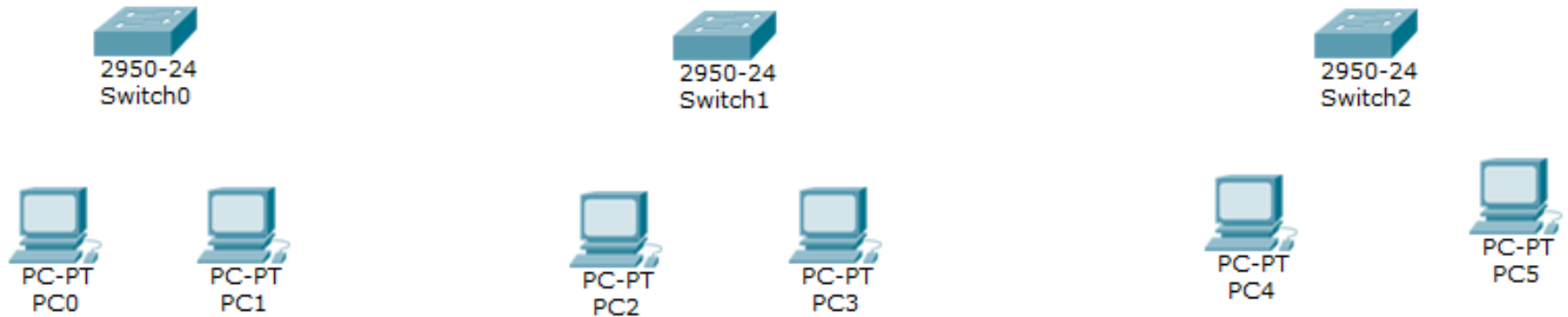
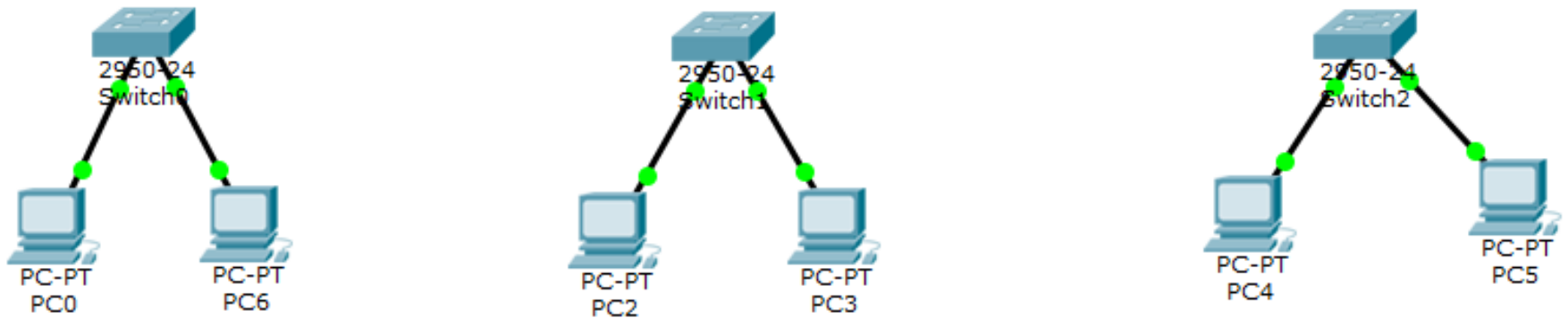
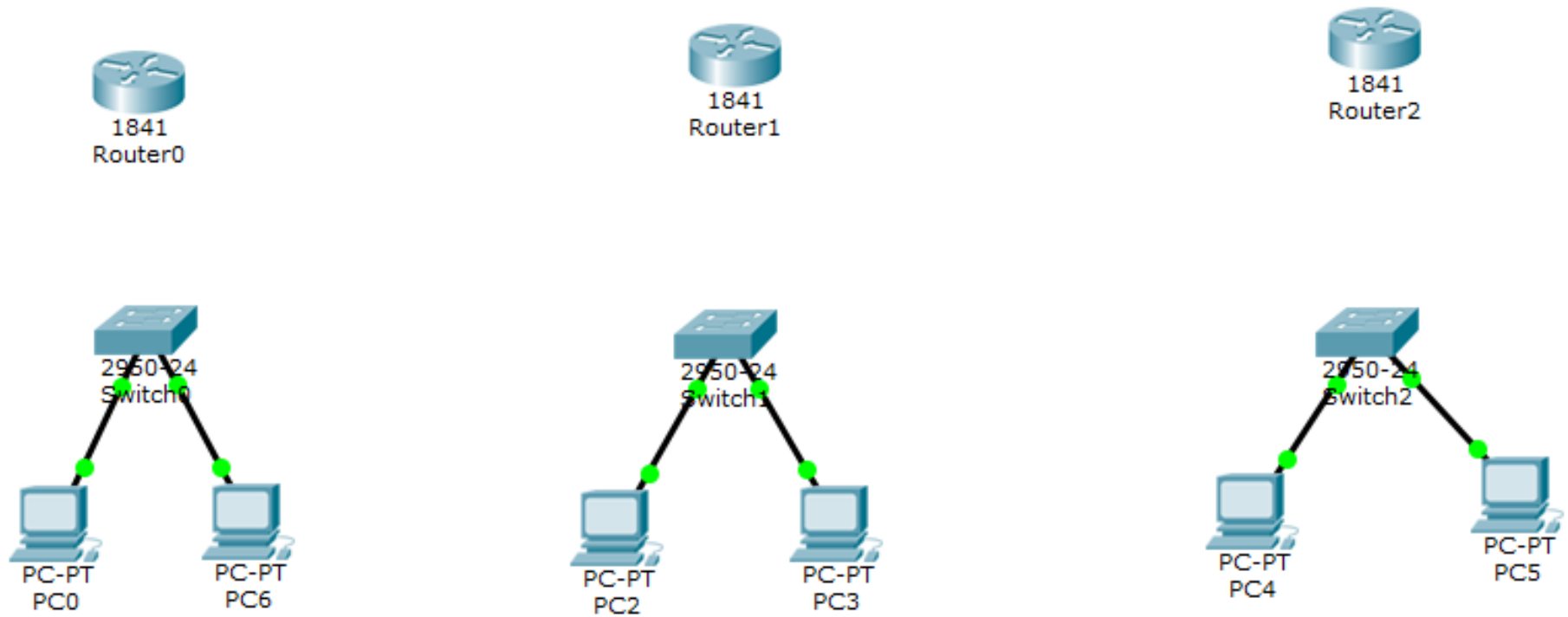


Assignment 7: Configuration of RIP (routing information protocol) dynamic routing using three routers, three switches and six PC

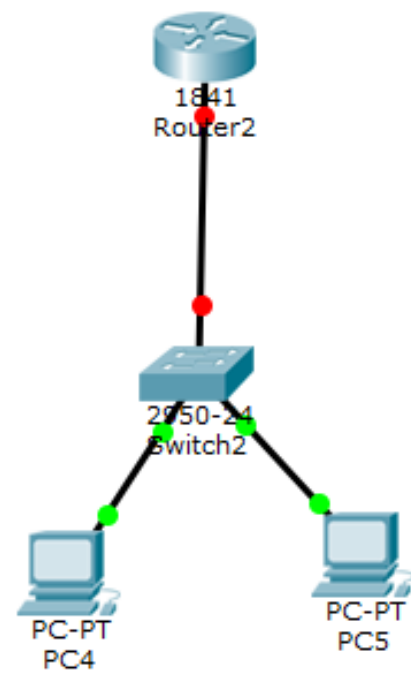
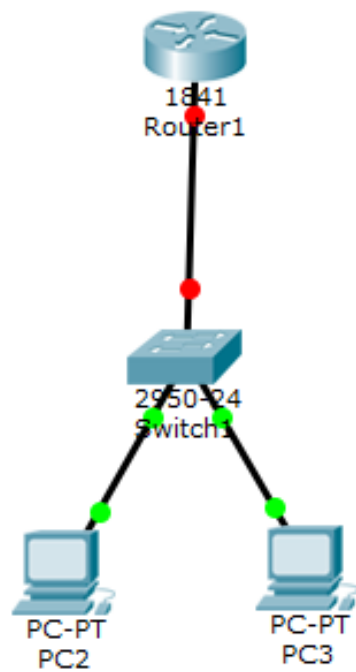
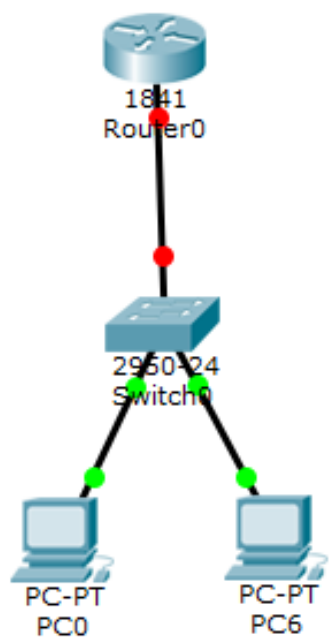


Connect them using copper straight through wires.

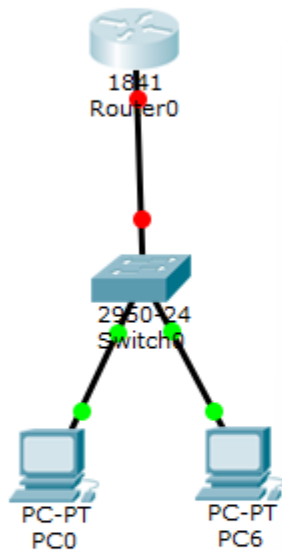




Connect switches to fastethernet0 port of each router using copper straight through wires.



Go to router configuration, it will allow only two wires to connect in two port.



Router0

PhysicalConfigCLI

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

Global Settings

Display NameRouter0

HostnameRouter

NVRAM

Erase

Save

Startup Config

Load...

Export...

Running Config

Merge...

Export...

Equivalent IOS Commands

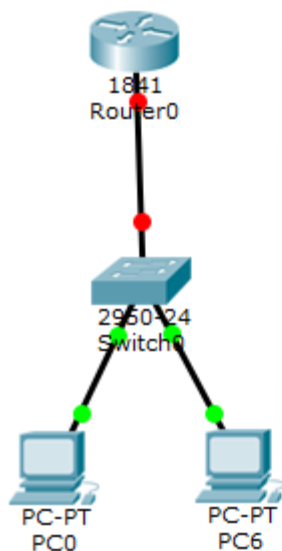
--- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: n

Press RETURN to get started!

Toggle PDU List Window

We need to add extra port to all the router. Go to physical mode of each router. Click WIC-2T. Turn off the switch. Take extra ports from bottom and place it. Turn on the switch again.



Router1

Physical Config CLI

MODULES

HWIC-2T

HWIC-4ESW

HWIC-8A

HWIC-AP-AG-B

WIC-1AM

WIC-1ENET

WIC-1T

WIC-2AM

WIC-2T

WIC-Cover

Physical Device View

Zoom In

Original Size

Zoom Out

Customize Icon in Physical View

Customize Icon in Logical View

er Cycle Devices

Fast Forward Time

⚡

⤵

✍

⏸

The dual-serial port WAN interface cards (WICs) feature Cisco's new, compact, high-density Smart Serial connector to support a wide variety of electrical interfaces when used with the appropriate transition cable. Two cables are required to support the two ports on the WIC. Each port on a WIC is a different physical interface and can

Link

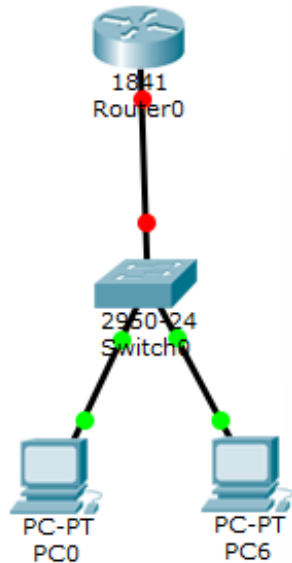
Serial

Serial

WIC

Toggle PDU List Window

You can see two extra serial ports are there.



Router1

Physical Config CLI

GLOBAL

- Settings
- Algorithm Settings

ROUTING

- Static
- RIP

SWITCHING

- VLAN Database

INTERFACE

- FastEthernet0/0
- FastEthernet0/1
- Serial0/0/0
- Serial0/0/1

Global Settings

Display Name Router1

Hostname Router

NVRAM Erase Save

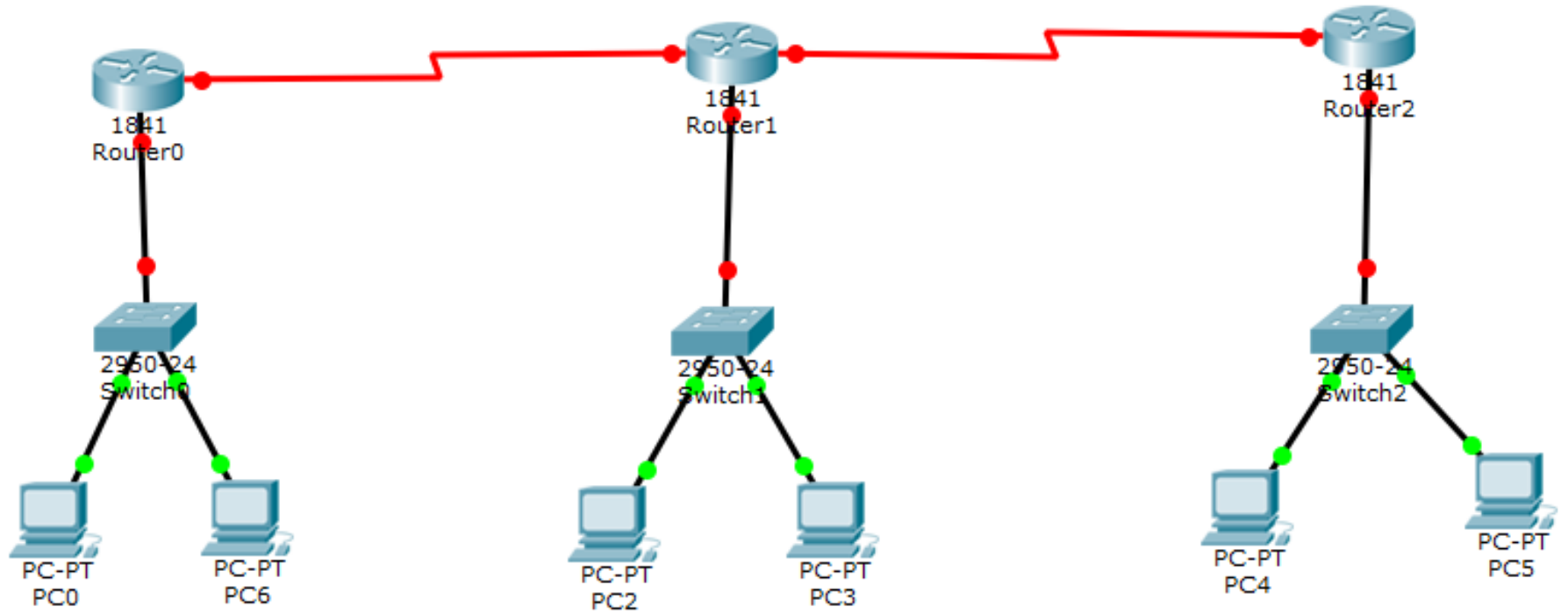
Startup Config Load... Export...

Running Config Merge... Export...

Equivalent IOS Commands

```
--- System Configuration Dialog ---  
Continue with configuration dialog? [yes/no]: n  
  
Press RETURN to get started!
```

Connect serial ports of router using serial DTE lines.



Cycle Devices Fast Forward Time

Scenario 0

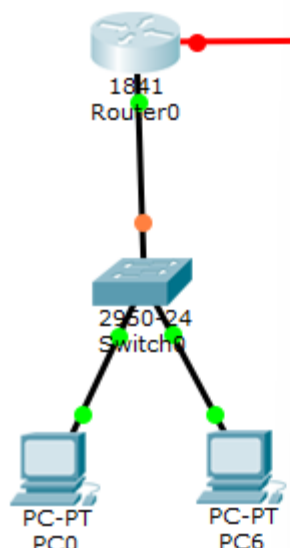
New Delete

Toggle PDU List Window

Serial DTE

Fire	Last Status	Sou
------	-------------	-----

Configure all the routers and pcs with IP address.



The network diagram shows a topology where Router0 (labeled 1841) is connected to a switch (labeled 2950-24). The switch is then connected to two PCs, labeled PC0 and PC6. A red line indicates a connection between Router0 and the switch.

Router0 Configuration Window

Physical Config CLI

FastEthernet0/0

Port Status ☒ On
Bandwidth ☐ 100 Mbps ☐ 10 Mbps ☒ Auto
Duplex ☐ Half Duplex ☐ Full Duplex ☒ Auto
MAC Address 0009.7C48.0301

IP Configuration

IP Address 192.168.1.1
Subnet Mask 255.255.255.0

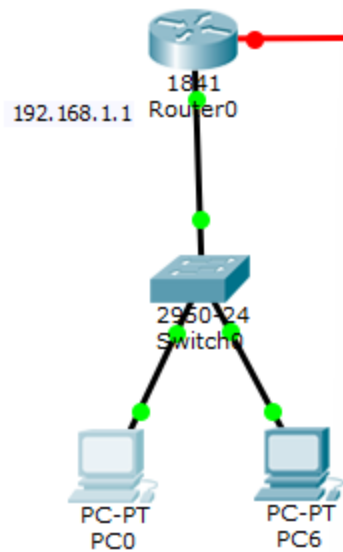
Tx Ring Limit 10

Equivalent IOS Commands

```
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
```



PC0

Physical Config Desktop Custom Interface

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address

Subnet Mask

Default Gateway

DNS Server

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

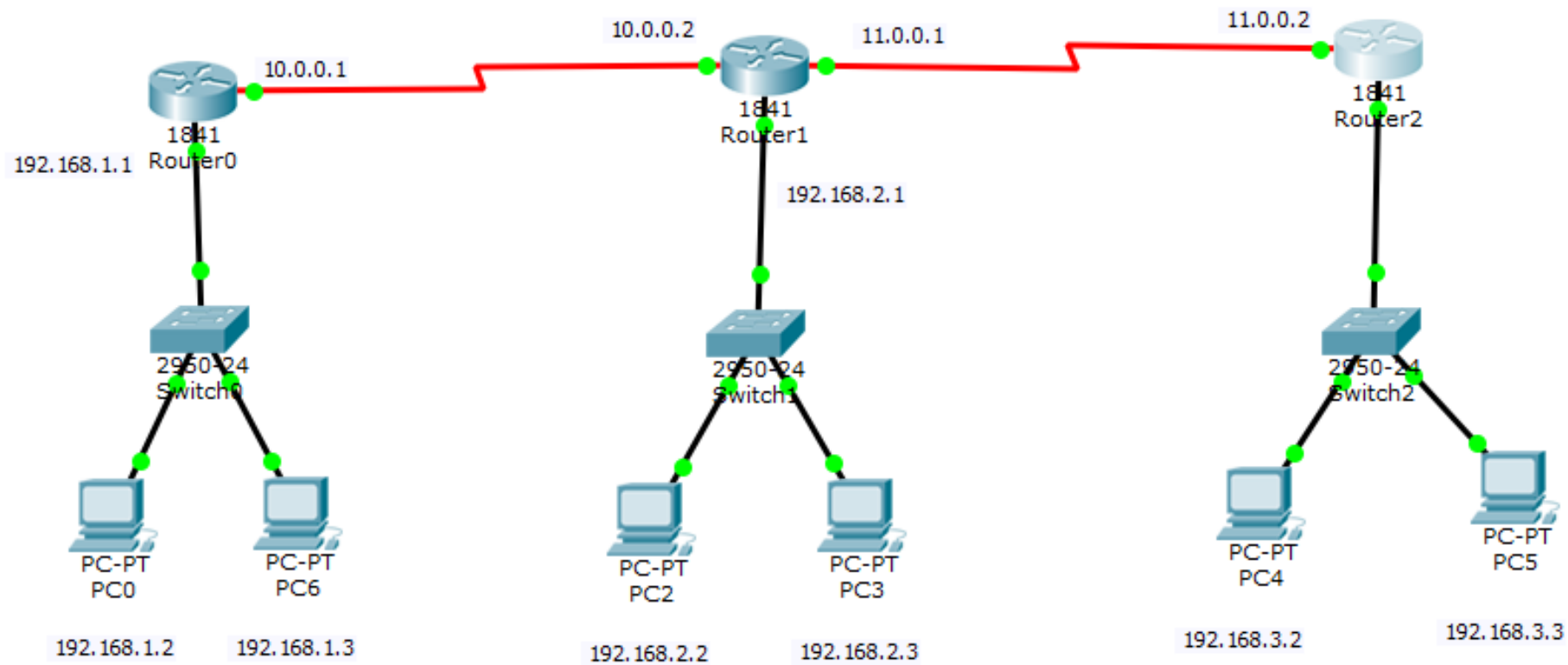
Link Local Address

IPv6 Gateway

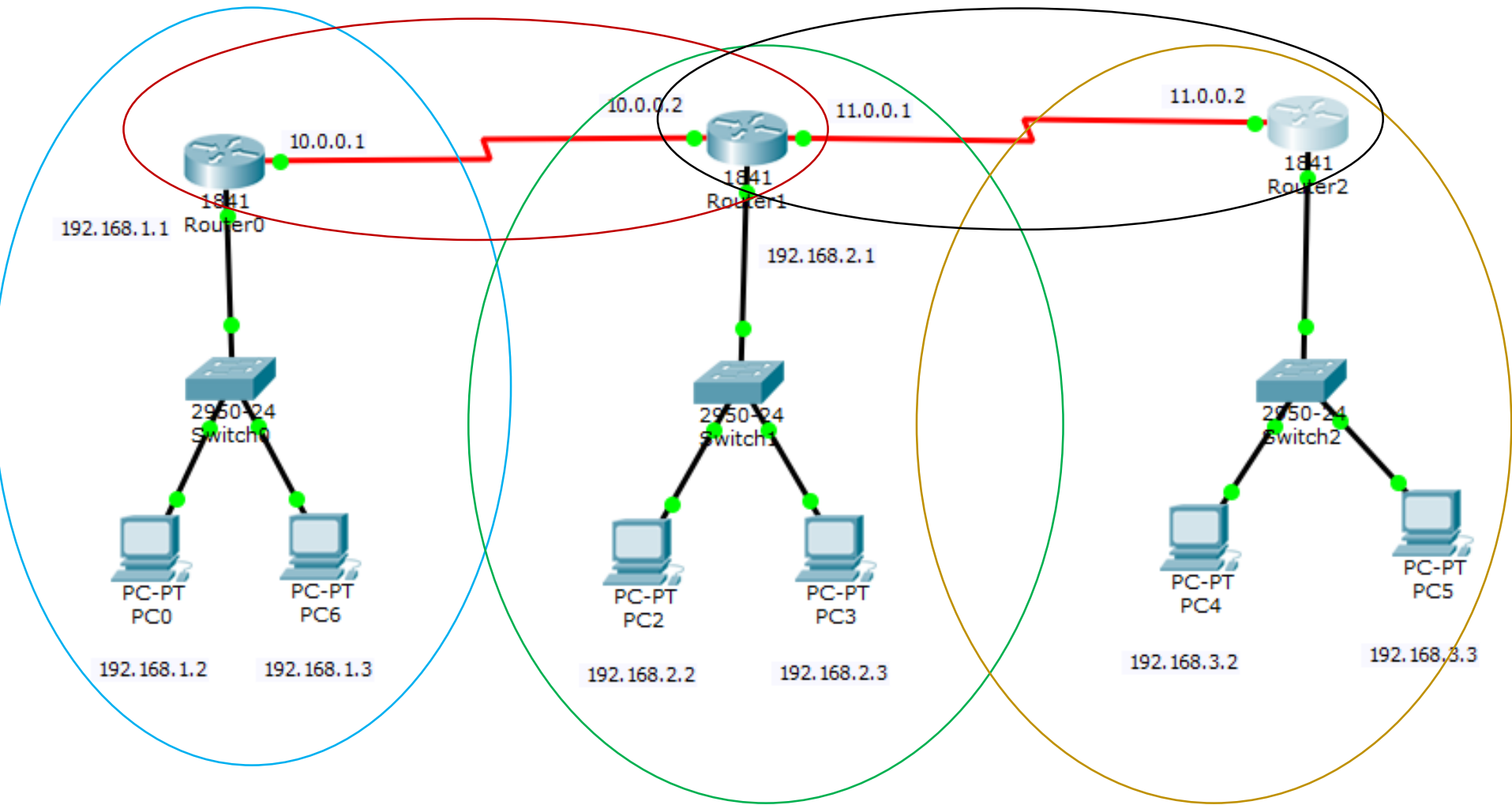
IPv6 DNS Server

Power Cycle Devices Fast Forward Time

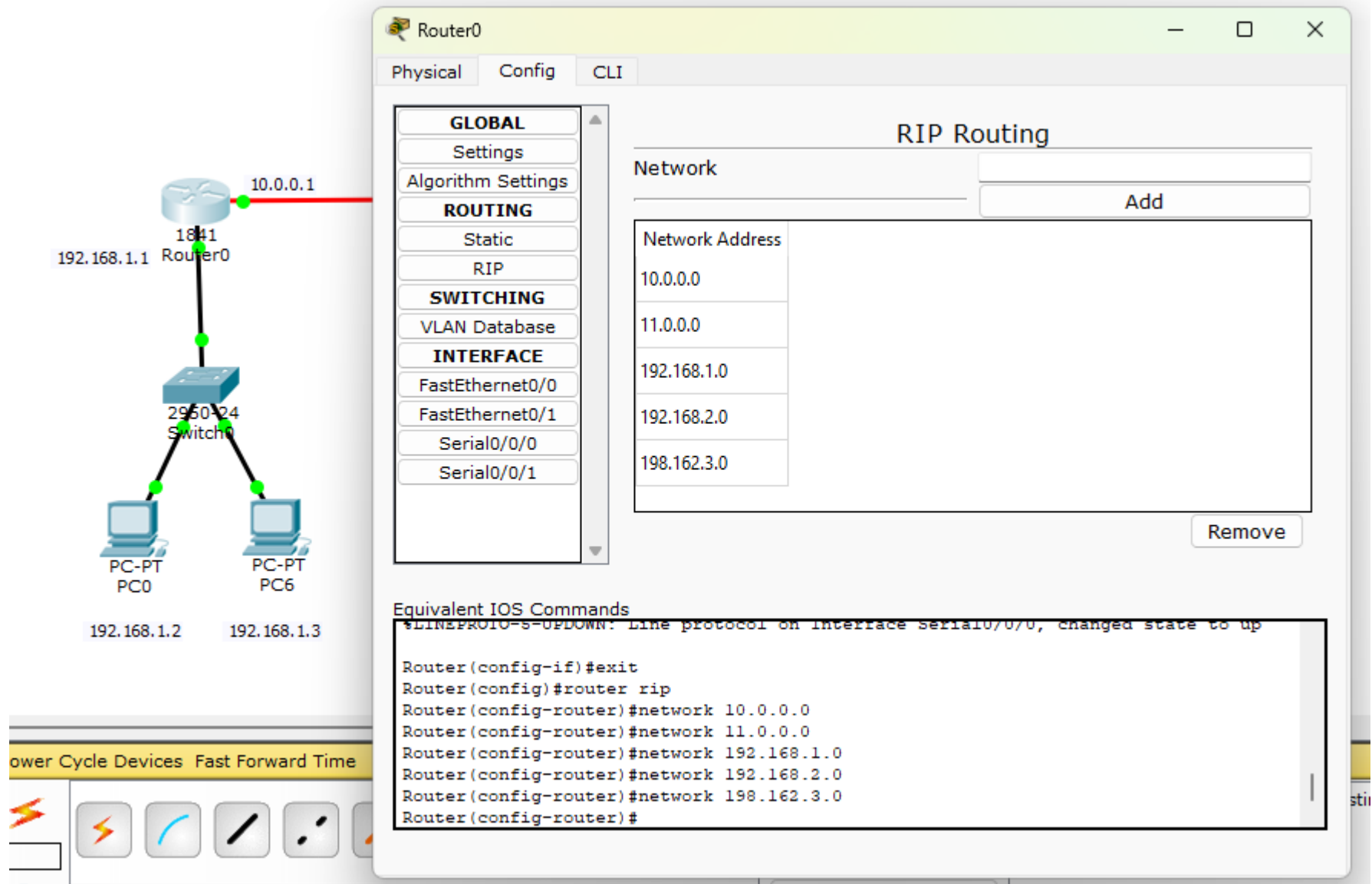
stn



Now we can configure dynamic routing before sending data.



We will add network to each router. Click on router. Go to configure mode. Click RIP. Add different networks.



The image displays a network diagram on the left and a configuration window for Router0 on the right.

Network Diagram:

- Router0:** IP 10.0.0.1, connected to a switch via a red line.
- Switch:** IP 192.168.1.1, connected to Router0 and two PCs.
- PC-PT PC0:** IP 192.168.1.2, connected to the switch.
- PC-PT PC6:** IP 192.168.1.3, connected to the switch.

Router0 Configuration Window:

The window has tabs for Physical, Config, and CLI. The Config tab is active, showing a tree view on the left with categories: GLOBAL, ROUTING, SWITCHING, and INTERFACE. The ROUTING category is expanded, showing options for Static and RIP. The RIP option is selected.

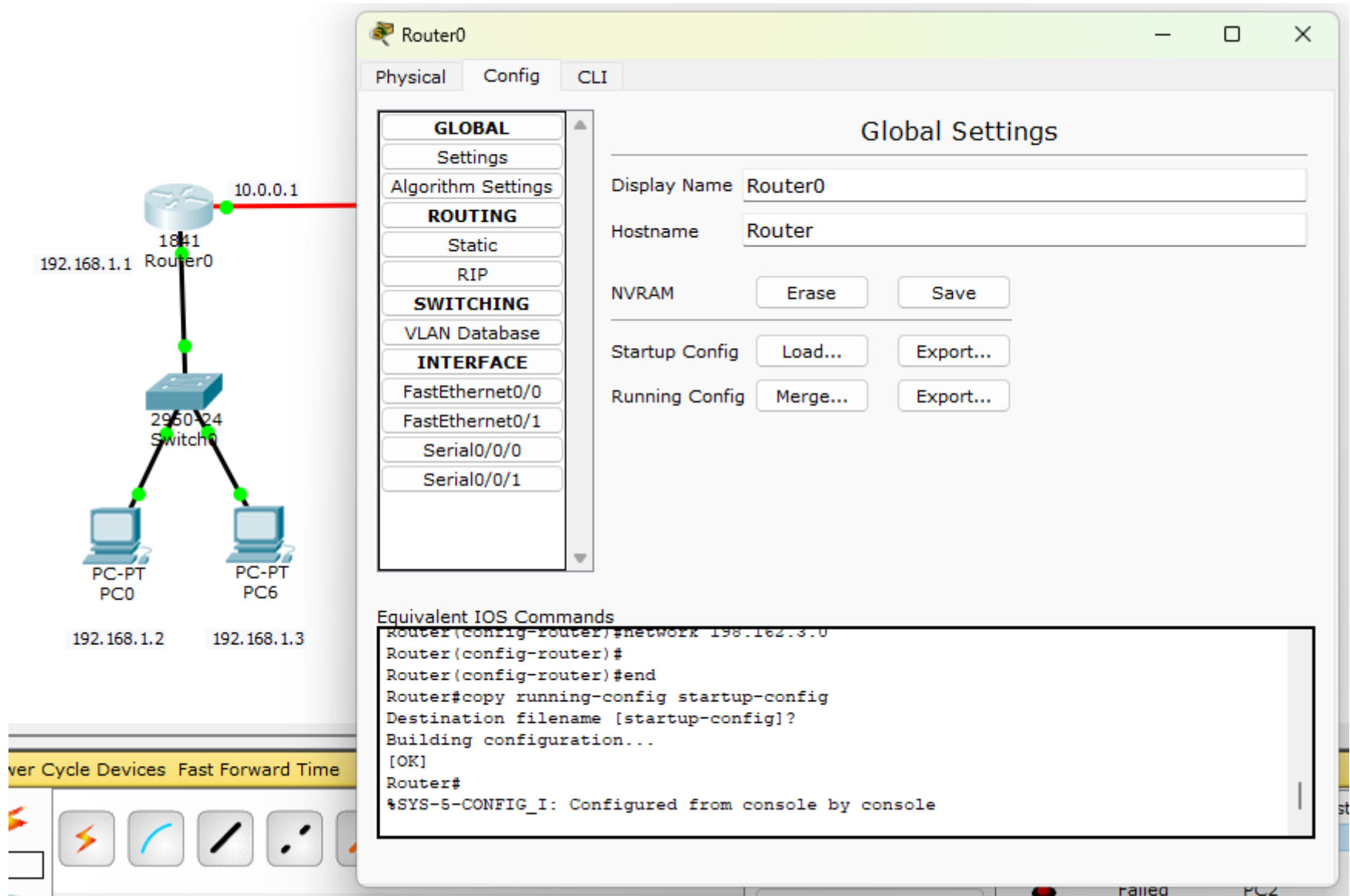
The main area is titled "RIP Routing" and contains a table for adding networks:

Network Address
10.0.0.0
11.0.0.0
192.168.1.0
192.168.2.0
198.162.3.0

Buttons for "Add" and "Remove" are present. Below the table is a section for "Equivalent IOS Commands" showing the following commands:

```
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 10.0.0.0
Router(config-router)#network 11.0.0.0
Router(config-router)#network 192.168.1.0
Router(config-router)#network 192.168.2.0
Router(config-router)#network 198.162.3.0
Router(config-router)#
```


Now go to setting and click on save button.



The image displays a network diagram on the left and a configuration window for 'Router0' on the right.

Network Diagram:

- A central router labeled 'Router0' with IP '10.0.0.1' is connected to a switch labeled '2950-24 Switch'.
- The switch is connected to two PCs: 'PC-PT PC0' (IP '192.168.1.2') and 'PC-PT PC6' (IP '192.168.1.3').
- Router0 also has a connection to a network labeled '192.168.1.1'.

Router0 Configuration Window:

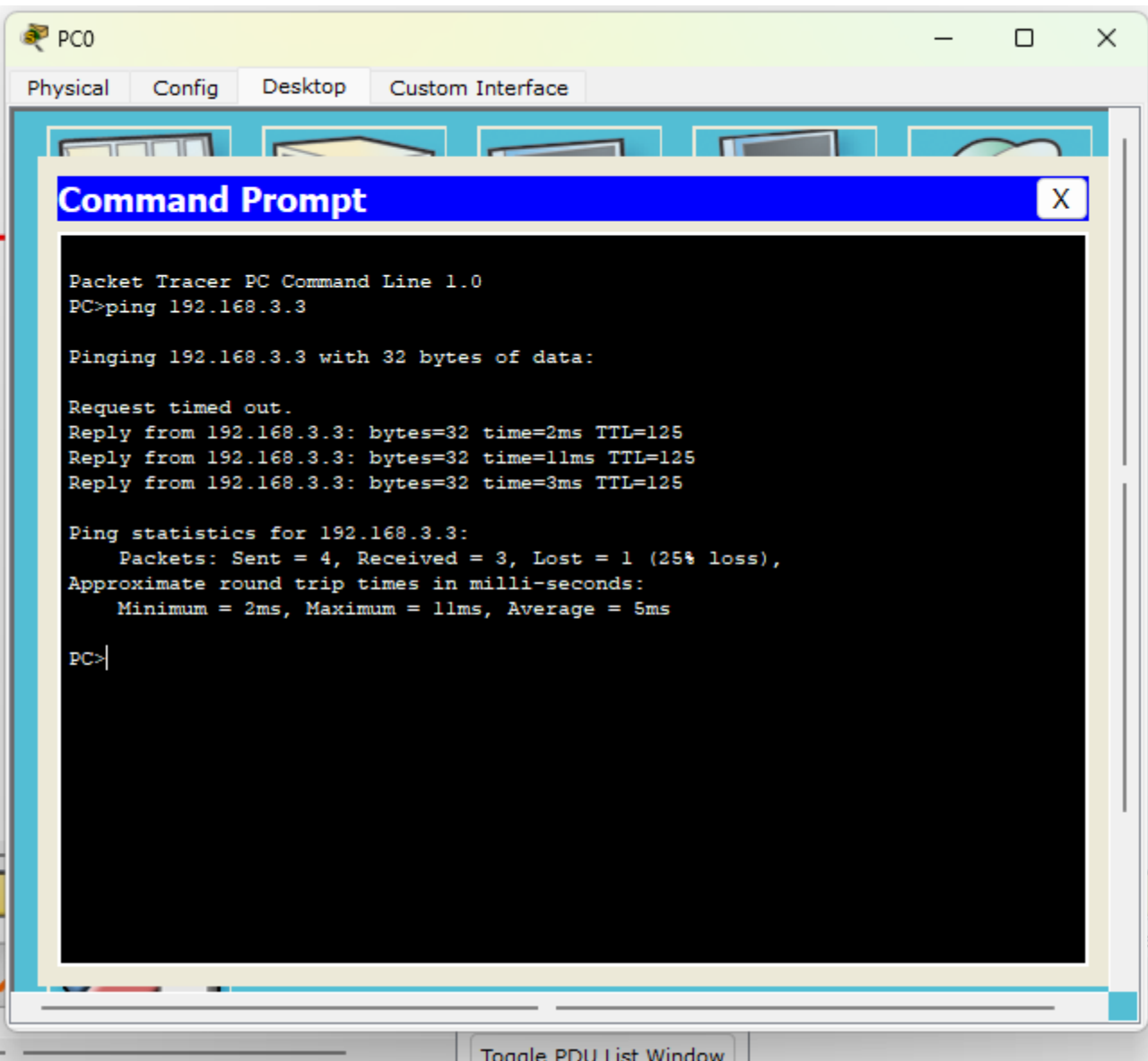
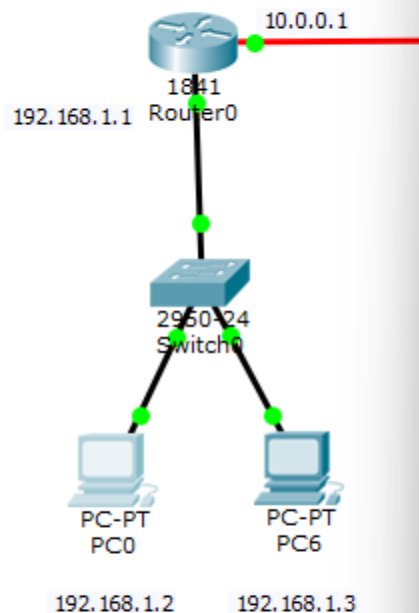
The window has tabs for 'Physical', 'Config', and 'CLI'. The 'Config' tab is active, showing 'Global Settings'.

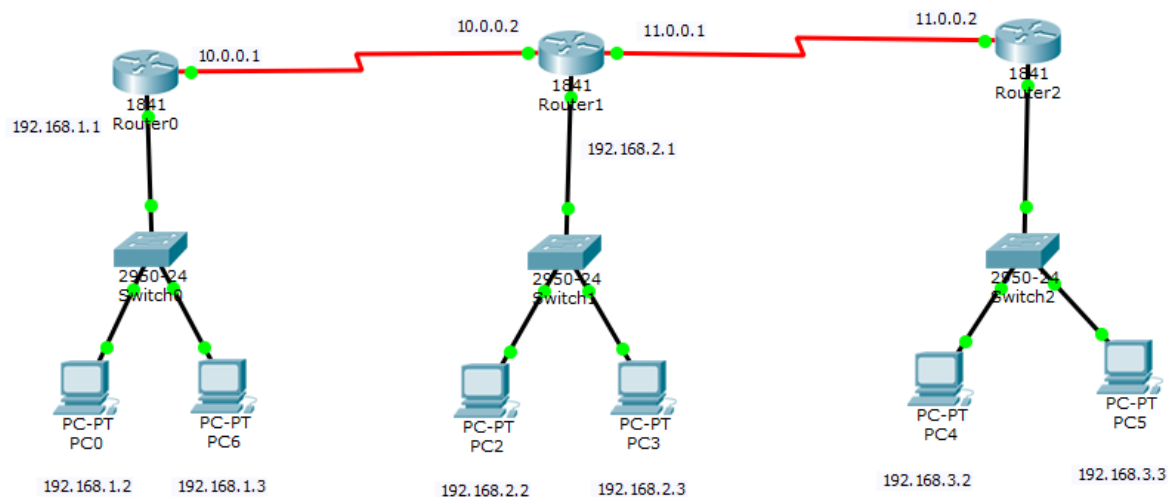
Global Settings:

- Display Name: Router0
- Hostname: Router
- NVRAM: Erase, Save
- Startup Config: Load..., Export...
- Running Config: Merge..., Export...

Equivalent IOS Commands:

```
Router(config-router)#network 192.168.1.0
Router(config-router)#
Router(config-router)#end
Router#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Router#
%SYS-5-CONFIG_I: Configured from console by console
```





Power Cycle Devices Fast Forward Time

Realtime

Serial DTE

Scenario 0

New Delete

Toggle PDU List Window

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
	Failed	PC0	PC2	ICMP		0.000	N	1
	Failed	PC2	PC4	ICMP		0.000	N	2
	Successful	PC0	PC2	ICMP		0.000	N	3

FNG

08:00