CS361

LABORATORY 6

NAME:

ARCHIT AGRAWAL

ROLL NO. :

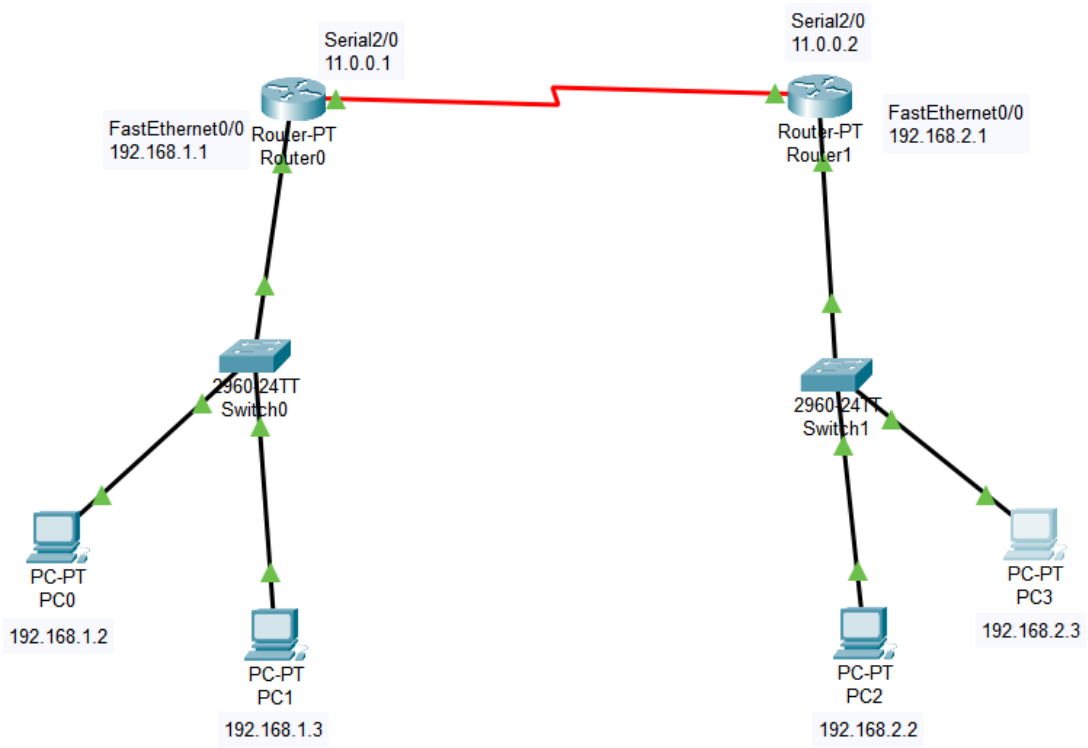
202051213

SECTION:

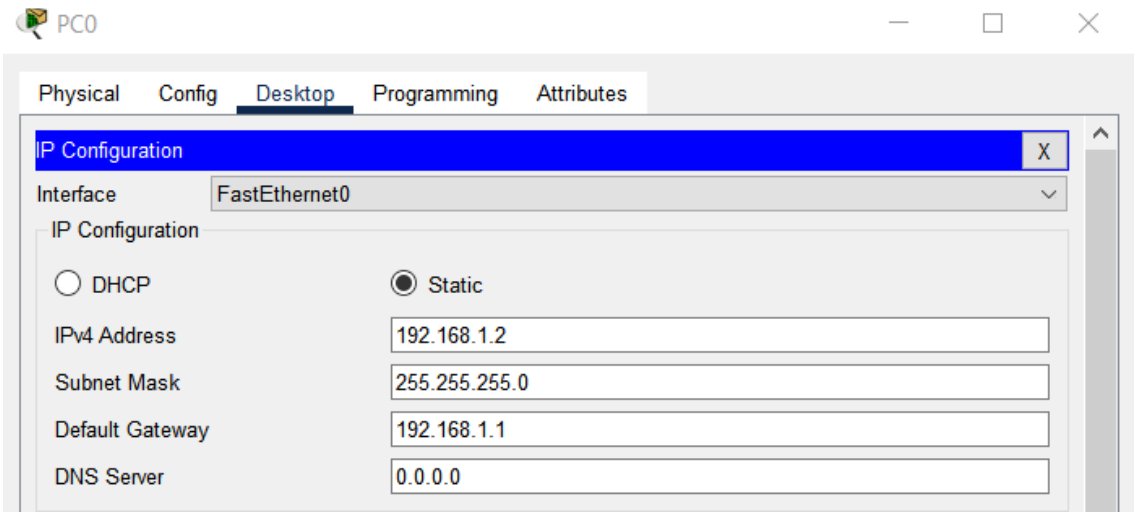
2B

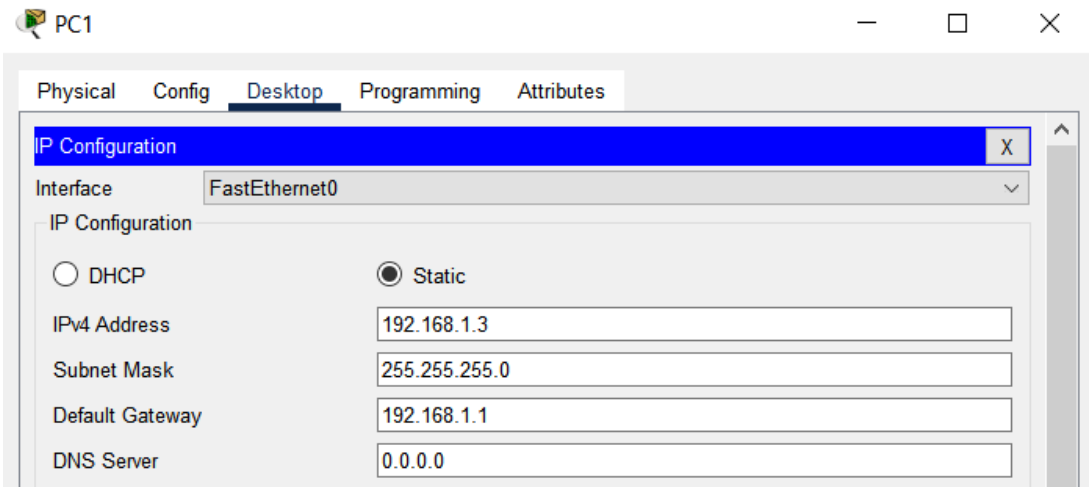
1. **Make a network and transfer messages from one PC to another as demonstrated in the lab.**

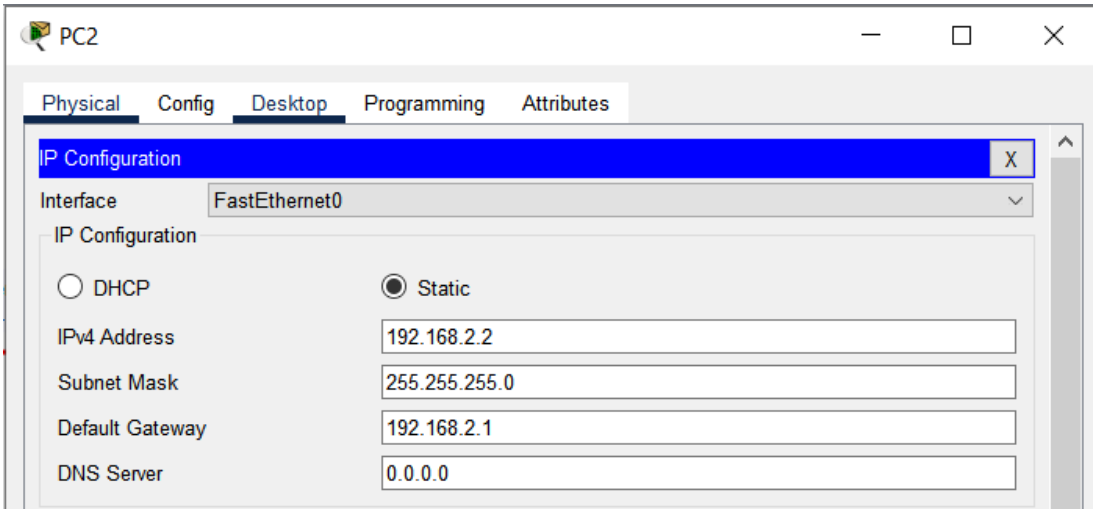
   The network is shown below.

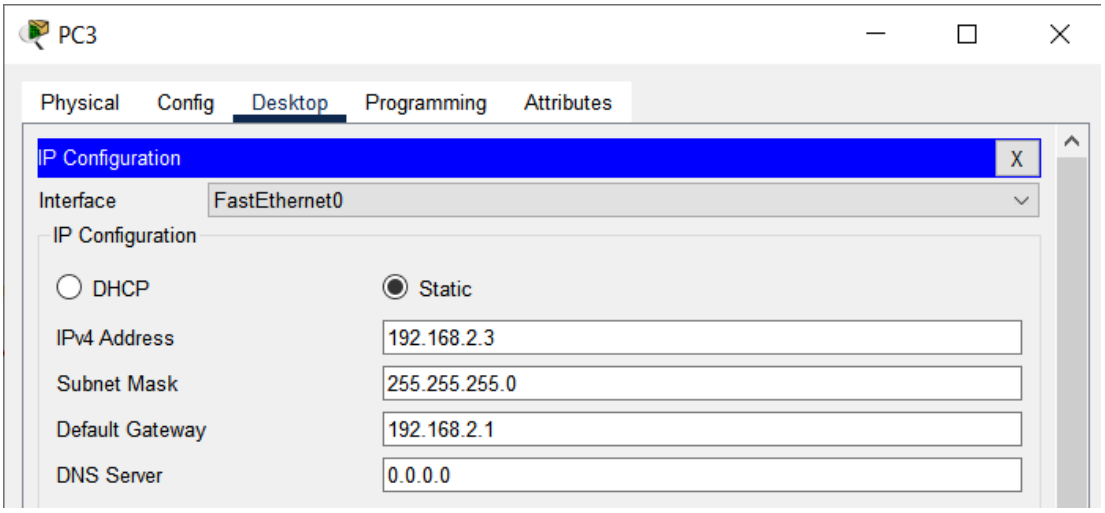


- Configure the IP for each PC.

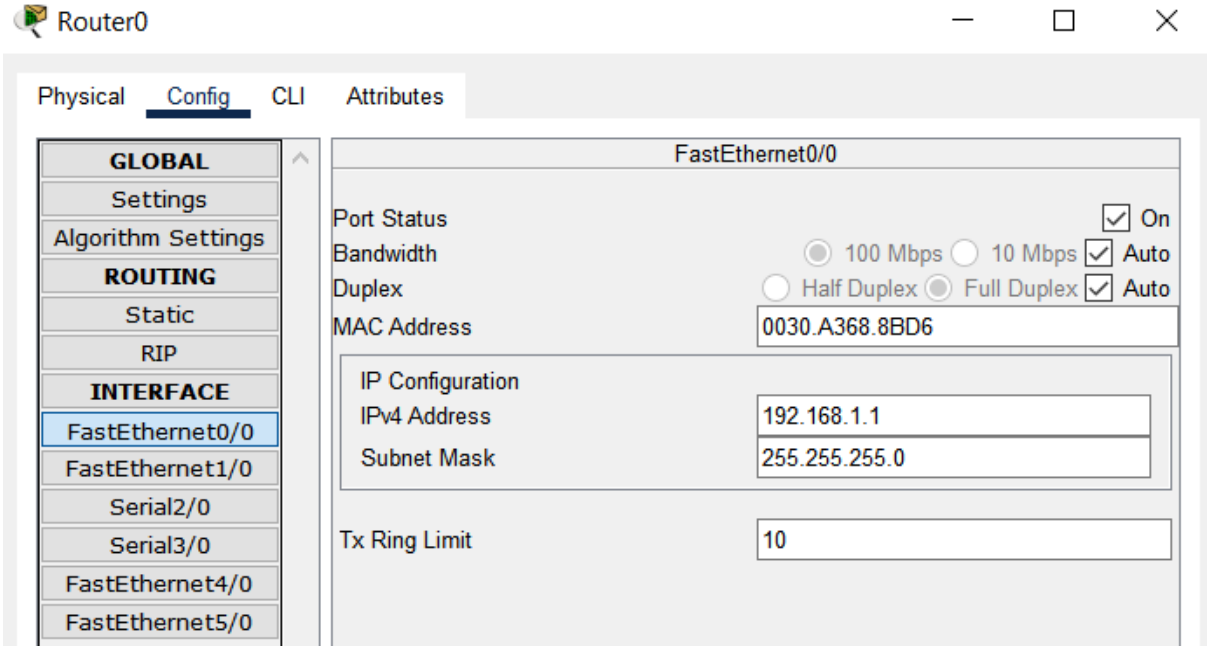


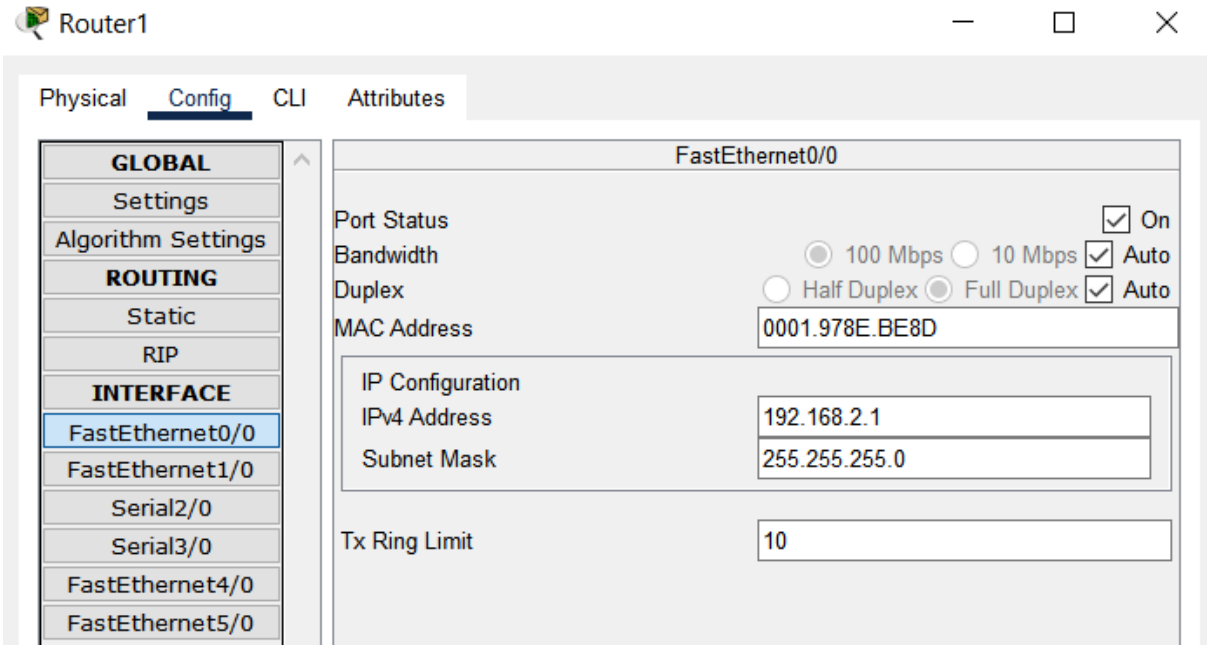

PC1
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
192.168.1.3
Subnet Mask
255.255.255.0
Default Gateway
192.168.1.1
DNS Server
0.0.0.0


PC2
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
192.168.2.2
Subnet Mask
255.255.255.0
Default Gateway
192.168.2.1
DNS Server
0.0.0.0

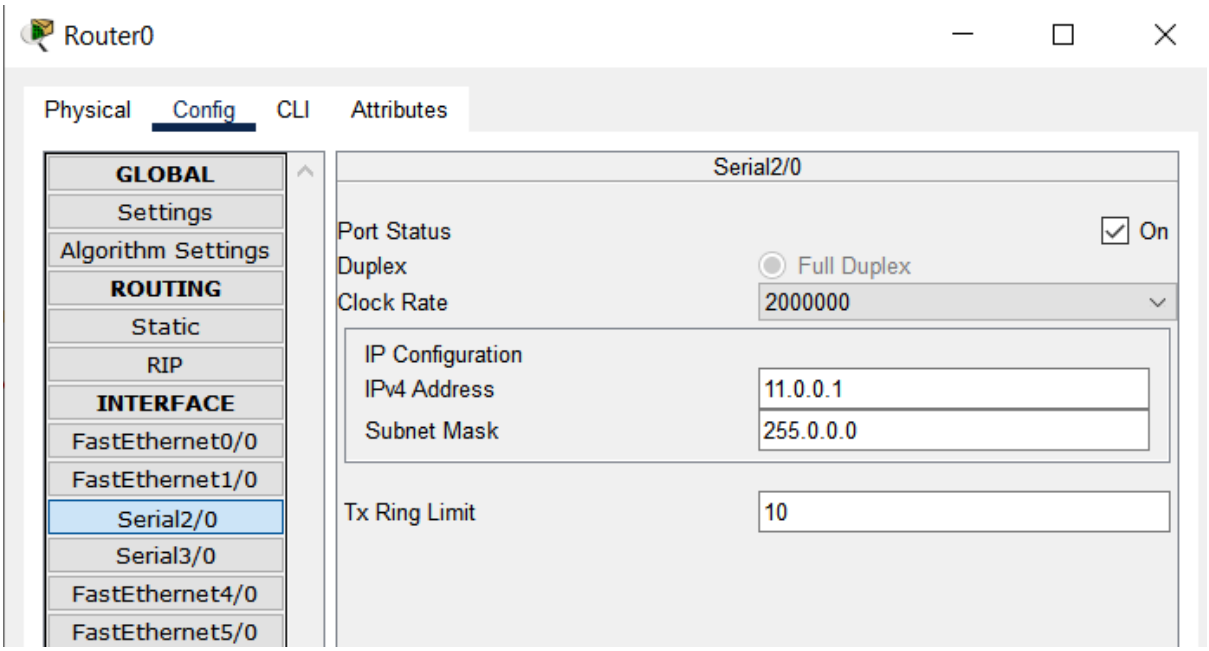

PC3
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
192.168.2.3
Subnet Mask
255.255.255.0
Default Gateway
192.168.2.1
DNS Server
0.0.0.0

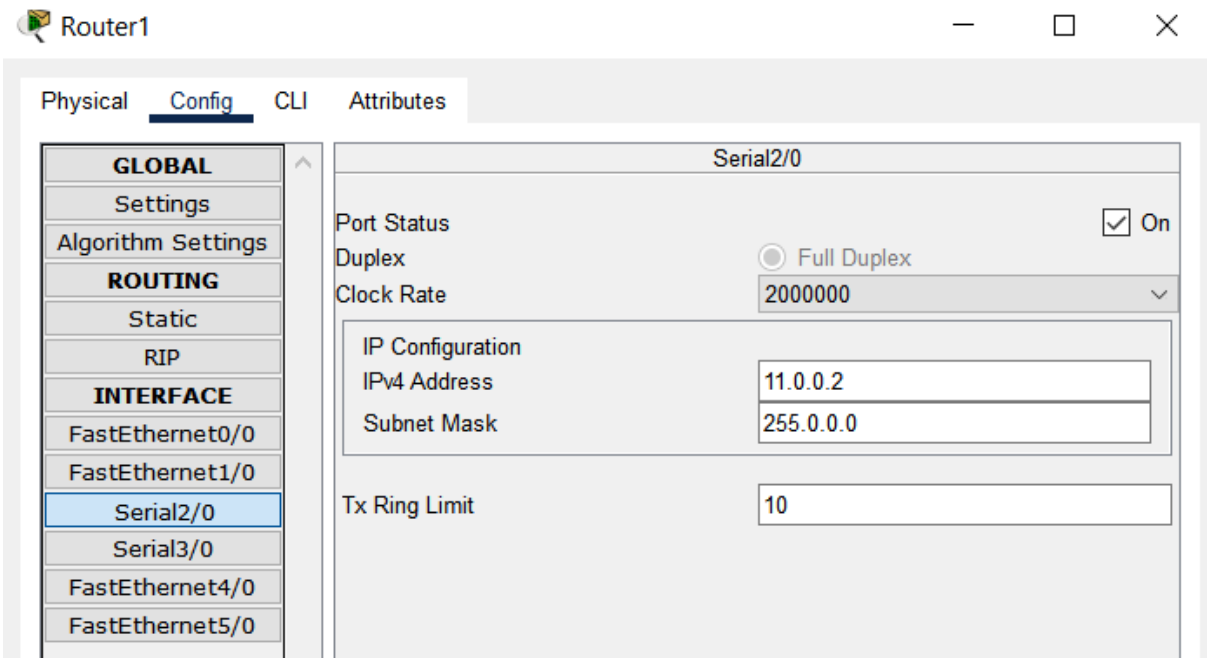
- Configure the routers for router – LAN connection. Go to router → Config → FastEthernet0/0.



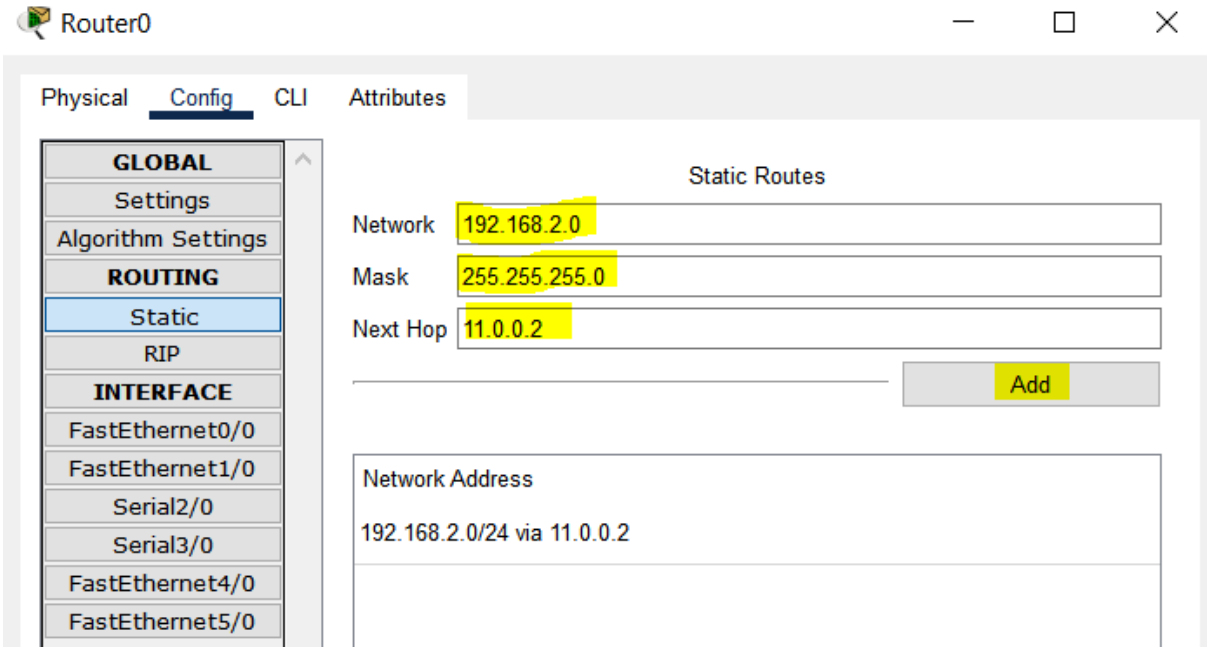


- Configure the routers for router – router connection. Go to router → Config → Serial2/0.

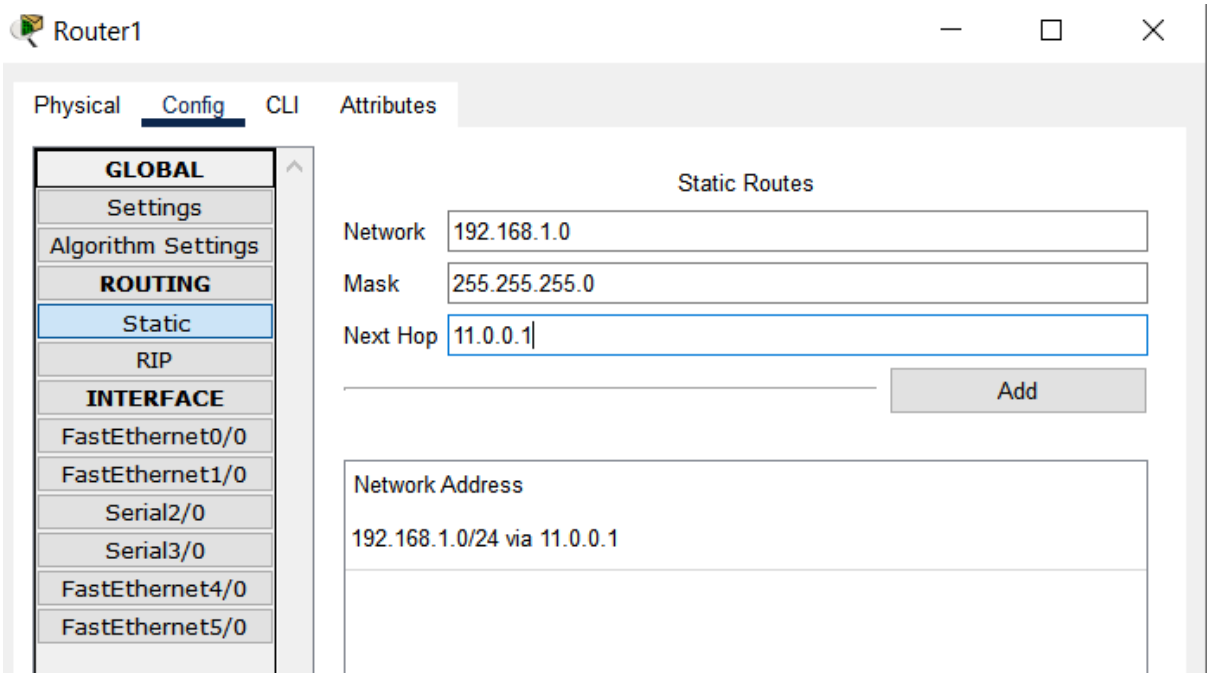




- Now go to Router0 → Config → Static (in Routing) and update the routing table manually.



Do the same for Router1.



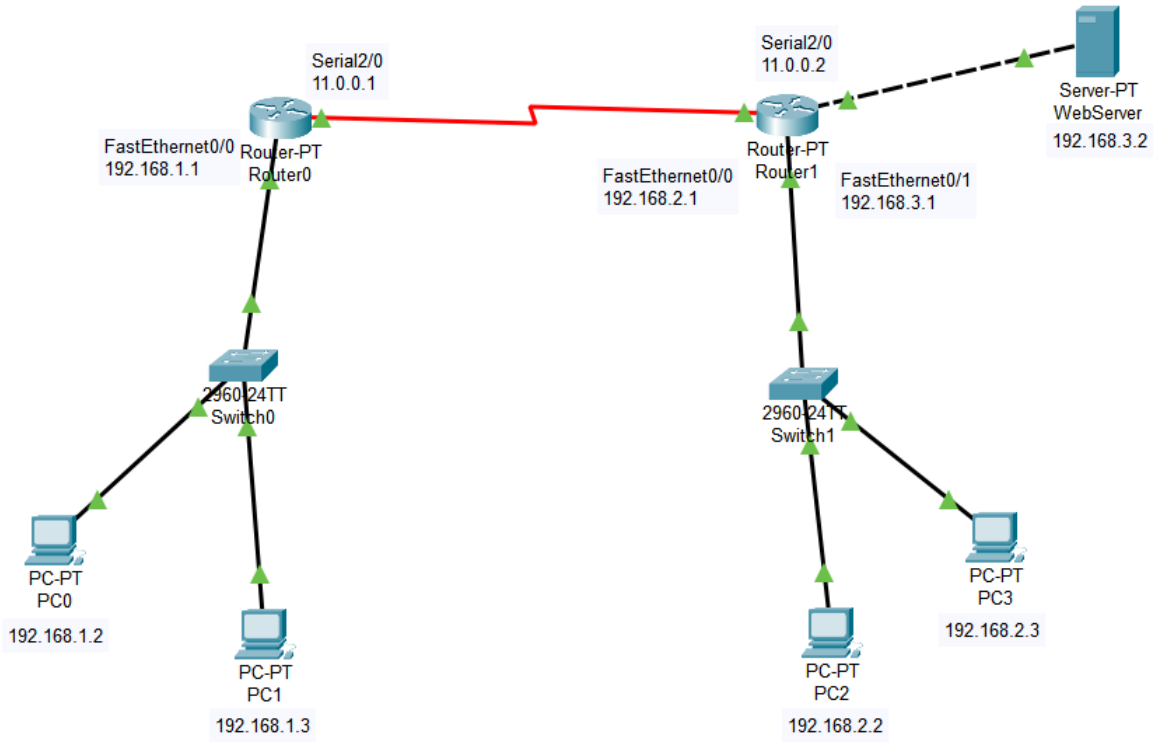
- Now, send messages from and to PC's across network.

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
	Successful	PC0	PC2	ICMP		0.000	N	0
	Successful	PC0	PC3	ICMP		0.000	N	1
	Successful	PC1	PC3	ICMP		0.000	N	2

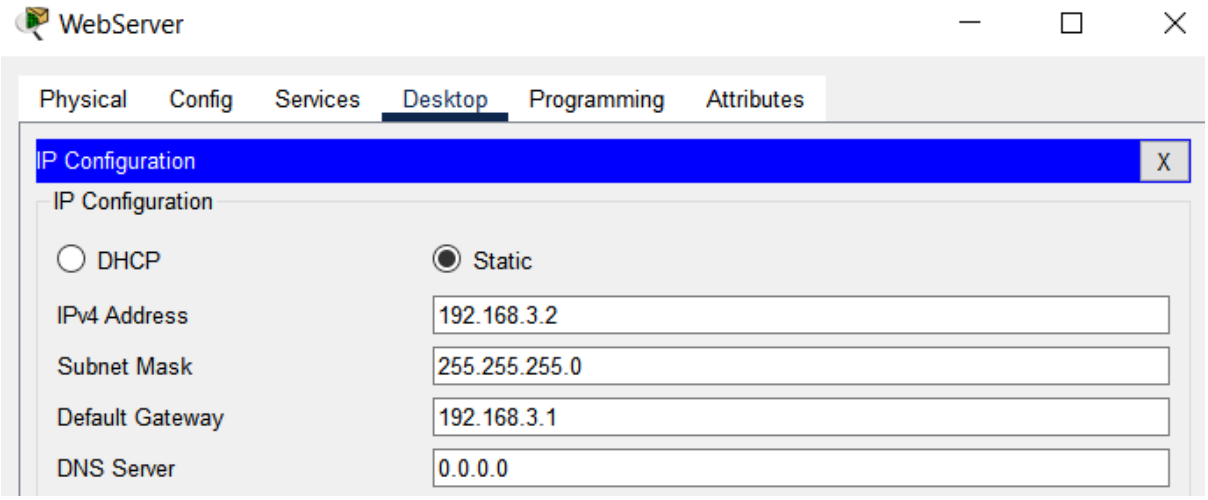
Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC2	PC0	ICMP		0.000	N	3	(edit)	
	Successful	PC3	PC1	ICMP		0.000	N	4	(edit)	
	Successful	PC2	PC1	ICMP		0.000	N	5	(edit)	

2. **Connect a server to the network designed in the previous problem and transfer mail between pcs or open a web page.**

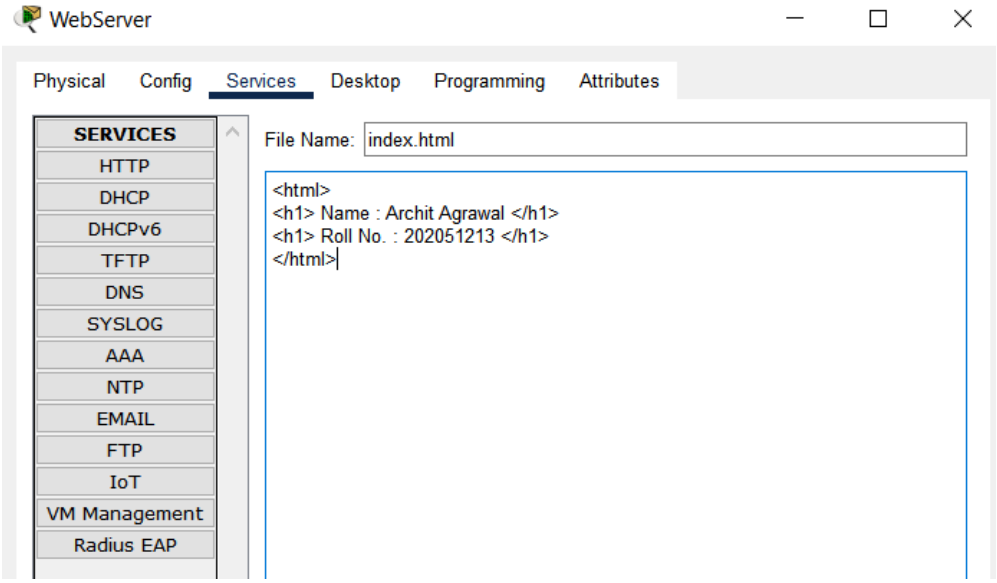
   The network is shown below.



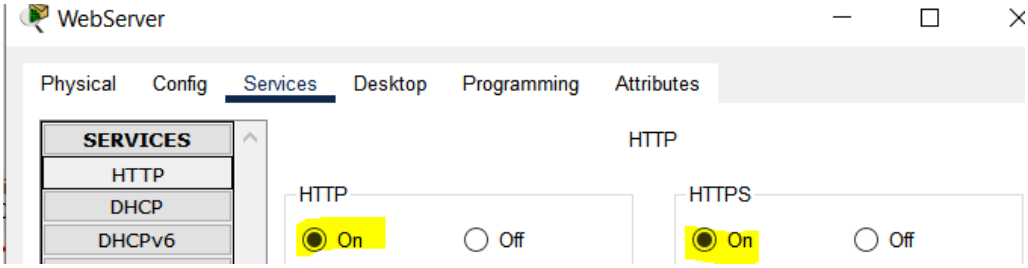
- The IP configuration of each PC and router is similar to that done in the first problem. Just the IP configuration of server is shown here.



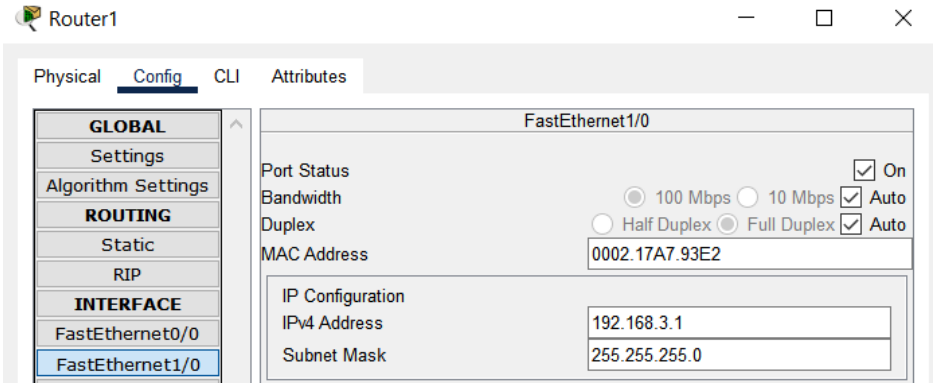
- We created a web server, hence, to use it we need to configure the HTTP services. Go to Server → Services → HTTP → index.html → edit



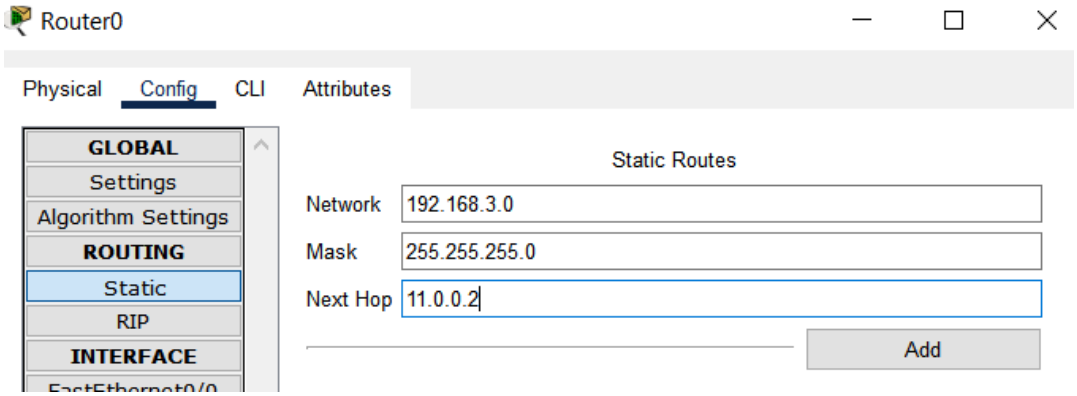
Click 'Save' after writing the above html in the editor. Make sure the HTTP service is turned on.



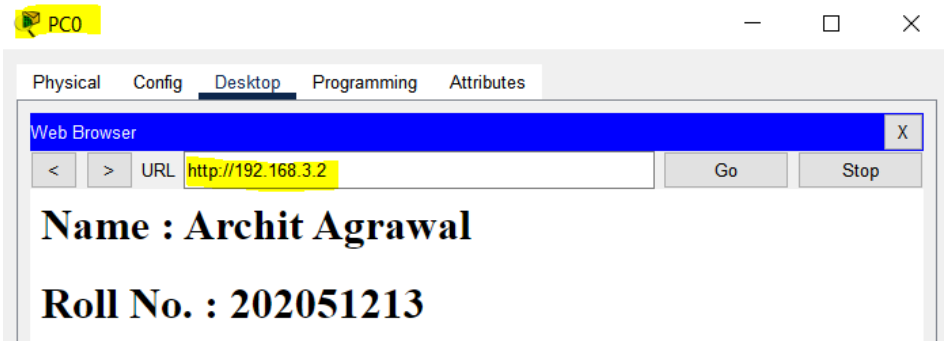
- Since the server is connected to Router1 in FastEthernet1/0 port, we need to configure the FastEthernet1/0 port for Router1.

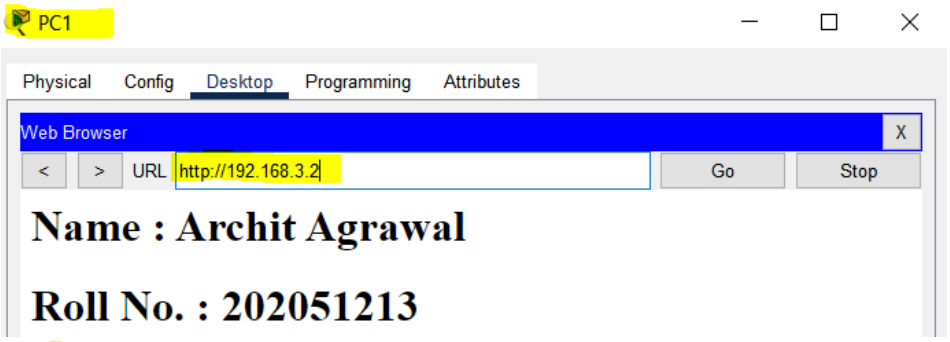


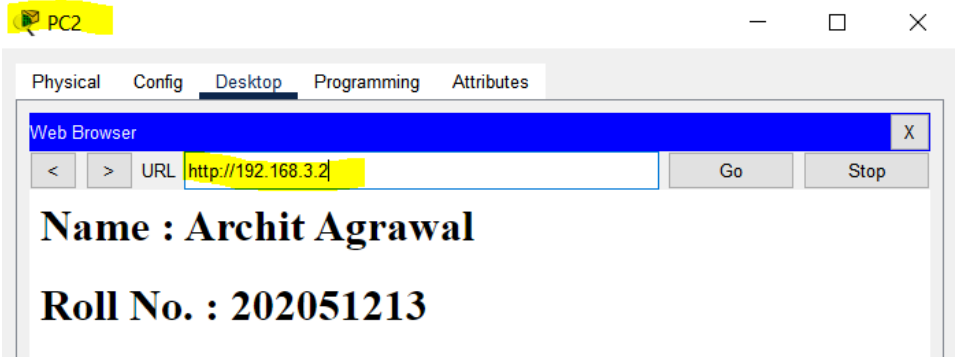
- Also, the routing table of Router0 has to be updated for connection with the web server.



- Now, we can go to browser of any PC and hit the IP address of the web server to see the webpage (index.html).

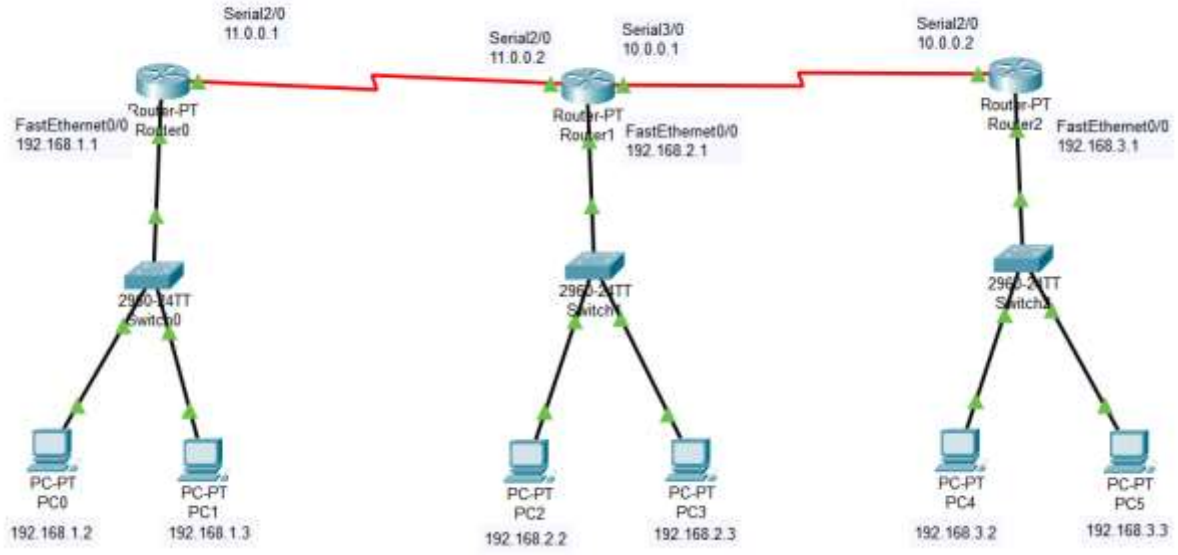




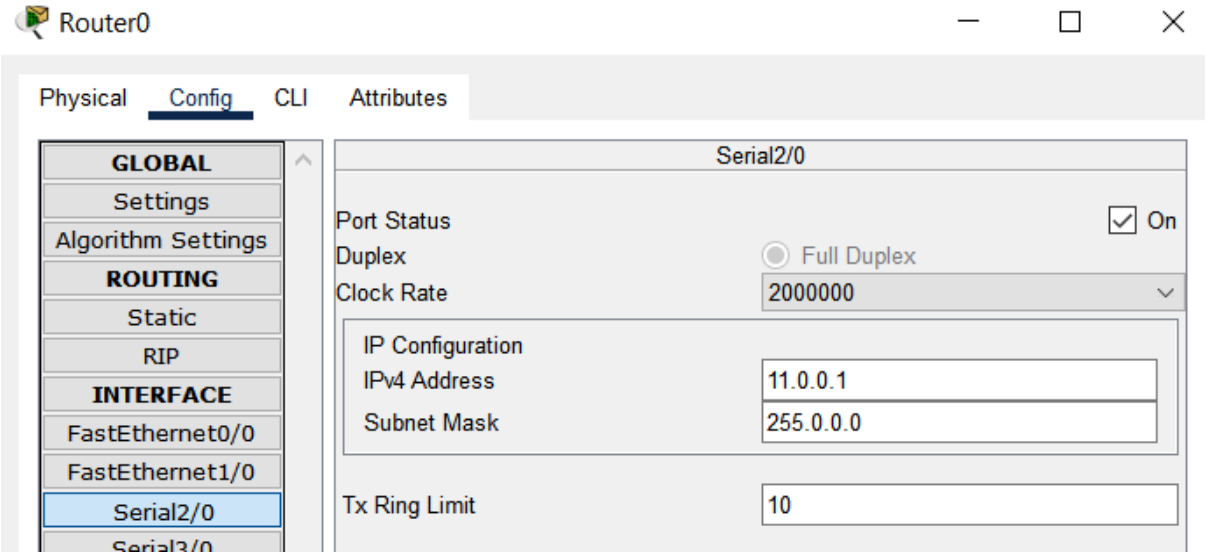


3. **Create a complex network using three or more routers and transfer messages from one network to another.**

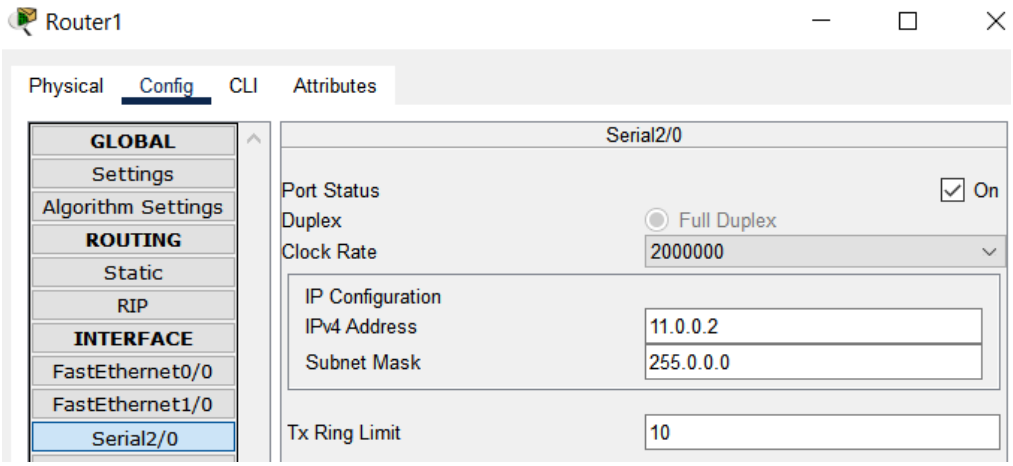
   The network is shown below.



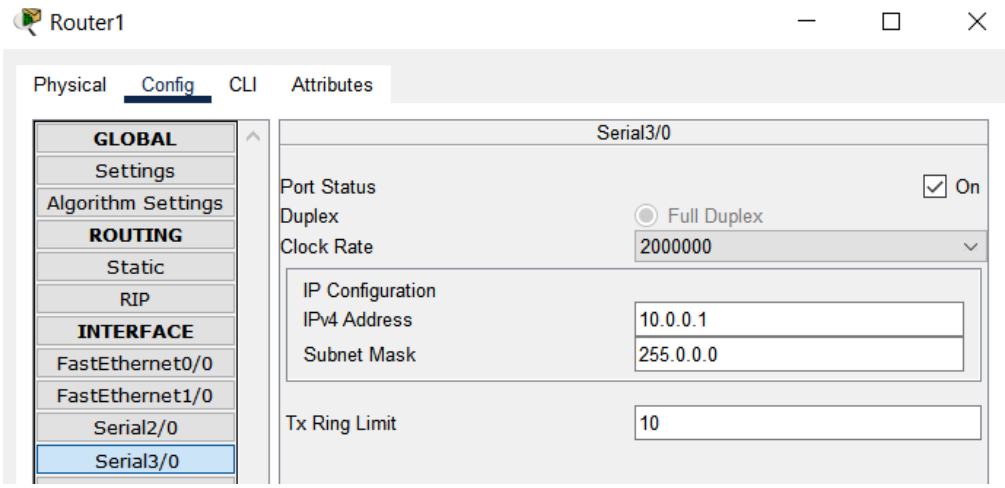
- The IP configuration of each PC and router is similar to that done in the first problem.
- Configure the Router0 for Router0-Router1 connection. Go to Router0 → Config → Serial2/0.



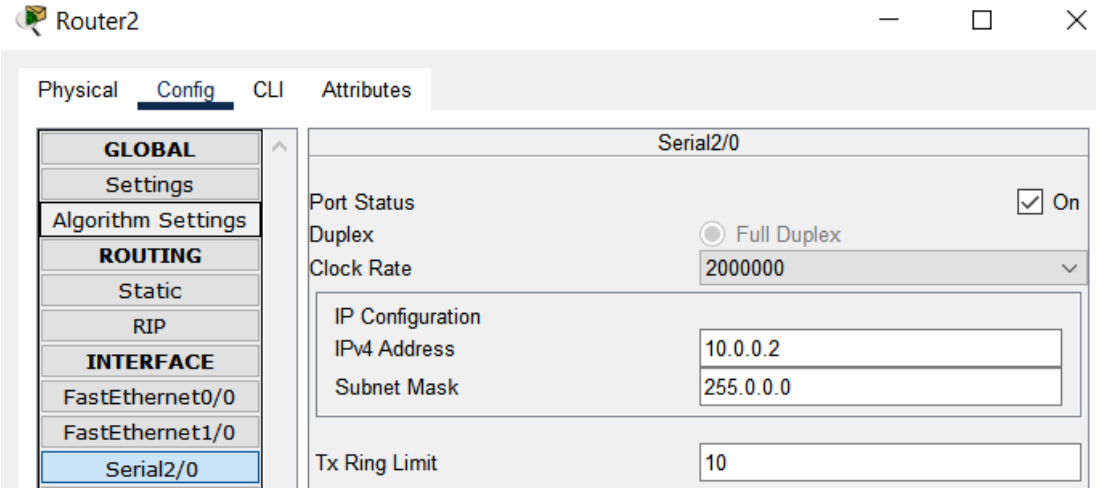
- Configure the Router1 for Router0-Router1 connection. Go to Router1 → Config → Serial2/0.



- Configure the Router1 for Router1-Router2 connection. Go to Router1 → Config → Serial3/0.



- Configure the Router2 for Router1-Router2 connection. Go to Router2 → Config → Serial2/0.



- Now, we need to add the networks in each router's routing table. Go to Router → Config → Static (in Routing) and update the routing table manually.

For Router0:

Network Address
192.168.2.0/24 via 11.0.0.2
192.168.3.0/24 via 11.0.0.2

For Router1:

Network Address
192.168.1.0/24 via 11.0.0.1
192.168.3.0/24 via 10.0.0.2

For Router2:

Network Address
192.168.1.0/24 via 10.0.0.1
192.168.2.0/24 via 10.0.0.1

- Now, we can check by sending messages from PC's on one network to PC's on other networks.

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	PC2	ICMP		0.000	N	0	(edit)	
	Successful	PC0	PC4	ICMP		0.000	N	1	(edit)	
	Successful	PC1	PC5	ICMP		0.000	N	2	(edit)	

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC2	PC1	ICMP		0.000	N	0	(edit)	
	Successful	PC3	PC0	ICMP		0.000	N	1	(edit)	
	Successful	PC2	PC4	ICMP		0.000	N	2	(edit)	

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC4	PC0	ICMP		0.000	N	0	(edit)	(delete)
	Successful	PC4	PC2	ICMP		0.000	N	1	(edit)	(delete)
	Successful	PC5	PC3	ICMP		0.000	N	2	(edit)	(delete)