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SCS3309 LAB 4B

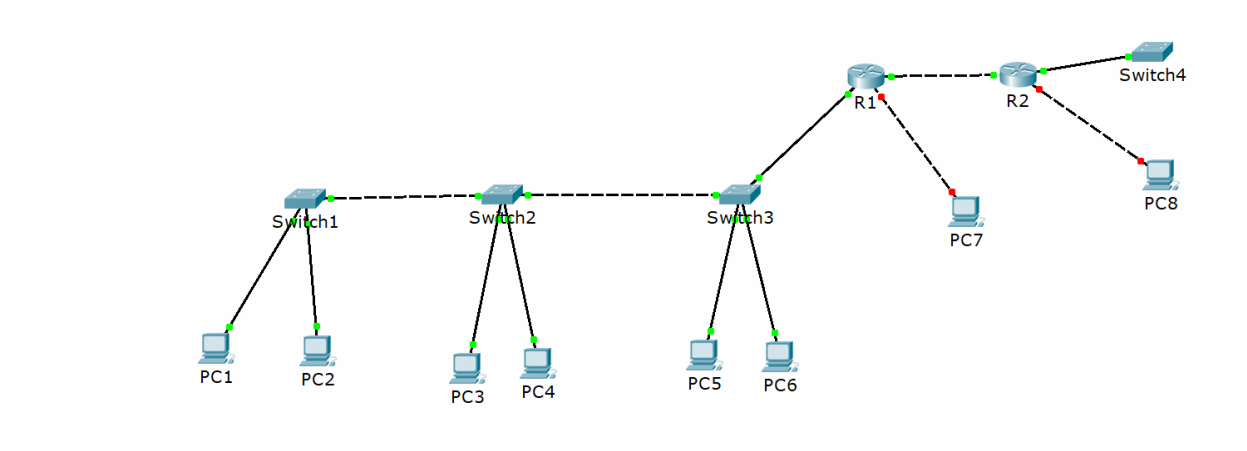
QUESTION 1

(a) Continuation from LAB2: Consider the network below which you have already configured and verified in LAB2. Using telnet or SSH you can remotely configure network devices (routers and switches). You can also configure them by connecting to them from your computer/laptop via the network device's console port

(b) In this lab you are required to configure the network devices using the different methods.

(c) You will be required to configure R1 and Switch 3.

(d) For remote configuration you will be required to configure them from (i) any of the end user devices connected to switch 1 and switch 2 (ii) any of the end user devices connected to switch 4 (add two pcs connected to ports Fa0/2 and Fa0/3) and (iii) from PC8.



PART 1 (Using the console port)

- Use console cable to connect to the two network devices mentioned above and configure them.

- Using console cable to connect from RS232 port on PC1 to console port on network device switch 3. Repeat for connection to Router 1.
- For each connection
    - Open the PC's terminal emulator and click OK (do not change any settings)
    - You are now able to access the network device's CLI
    - Use the CLI to configure the device as follows

Configure privileged mode password on switch and router

en
conf t
enable password *xxxxxxxx* (to enter privileged mode) OR
enable secret password *xxxxxxxx*

Configure password for the console line on switch and router

en
conf t
line console 0
password *xxxxxx* (to enter user mode)
Login
exit
wr (save configurations made so far) OR
copy running-config startup-config

Verify the configurations made on the switch and router + Demo (video)

en
show running-configuration
Demo (show that your device has been correctly configured (by attempting to connect to the device again)

Use the CLI to configure the device as follows

Configure the hostname on switch and router

en
conf t
hostname *xxxxxx*
Answer video demonstration

Lab 4b Q1 Part 1.mp4 - Google Drive

PART 2 (Using Telnet)

- Use telnet to connect to the two network devices mentioned above and configure them.

Configure user name
Configure vty lines

Configure ip address used to administer device
Configure privileged mode password

- Why is this form of connection considered insecure

Configure using the console port (or from the CLI) of the device

Erase the startup config

Configure a single user on both devices
en
conf t
username xxxxxx password yyyyy (password is case sensitive)

Configure vty lines (16 lines 0-15) that can be used to connect to the devices (on both both devices)
en
conf t
line vty 0 15
login local (to login with local user name if that is not required can leave out local)
transport input telnet (allow only telnet connections to the vty lines)

configure the IP address used to manage the switch on a vlan (vlan 1) interface or ip address on router interface
en
conf t
int Vlan1(on switch) or (int Fao/2 on router interface)
ip address 192.168.1.1
no shut

Configure privileged mode password on switch and router
en
conf t
enable password *xxxxxxxx* (to enter privileged mode) OR
enable secret password *xxxxxxxx*

Verify the configurations made on the switch and router + Demo (video)
en
show running-configuration
Demo (show that your device has been correctly configured (by attempting to remotely telnet)

Attempt to telnet to each device from any one of the PCs 1,2,3,4, 7,8 etc

From the PC's command prompt type the command

telnet *ipaddress* (of switch or router)

You will be required to provide the user name and password you had previously configured

If successful, you will now have access to the command prompt of the device (switch or router) and you can configure it as you wish

Use the CLI to configure the device as follows

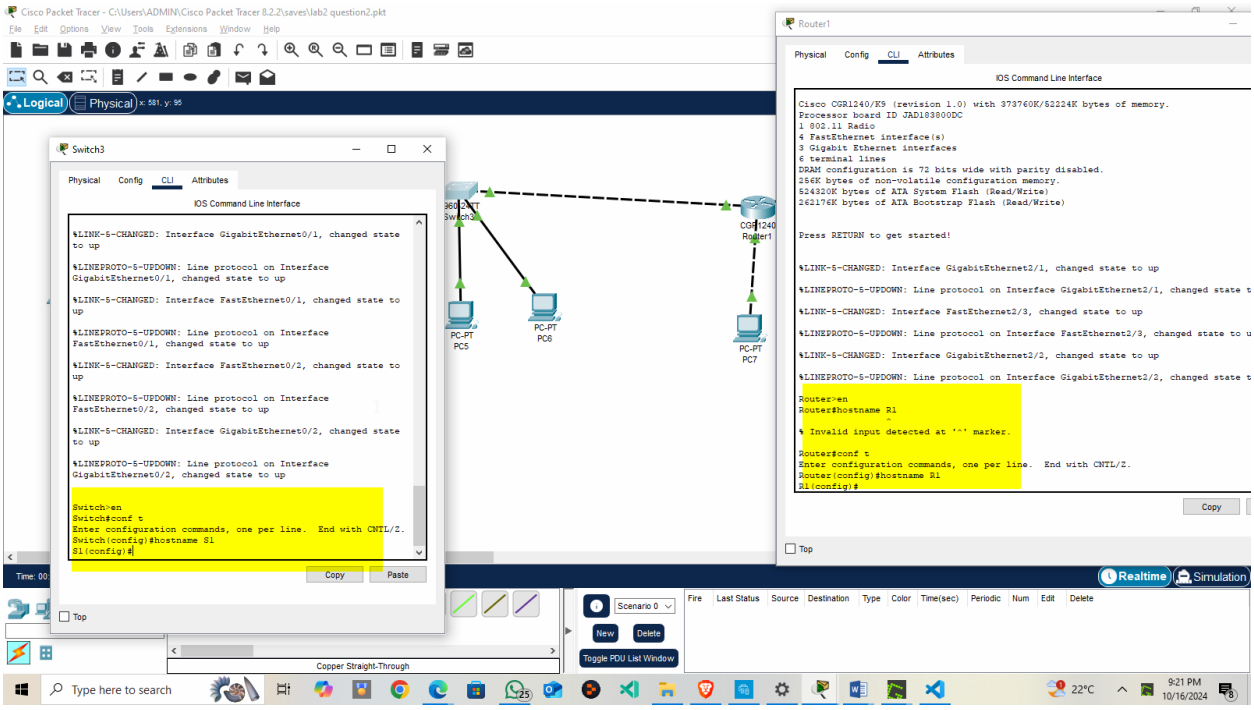
Configure the hostname on switch and router

en
conf t
hostname *xxxxxx*
Anwer videos demo
Folder - Google Drive

PART 3 (Using SSH)

. Configure Hostname on Switch and Router

en
conf t
hostname S1 (for switch)
hostname R1 (for router)



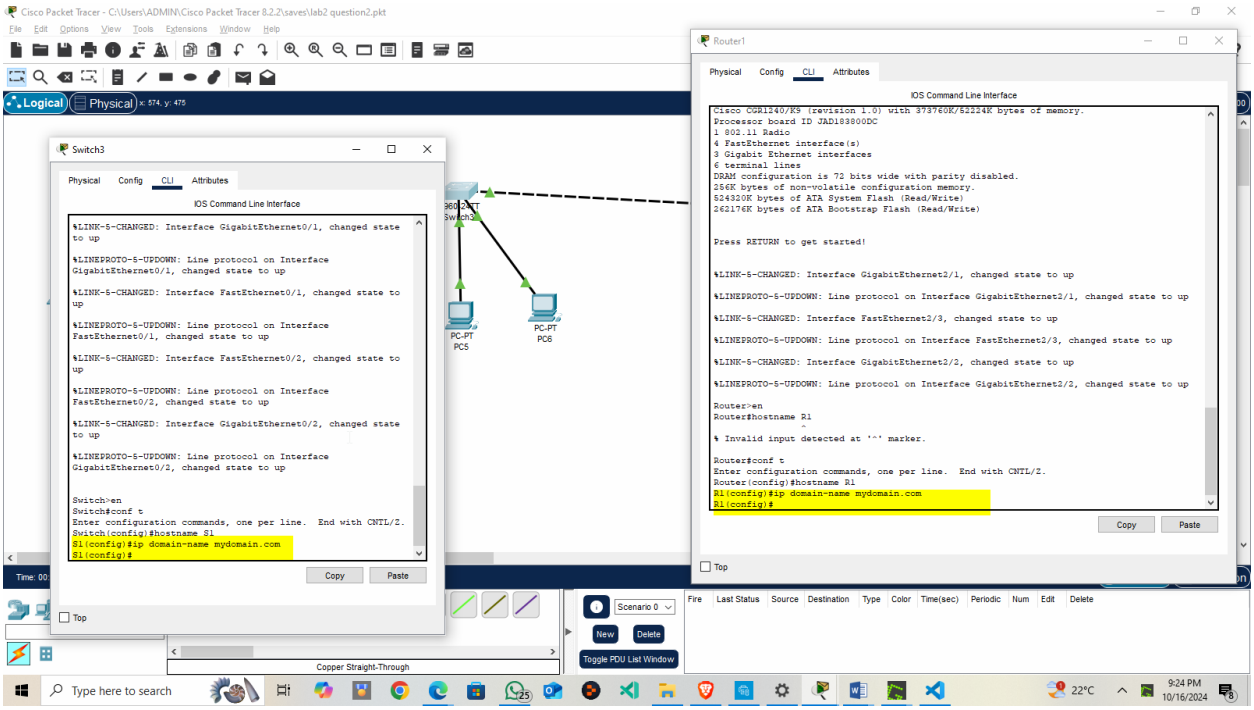
2. Configure DNS Domain Name

On the Router:

```
en
conf t
ip domain-name mydomain.com
```

On the Switch:

```
en
conf t
ip domain-name mydomain.com
```



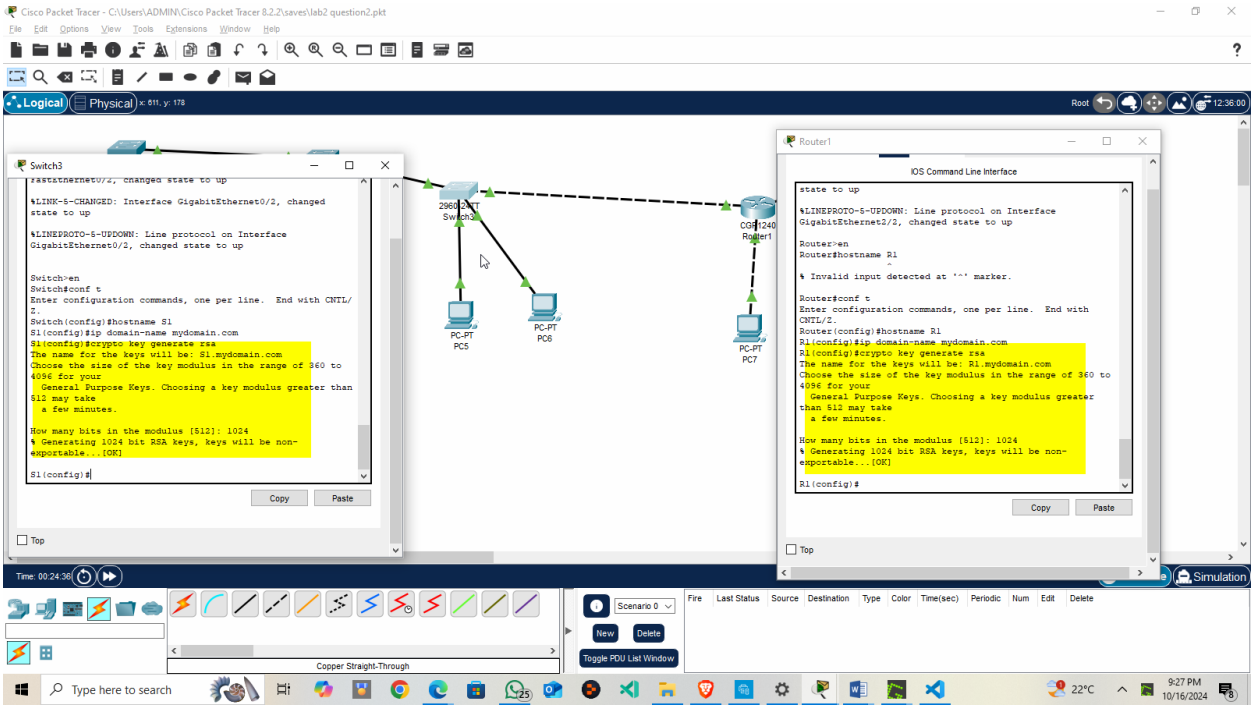
3. Generate Encryption Keys

On the Router:

```
en
conf t
crypto key generate rsa
1024
```

On the Switch:

en
conf t
crypto key generate rsa
1024



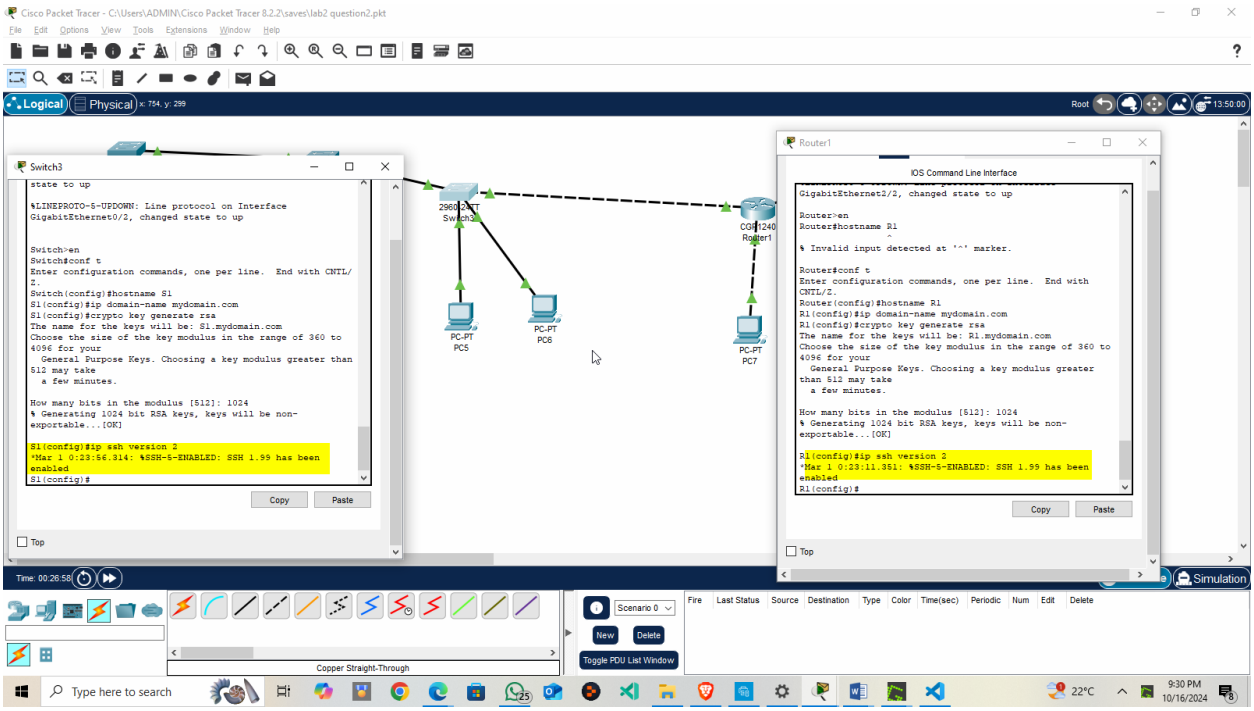
4. Enable SSH Version 2

On the Router:

en
conf t
ip ssh version 2

On the Switch:

en
conf t
ip ssh version 2



5. Configure VTY Lines for SSH

On the Router:

en

conf t

line vty 0 15

transport input ssh

login local

exec-timeout 3

On the Switch:

en

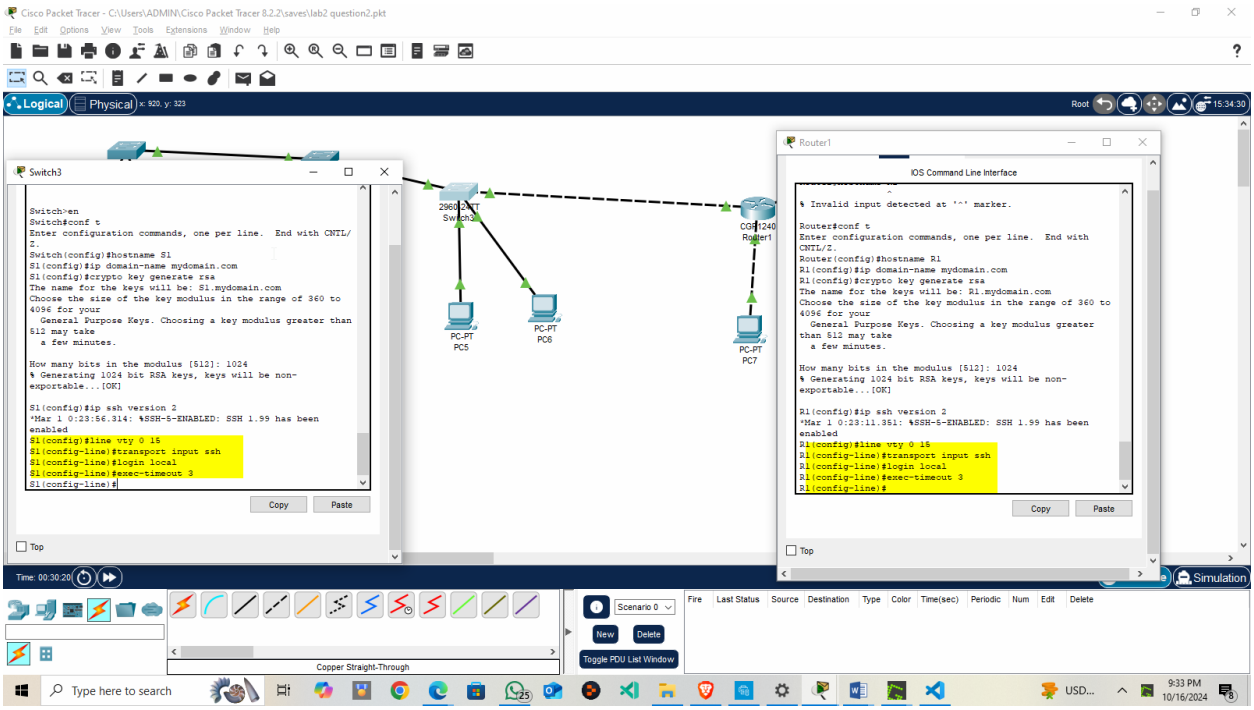
conf t

line vty 0 15

transport input ssh

login local

exec-timeout 3



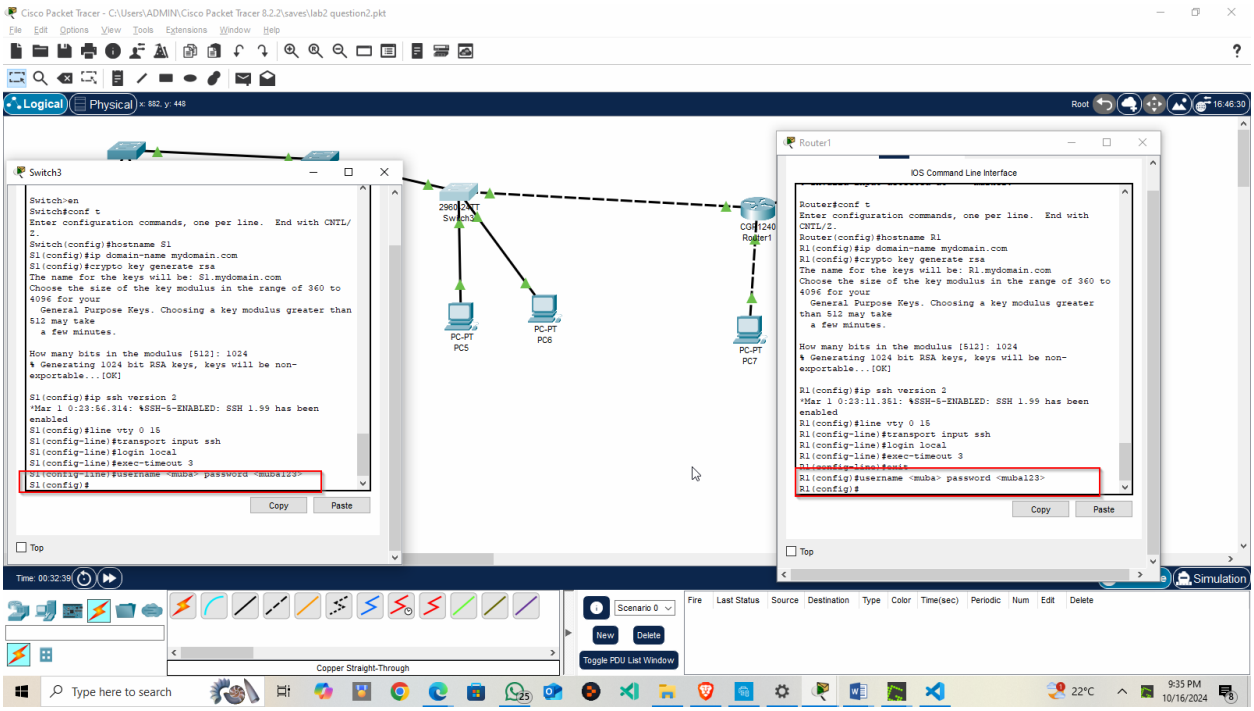
6. Configure User Account

On the Router:

en
conf t
username <muba> password <muba123>

On the Switch:

en
conf t
username <muba> password <muba123>



7. Configure IP Address for Device Management

Router

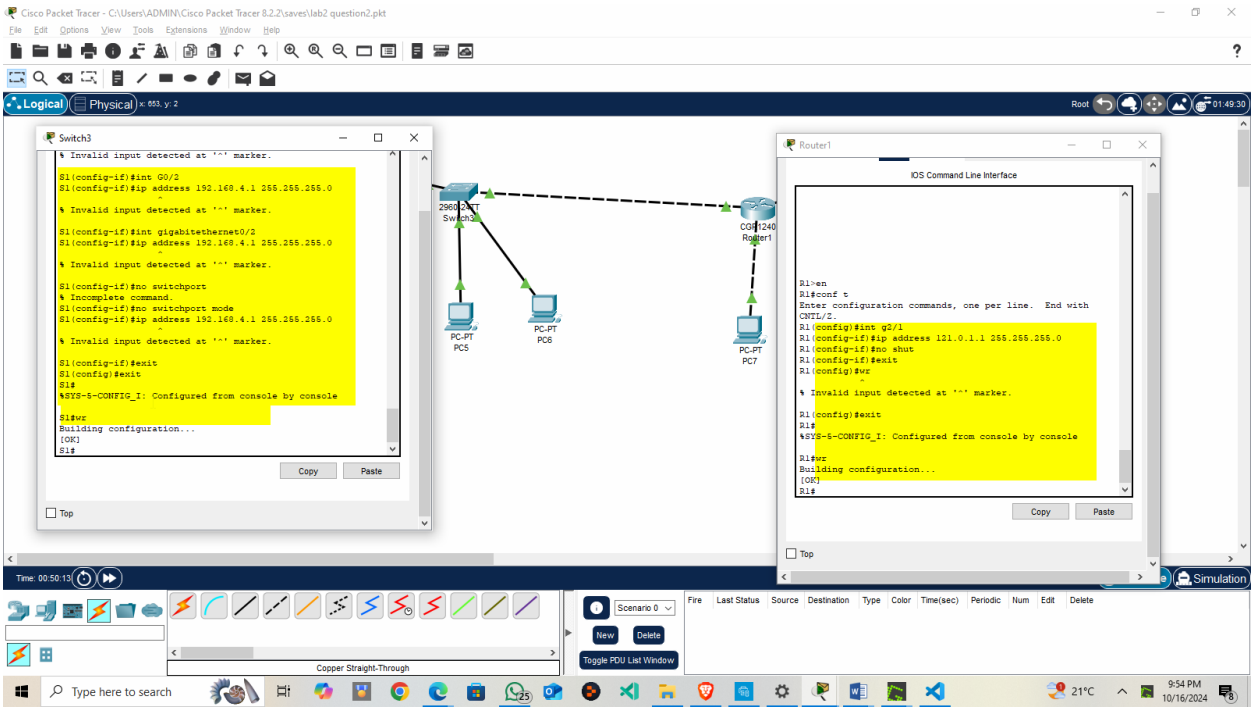
en

conf t
int g2/1
ip address 121.0.1.1 255.255.255.0
no shut
exit

- **Switch**

en

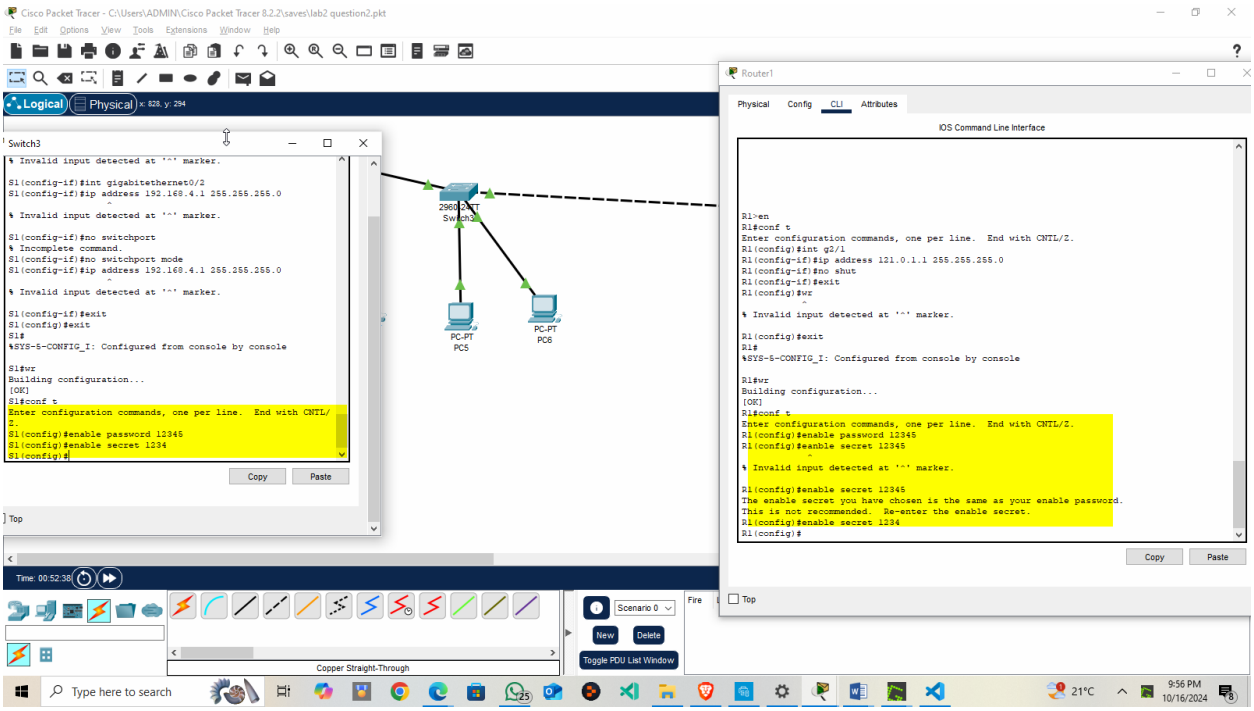
conf t
int Fa0/2
ip address 192.168.4.1 255.255.255.0
no shut
Exit



8. Configure Privileged Mode Password

en
conf t
enable password <password>

enable secret <password>



9. Verify Configuration

Video demo

en

show running-configuration

https://drive.google.com/file/d/1tdNIOTyZVV2xSijETcq4xqnpEWxyi9ph/view?usp=sharing

10. Test SSH Connection

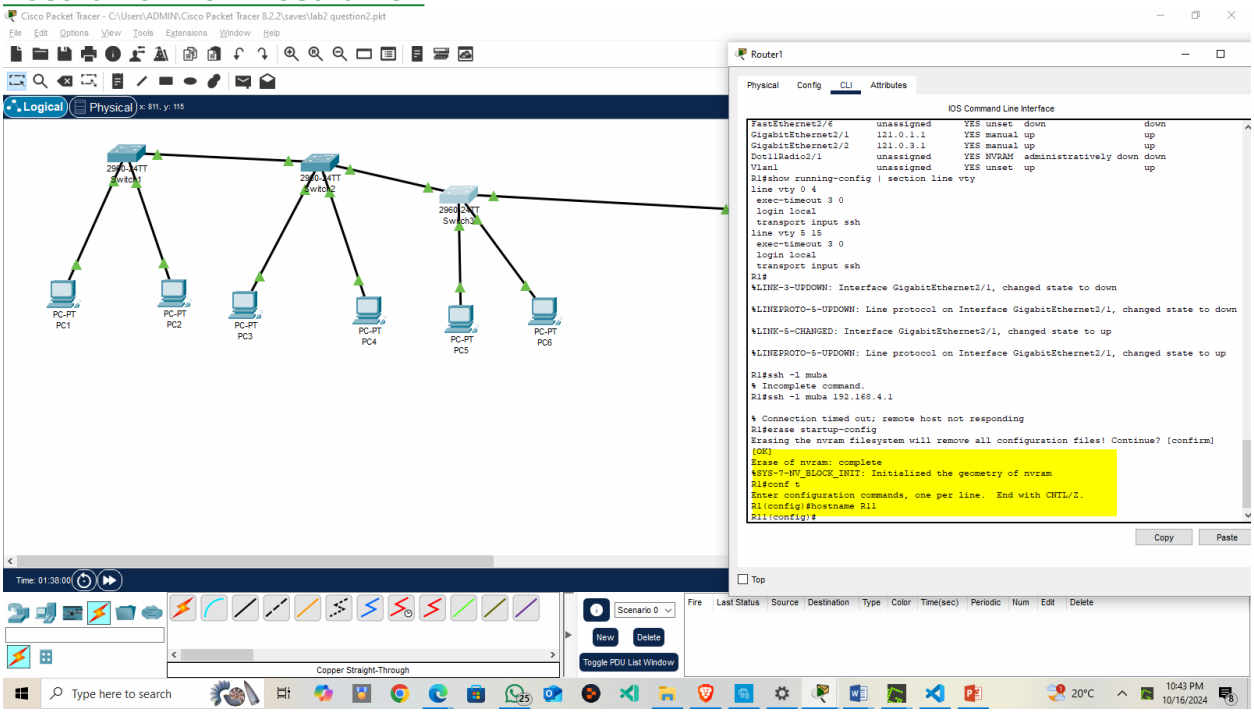
ssh -l <username> <IP address of switch or router>

https://drive.google.com/file/d/1K6EM2YebfwDxwuTy0dKqXRl4x6P6yQRp/view?usp=sharing

11. Erase Startup Configuration

en

erase startup-config && 12. Change Hostname Using CLI
en
conf t
hostname <new-hostname>



Instructions

- **Group assignment (Groups of 10)**
- **Question 1 parts A, B and C to be submitted by wednesday 18th October 2024: latest by 1:00 p.m.**
- **Remember to save your configurations with wr.**
    - **Router # wr**