

## Experiment No:9

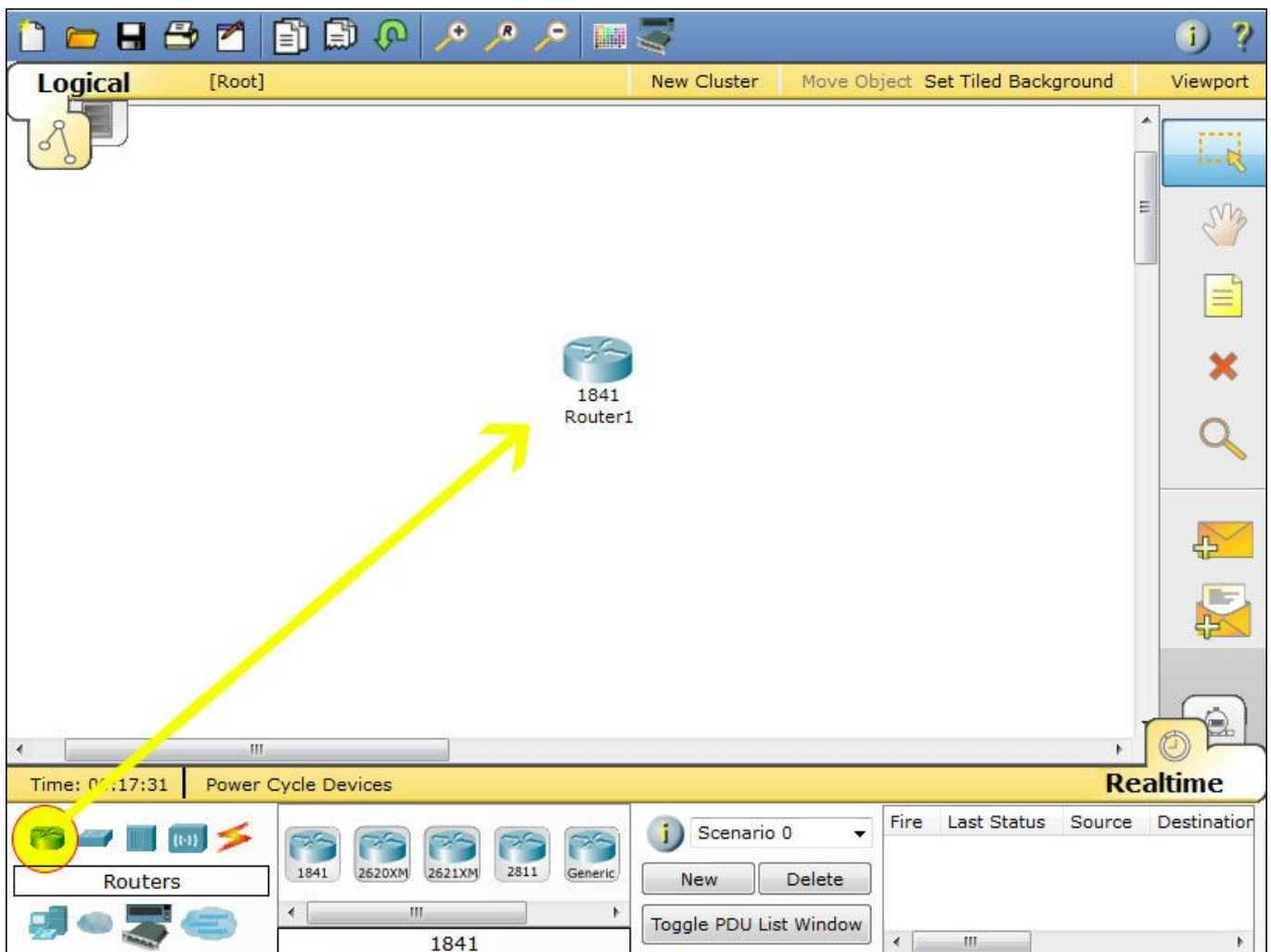
### Aim:Configure ip address in cisco packet tracer

#### Theory:

**Packet Tracer** is a [cross-platform](#) visual [simulation](#) tool designed by [Cisco Systems](#) that allows users to create [network topologies](#) and imitate modern [computer networks](#). The software allows users to simulate the configuration of Cisco routers and switches using a simulated command line interface. Packet Tracer makes use of a [drag and drop](#) user interface, allowing users to add and remove simulated network devices as they see fit. The software is mainly focused towards Certified Cisco Network Associate Academy students as an educational tool for helping them learn fundamental CCNA concepts. Previously students enrolled in a CCNA Academy program could freely download and use the tool free of charge for educational use

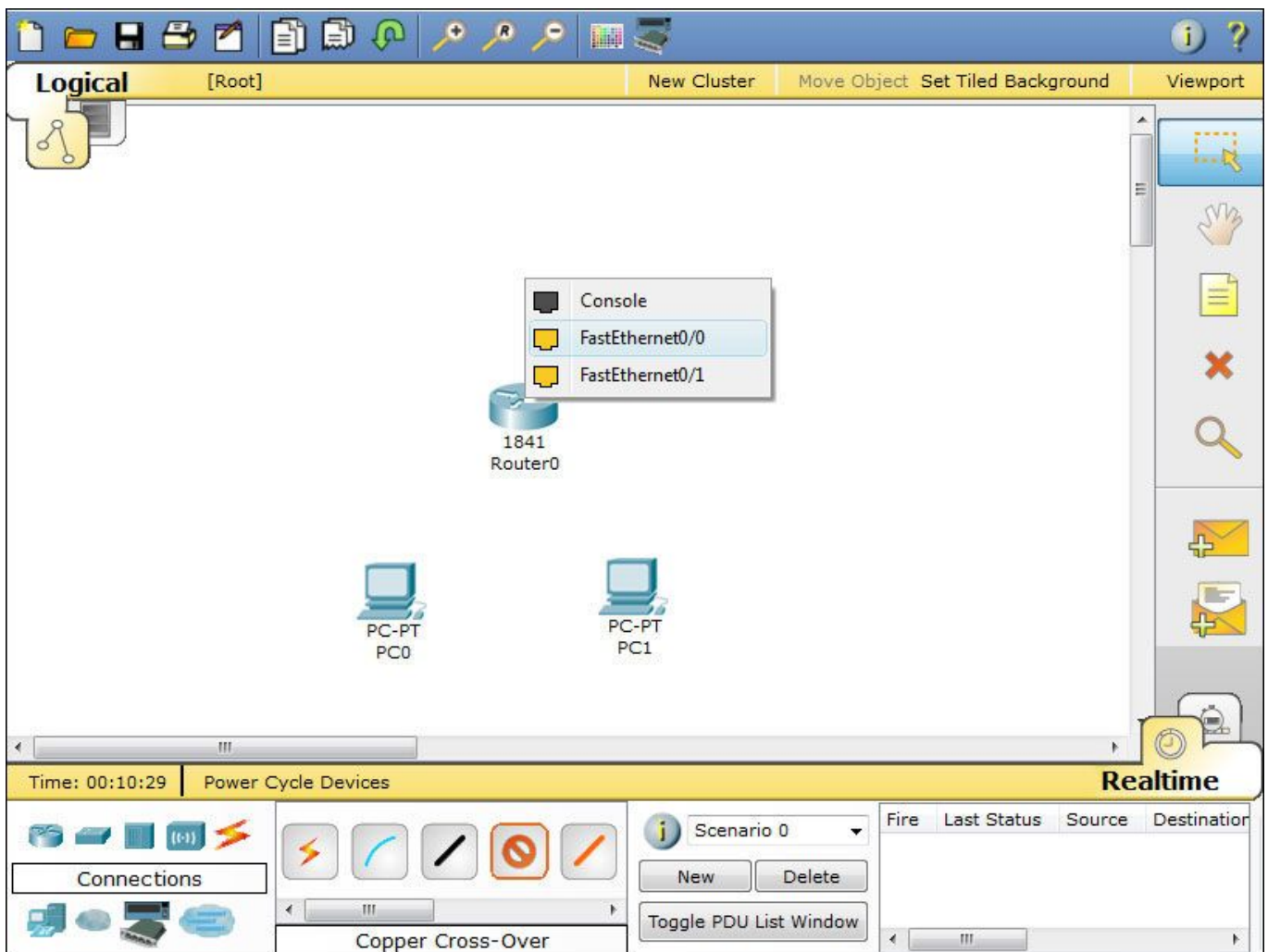
## Setting the topology

1. Drag and drop the router from the bottom of the screen



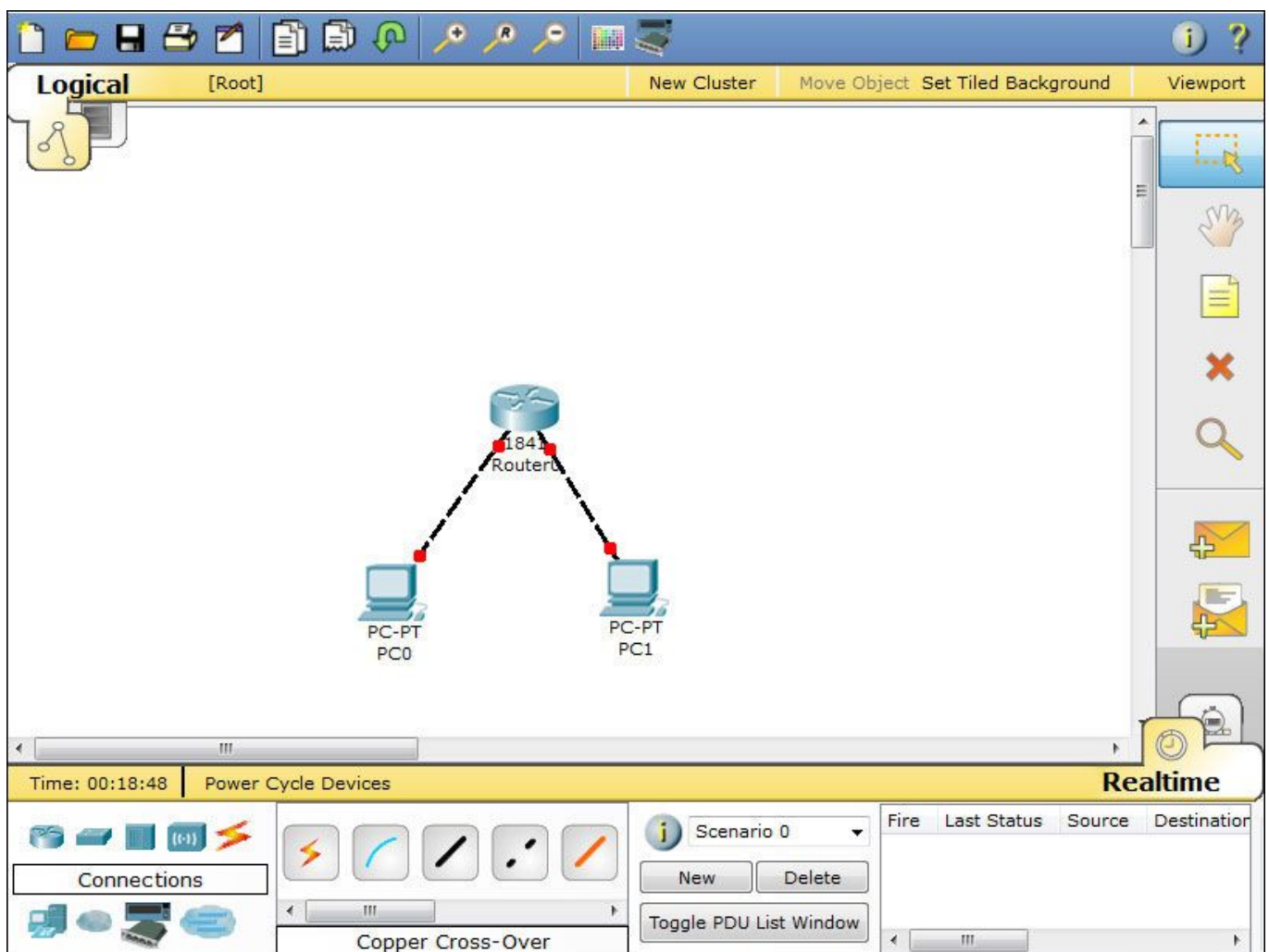
2. Select **end devices** from the bottom left-hand corner and drag it to the sandbox screen. Do this twice to make two computers appear below the router.

3. select **connections** from the same bottom left-hand corner. When you connect like-devices(Such as a router and computer) you use a [crossover cable](#), so you should select **copper cross-over cable** from the second menu to the immediate right. Click on *Router0*, and connect the cable via *FastEthernet0/0* as seen below:



4. click the *PC0* and select *FastEthernet*. You will notice that although a link is established, it is not functional. You can tell by the red dots that are present on both ends of the connection. Once the router is configured correctly, the red dots will turn green to indicate the devices are able to communicate.

Do the same operation to *PC1*, only this time connect the cable to *FastEthernet0/1* since *FastEthernet0/0* is already taken by *PC0*. Your network should be similar to the one below at this point:



5. Click on your router to bring up the configuration menu and verify that it is turned on. When on, there will be a small green light below the switch as seen in the diagram.

## Configuring the router in packet tracer

6. Next we have to open the Ethernet ports to allow communication. Although they are physically connected, they are in a state that is known as being in **administrative shut down**. Now click on the **CLI** tab to access the configuration menu.

1. Press **RETURN** to start the session
2. Type **enable** to get to *privileged mode* (this gives you more options in configuring the router)

3. Type **config terminal** (or **config t** for short) to access the configuration menu.
4. Type **interface fastethernet0/0** to access Ethernet0/0
5. Type **ip address 192.168.10.1 255.255.255.0** to assign an IP address and [subnet mask](#) to the interface.
6. Type **no shutdown** to open the interface up for business.
7. That's it! You should now see a message similar to the following:

*%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up*

*%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up*

Now we have to do the same thing for *fastethernet0/1*. If you don't, there still won't be a connection to PC1! Make sure to enter the IP address carefully as seen below:

1. Press **Ctrl + Z** to go back to the previous mode.
2. Type **config t**
3. Type **interface fastethernet0/1**
4. Type **ip address 192.168.20.1 255.255.255.0**
5. Type **no shutdown**

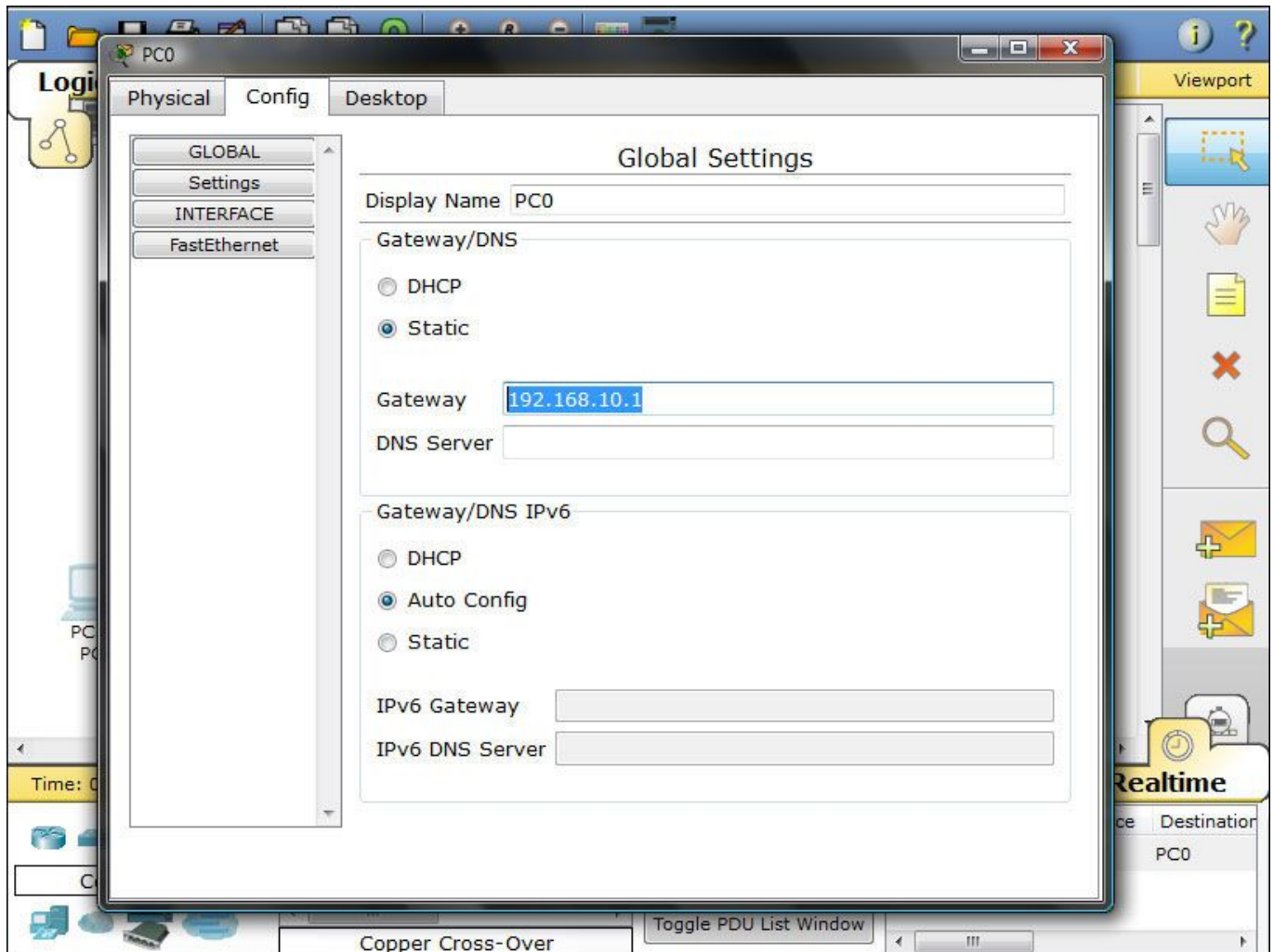
At this point our router is configured properly. If you test out a ping, you will notice that the computers still don't communicate, however!

## Configuring the gateway in packet tracer

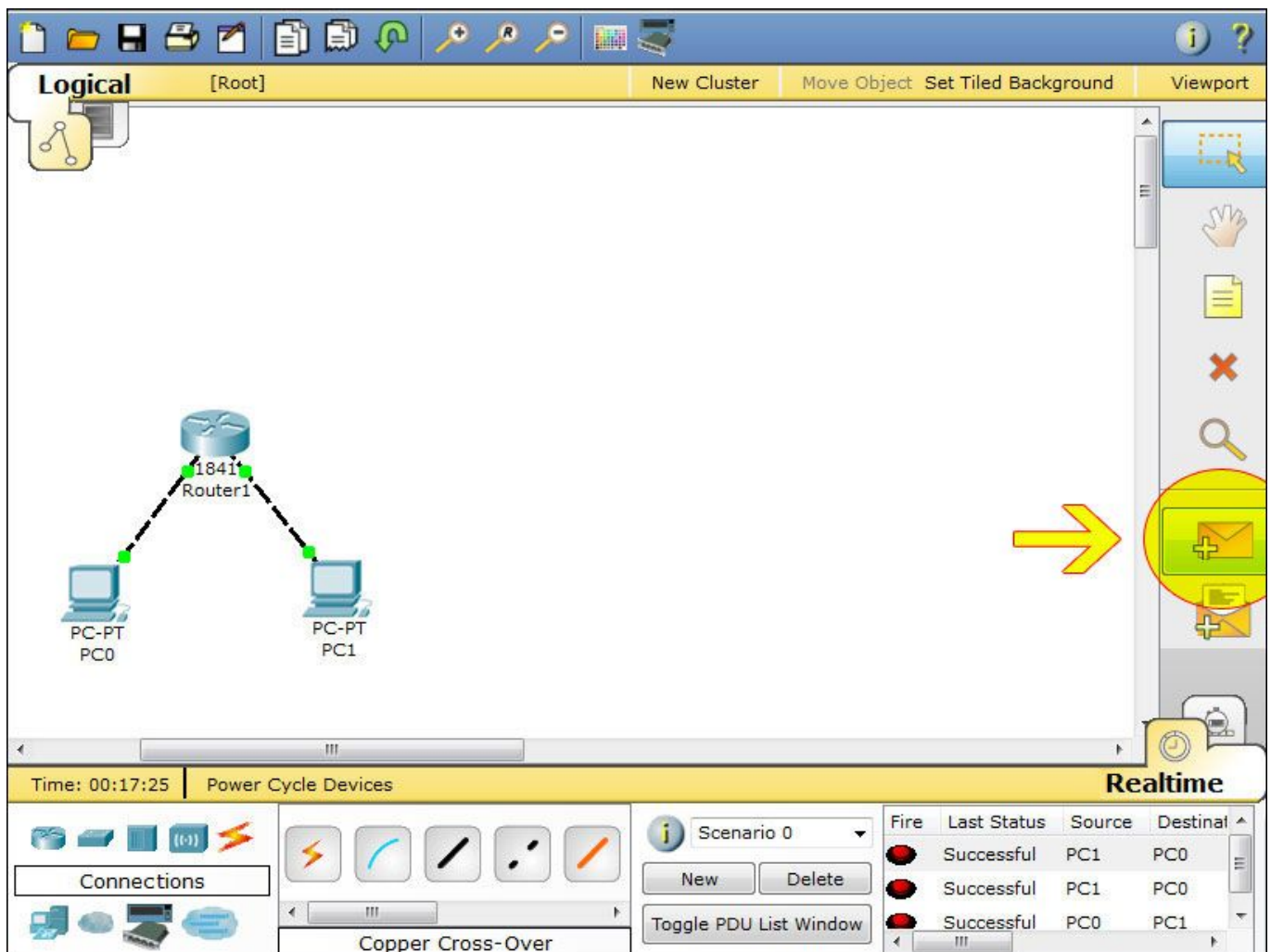
Our last step is to configure the gateway on each desktop computer. The gateway is the address we assigned to the Ethernet port that the desktop is connected to. It will allow the computer to interface with another network, so our ping won't work without it!

1. Click on PC0 to bring up the configuration menu. Under global settings you will find a field for the gateway. Enter the corresponding IP address of the router's interface, which is **192.168.10.1**. Then click the FastEthernet tab on the left column to set the actual

computer's IP address to be on the network. Use **192.168.10.2** for the IP address, and **255.255.255.0** for the subnet mask.



2. Do the same thing for PC1, only use **192.168.20.1** for the gateway address, **192.168.20.2** for the IP address, and **255.255.255.0** for the subnet mask. You can confirm that your network works by sending out a packet of information from PC0 to PC1, and vice versa. Click the packet icon on the right menu as seen below:



Click on PC0 and then click PC1. On the lower right of the screen you will see a message box that says "Successful." If it doesn't, you may have had a syntax error when putting in an IP address or router configuration command. Review your work or ask for help among the community if you are stuck.

**Conclusion:** Hence we successfully executed and studied the program of configure ip by cisco packet tracer.

**Date:**

**Sign:**

**Grade:**