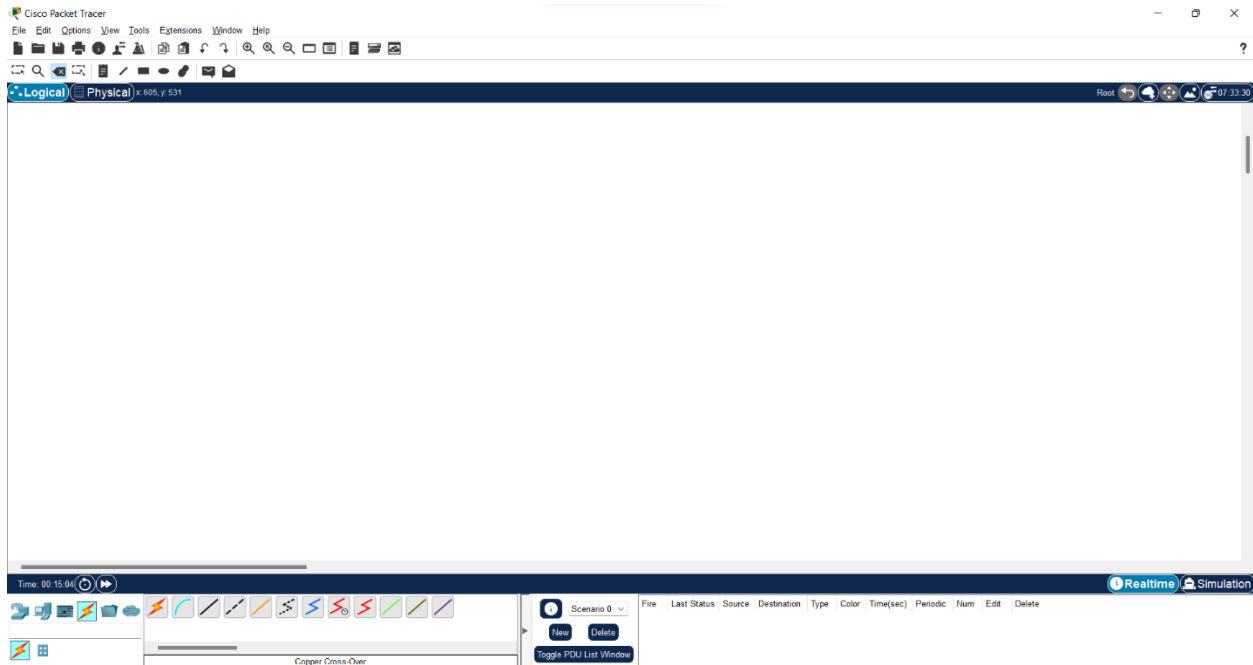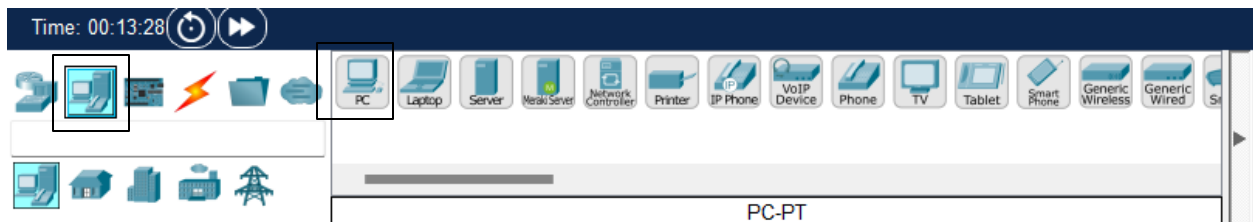# Lab Task#2

Saad Ahmad

20P-0051

Task 1 (a)

Step 1:
Open Cisco Packet Tracer application

Step 2:
At the left bottom select **End devices** and then select **PC** and select 2 PC from them.

Step 3:
Set the IP address for each device

192.168.1.2

Physical   Config   Desktop   Programming   Attributes

IP Configuration   X

Interface   FastEthernet0   ⌄

IP Configuration

○ DHCP   ● Static

IPv4 Address	192.168.1.2
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::201:96FF:FE69:30BC
Default Gateway	
DNS Server	

802.1X

☐ Use 802.1X Security
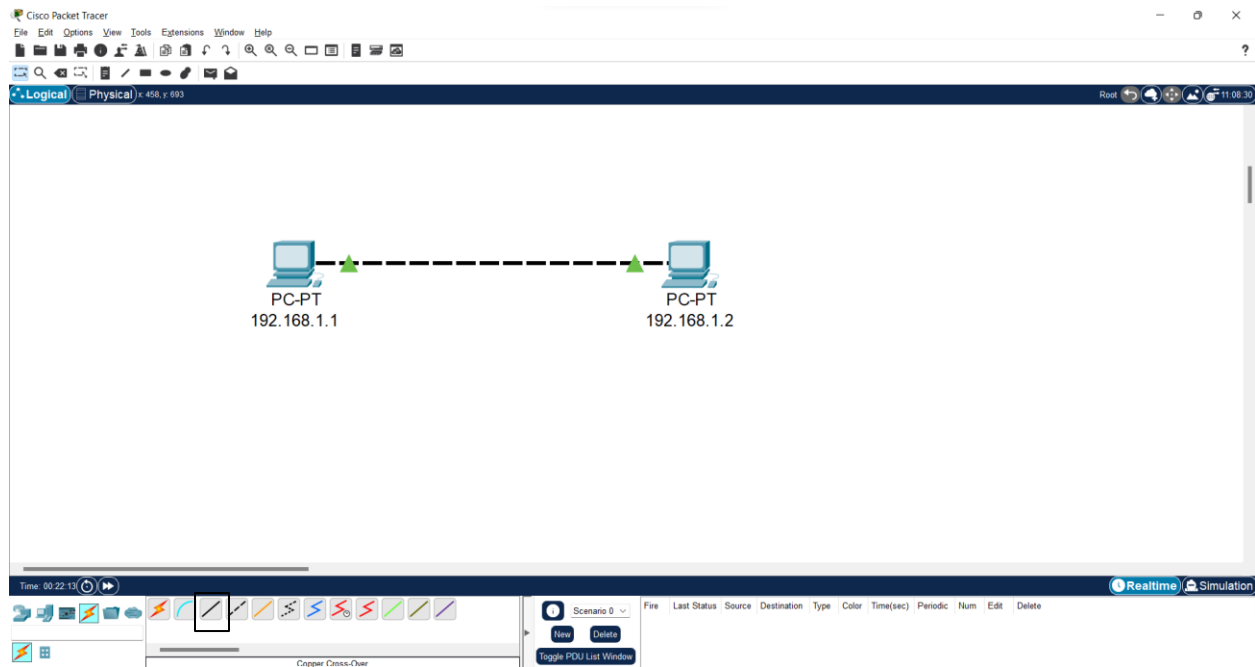
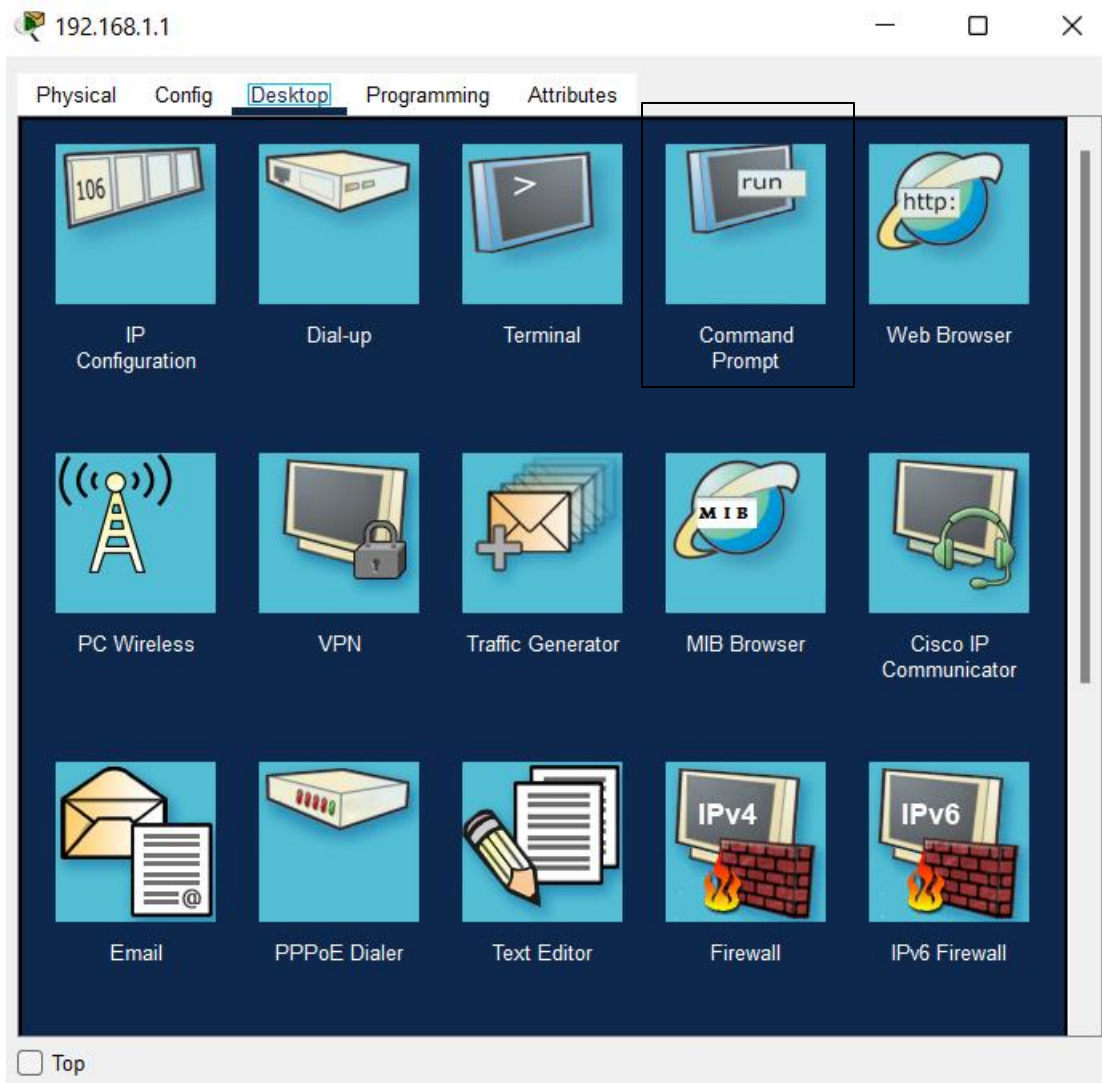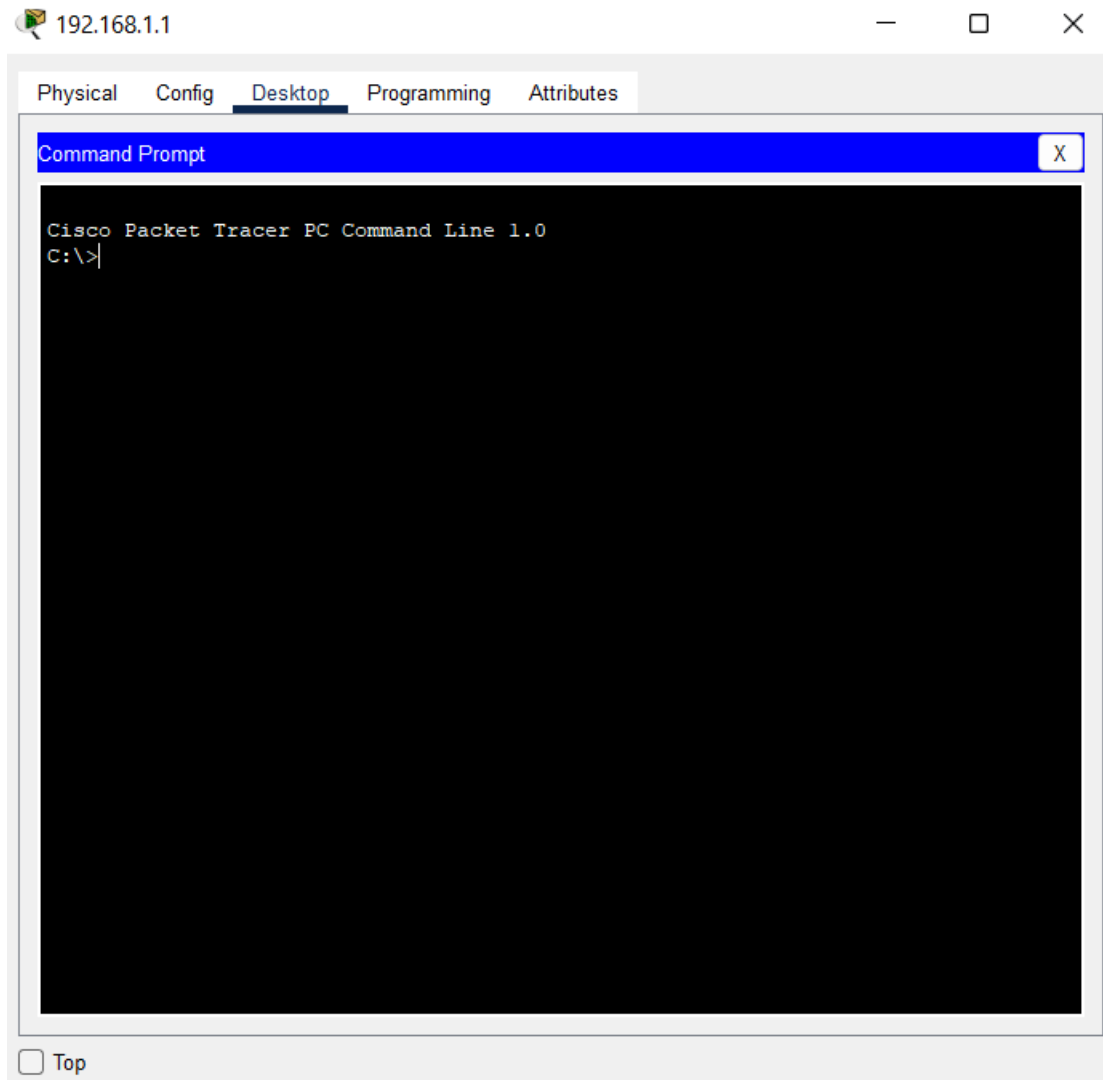|	
Authentication	MD5 ⌄
Username	
Password	

☐ Top

Step 4:
Now we will make a connection between the two devices so for go to the
Connection tab and select the copper cross over cable and make a connection
between them.

Step 5:

Now that we have connected the devices, we will test the connection so for that double click on the PC-1 and select the command prompt.

Step 6:
Now type the **ping <name of the other device>** and you will see the following result.

Task 1 (b)

Step 1:
Now set the IP of the first device to IPv4: 192.168.1.1 Subnet mask: 255.255.255.0 and the IP of the second device to: IPv4: 192.168.2.1 Subnet mask: 255.255.255.0

Step 2:
Now check the connection and using the same ping command.

```
C:\>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

Reason: Both the devices are on the different networks because there IPs are different.
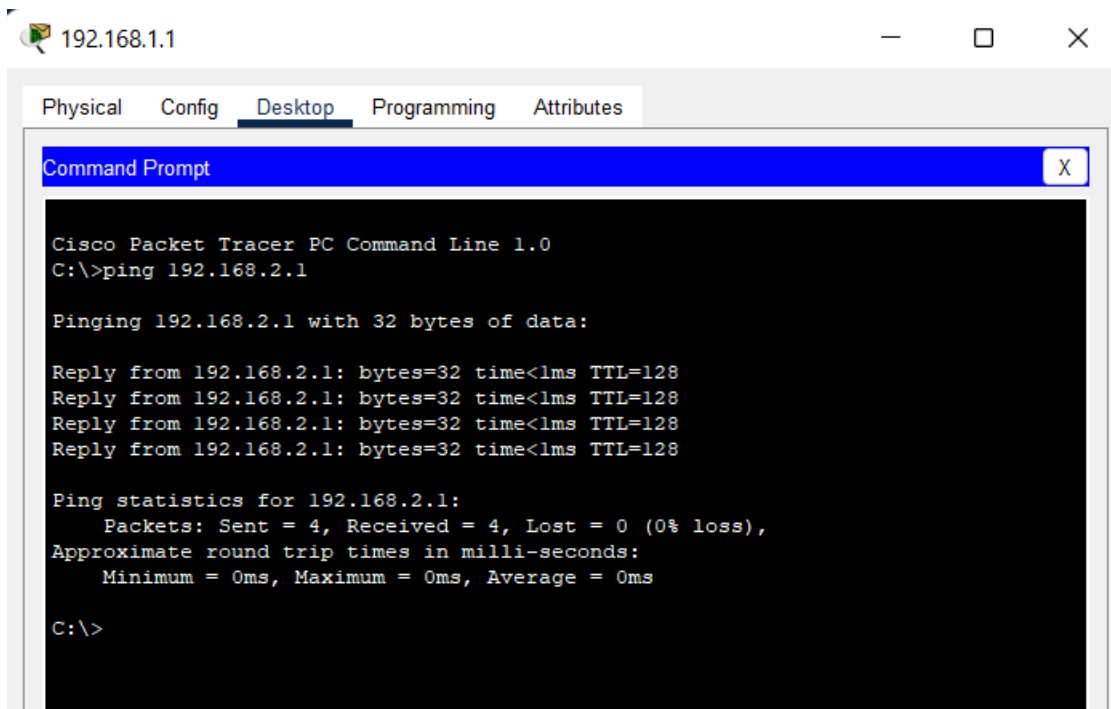
Task 1 (c)

Step 1:
Now set the IP of the first device to IPv4: 192.168.1.1 Subnet mask: 255.255.0.0 and the IP of the second device to IPv4: 192.168.2.1 Subnet mask: 255.255.0.0

Step 2:
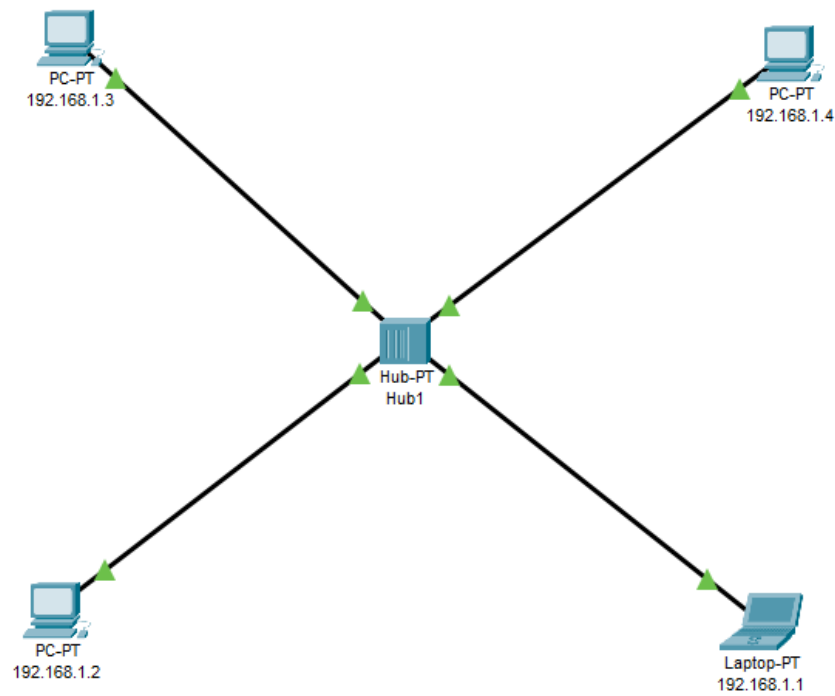Now check the connection and using the same ping command.

Reason: although the IP addresses are different but the net mask are same so it will check the first 2 values which are some so that is why the is a connection between the two devices.

Task 2

Using HUB:

Step 1:
Place all the devices and place the hub at the center of them and connect them with the copper straight through cable

Step 2:
Now assign the IPs to each of the system.

IP Configuration

DHCP ⦿ Static

IPv4 Address   192.168.1.2

Subnet Mask   255.255.255.0

Default Gateway   0.0.0.0

DNS Server   0.0.0.0

IP Configuration

DHCP ⦿ Static

IPv4 Address   192.168.1.3

Subnet Mask   255.255.255.0

Default Gateway   0.0.0.0

DNS Server   0.0.0.0

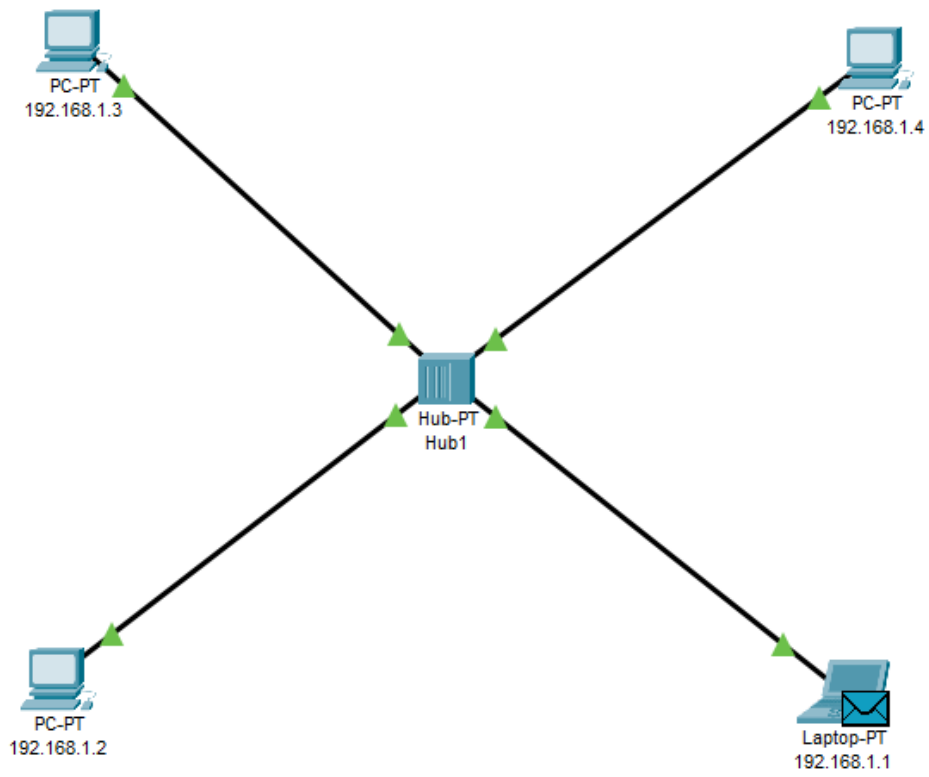IP Configuration

DHCP ⦿ Static

IPv4 Address   192.168.1.4

Subnet Mask   255.255.255.0
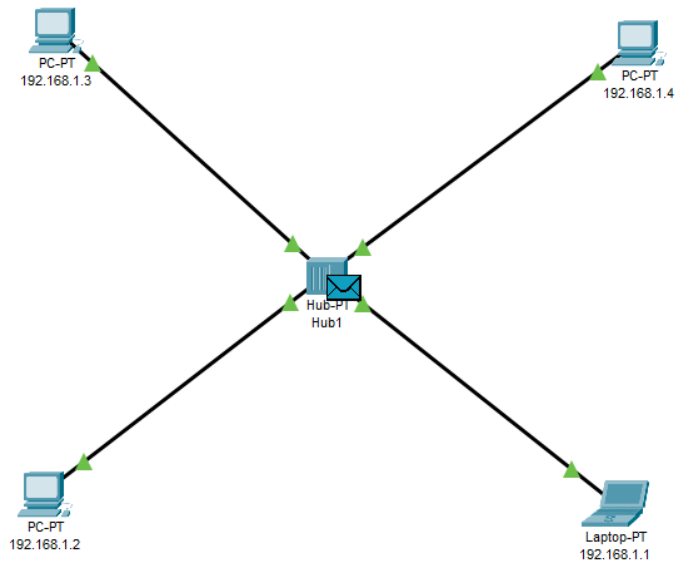
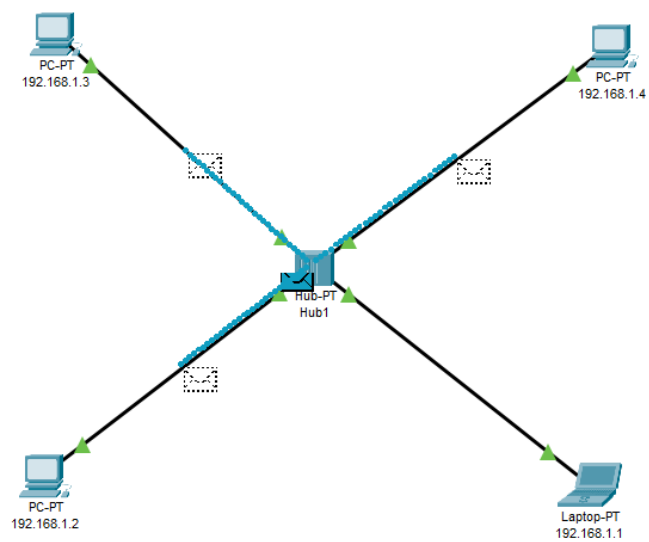Default Gateway   0.0.0.0

DNS Server   0.0.0.0

Step 3:
Now select the message and add the source and the destination.

PC-PT
192.168.1.3

PC-PT
192.168.1.4

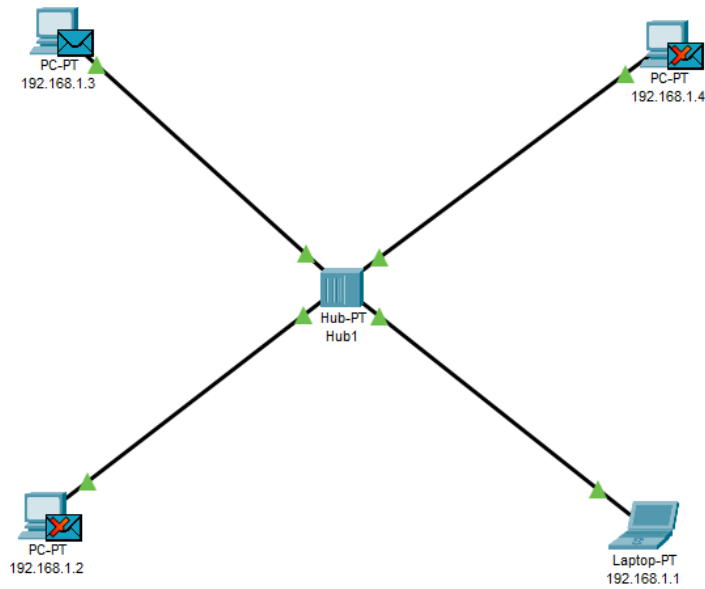Hub-PT
Hub1

PC-PT
192.168.1.2

Laptop-PT
192.168.1.1

Simulation:

Message is sent to the HUB.

The message is broadcasted to all the connected devices.

PC-PT
192.168.1.3

PC-PT
192.168.1.4

Hub-PT
Hub1

PC-PT
192.168.1.2

Laptop-PT
192.168.1.1

The message is accepted only be the PC-3 as it was the source.

PC-PT
192.168.1.3

PC-PT
192.168.1.4

Hub-PT
Hub1

PC-PT
192.168.1.2

Laptop-PT
192.168.1.1
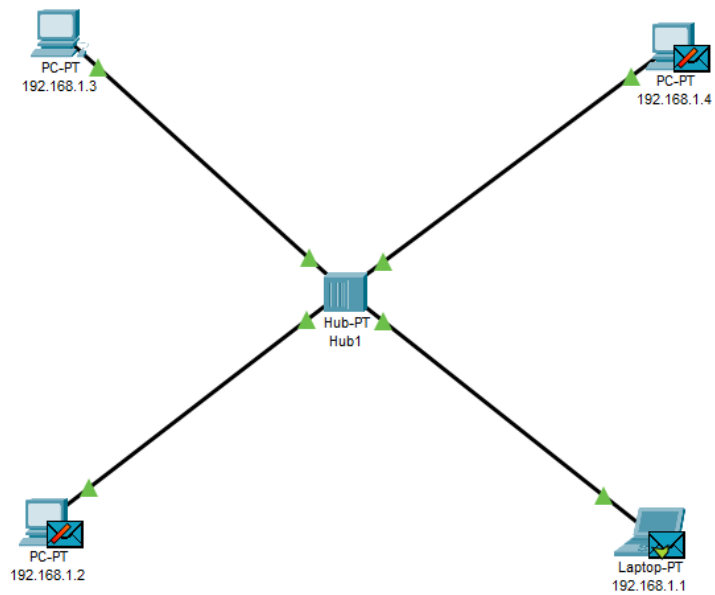
Second device is sending the message to the first device and it is received by only first device.

Result will be some kind of as follow:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
●	Successful	192.168.1.1	192.168.1.3	ICMP	■	0.000	N	0	(edit)	

Using Switch:

Step 1:
Place all the devices and place the switch at the center of them and connect them with the copper straight through cable.
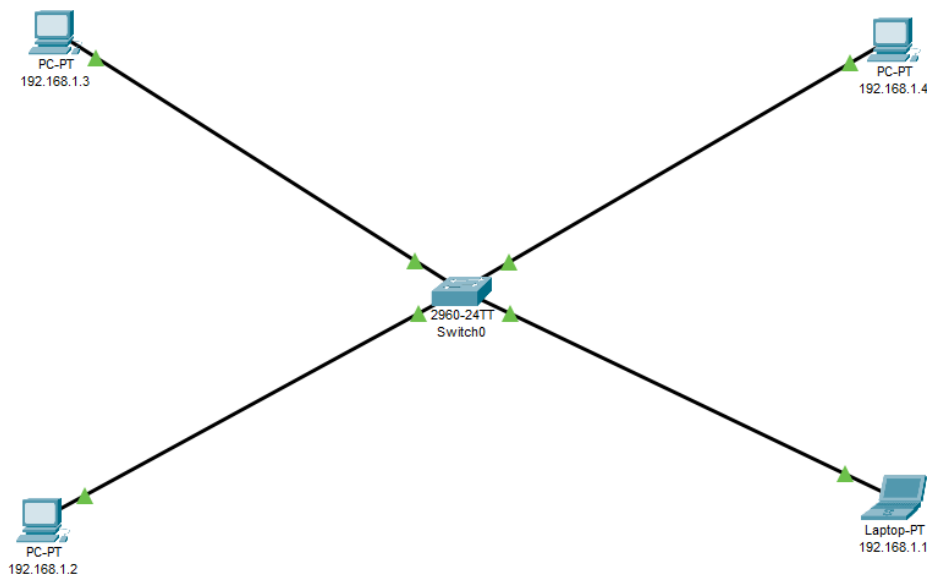
Step 2:
Now assign the IPs to each of the system.

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

IP Configuration

○ DHCP	● Static
IPv4 Address	192.168.1.2
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

IP Configuration

○ DHCP	● Static
IPv4 Address	192.168.1.3
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

IP Configuration

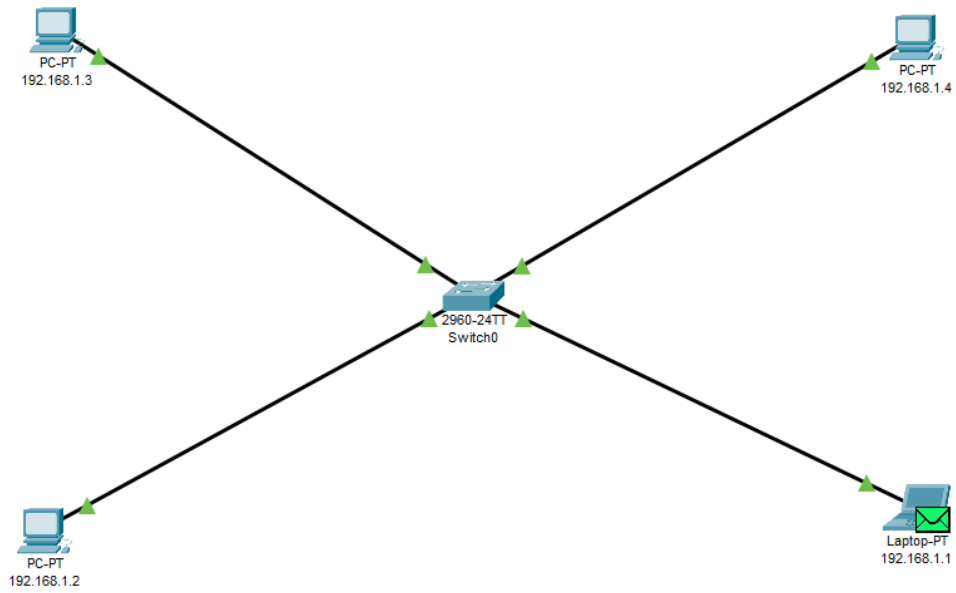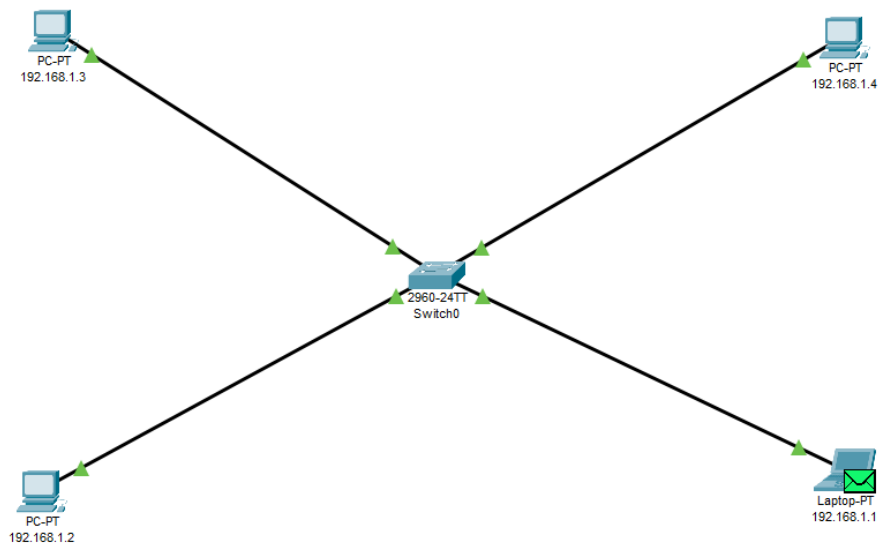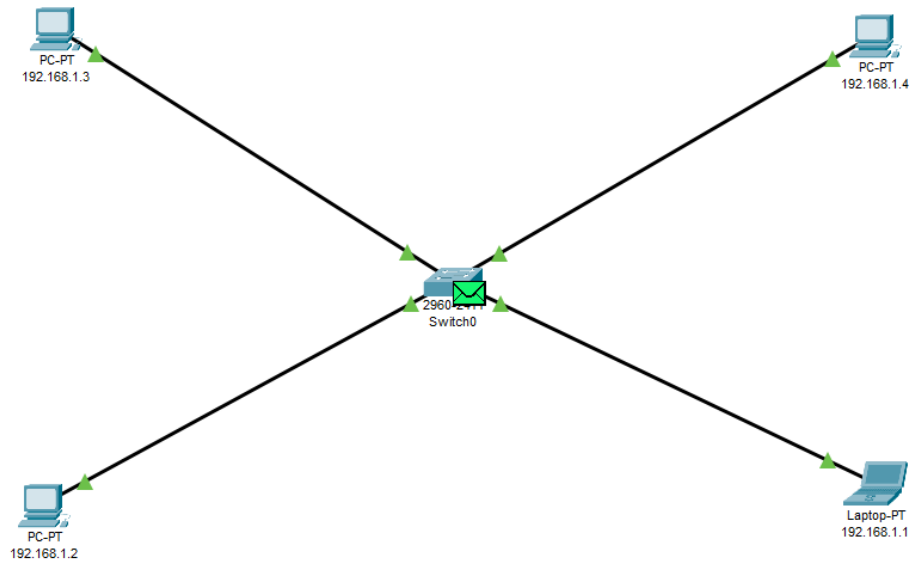|	
○ DHCP	● Static
IPv4 Address	192.168.1.4
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

Step 3:
Now select the message and add the source and the destination.
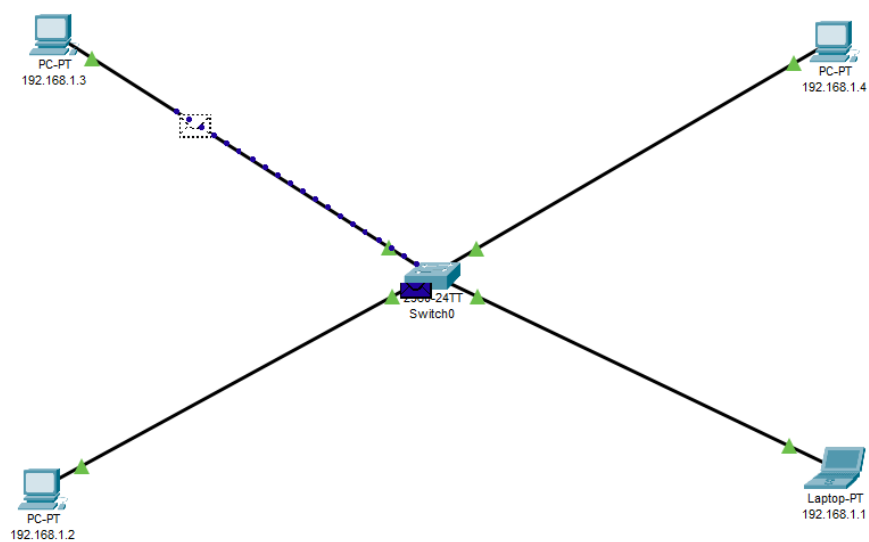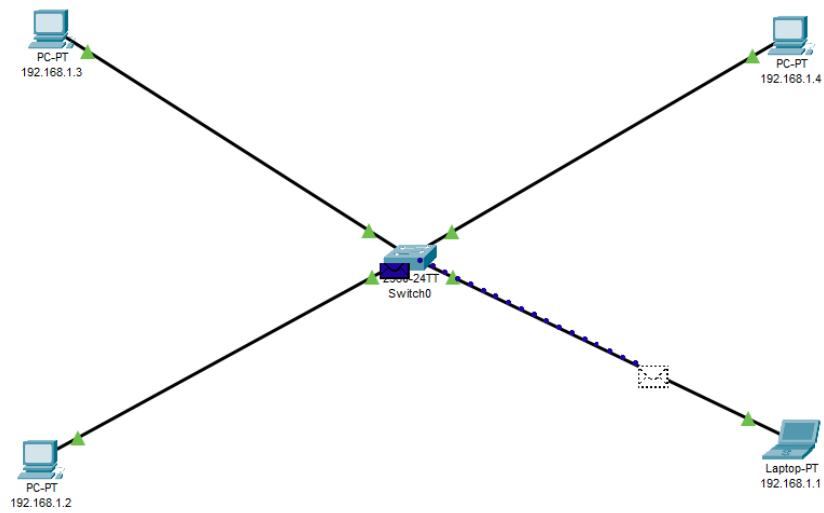

Simulation:

Message is sent to the Switch.

As the switch is an intelligent device it contains the IP table with itself so it matches the IP of the destination device and transfer the message to it.

Now the receiver device is sending the reply to the sender device.

End result is as follow

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
●	Successful	192.168.1.1	192.168.1.3	ICMP	■	0.000	N	0	(edit)	