Lab 7 Computer Networks

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**AIM**:

Assigning IP address to a network using fixed length subnet mask (FLSM) and variable length subnet mask (VLSM)

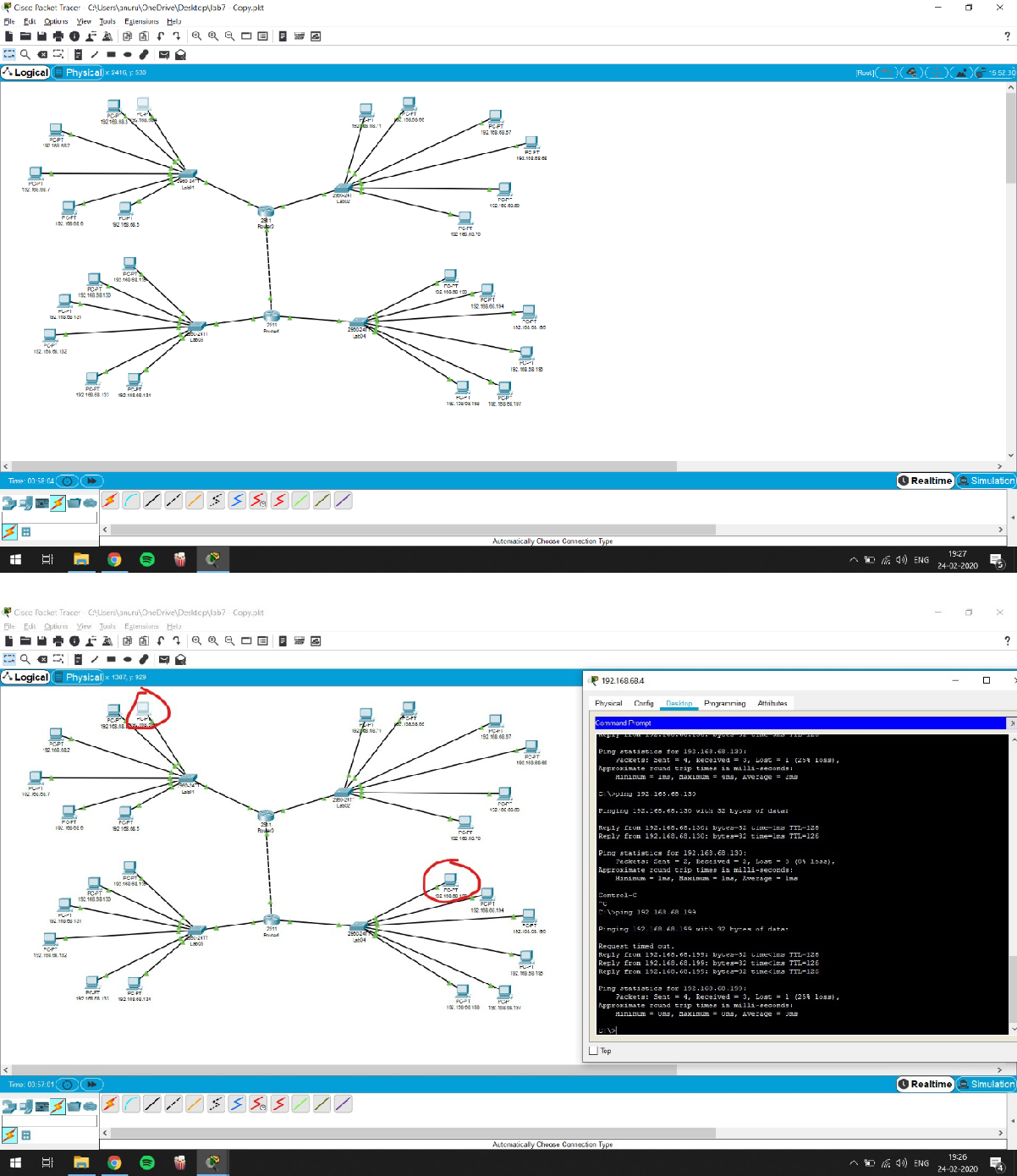
**OBJECTIVE:**

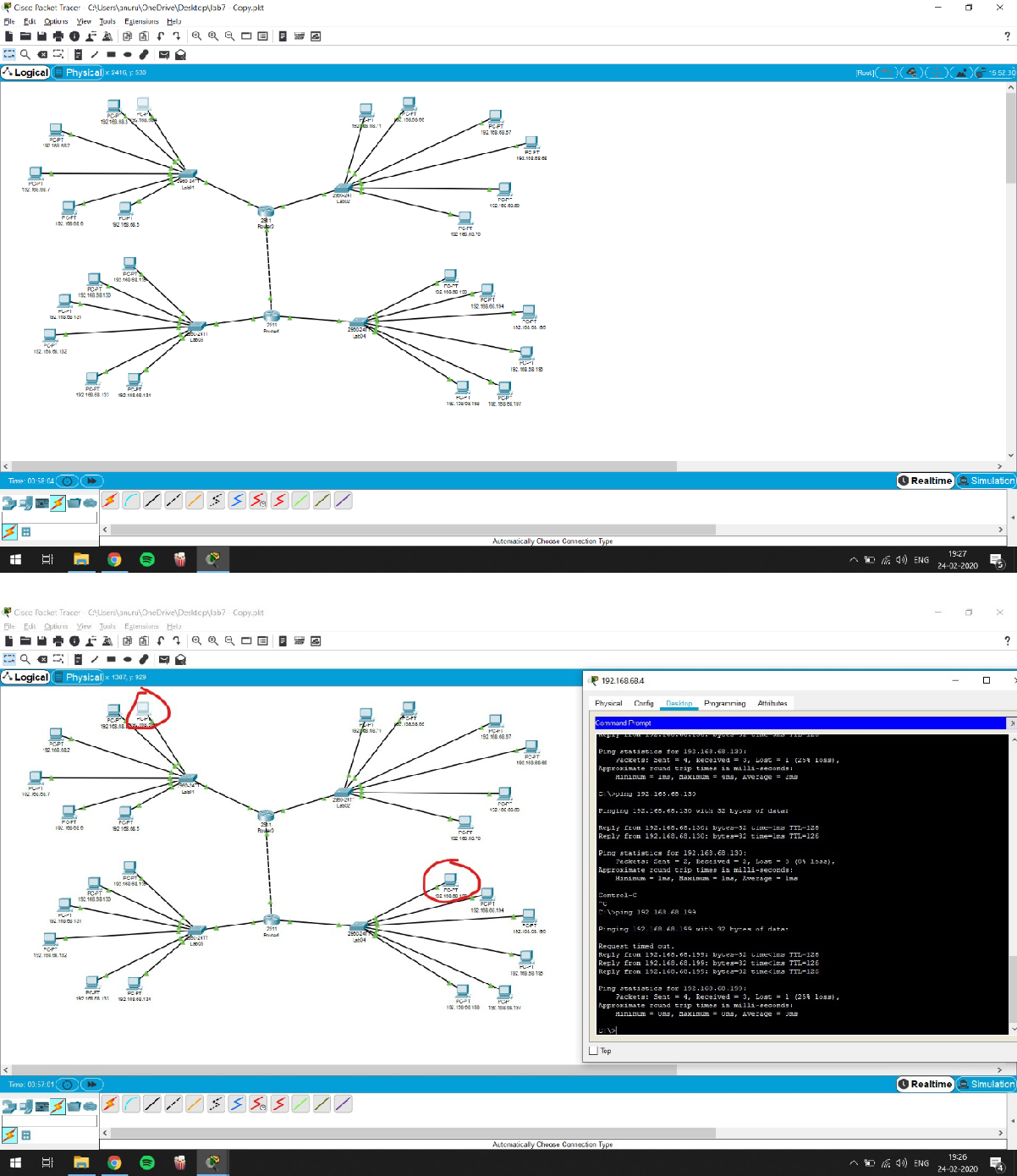
Create a computer network for Bennett University considering two Blocks A and B (2 Labs in each block) and Assign IP Addresses according to FLSM and VLSM.

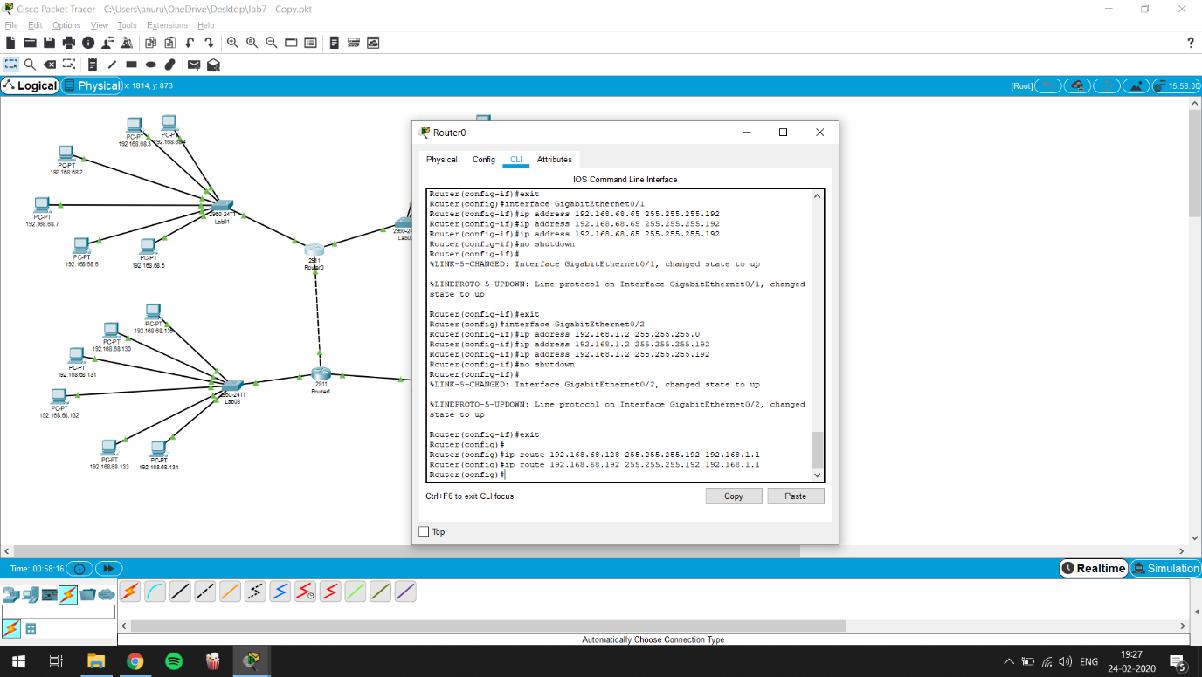
**PROCEDURE AND DOCUMENTATION:**

* (FLSM): Fixed length subnet mask is dividing IP into subnet with same range.
* (VLSM): Variable length subnet mask is dividing IP into subnet with different sizes.
* The first thing is to design the networks 4 of them(with any network topology - here we chose star topology) with any number of end devices, I have chosen 6 at all ends.
* You can also design with variable number of end devices – here the PCs - Lab 1: 27 PC; Lab 2: 14 PC; Lab 3: 6 PC; Lab 4: 56 PC
* The network which has been chosen by me is the star network. We need to place a switch each in the middle of the PCs respectively and connect them with a straight-through wire and assign IP addresses to both the networks.
* The IP addresses that has been assigned to the first network is in the series of 192.168.1…
* Whereas the IP addresses that has been assigned to the second network is in the series of 192.168.2… and so on…
* The latter step is to choose a router. The router chosen here is the 2911 router. The switch chosen is 2960-24TT switch.
* Then connect the switch to the router with gigabit ethernet 0/0 for the first network to the router and gigabit ethernet 0/1 to the second network to the router.
* Perform the same steps by creating another router and establishing the same connections
* Before that check whether both the individual networks are works by sending a PDUs form one PC to another in both the networks to ensure that both of the networks are working.
* Just ensure that both the networks are ready.
* Now Click on router and click on CLI a wizard will open
* Now follow the command to configure router
* Do the following steps for all sides of the network.
* For the second network you need to make minor changes like for IP address you need to type 192.168.2.1 255.55.255.0 (subnet mask) and gigabit ethernet 0/1
* Your router is now configured. Now it’s time to test.
* Do the same for all of them symmetrically (to the other router too)
* To test select Add simple PDU and click on one computer to another computer, if you get successful message as show in figure you had successfully configured a router and connect two different networks.

**SNAPSHOTS:**



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