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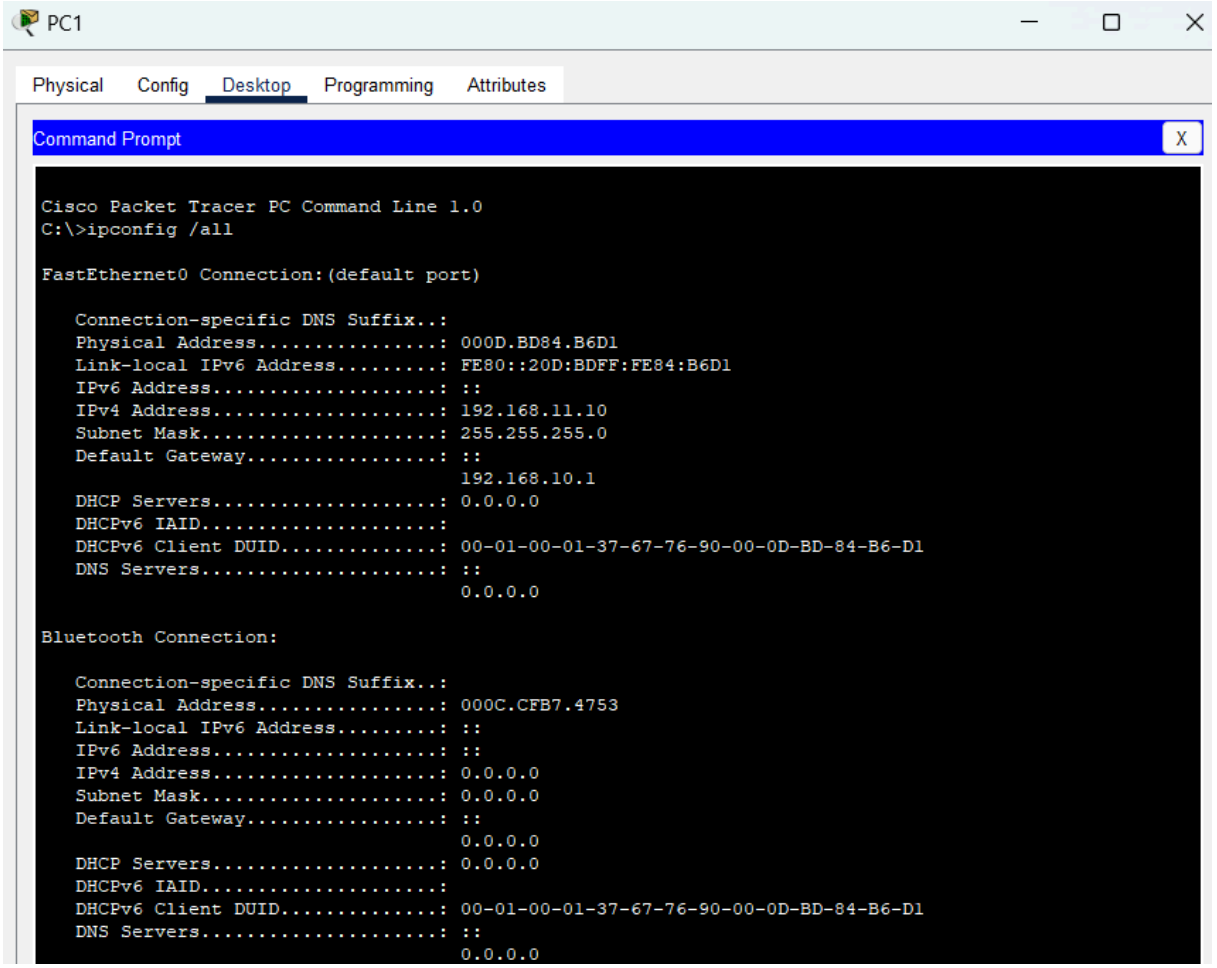
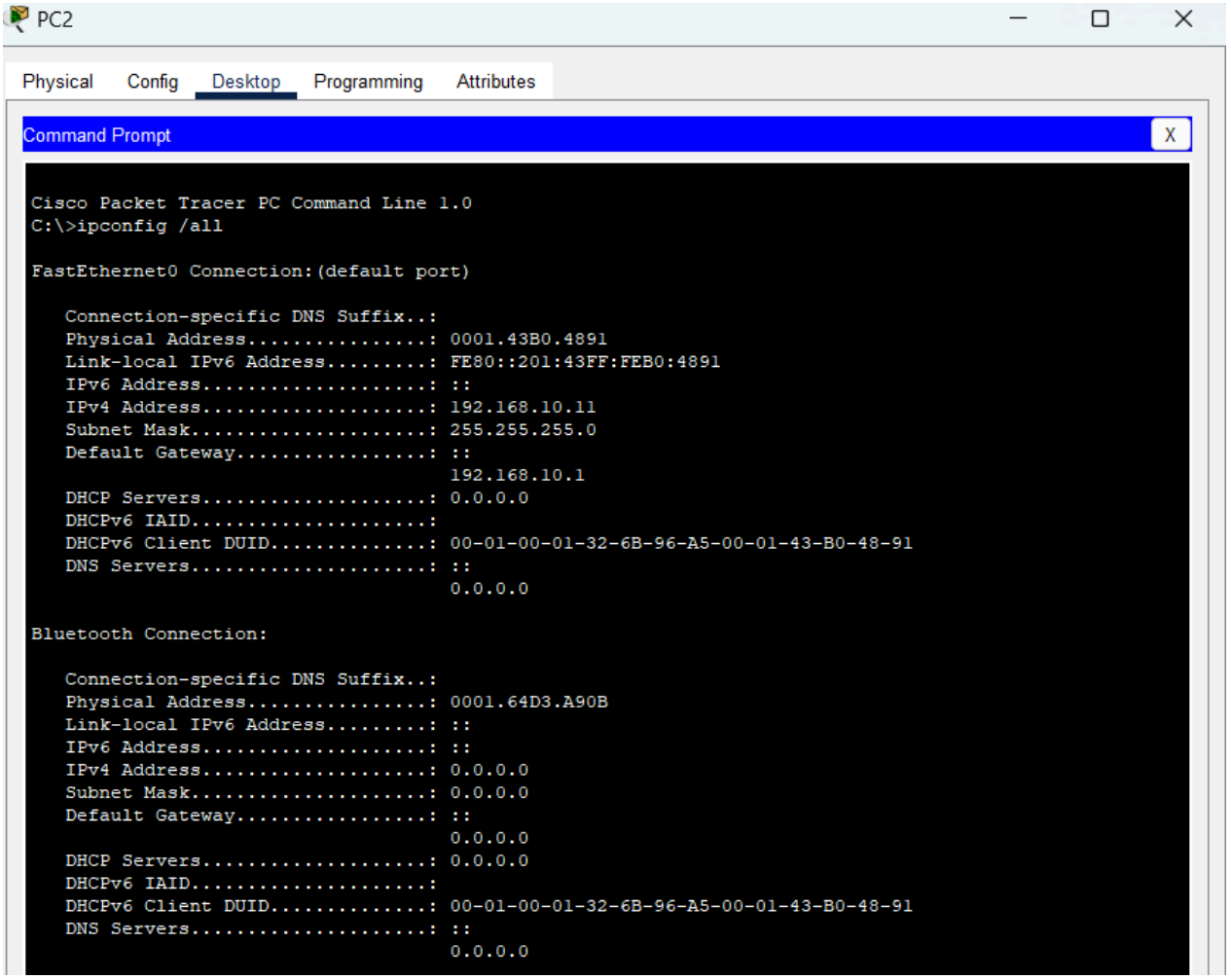
Packet Tracer - Troubleshooting Default Gateway Issues

Find the default gateway for PC1 — PC4 using cmd: ipconfig /all

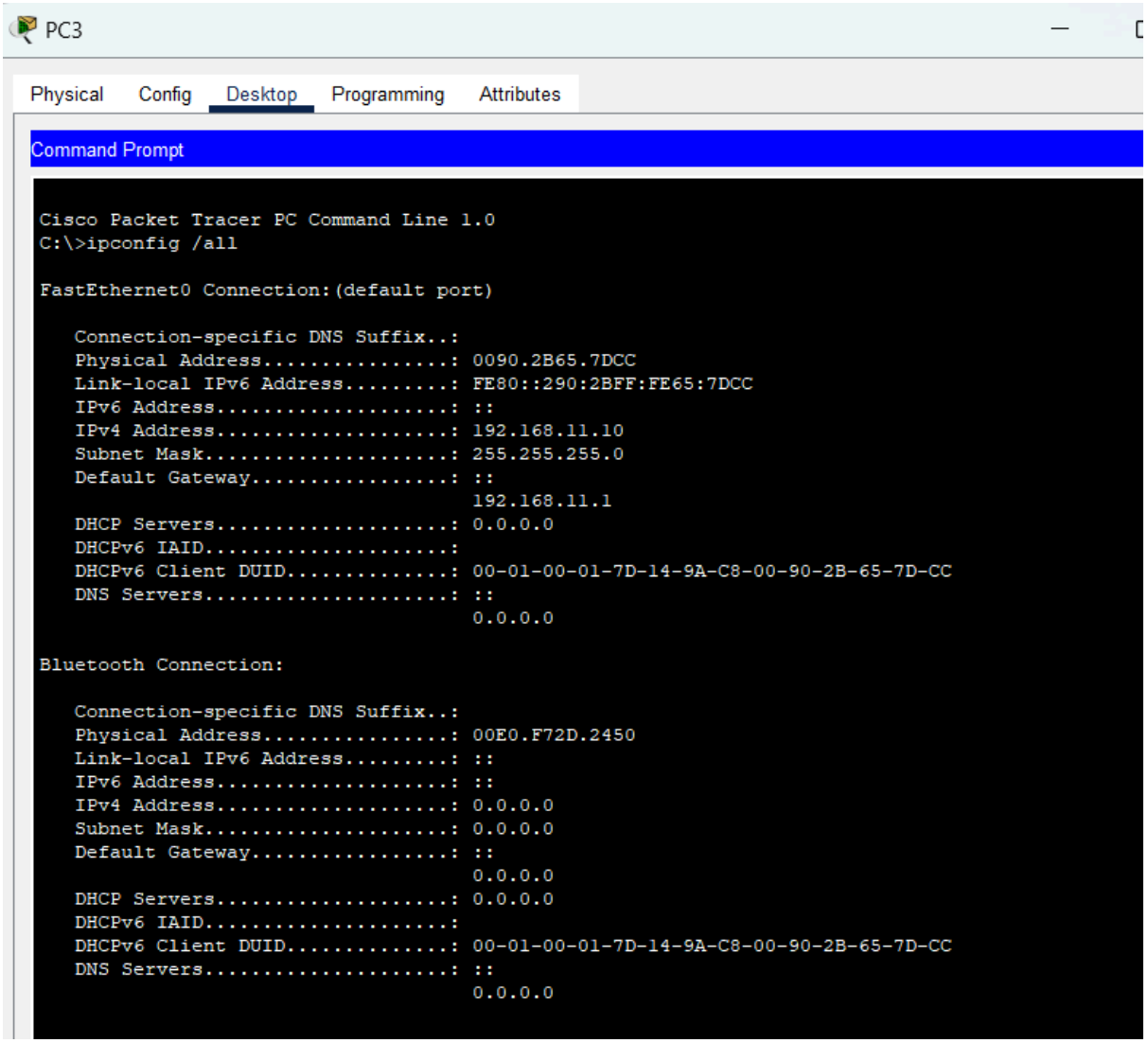
PC1:



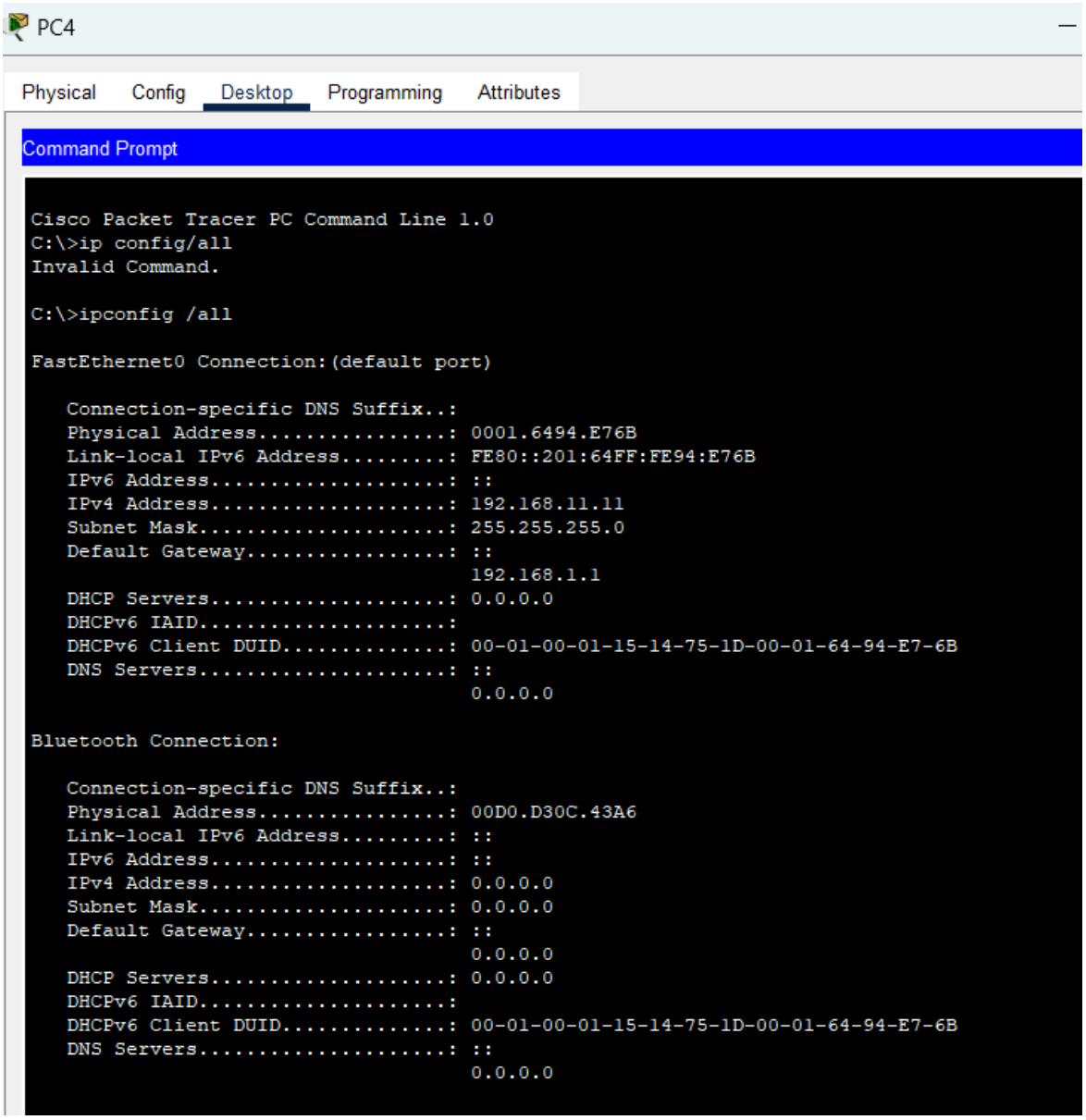
PC2:


PC2
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig /all
FastEthernet0 Connection:(default port)
Connection-specific DNS Suffix..:
Physical Address.....: 0001.43B0.4891
Link-local IPv6 Address.....: FE80::201:43FF:FEB0:4891
IPv6 Address.....: ::
IPv4 Address.....: 192.168.10.11
Subnet Mask.....: 255.255.255.0
Default Gateway.....: ::
192.168.10.1
DHCP Servers.....: 0.0.0.0
DHCPv6 IAID.....:
DHCPv6 Client DUID.....: 00-01-00-01-32-6B-96-A5-00-01-43-B0-48-91
DNS Servers.....: ::
0.0.0.0
Bluetooth Connection:
Connection-specific DNS Suffix..:
Physical Address.....: 0001.64D3.A90B
Link-local IPv6 Address.....: ::
IPv6 Address.....: ::
IPv4 Address.....: 0.0.0.0
Subnet Mask.....: 0.0.0.0
Default Gateway.....: ::
0.0.0.0
DHCP Servers.....: 0.0.0.0
DHCPv6 IAID.....:
DHCPv6 Client DUID.....: 00-01-00-01-32-6B-96-A5-00-01-43-B0-48-91
DNS Servers.....: ::
0.0.0.0

PC3:


PC3
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig /all
FastEthernet0 Connection:(default port)
Connection-specific DNS Suffix..:
Physical Address.....: 0090.2B65.7DCC
Link-local IPv6 Address.....: FE80::290:2BFF:FE65:7DCC
IPv6 Address.....: ::
IPv4 Address.....: 192.168.11.10
Subnet Mask.....: 255.255.255.0
Default Gateway.....: ::
192.168.11.1
DHCP Servers.....: 0.0.0.0
DHCPv6 IAID.....:
DHCPv6 Client DUID.....: 00-01-00-01-7D-14-9A-C8-00-90-2B-65-7D-CC
DNS Servers.....: ::
0.0.0.0
Bluetooth Connection:
Connection-specific DNS Suffix..:
Physical Address.....: 00E0.F72D.2450
Link-local IPv6 Address.....: ::
IPv6 Address.....: ::
IPv4 Address.....: 0.0.0.0
Subnet Mask.....: 0.0.0.0
Default Gateway.....: ::
0.0.0.0
DHCP Servers.....: 0.0.0.0
DHCPv6 IAID.....:
DHCPv6 Client DUID.....: 00-01-00-01-7D-14-9A-C8-00-90-2B-65-7D-CC
DNS Servers.....: ::
0.0.0.0

PC4:


PC4
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ip config/all
Invalid Command.
C:\>ipconfig /all
FastEthernet0 Connection:(default port)
Connection-specific DNS Suffix..:
Physical Address.....: 0001.6494.E76B
Link-local IPv6 Address.....: FE80::201:64FF:FE94:E76B
IPv6 Address.....: ::
IPv4 Address.....: 192.168.11.11
Subnet Mask.....: 255.255.255.0
Default Gateway.....: ::
192.168.1.1
DHCP Servers.....: 0.0.0.0
DHCPv6 IAID.....:
DHCPv6 Client DUID.....: 00-01-00-01-15-14-75-1D-00-01-64-94-E7-6B
DNS Servers.....: ::
0.0.0.0
Bluetooth Connection:
Connection-specific DNS Suffix..:
Physical Address.....: 00D0.D30C.43A6
Link-local IPv6 Address.....: ::
IPv6 Address.....: ::
IPv4 Address.....: 0.0.0.0
Subnet Mask.....: 0.0.0.0
Default Gateway.....: ::
0.0.0.0
DHCP Servers.....: 0.0.0.0
DHCPv6 IAID.....:
DHCPv6 Client DUID.....: 00-01-00-01-15-14-75-1D-00-01-64-94-E7-6B
DNS Servers.....: ::
0.0.0.0

Yellow treated as WRONG

Device	Interface	IP address	Subnet Mask	Default gateway	Actual IP address	Actual Subnet Mask
R1	G0/0	192.168.10.1	255.255.255.0	N/A	x	x
	G0/1	192.168.11.1	255.255.255.0	N/A	x	x
S1	VLAN1	192.168.10.2	255.255.255.0		x	x
S2	VLAN1	192.168.11.1	255.255.255.0		x	x
PC1	NIC	192.168.10.10	255.255.255.0	192.168.10.1	192.168.11.10	255.255.255.0
PC2	NIC	192.168.10.11	255.255.255.0	192.168.10.1	192.168.10.11	255.255.255.0
PC3	NIC	192.168.11.10	255.255.255.0	192.168.11.1	192.168.11.10	255.255.255.0
PC4	NIC	192.168.11.11	255.255.255.0	192.168.1.1	192.168.11.11	255.255.255.0

-> We detected that:

- PC1 has the wrong ip address
- PC4 has the wrong default gateway

Get S1 and S2 information: using CLI

S1: VLAN1 shows IP address but no default gateway.

```
interface Vlan1
 ip address 192.168.10.2 255.255.255.0
!
```

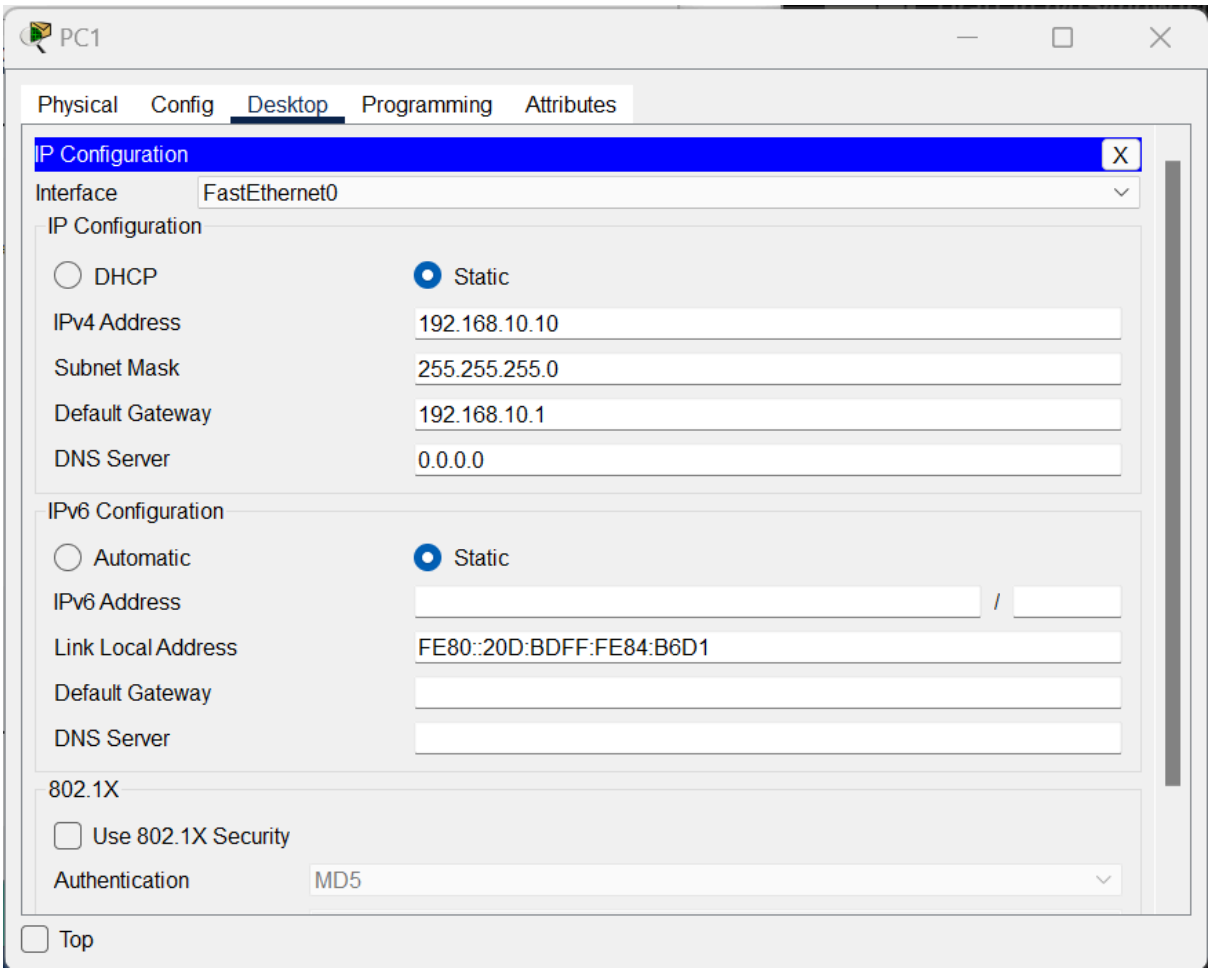
S2: VLAN1 shows no IP address and a default gateway of 192.168.11.1

```
interface Vlan1
 no ip address
!
ip default-gateway 192.168.11.1
!
```

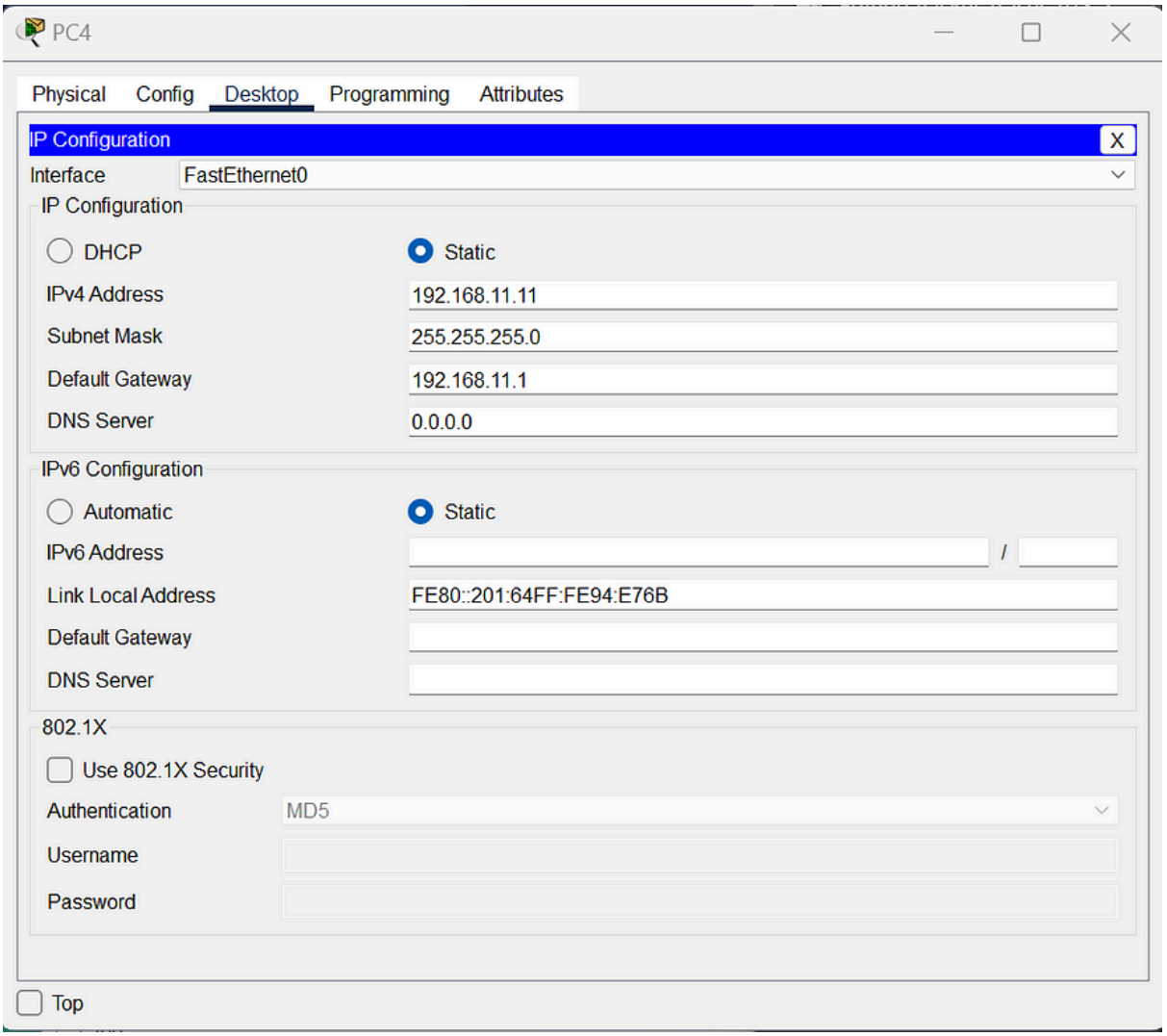
Device	Interface	IP address	Subnet Mask	Default gateway	Actual IP address	Actual Subnet Mask
R1	G0/0	192.168.10.1	255.255.255.0	N/A	x	x
	G0/1	192.168.11.1	255.255.255.0	N/A	x	x
S1	VLAN1	192.168.10.2	255.255.255.0		192.168.10.2	/24
S2	VLAN1	192.168.11.1	255.255.255.0	192.168.11.1	x	x
PC1	NIC	192.168.10.10	255.255.255.0	192.168.10.1	192.168.11.10	255.255.255.0
PC2	NIC	192.168.10.11	255.255.255.0	192.168.10.1	192.168.10.11	255.255.255.0
PC3	NIC	192.168.11.10	255.255.255.0	192.168.11.1	192.168.11.10	255.255.255.0
PC4	NIC	192.168.11.11	255.255.255.0	192.168.1.1	192.168.11.11	255.255.255.0

FIX

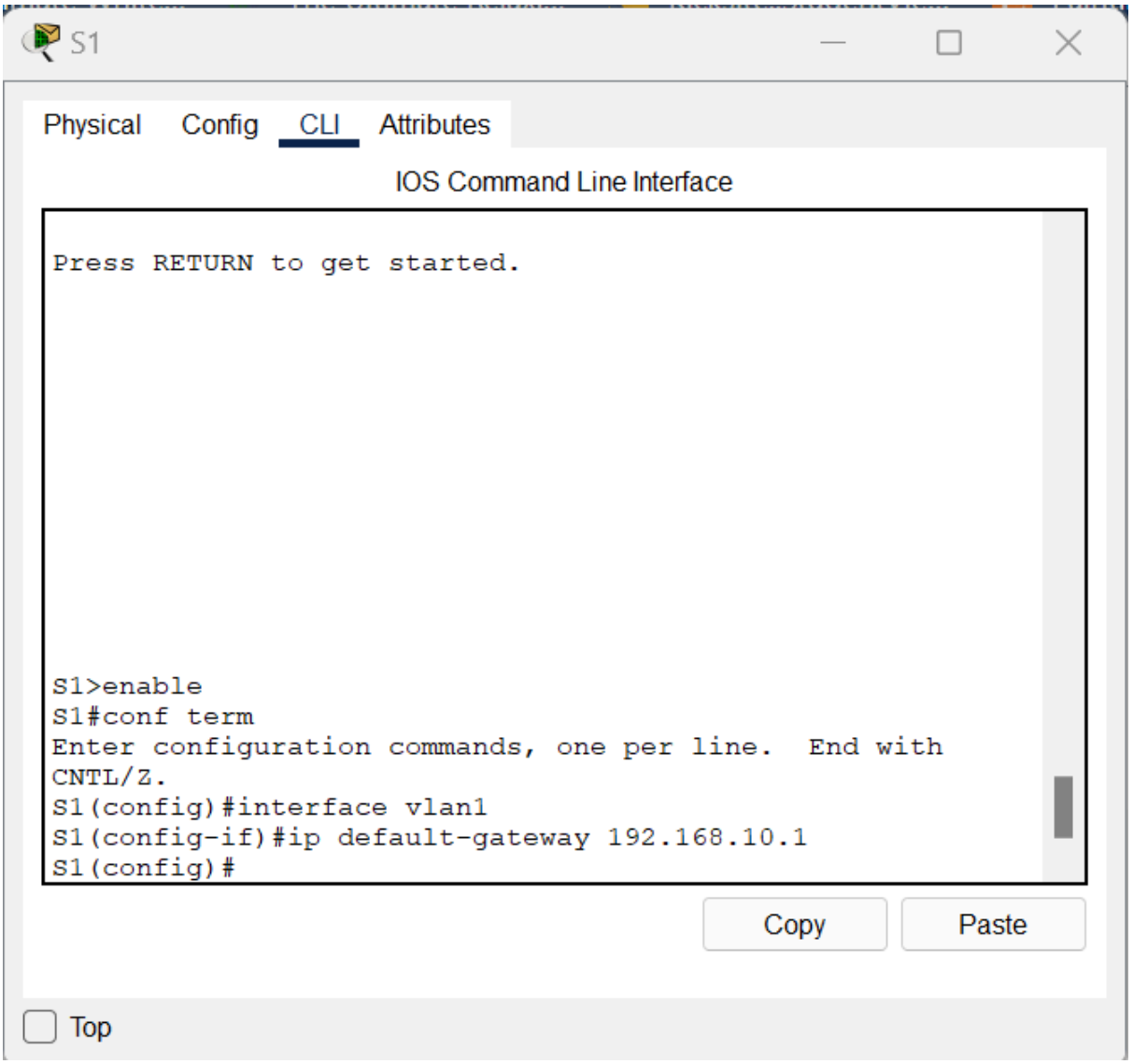
1. IP Configuration and change the IP address to 192.168.10.10



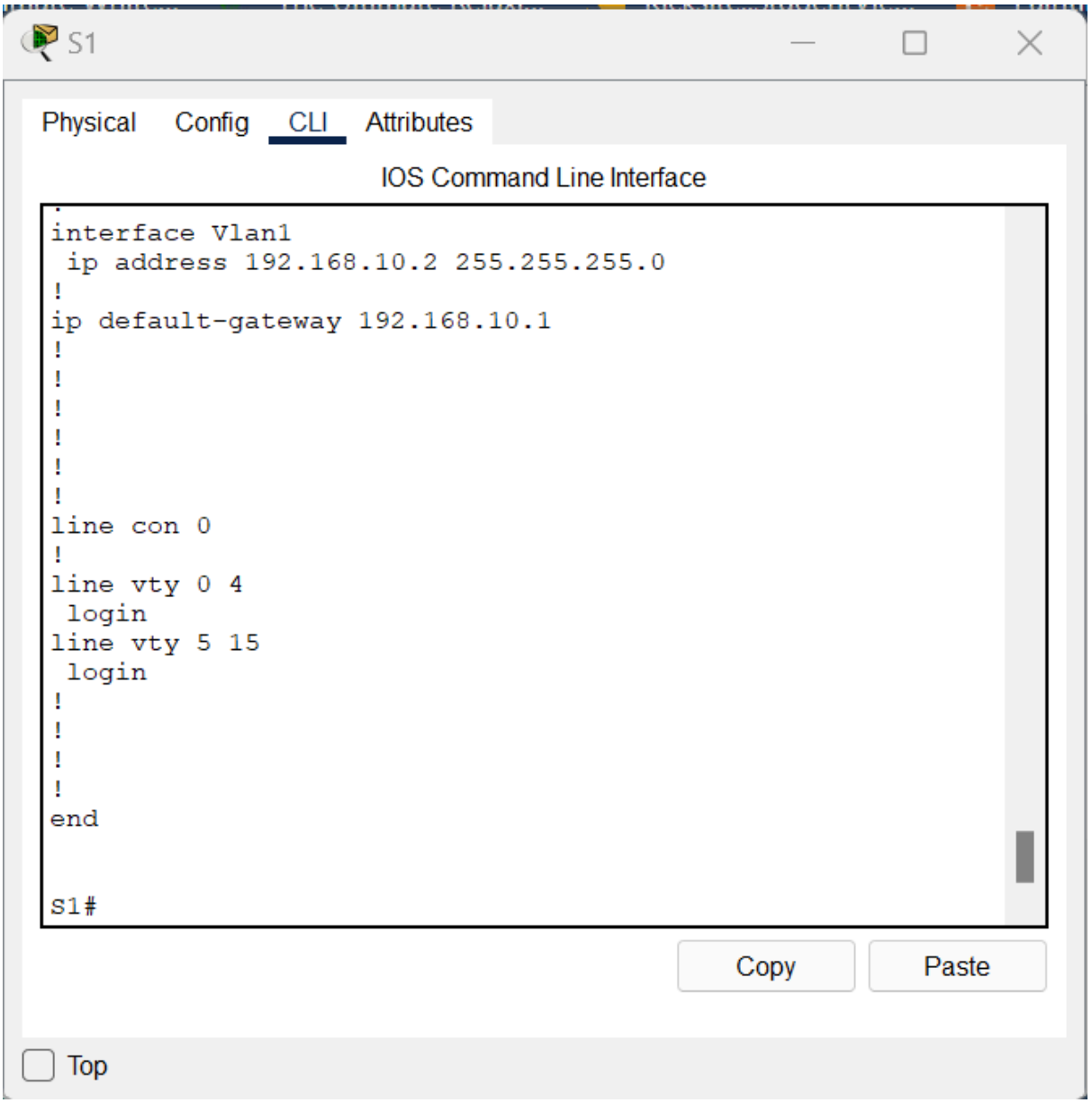
2. IP Configuration and change the default gateway to 192.168.11.1



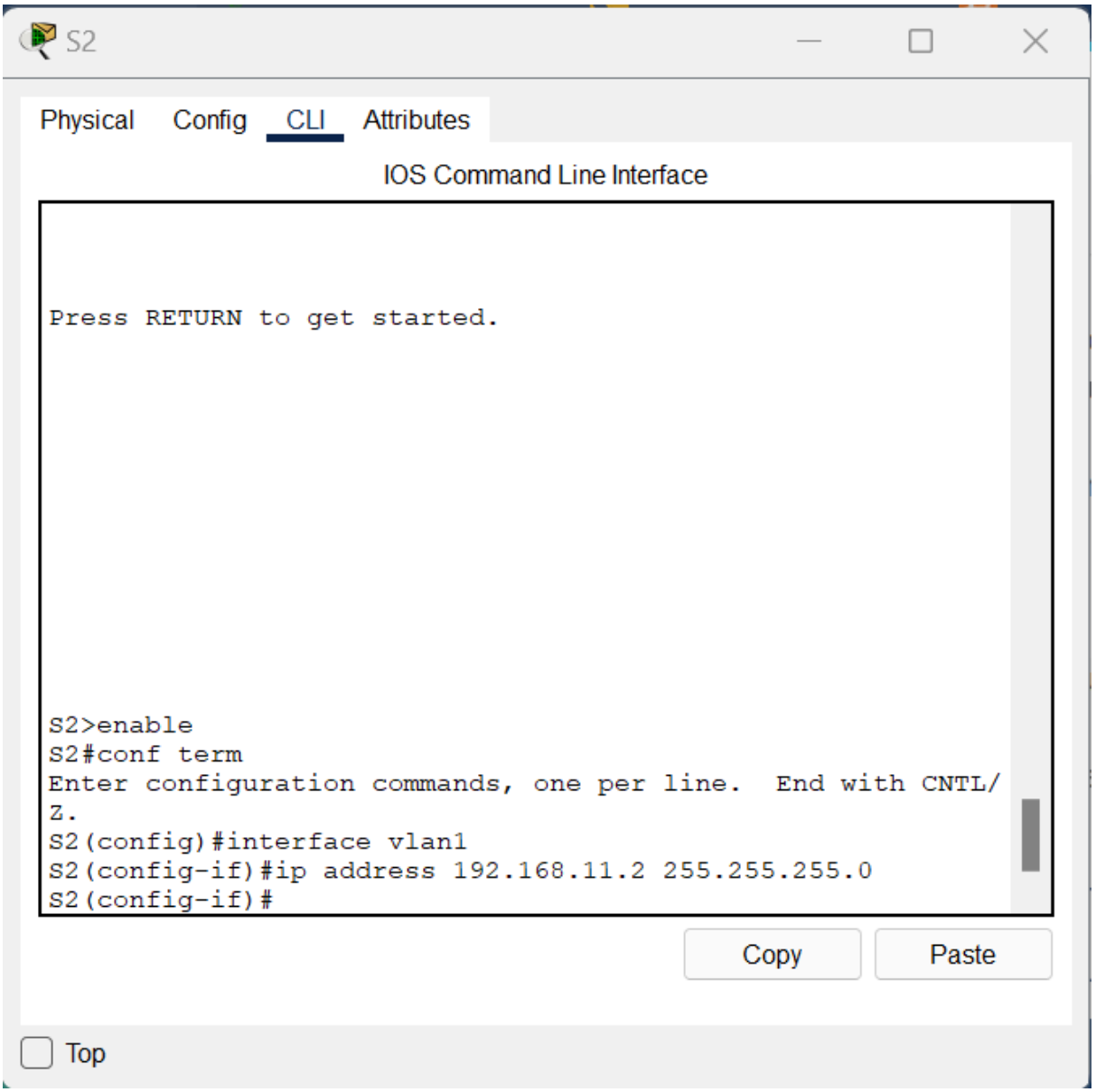
3. Go to S1 CLI and set the default gateway to 192.168.10.1



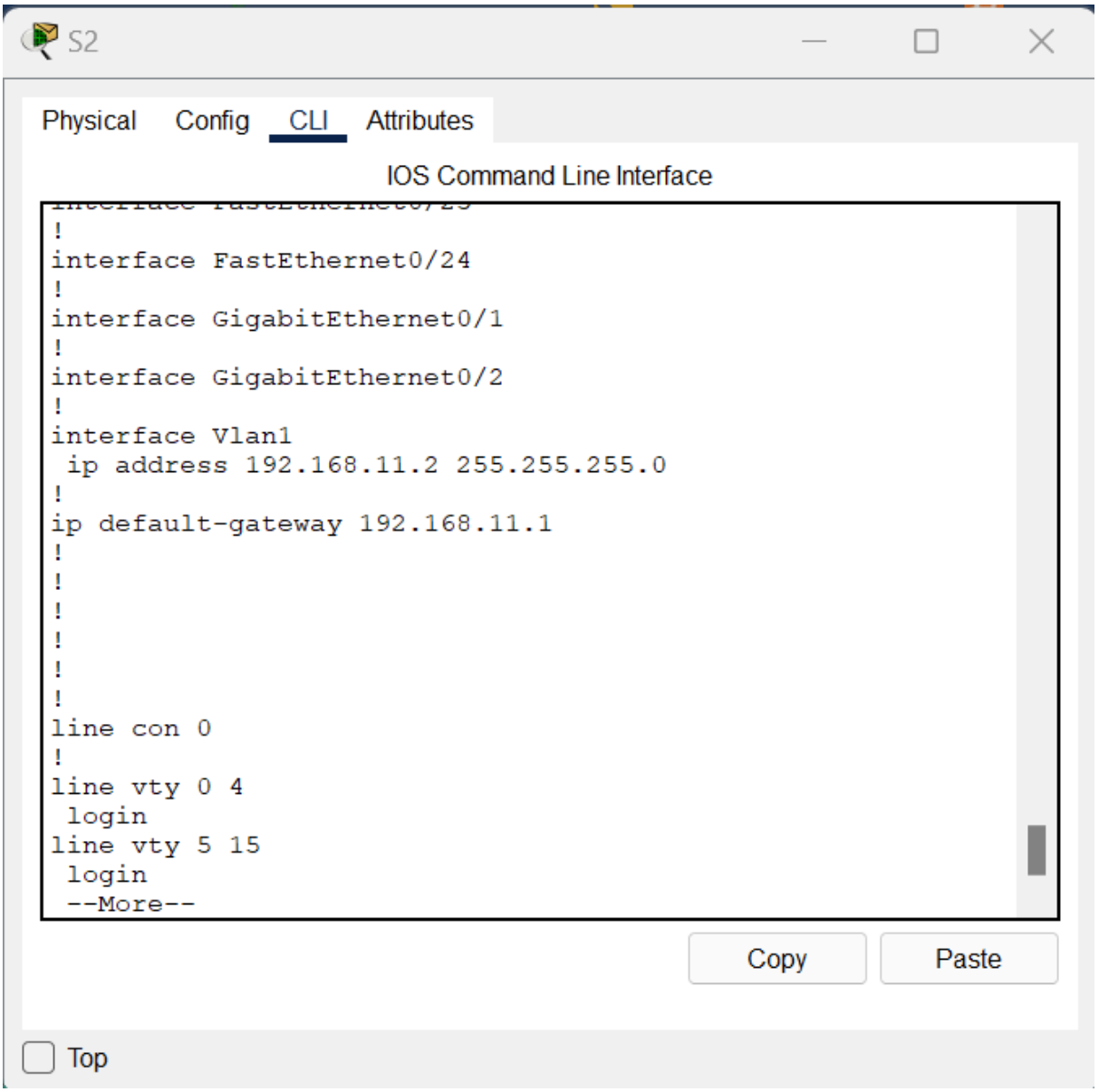
4. Use ‘show running-config’ to verify changes for S1



5. Go to S2 CLI and set the IP address and subnet mask to 192.168.11.2 and 255.255.255.0



6. Check the changes



After fixed:

Device	Interface	IP address	Subnet Mask	Default gateway	Actual IP address	Actual Subnet Mask
R1	G0/0	192.168.10.1	255.255.255.0	N/A	x	x
	G0/1	192.168.11.1	255.255.255.0	N/A	x	x
S1	VLAN1	192.168.10.2	255.255.255.0	192.168.10.1	192.168.10.2	/24
S2	VLAN1	192.168.11.1	255.255.255.0	192.168.11.1	192.168.11.2	255.255.255.0
PC1	NIC	192.168.10.10	255.255.255.0	192.168.10.1	192.168.11.10	255.255.255.0
PC2	NIC	192.168.10.11	255.255.255.0	192.168.10.1	192.168.10.11	255.255.255.0
PC3	NIC	192.168.11.10	255.255.255.0	192.168.11.1	192.168.11.10	255.255.255.0
PC4	NIC	192.168.11.11	255.255.255.0	192.168.11.1	192.168.11.11	255.255.255.0

TEST AND VERIFYING:

Test	Successful	Issue	Solution	Verified
PC1 to PC2	NO	PC 1 incorrect IP	Correct PC1 IP	YES
PC1 to S1	NO	PC 1 incorrect IP	Correct PC1 IP	YES
PC1 to R1	YES	PC 1 incorrect IP	Correct PC1 IP	YES
PC2 to S1	YES			
PC2 to R1	YES			
PC3 to S2	NO	S2 didn’t have IP	Set IP for S2	YES
PC3 to R1	YES			
PC4 to S2	NO	S2 didn’t have IP	Set IP for S2	YES
PC4 to R1	YES			
PC1 to PC3	YES			
PC3 to PC4	YES			