

## Computer Networks Lab Task – 2

Instructor: Ma'am Hurmat Hidayat

Roll No: 20P-0563

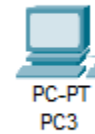
Name: Mahad Ashraf

Section: B

# Task 1: Cisco packet Tracer

Part 1: First Configure the PCs as shown above and verify the connection using ping command.

1-Step: First we open Cisco packet tracer after that we click on End Devices and select two end devices



We can also name these pc's


2 – Step:

Now you click on first pc a settings will pop up on that you will see on top right corner there is option called desktop click on that

Physical Config **Desktop** Programming Attributes

Physical Device View


Zoom In Original Size Zoom Out




MODULES

- WMP300N
- PT-HOST-NM-1AM
- PT-HOST-NM-1CE
- PT-HOST-NM-1CFE
- PT-HOST-NM-1CGE
- PT-HOST-NM-1FFE
- PT-HOST-NM-1FGE
- PT-HOST-NM-1W
- PT-HOST-NM-1W-A
- PT-HOST-NM-1W-AC
- PT-HOST-NM-3G/4G
- PT-HOST-NM-COVER
- PT-HEADPHONE
- PT-MICROPHONE


Customize Icon in Physical View



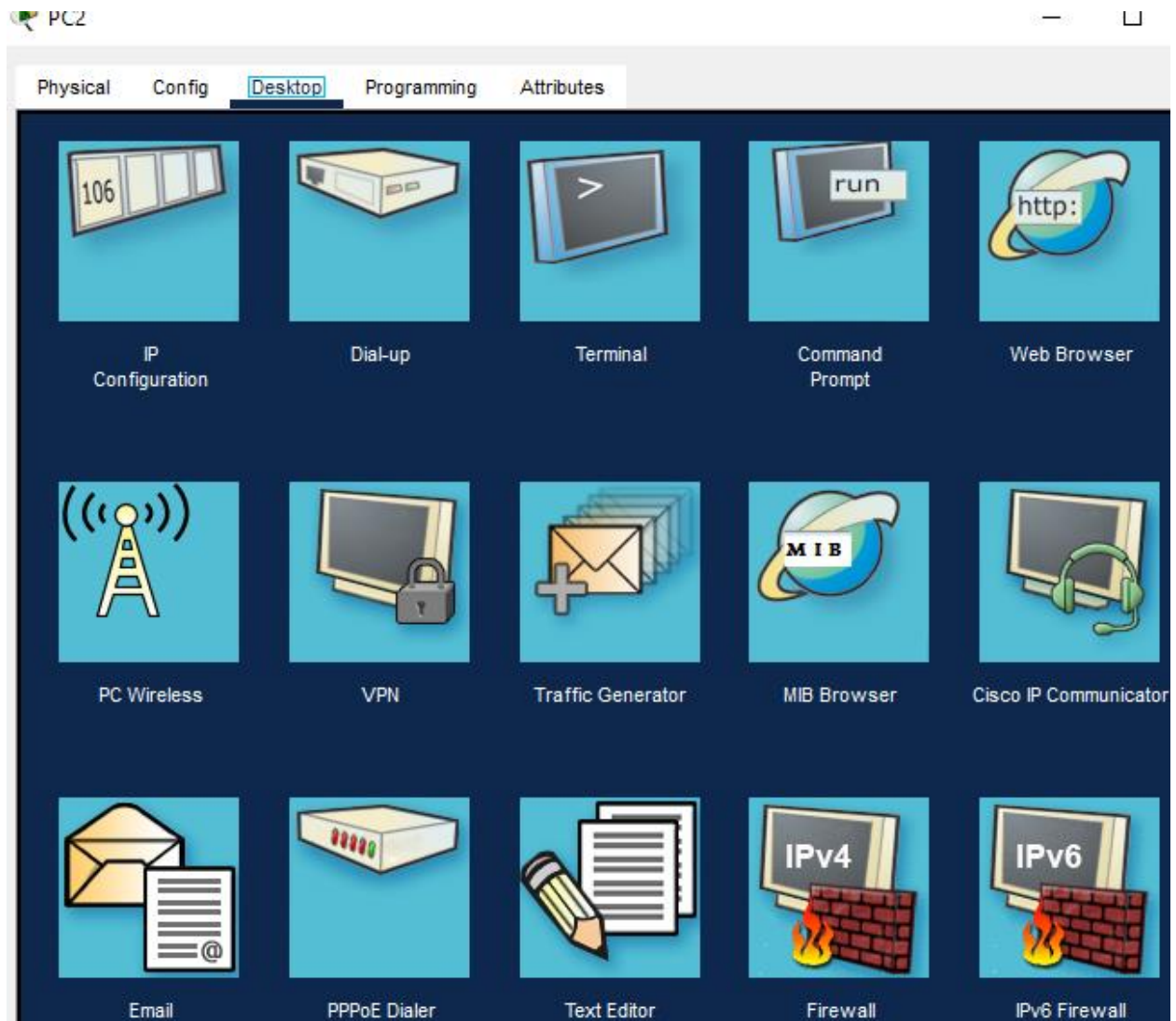
Customize Icon in Logical View



The WMP300N module provides one 2.4GHz wireless interface suitable for connection to wireless networks. The module supports protocols that use Ethernet for LAN access.



After that select IP configuration



Now type in the IP addresses and subnet mask

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address

Subnet Mask

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address  /

Link Local Address FE80::201:96FF:FE27:CEE0

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Follow the same procedure for pc 2

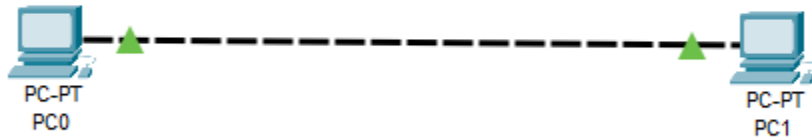
3 – Step:

Now after doing this on bottom left corner you will see an lightning icon click on that set of different wires will appear you have to select the lining one wire



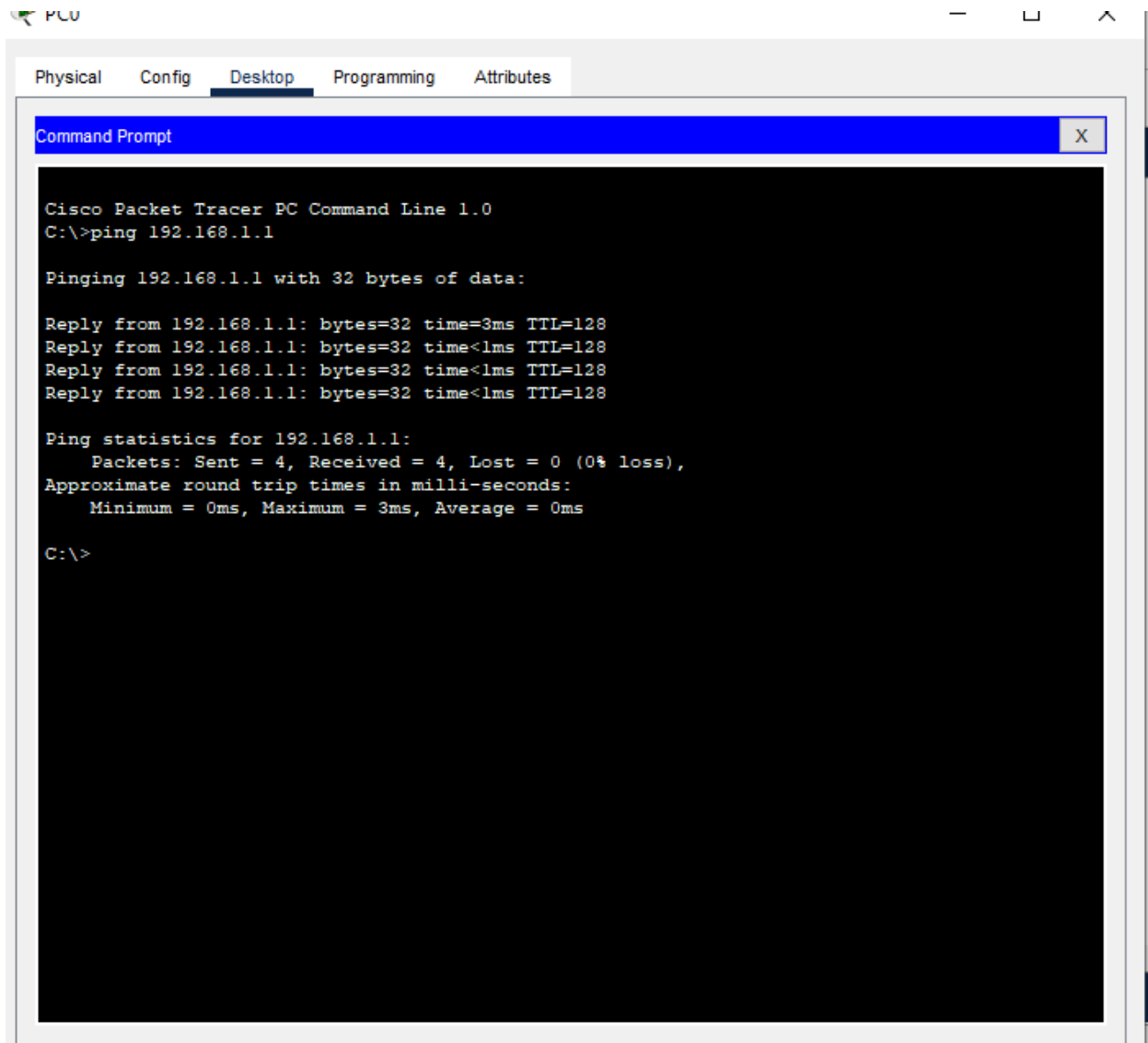
4 –Step:

Now you have to connect both of these pc's with each other by selecting Fast Ethernet Cable



5 – Step:

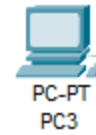
Now in the last step you have to ping pc 1 with the 2 pc for that click on 1 pc and go on desktop over there click on command prompt, After clicking on that type in ping and write the IP address of the 2 pc and press enter and if the procedure works both the pc's are connected together because **the IP address and the subnet mask for the both pc's are same so it gets connected easily with request time out**



Part 2: Configure PC1 as follow: IPv4: 192.168.1.1 Subnet mask: 255.255.255.0

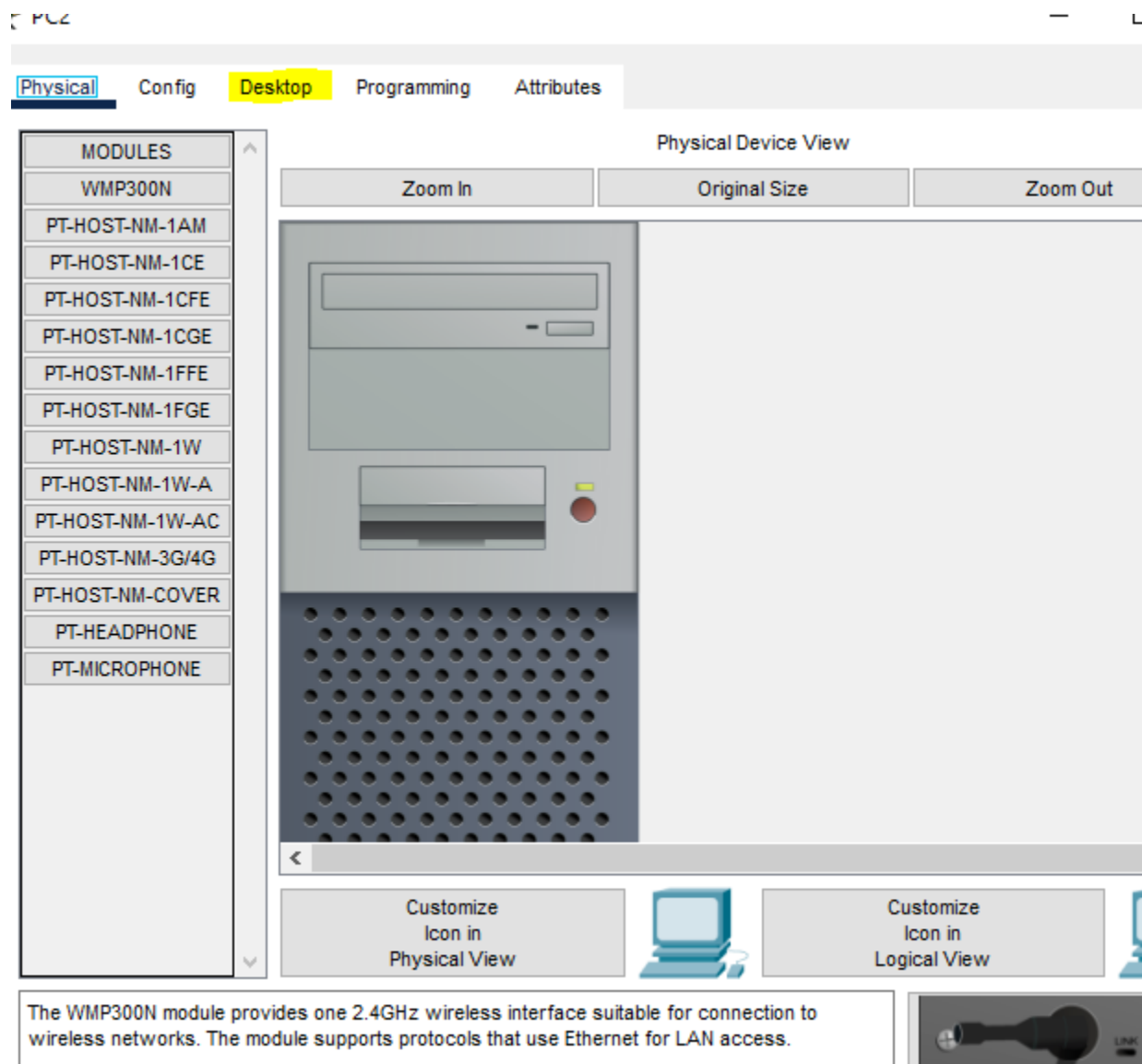
And PC2 as: IPv4: 192.168.2.1 Subnet mask: 255.255.255.0

1-Step: First we open Cisco packet tracer after that we click on End Devices and select two end devices



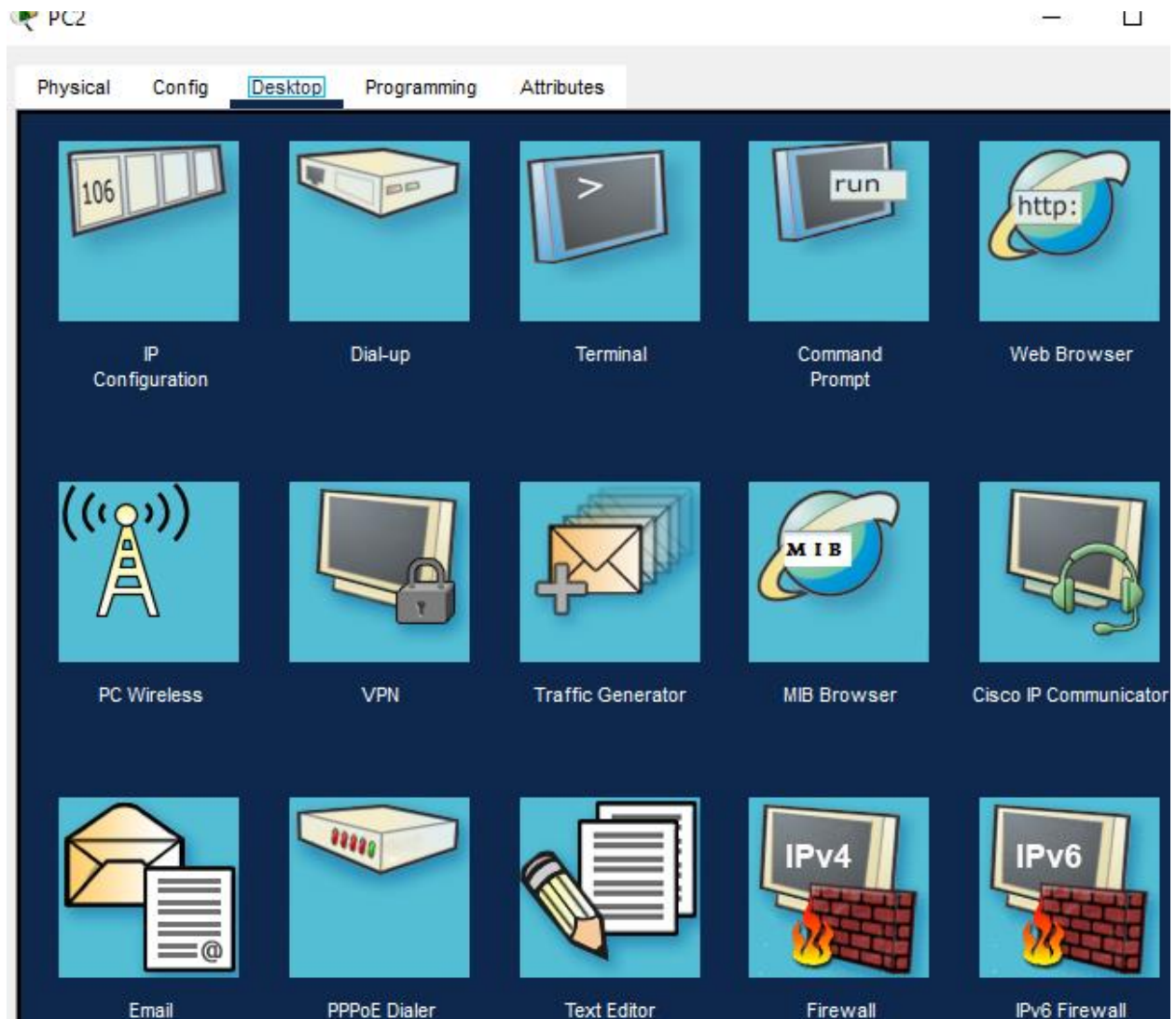
2 – Step:

Now you click on first pc a settings will pop up on that you will see on top right corner there is option called desktop click on that



After that select IP configuration





Now type in the IP address for first pc 192.168.1.1 and subnet mask 255.255.255.0

PC6

Physical Config Desktop Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.1

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::210:11FF:FEEA8E5

Default Gateway

DNS Server

802.1X

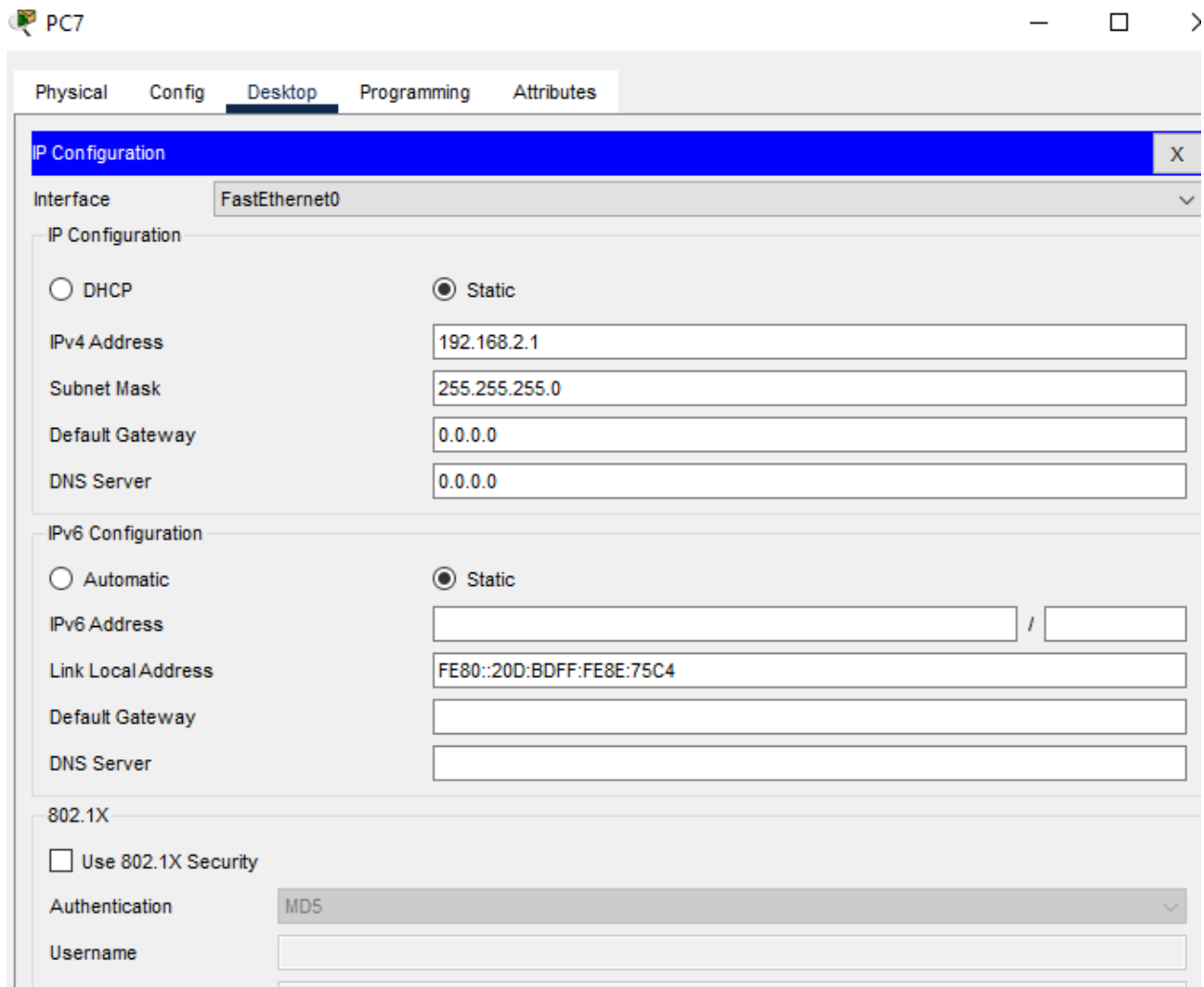
☐ Use 802.1X Security

Authentication MD5

Username

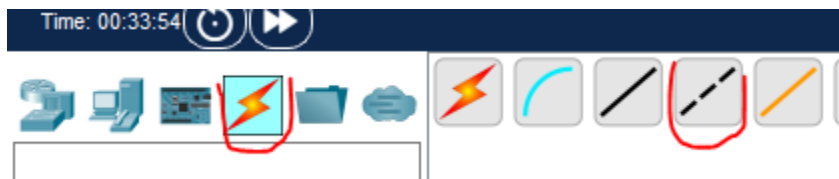
Password

And for pc 2 type IP address 192.168.2.1 and subnet mask 255.255.255.0



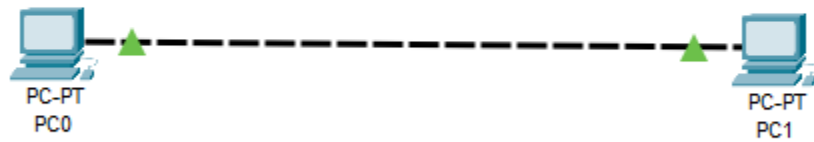
3 – Step:

Now after doing this on bottom left corner you will see an lightning icon click on that set of different wires will appear you have to select the lining one wire



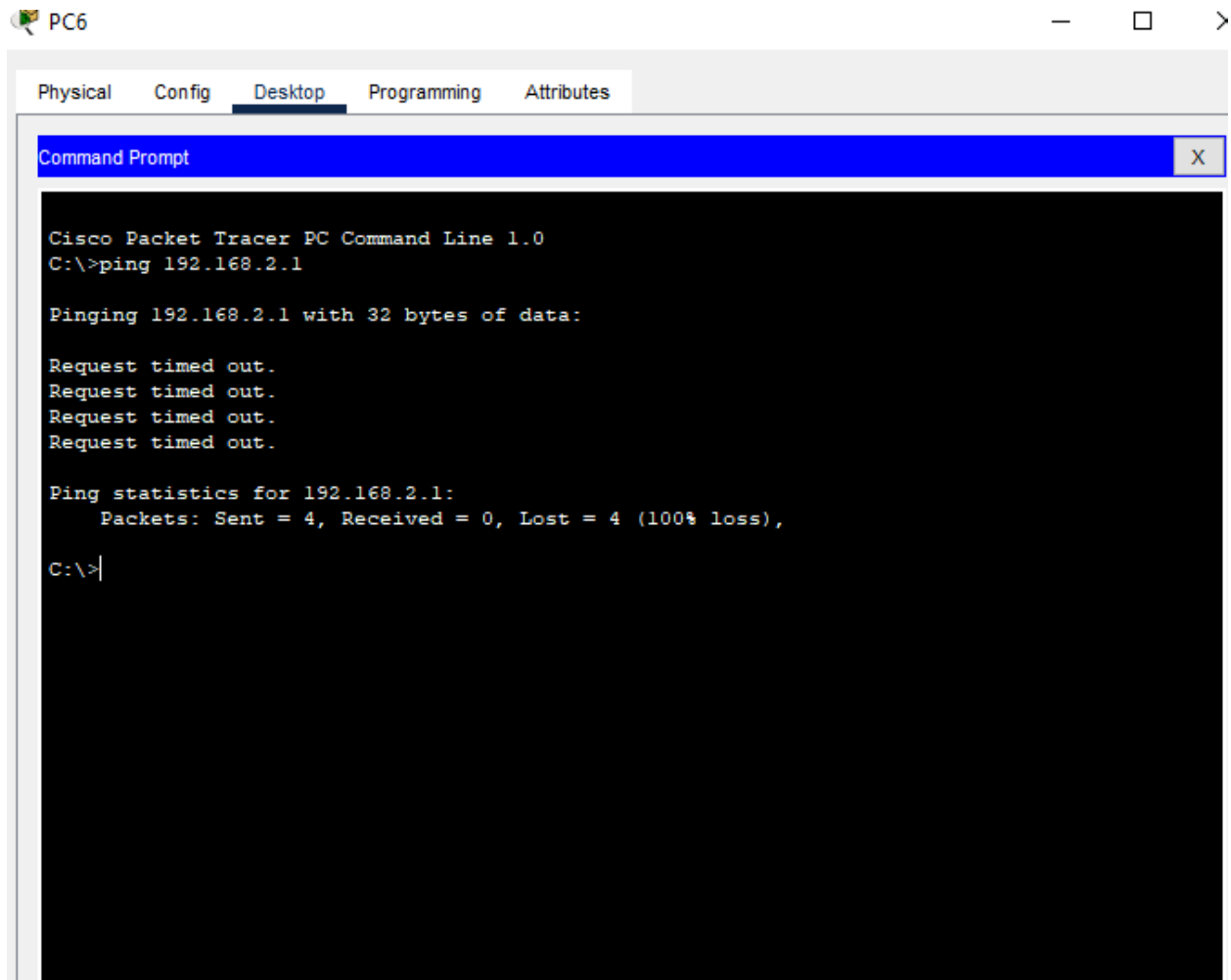
4 –Step :

Now you have to connect both of these pc's with each other by selecting Fast Ethernet Cable



5 – Step:

Now in the last step you have to ping pc 1 with the 2 pc for that click on 1 pc and go on desktop over there click on command prompt, After clicking on that type in ping and write the IP address of the 2 pc and press enter we will get a request time out error in this one Because **In this one we get request time out and we get an error because when we change the subnet mask for the different IP addresses we lost the connection because when we send or ping it doesn't find the 2 pc and gets lost and doesn't find the other pc that's why**



Part 3: Configure PC1 as follow: IPv4: 192.168.1.1 Subnet mask: 255.255.0.0

And PC2 as: IPv4: 192.168.2.1 Subnet mask: 255.255.0.0

We again click on pc 1 and select IP address and type in the new subnet mask for pc 1

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.1

Subnet Mask 255.255.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::210:11FF:FEE:A8E5

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

And after that we click on pc 2 and do the same and type in new subnet mask for pc 2

Physical Config **Desktop** Programming Attributes

**IP Configuration** [X]

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 192.168.2.1

Subnet Mask: 255.255.0.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::20D:BDFF:FE8E:75C4

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Now we open command prompt and ping these 2 pc's and we get a reply from the 2 pc packet sent 4 and no lost it also showed the round trip because in this one we change the subnet mask for them both and connect them accordingly so we change from 255.255.255.0 to 255.255.0.0 so it gets connected because we give 0 value to the that port so it finds the first two matching port and gets connected

```
C:\>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time=6ms TTL=128
Reply from 192.168.2.1: bytes=32 time<1ms TTL=128
Reply from 192.168.2.1: bytes=32 time<1ms TTL=128
Reply from 192.168.2.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 6ms, Average = 1ms

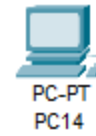
C:\>|
```

## Task 2: Simulation of hub with end devices

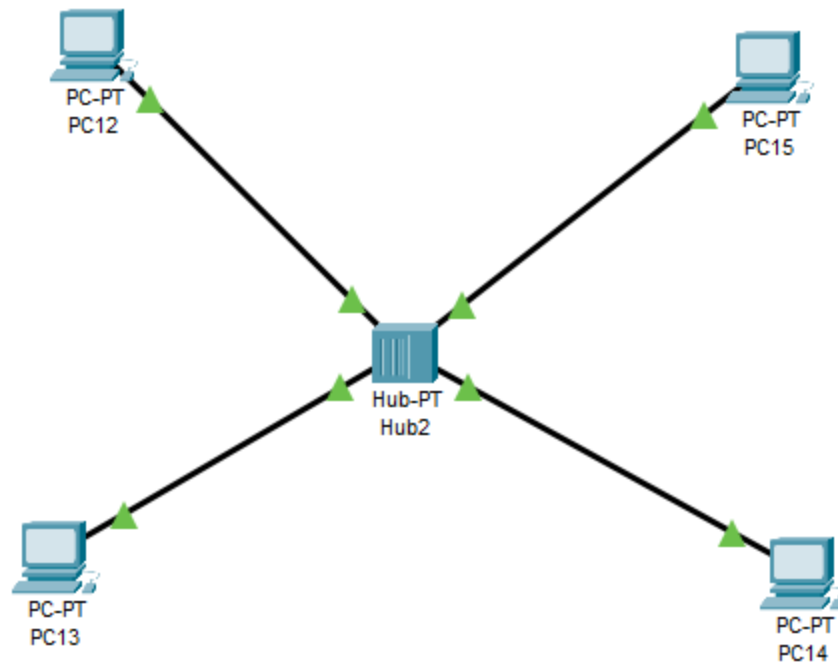
1 – Step: first we drag and drop four end devices pc and name them differently

After that we drag and drop a hub in the middle of these 4 pc as shown



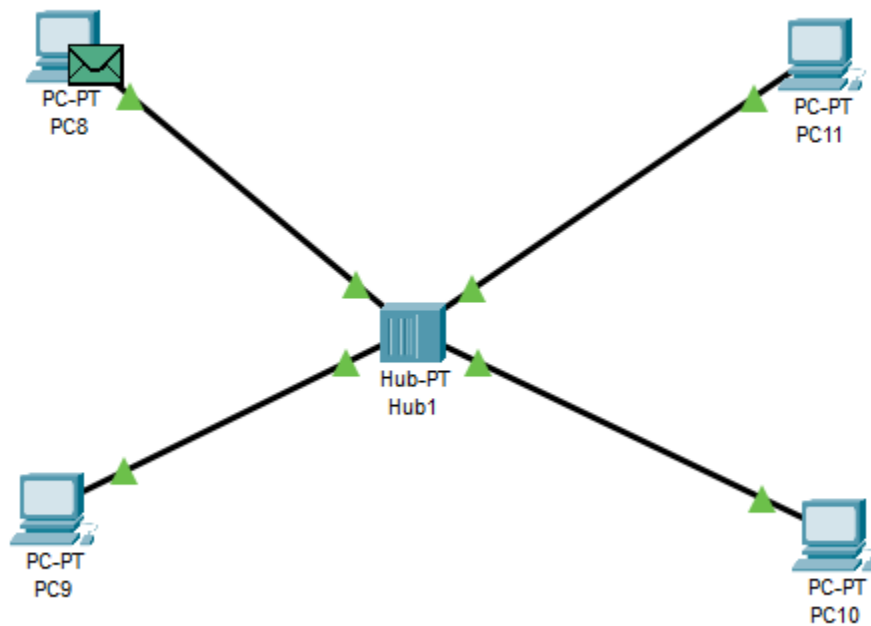


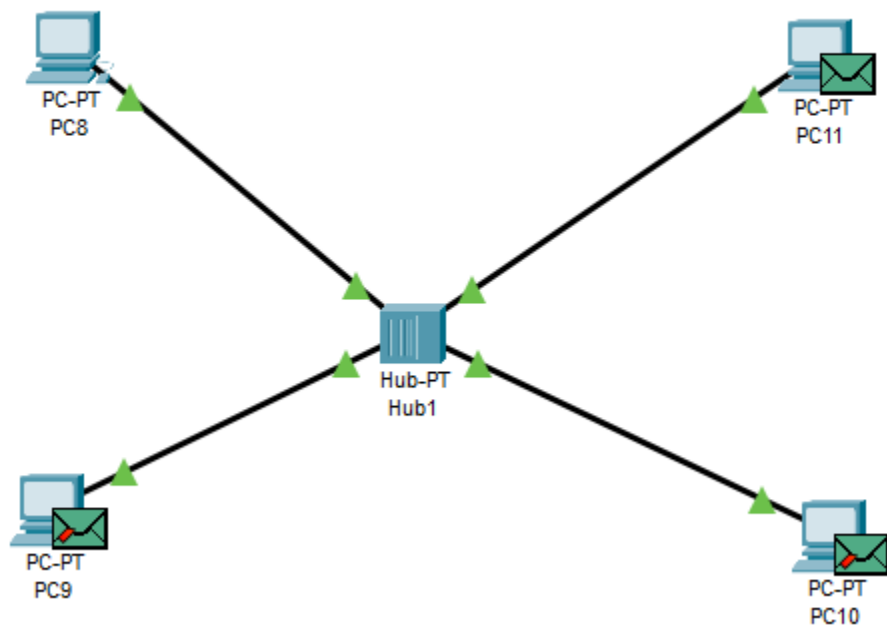
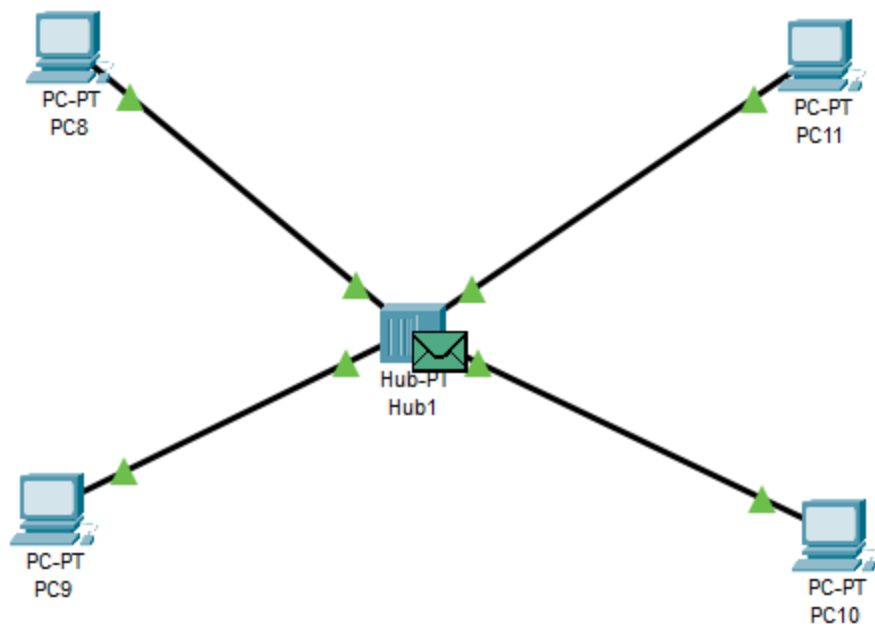
2 – Step: Now we connect the hub with all four of these devices with a copper straight through wire and select different Ethernet for each of them



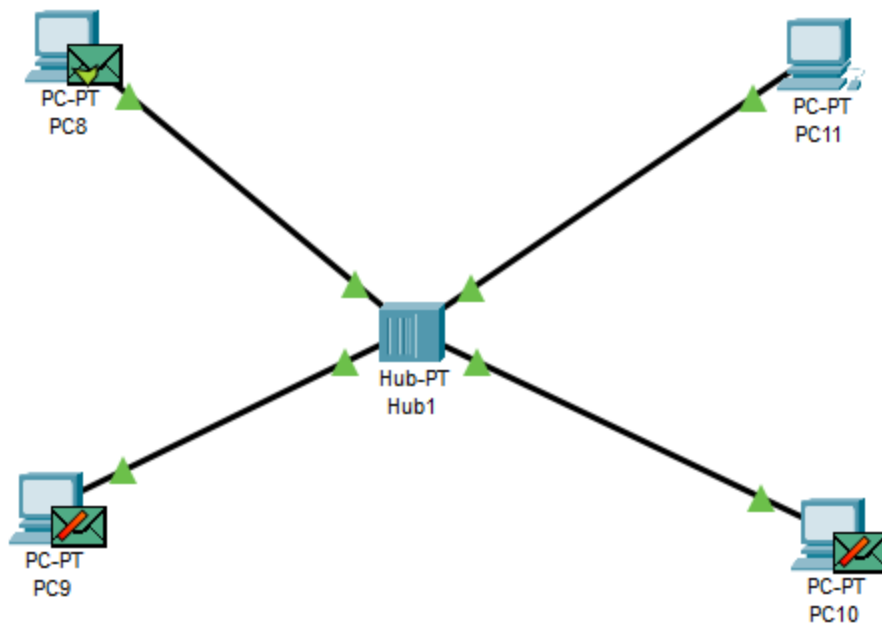
3 – Step :

Now after we give different IP addresses to 4 pc's then we try to send a packet from pc 1 to pc 2 through the hub through simulation we check





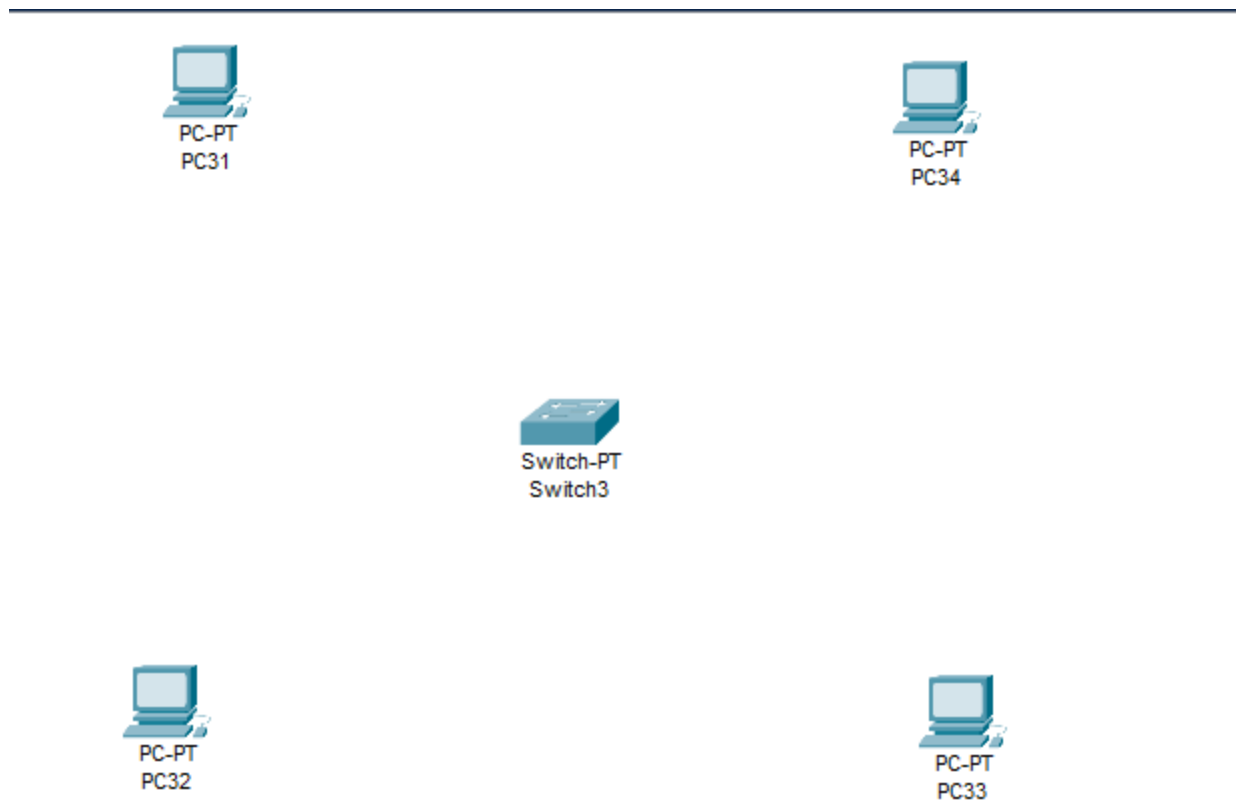
After receiving the packet from pc 1 pc 2 send back the same packet through the hub to all 3 but it only gets accepted by the pc 1 and rejected by the other 2 pc



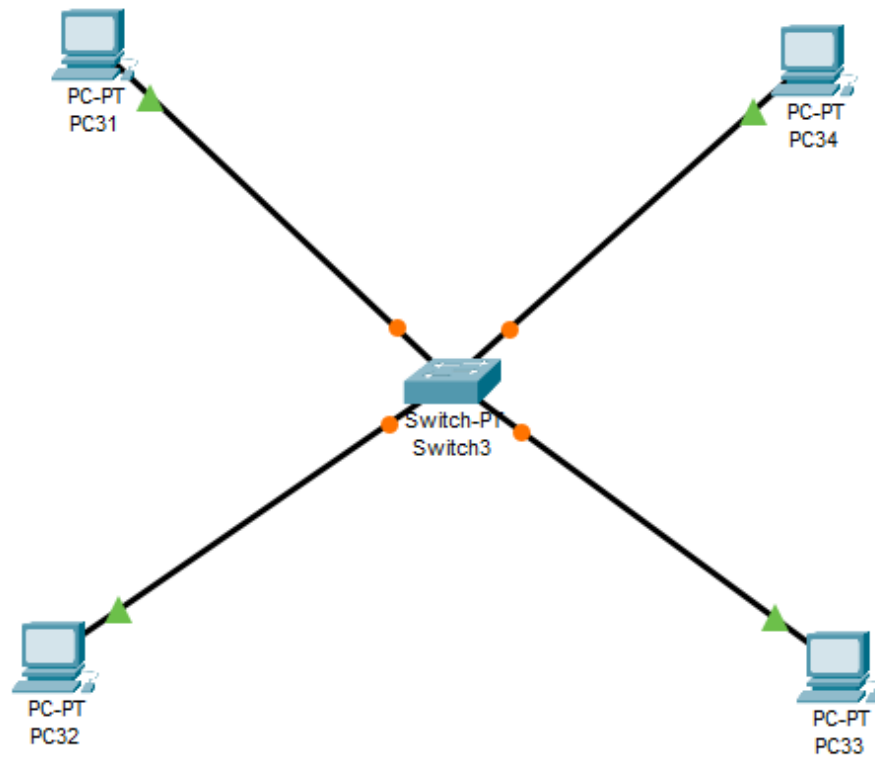
## Task 3: Simulation of Switch with end devices

1 – Step: Step: first we drag and drop four end devices pc and name them differently

After that we drag and drop a switch in the middle of these 4 pc as shown



2 – Step: Now we connect the switch with all four of these devices with a copper straight through wire and select different Ethernet for each of them



3 – step : now we send packets from pc 1 to pc2 through switch

