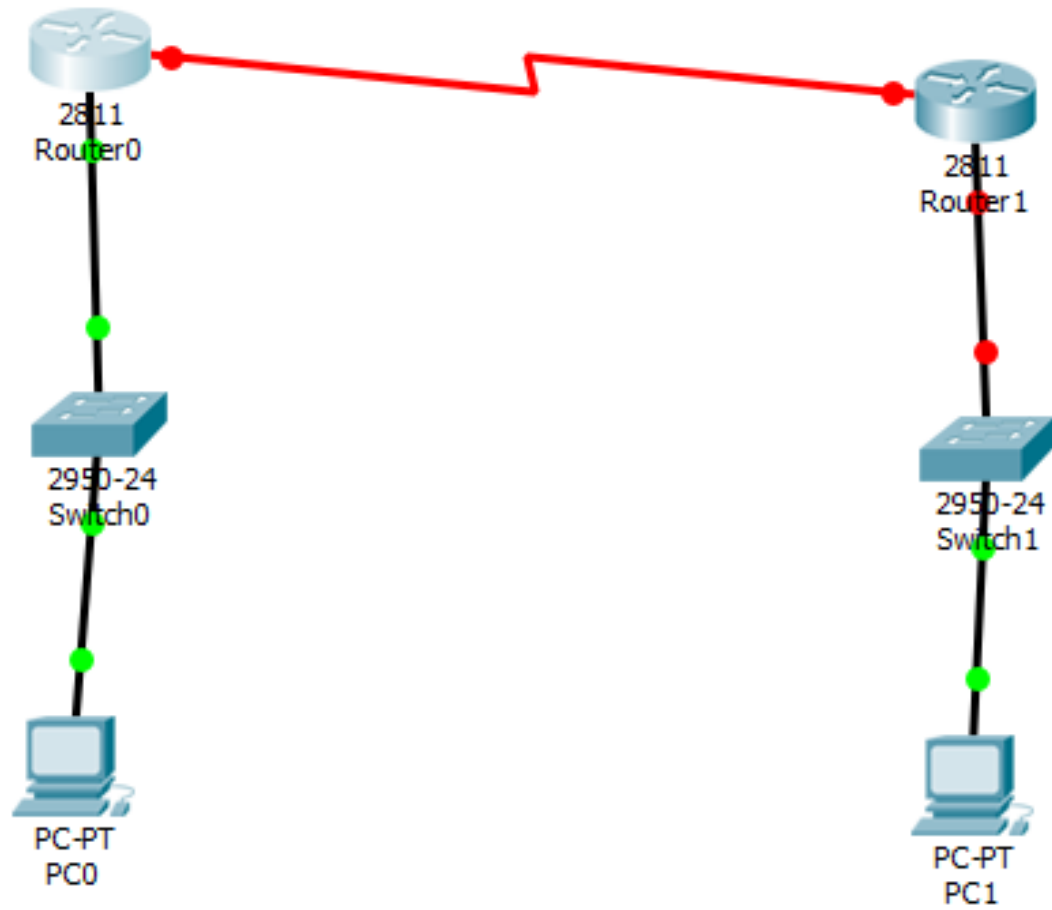


# Cloud Computing and Virtualization Lab

**Presented by:**  
Saurabh Singhal  
Assistant Professor

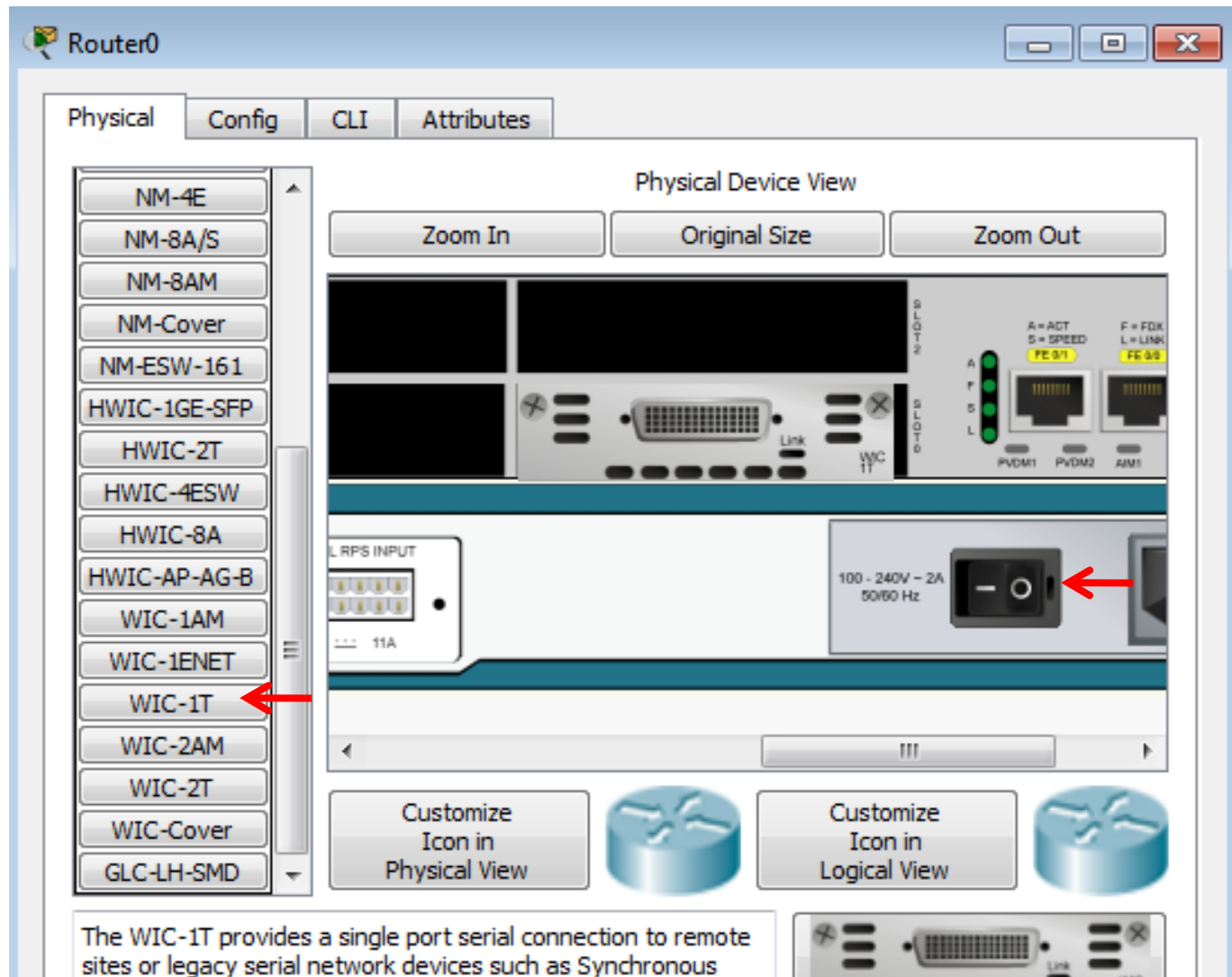
# Static Routing

- 2 routers-2811
- 2 switch-2950-24
- 2 PC
- cables



# Static Routing

- Click on Router and add WIC-1T to it
- Do it for both the routers



# Static Routing

- Click on Router0 and Type:
  - No
  - **Router>en**
  - **Router#conf t**
  - **Router(config)#int s0/0/0**
  - **Router(config-if)#ip address 192.168.30.1 255.255.255.0**
  - **Router(config-if)#clock rate 72000**
  - **Router(config-if)#no sh**
  - **Router(config-if)#int fa0/0**
  - **Router(config-if)#ip address 192.168.10.1 255.255.255.0**
  - **Router(config-if)#no sh**
  - **Router(config-if)#ctrl+Z**
  - **Router#copy running-config startup-config**
  - Destination filename [startup-config]?
  - Building configuration...
  - [OK]

# Static Routing

- Click on Router 1 and type:
  - No
  - **Router>en**
  - **Router#conf t**
  - **Router(config)#int s0/0/0**
  - **Router(config-if)#ip address 192.168.30.2 255.255.255.0**
  - **Router(config-if)#no sh**
  - **Router(config-if)#int fa0/0**
  - **Router(config-if)#ip address 192.168.20.1 255.255.255.0**
  - **Router(config-if)#no sh**
  - **Router(config-if)#ctrl+z**
  - **Router#copy running-config startup-config**
  - Destination filename [startup-config]?
  - Building configuration...
  - [OK]
  - **Router#**

# Static Routing

- Click on router0 and type:
  - **Router#**
  - **Router#conf t**
  - **Router(config)#ip route 192.168.20.0 255.255.255.0 192.168.30.2**
  - **Router(config)#ctrl+Z**
  - **Router#copy running-config startup-config**
  - Destination filename [startup-config]?
  - Building configuration...
  - [OK]
  - **Router#exit**

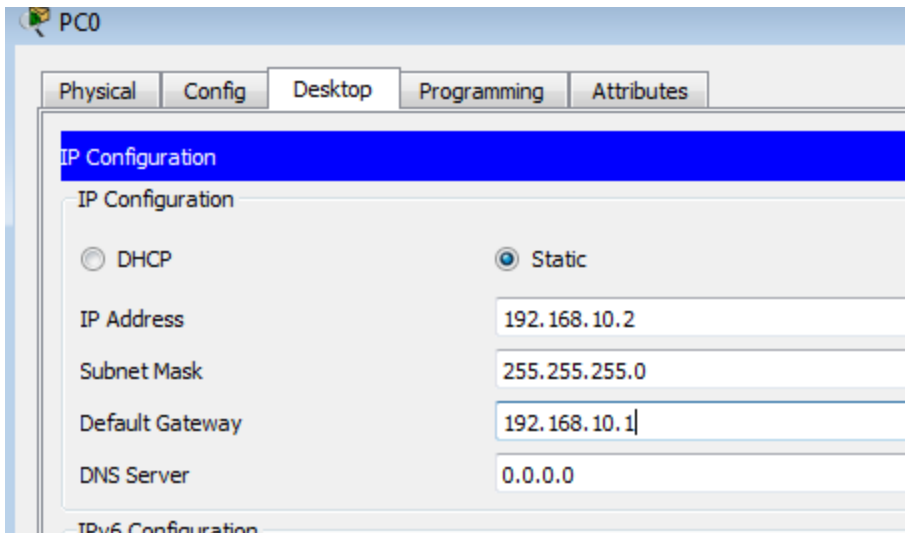
# Static Routing

- Click on router1 and type:
  - **Router#conf t**
  - **Router(config)#ip route 192.168.10.0 255.255.255.0 192.168.30.1**
  - **Router(config)#ctrl+Z**
  - **Router#copy running-config startup-config**
  - Destination filename [startup-config]?
  - Building configuration...
  - [OK]
  - **Router#exit**

# Static Routing

- Assign the following IP to systems

PC0



PC0

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address 192.168.10.2

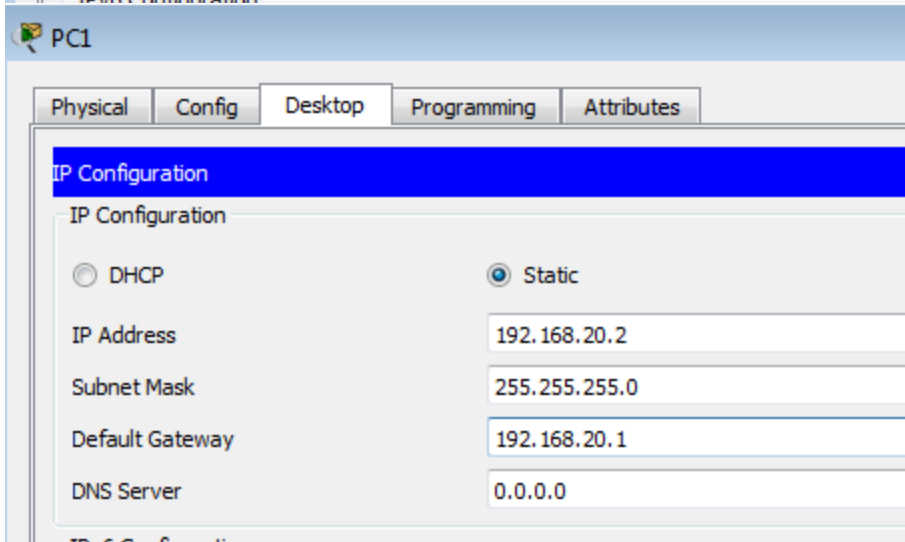
Subnet Mask 255.255.255.0

Default Gateway 192.168.10.1

DNS Server 0.0.0.0

IPv6 Configuration

PC1



PC1

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address 192.168.20.2

Subnet Mask 255.255.255.0

Default Gateway 192.168.20.1

DNS Server 0.0.0.0

IPv6 Configuration



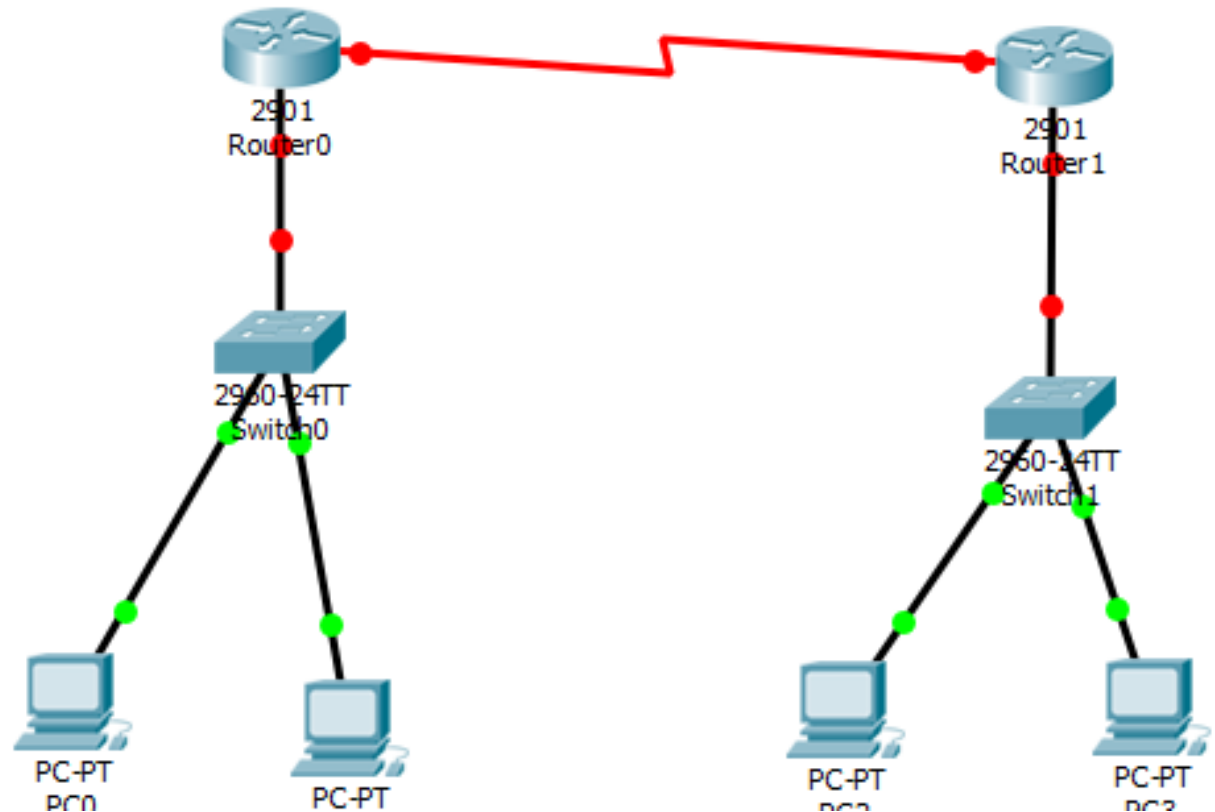
# Static Routing

- Ping the PC from each other

# Connect two different Networks with RIP

# Connect two different Networks with RIP

- 2 Routers – 2901
- 2 Switch – 2960
- PCs
- Cable



Physical

Config

CLI

Attributes

MODULES

HWIC-1GE-SFP

HWIC-2T

HWIC-4ESW

HWIC-8A

WIC-Cover

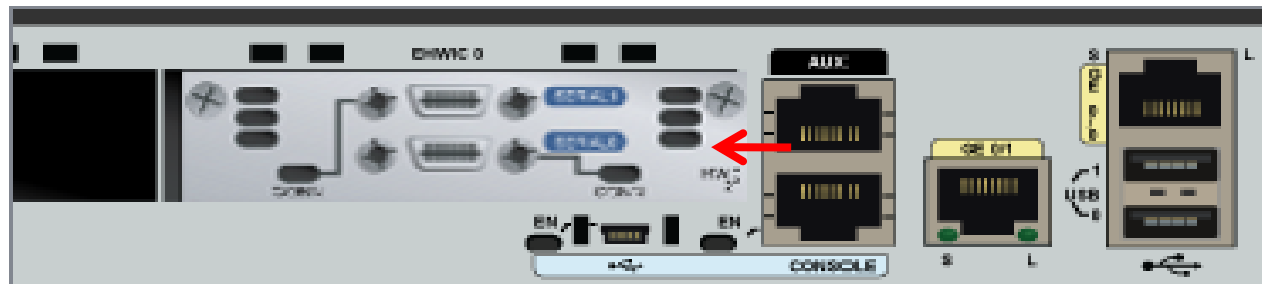
GLC-LH-SMD

Physical Device View

Zoom In

Original Size

Zoom Out



Customize  
Icon in  
Physical View



Customize  
Icon in  
Logical View

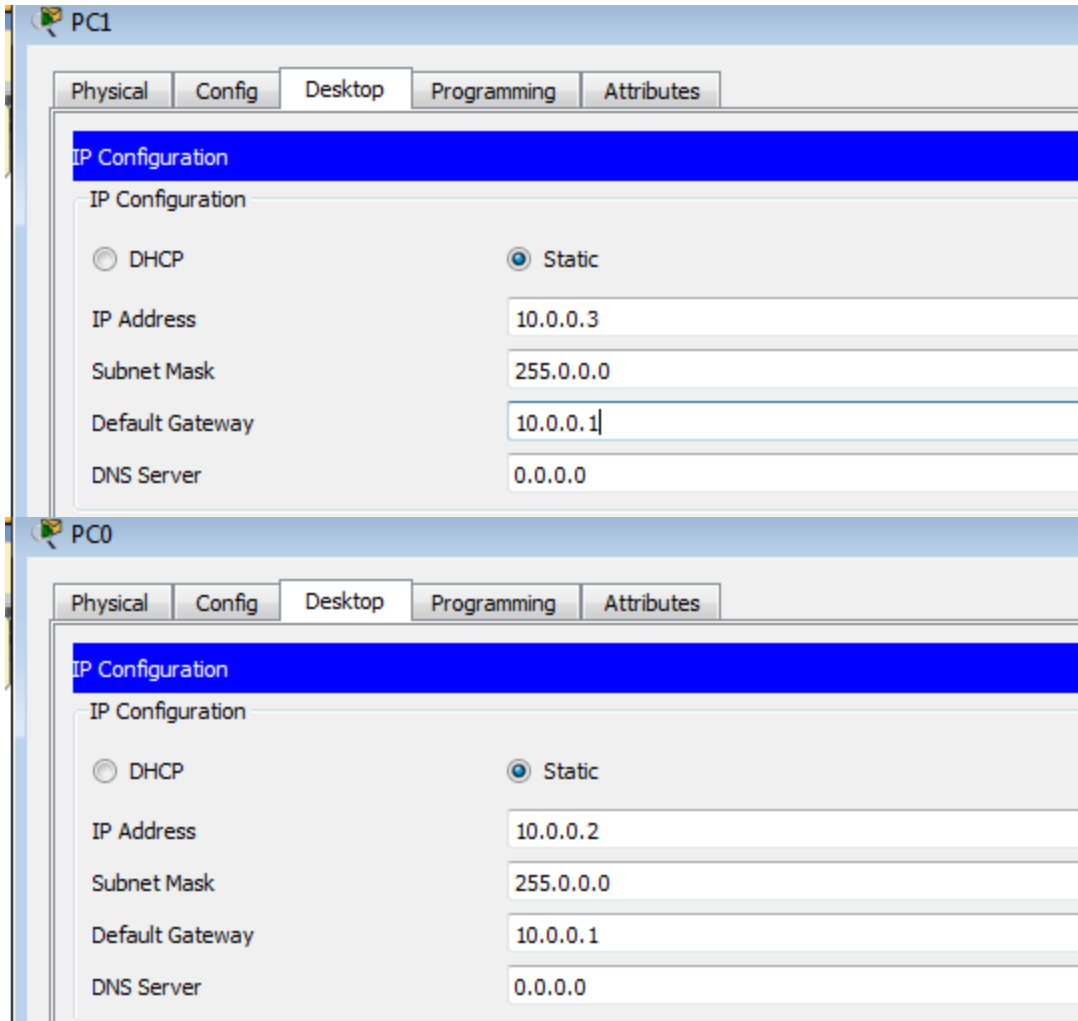


The HWIC-2T is a Cisco 2-Port Serial High-Speed WAN Interface Card, providing 2 serial ports.



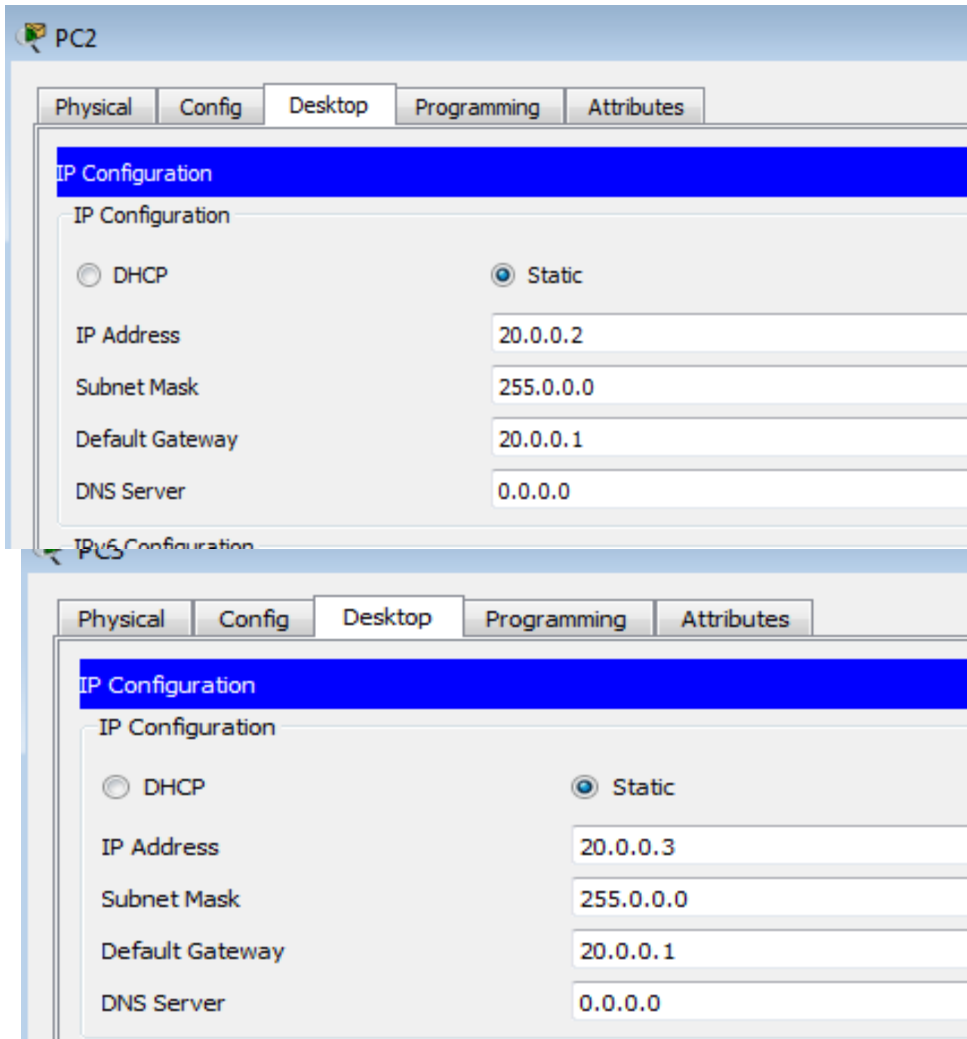
# Connect two different Networks with RIP

- Assign the IP Address to the PC connected to Switch 0



# Connect two different Networks with RIP

- Assign the IP Address to the PC connected to Switch 1



# Connect two different Networks with RIP

- Click on Router0 and Type
  - **no]: n**
  - **Router>en**
  - **Router#conf t**
  - **Router(config)#int g0/1**
  - **Router(config-if)#ip address 10.0.0.1 255.0.0.0**
  - **Router(config-if)#no sh**
  - **Router(config-if)#no sh**
  - **Router(config-if)#int s0/0/0**
  - **Router(config-if)#ip address 192.168.0.1 255.255.255.0**
  - **Router(config-if)#clock rate 250000**
  - **Router(config-if)#no sh**
  - **Router(config-if)#exit**

# Connect two different Networks with RIP

- Click on Router1 and Type
  - **no]: n**
  - **Router>en**
  - **Router#conf t**
  - **Router(config)#int g0/1**
  - **Router(config-if)#ip address 20.0.0.1 255.0.0.0**
  - **Router(config-if)#no sh**
  - **Router(config-if)#int s0/0/0**
  - **Router(config-if)#ip address 192.168.0.2 255.255.255.0**
  - **Router(config-if)#no sh**
  - **Router(config-if)#exit**



# Connect two different Networks with RIP

- Click on Router0 and Type
  - **Router(config)#router rip**
  - **Router(config-router)#network 10.0.0.0**
  - **Router(config-router)#network 192.168.0.0**
  - **Router(config-router)#exit**

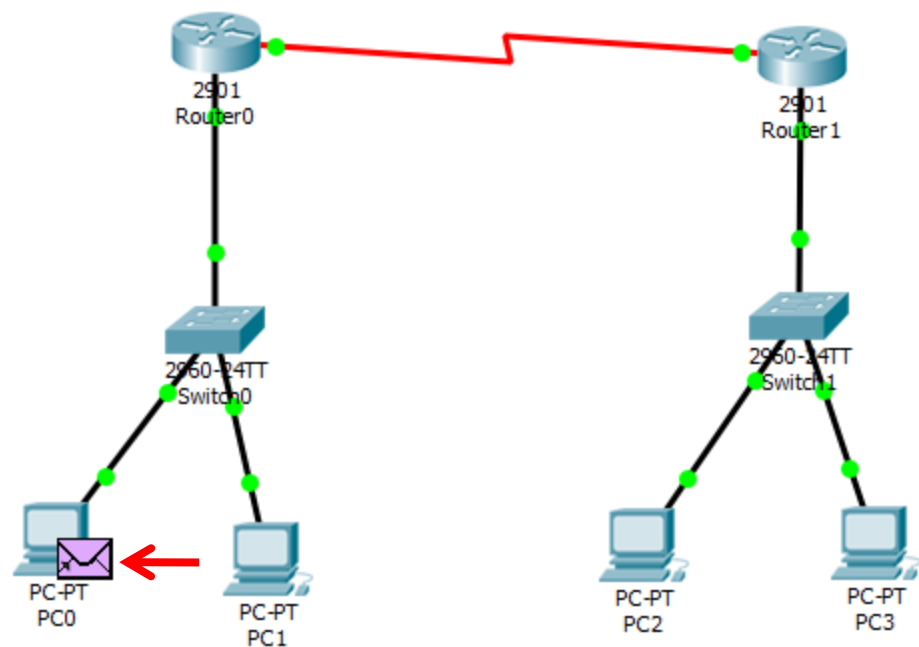
# Connect two different Networks with RIP

- Click on Router1 and Type
  - **Router(config)#router rip**
  - **Router(config-router)#network 20.0.0.0**
  - **Router(config-router)#network 192.168.0.0**
  - **Router(config-router)#exit**

# Connect two different Networks with RIP

- Click on simulation mode
- Click on show all/none
- Click on edit filters
- Select ICMP protocol
- Select PDU and click on any PC on Router0 and then on any PC on Router1

# Connect two different Networks with RIP



**Simulation Panel**

Event List

Vis.	Time(sec)	Last Device	At Device	Type	Info
	0.003	Router0	Router1	ICMP	
	0.004	Router1	Switch1	ICMP	
	0.005	Switch1	PC2	ICMP	
	0.005	Switch1	PC3	ICMP	
	0.006	PC2	Switch1	ICMP	
	0.007	Switch1	Router1	ICMP	
	0.008	Router1	Router0	ICMP	
	0.009	Router0	Switch0	ICMP	
	0.010	Switch0	PC0	ICMP	

☒ Constant Delay
 Captured to: 0.010 s

Play Controls

Event List Filters - Visible Events

ICMP