COMPUTER NETWORKS LAB

LAB TASK # 02

Submitted By

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Submitted To

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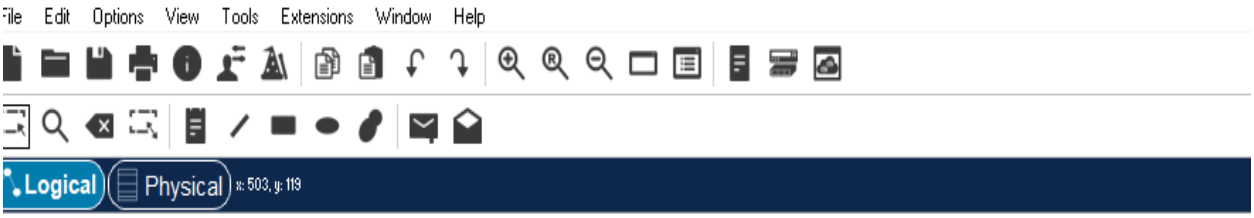
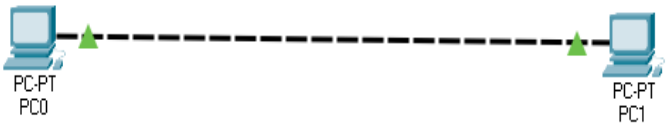
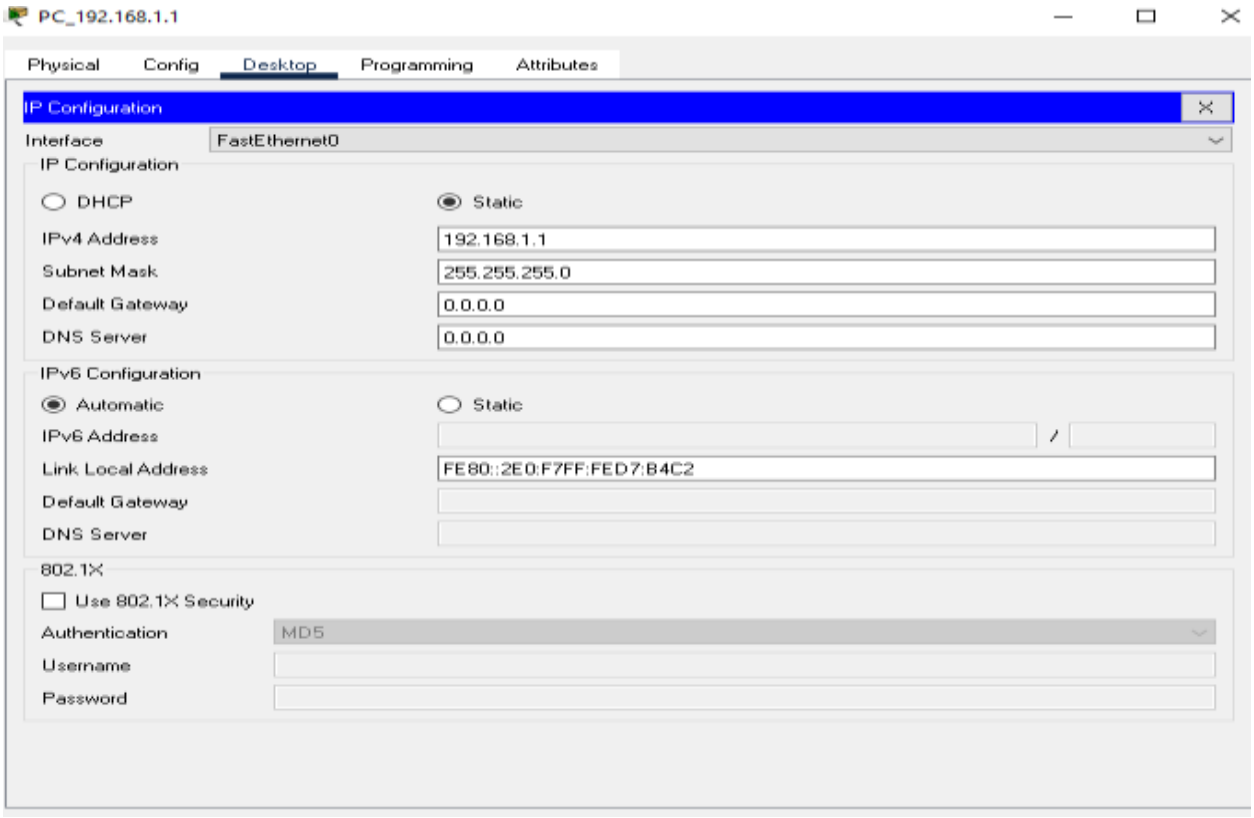
Task 1:

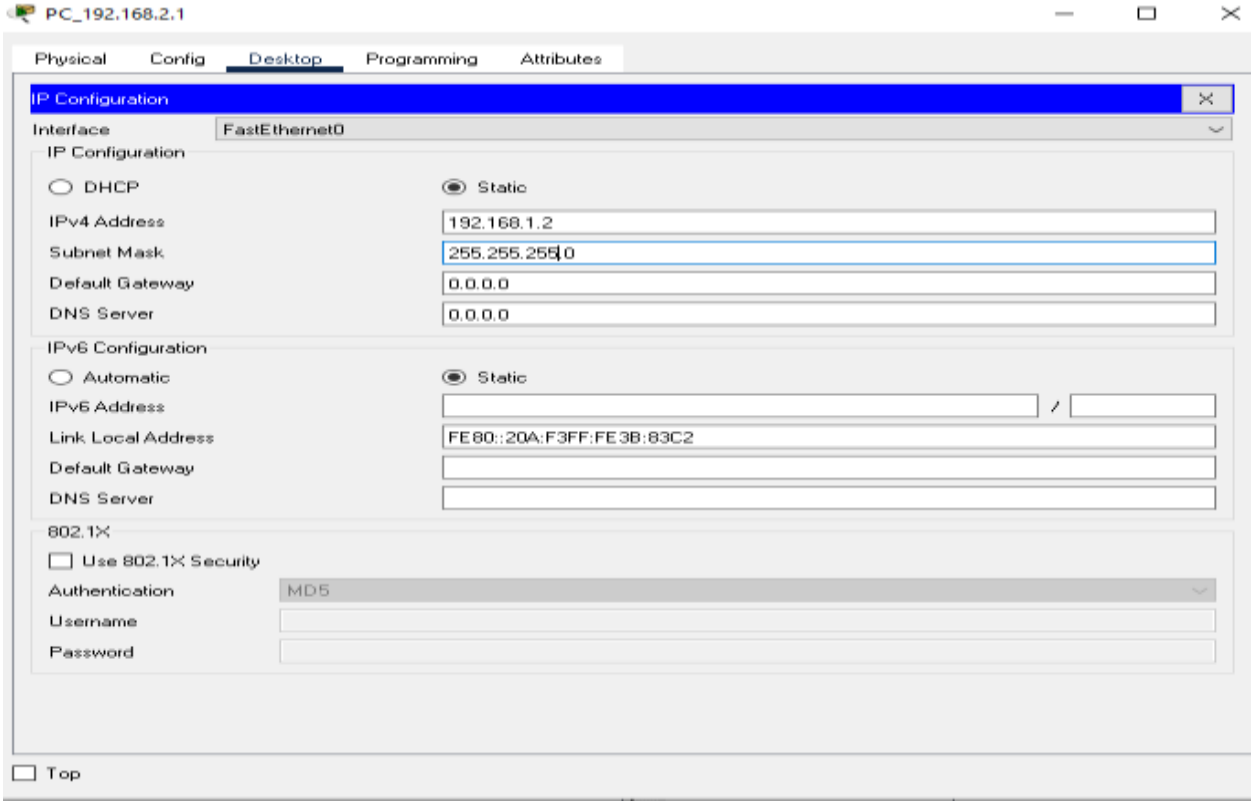
1. First Configure the PCs as shown above and verify the connection using ping command.

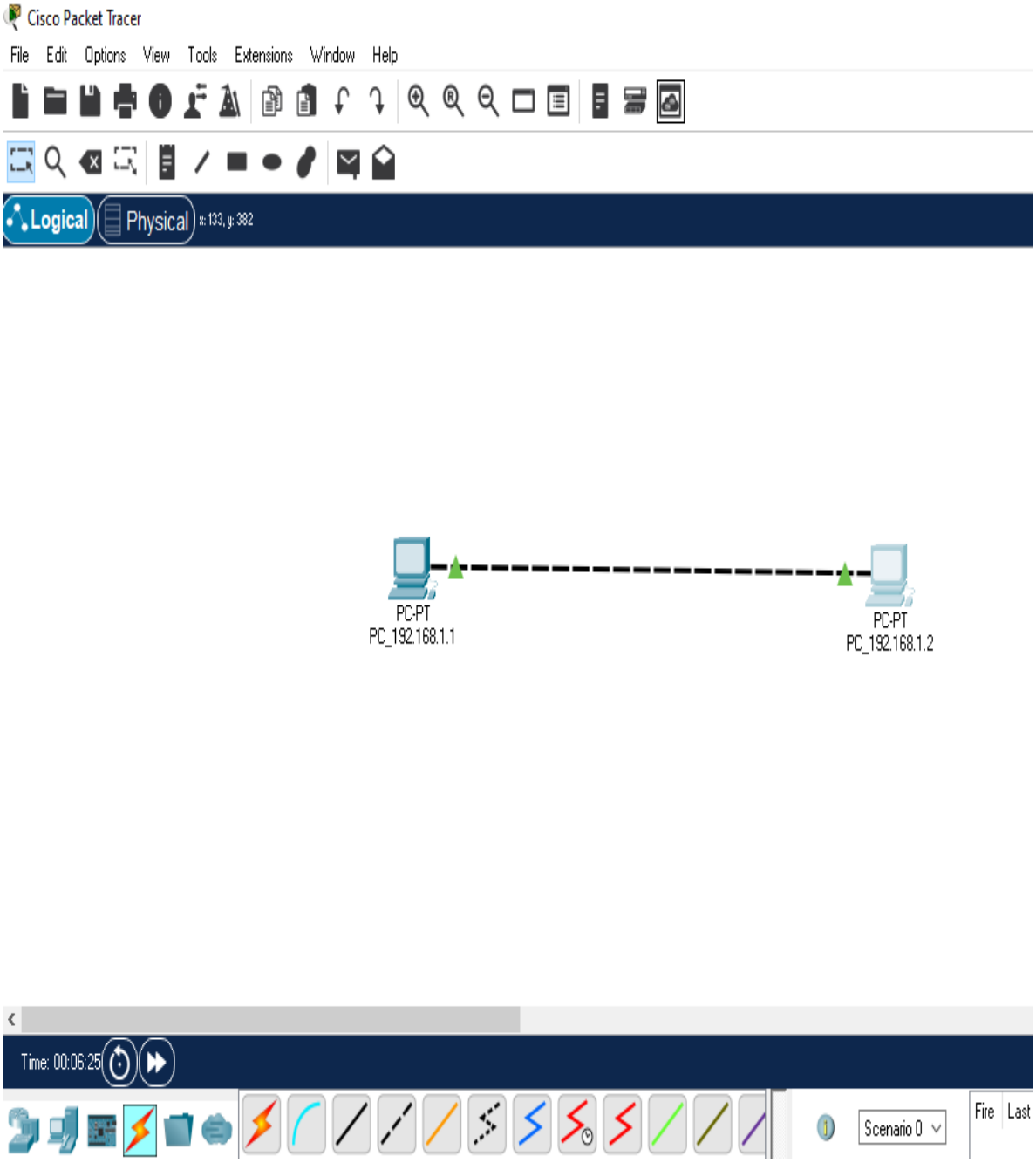




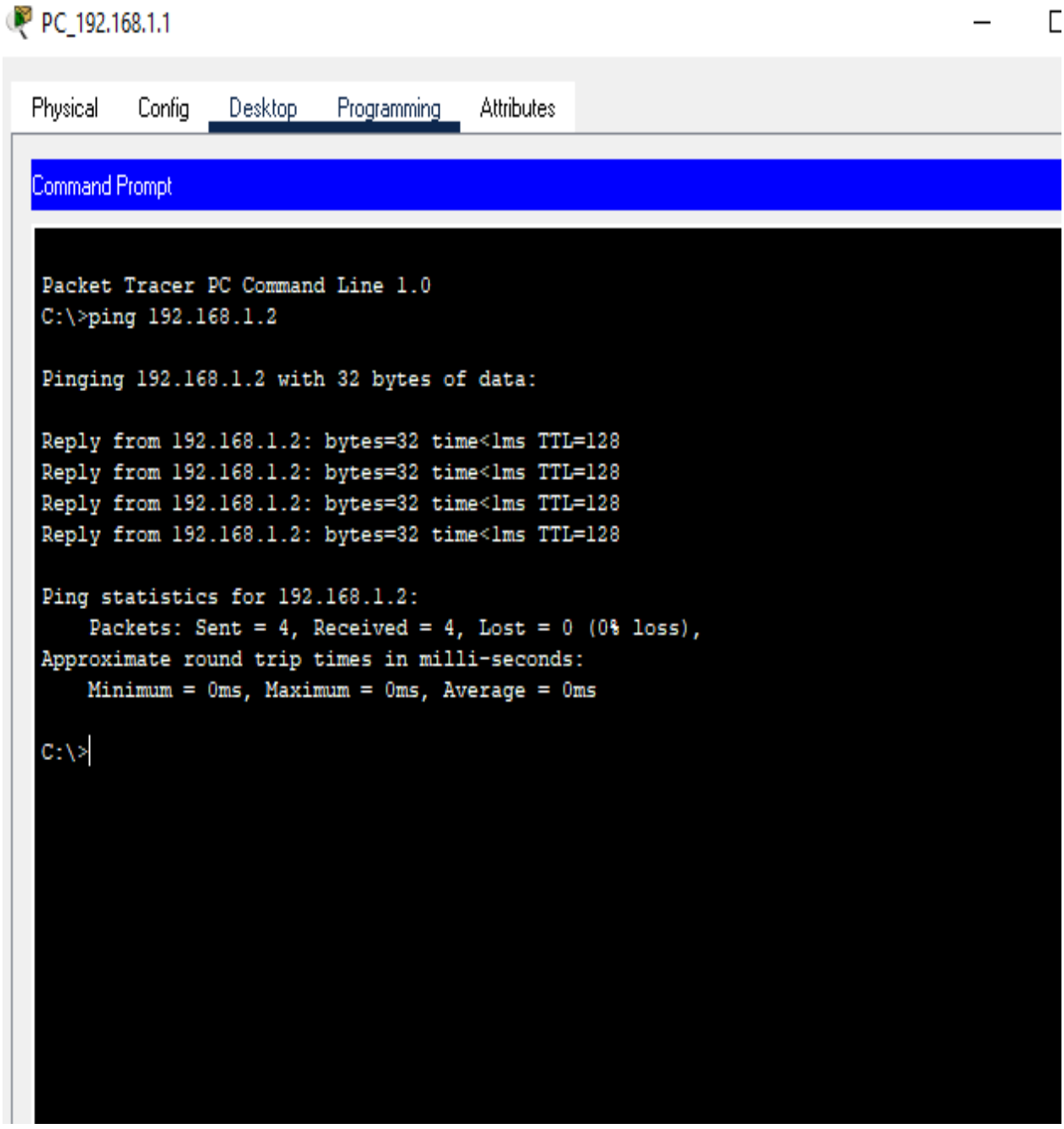
- We have two PC's in cisco packet tracer.
- Both are same devices so we connect with copper cross over cable.
- We use fast Ethernet port to make a connection.


PC_192.168.1.1
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::2E0:F7FF:FED7:B4C2
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password


PC_192.168.2.1
Physical
Config
Desktop
Programming
Attributes
IP Configuration
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::20A:F3FF:FE3B:83C2
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password
Top

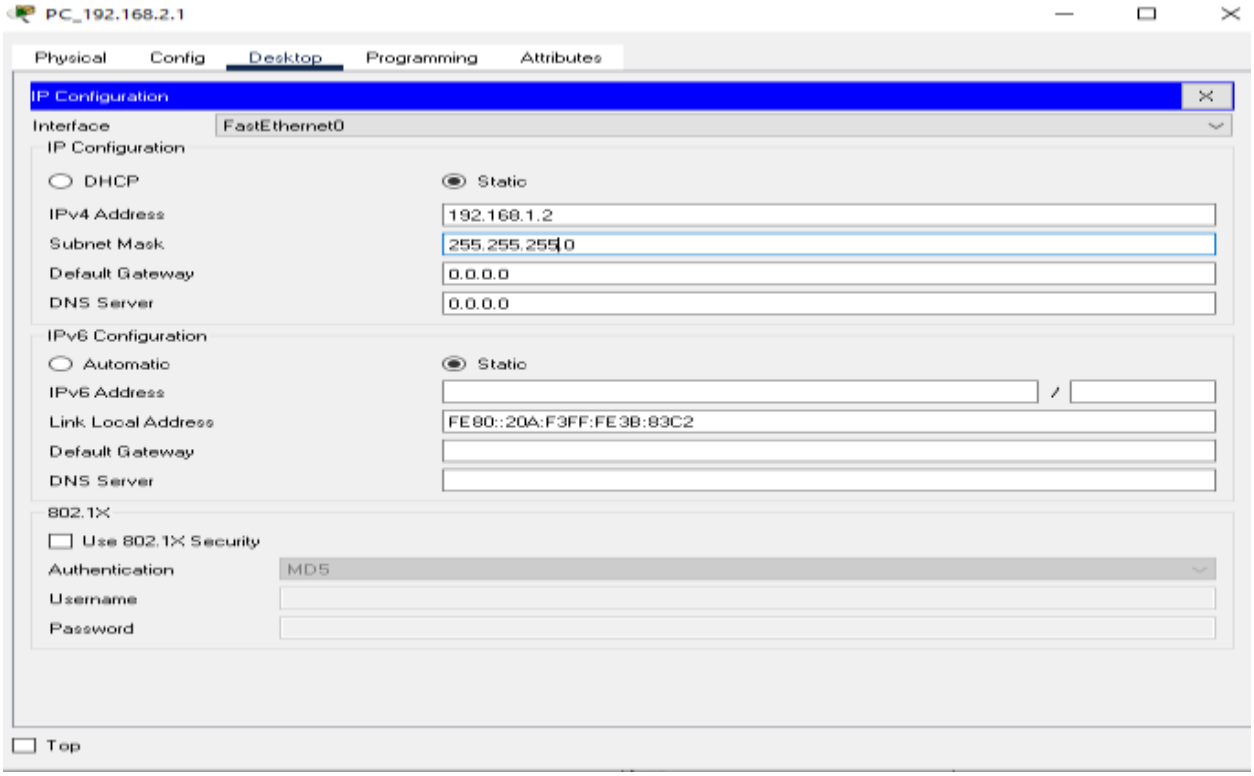


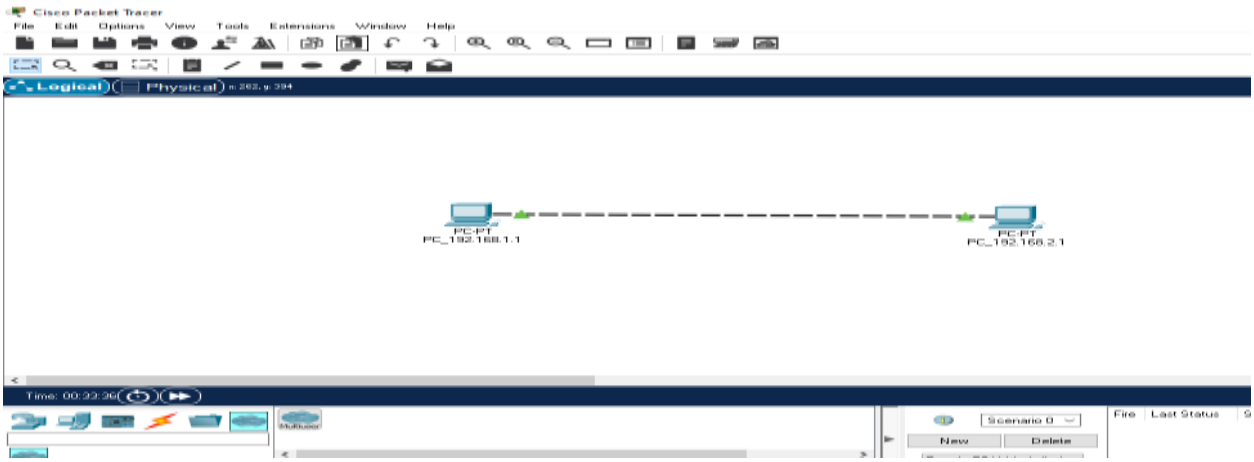
- Now we open ip configuration of both PC's.
- And assign ip addresses and subnet mask to the PC's. As you can see the ip address in the screenshot clearly.



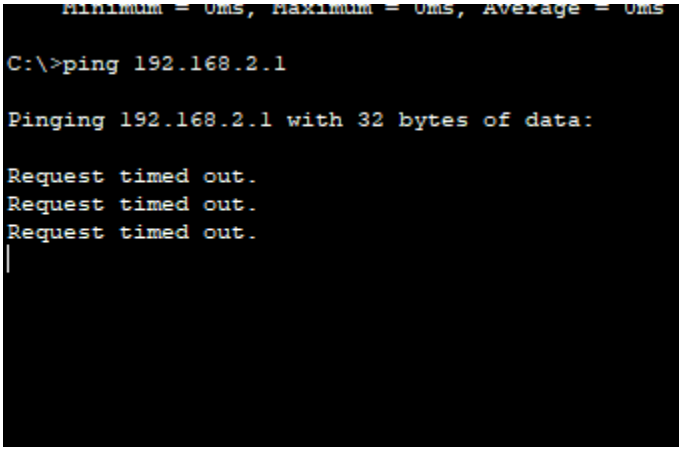
- Now we check our connection is established or not.
- We open a command prompt of any PC.
- Write ping and ip address of your other PC as
  ping 192.168.1.2
- In this case our PC's are connected.

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.



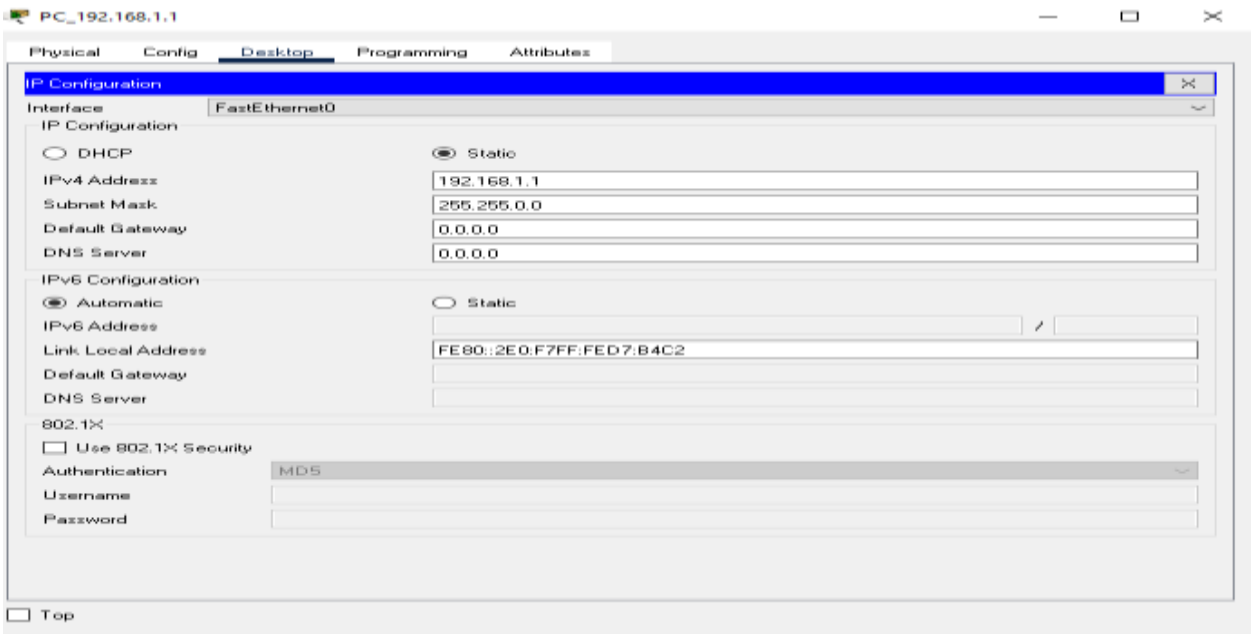


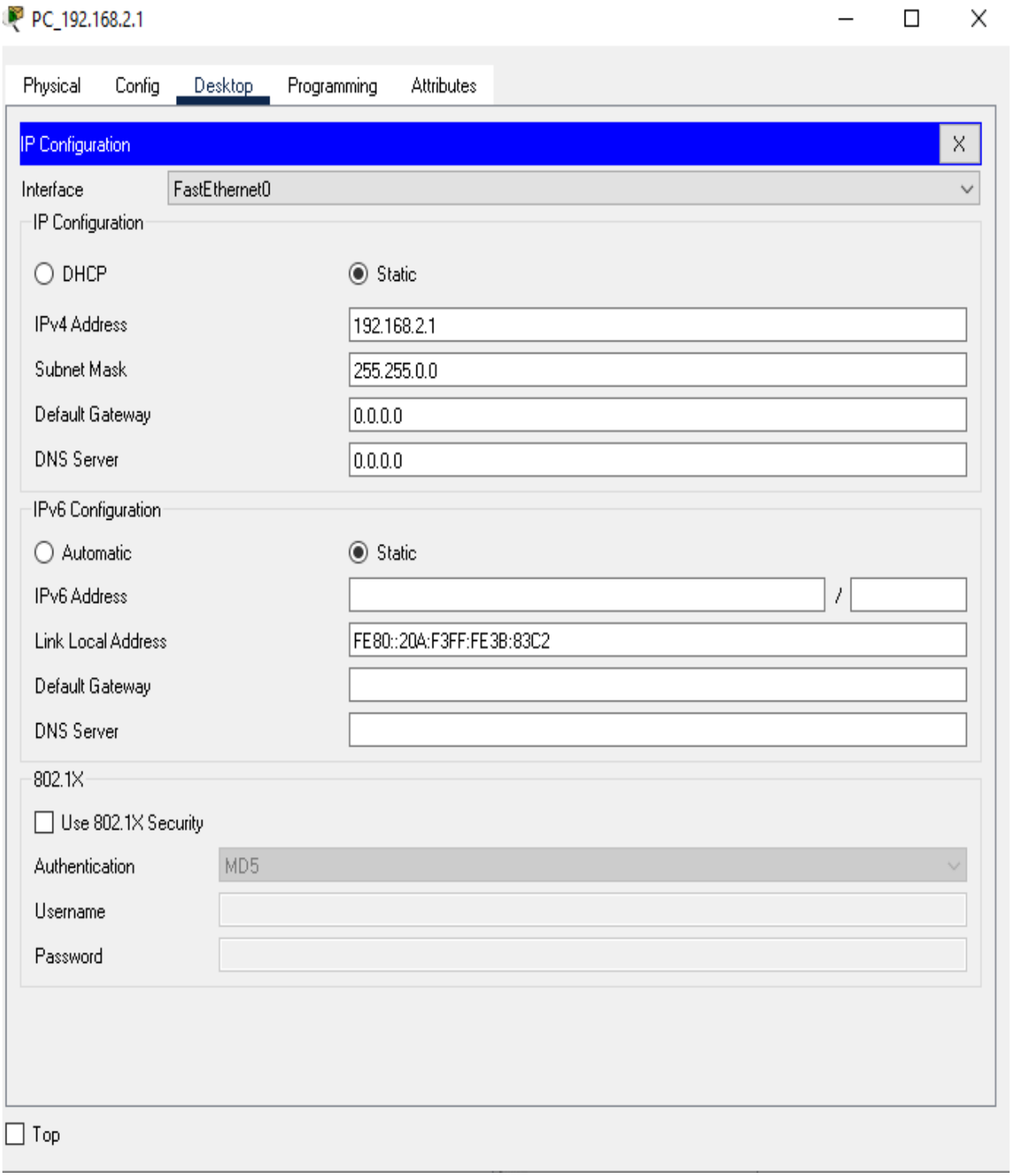
- Now we have change the ip address of PC 2 and same for PC 1.
- Now we check the connection



- Now the connection is not established.
- Because as we know that ip addresses have two parts one is network and other is host.
- While making connection we know that network is same only the host is change.
- In this case we are changing the network address so the devices are not connected.

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.





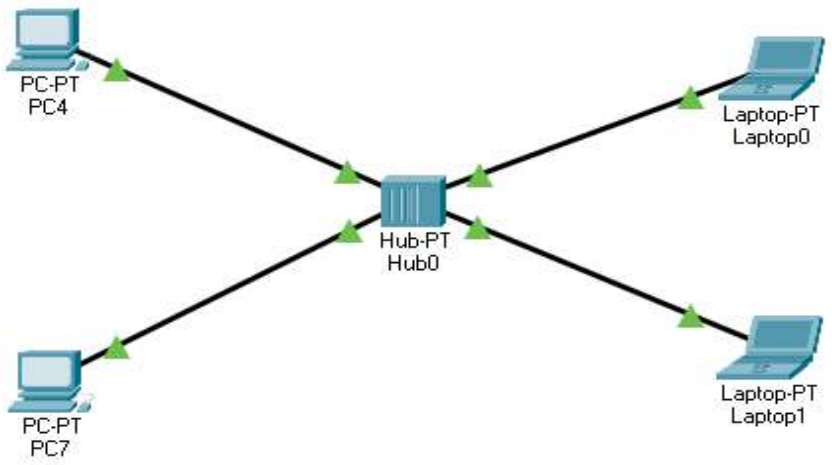
- Now we change the Subnet mask of both PC's.
- And check connection by using ping.

```
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<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
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 = 0ms, Average = 0ms

C:\>
```

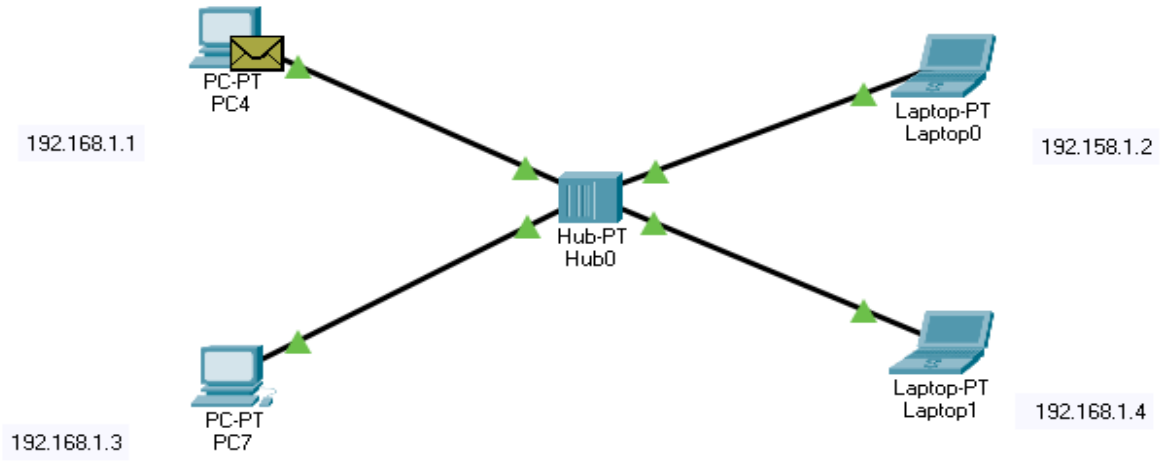
- Now the connection was established.
- As we know that our subnet mask define our network and host part of the ip addresses.

Task 2: HUB SIMMULATION:

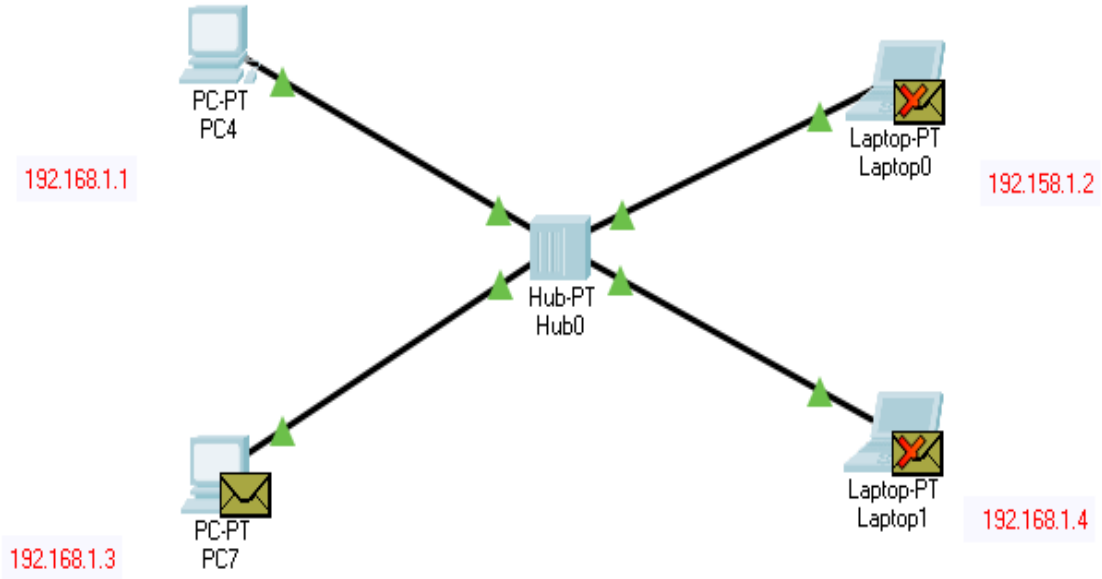
- Construct the topology.



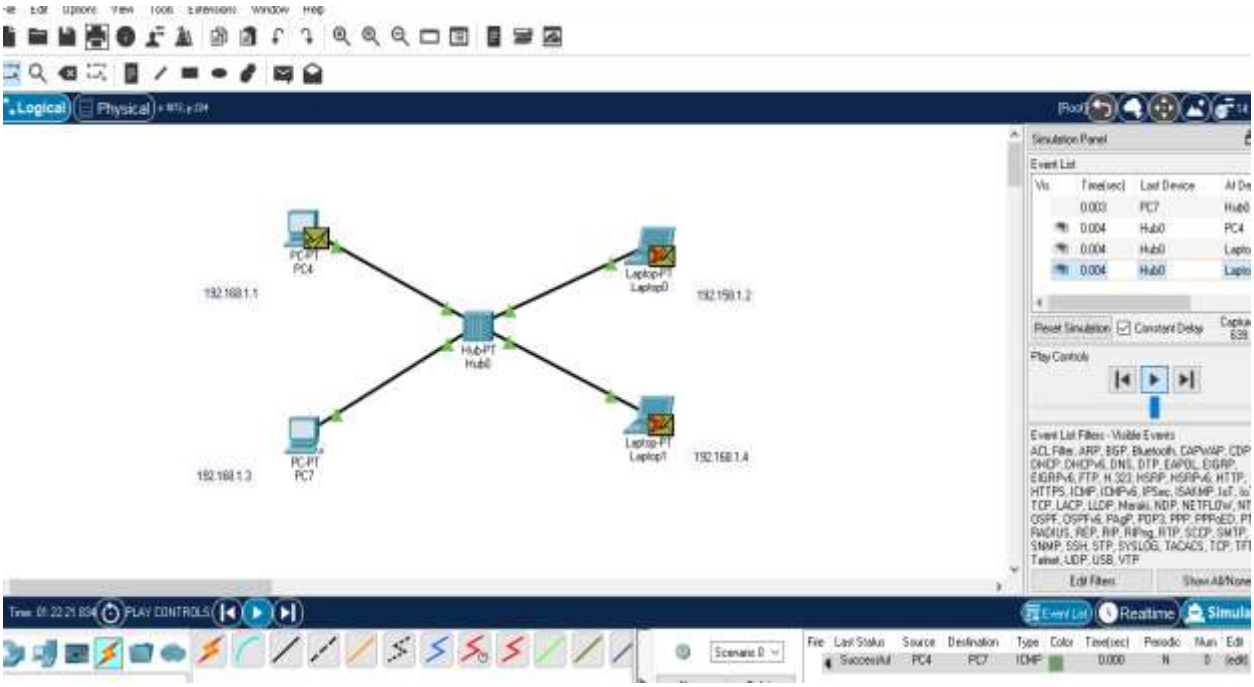
- Assign ip addresses to all the devices.
- Select 2 PC's in which you want to communicate I will select PC4 and PC7.
- Now I send packet from PC4 as you see below.



- As we know that hub is doing broadcasting. So hub send packet to all devices but accept by only PC7.

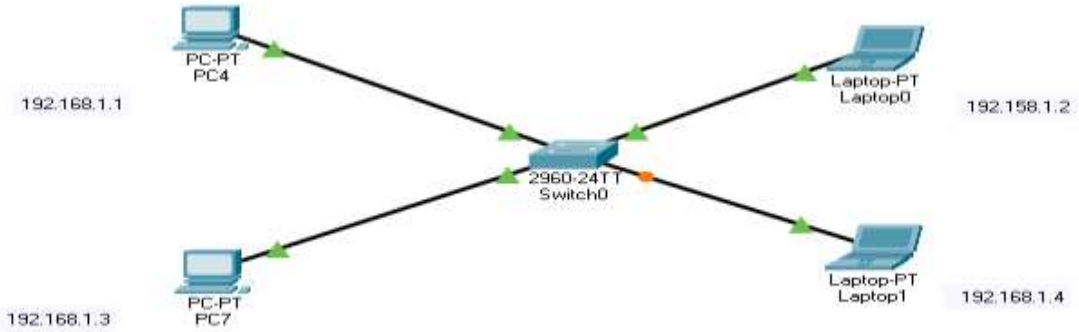


- Now the connection between PC4 and PC7 was established successfully as you see in the below screenshot.

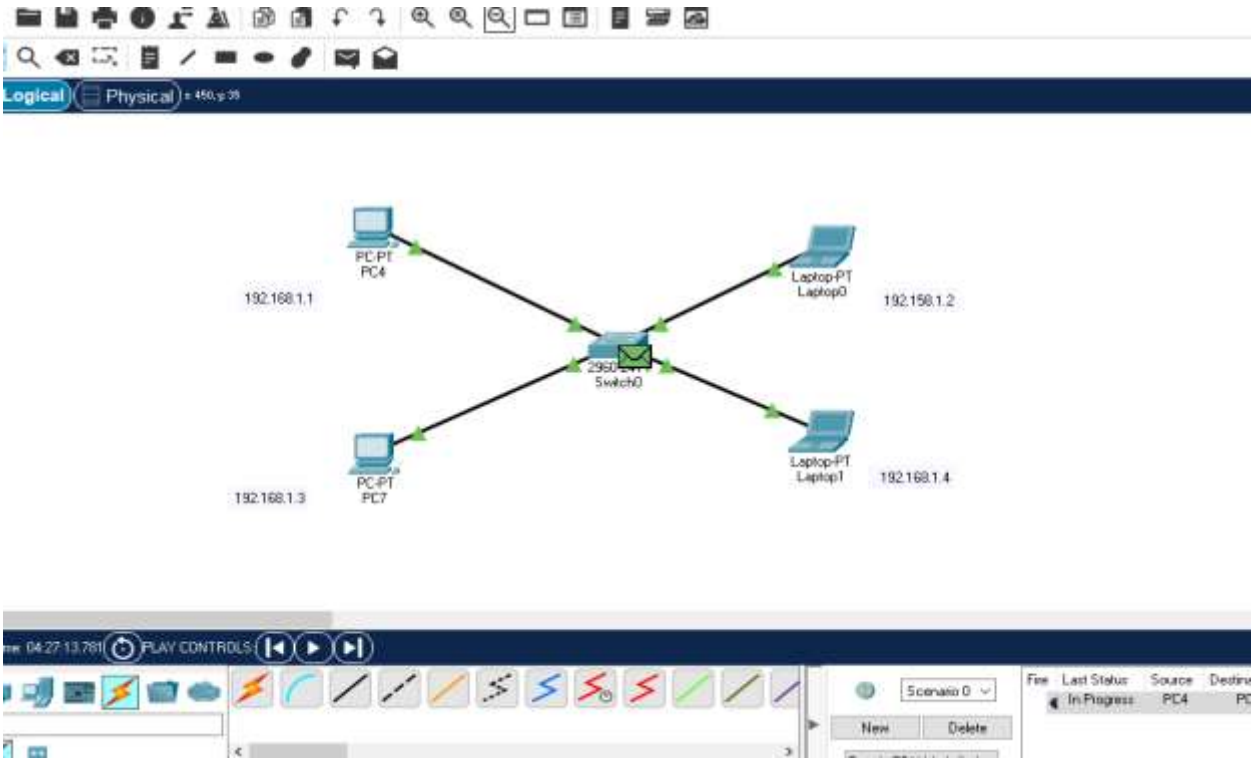


Task 3: SWITCH SIMMULATION:

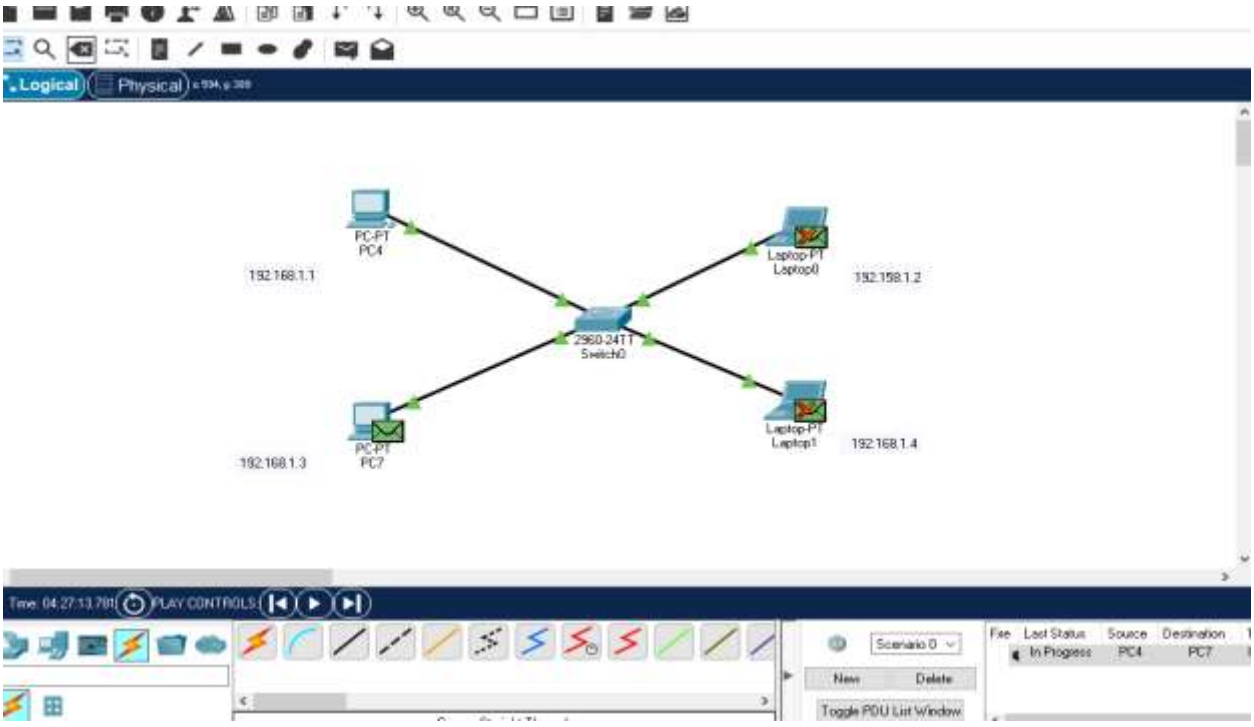
- Construct the topology.



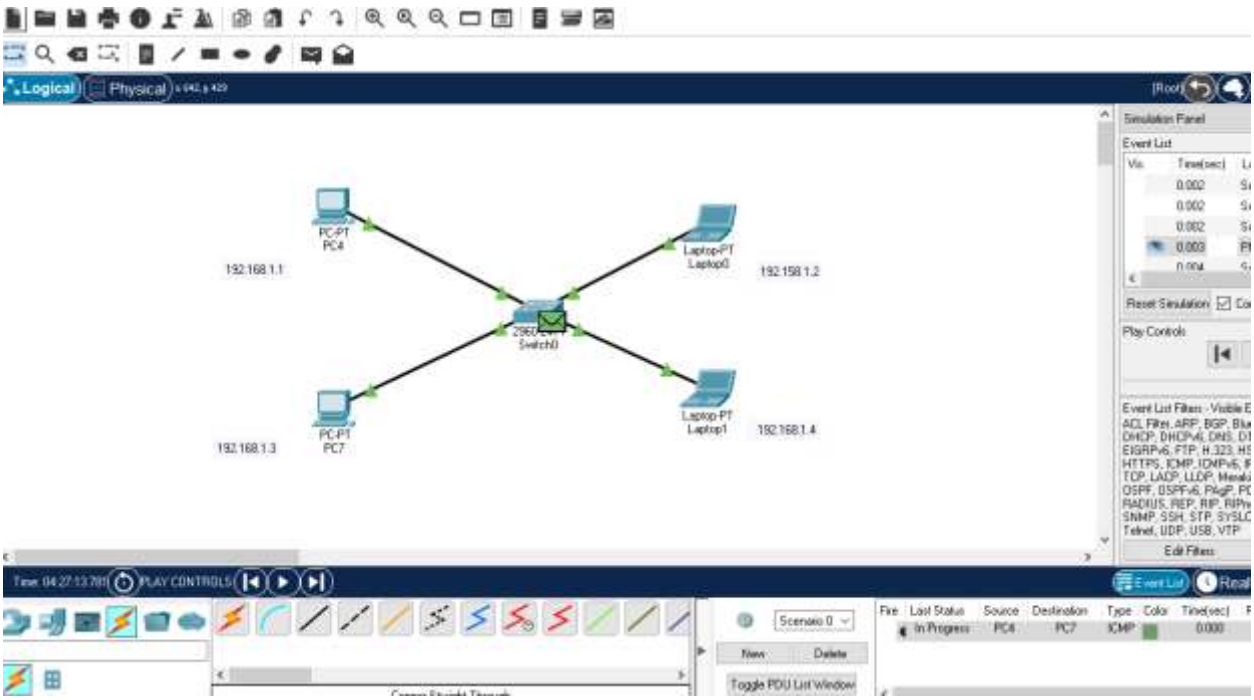
- Send packet from PC4.

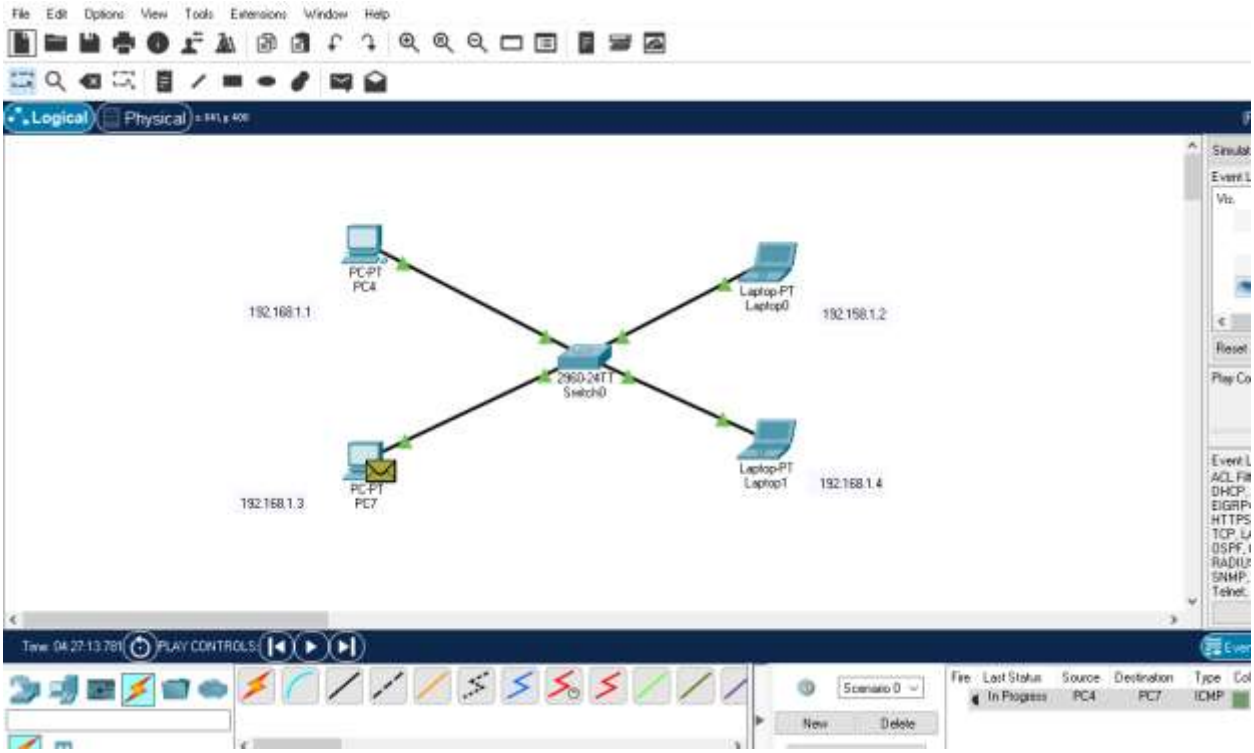


- Now the switch is doing broadcasting



- Now the switch is doing unicasting.





- Now the Connection was established successfully.