



# Lab 5:

## *Remote Network Management (Telnet)*

Networks Management

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# Plan:

# Lab Objectives:

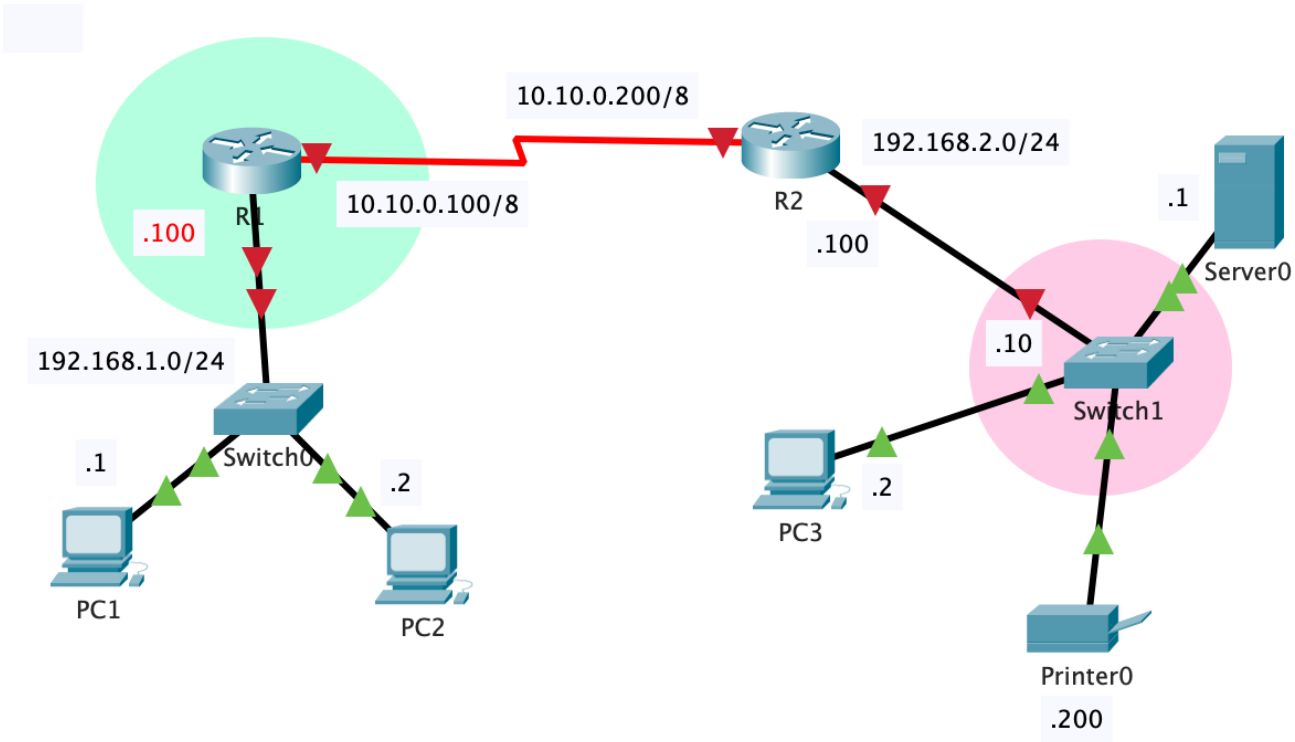


Configuration and Administration of a network equipment:

- Using the Packet-tracer interface (**CLI**) (already used in previous lab sessions),
- Then, through a console cable,
- And through any PC using the **Telnet** service.
- Use of certain testing and verification commands that the network Manager should use to manage the equipment on his network.

# Step 1

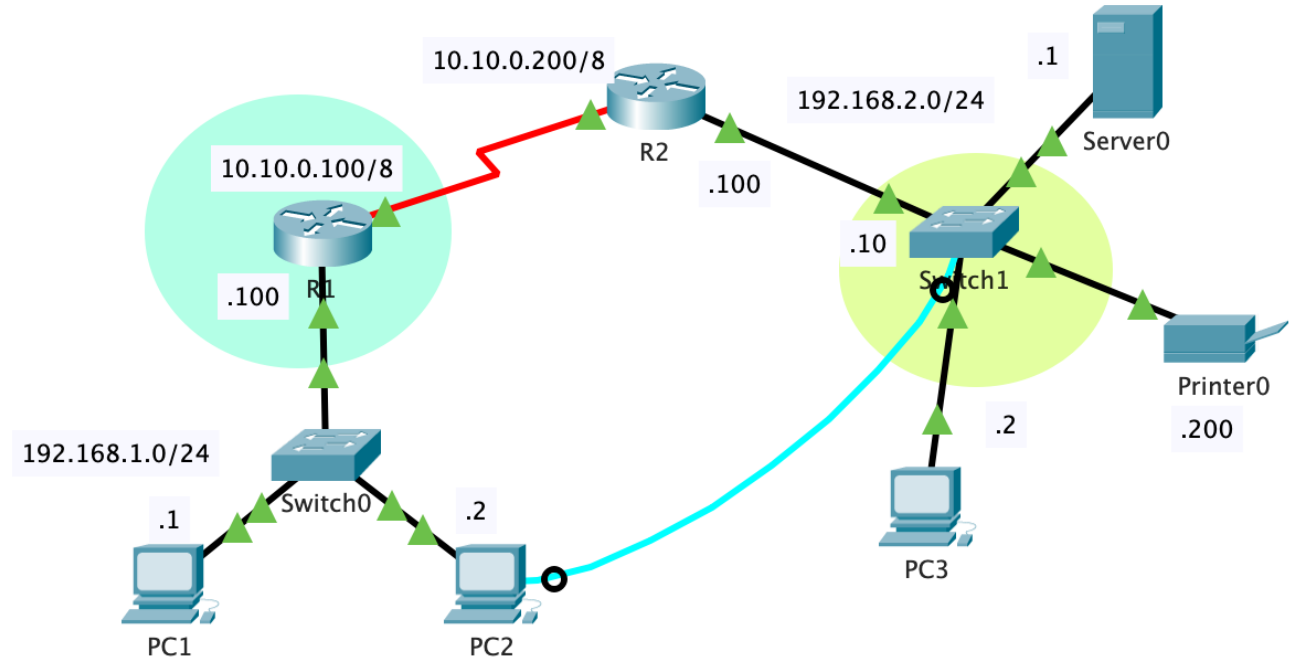
Create the network shown in Figure 1 below:




- Use the configuration interface of the Packet-Tracer simulation tool,
- Configure the PCs, switches, and routers,
- Verify connectivity.

# Step 2

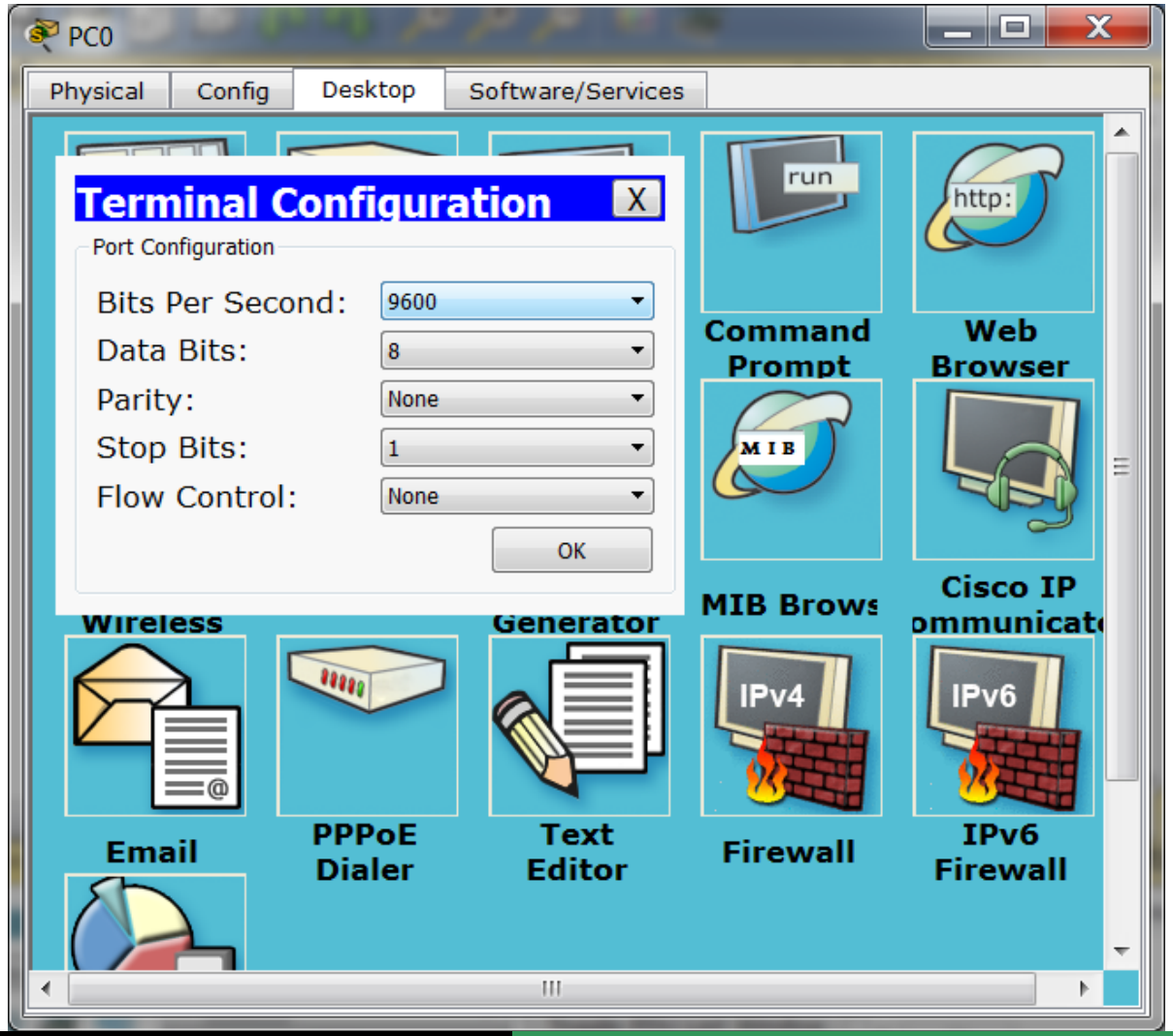
- Connect a **console cable** between switch1 and PC2 as shown in the figure below.
- Open a terminal window from PC2 (figure on the next slide).
- Configure Switch1 by creating two VLANs: **Vlan10** and **Vlan20**.
- Verify by displaying the configuration of Switch1 on PC2.



# Step 2



Validate without changing these settings:



# Step 3



- Use a remote machine such as a PC to configure a device.
- The **Telnet** application or *HyperTerminal* is used to open a dialogue (simply one or more virtual lines) on a remote device and allows it to be managed and configured.
- Before you can use Telnet, a Client account must be created on the destination machine.
- In this configuration, use a **Telnet** client with a password(see slide 11): "**licenceGL**" on the **R1** and **Switch1**, and access it :
  1. from **PC2** to create a **vlan 30** on **Switch1**.
  2. from **PC3** to create a **vlan 10** on the **R1** router.
  3. Display the configurations of both devices.

# Questions:



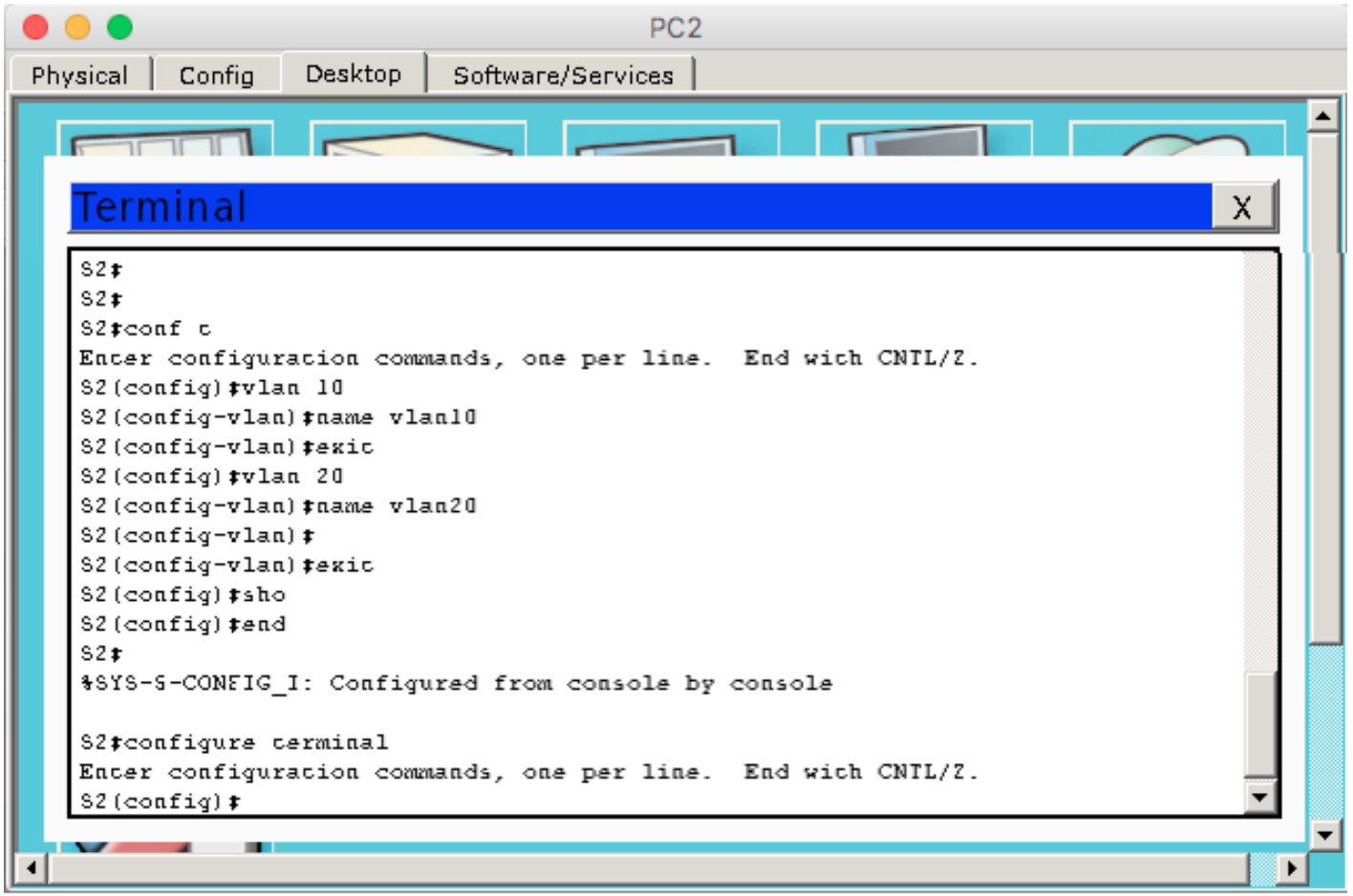
Here are some questions that need to be answered:

1. Which equipment can be configured from the terminal of PC2?
2. What are the results of executing the following commands:
   1. From the command prompt of PC1:
      1. PC1> ipconfig
      2. PC1> ping 10.0.0.100
      3. PC1> Tracert 192.168.2.100
      4. PC1> telnet 192.168.2.100
   2. From the CLI of R1:
      1. R1# ping 192.168.2.100
      2. R1# show cdp neighbors
   3. From the CLI of Switch1:
      1. SW1# ping 192.168.2.100
      2. SW1# show cdp neighbors

# Via Console Cable



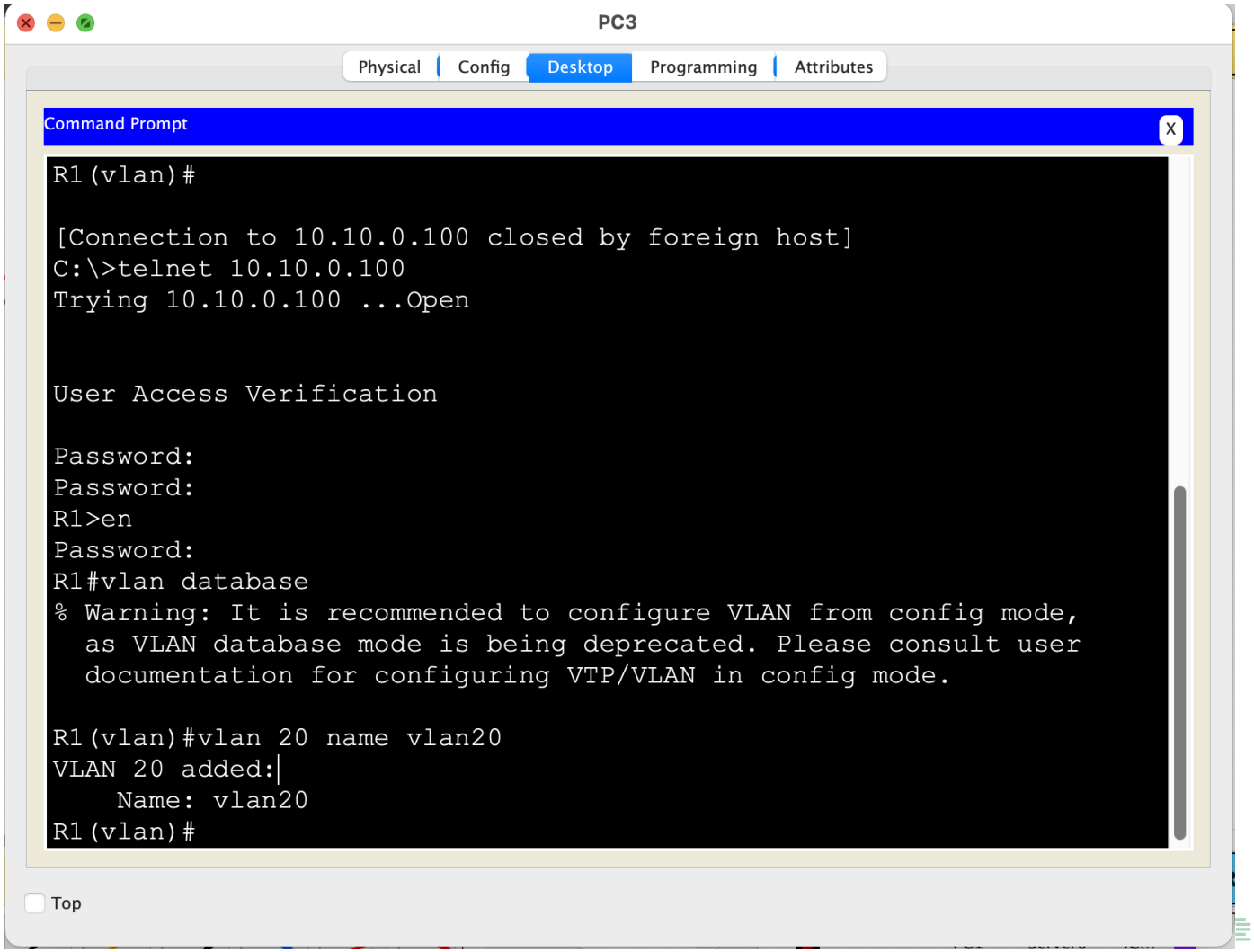
## Access and administration via terminal:



# Via Telnet Account



## Access and administration via virtual terminal (telnet):



# Configuring a Telnet Client



- To configure a Telnet client, you need to follow the following commands in order (this is valid for a router or a switch).

Switch(config)# **service password-encryption**
Switch(config)# **line vty 0 4**
Switch(config-line)# **password** <your-password>
Switch(config-line)# **login**
Switch(config-line)# **exit**

- This command assign a password to **enable mode** (you can keep the same password given in the previous commands!)

Switch(config)# **enable password** <your-password>

# Assigning an IP address to a Switch



To configure a Telnet client on a switch, you need to assign it an IP address. Since the physical interfaces of the switch are not configurable, you can assign an IP address to one of its VLANs.

This address must belong to the switch's network so that the router can route messages correctly. Therefore, you must first assign an address to the default VLAN, vlan1: Switch(config)#**interface vlan 1**

Switch(config-if)# **ip address** <IP-address> <subnet-mask>
Switch(config-if)# **no shutdown**
Switch(config)# **ip default-gateway** <IP-address>
Switch(config)# **exit**

# Adding vlans to a router





To add (delete or modify) a vlan to a router, you have to execute these commands:

Router#**vlan database**
Router(vlan)#**vlan** <vlan-number> **name** <vlan-name>