CAPSTONE PROJECT

QUESTION: CONFIGURE 3 DIFFERENT VLAN IN A SAME SWITCH AND ALLOW THE COMMUNICATION FROM ONE SWITCH TO OTHER (TRUNK)?

ANSWER :

*SWITCH : SWITCH IS A CENTRALISED DEVICE WHICH CONNECTS DEVICES WITHIN A LAN AND MANAGES THE FLOW OF DATA.

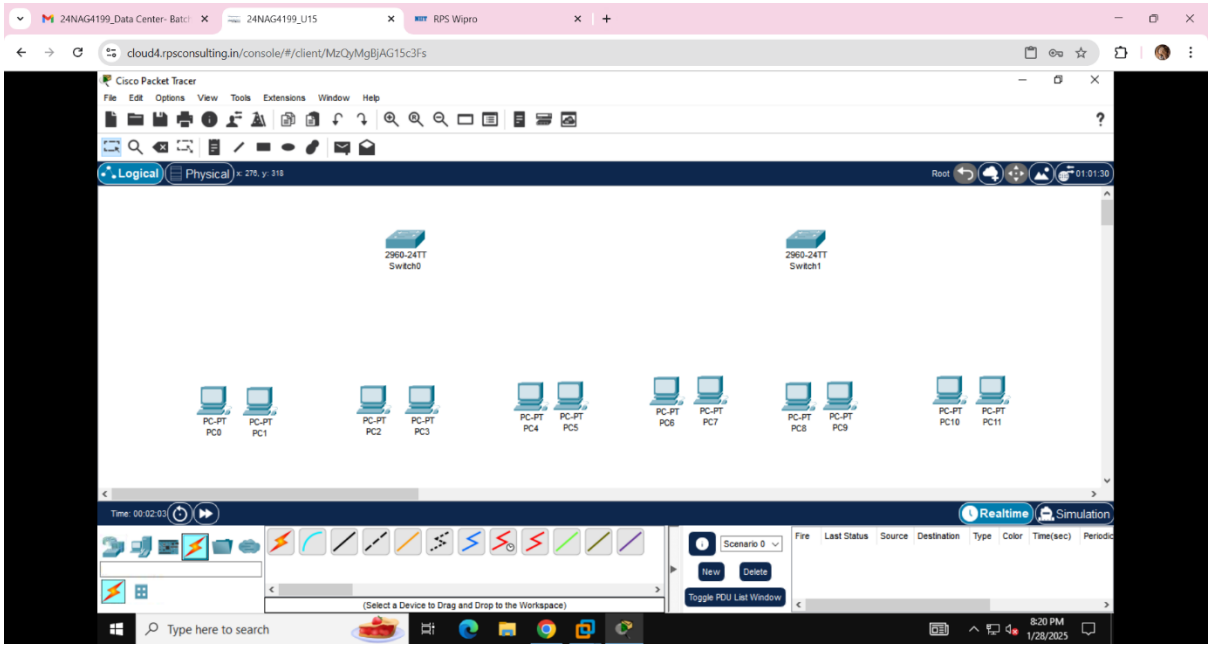
SWITCH HAS MULTIPLE COLLEGEN DOMAIN AND SINGLE BROADCAST DOMAIN.

IT HAS MANY PORTS FOR ENDHOSTS TO CONNECT THE DEVICE USUALLY +24.

*VLAN : WHEN WE CREATE MULTIPLE BROADCAST DOMAIN ON A SINGLE SWITCH IS KNOWN AS VLAN.

* STEP -1: OPEN THE CISCO PACKET TRACER APPLICATION,

AND SELECT THE 2 SWITCHES AND 12 PCS TO CONFIGURE VLANS.



NOW, WE HAVE TO CONNECT THE PCS TO THE SWITCHES BY USING THE

STRAIGHT CABLE.

CONNECTING PC0 WITH F0/0 TO THE SWITCH0 F0/1,

CONNECTING PC1 WITH F0/0 TO THE SWITCH0 F0/2,

CONNECTING PC2 WITH F0/0 TO THE SWITCH0 F0/3,

CONNECTING PC3 WITH F0/0 TO THE SWITCH0 F0/4,

CONNECTING PC4 WITH F0/0 TO THE SWITCH0 F0/5,

CONNECTING PC5 WITH F0/0 TO THE SWITCH0 F0/6,

CONNECTING PC6 WITH F0/0 TO THE SWITCH1 F0/1,

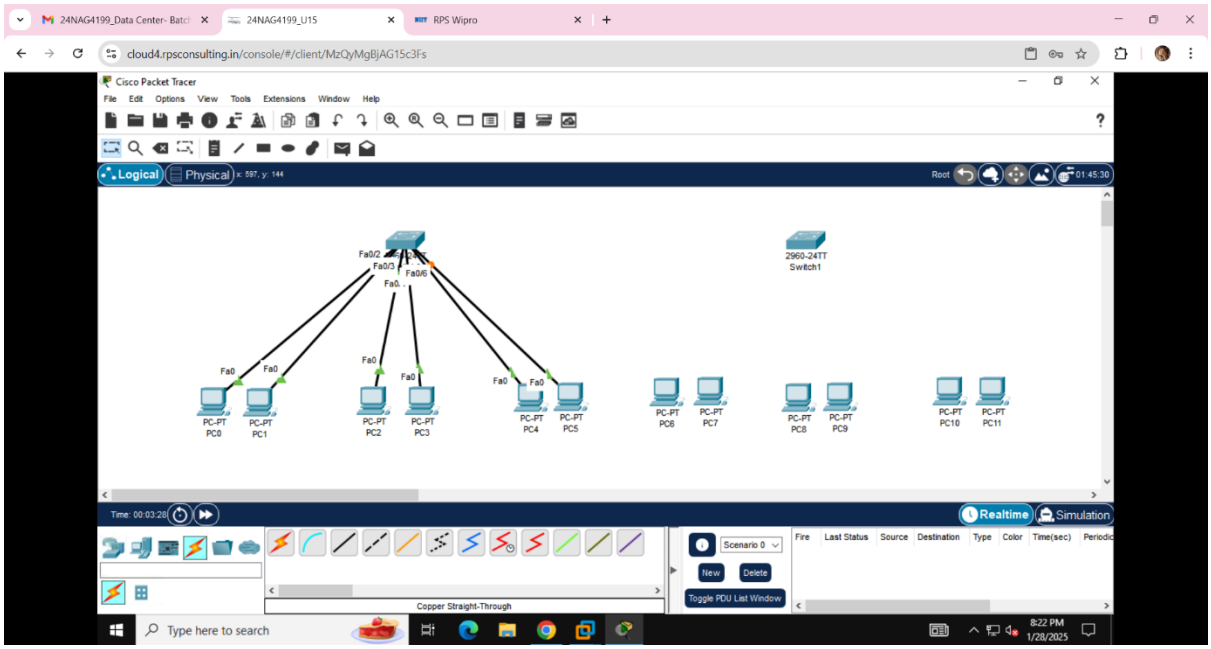
CONNECTING PC7 WITH F0/0 TO THE SWITCH1 F0/2,

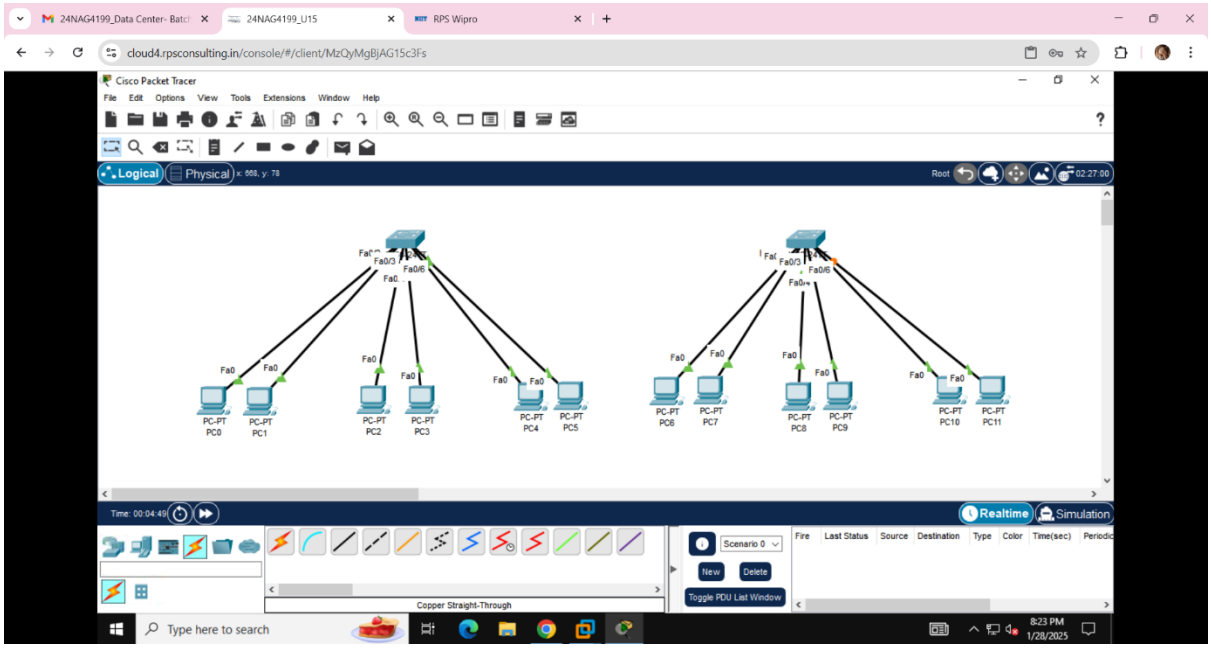
CONNECTING PC8 WITH F0/0 TO THE SWITCH1 F0/3,

CONNECTING PC9 WITH F0/0 TO THE SWITCH1 F0/4,

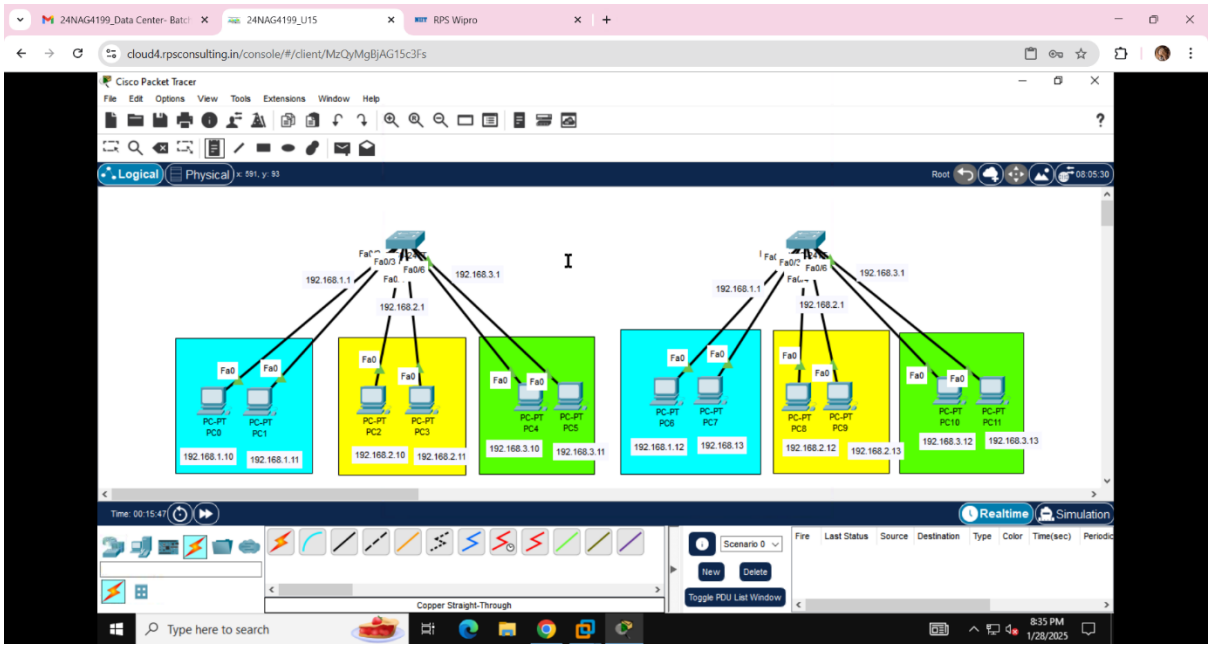
CONNECTING PC10 WITH F0/0 TO THE SWITCH1 F0/5,

CONNECTING PC11 WITH F0/0 TO THE SWITCH1 F0/6.





***STEP -2 : WE HAVE TO SET THE LABEL FOR EASY IDENTIFICATION OF THE NETWORK.**

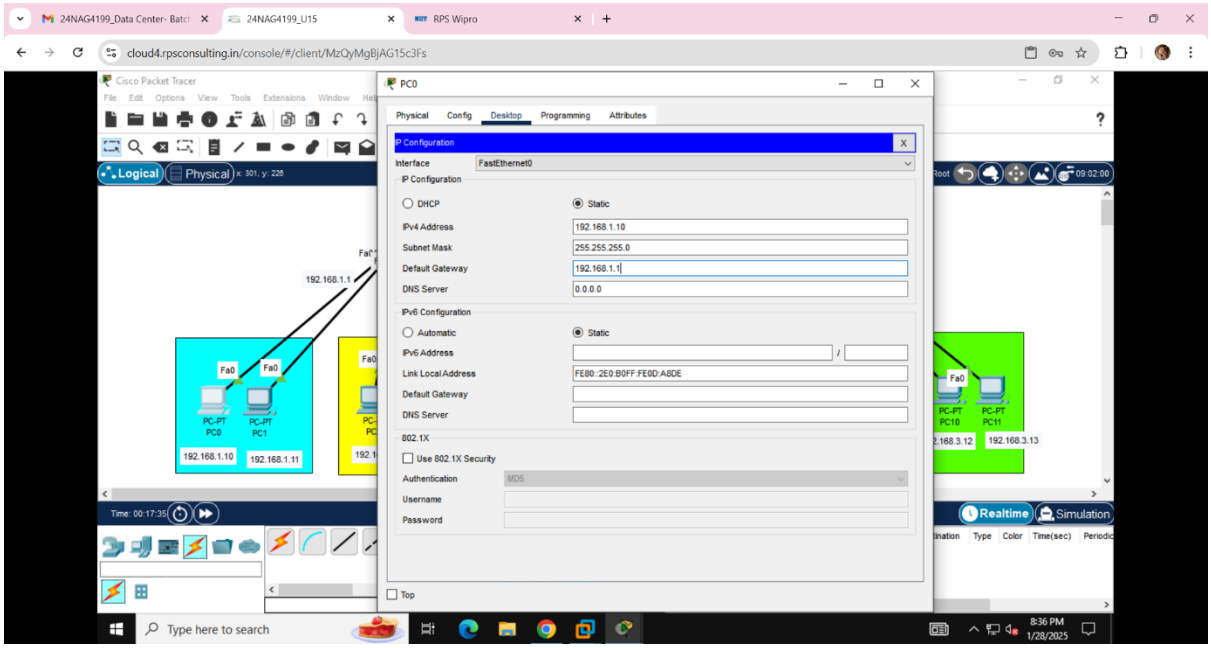


***STEP -3 : WE HAVE TO ASSIGN THE IP ADDRESSES AND THE DEFAULT GATEWAYS TO THE PC'S.**

FOR PC0, THE IP ADDRESS IS 192.168.1.10,

THE SUBNET MASK IS 255.255.255.0,

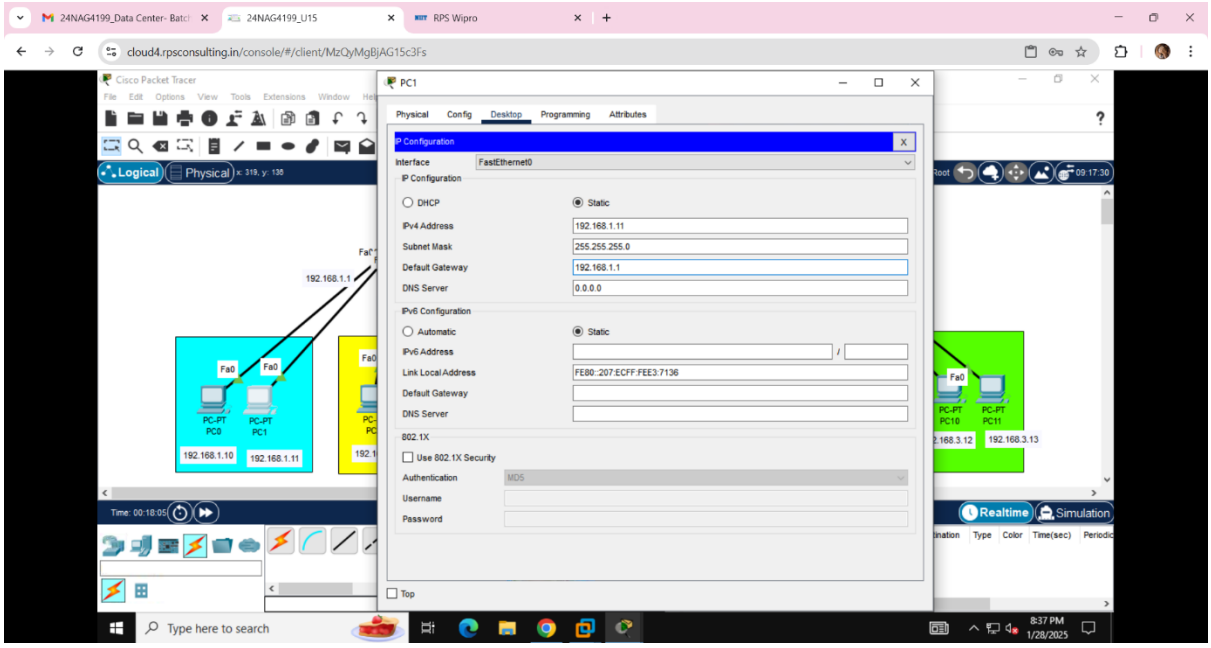
THE DEFAULT GATEWAY IS 192.168.1.1.



FOR PC1, THE IP ADDRESS IS 192.168.1.11,

THE SUBNET MASK IS 255.255.255.0,

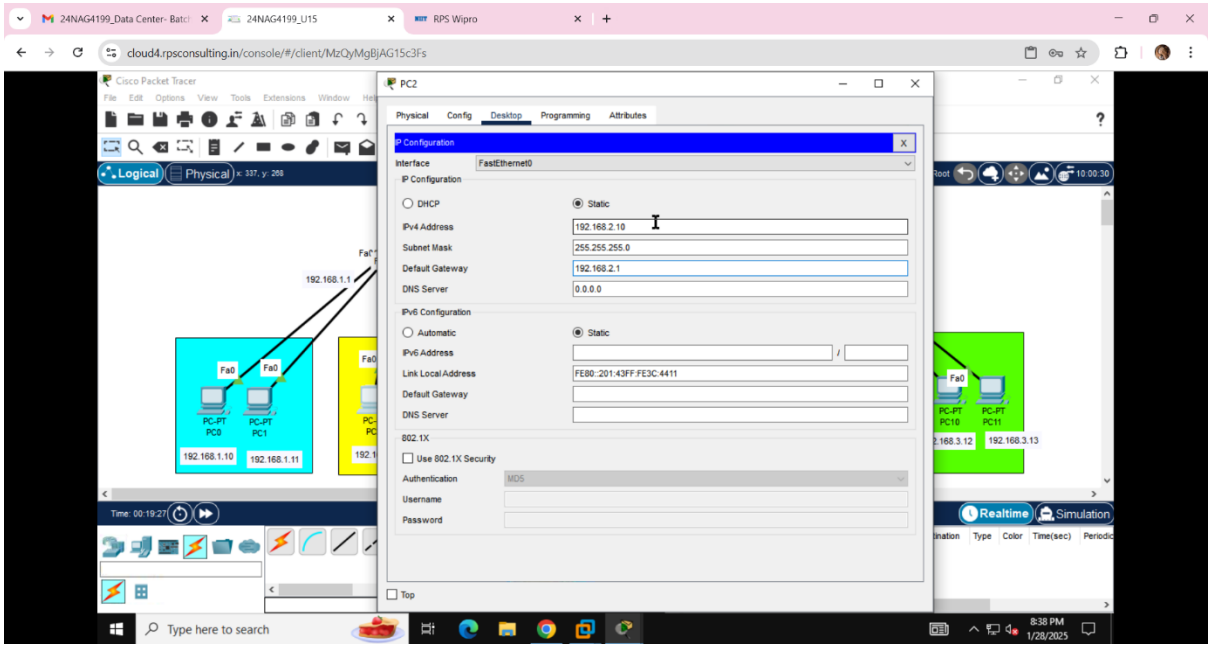
THE DEFAULT GATEWAY IS 192.168.1.1.



FOR PC2, THE IP ADDRESS IS 192.168.2.10,

THE SUBNET MASK IS 255.255.255.0,

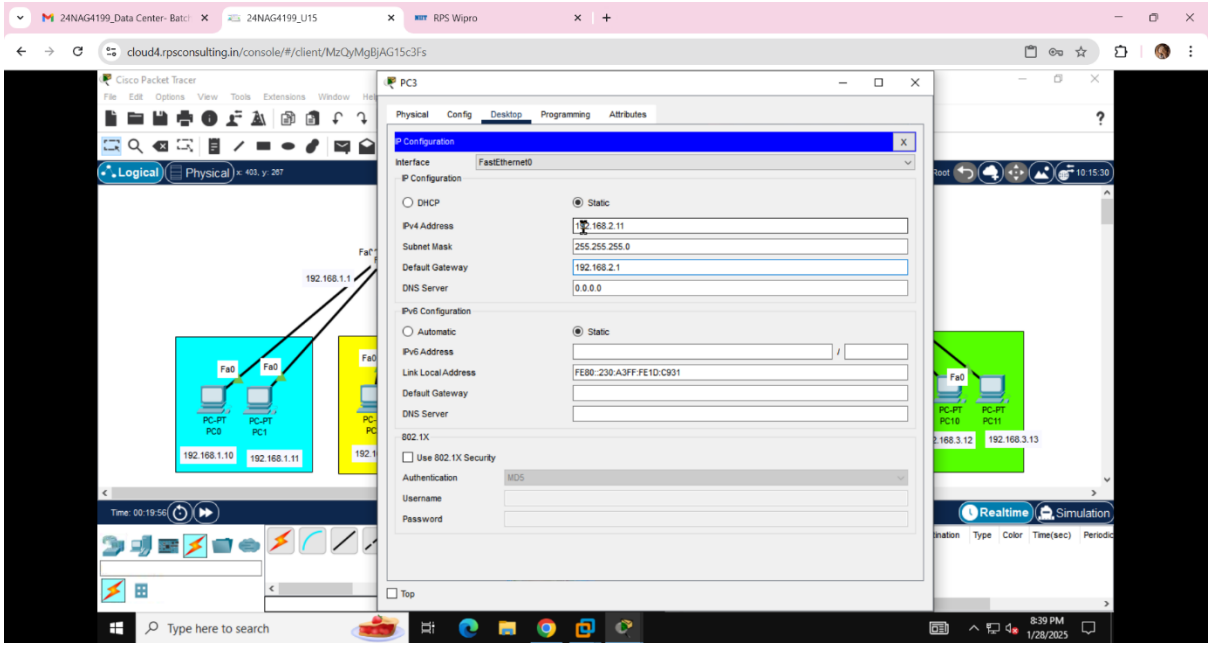
THE DEFAULT GATEWAY IS 192.168.2.1.



FOR PC3, THE IP ADDRESS IS 192.168.2.11,

THE SUBNET MASK IS 255.255.255.0,

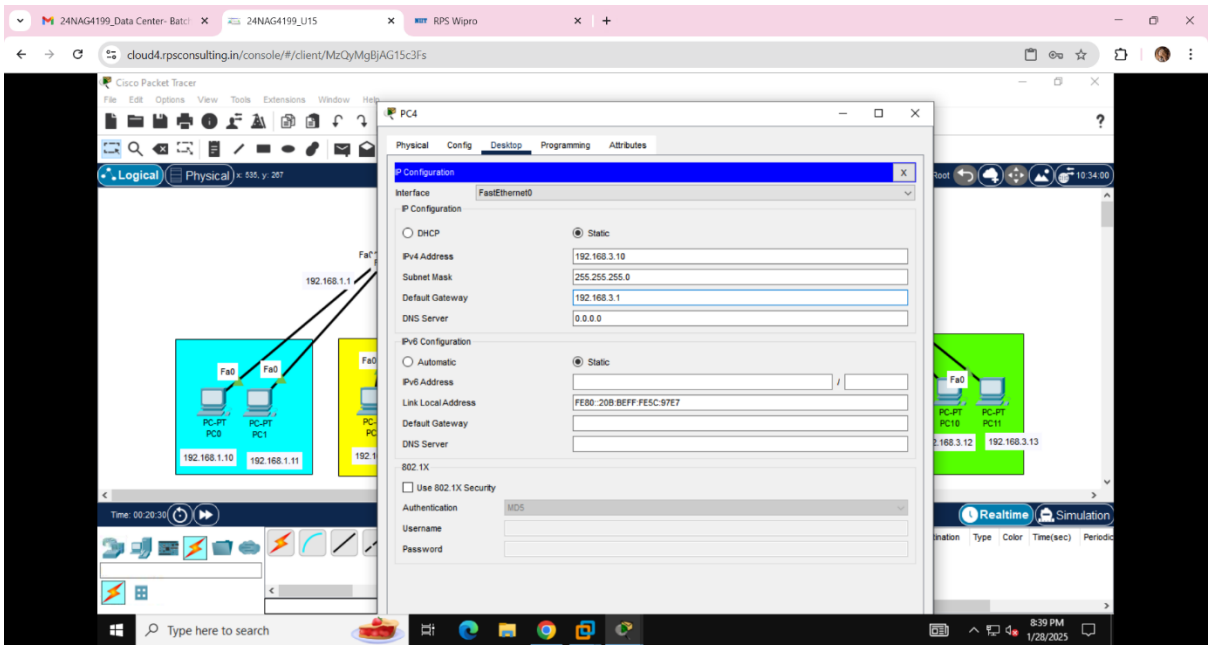
THE DEFAULT GATEWAY IS 192.168.2.1.



FOR PC4, THE IP ADDRESS IS 192.168.3.10,

THE SUBNET MASK IS 255.255.255.0,

THE DEFAULT GATEWAY IS 192.168.3.1



FOR PC5, THE IP ADDRESS IS 192.168.3.11,

THE SUBNET MASK IS 255.255.255.0,

THE DEFAULT GATEWAY IS 192.168.3.1.

SIMILARLY, ASSIGN THE IP ADDRESSES TO OTHER PCS OF LAN.

FOR PC6, THE IP ADDRESS IS 192.168.1.12,

THE SUBNET MASK IS 255.255.255.0,

THE DEFAULT GATEWAY IS 192.168.1.1.

FOR PC7, THE IP ADDRESS IS 192.168.1.13,

THE SUBNET MASK IS 255.255.255.0,

THE DEFAULT GATEWAY IS 192.168.1.1.

FOR PC8, THE IP ADDRESS IS 192.168.2.12,

THE SUBNET MASK IS 255.255.255.0,

THE DEFAULT GATEWAY IS 192.168.2.1.

FOR PC9, THE IP ADDRESS IS 192.168.2.13,

THE SUBNET MASK IS 255.255.255.0,

THE DEFAULT GATEWAY IS 192.168.2.1.

FOR PC10, THE IP ADDRESS IS 192.168.3.12,

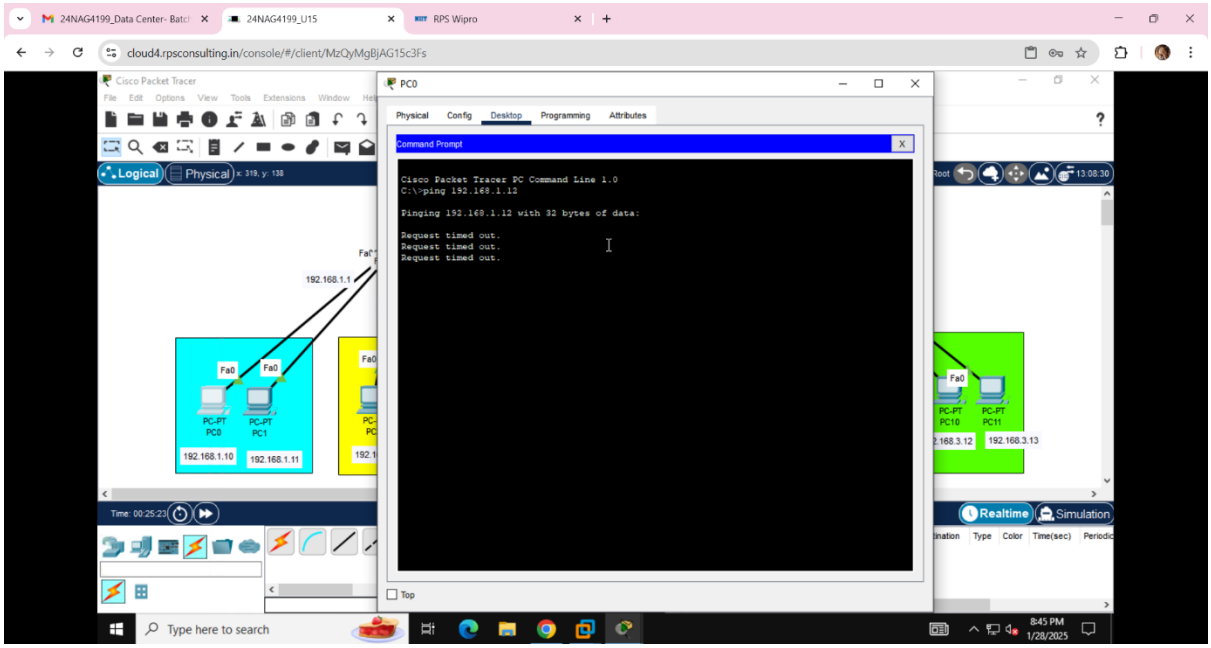
THE SUBNET MASK IS 255.255.255.0,

THE DEFAULT GATEWAY IS 192.168.3.1.

FOR PC11, THE IP ADDRESS IS 192.168.3.13,

THE SUBNET MASK IS 255.255.255.0,

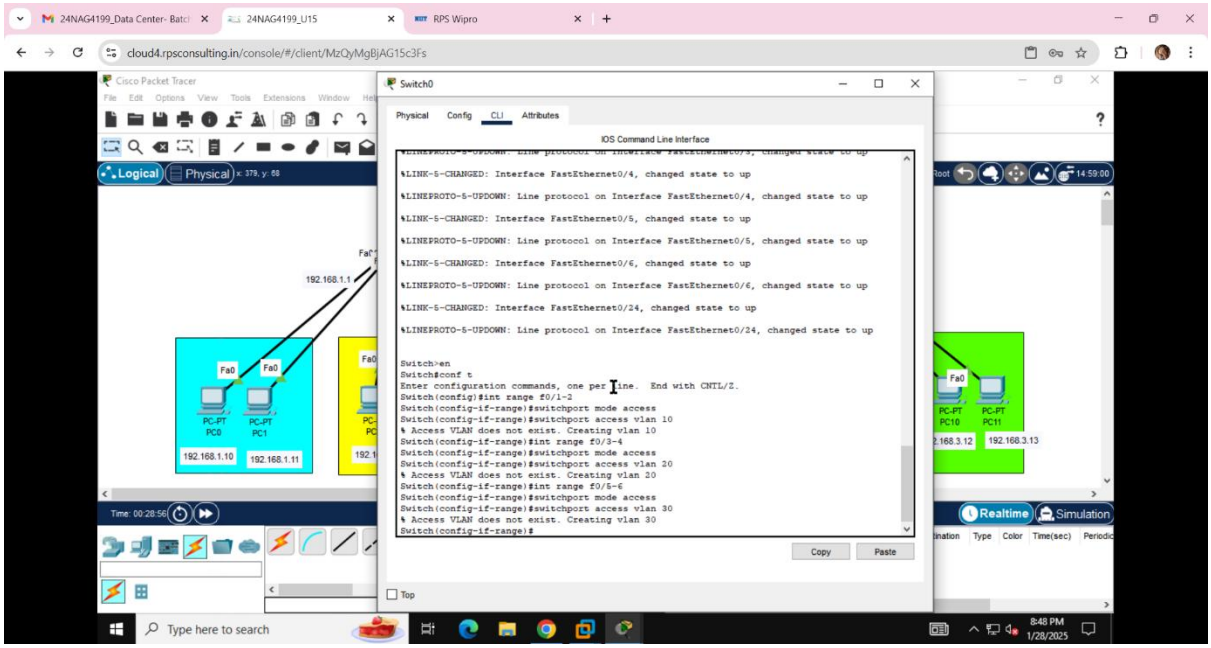
THE DEFAULT GATEWAY IS 192.168.3.1.

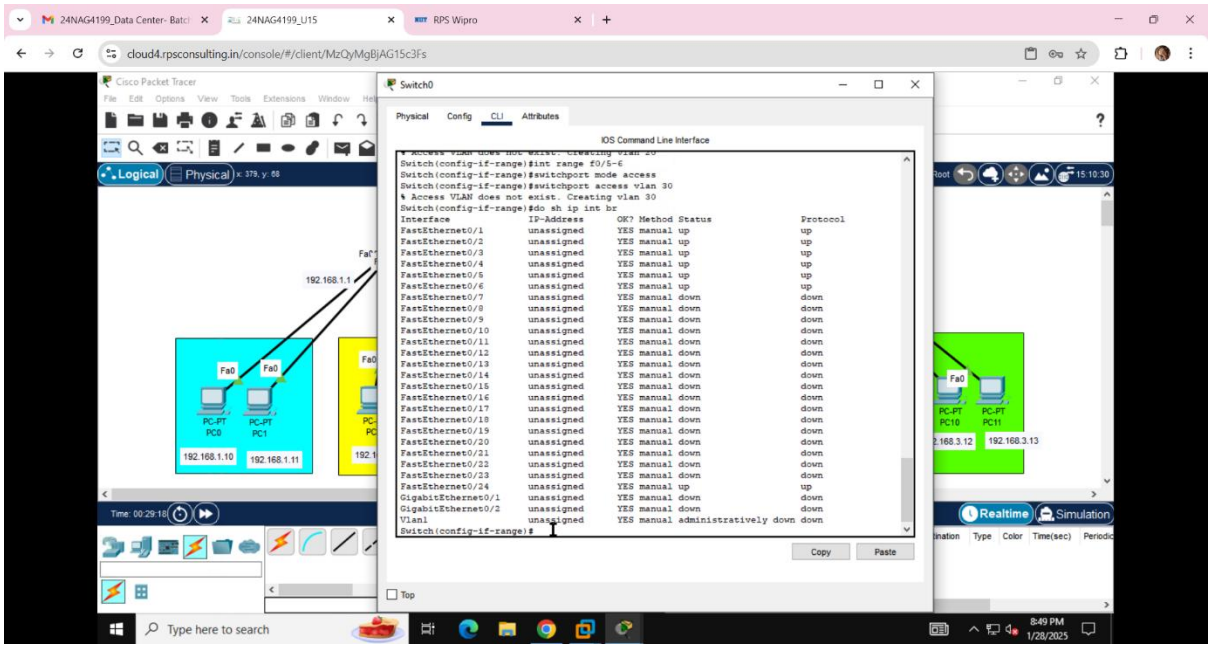


WE CAN CHECK THAT, WE ARE UNABLE TO PING.

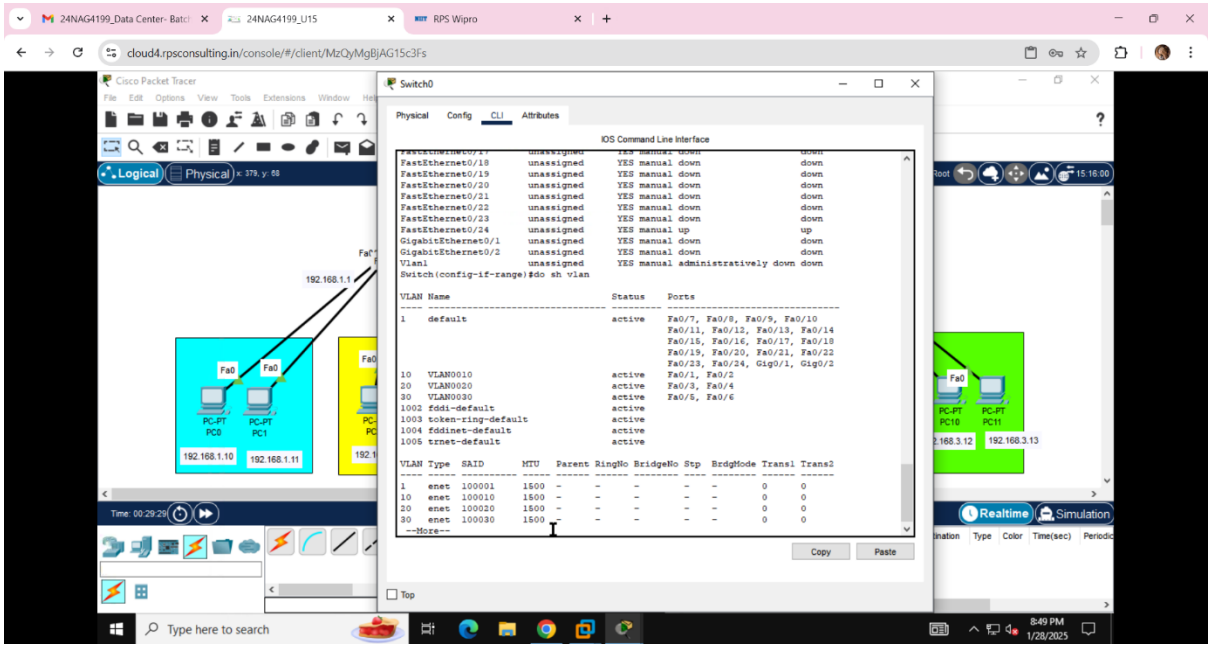
***STEP -4: NOW, OPEN THE SWITCH0,**

WE HAVE TO CREATE VLANS AND NEED TO SET THE RANGE.





WE CAN SEE THAT THE VLANS ARE CREATED.



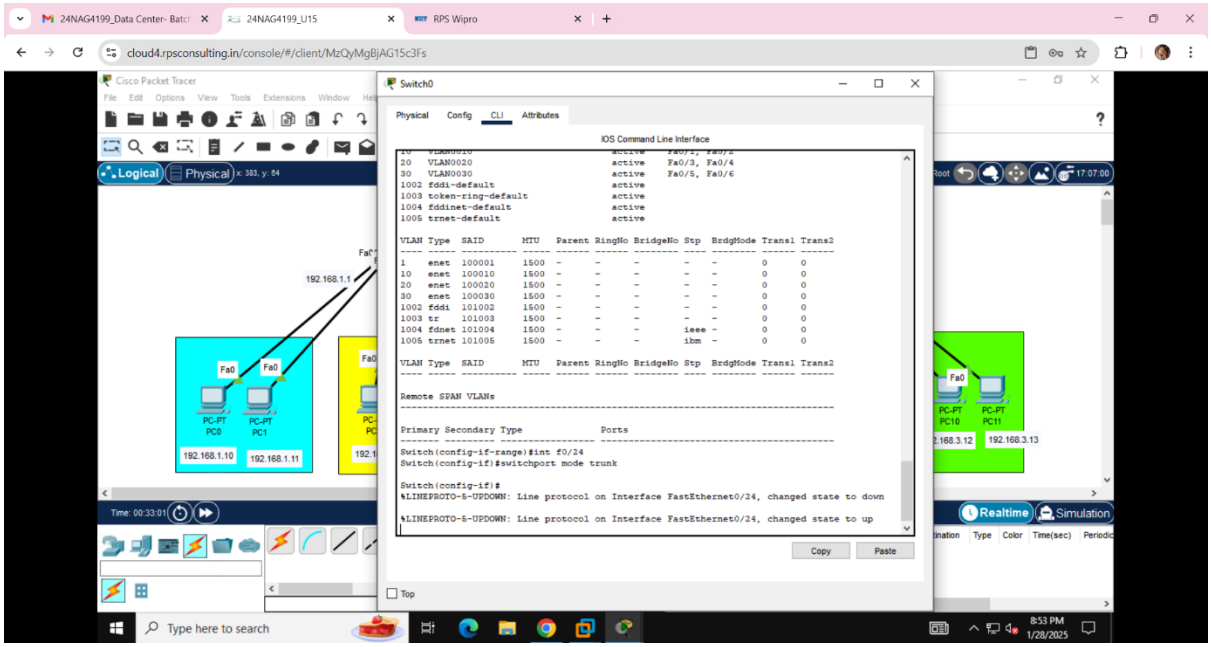
SIMILARLY, DO THE SAME PROCESS IN SWITCH 1 ALSO.

AFTER CREATING VLANS WE SHOULD DO TRUNK.

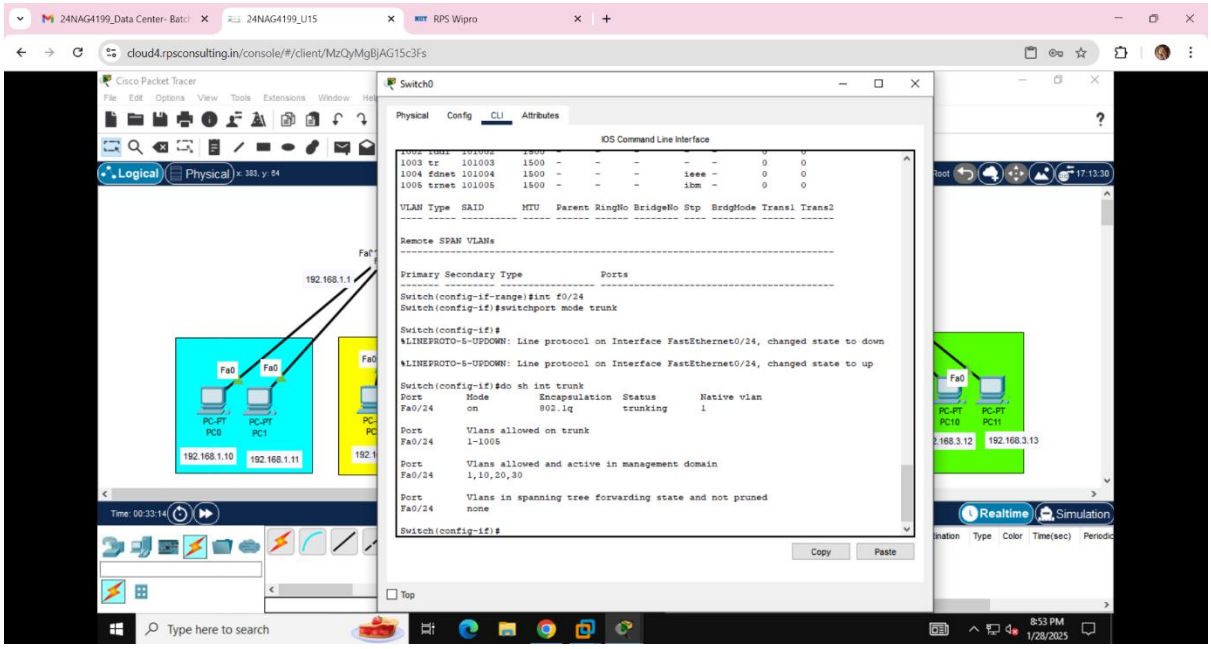
***STEP -5: FOR TRUNKING WE USE INT F0/24**

SWITCHPORT MODE TRUNK,

DO THE SAME PROCESS IN ANOTHER SWITCH ALSO.



WE CAN SEE THAT THE STATUS IS CHANGED UP.

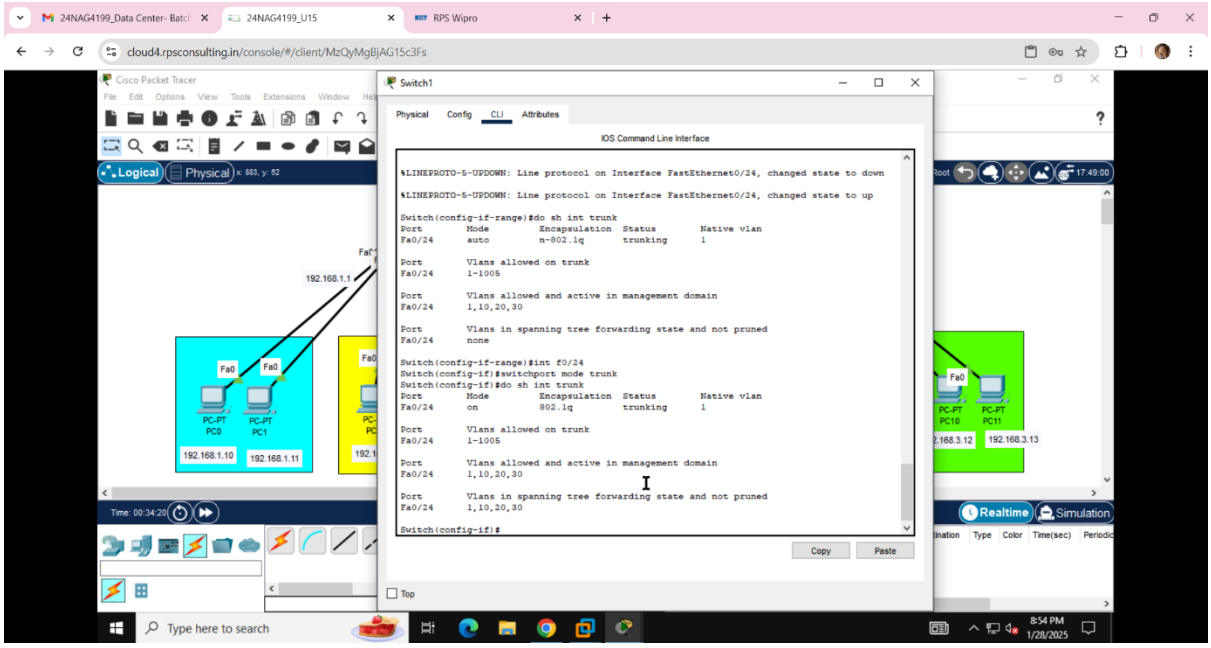


WE CAN SEE THAT TRUNKING STATUS BY USING THE COMMAND:

“DO SH INT TRUNK”

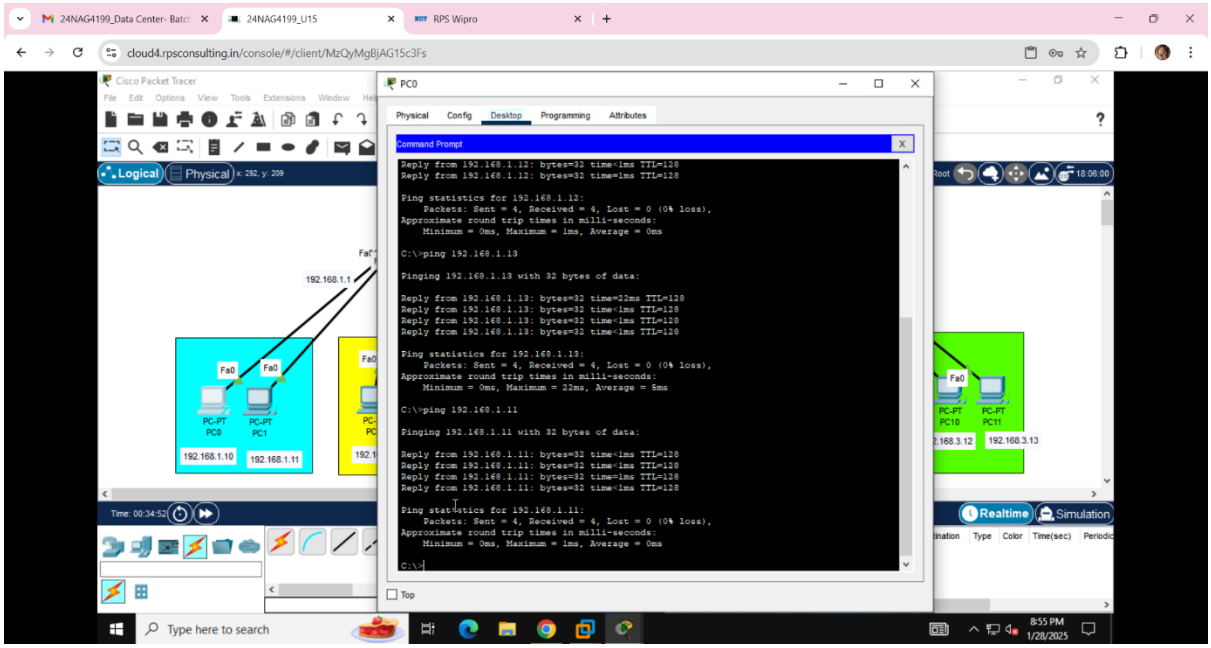
WE CAN SEE THAT THE TRUNK MODE IS ON AND THE STATUS IS TRUNKING.

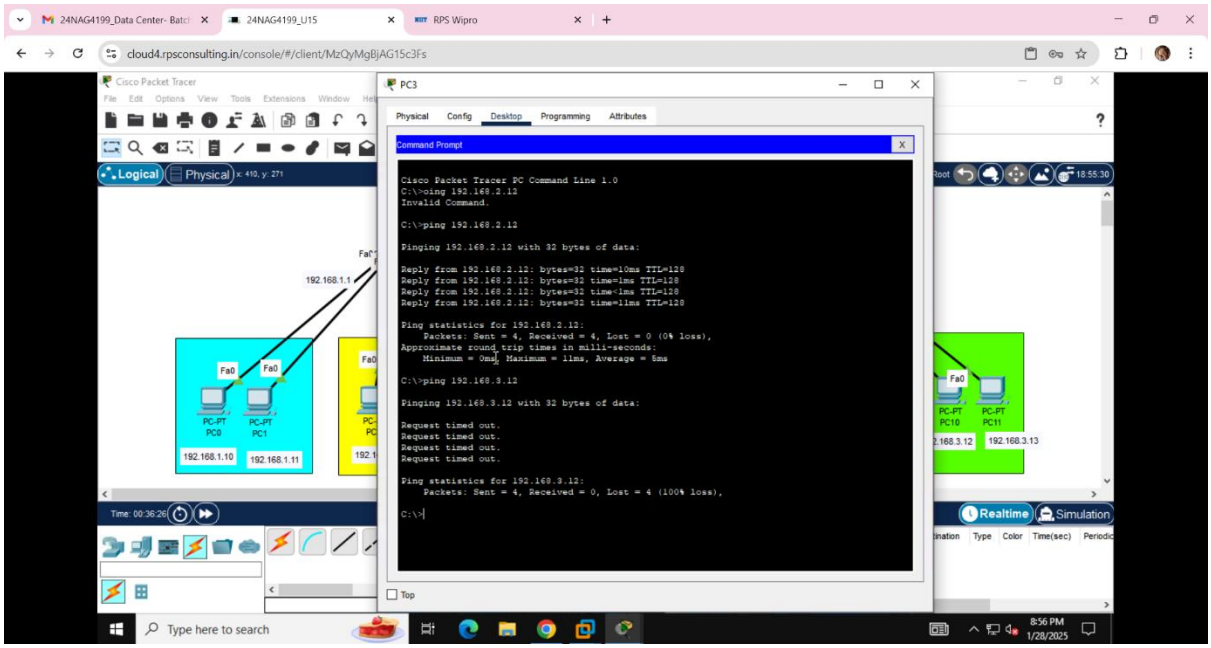
ENCAPSULATION 802.1Q IS A METHOD OF ADDING INFORMATIONTO A PACKET.



NOW, WE CAN PING FROM ANY OF THE PCS WITHIN A LOCAL AREA NETWORK (LAN).

****CAPSTONE PROJECT****





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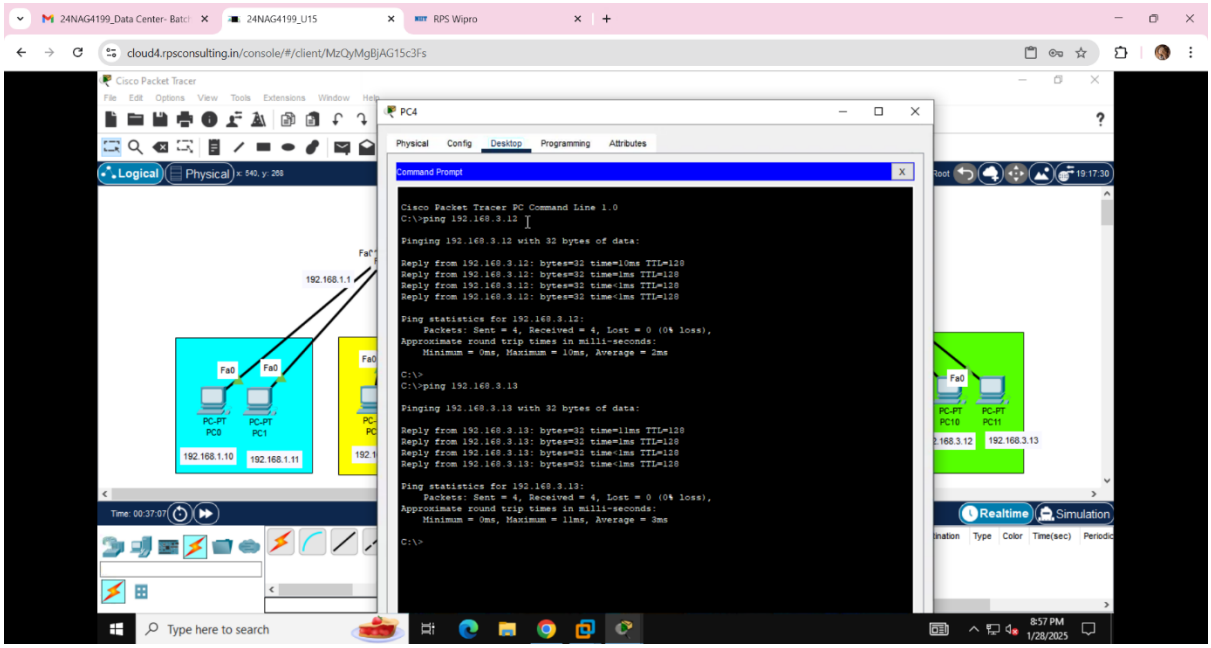

HENCE THAT CONFIGURED.

**********THANK YOU**********