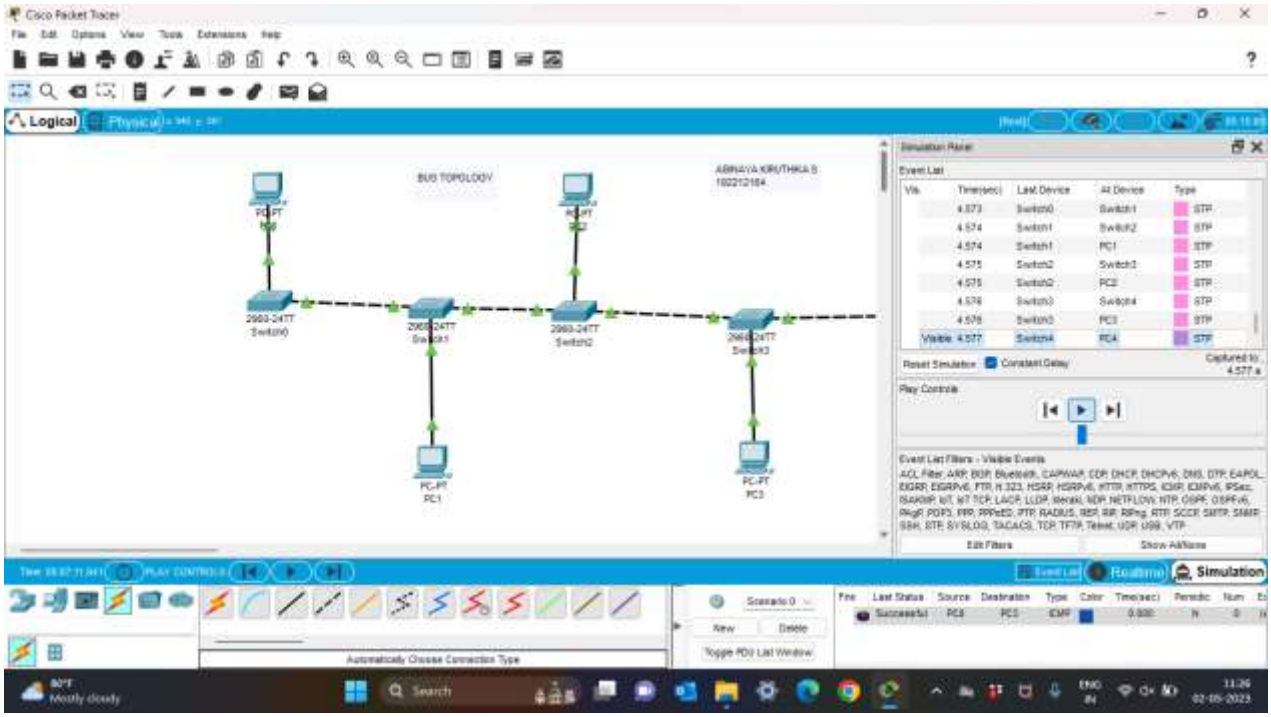
1. TOPOLOGIES

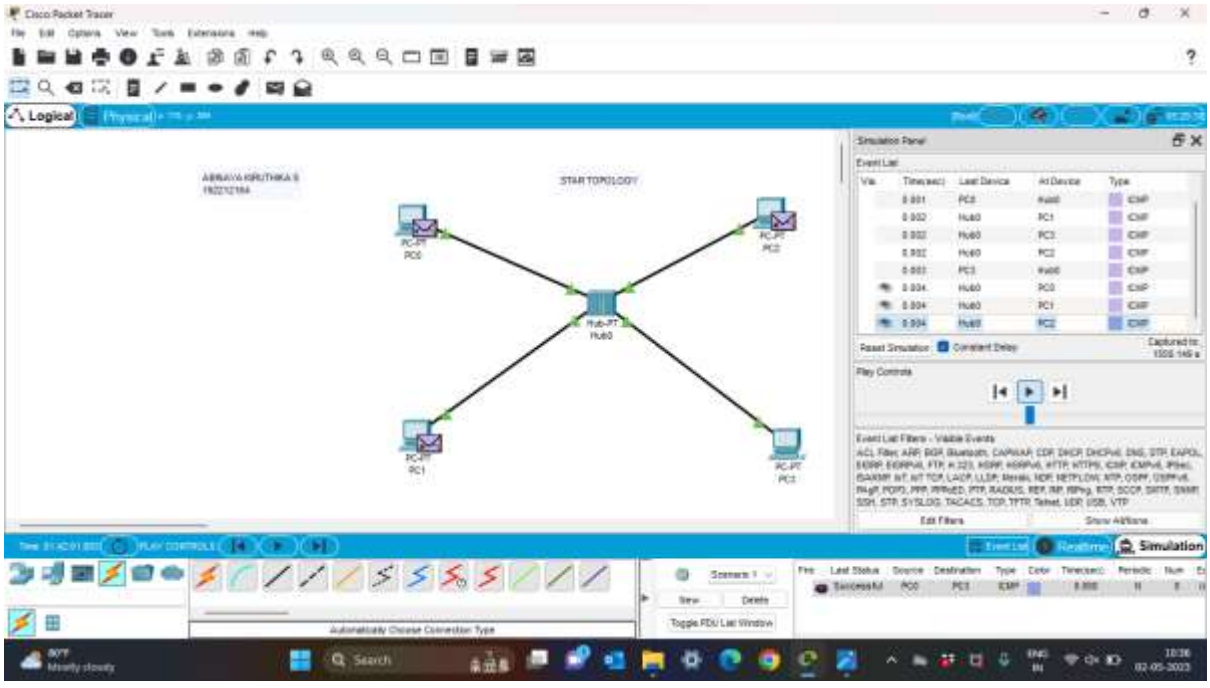
i) Bus topology :

- Take 5 switches (Switch- PT) in a line
- Connect a pc for each switches one opposite to another
- Enter the IP configuration for all the PC's.
- Send a message from one pc to another. Do simulation and get successful



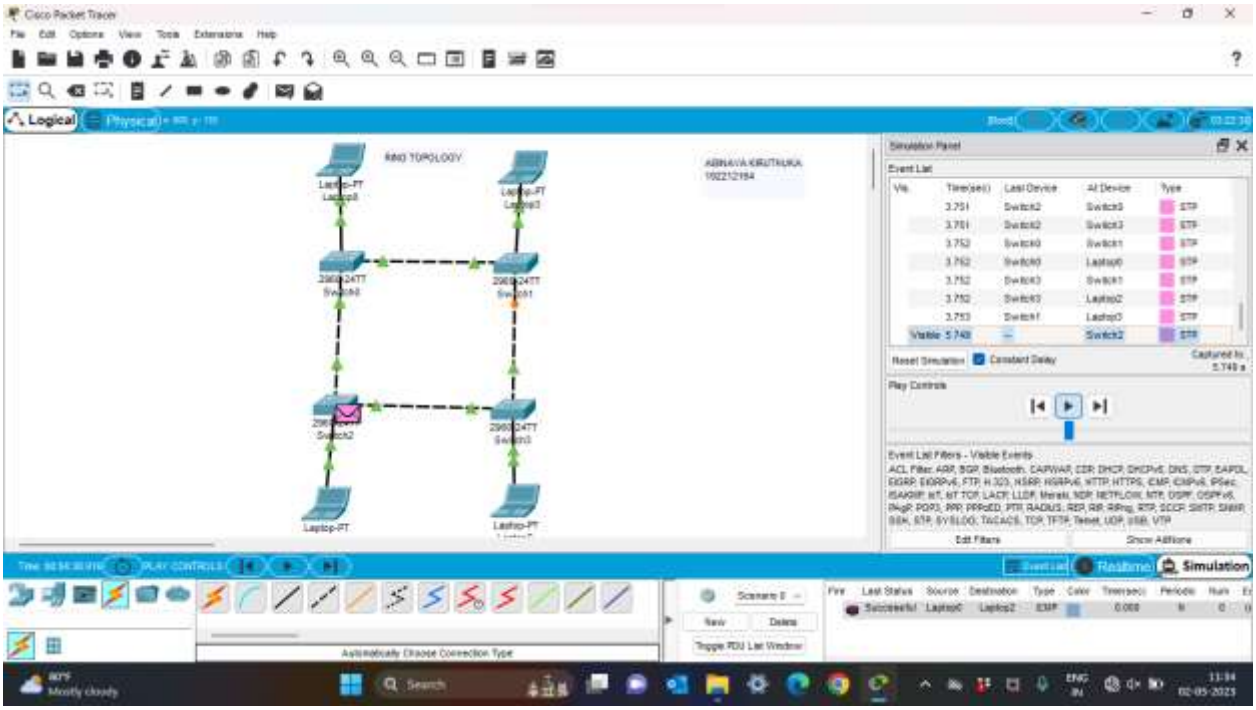
ii) Star topology:

- 4 pc & 1 Hub (Hub-PT) at centre. Connect all the pc to the hub.
- Enter IP Configuration for all the 4 pc's. Send a message , start simulation , get successful.



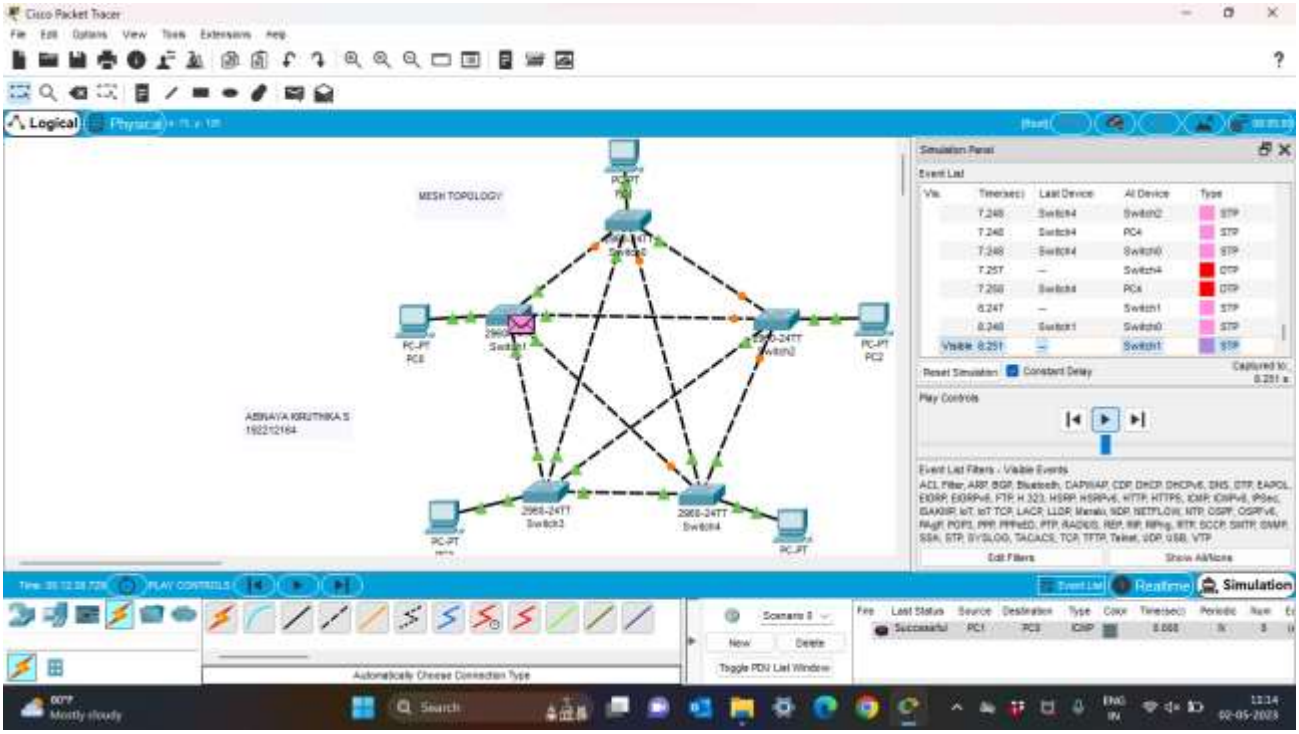
iii) Ring topology

- 4 switches- PT and 4 laptops - PT. Arrange and connect as shown in the image below.
- Enter IP Configuration for all the 4 laptops. send the message , start the simulation and get successful.



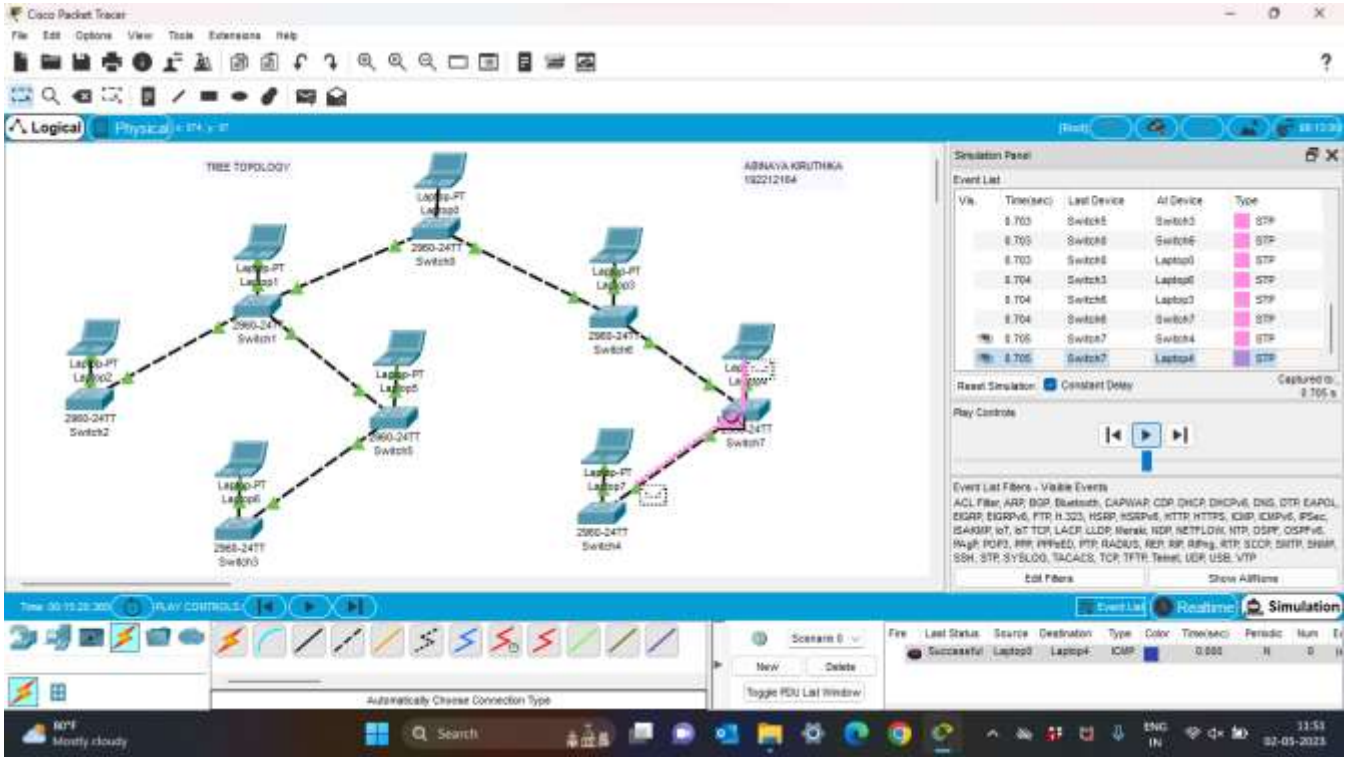
iv) Mesh topology:

- 5 switches- PT and 5 PC – PT. Connect as shown in the image below.
- Enter IP Configuration for all the pc's. send a message from one pc to another.
- Start simulation and get the output as successful .



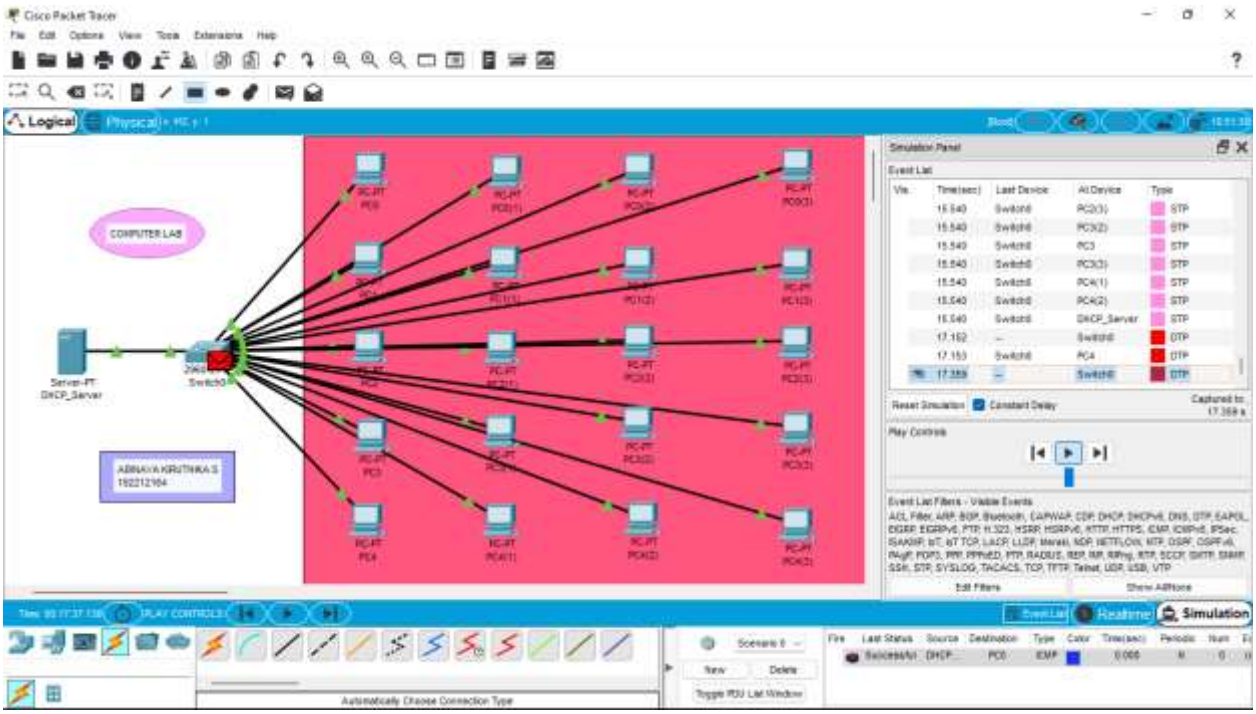
V) **Tree topology**

- Take 8 switches-PT and 8 laptops connected with each switches as shown in the image.
- Enter the IP Configuration for all the laptops. Send messages from one laptop to the other.
- Start simulation and get the output as successful.



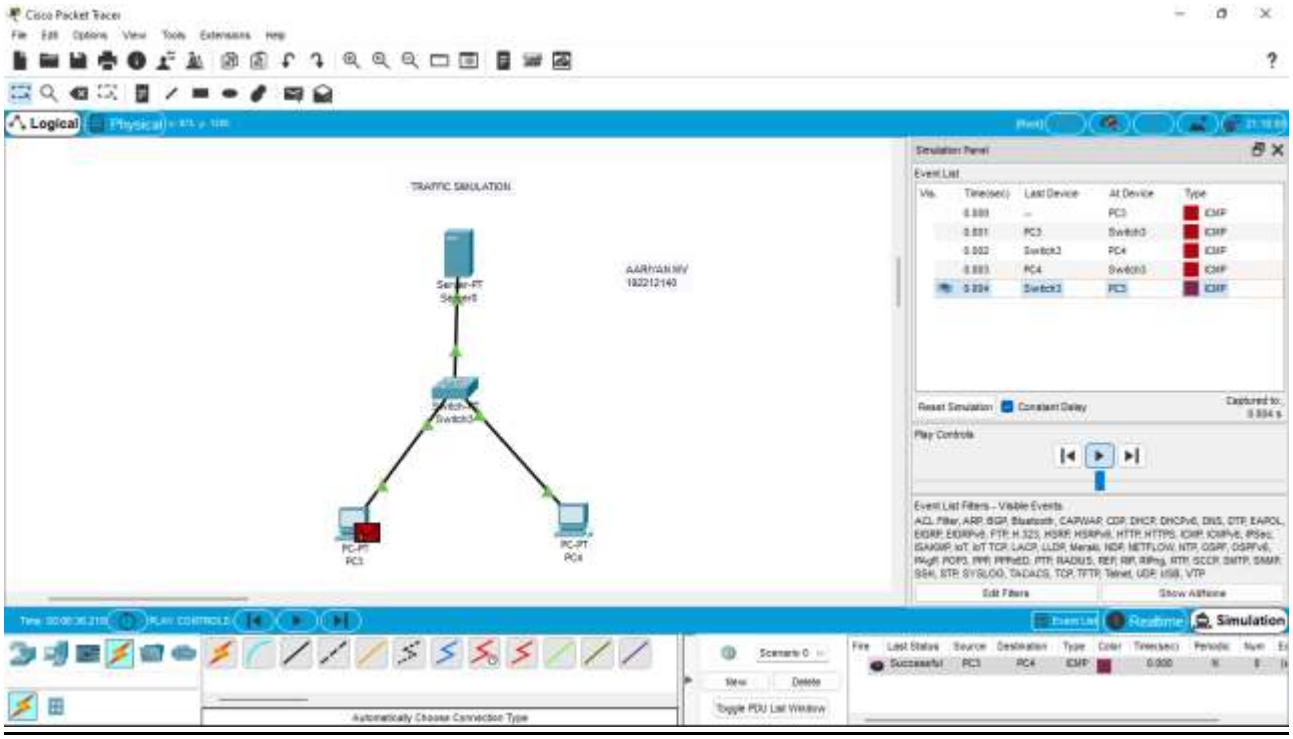
2. COMPUTER LAB

- Take a server- PT, Switch-PT, and 20 pc's. Connect as shown in the image below.
- Enter the IP Configuration for a server-PT and all the pc's. send a message from one pc to another pc.
- Start simulation and get the output as successful .



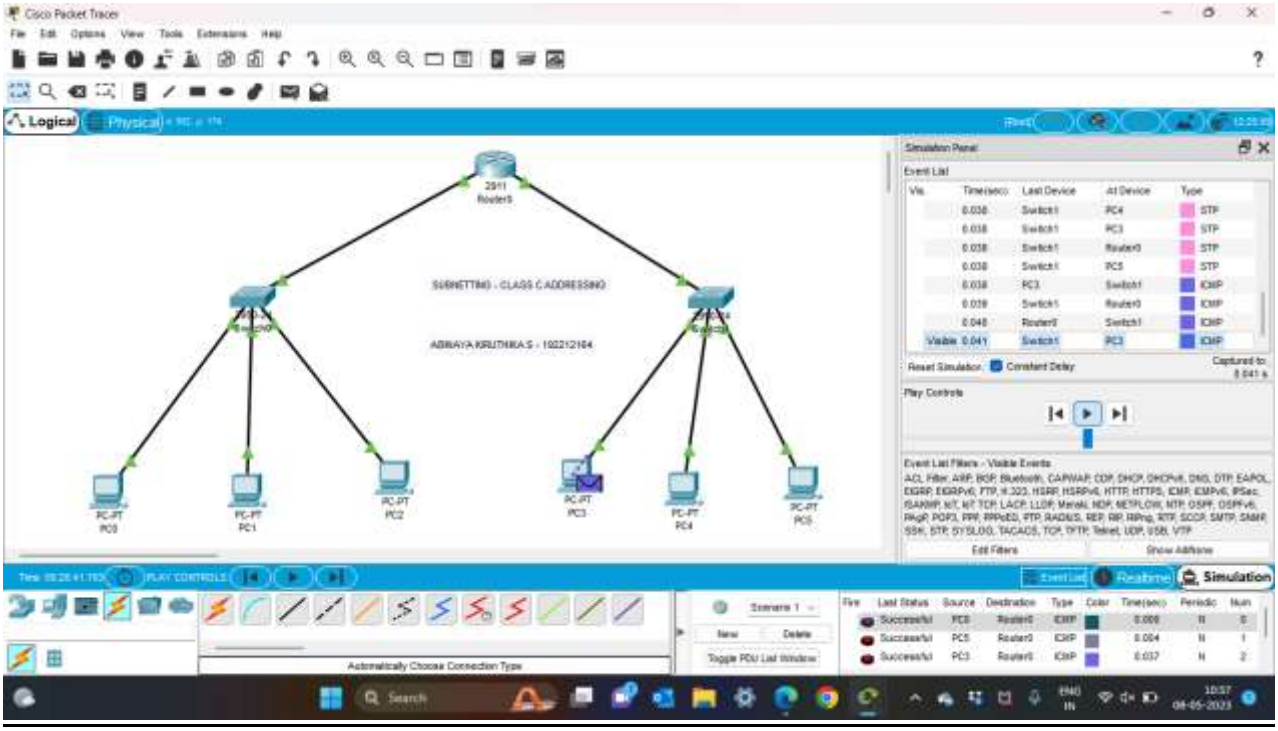
3. TRAFFIC SIMULATION

- Take 1 server, 1 switch and 2 pc's. Connect as shown in the picture below .
- Enter the IP configuration for the server and 2 pc's.
- Send message from one pc to another pc and start the simulation. Get successful.



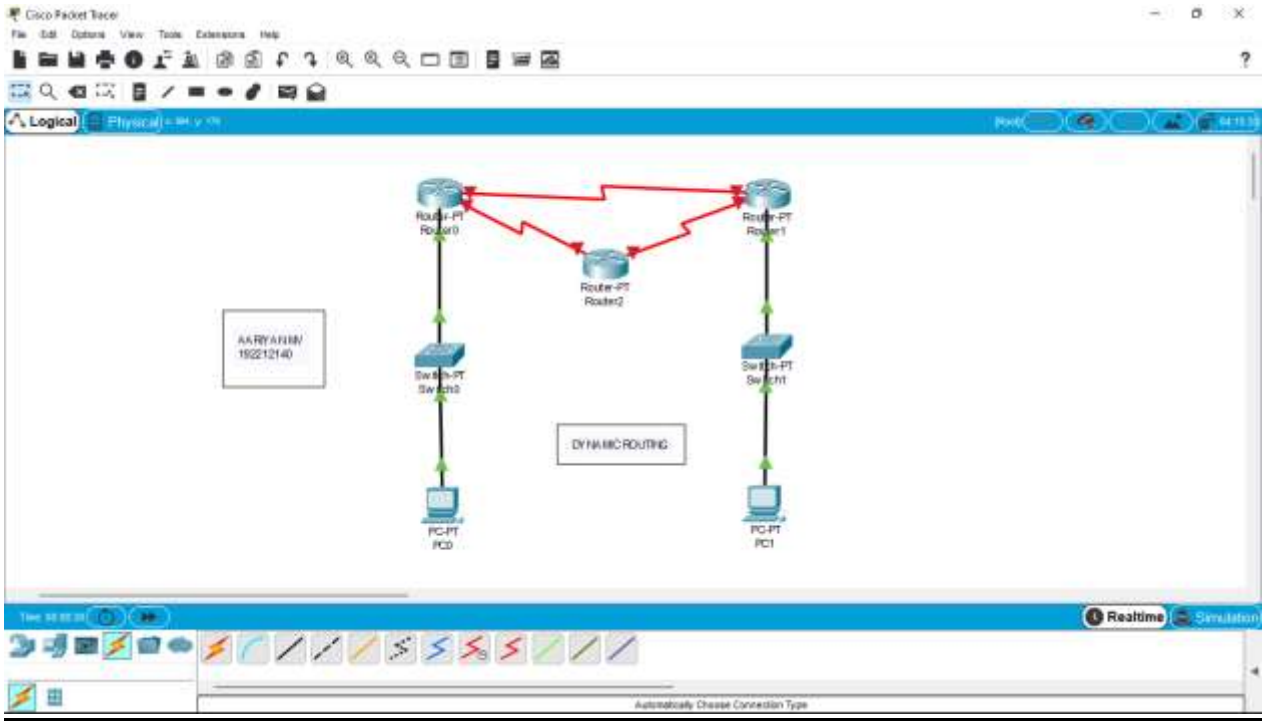
4.SUBNETTING CLASS C ADDRESSING

- Take 1 ROUTER , 2 SWITCHES AND 6 PC'S. Arrange and connect as shown in the image below.
- Enter the IP configuration for all the 6 pc's . Send the message from one pc to another pc.
- Start the simulation. Get the output.



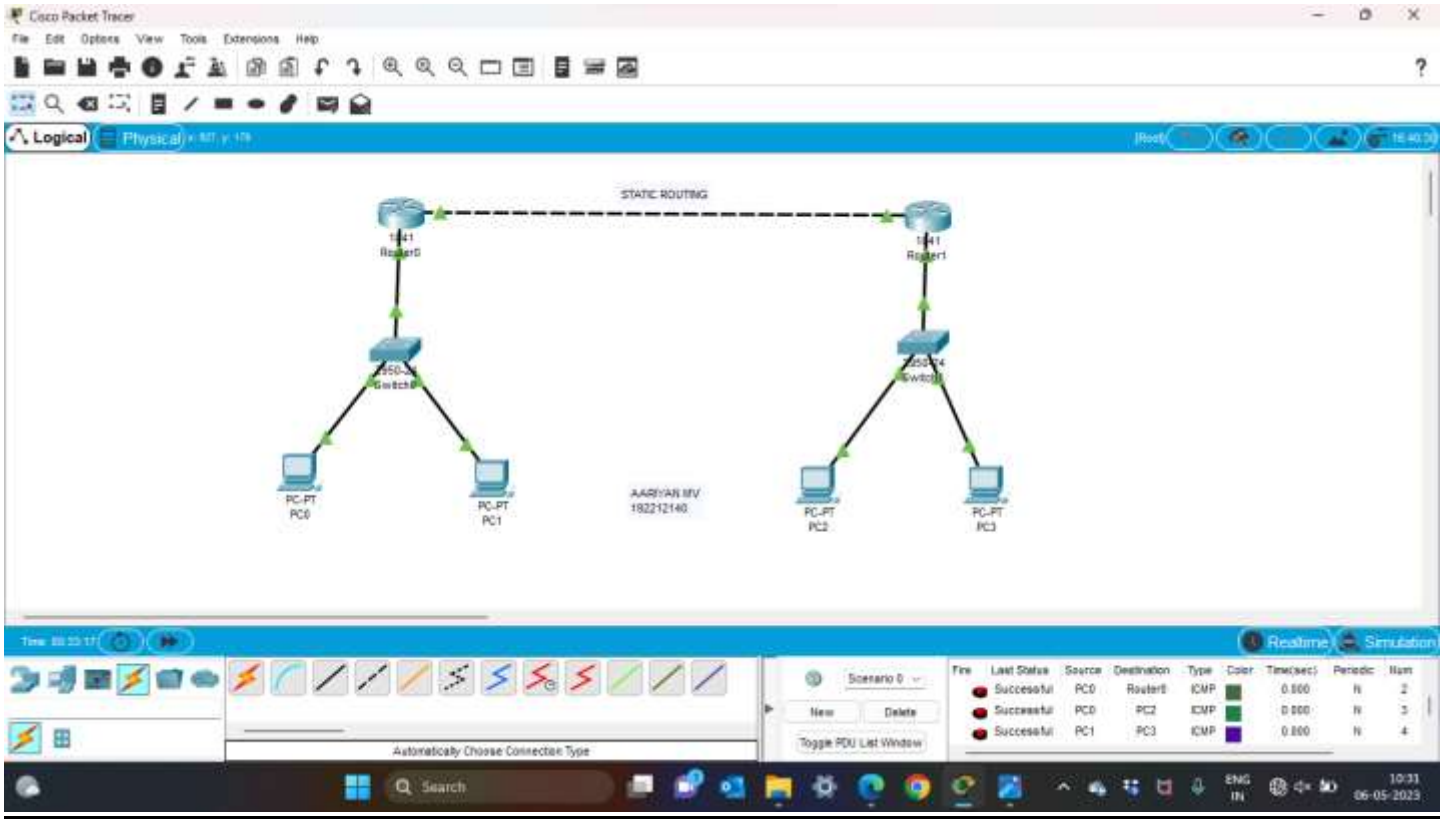
5.DYNAMIC ROUTING

- Take 3 routers, 2 switches and 2 pc's. Arrange and connect as shown in the image below. **(Use Automatic wires for all the connections)**
- Enter the IP configuration for the 2 pc's. Send the messages and get the output as successful.



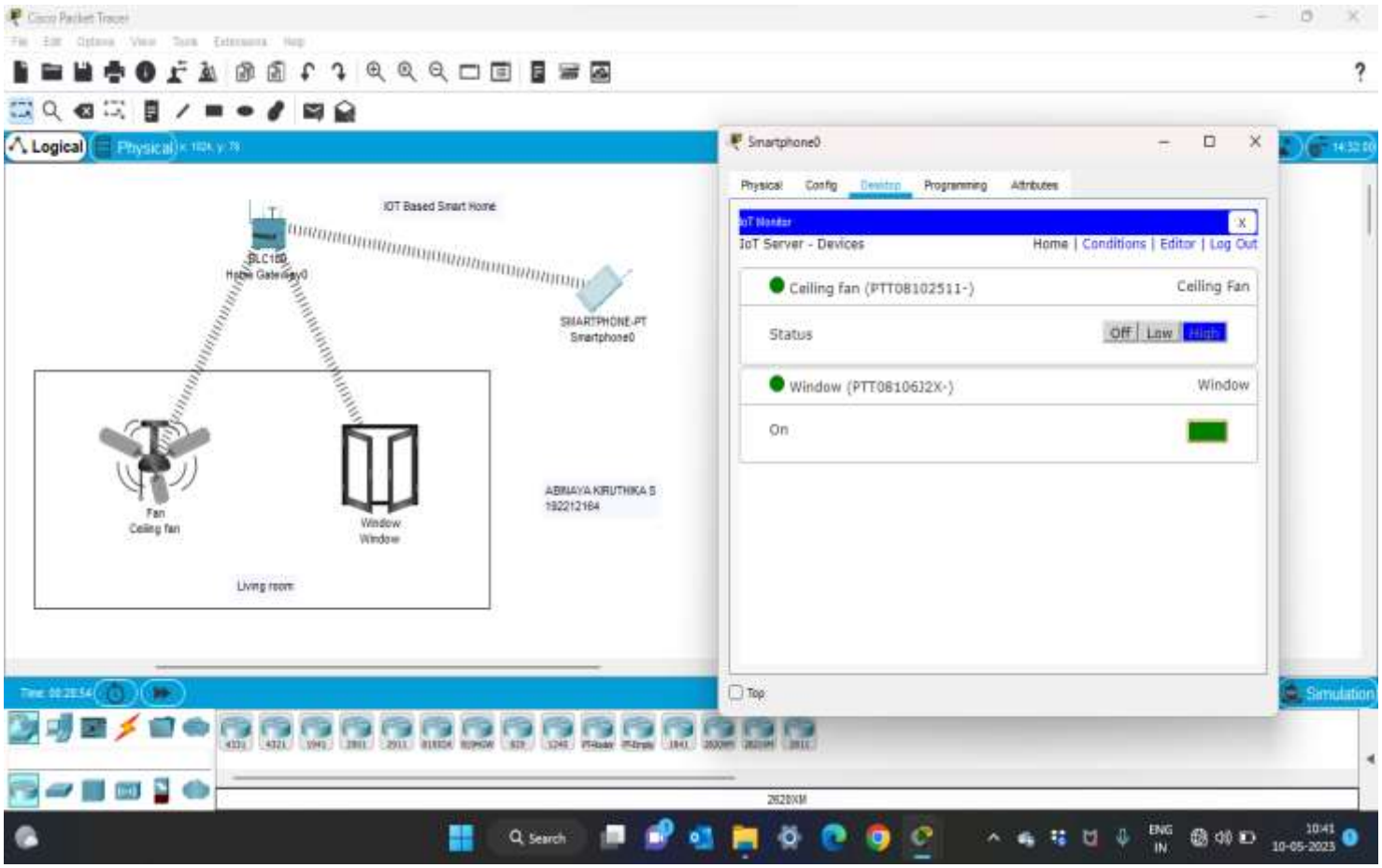
6. STATIC ROUTING

- Take 2 routers , 2 switches and 4 pc's. Arrange and connect as shown in the image below.
- Enter the IP Configuration for the 4 pc's.
- Send the message. Start the simulation and get the output as successful.



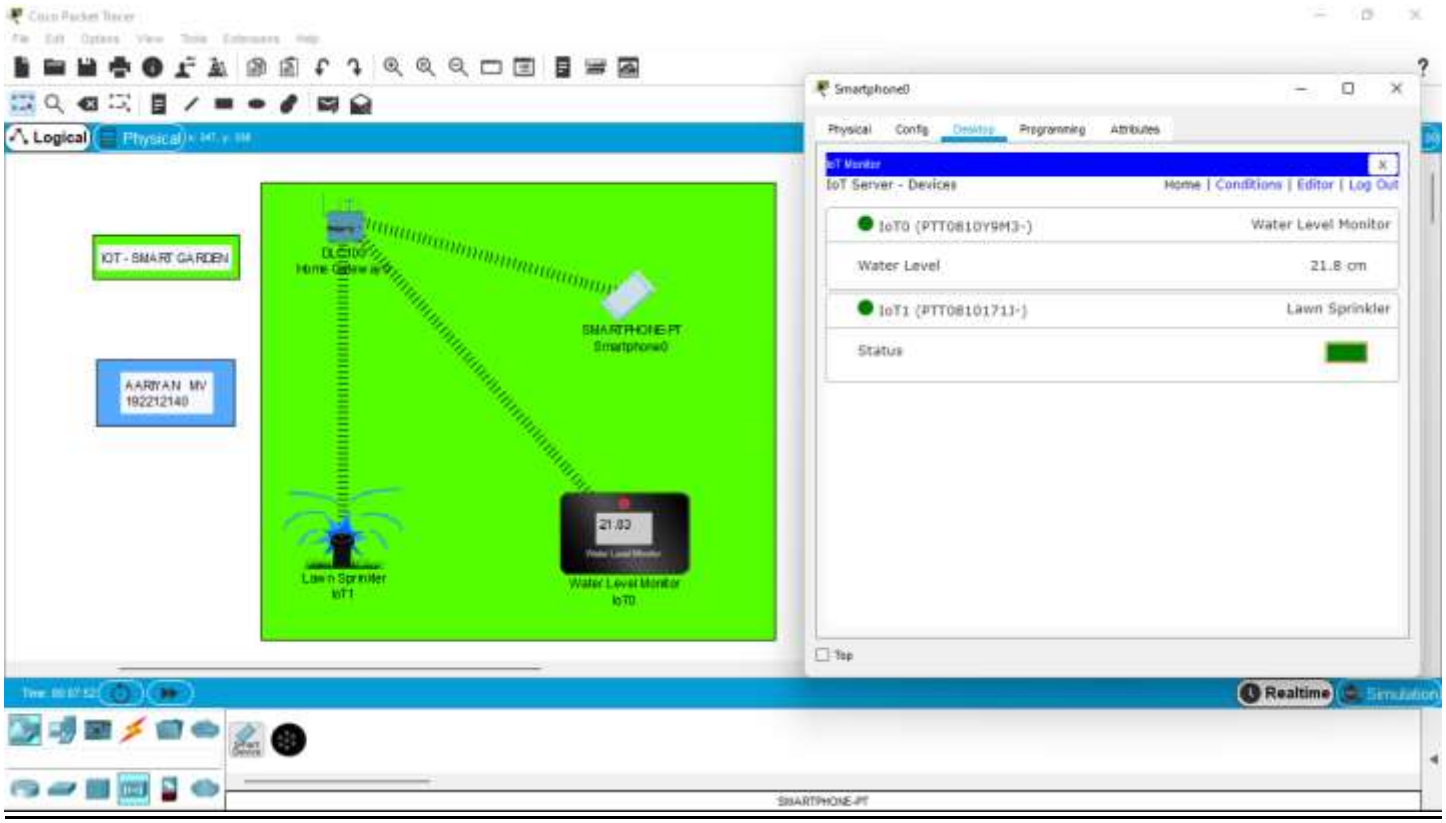
7.IoT - SMART HOME

- Take a Home gateway, smartphone, a fan and a window.
- Open home gateway – config - wireless - copy the SSID – change the authentication **(disabled to WPA2-PSK)** and enter the pass phrase as 12345678 **(any 8 digit letters or numbers)** – close
- Open the smartphone – config – wireless0 – paste the copied SSID in SSID Smartphone – change authentication **(same as home gateway)** – close **(Smartphone will be connected to the Home gateway)**
- Open window – config – wireless0 – change authentication**(same)** - click Advanced **(down right)** – I/0 Config **(up left)** – change the Network Adapter to **PT-IOT-NIM-1W** – close **(window will be connected to the home gateway)**
- Repeat the same above procedure for connecting fan with the home gateway.
- Then, open smartphone – desktop – IOT Monitor (swipe down right) – copy the iot server address – click login – close
- Open window – config – global settings – swipe down – IOT Server -change it to Remote server and paste the copied iot server address in Server address and enter the user name and password as admin – click connect down **(if it shows refresh.. it is connected)** - close
- Repeat the same above procedure for the fan.
- Now, Open the iot monitor in smartphone and operate the both window and fan.



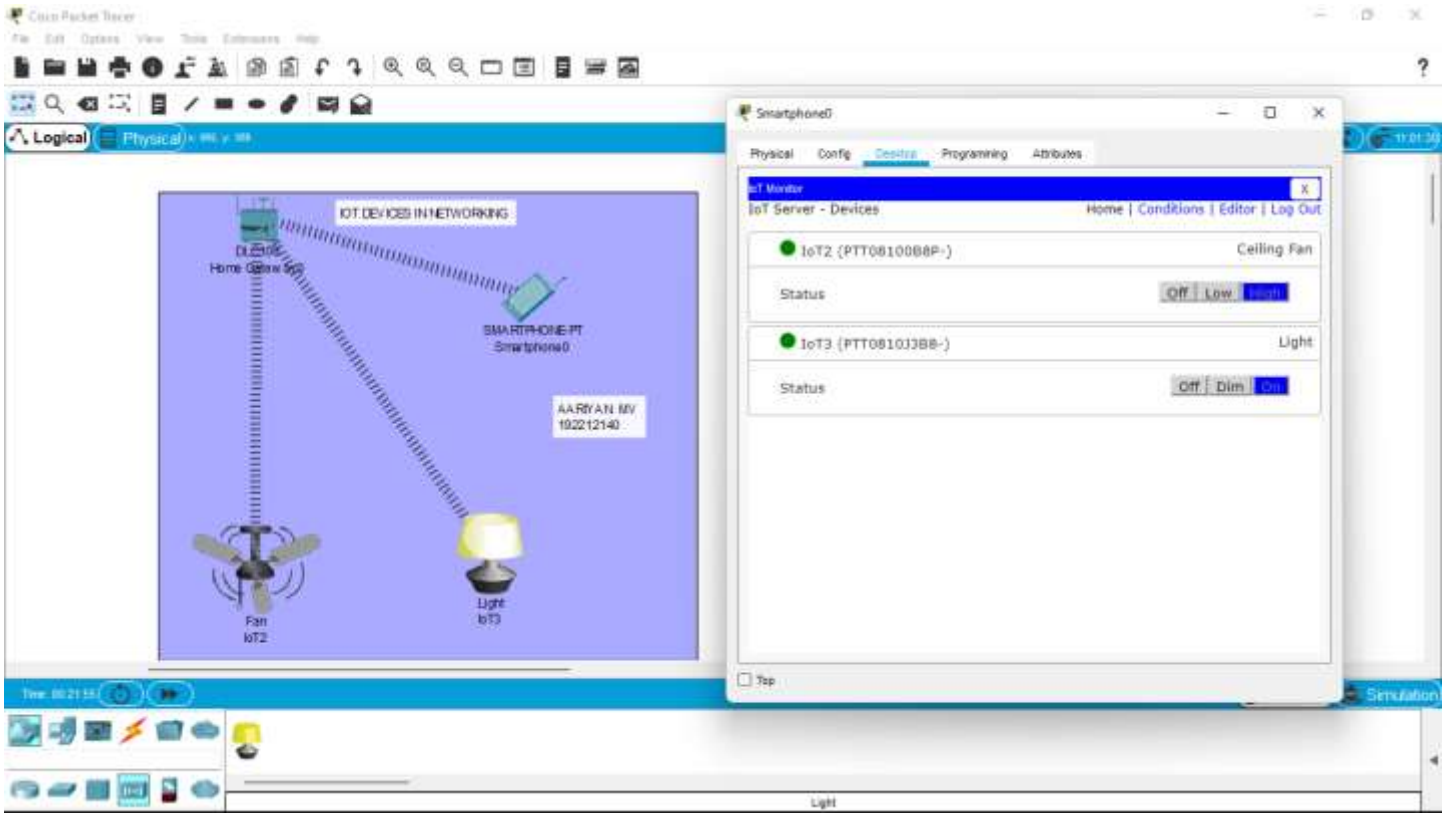
8. IoT – SMART GARDEN

- Repeat the Same procedure in IoT – smart home.
- But, Replace the window and fan by **Lawn sprinkler and water level monitor**.



9.IoT DEVICES IN NETWORKING

- Repeat the Same procedure in IoT – smart home.
- But , Replace the window by **Light**.



10. CONTROL OF FAN ,LIGHT,WINDOW AND APPLIANCE

- Repeat the Same procedure in IoT – smart home.
- But, Replace it by fan, light, window and appliance.