NND (Network and Networking Devices Workshop)

NAME - KHUSHI

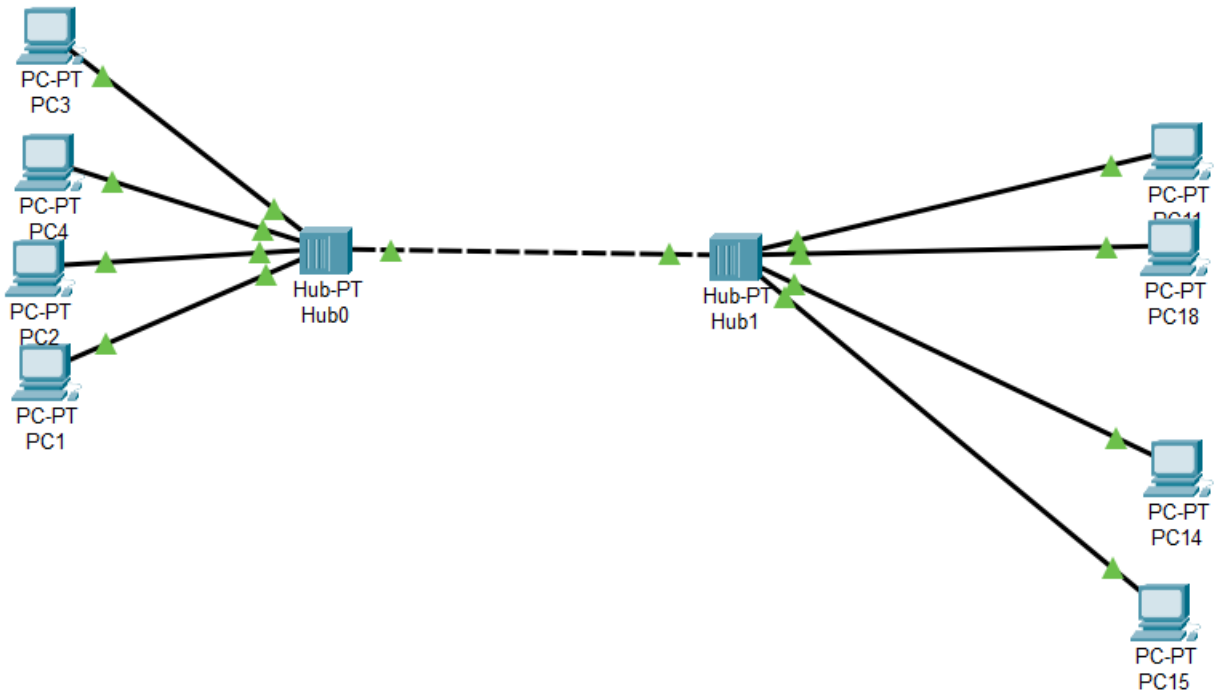
ROLL NO. - 2021UIT3046

BRANCH/SEC - IT-1

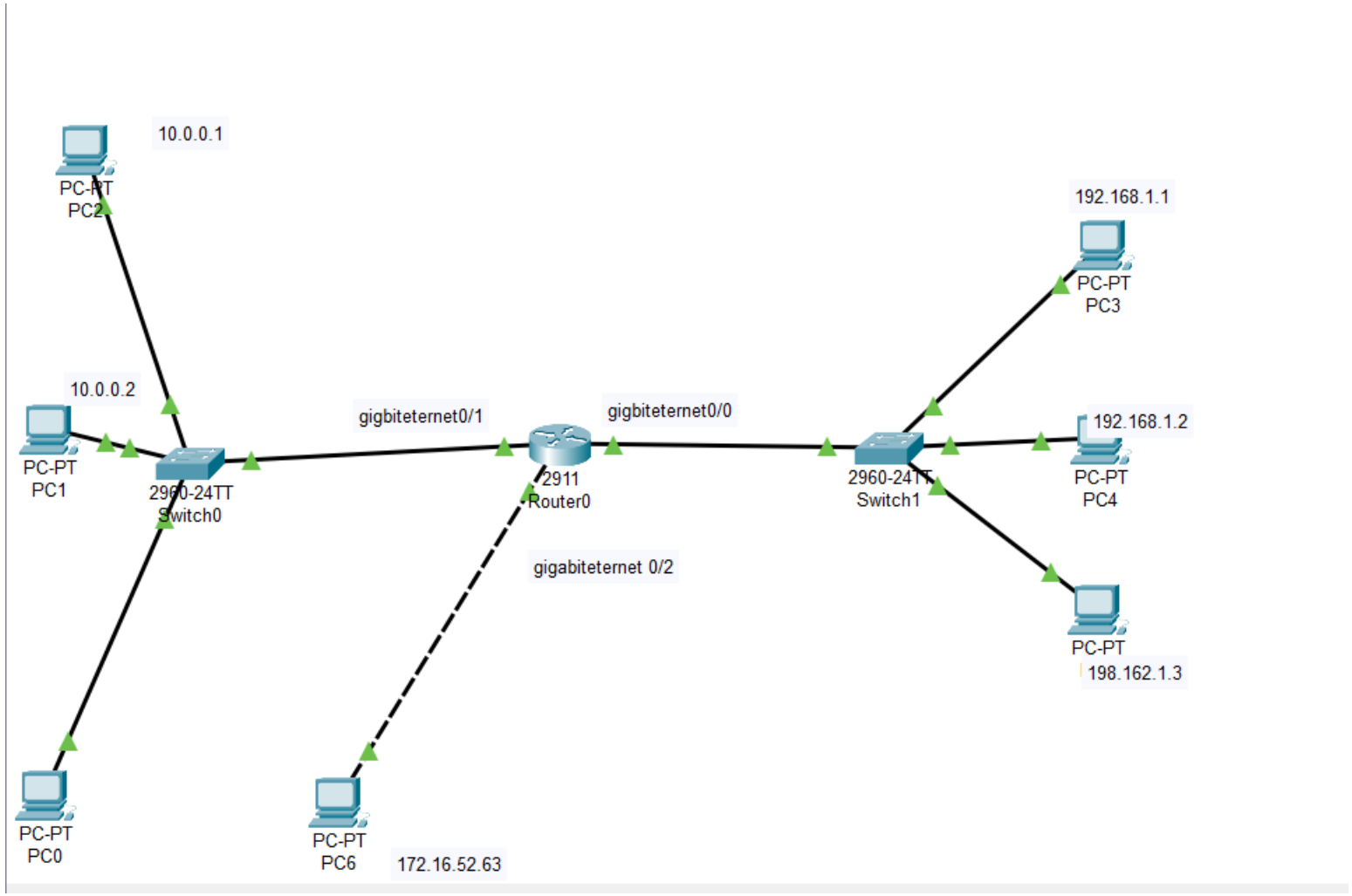
PRACTICAL 1:

PRACTICAL 2: STRAIGHT LAN CONFIGURATION USING :-

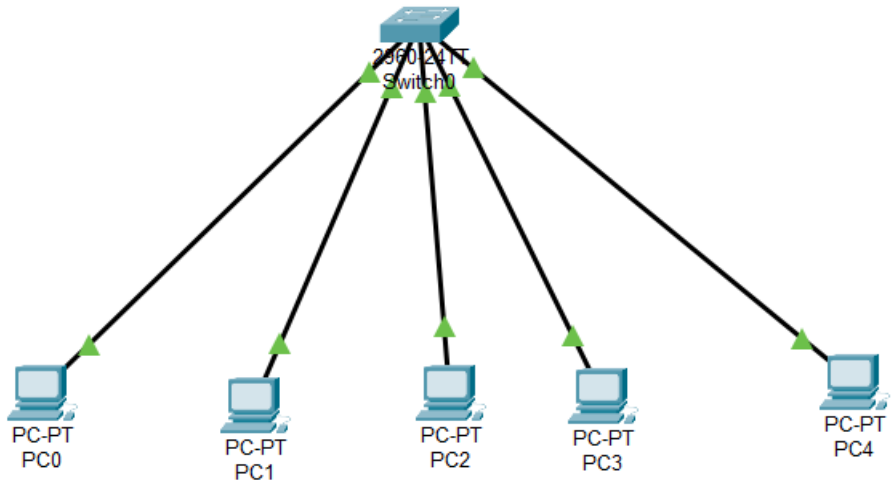
i. HUB:



ii. ROUTER:


10.0.0.1
PC-PT
PC2
192.168.1.1
PC-PT
PC3
10.0.0.2
gigbiteternet0/1
gigbiteternet0/0
PC-PT
PC1
2960-24TT
Switch0
2911
Router0
2960-24TT
Switch1
192.168.1.2
PC-PT
PC4
gigabiteternet 0/2
PC-PT
198.162.1.3
PC-PT
PC0
PC-PT
PC6
172.16.52.63

iii. SWITCH:

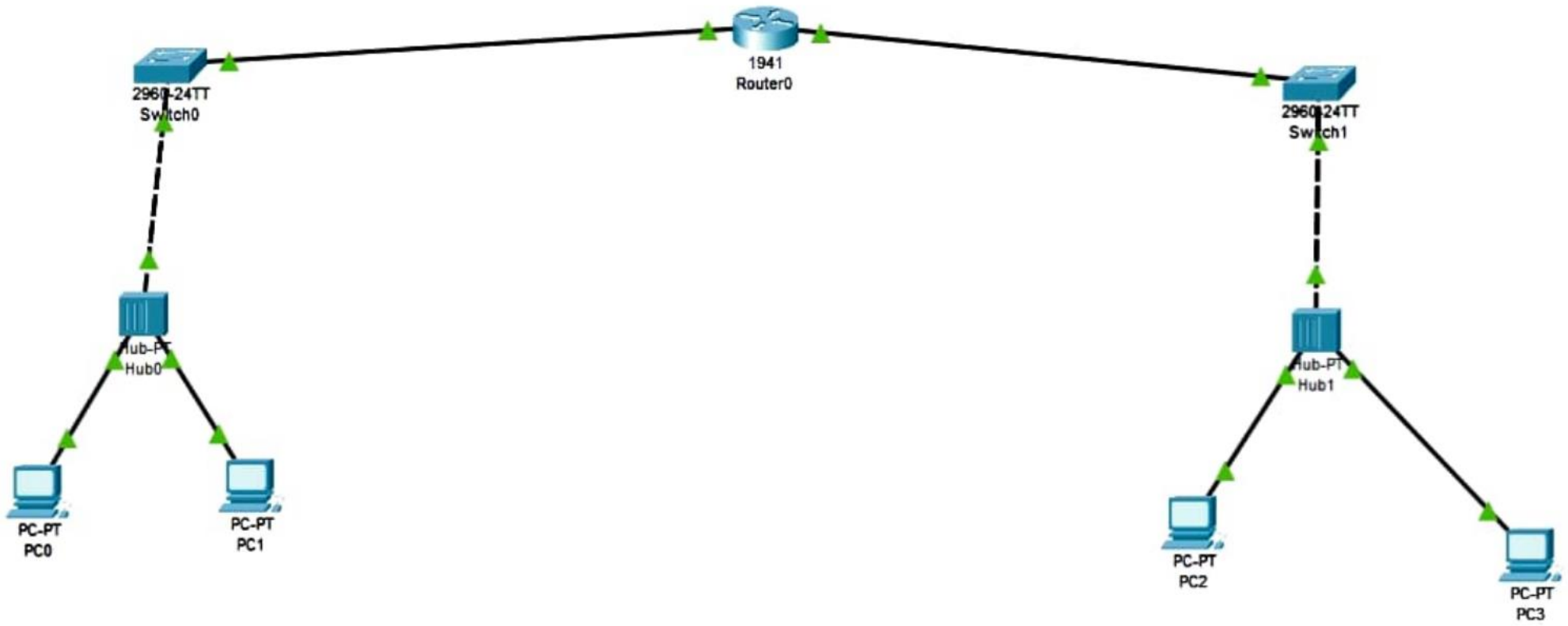



```
Device Name: Switch0
Custom Device Model: 2960 IOS15
Hostname: Switch

Port                 Link   VLAN   IP Address          MAC Address
FastEthernet0/1      Up     1      --                  0001.436E.B401
FastEthernet0/2      Up     1      --                  0001.436E.B402
FastEthernet0/3      Up     1      --                  0001.436E.B403
FastEthernet0/4      Up     1      --                  0001.436E.B404
FastEthernet0/5      Up     1      --                  0001.436E.B405
FastEthernet0/6      Down   1      --                  0001.436E.B406
FastEthernet0/7      Down   1      --                  0001.436E.B407
FastEthernet0/8      Down   1      --                  0001.436E.B408
FastEthernet0/9      Down   1      --                  0001.436E.B409
FastEthernet0/10     Down   1      --                  0001.436E.B40A
FastEthernet0/11     Down   1      --                  0001.436E.B40B
FastEthernet0/12     Down   1      --                  0001.436E.B40C
FastEthernet0/13     Down   1      --                  0001.436E.B40D
FastEthernet0/14     Down   1      --                  0001.436E.B40E
FastEthernet0/15     Down   1      --                  0001.436E.B40F
FastEthernet0/16     Down   1      --                  0001.436E.B410
FastEthernet0/17     Down   1      --                  0001.436E.B411
FastEthernet0/18     Down   1      --                  0001.436E.B412
FastEthernet0/19     Down   1      --                  0001.436E.B413
FastEthernet0/20     Down   1      --                  0001.436E.B414
FastEthernet0/21     Down   1      --                  0001.436E.B415
FastEthernet0/22     Down   1      --                  0001.436E.B416
FastEthernet0/23     Down   1      --                  0001.436E.B417
FastEthernet0/24     Down   1      --                  0001.436E.B418
GigabitEthernet0/1   Down   1      --                  0001.436E.B419
GigabitEthernet0/2   Down   1      --                  0001.436E.B41A
Vlan1                Down   1      <not set>           0009.7C85.27A6

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Switch0
```

3.Document a basic network using hub, switch and router in one network:



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

PC3

Physical Config Desktop Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

DHCP Static This address is already used in the network.

IPv4 Address 192.168.5.2

Subnet Mask 255.255.255.0

Default Gateway 192.168.5.3

DNS Server 0.0.0.0

IPv6 Configuration

Automatic Static

IPv6 Address /

Link Local Address FE80::290:21FF:FE5E:E2DE

Default Gateway

DNS Server

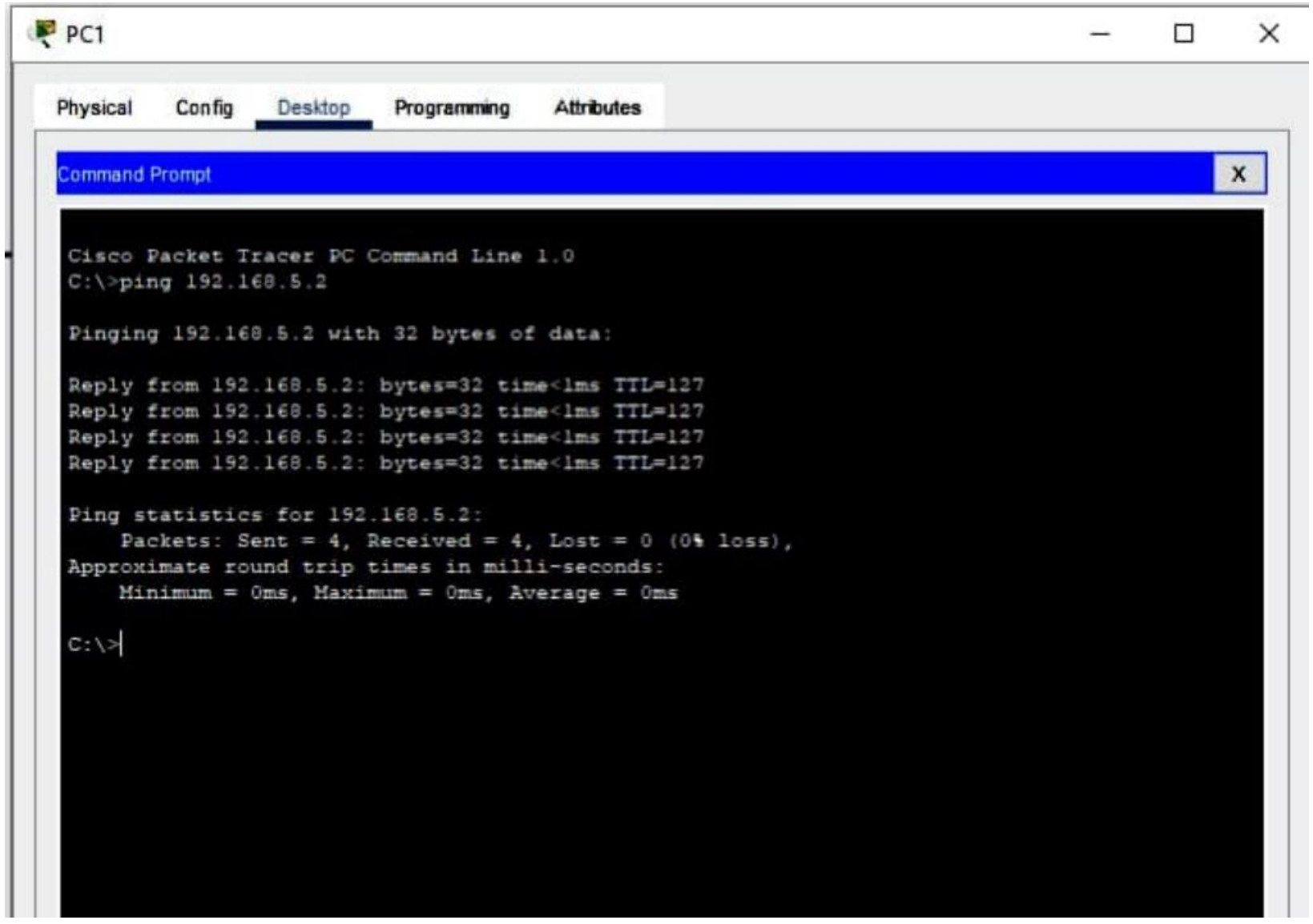
802.1X

Use 802.1X Security

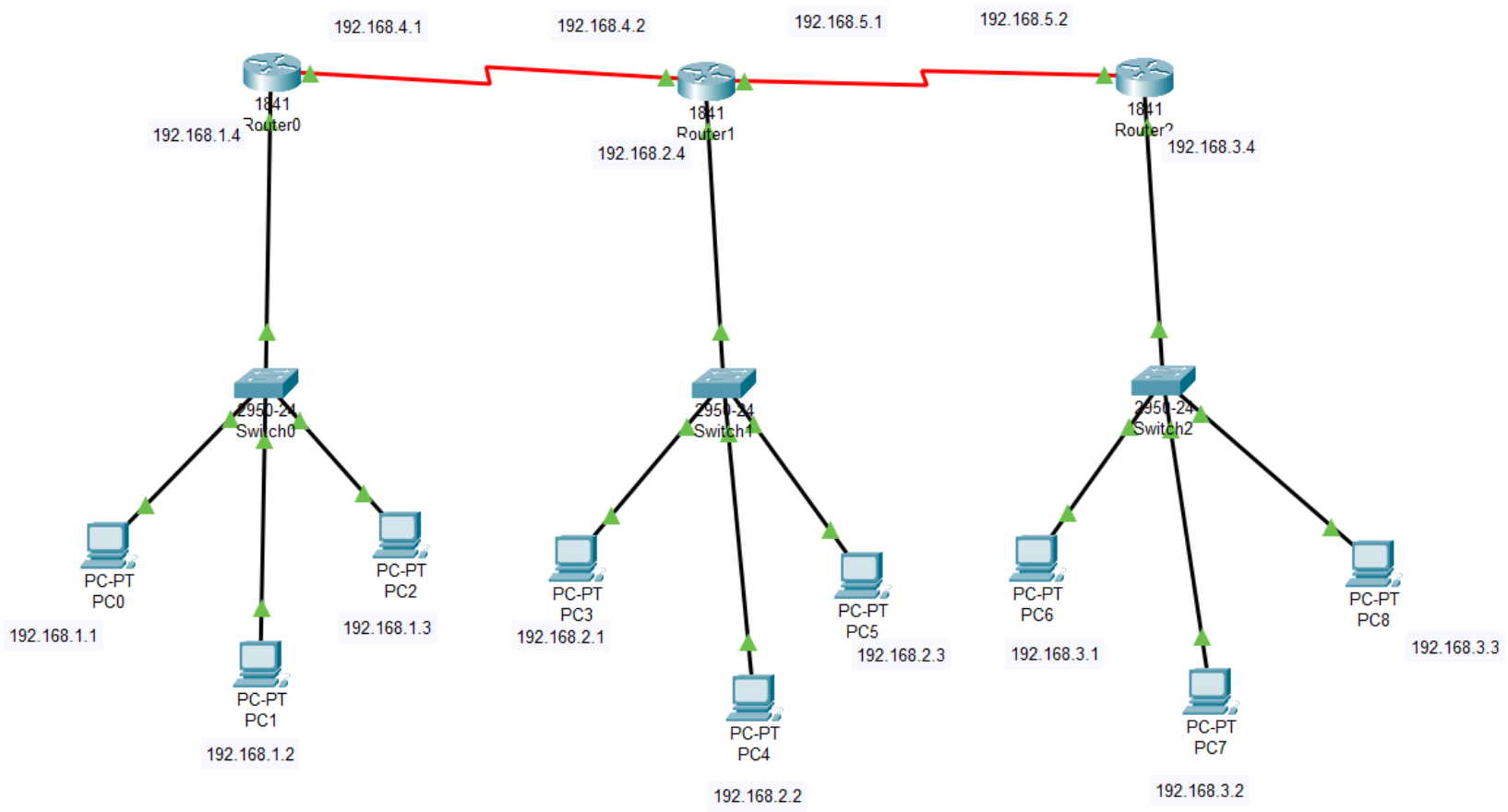
Authentication MD5

Username

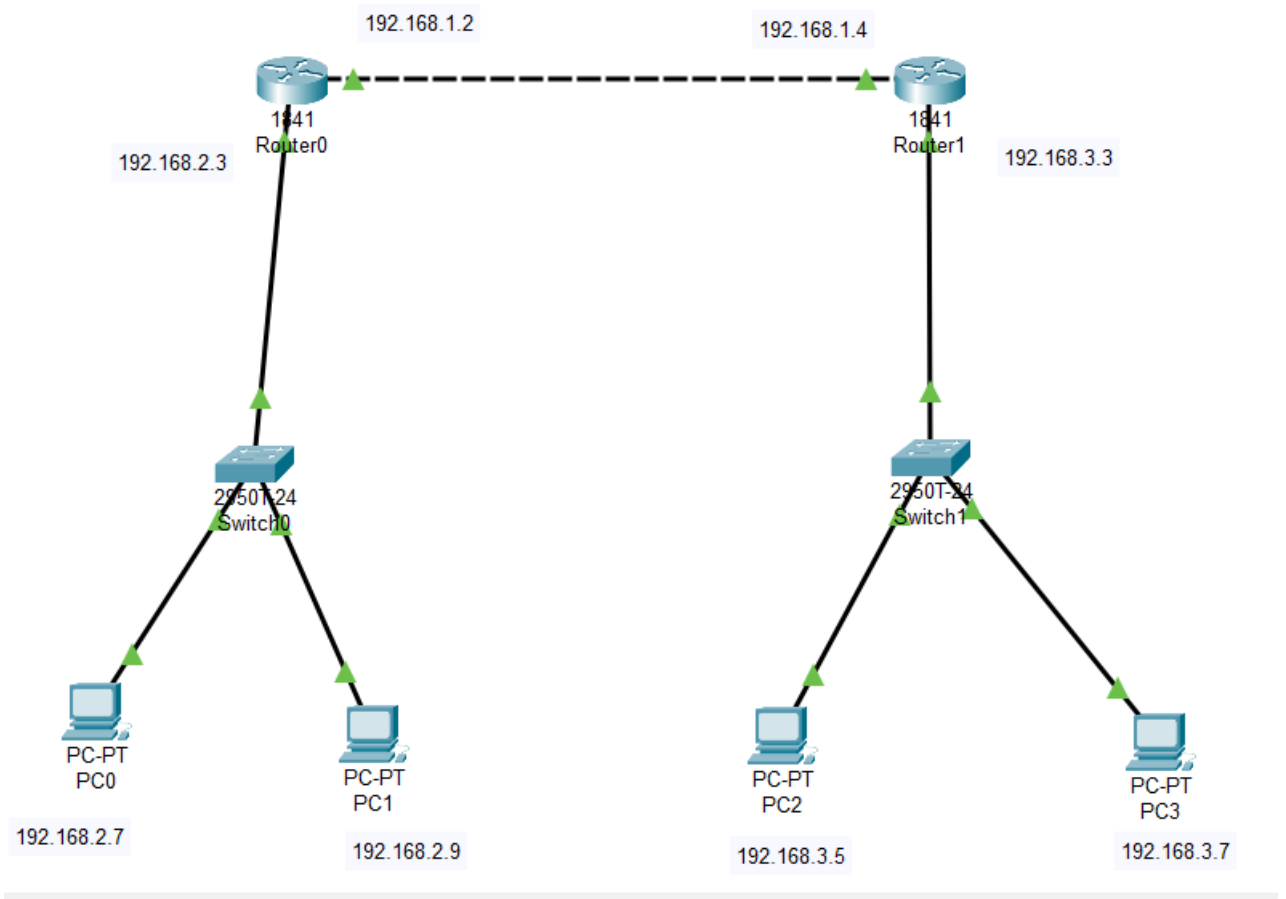
Password


PC1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.5.2
Pinging 192.168.5.2 with 32 bytes of data:
Reply from 192.168.5.2: bytes=32 time<1ms TTL=127
Reply from 192.168.5.2: bytes=32 time<1ms TTL=127
Reply from 192.168.5.2: bytes=32 time<1ms TTL=127
Reply from 192.168.5.2: bytes=32 time<1ms TTL=127
Ping statistics for 192.168.5.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>

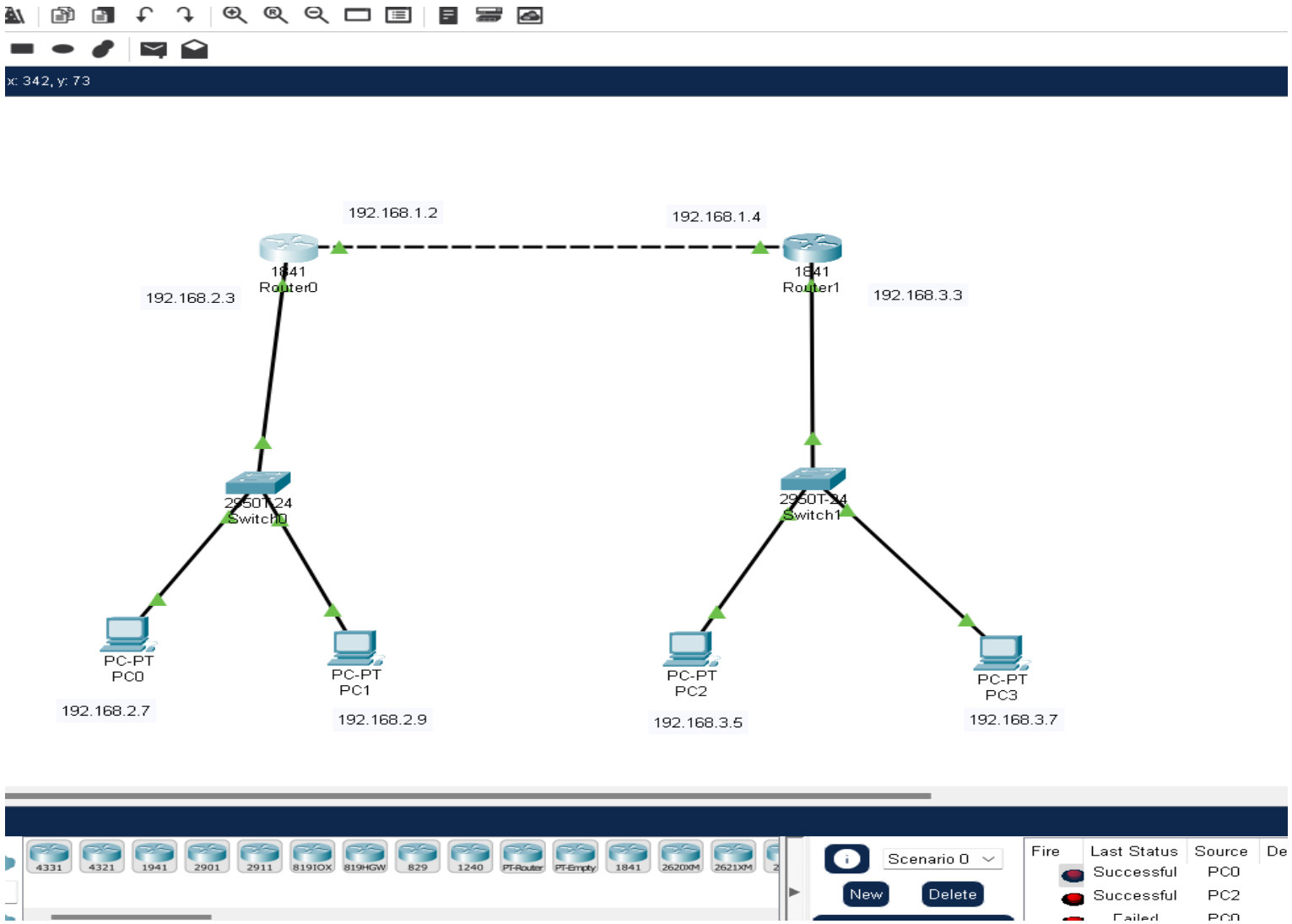
4. Document a basic network using 3 routers in a LAN configuration:



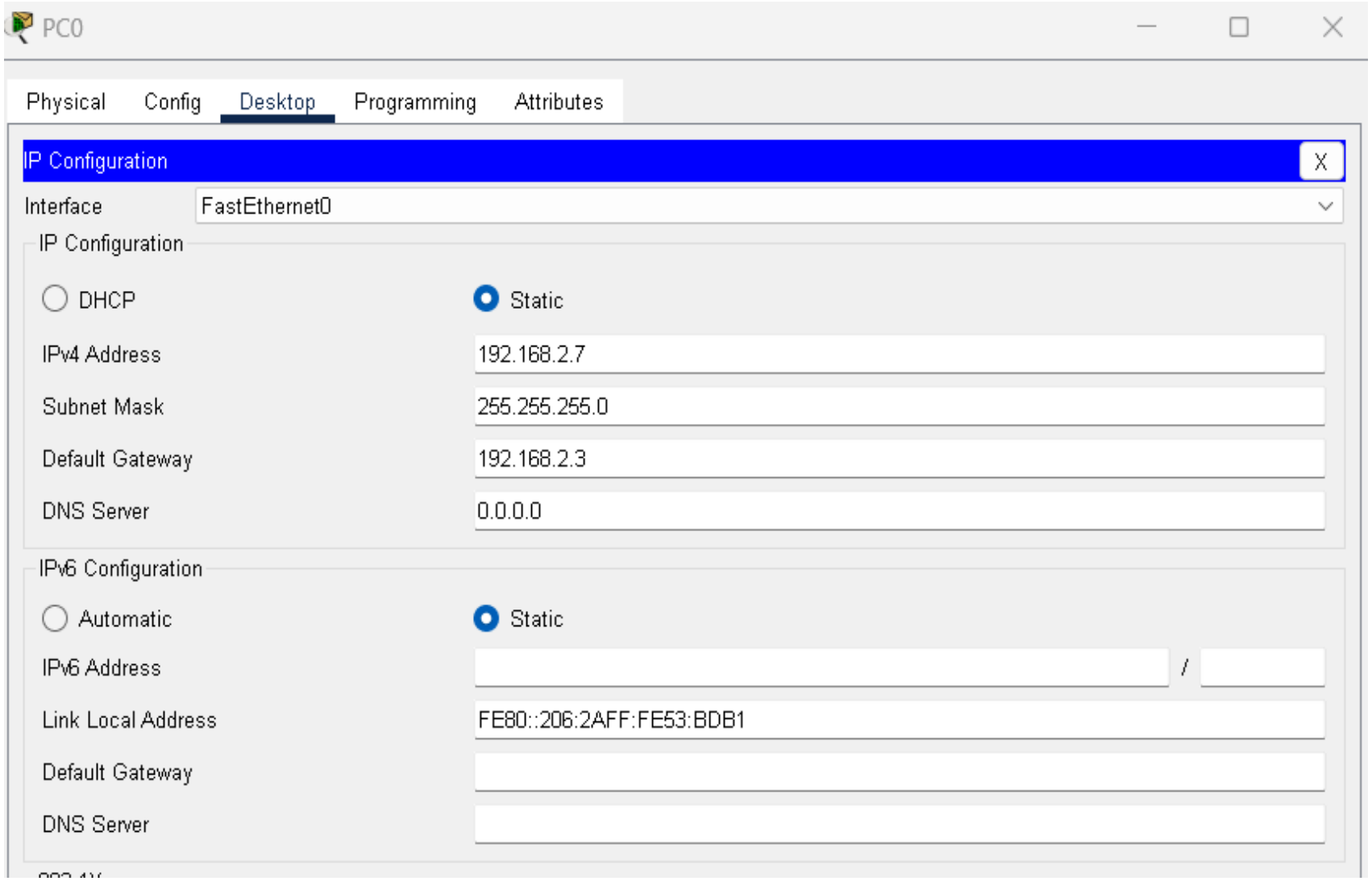
5. Implement static routing in a network:



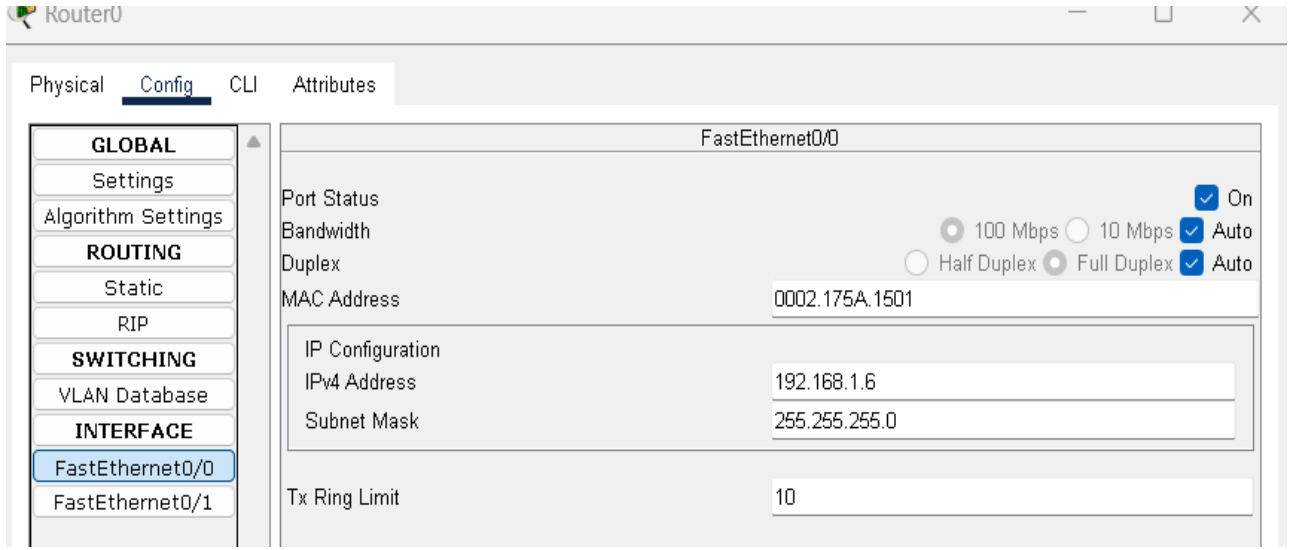
6. Implement dynamic routing in a network:

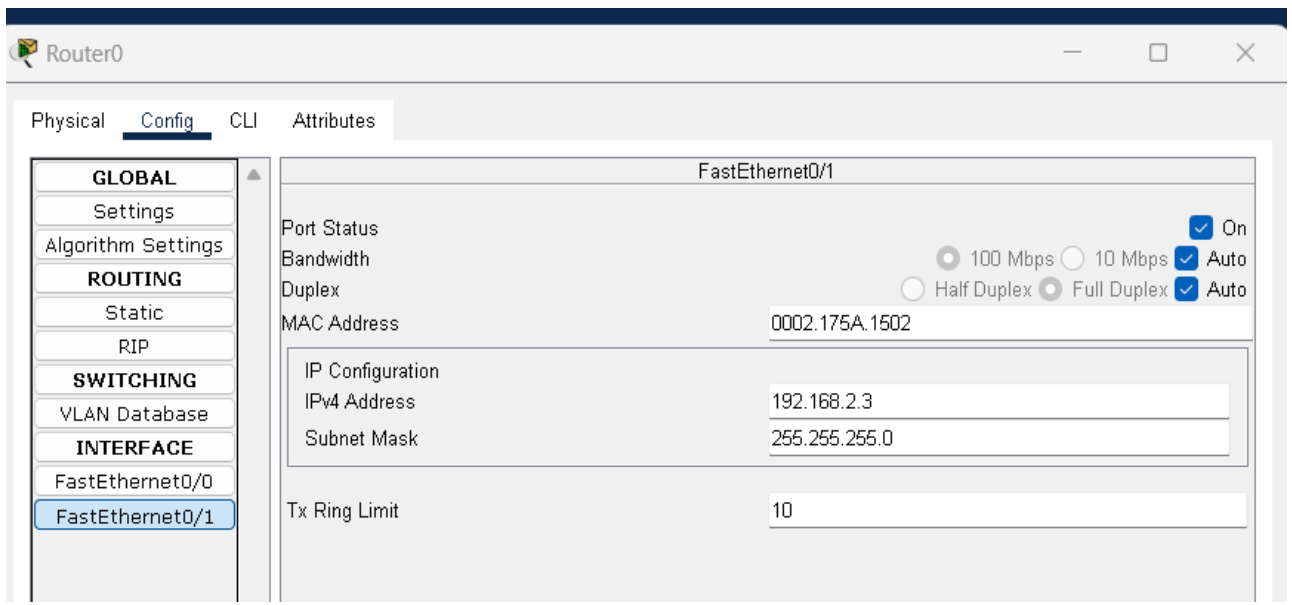


1.Configure IP adress and subnet mask and default gateway for all PC's

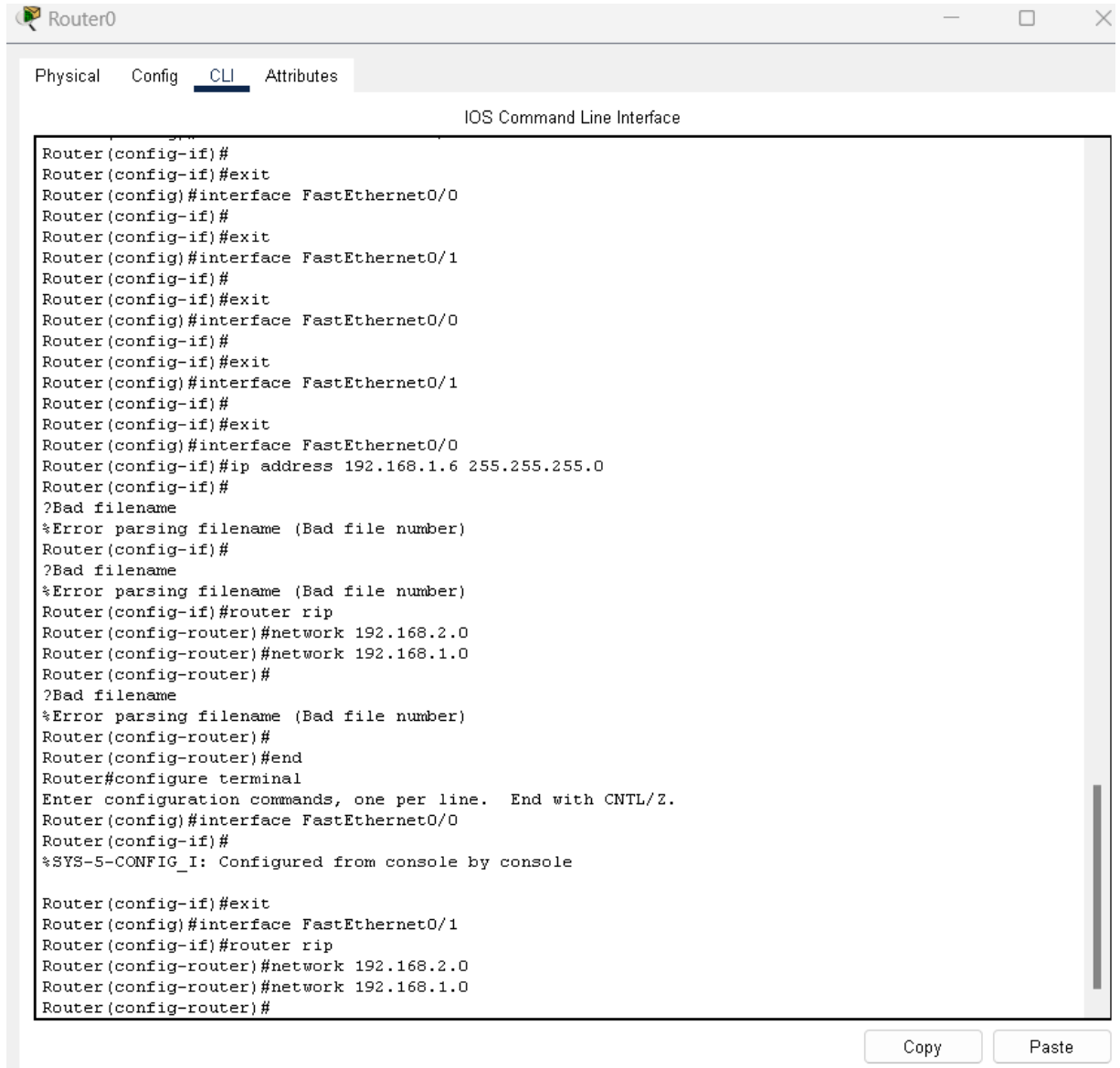


2.Configure routers with IP adress and subnet mask

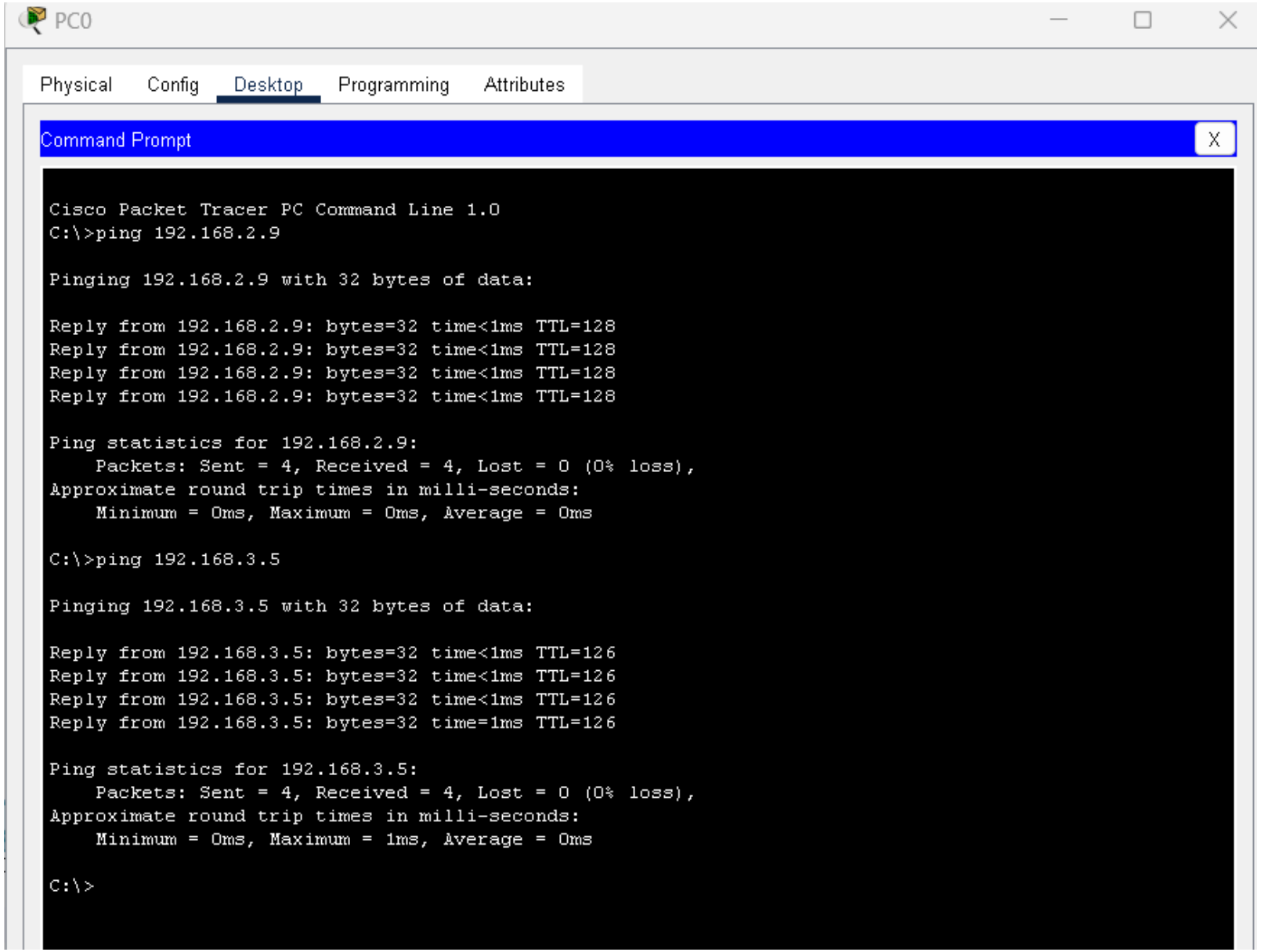




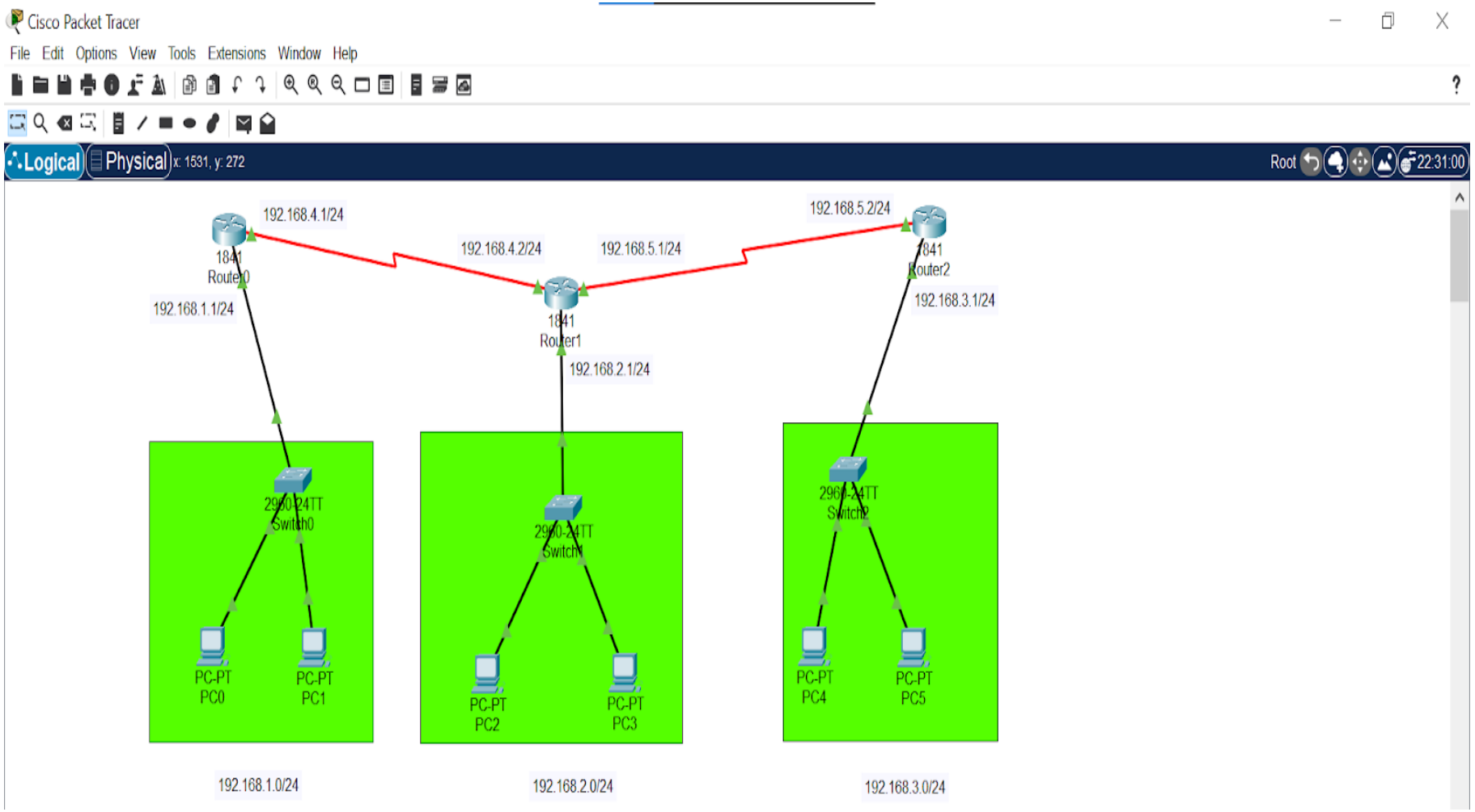
3.Configure RIP routing algorithm for routers



4. TEST (1)Ping in same network (2)Ping in different network



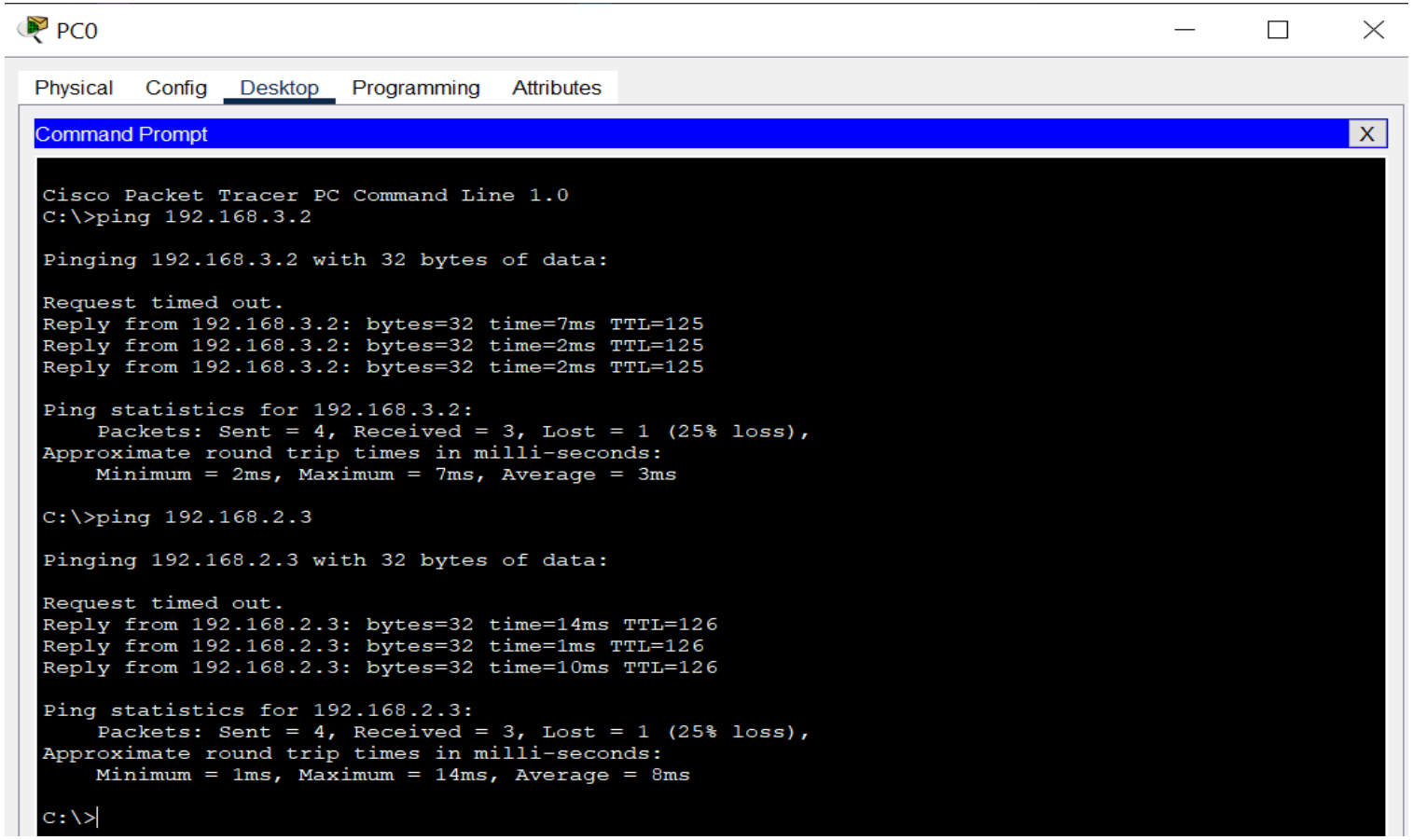
7. Implement dynamic routing in a network:



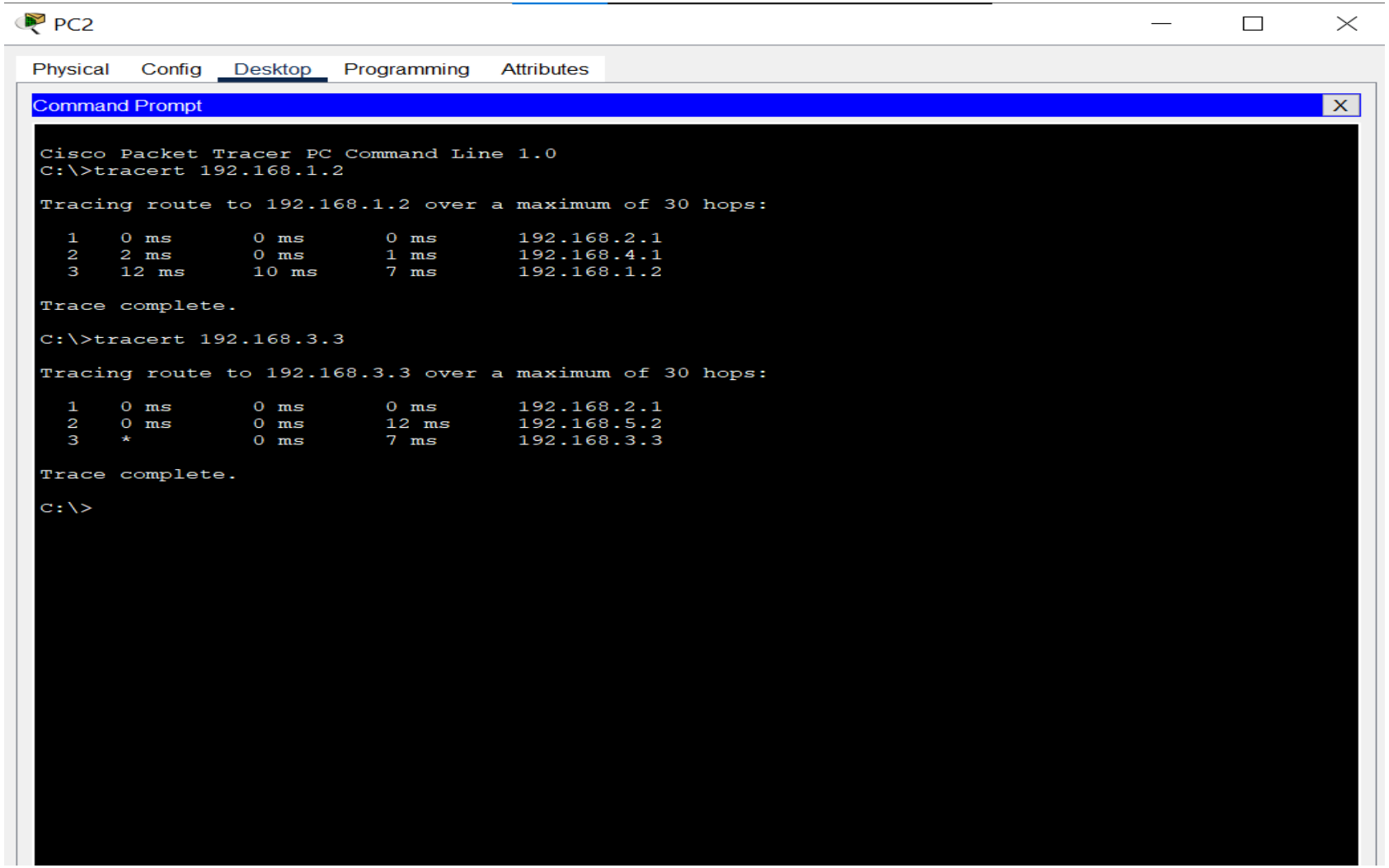
1. Ping Command

The ping command is a very common method used to troubleshoot accessibility of devices. It uses a series of Internet Control Message Protocol (ICMP) Echo messages to determine:

- Whether a remote host is active or inactive.
- The round-trip delay used to communicate with the host.
- Packet loss.



2.Trace route:

‘Tracert’ command in Cisco.

The traceroute command is used to discover the routes that packets actually take when they travel to their destination.