

## Practical 2

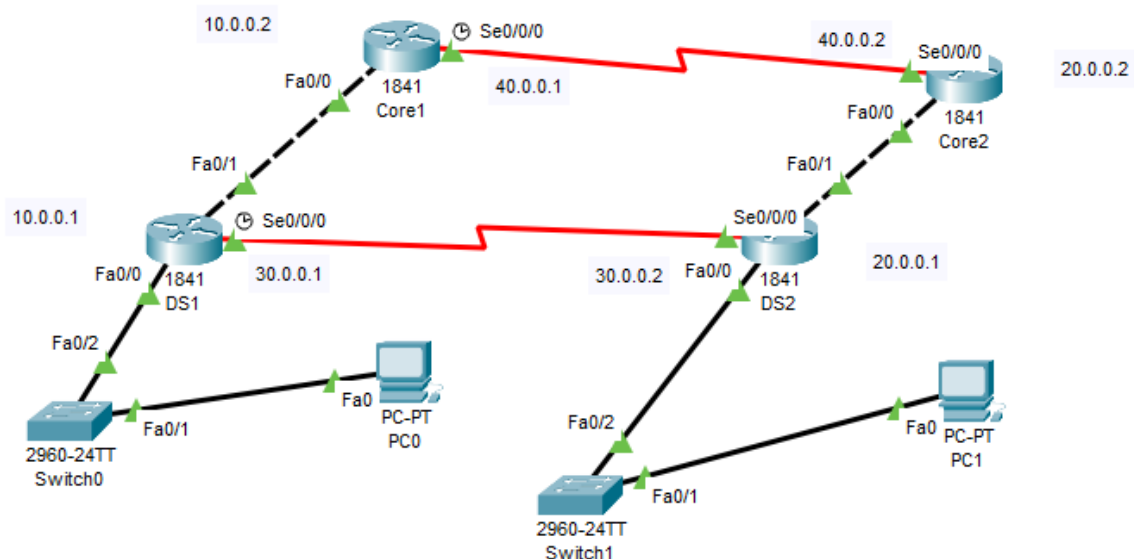
### Aim: Demonstrating Distribution Layer Functions

#### Components:

- 2 PC
- 2 2960 Switch
- 4 1841 Router
- Copper Straight-Through wires
- Copper Cross-Over wires
- Serial DTE

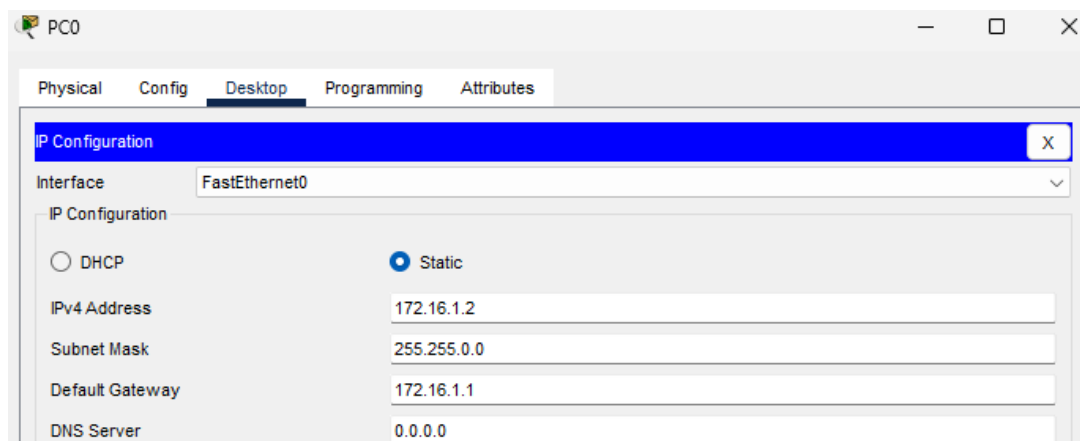
**Note:** Make sure you have added serial ports to the routers

#### Configure The System



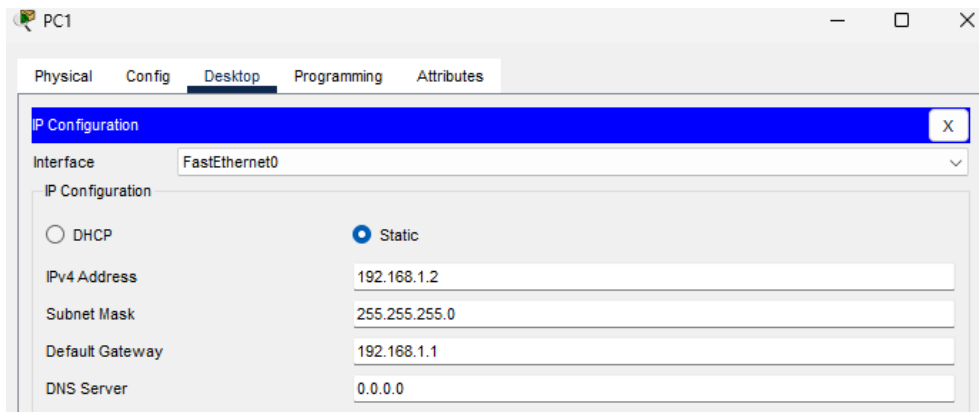
#### Setup IP Address for PC0

Click on PC and desktop -> IP Configuration



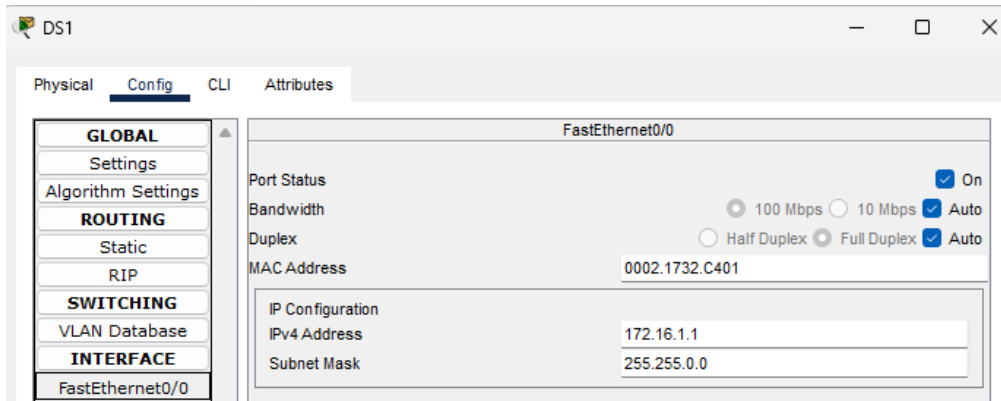
## Setup IP Address for PC1

Click on PC and desktop -> IP Configuration



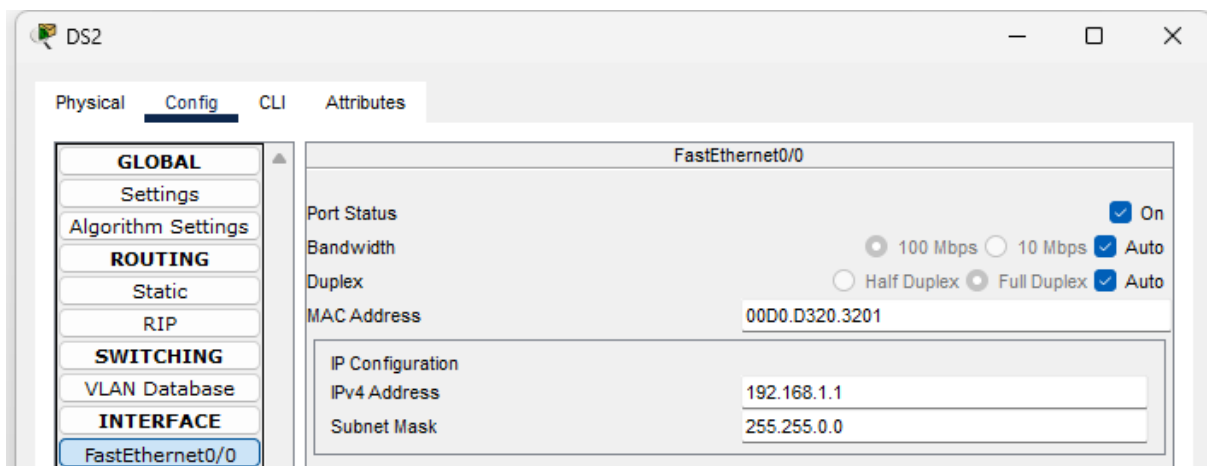
## Setup DS1

Click on **DS1**, under **Config** -> **INTERFACE** select the interface you connected too add the ip address and turn it On (Note: In my case its fastethernet0/0)



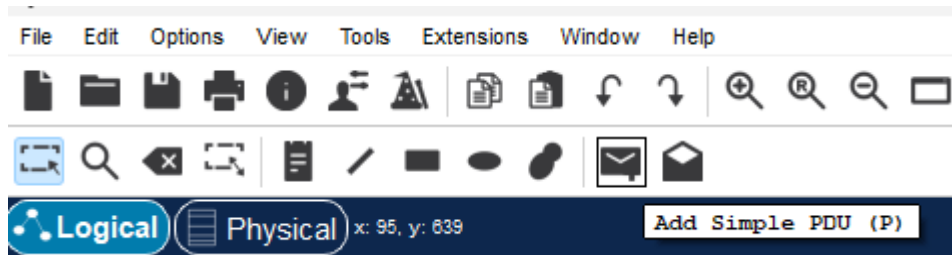
## Setup DS2

Click on **DS2**, under **Config** -> **INTERFACE** select the interface you connected too add the ip address and turn it On (Note: In my case its fastethernet0/0)

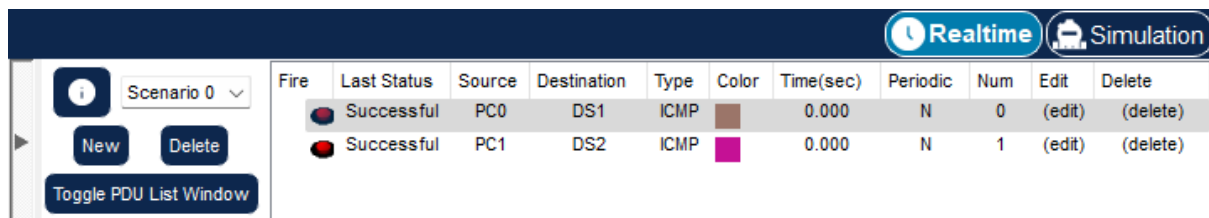


## Checking the connections between Routers and PC

Select the following Icon and Then select the starting point and the destination

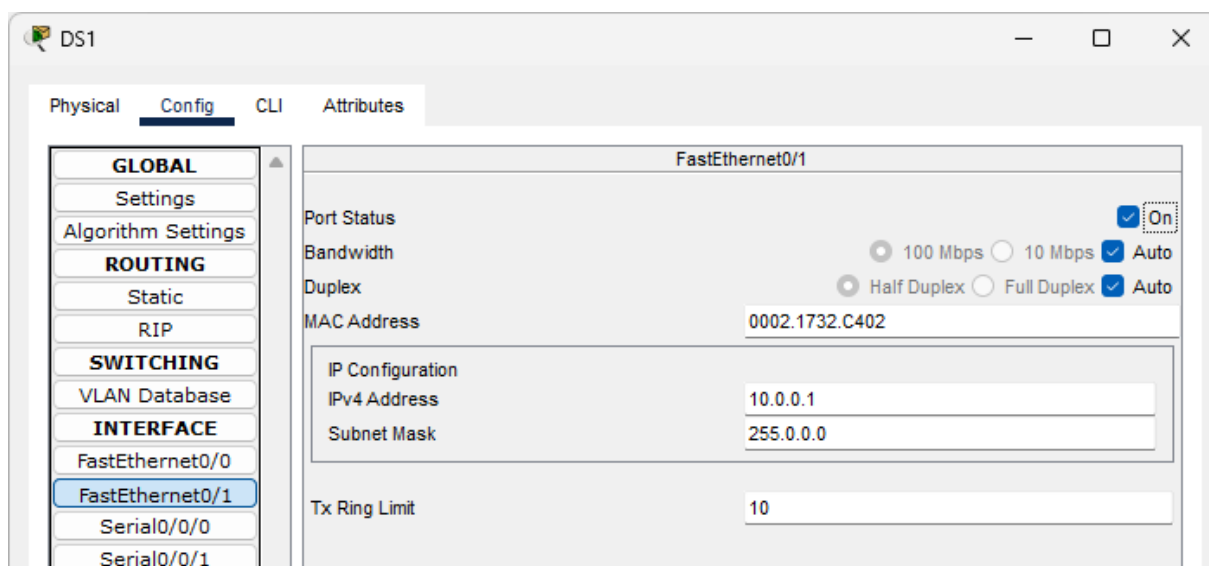


## Connection Between PC0 and DS1 & PC1 and DS2

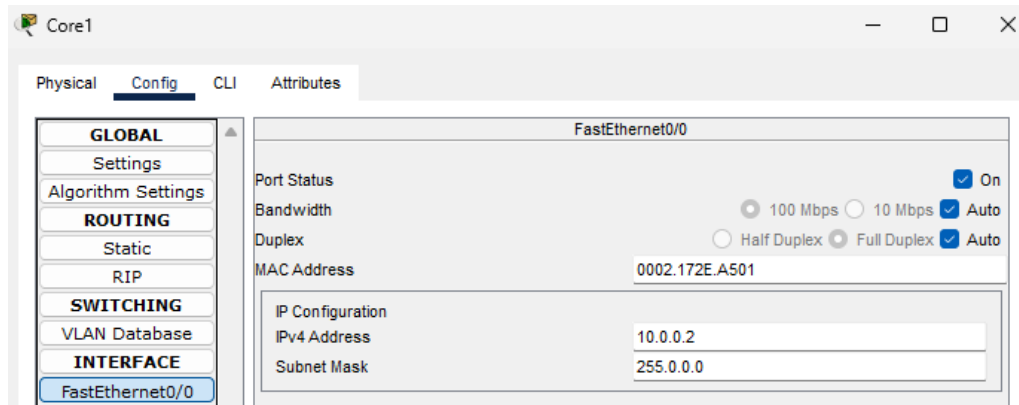


## Connecting DS1 to Core1

Click on **DS1**, under **Config -> INTERFACE** select the interface you connected too with **Core1** add the ip address and turn it On (Note: In my case its fastethernet0/1)

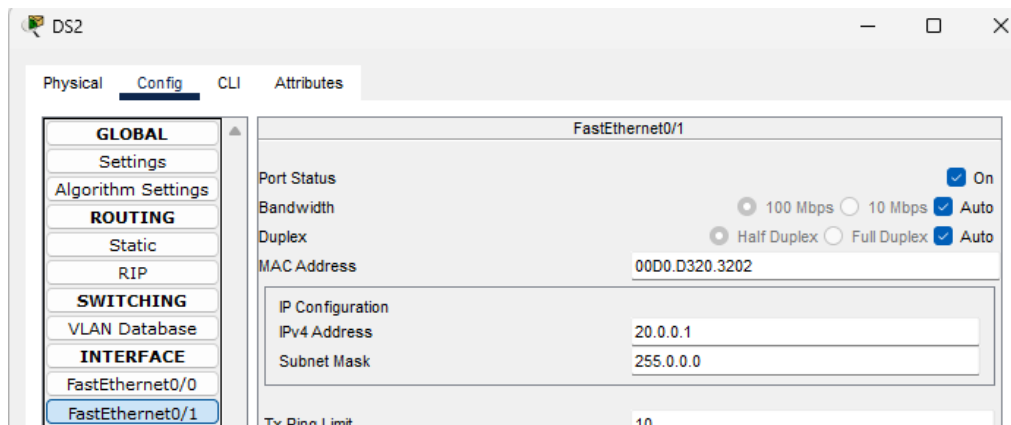


Interface in my case for **Core1** is fastethernet 0/0

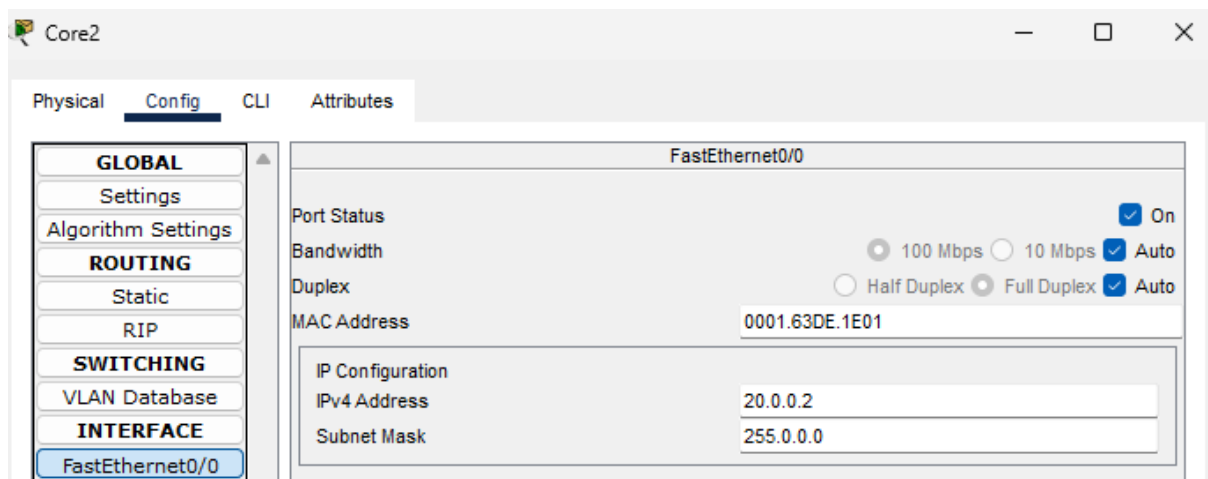


## Connecting DS2 to Core2

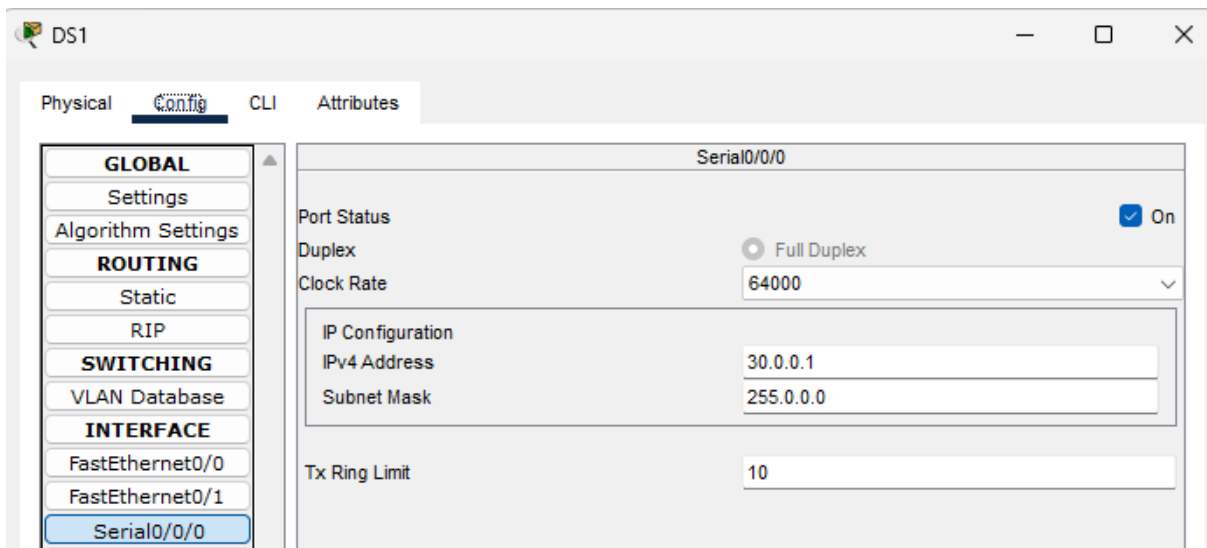
Click on **DS2**, under **Config** -> **INTERFACE** select the interface you connected too with **Core2** add the ip address and turn it On (Note: In my case its fastethernet0/1)



Interface in my case for **Core2** is fastethernet 0/0

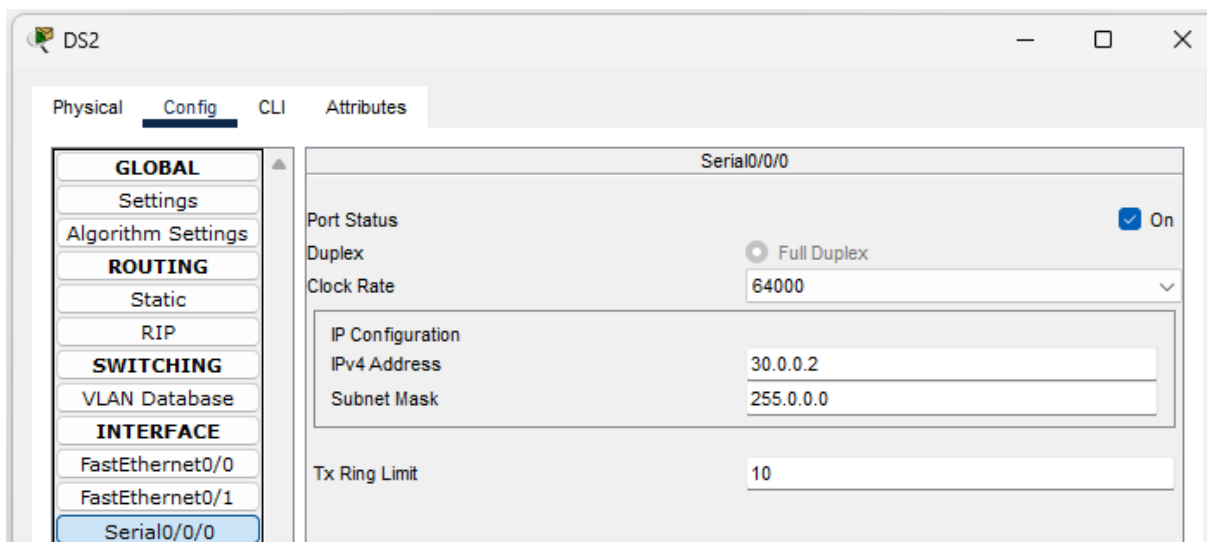


## Connecting DS1 & DS2



The screenshot shows the configuration window for DS1. The 'Config' tab is active, and the 'Serial0/0/0' interface is selected in the left-hand menu. The main configuration area shows the following settings:

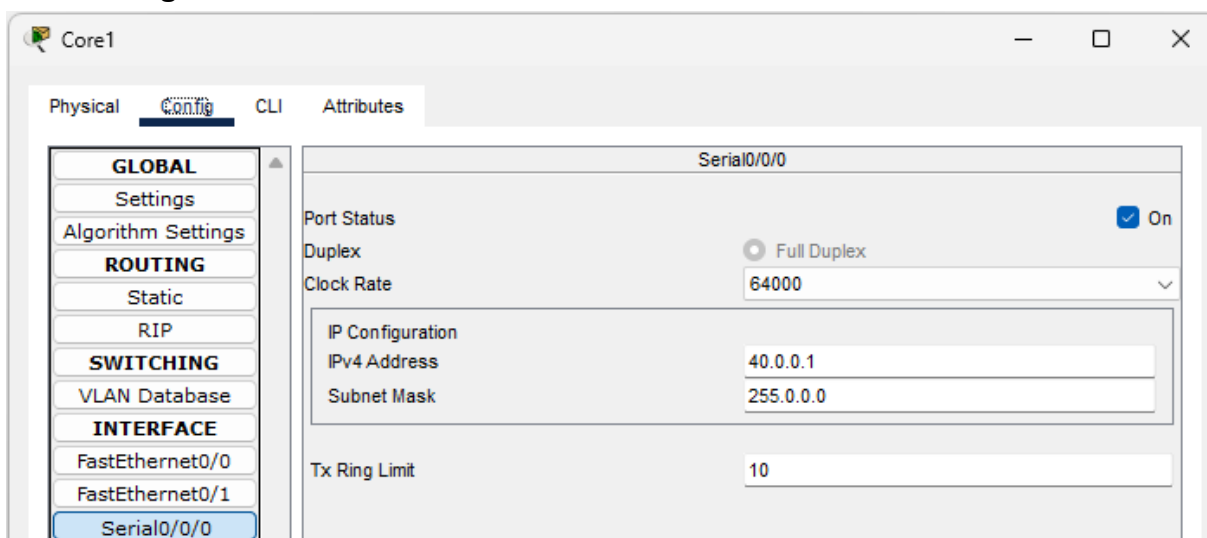
Parameter	Value
Port Status	<input checked="" type="checkbox"/> On
Duplex	<input type="radio"/> Full Duplex
Clock Rate	64000
IP Configuration	
IPv4 Address	30.0.0.1
Subnet Mask	255.0.0.0
Tx Ring Limit	10



The screenshot shows the configuration window for DS2. The 'Config' tab is active, and the 'Serial0/0/0' interface is selected in the left-hand menu. The main configuration area shows the following settings:

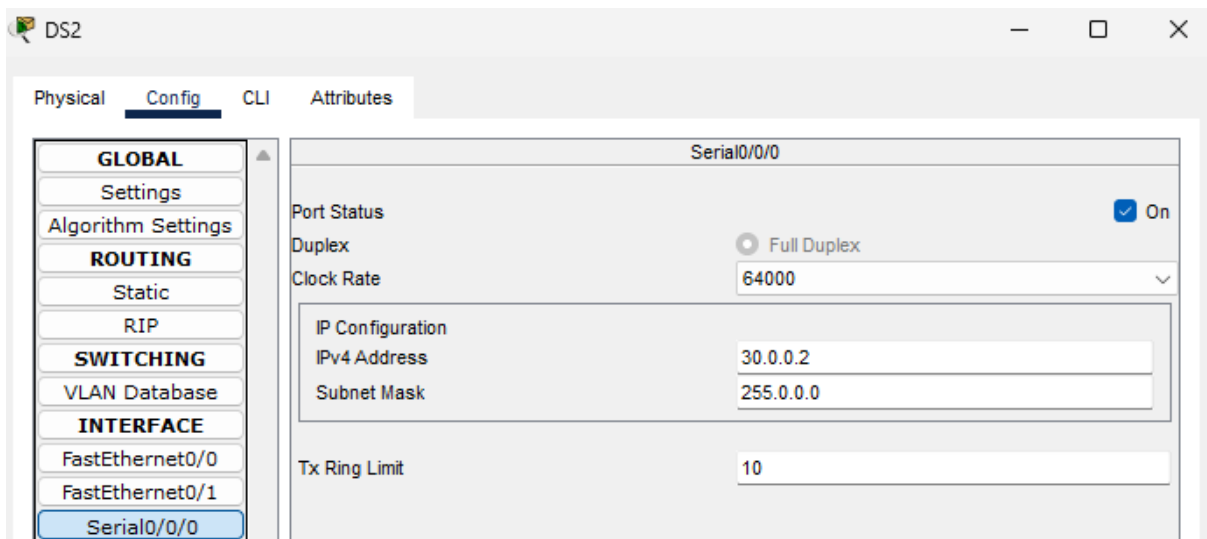
Parameter	Value
Port Status	<input checked="" type="checkbox"/> On
Duplex	<input type="radio"/> Full Duplex
Clock Rate	64000
IP Configuration	
IPv4 Address	30.0.0.2
Subnet Mask	255.0.0.0
Tx Ring Limit	10

## Connecting Core1 & Core2

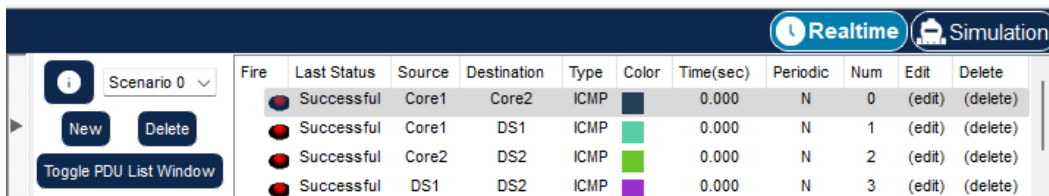


The screenshot shows the configuration window for Core1. The 'Config' tab is active, and the 'Serial0/0/0' interface is selected in the left-hand menu. The main configuration area shows the following settings:

Parameter	Value
Port Status	<input checked="" type="checkbox"/> On
Duplex	<input type="radio"/> Full Duplex
Clock Rate	64000
IP Configuration	
IPv4 Address	40.0.0.1
Subnet Mask	255.0.0.0
Tx Ring Limit	10

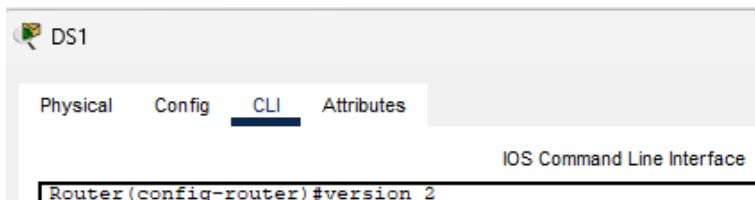


### Checking connection between all the routers

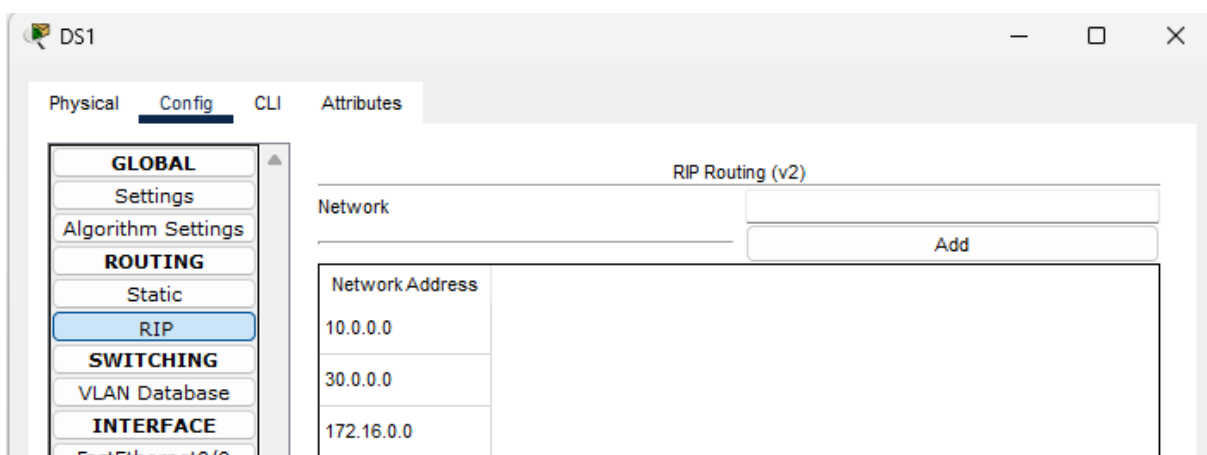


### Setting up RIP Routing in all routers

In all routers after clicking on **RIP** go to **CLI** and use **version 2** of RIP



### DS1



## Core1

The screenshot shows the configuration window for Core1. The 'Config' tab is active, and the 'RIP Routing (v2)' section is expanded. The left sidebar shows a tree view with 'RIP' selected under the 'ROUTING' category. The main area contains a 'Network' field with an 'Add' button and a table of network addresses.

Network Address
10.0.0.0
40.0.0.0

## Core2

The screenshot shows the configuration window for Core2. The 'Config' tab is active, and the 'RIP Routing (v2)' section is expanded. The left sidebar shows a tree view with 'RIP' selected under the 'ROUTING' category. The main area contains a 'Network' field with an 'Add' button and a table of network addresses.

Network Address
20.0.0.0
40.0.0.0

## DS2

The screenshot shows the configuration window for DS2. The 'Config' tab is active, and the 'RIP Routing (v2)' section is expanded. The left sidebar shows a tree view with 'RIP' selected under the 'ROUTING' category. The main area contains a 'Network' field with an 'Add' button and a table of network addresses.

Network Address
20.0.0.0
30.0.0.0
192.168.1.0

## Testing connection from PC0 to PC1

The screenshot shows the top of the interface with 'Realtime' and 'Simulation' buttons. Below is a table with the following data:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	PC1	ICMP		0.000	N	0	(edit)	(delete)

## Enter Simulation mode

The screenshot shows the top of the interface with 'Realtime' and 'Simulation' buttons. Below is a table with the following data:

Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
PC1	ICMP		0.000	N	0	(edit)	(delete)

## Reset Simulation

The screenshot shows a control panel with the following elements:

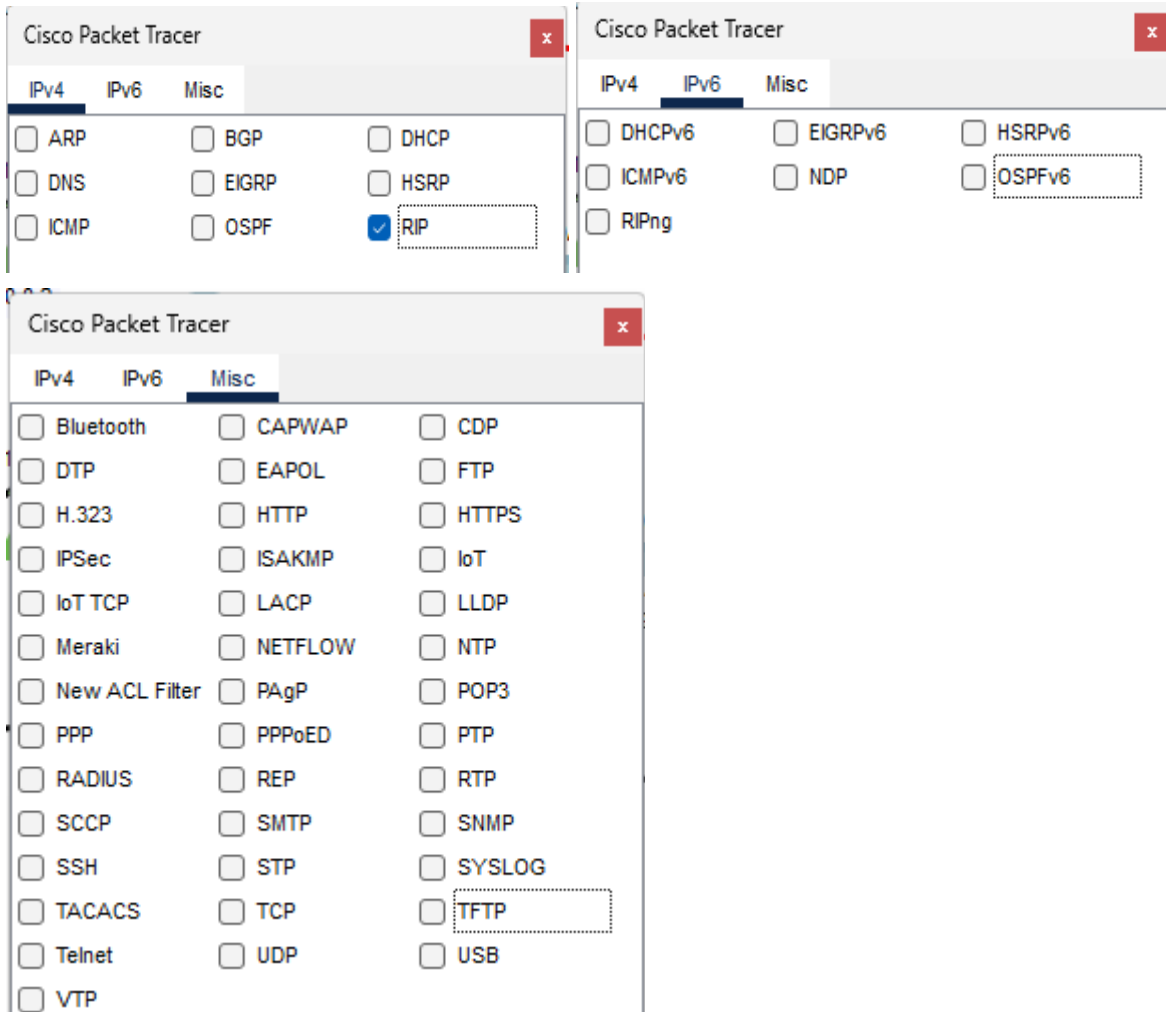
- A 'Reset Simulation' button.
- A checked checkbox for 'Constant Delay'.
- A 'Captured to:' field showing '0.000 s'.
- 'Play Controls' section with three buttons: a left arrow, a right arrow, and a play button.
- 'Event List Filters - Visible Events' section listing: ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP,

## Click on edit filters and only select RIP

The screenshot shows a dialog box titled 'Event List Filters - Visible Events' with a list of protocols and two buttons at the bottom:

- ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP
- 'Edit Filters' button
- 'Show All/None' button





Click on the start button and simulation will start

