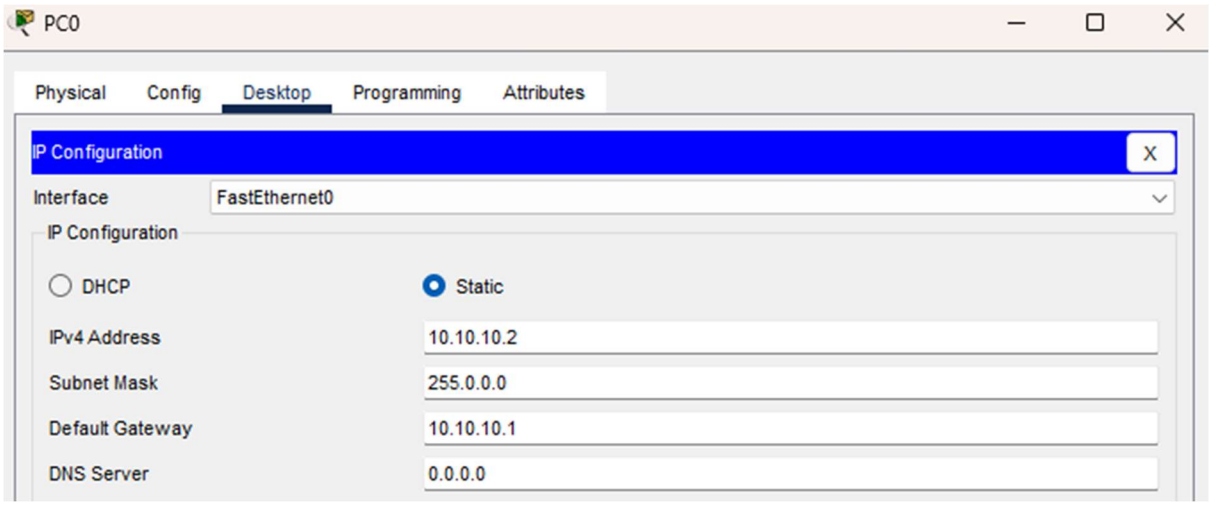
Implementation :-

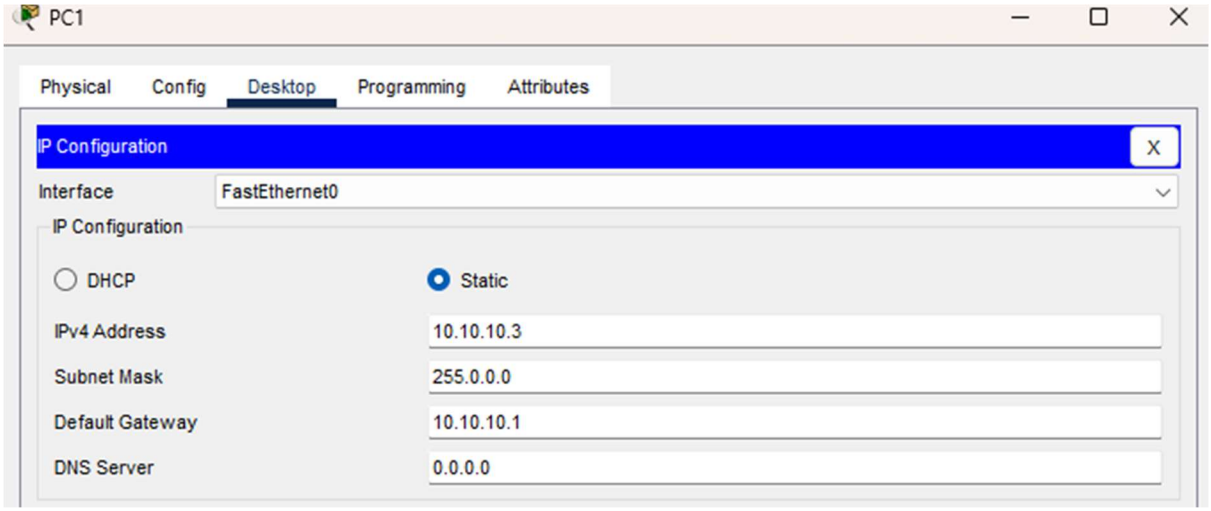
We configure the above network using the following IP addresses :-

Host	Interface	IP address	Network Address	Default Gateway
Router0	G0/0	10.10.10.1	10.0.0.0	
	S0/1/0	40.40.40.1	40.0.0.0	
Router1	G0/0	20.20.20.1	20.0.0.0	
	S0/1/0	40.40.40.2	40.0.0.0	
	S0/1/1	50.50.50.1	50.0.0.0	
Router2	G0/0	30.30.30.1	30.0.0.0	
	S0/1/0	50.50.50.2	50.0.0.0	
PC0	FastEthernet0	10.10.10.2	10.0.0.0	10.10.10.1
PC1	FastEthernet0	10.10.10.3	10.0.0.0	10.10.10.1
PC2	FastEthernet0	10.10.10.4	10.0.0.0	10.10.10.1
PC3	FastEthernet0	20.20.20.2	20.0.0.0	20.20.20.1
PC4	FastEthernet0	20.20.20.3	20.0.0.0	20.20.20.1
PC5	FastEthernet0	20.20.20.4	20.0.0.0	20.20.20.1
PC6	FastEthernet0	30.30.30.2	30.0.0.0	30.30.30.1
PC7	FastEthernet0	30.30.30.3	30.0.0.0	30.30.30.1
PC8	FastEthernet0	30.30.30.4	30.0.0.0	30.30.30.1

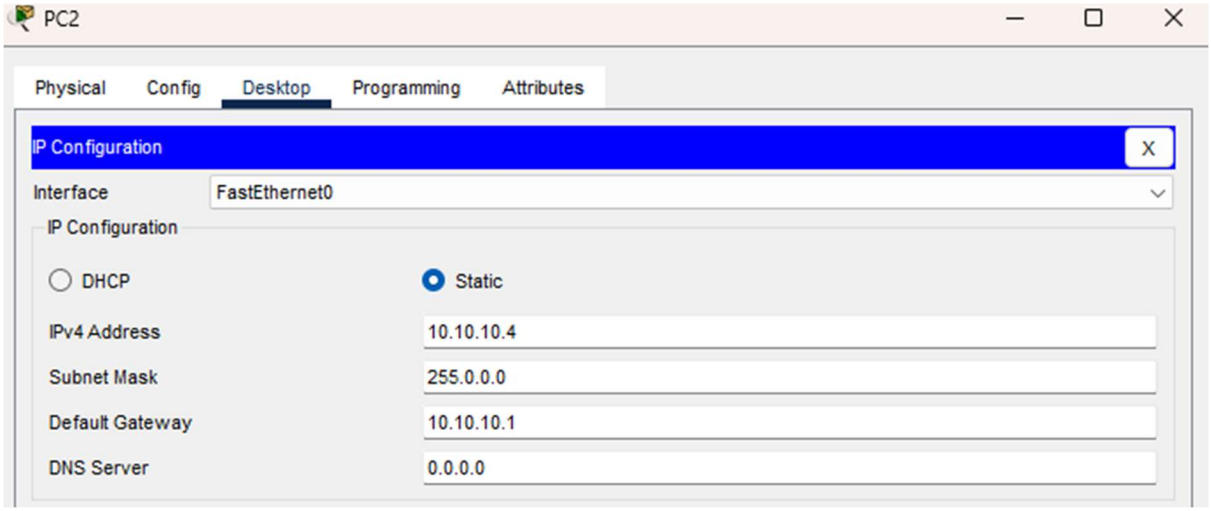
- **Configuring PC0:**



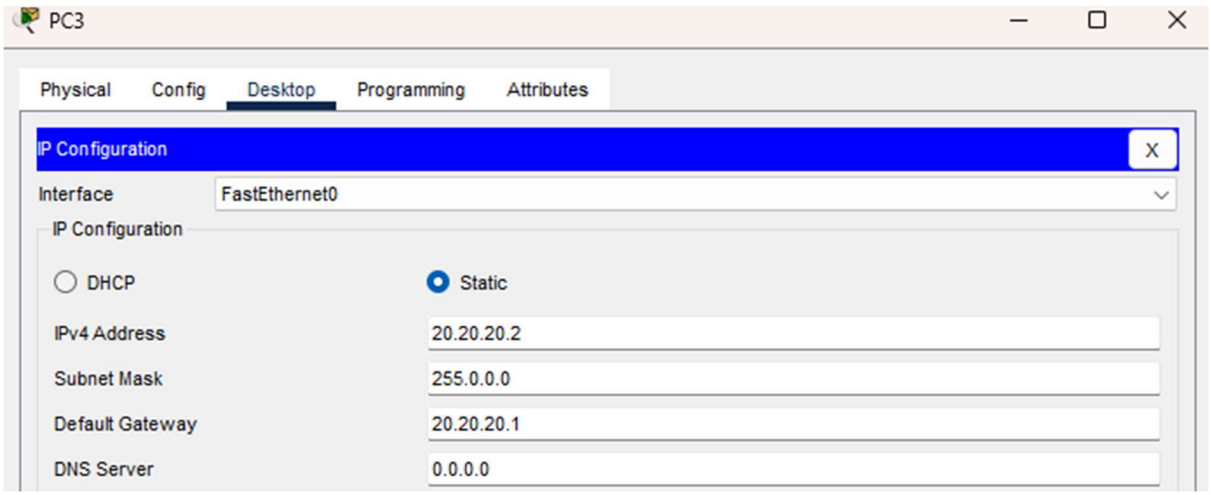
- **Configuring PC1:**



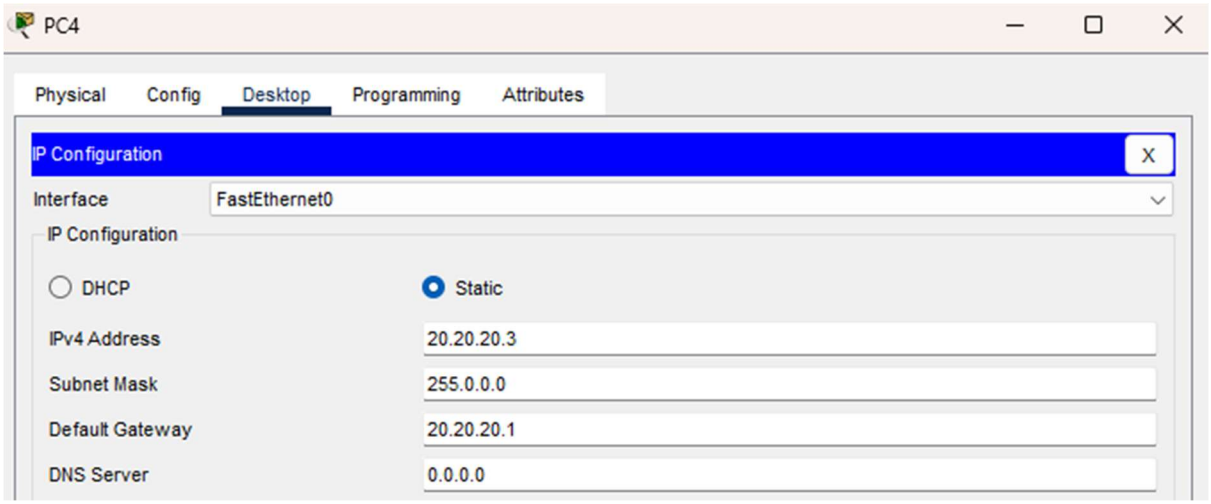
- **Configuring PC2:**



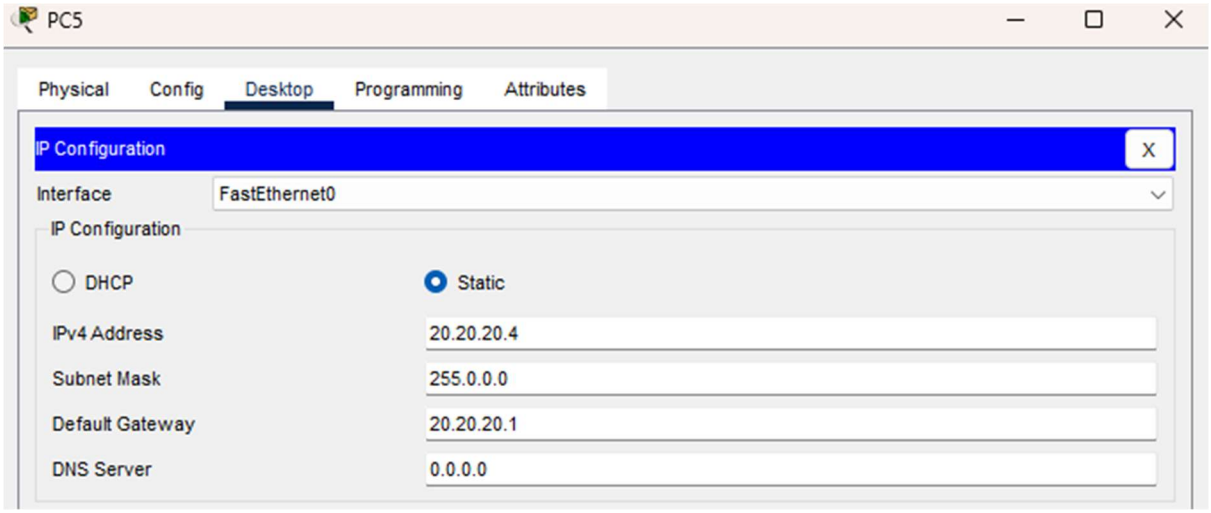
- **Configuring PC3:**



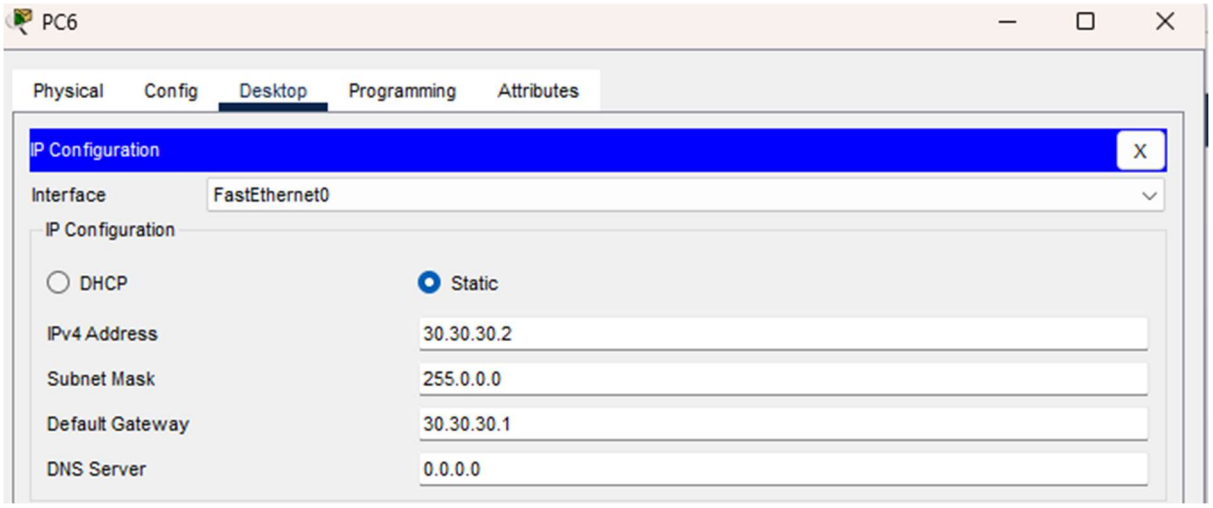
- **Configuring PC4:**



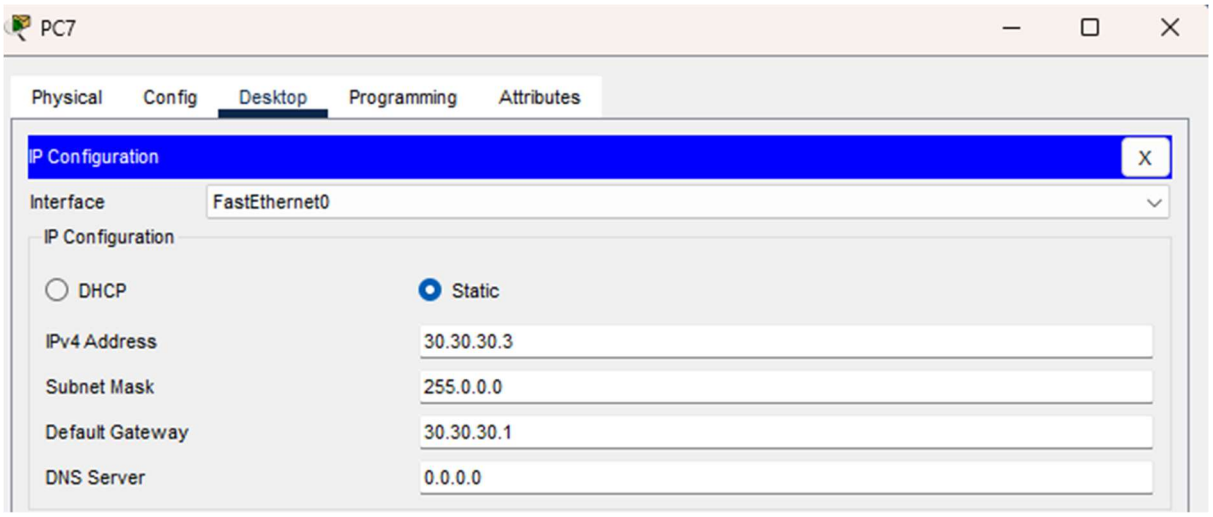
- **Configuring PC5:**



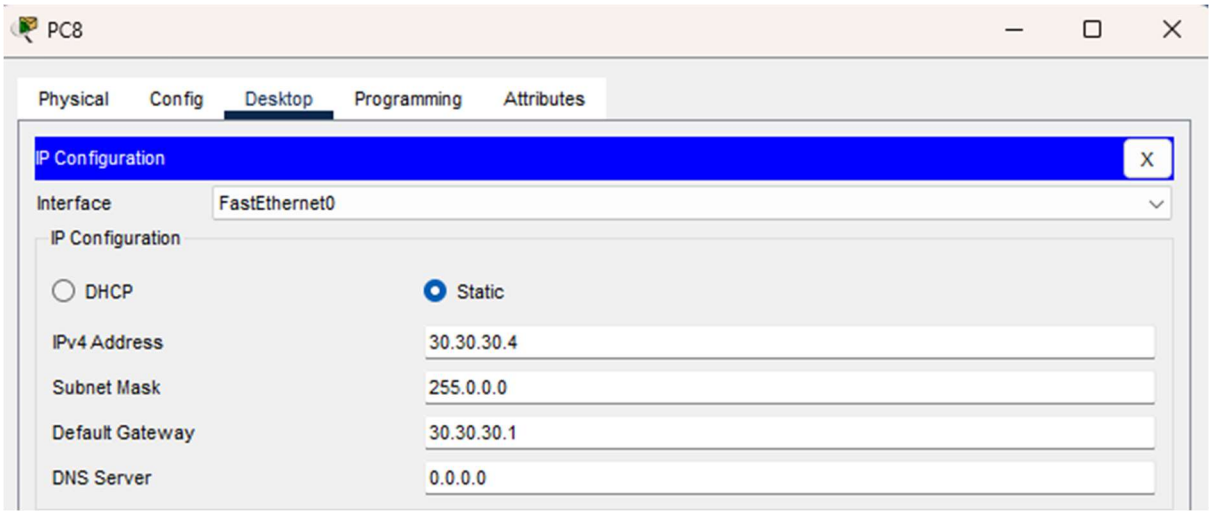
- **Configuring PC6:**



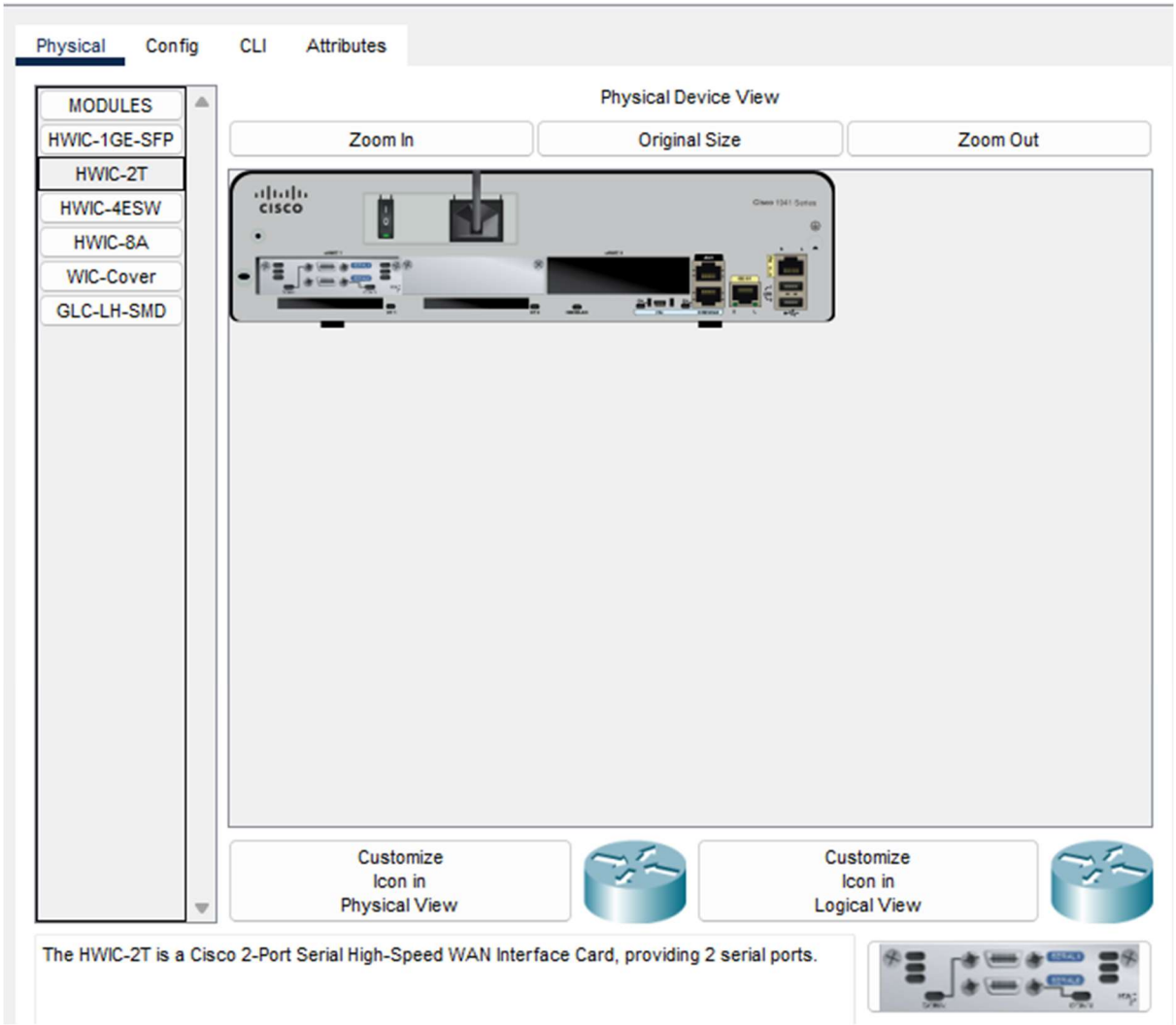
- **Configuring PC7:**



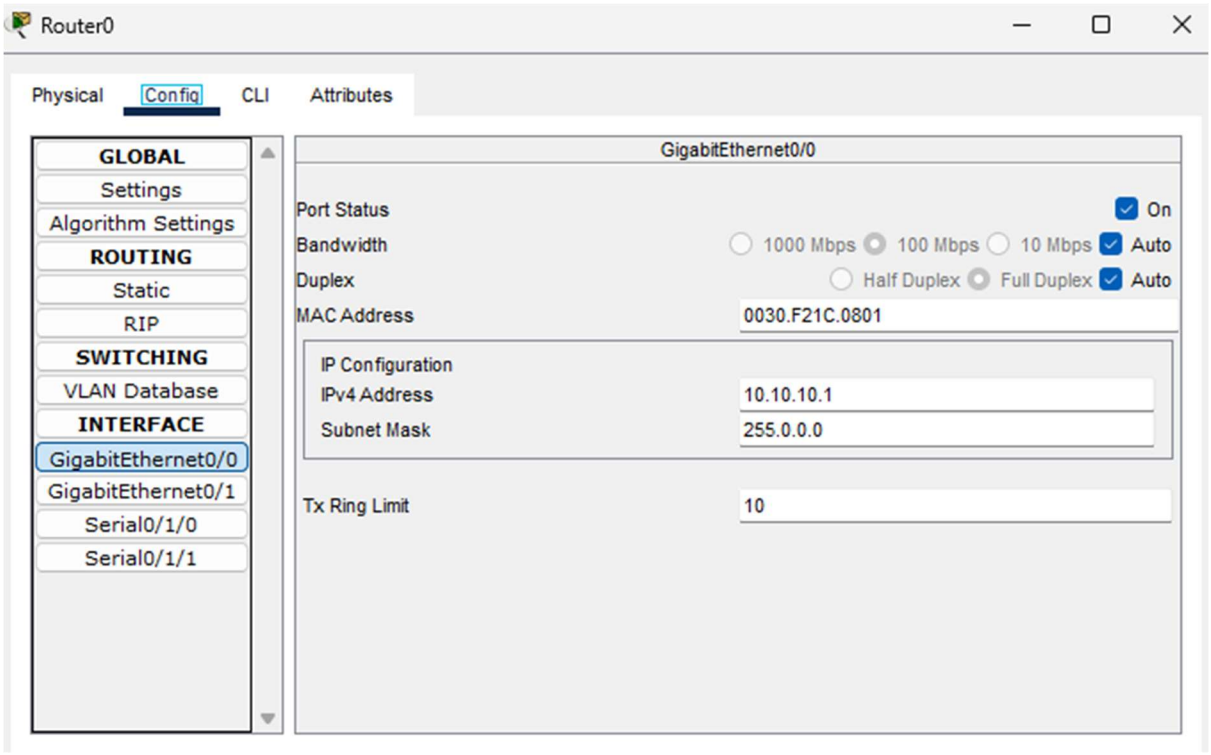
- **Configuring PC8:**



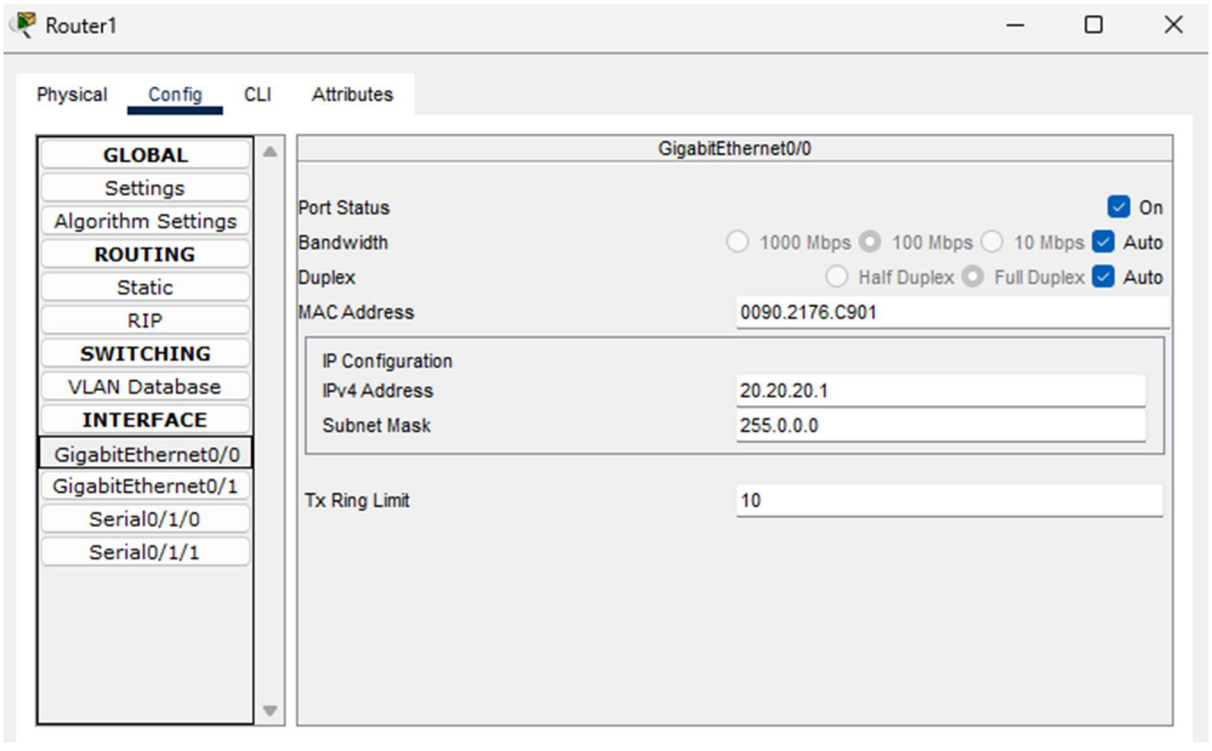
- **Set Serial Interface (<u>HWIC-2T Port</u>) For All Routers:-**



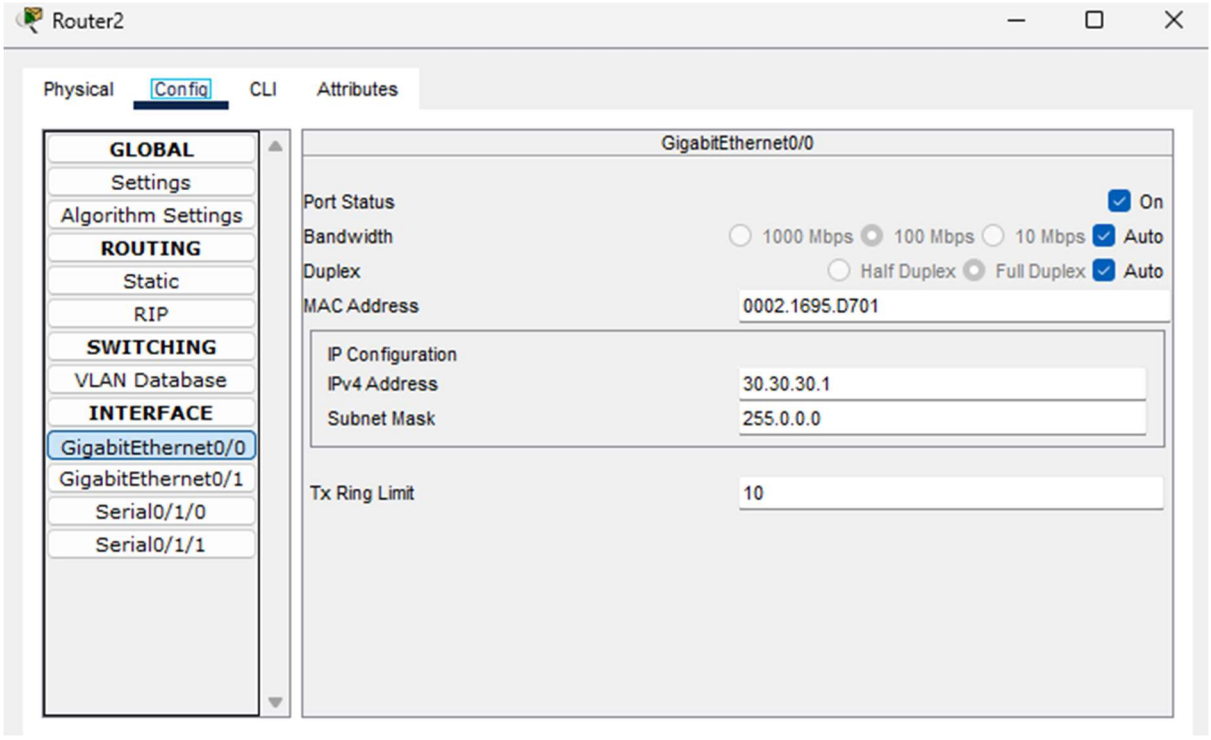
- **Router0 Configuration With PC0,PC1,PC2:**



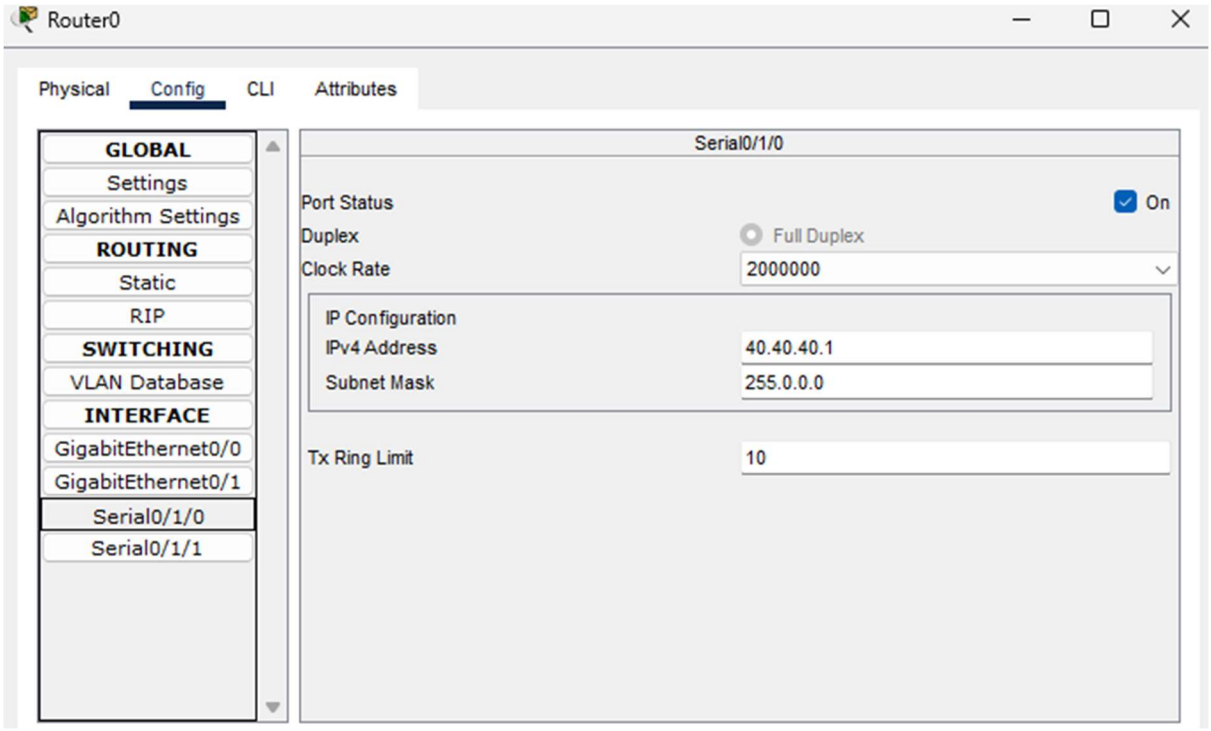
- **Router1 Configuration With PC3,PC4,PC5:**



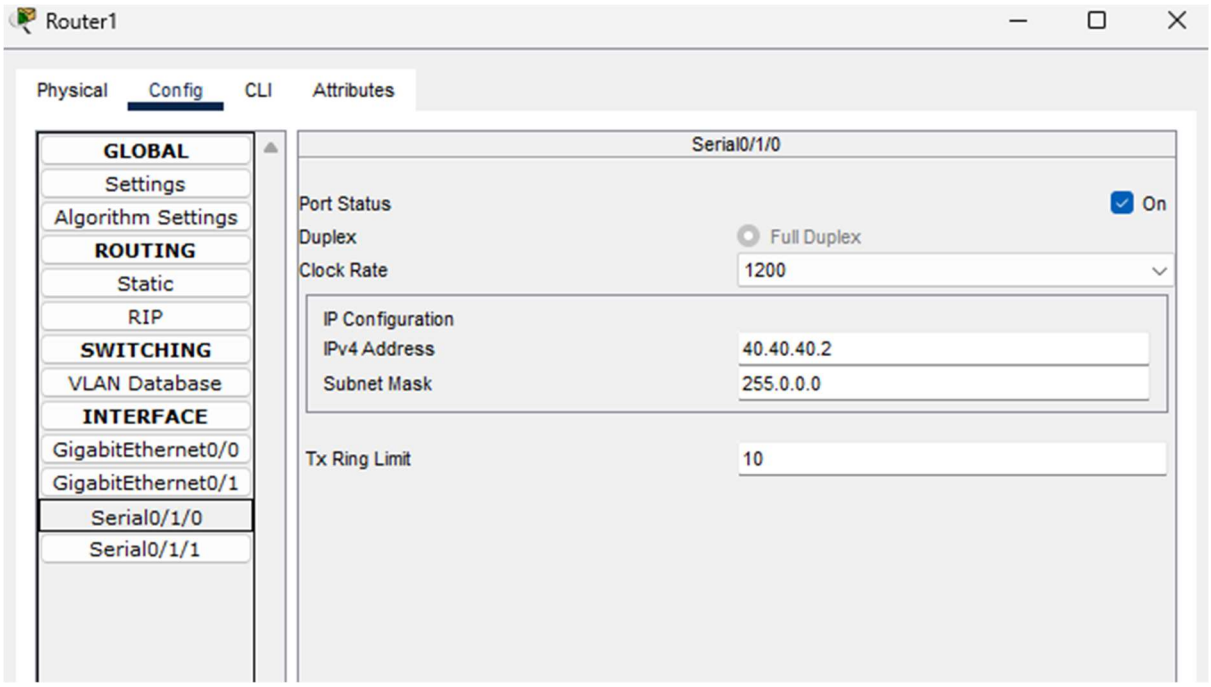
- **Router2 Configuration With PC6,PC7,PC8:**



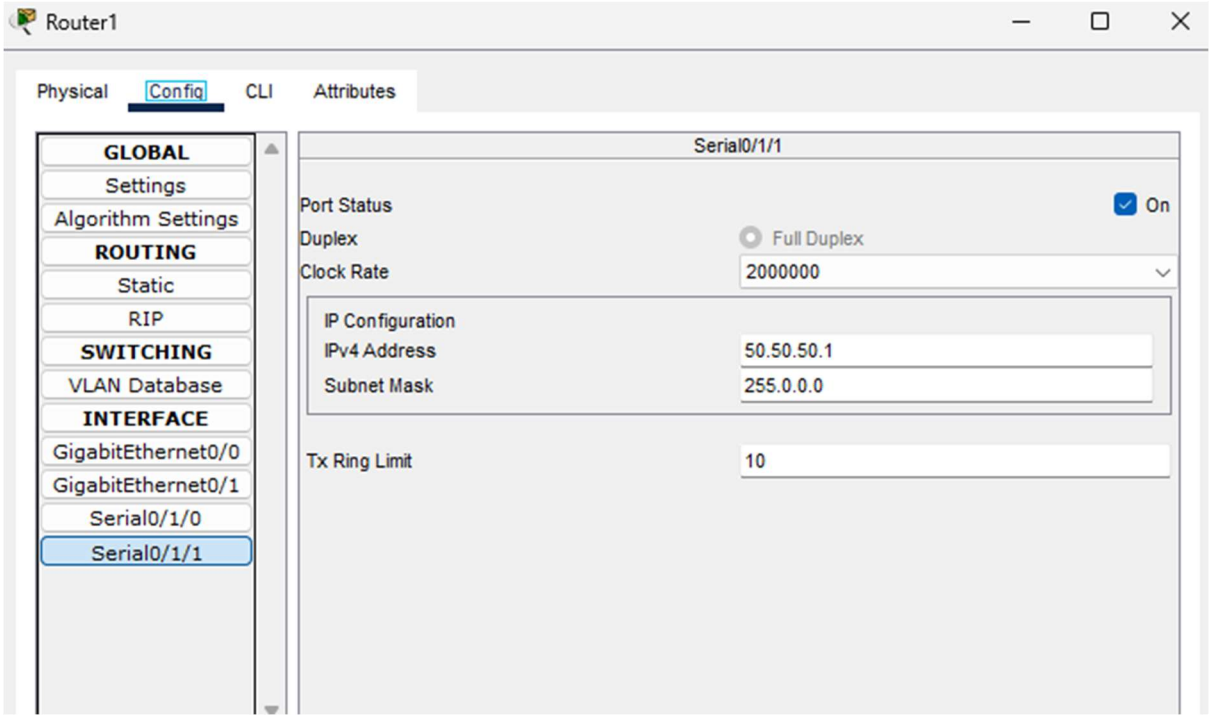
- **Router0 Configuration With Router1:**



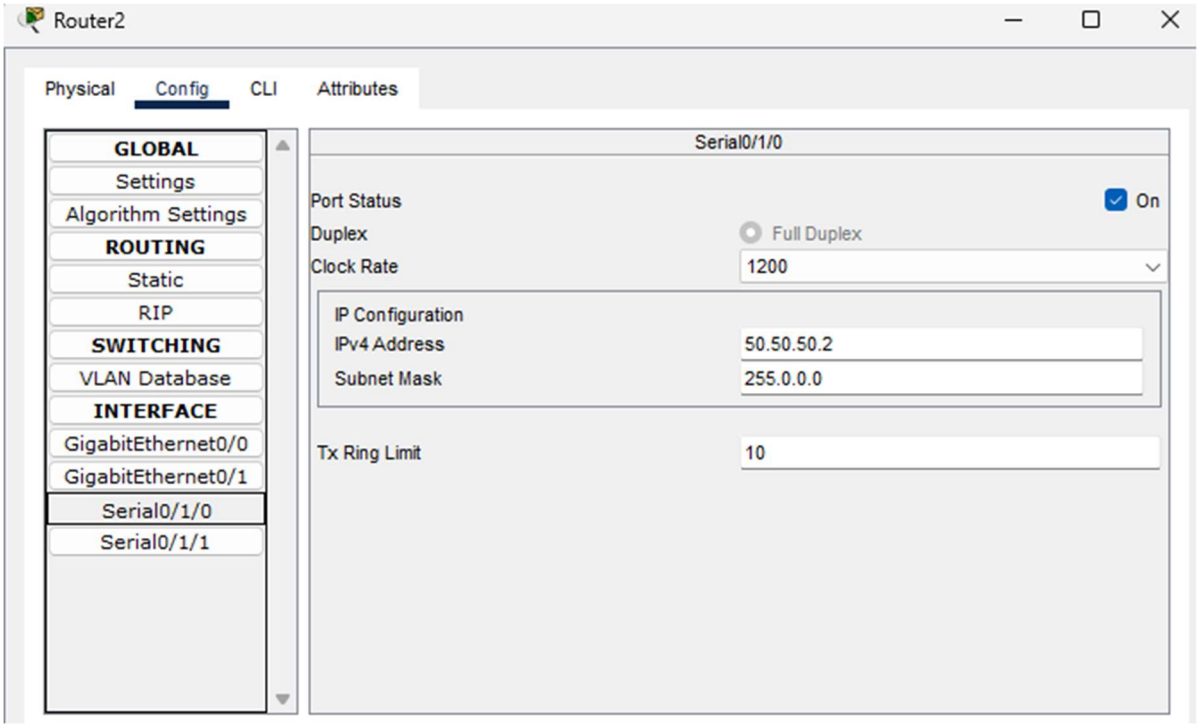
- **Router1 Configuration With Router0:**



- **Router1 Configuration With Router2:**



- **Router2 Configuration With Router1:**



- **<u>Configuring Router0 for BGP (using the CLI mode)</u>**

Router>enable
Router#configure terminal
Router(config)#
Router(config-if)#router bgp 1
Router(config-router)#network 10.0.0.0
Router(config-router)#network 40.0.0.0
Router(config-router)#neighbor 40.40.40.2 remote-as 2

- **<u>Configuring Router1 for BGP (using the CLI mode)</u>**

Router>enable
Router#configure terminal

Router(config)#
Router(config)#router bgp 2
Router(config-router)#network 20.0.0.0
Router(config-router)#network 40.0.0.0
Router(config-router)#network 50.0.0.0
Router(config-router)#neighbor 40.40.40.1 remote-as 1

Router(config-router)#%BGP-5-ADJCHANGE: neighbor 40.40.40.1 Up

Router(config-router)#neighbor 50.50.50.2 remote-as 3

Router(config)#%BGP-5-ADJCHANGE: neighbor 50.50.50.2 Up

Router(config-router)#exit

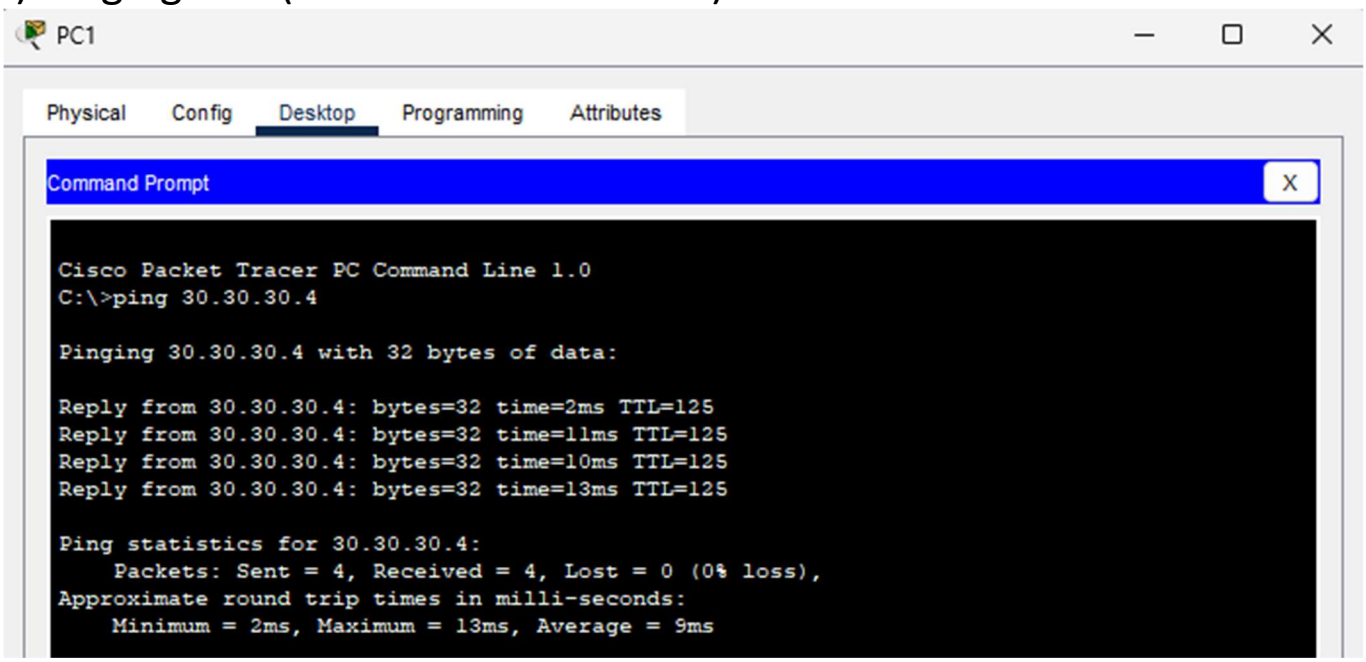
- **Configuring Router2 for BGP (using the CLI mode)**

Router>enable
Router#configure terminal
Router(config)#router bgp 3
Router(config-router)#network 30.0.0.0
Router(config-router)#network 50.0.0.0
Router(config-router)#neighbor 50.50.50.1 remote-as 2

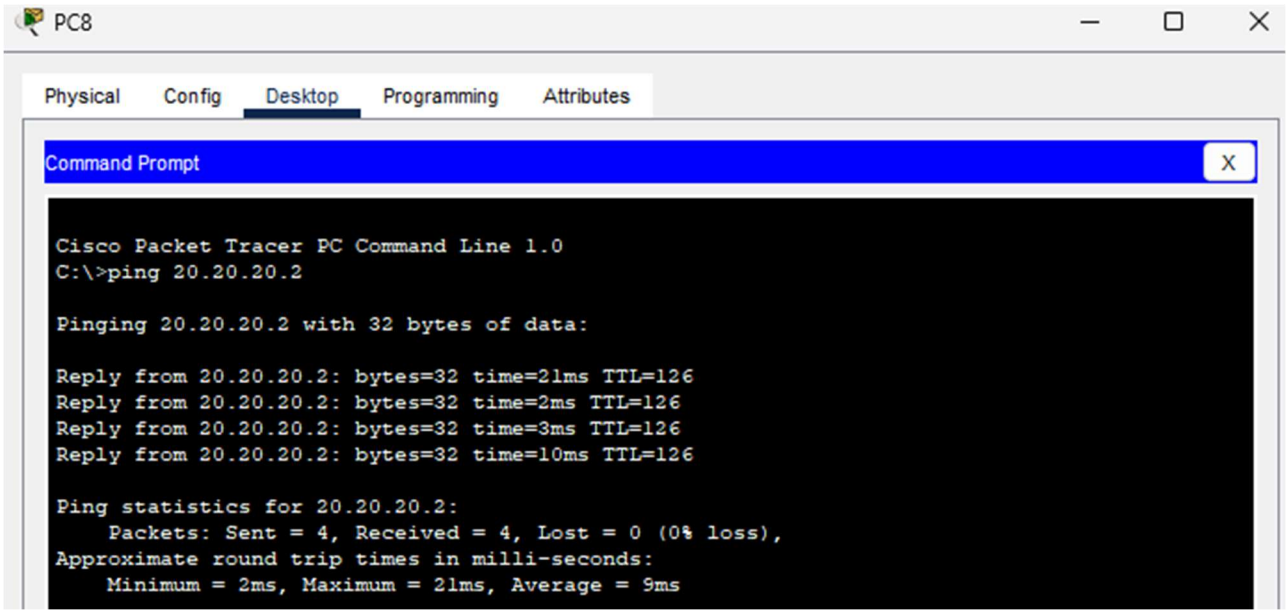
Router(config-router)#%BGP-5-ADJCHANGE: neighbor 50.50.50.1 Up

- **Checking the connectivity by using the ping command:-**

i) Pinging PC8 (IP address 30.30.30.4) from PC1



ii) Pinging PC3 (IP address 20.20.20.2) from PC8



- **Result:**

Hence the BGP has been studied and verified through the given network