.168.2.20: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.20:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\> tracert 192.168.2.20

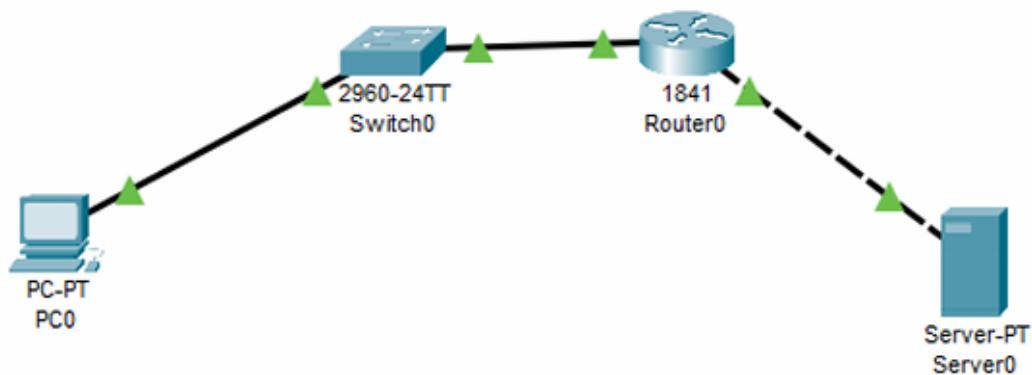
Tracing route to 192.168.2.20 over a maximum of 30 hops:
  1  0 ms      0 ms      0 ms      192.168.1.1
  2  2 ms      0 ms      0 ms      192.168.2.20

Trace complete.
```

Top

4 packets with 32 bytes of data each are sent and received ensuring that the connection is proper and the connection is complete.

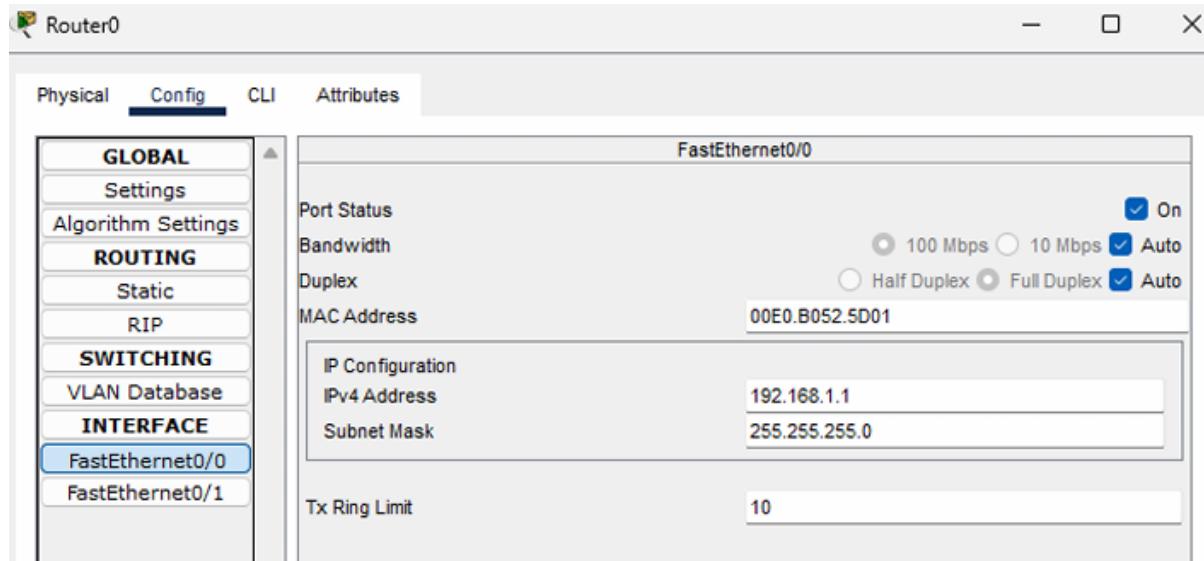
2. Client Server Model



PC IPv4 Addresses :-

PC0 - 192.168.1.10 Default Gateway of PC0 - 192.168.1.1

Server - 192.168.2.10 Default Gateway of Server - 192.168.2.1



This is how the router is configured.

On pinging the server, we get

```
C:\> ping 192.168.2.10

Pinging 192.168.2.10 with 32 bytes of data:

Reply from 192.168.2.10: bytes=32 time=8ms TTL=127
Reply from 192.168.2.10: bytes=32 time<1ms TTL=127
Reply from 192.168.2.10: bytes=32 time<1ms TTL=127
Reply from 192.168.2.10: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 8ms, Average = 2ms

C:\> tracert 192.168.2.10

Tracing route to 192.168.2.10 over a maximum of 30 hops:

  1  0 ms        0 ms        0 ms      192.168.1.1
  2  0 ms        0 ms        0 ms      192.168.2.10

Trace complete.
```

We access the servers IP address from the client side PC in a url and it serves us with a webpage.

