ERYA ANOM

Networking Technology FR24 35

Practical logbook

ERYA ANOM

Assessment task **2**

Outcome(s) Covered **3 & 5**

Assessment task instructions

All sections of this logbook must be completed. Evidence must be submitted for all sections. The format of evidence submitted will be at the discretion of the centre.

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Section 1: Design IP v4 addressing scheme

Number of bits needed for hosts	10
Number of bits left for networks	6
Number of available networks	64
Number of usable hosts per network	/62
Classless Subnet Mask	255.255.252.0
CIDR Notation	/22
First ten subnet ranges	132.30.0.0 132.30.4.0 132.30.8.0 132.30.12.0 132.30.16.0 132.30.20.0 132.30.24.0 132.30.28.0 132.30.32.0 132.30.36.0
Network and broadcast addresses for **subnetworks 4 and 5** *	**Subnet 4** 132.30.12.0 132.30.15.255 **Subnet 5** 132.30.16.0 132.30.19.255
Usable IP addresses for **subnetworks 4 and 5***	**Subnet 4** 132.30.12.1 132.30.15.254 **Subnet 5** 132.30.16.1 132.30.19.254

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A company currently has a B class address of **132.30.0.0** for their network. Design an appropriate IP address scheme where each subnet must accommodate **1000 hosts.** You will need to identify addresses for **first ten subnets** before identifying **subnets 4 and 5*(Note: Subnet 0 is not used)**:-

***Note: To help ensure authenticity, each student may be asked to provide IP ranges for different subnets**

Completion Date: _____ Signed (Student) _____

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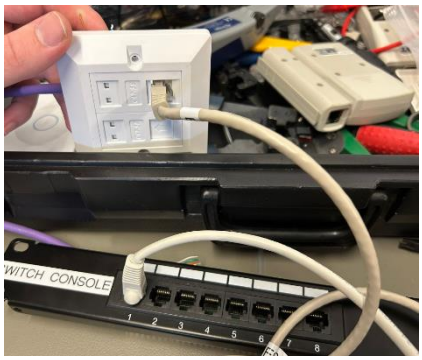
Section 2: Test and Install LAN media

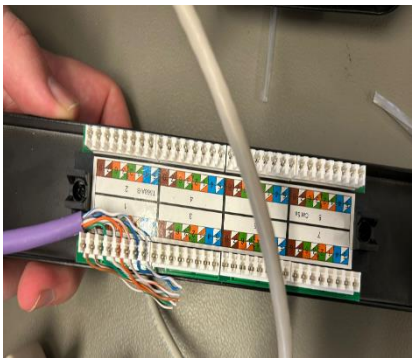
Which Standard? Cable Type: T568A [ ] **Cable Type: T568B** [X]

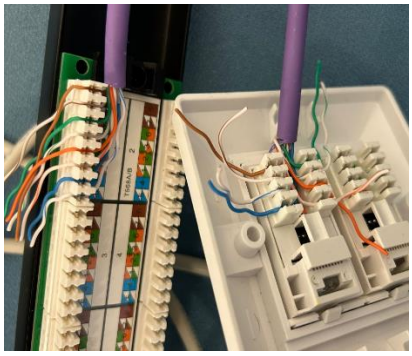
Describe how you attached a standard length of UTP media into a patch panel.

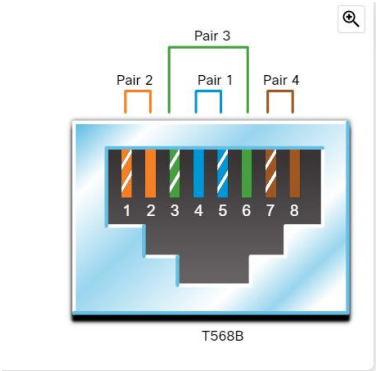
*Note: You must use a length of un-terminated UTP cable. This exercise does **not** simply require you to insert a patch cord into a patch panel. This exercise will likely utilise the use of a punch down tool to make the connections.*

First of all, preparing the cable CAT6 and strip about 1 or 2 inch out of the outer from the cable using a cable stripper. And untwist and arranged wires according to the T568B wiring standard. Insert wires into the patch panel and white faceplate, and make sure the wires are fully inserted and punched down the wires into the patch panel and make sure the wires are punched down properly. Make sure the wires a make a good contact in the patch panel and solid connect.









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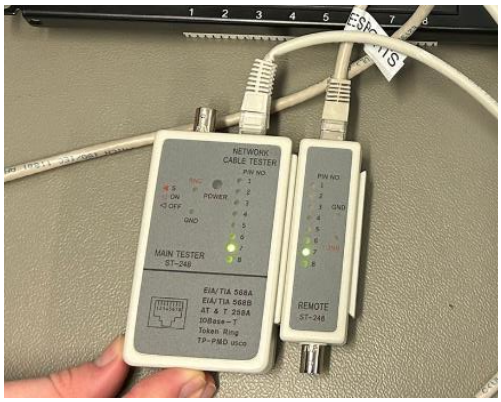
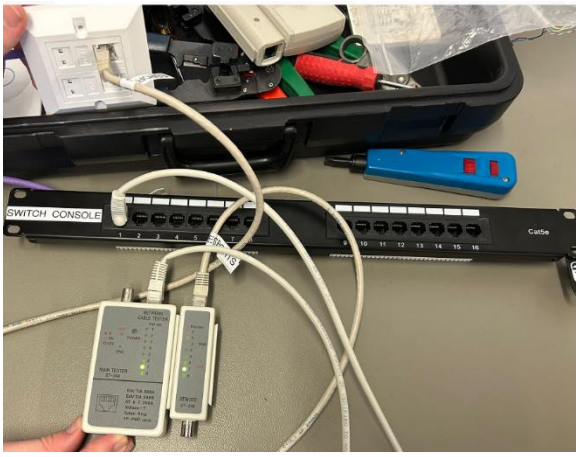
Testing (should include a discussion on how your testing was carried out. (150 words max)

Firstly, make sure that all the wires are connected, we have to check the Ethernet cable that the wires are connecting with cable tester RJ45 RJ11 or Cable testing. And make sure the cable showing all the light from 1 to 8, double check that the colour coding follows the T568B. When the Ethernet cable working and showing the light. Connect the Ethernet cable to the patch panel and connect to other side the Ethernet cable to the white faceplate, as result, monitoring network performance and make sure all the lights from pin number one to eight are working or pair up.





Completion Date: _____ Signed (Student) _____

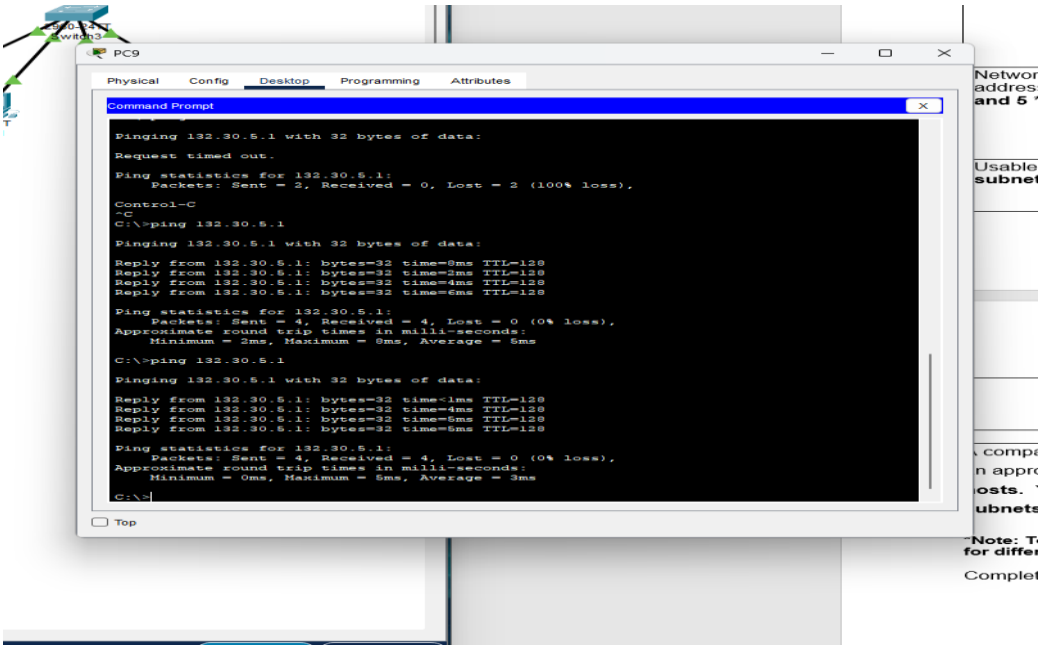
Section 3: Build small computer networks

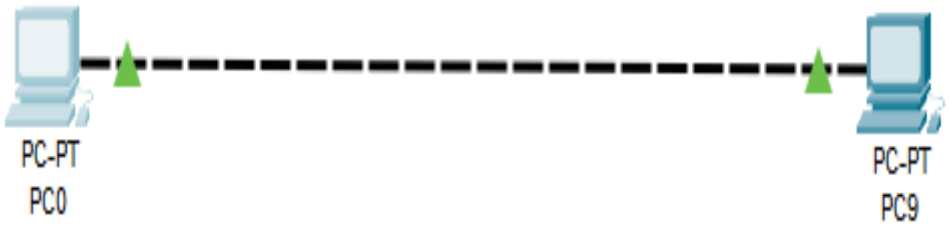
This may be carried out using appropriate virtualisation software where necessary.

Section 3: Part 1 - Produce computer network in Fig 3.1 below using an appropriate IPv4 configuration for testing connectivity

Description of activity including Testing:

PC9: IP Addresses: 132.30.5.1

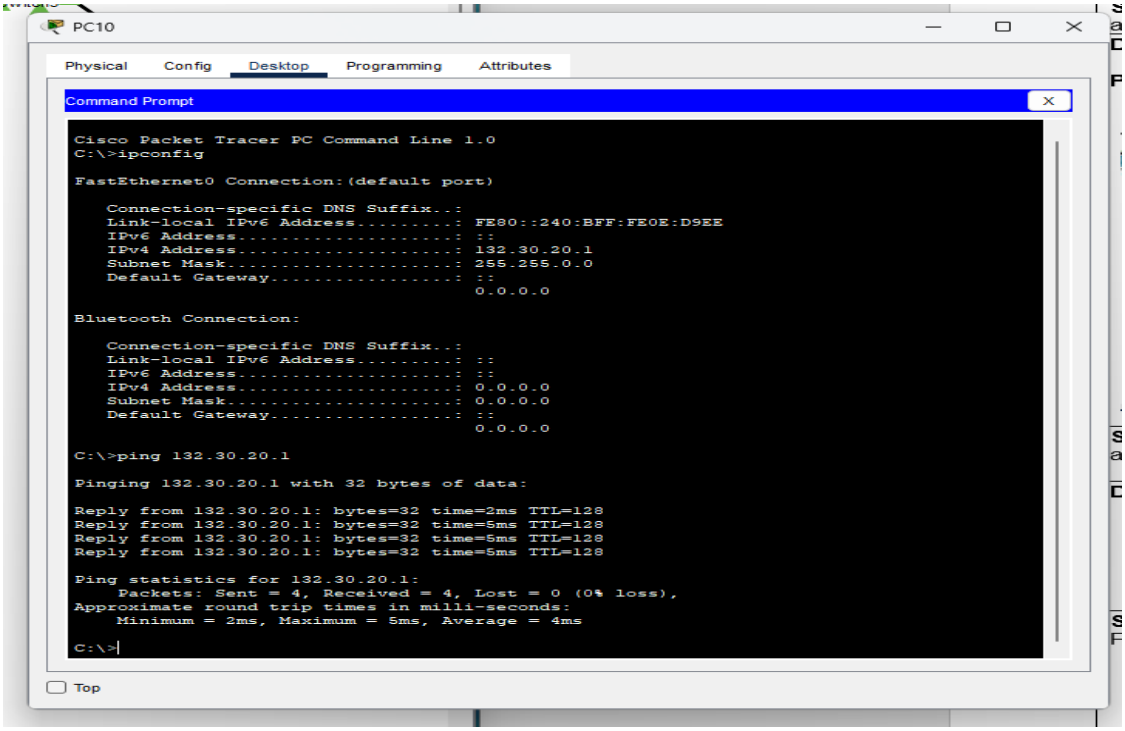


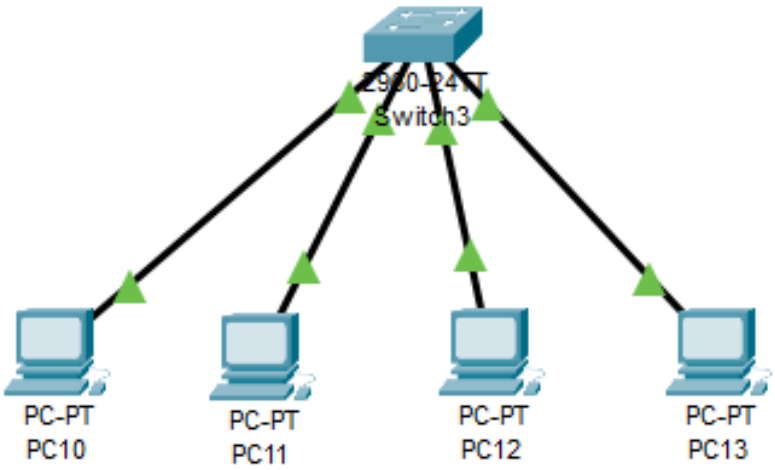


Section 3: Part 2 - Produce computer network in Fig 3.2 below using an appropriate IPv4 configuration for testing connectivity.

Description of activity including Testing:

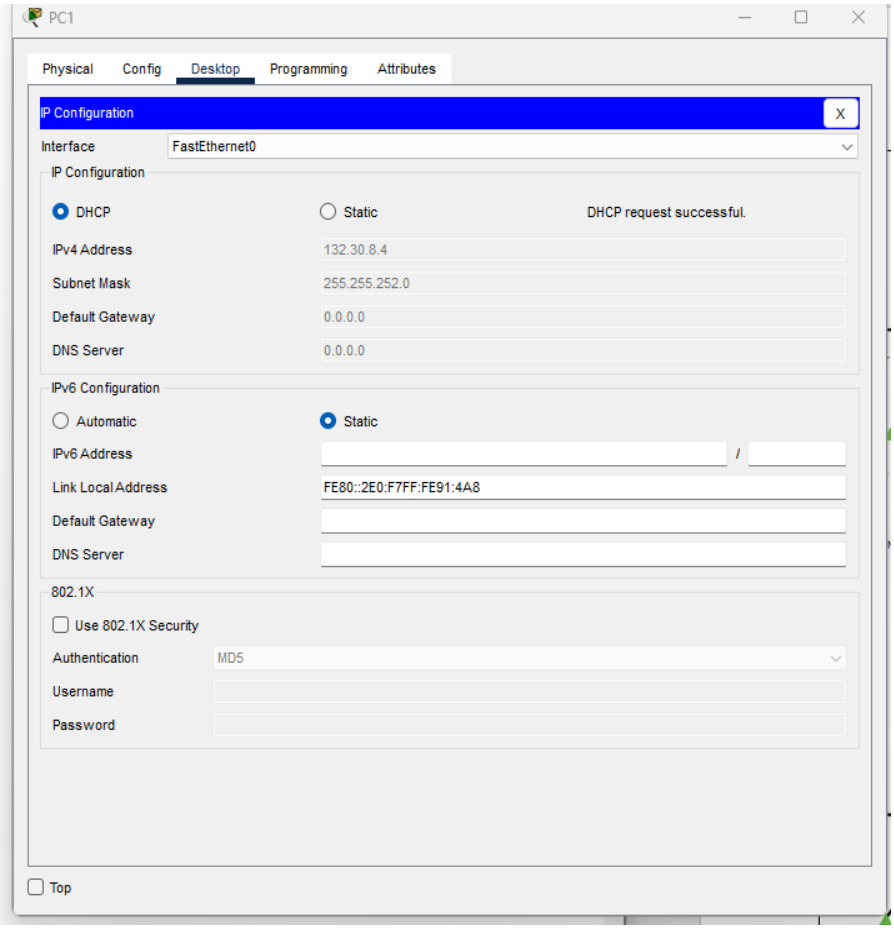
IP ADRESSESS: 132.30.20.1/16
Class B. 255.255.0.0





Section 3: Part 3 - Expand the network created in Fig 3.2 to produce network in Fig 3.3.

- Configure using IP scheme from Task 2: Section 1.
- **Subnet 4*** should obtain **IP configuration** automatically.
- Default Gateway address for subnets should be first usable IP address in range.
- DHCP server should use second usable IP address in subnet 4* range (The student is required to configure the network Settings of the Server; however, they are **not** required to configure the DHCP scope).



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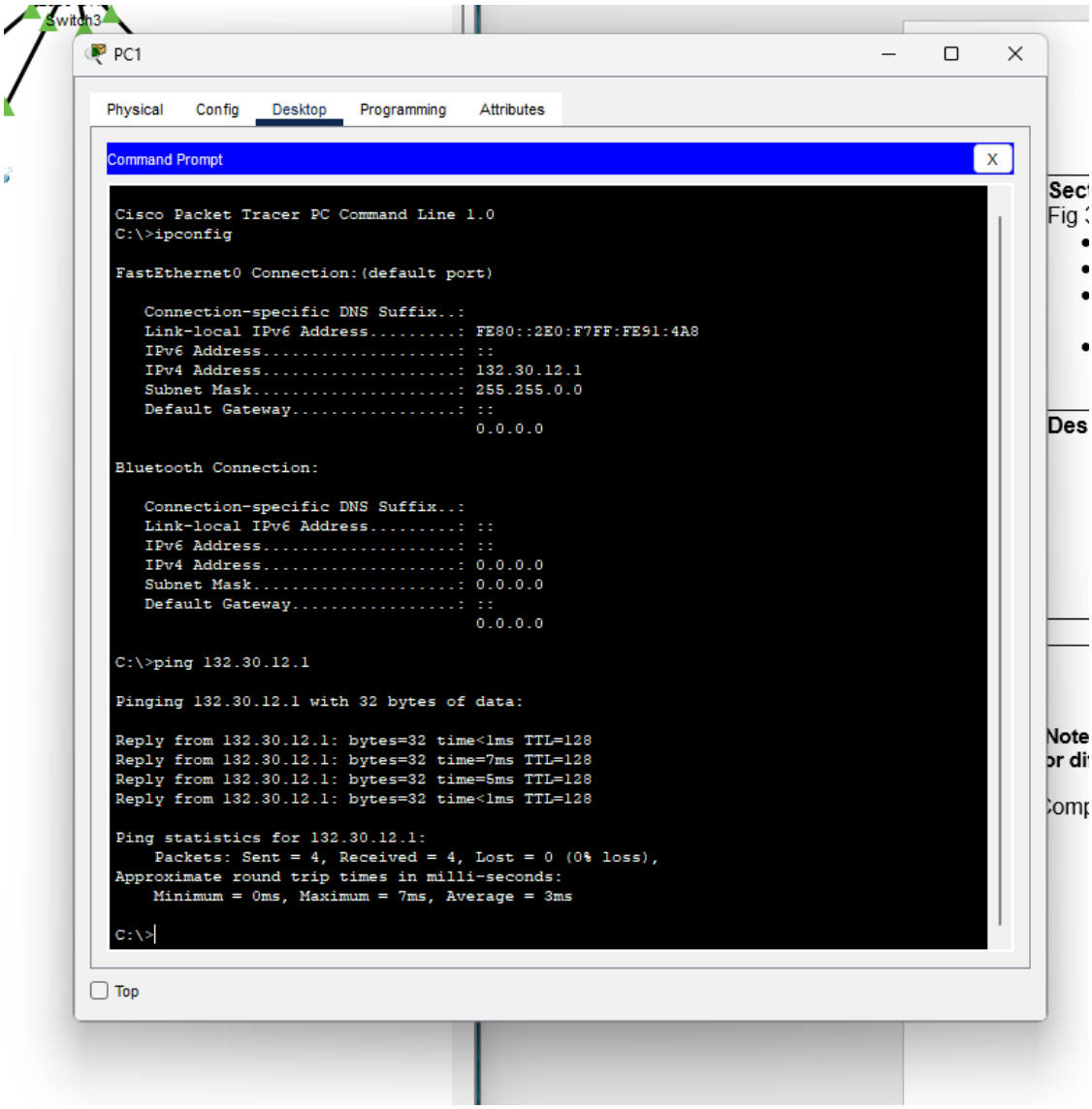
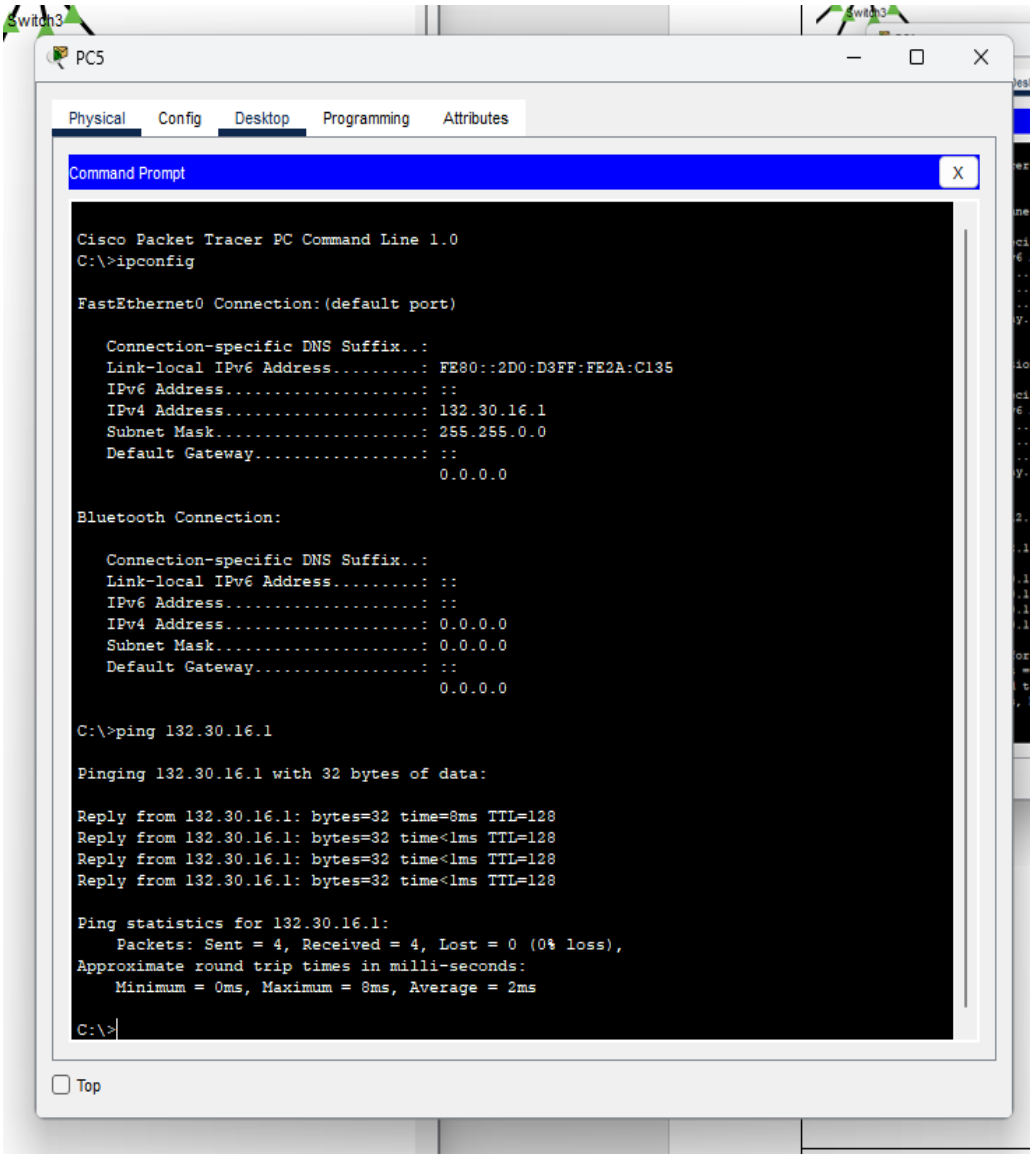
Description of activity including Testing:
IP Addresses: PC 1- 132.30.12.1
SUBNET 4



IP Addresses: PC 5- 132.30.16.1
Subnet 5



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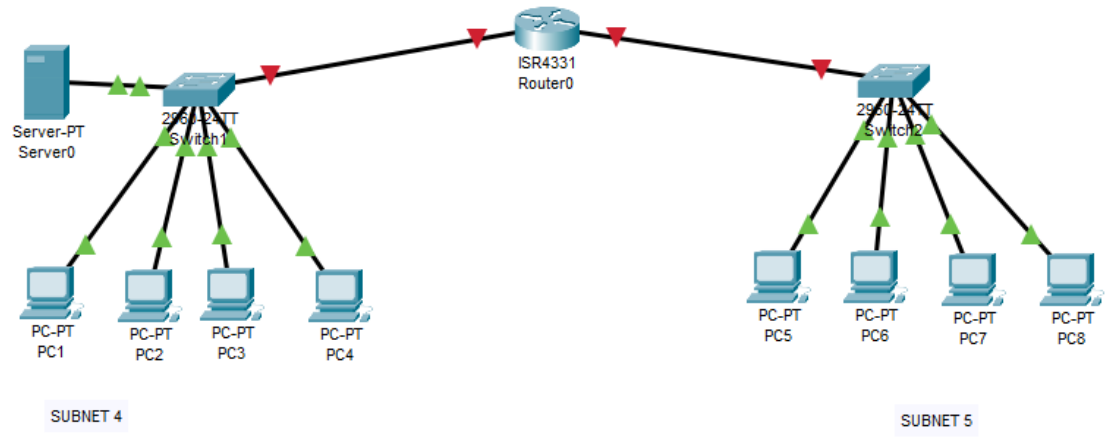
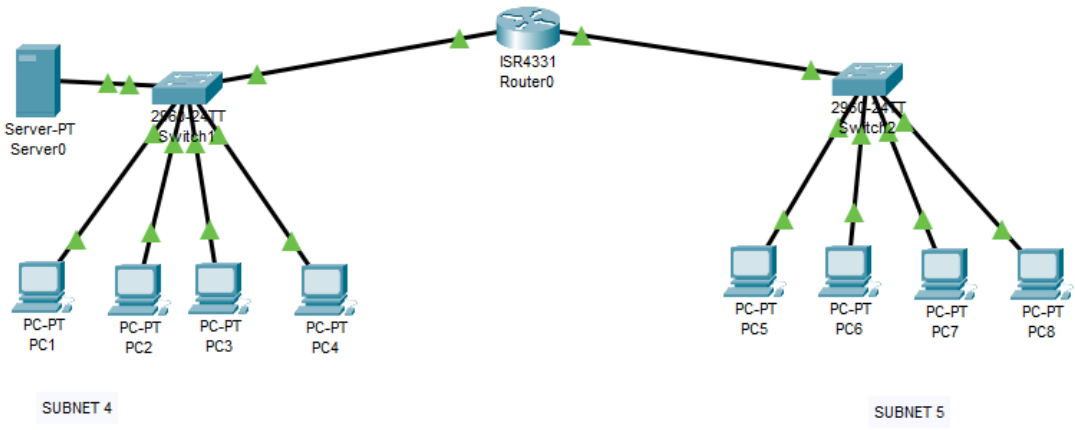

ISR4331
Router0
Server-PT
Server0
Switch1
Switch2
PC-PT
PC1
PC-PT
PC2
PC-PT
PC3
PC-PT
PC4
PC-PT
PC5
PC-PT
PC6
PC-PT
PC7
PC-PT
PC8
SUBNET 4
SUBNET 5


ISR4331
Router0
Server-PT
Server0
Switch1
Switch2
PC-PT
PC1
PC-PT
PC2
PC-PT
PC3
PC-PT
PC4
PC-PT
PC5
PC-PT
PC6
PC-PT
PC7
PC-PT
PC8
SUBNET 4
SUBNET 5

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***Note: To help ensure authenticity, each student may be asked to provide IP ranges for different subnets**

Completion Date: _____ Signed (Student) _____

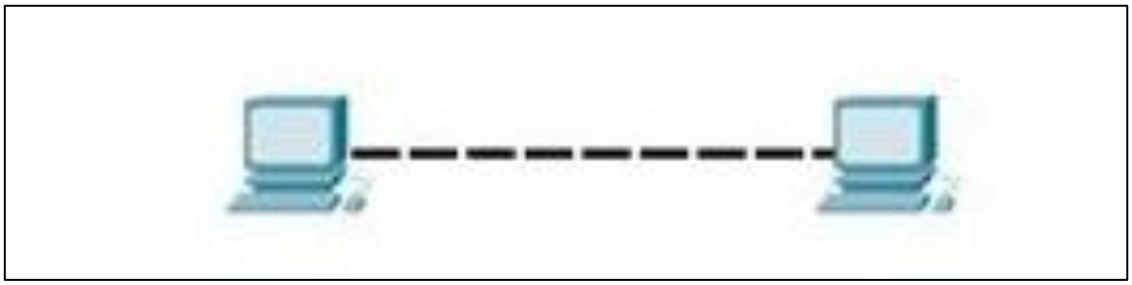

Figure 3. 1 Peer to Peer Network

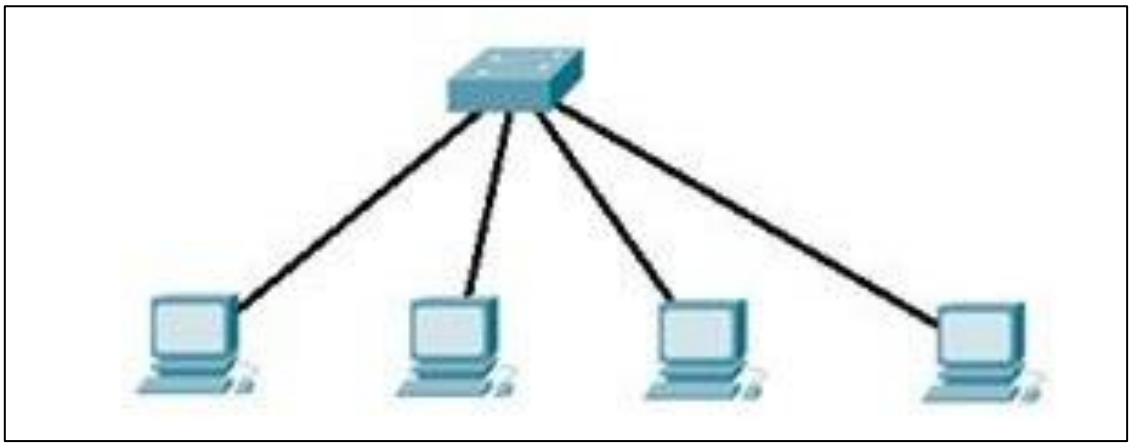

Figure 3. 2 Small Workgroup Network

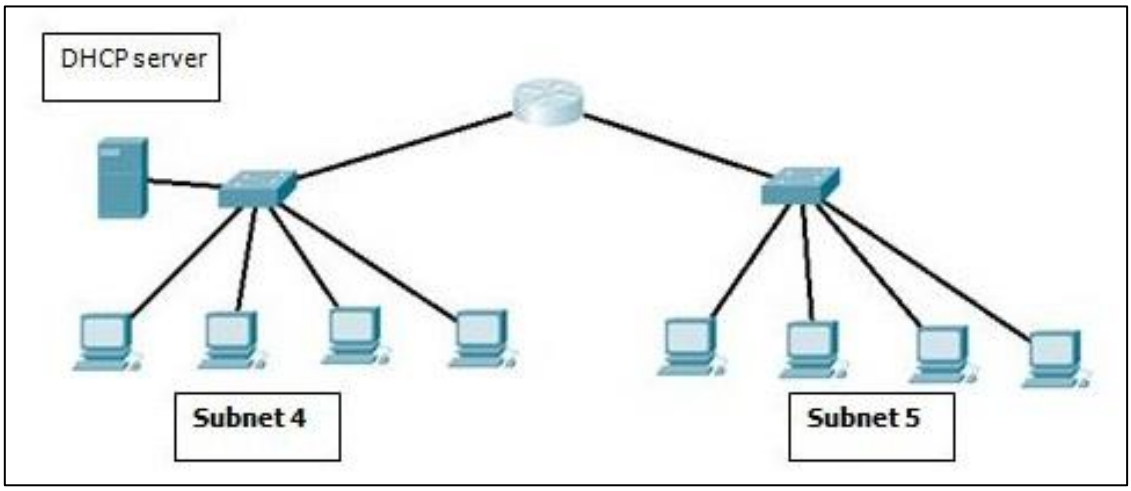

Figure 3. 3 Small Client Server Network