

Date: 04/06/2024

1.BINARY TO DECIMAL CONVERSION

1	0	0	1	0	0	1	0	146
0	1	1	1	0	1	1	1	119
1	1	1	1	1	1	1	1	255
1	1	0	0	0	1	1	1	197
1	1	1	1	0	1	1	0	246
0	0	0	1	0	0	0	1	19
1	0	0	0	0	0	0	0	129
0	0	1	1	0	0	0	1	49
0	1	1	1	1	0	0	0	120
1	1	1	1	0	0	0	0	240
0	0	1	1	1	0	1	1	59
0	0	0	0	0	1	1	1	7
0	0	0	1	1	0	1	1	27
1	0	1	0	1	0	1	0	170

2.ADDRESS CLASS IDENTIFICATION

RULES

A->1-126
B->128-191
C->192-223
D->224-239

10.250.1.1 ----- → A

150.10.15.0 ----- → B

192.14.2.0 ----- → C

148.17.9.1 ----- → B

193.42.1.1 ----- → C

126.8.156.0 ----- → B

230.230.45.58 ----- → D

177.100.18.4 ----- → B

119.18.45.0 ----- → B

249.240.80.78 -----→E

3.NETWORK HOST IDENTIFICATION

A->1-126
B->128-191 A→N H H H
C->192-223 B->N N H H
D->224-239 C-> N N N H

IP ADRESS	NETWORK	HOST
177.100.18.4	177.100	18.4
119.18.45.0	119	18.45.0
209.240.80.78	209.240.80	78
199.155.77.56	199.155	77.56
117.89.56.45	117	89.56.45
215.45.45.0	215.45.45	0
192.200.15.0	192.200.15	0
95.0.21.90	95	0.21.90
33.0.0.0	33	0.0.0
158.98.80.0	158.98	80.0
217.21.56.0	217.21.56	0
10.250.1.1	10	250.1.1

4.DECIMAL TO BINARY

DECIMAL	128	64	32	16	8	4	2	1
238	1	1	1	0	1	1	1	0
34	0	0	1	0	0	0	1	0
123	0	1	1	1	1	0	1	1
50	0	0	1	1	0	0	1	0
255	1	1	1	1	1	1	1	1
200	1	1	0	0	1	0	0	0
10	0	0	0	0	1	0	1	0
138	1	0	0	0	1	0	1	0
1	0	0	0	0	0	0	0	1
13	0	0	0	0	1	1	0	1
250	1	1	1	1	1	0	1	0
107	0	1	1	0	1	0	1	1
227	0	1	1	1	1	1	1	1
114	0	1	1	1	0	0	1	0
192	1	1	0	0	0	0	0	0

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5.DEFAULT SUBNET MARKS

A->1-126
B->128-191 A→250.0.0.0
C->192-223 B->255.255.0.0.
D->224-239 C-> 255.255.255.0

177.100.18.4	255.255.0.0
119.18.45.0	255.0.0.0
191.249.234.109	255.255.0.0
10.10.250.1	255.0.0.0
126.123.23.1	255.0.0.0
223.69.230.250	255.255.255.0
192.12.35.105	255.255.255.0
77.251.200.51	255.0.0.0
189.210.50.1	225.255.0.0
88.45.65.35	255.0.0.0
128.212.250.254	255.255.0.0

6.NETWORK ADDRESS

188.10.18.2 255.255.0.0	188.10.0.0
10.10.48.80 255.255.255.0	10.10.48.0
192.149.24.191 255.255.255.0	192.149.24.0
150.203.23.19 255.255.0.0	150.203.0.0
10.10.10.10 255.0.0.0	10.0.0.0
186.13.23.110 255.255.255.0	186.13.23.0
223.69.230.250 255.255.0.0	223.69.0.0
200.120.135.15 255.255.255.0	200.120.135.0
223.169.23.20 255.255.255.0	223.169.23.0

7. HOST ADDRESS

188.10.18.2 255.255.0.0	0.0.18.2
10.10.48.80 255.255.255.0	0.0.0.80
222.49.49.11 255.255.255.0	0.0.0.11
128.23.230.19 255.255.0.0	0.0.230.19
10.10.10.10 255.0.0.0	0.10.10.10
200.113.123.11 255.255.255.0	0.0.0.11
223.169.23.20 255.255.0.0	0.0.23.20

8.BROADCAST ADDRESS ADDRESS

188.10.18.2 255.255.0.0	188.10.255.255
10.10.48.80 255.255.255.0	10.10.48.255
192.149.24.191 255.255.255.0	192.149.24.255
150.203.23.19 255.255.0.0	150.203.255.255
10.10.10.10 255.0.0.0	10.255.255.255
186.13.23.110 255.255.255.0	186.13.23.255
223.69.230.250 255.255.0.0	223.69.255.255
200.120.135.15 255.255.255.0	200.120.135.255
223.169.23.20 255.255.255.0	223.169.23.255

9.CUSTOM SUBNET PROBLEM

Number of needed subnets →6

Number of needed usable hosts →30

Network Address →195.85.8.0

Address class →C

Default subnet mask →255.255.255.0

Custom subnet mask →255.255.255.224

Total number of subnets →8

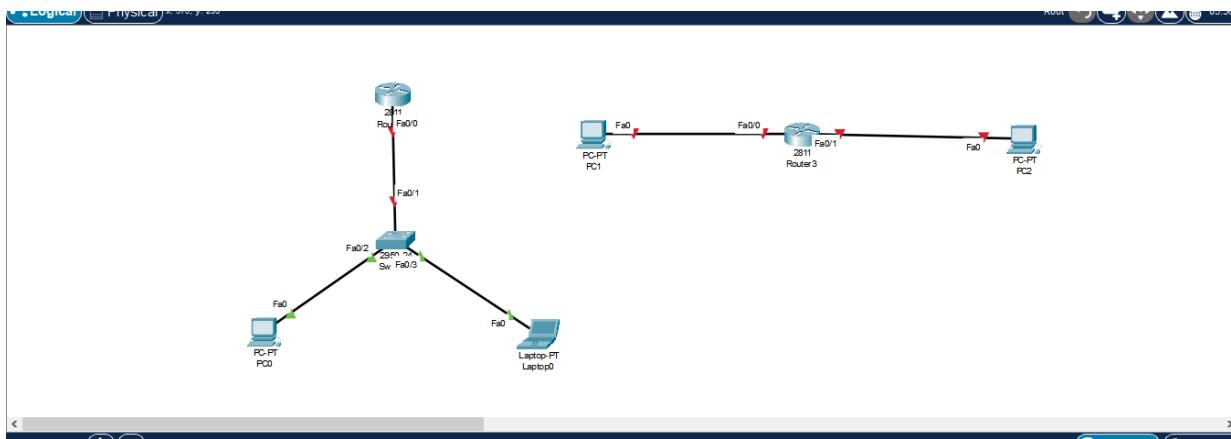
Total number of host addresses →8

Number of usable addresses →30

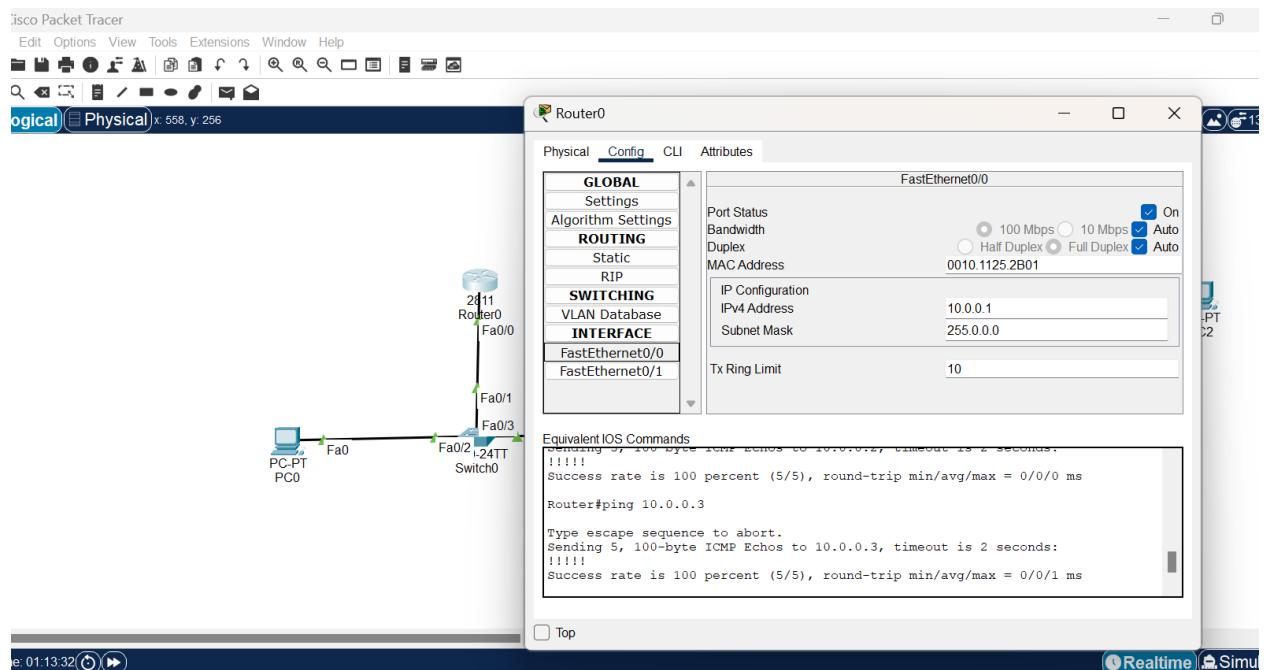
Number of bits borrowed →3

Date:06/06/2024

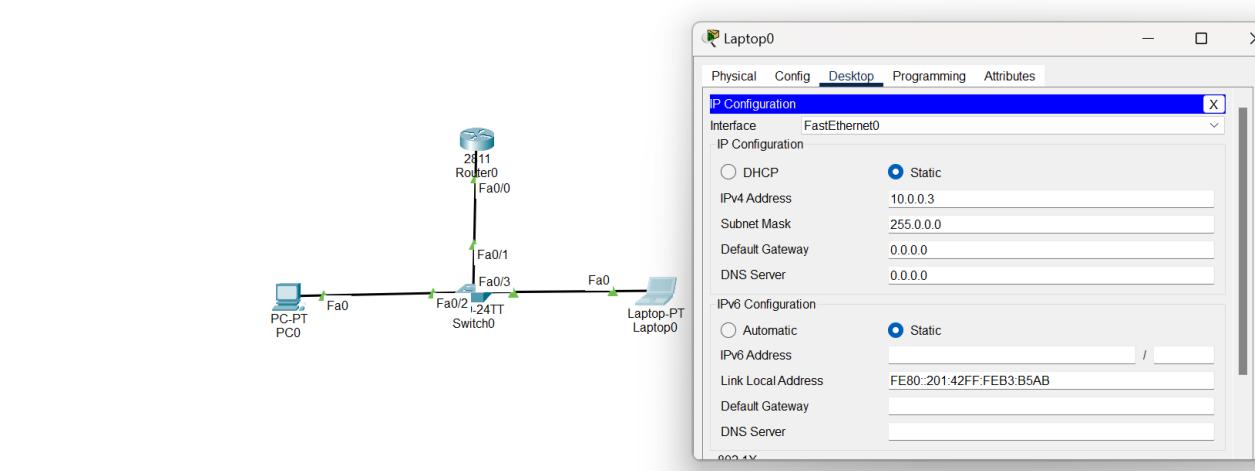
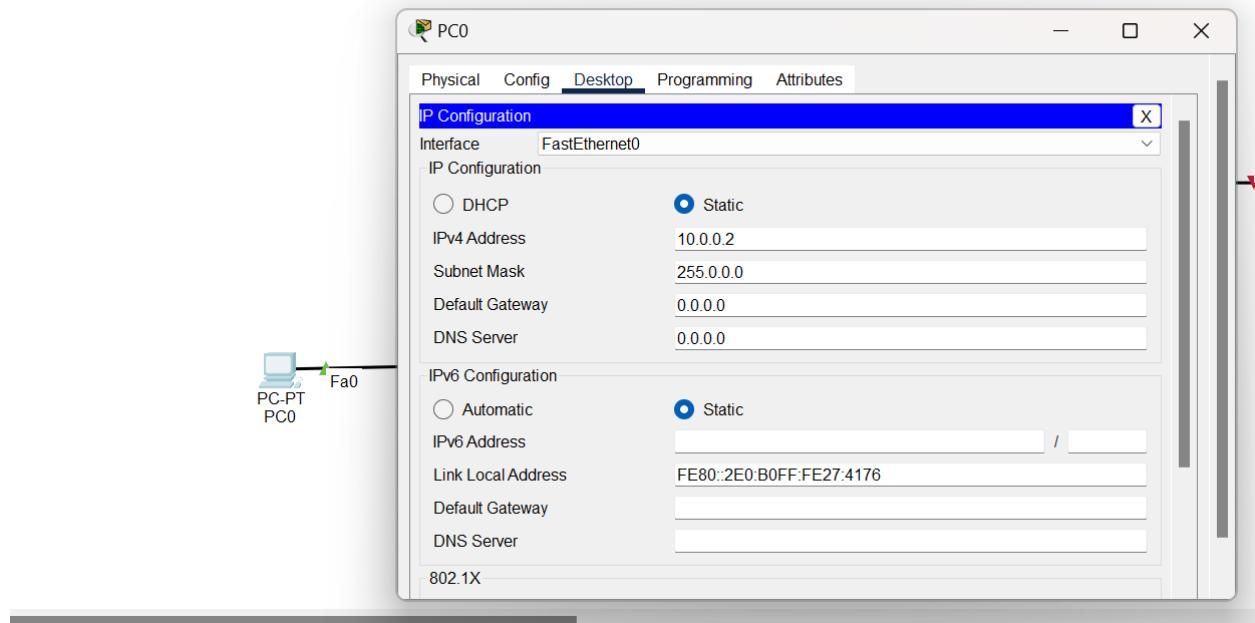
Lab1: Connecting the Devices

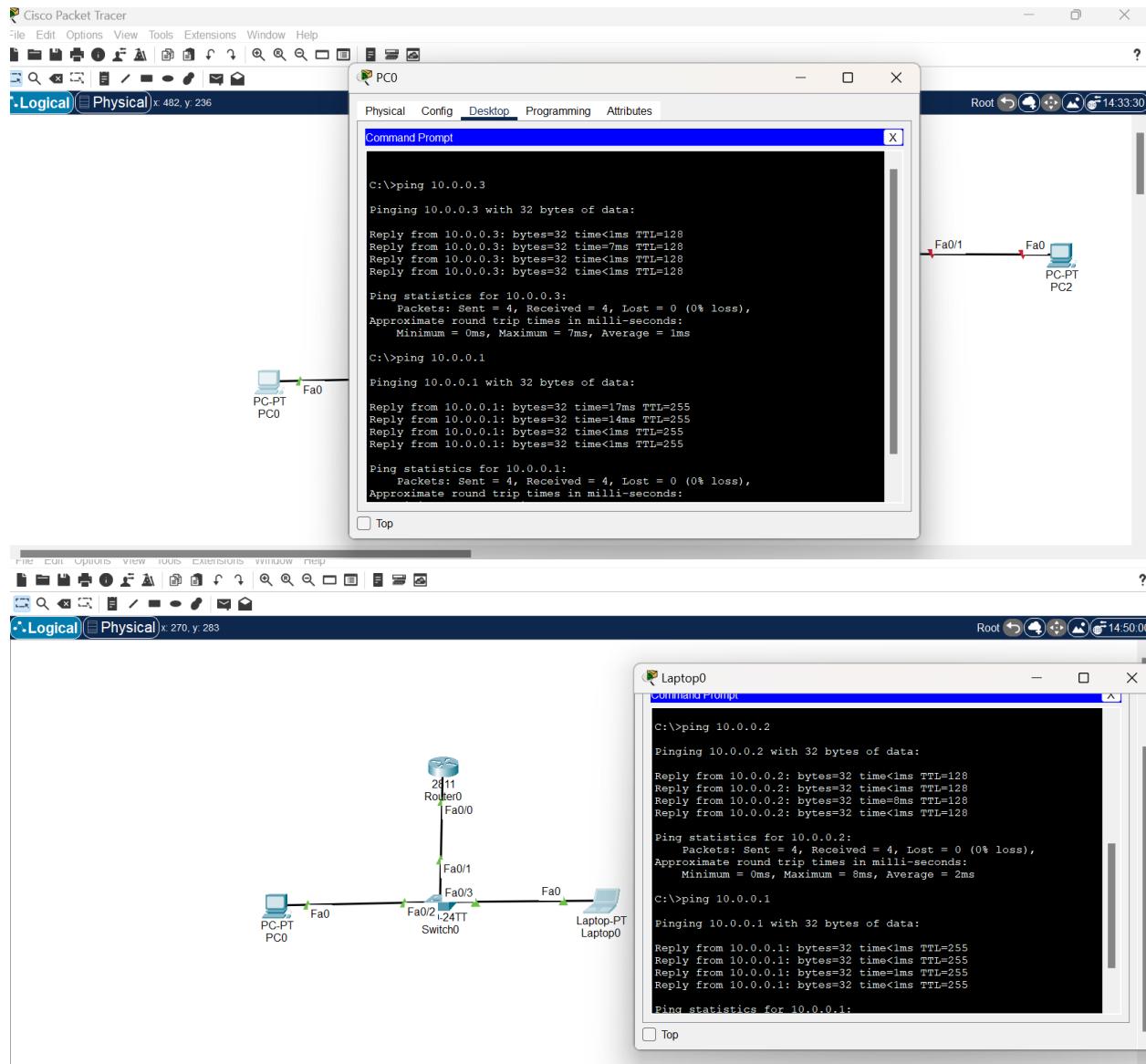


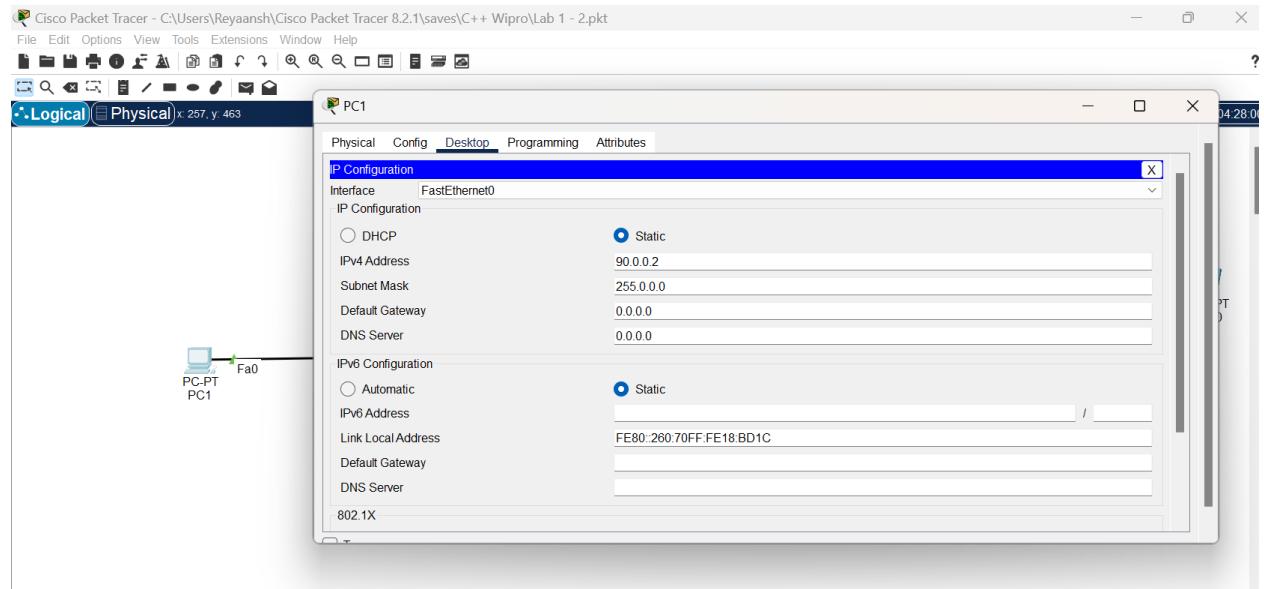
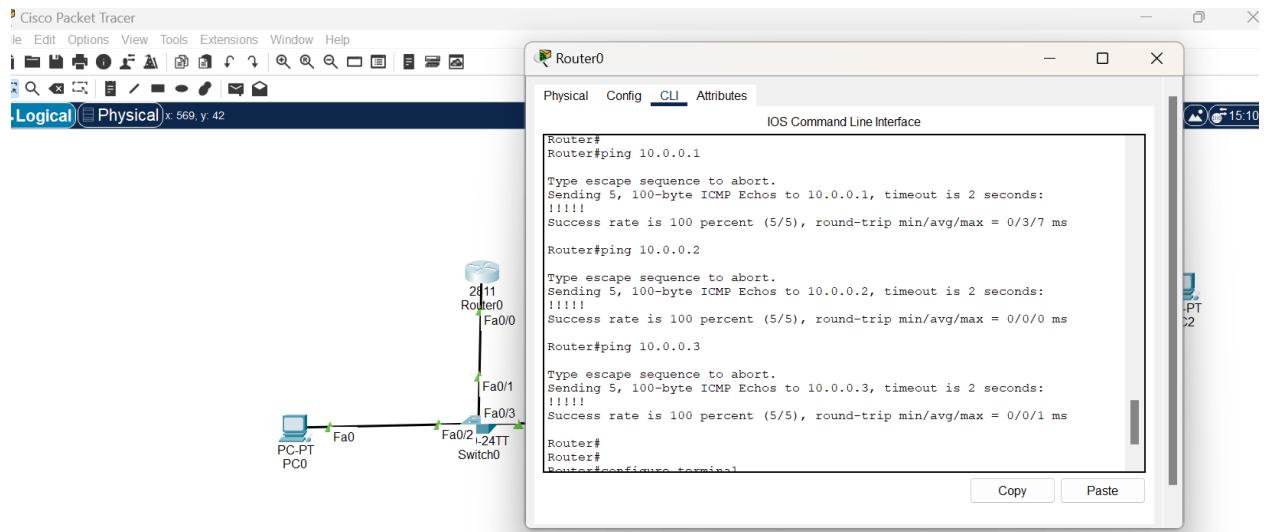
Lab2: IP address Configuration and Ping check

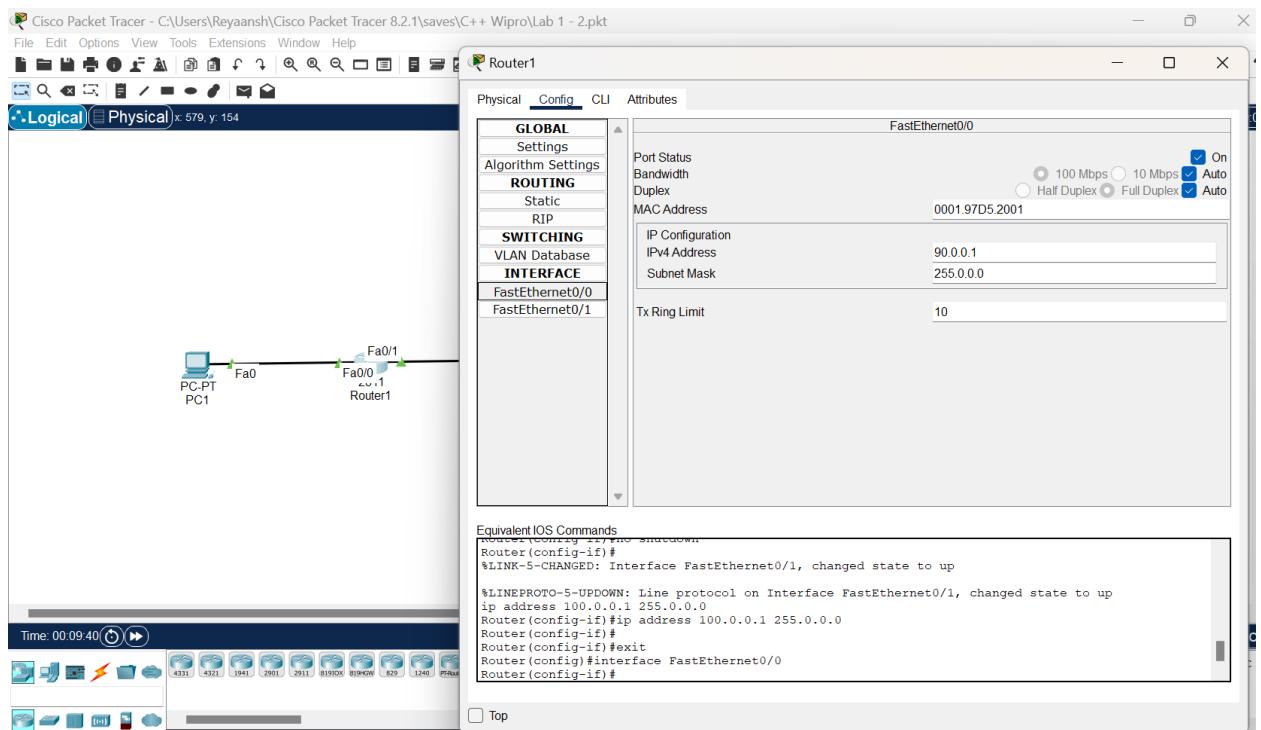
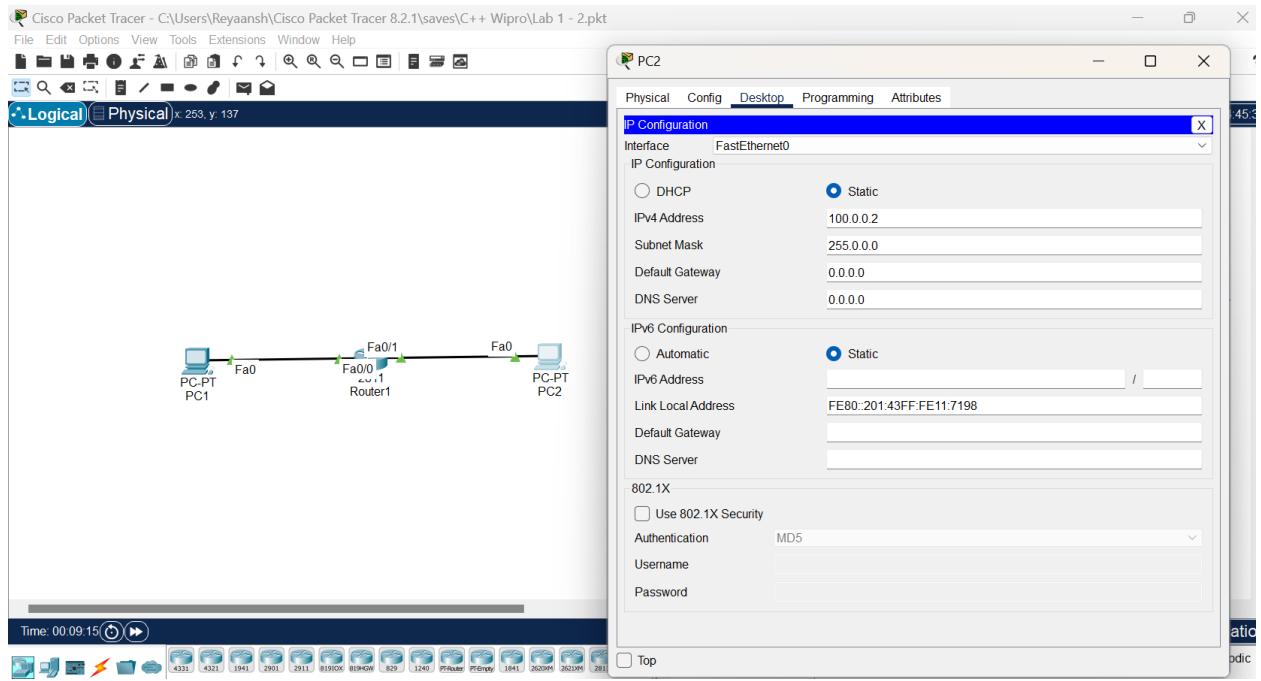


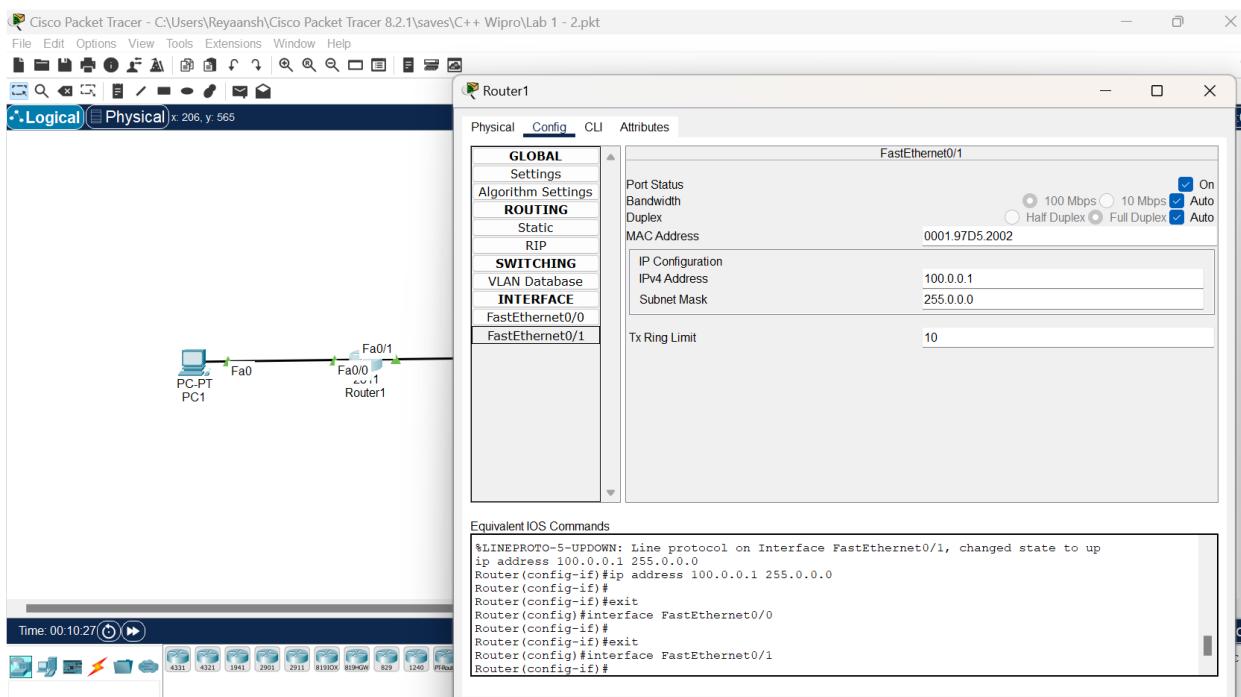
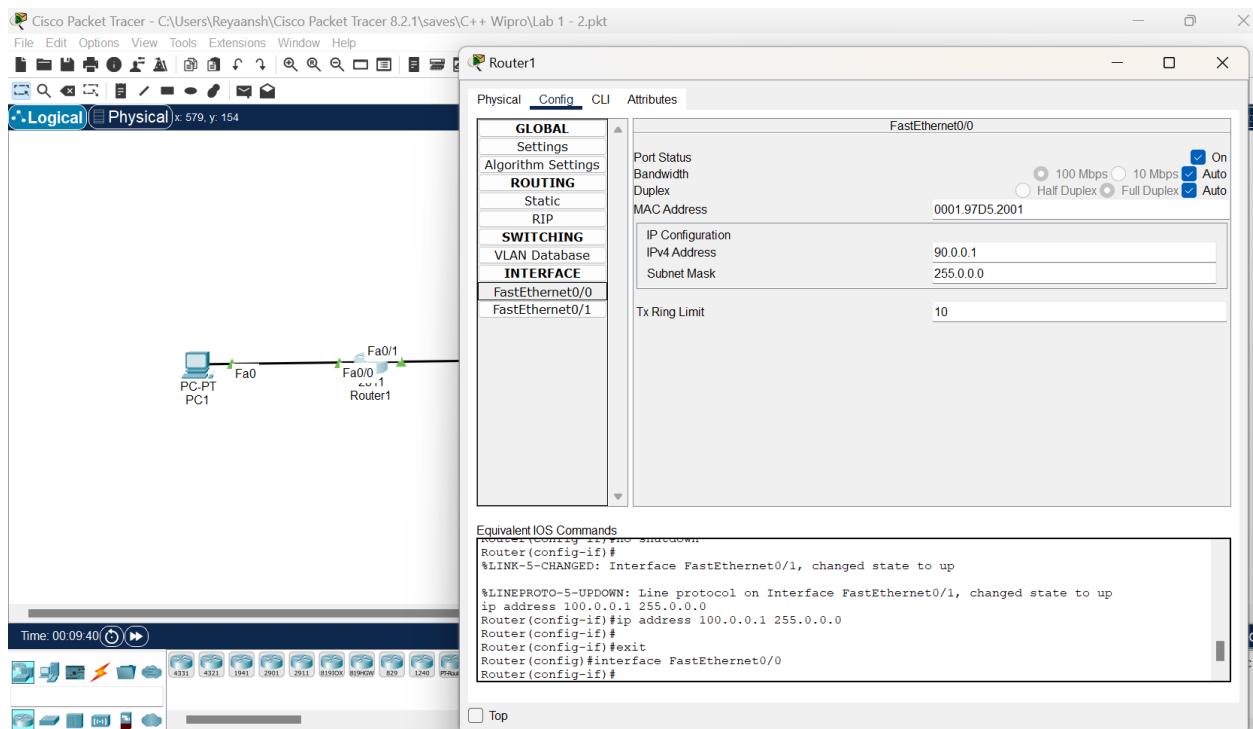
Physical x: 934, y: 222

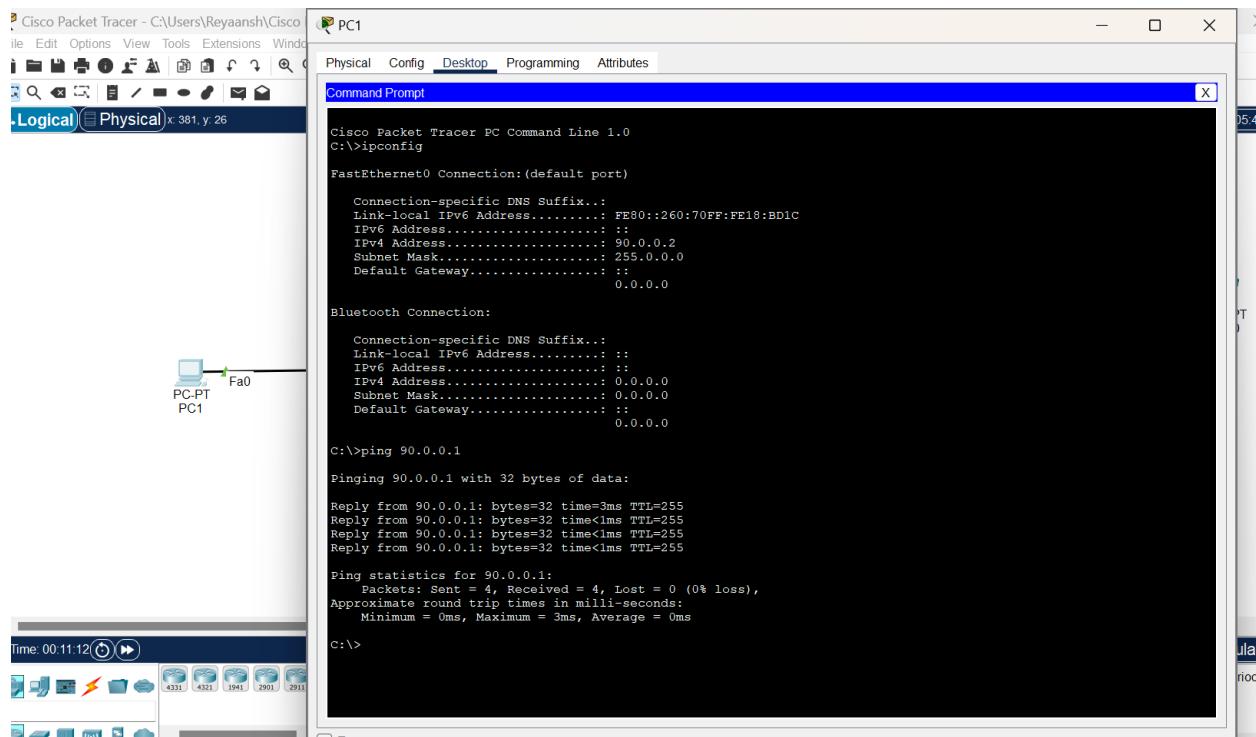




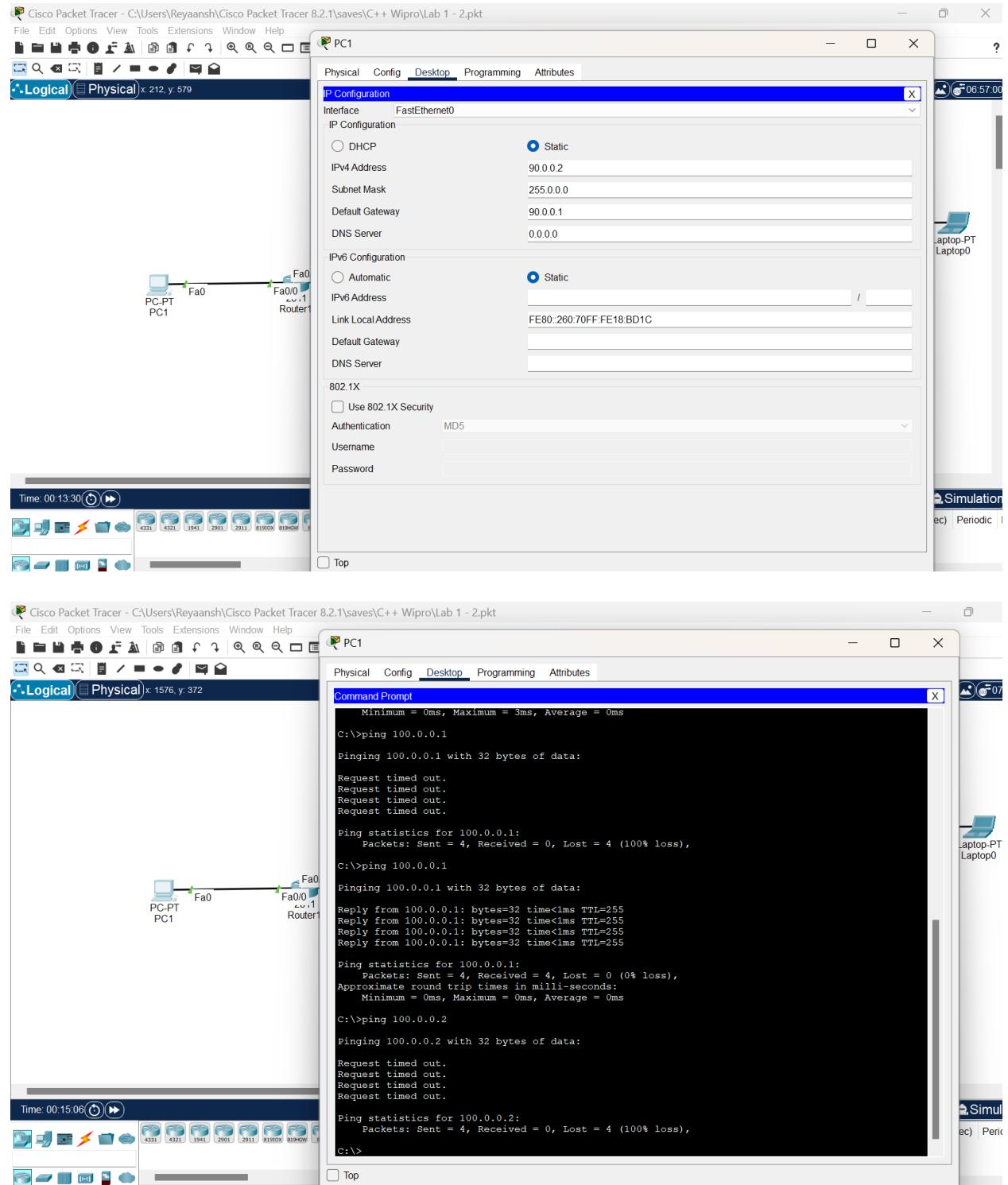


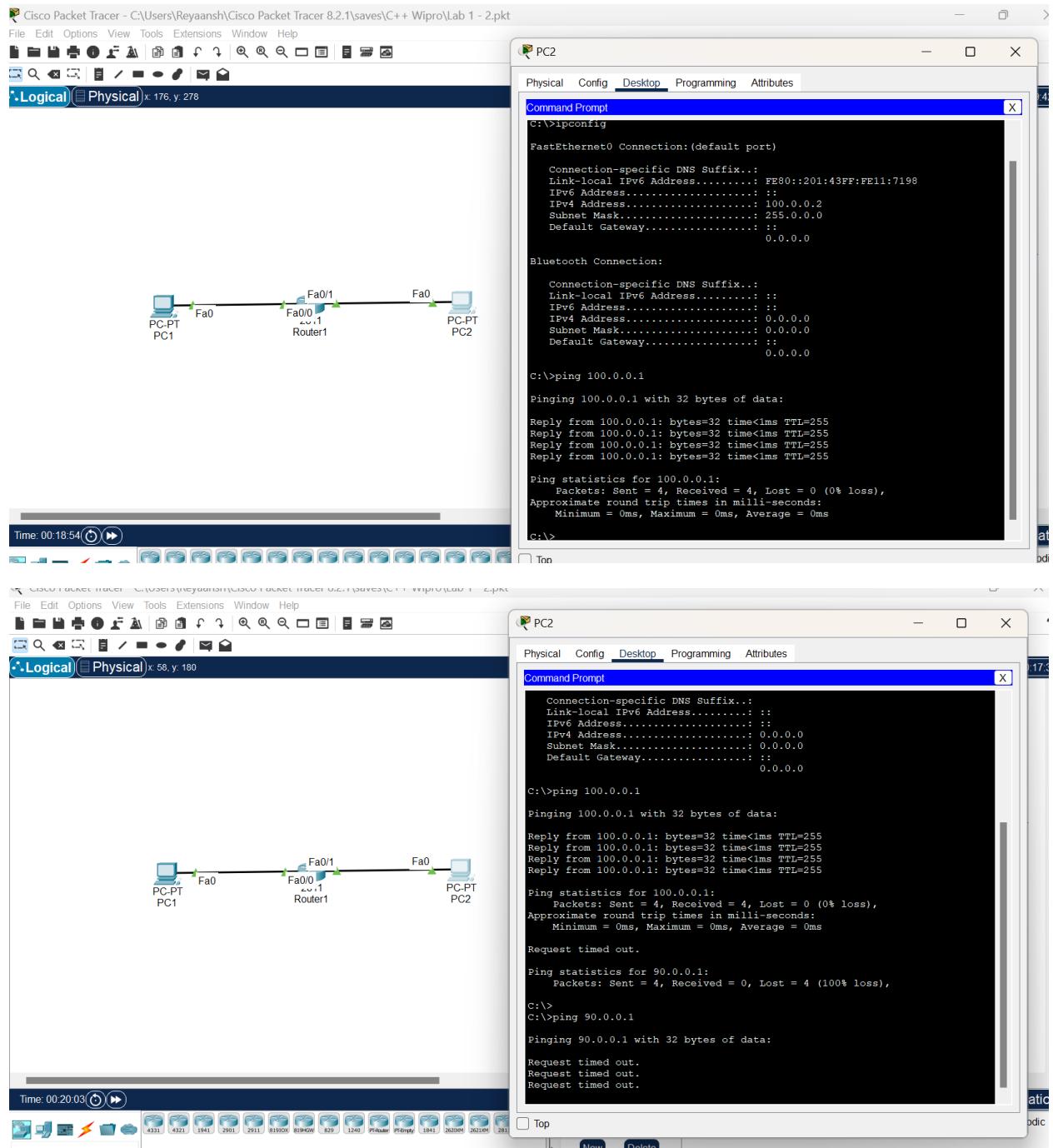


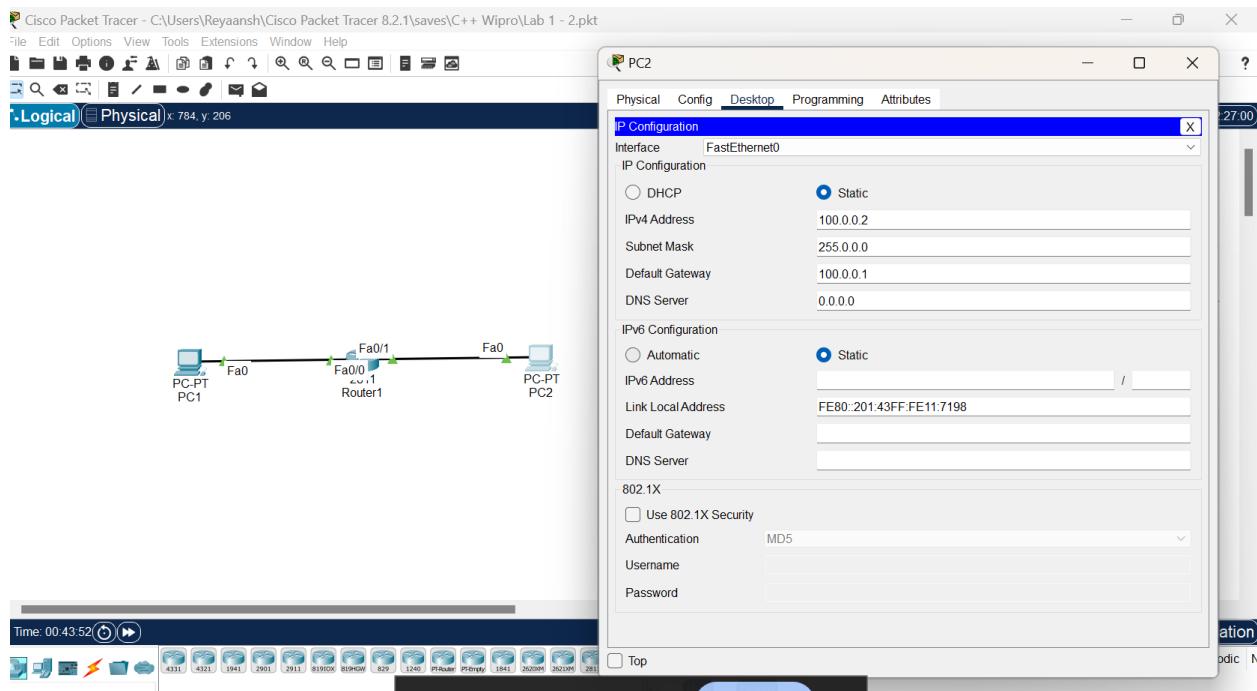
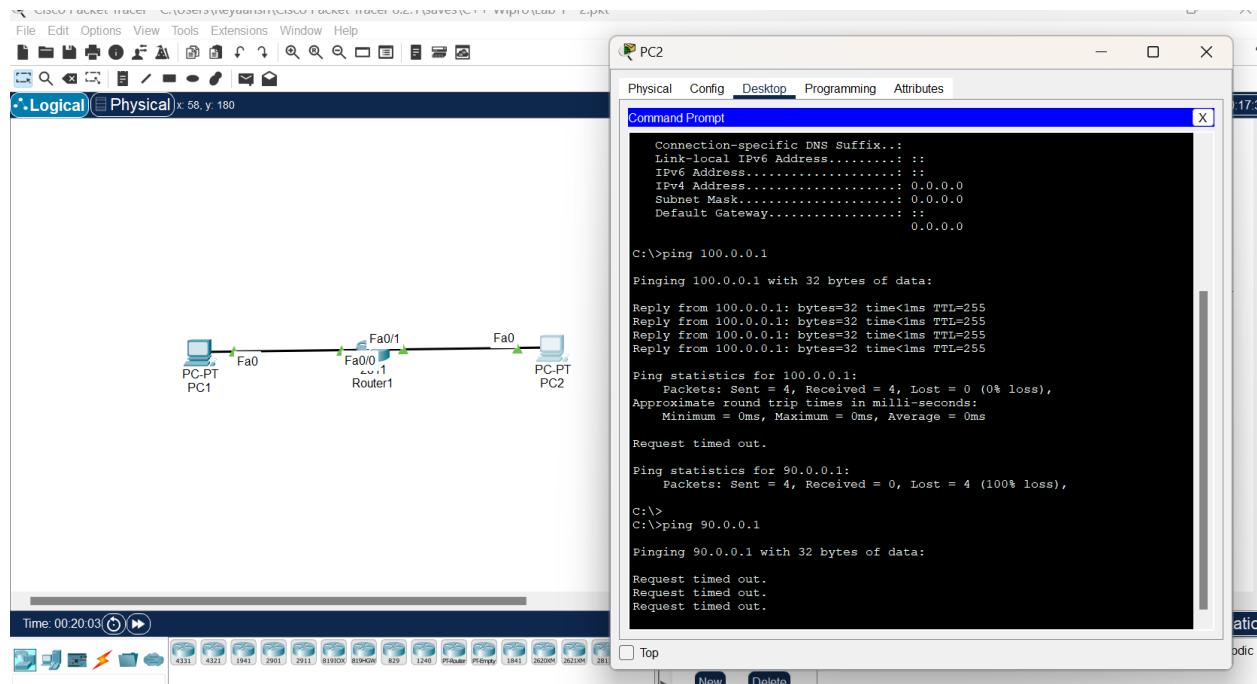




Lab 3: Configuring Default Gateway

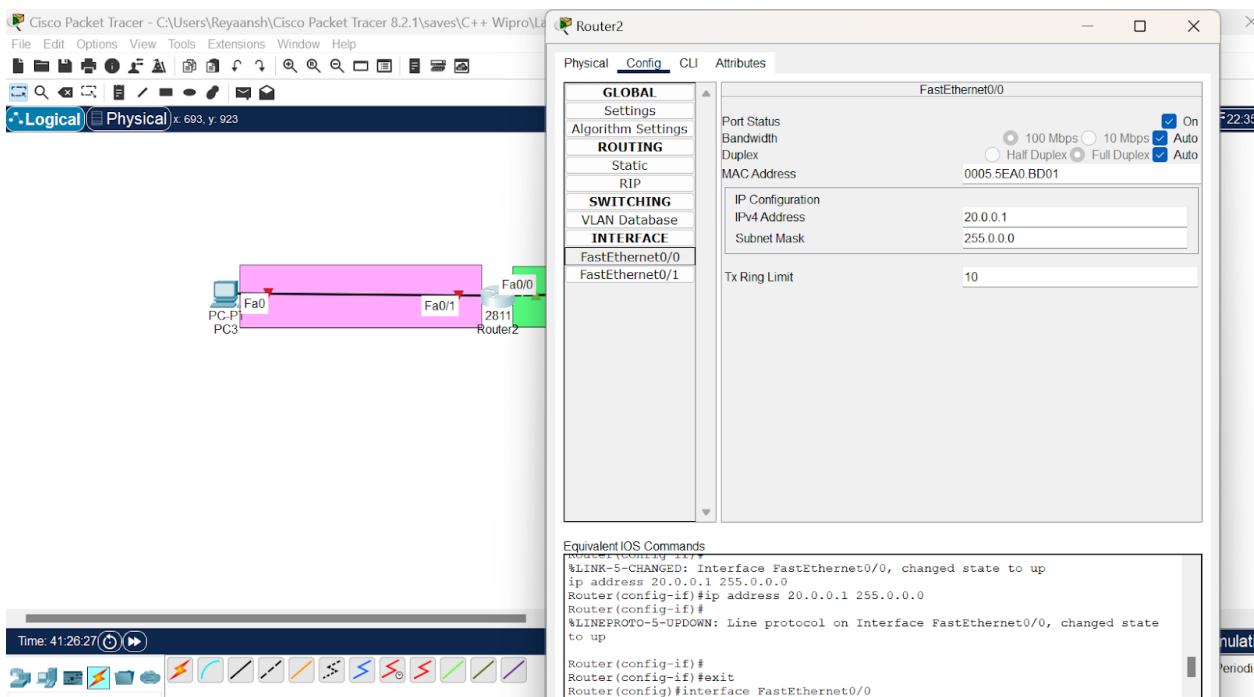
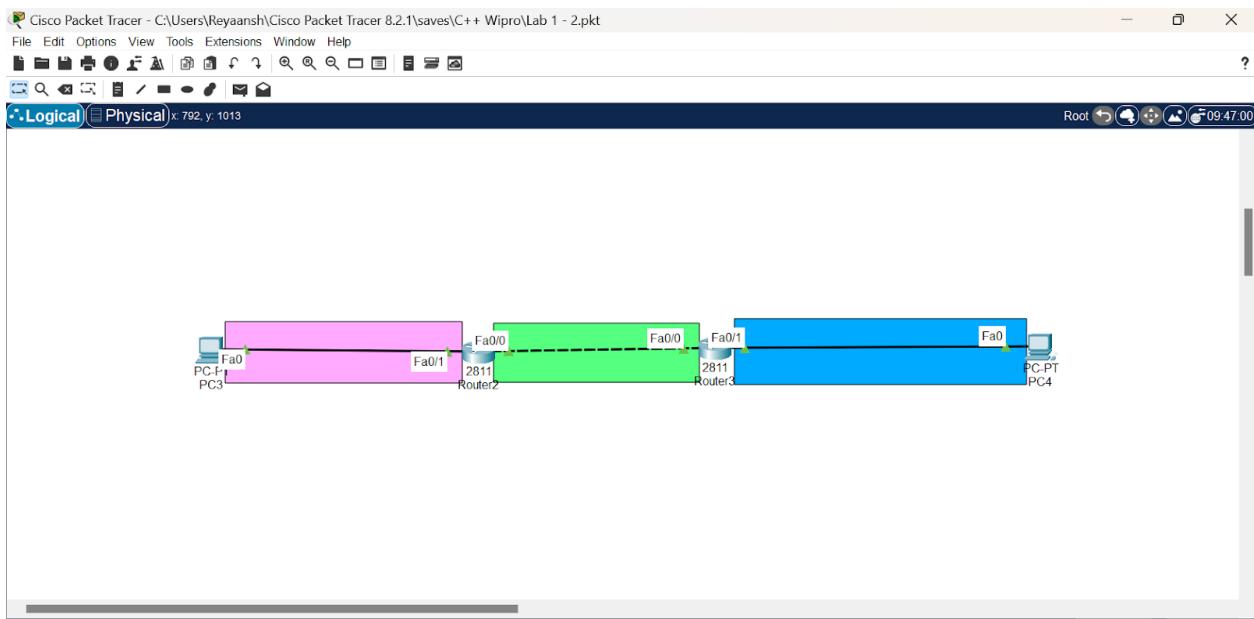


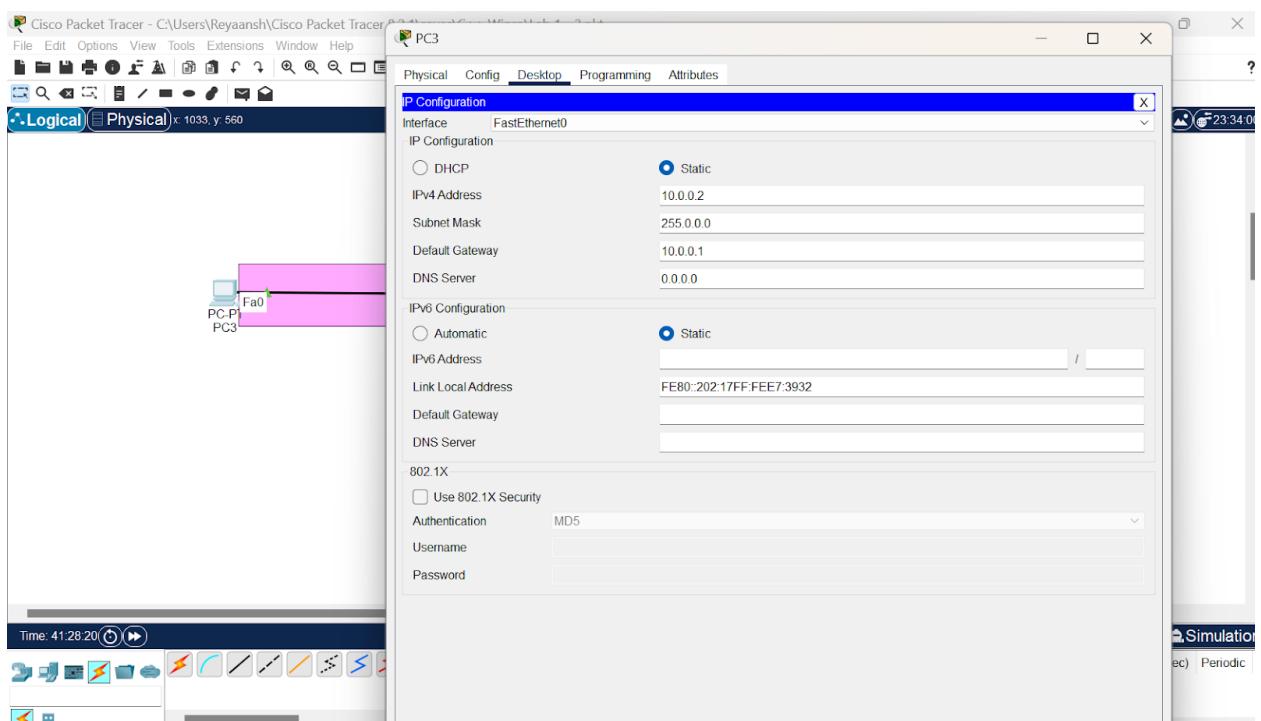
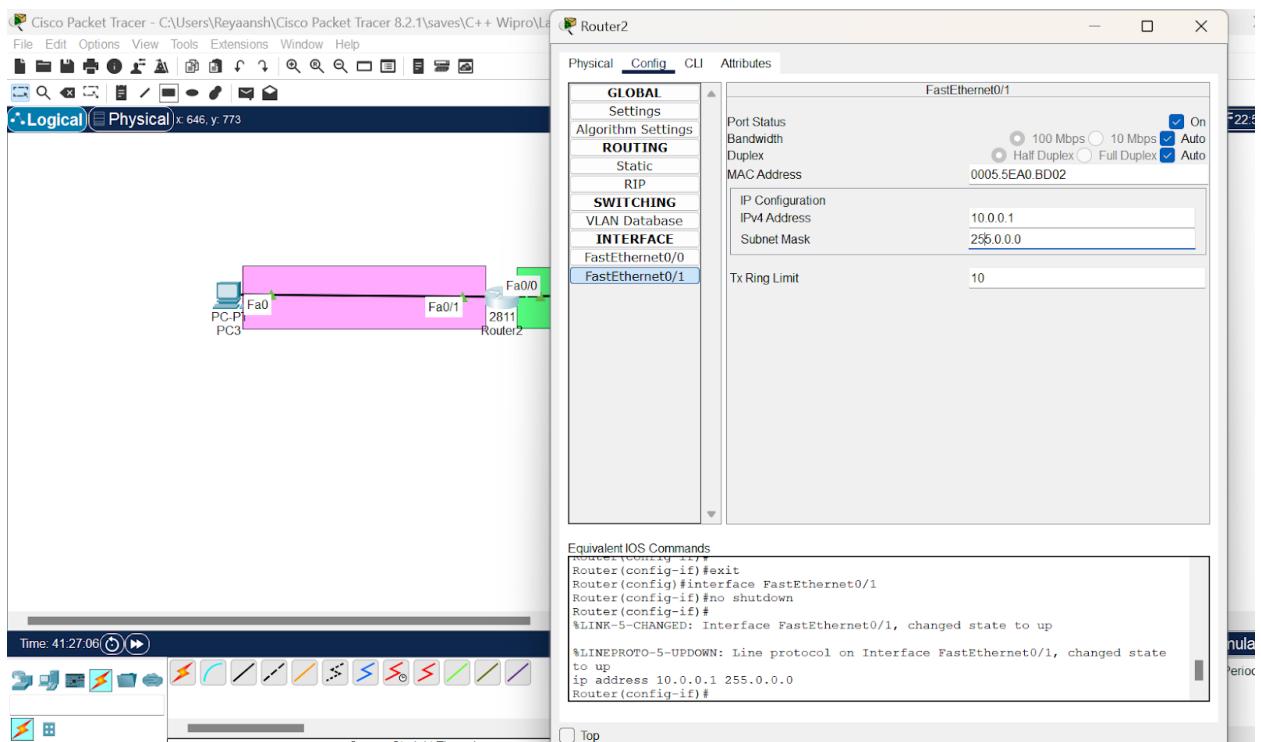


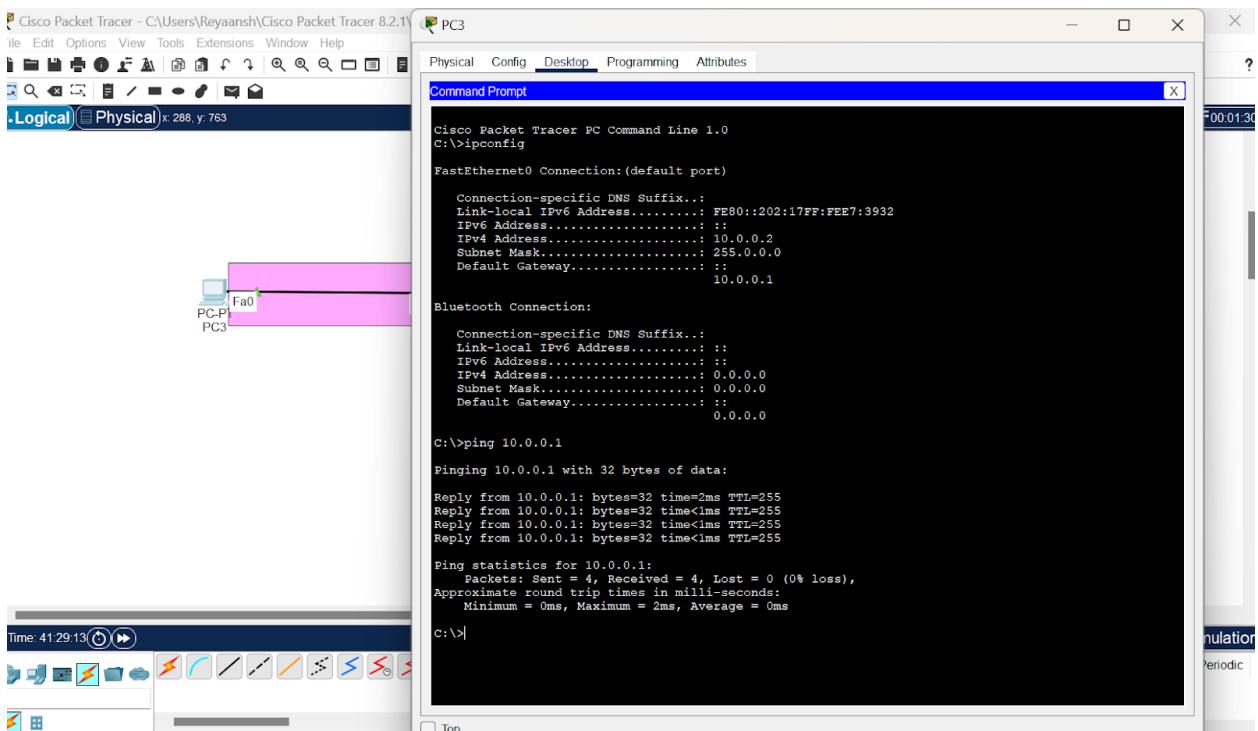
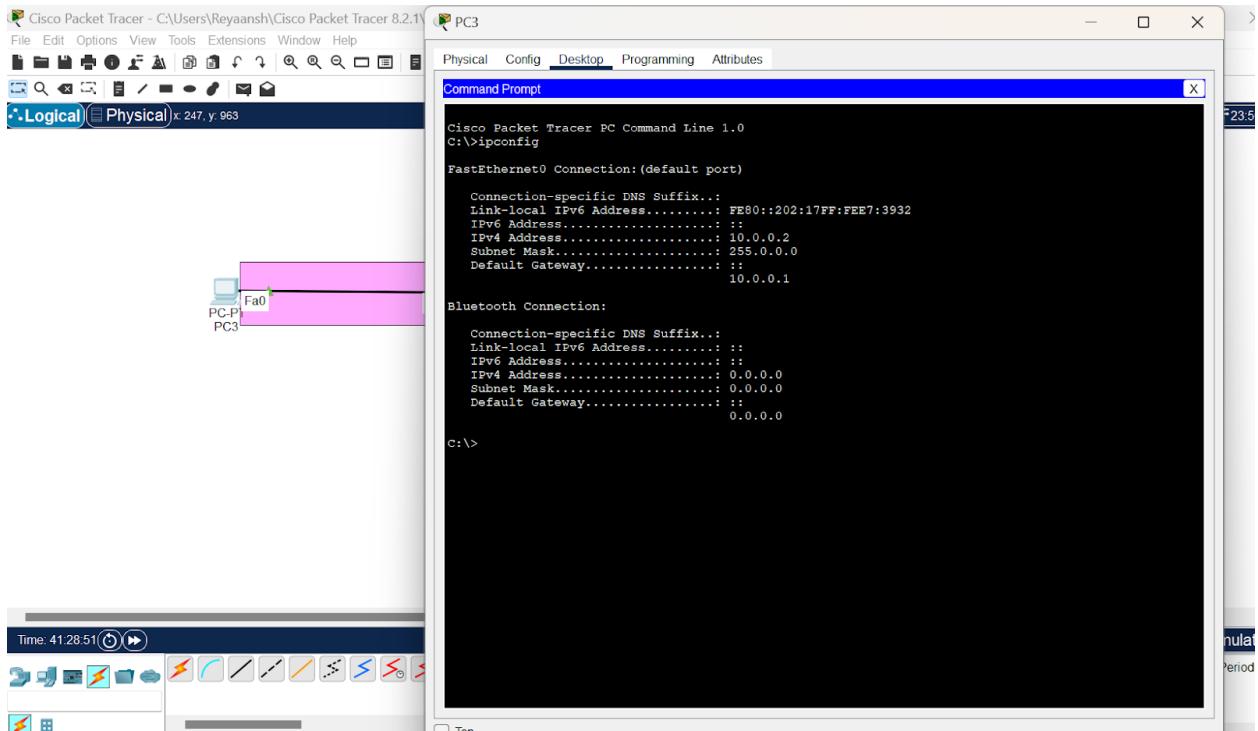


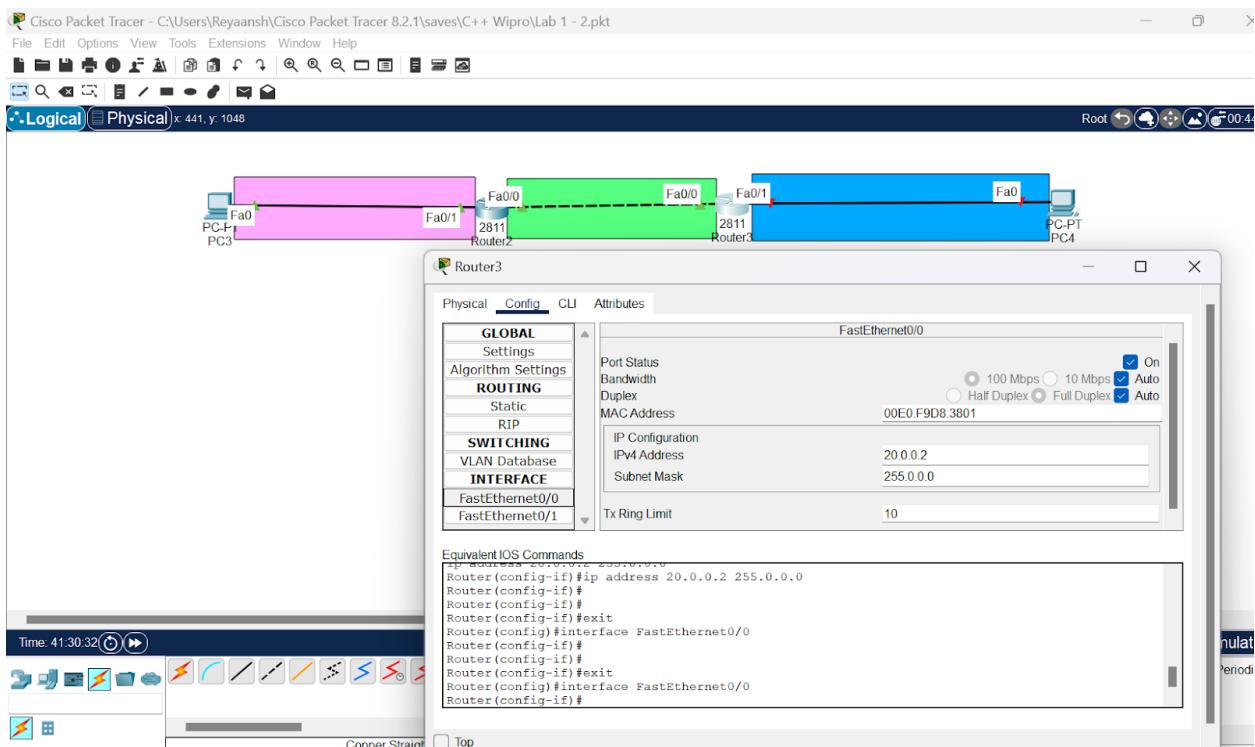
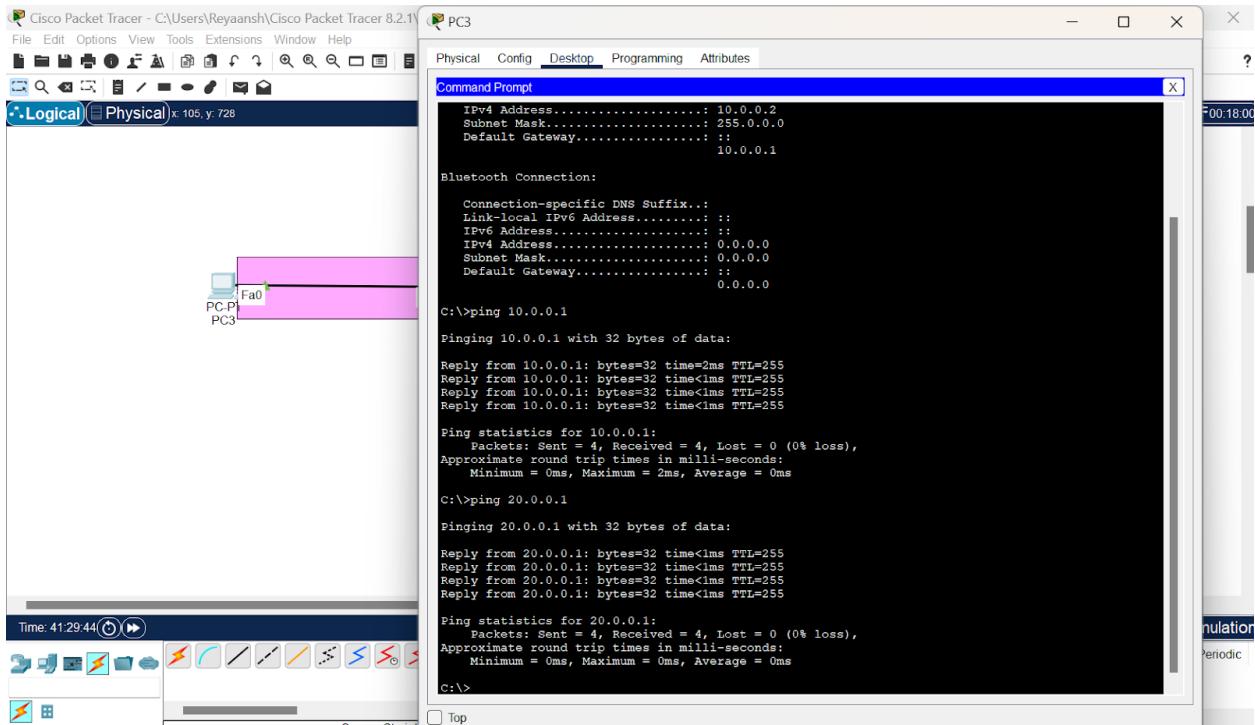
Date:07/06/2024

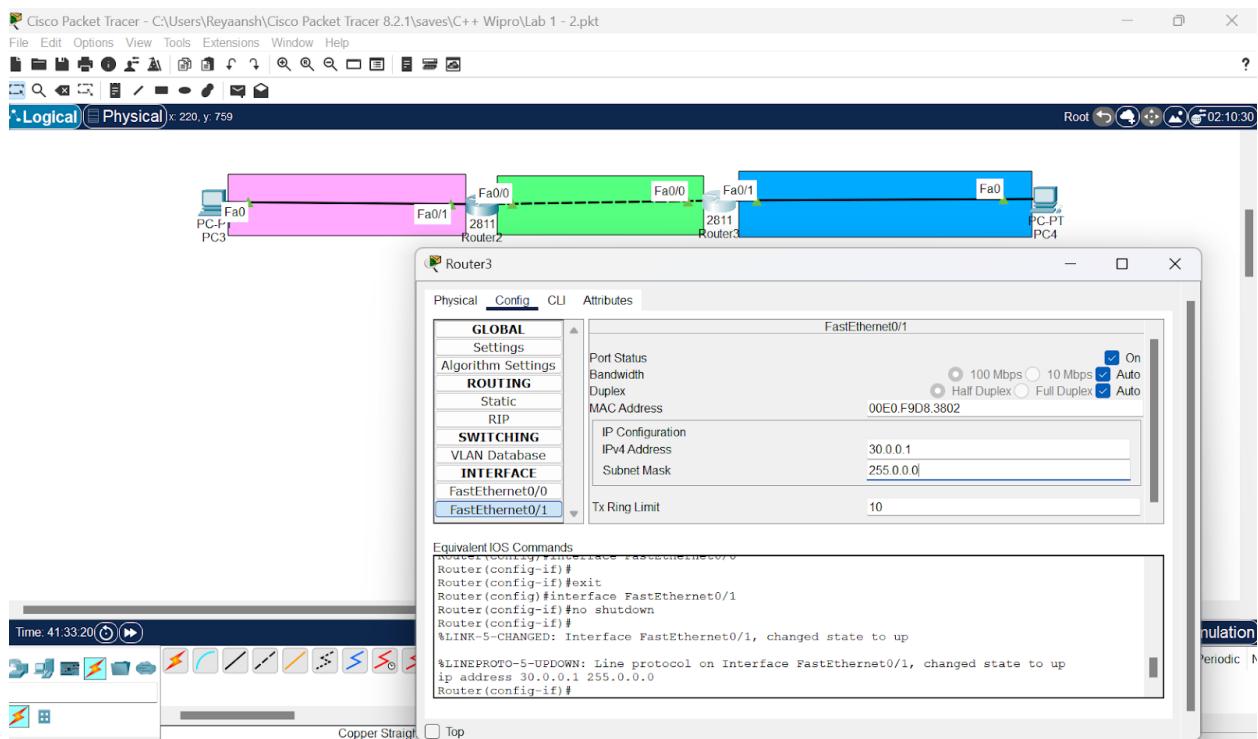
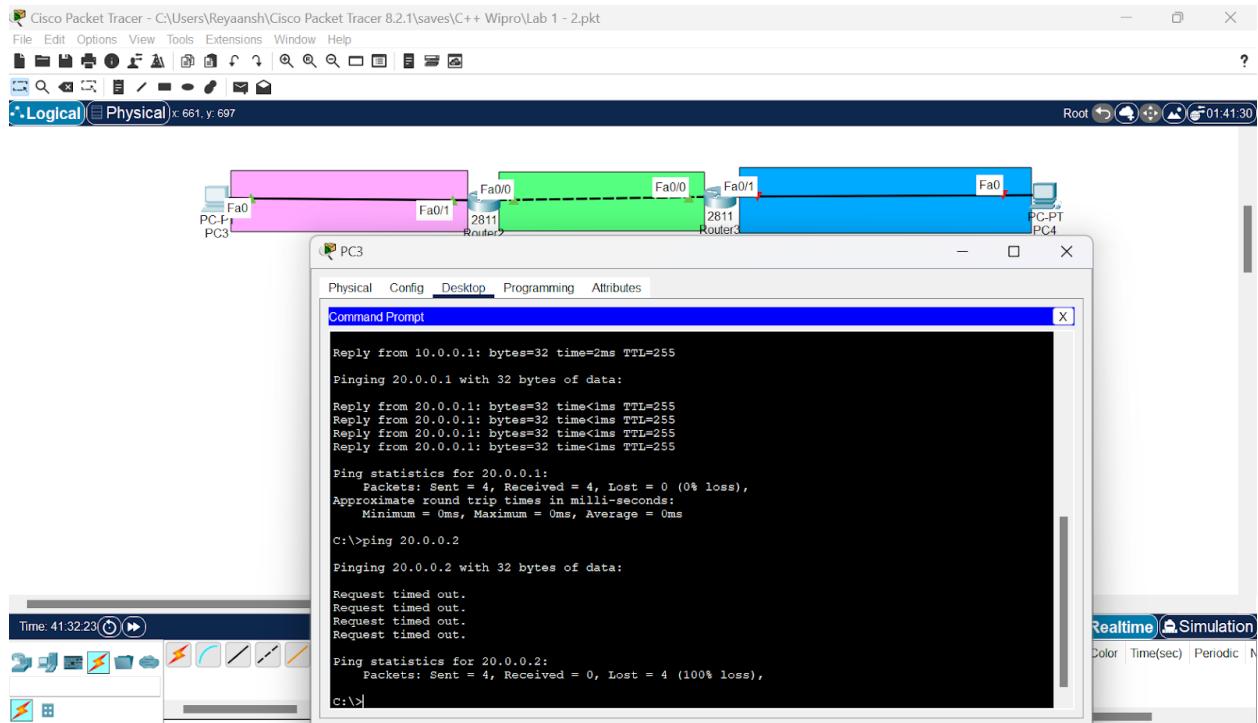
Lab 4 : Static Routing (on two routers)

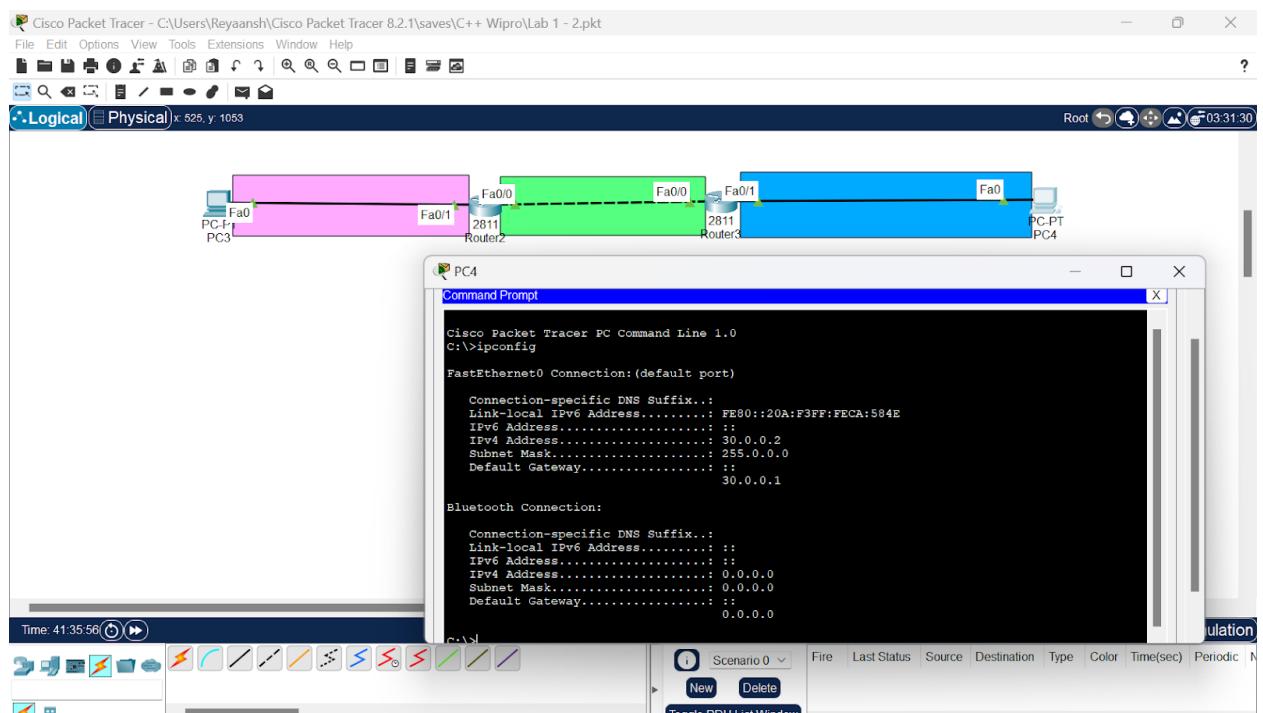
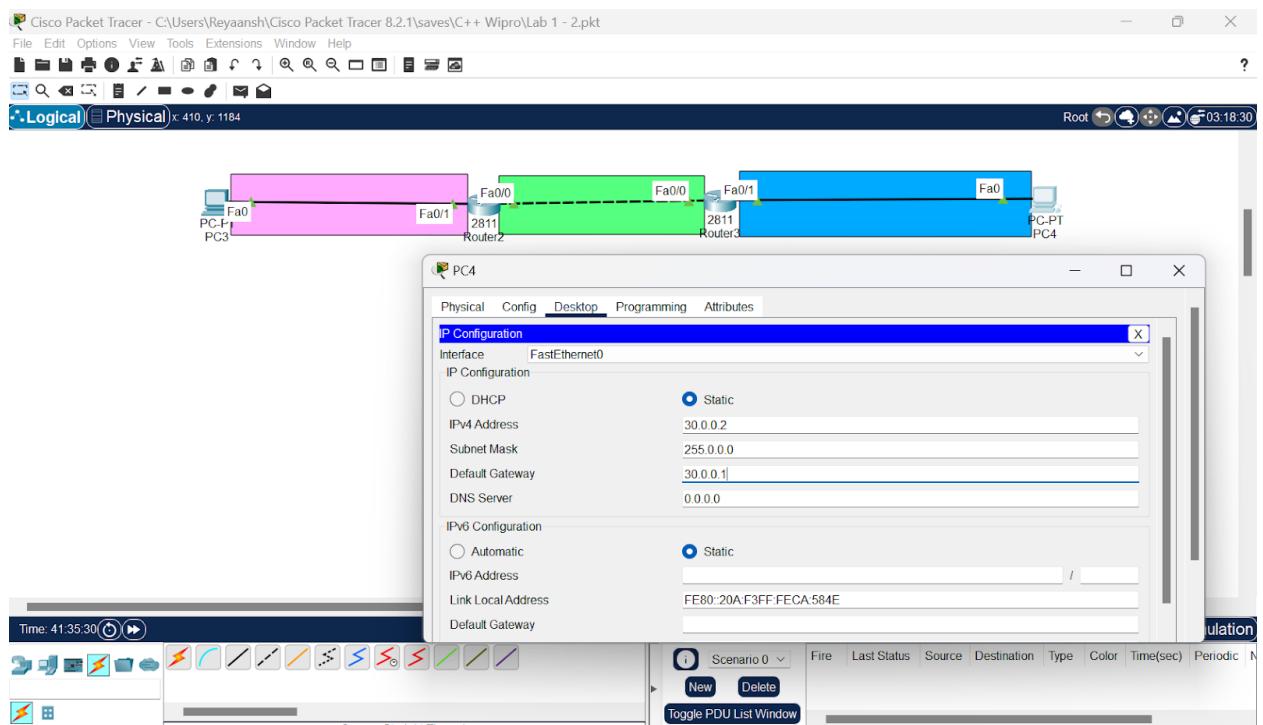


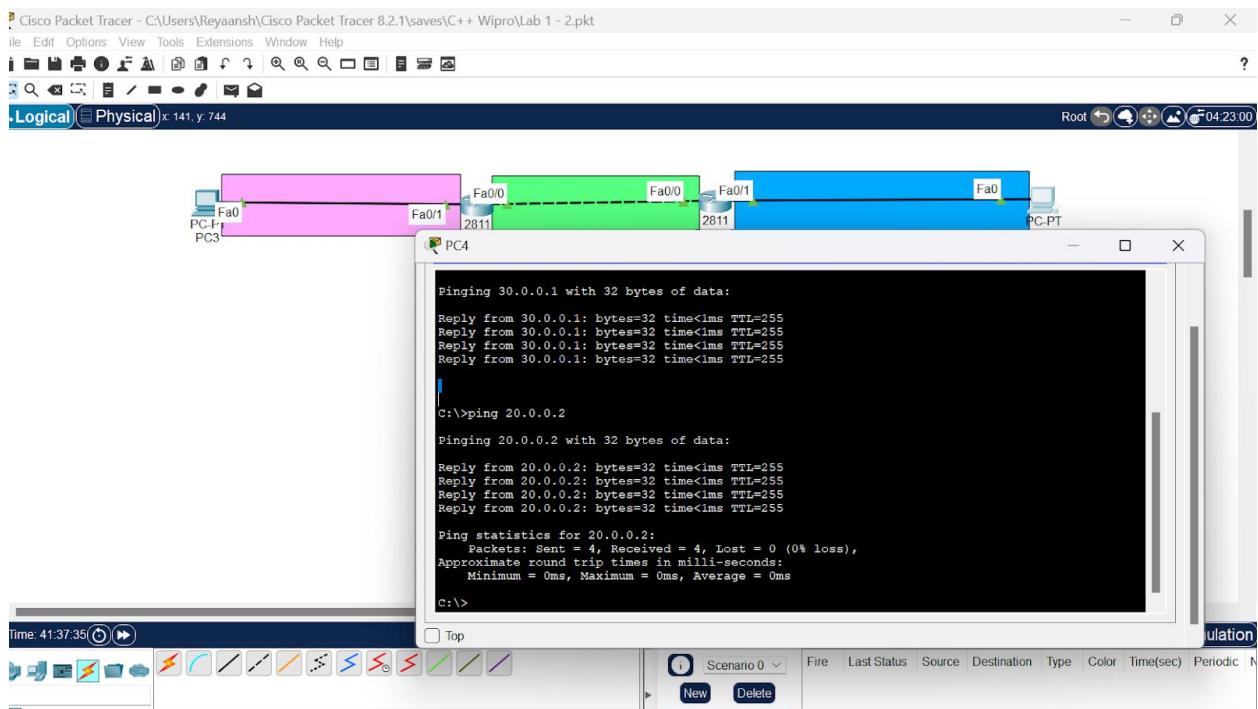
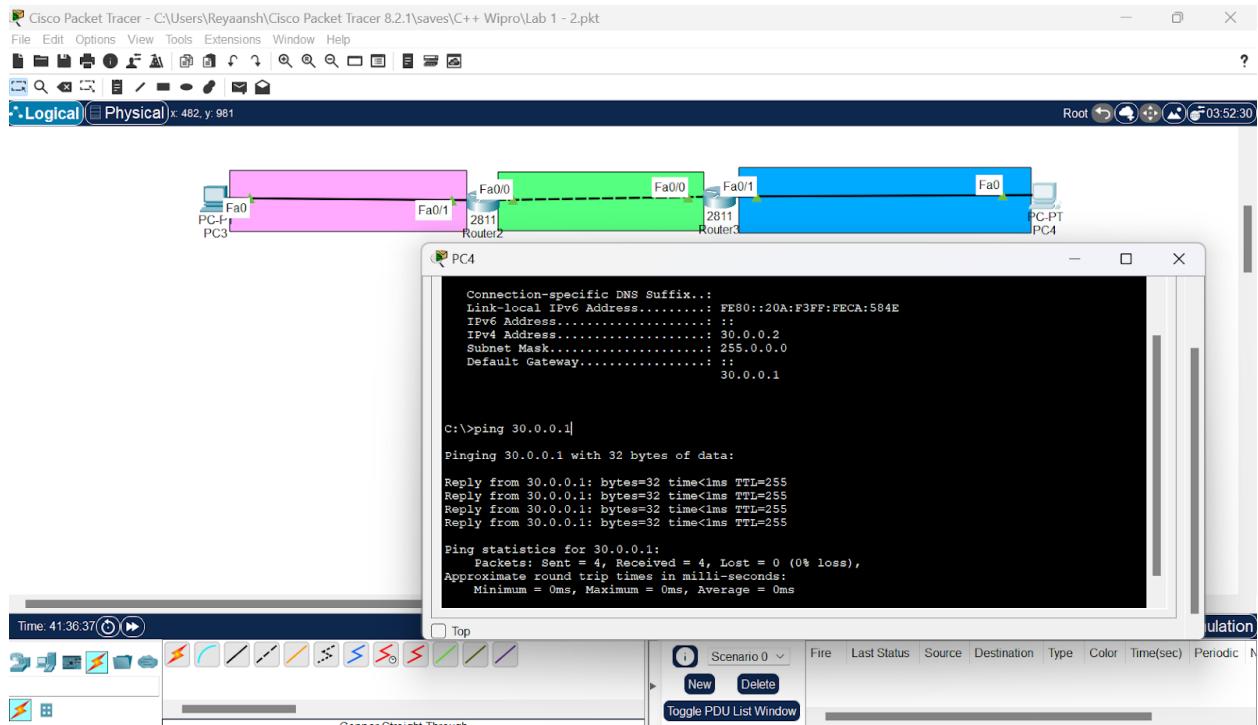


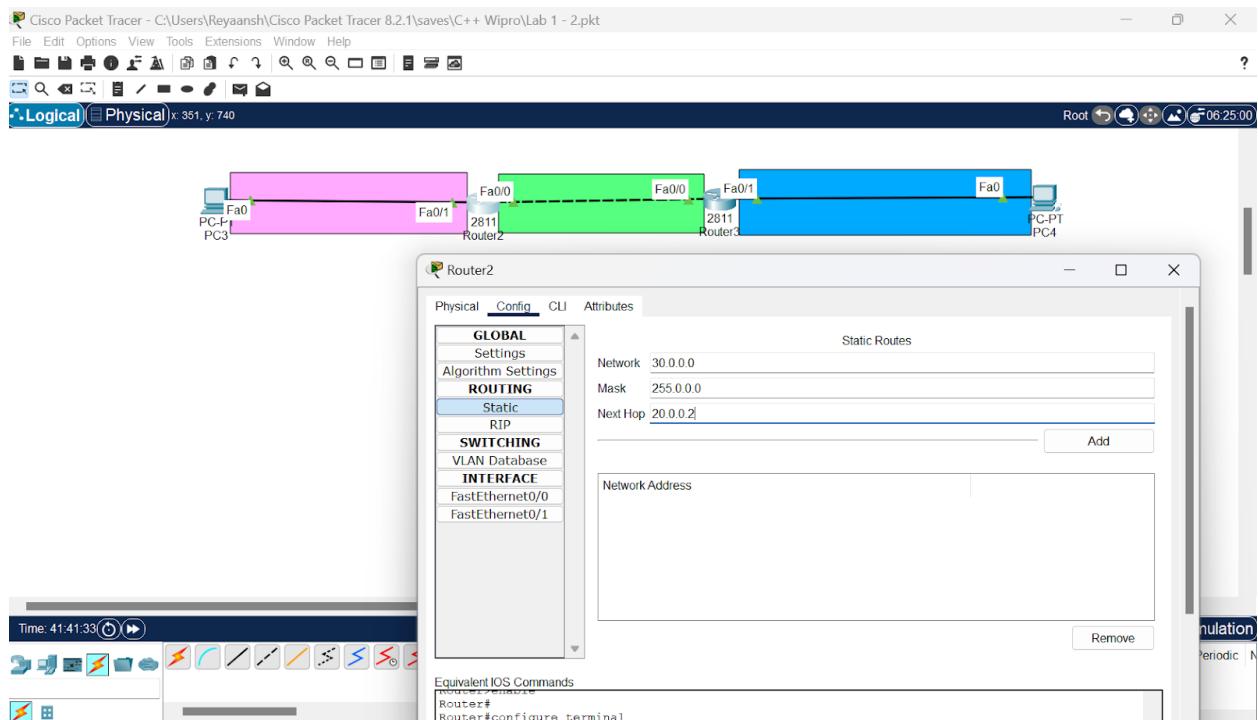
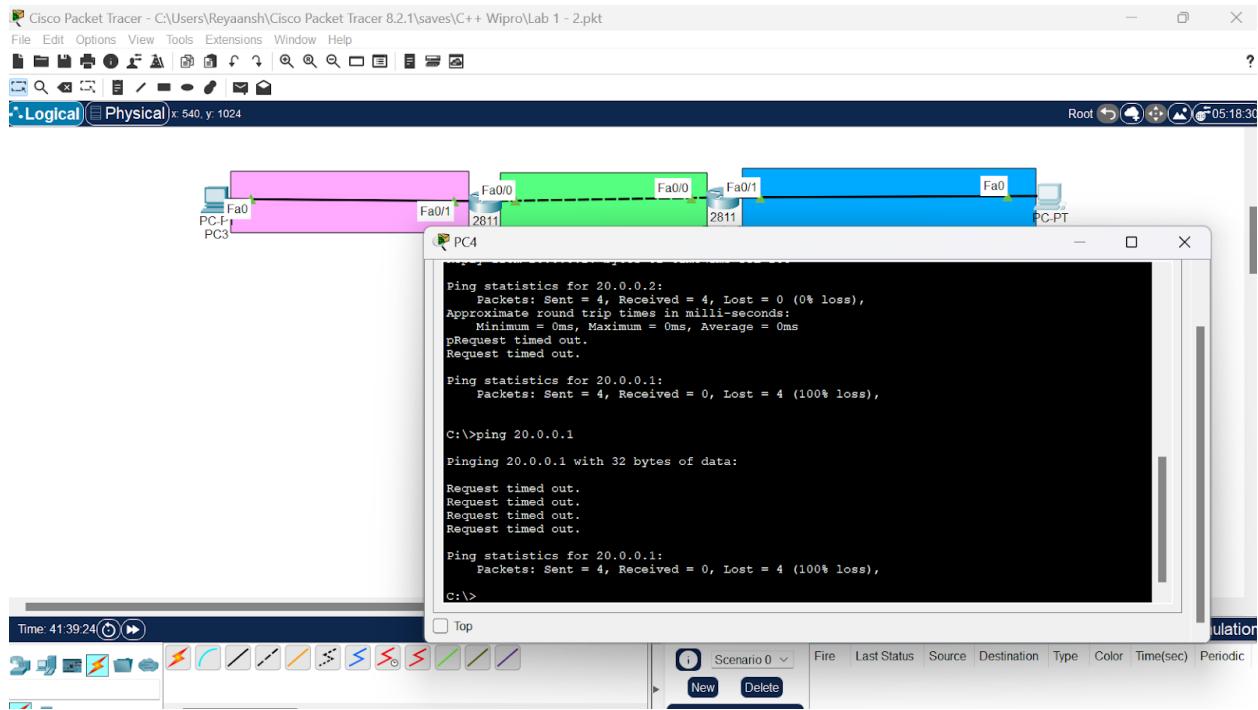


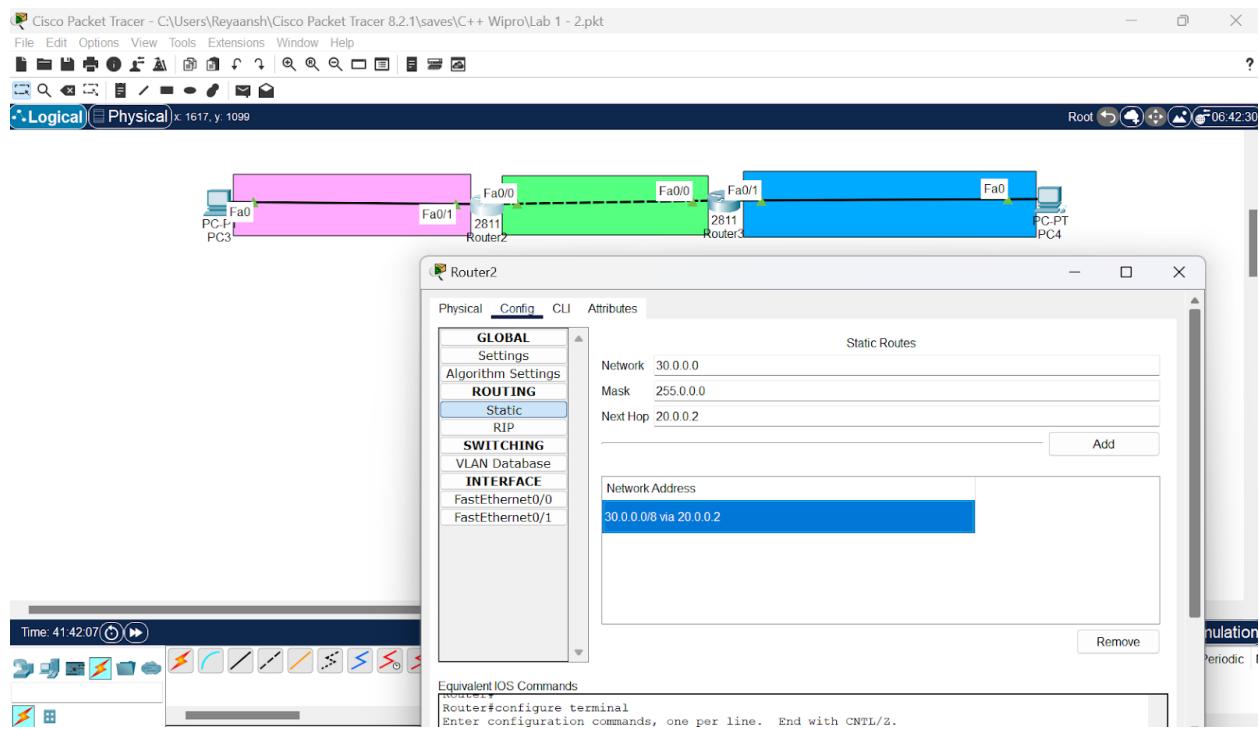
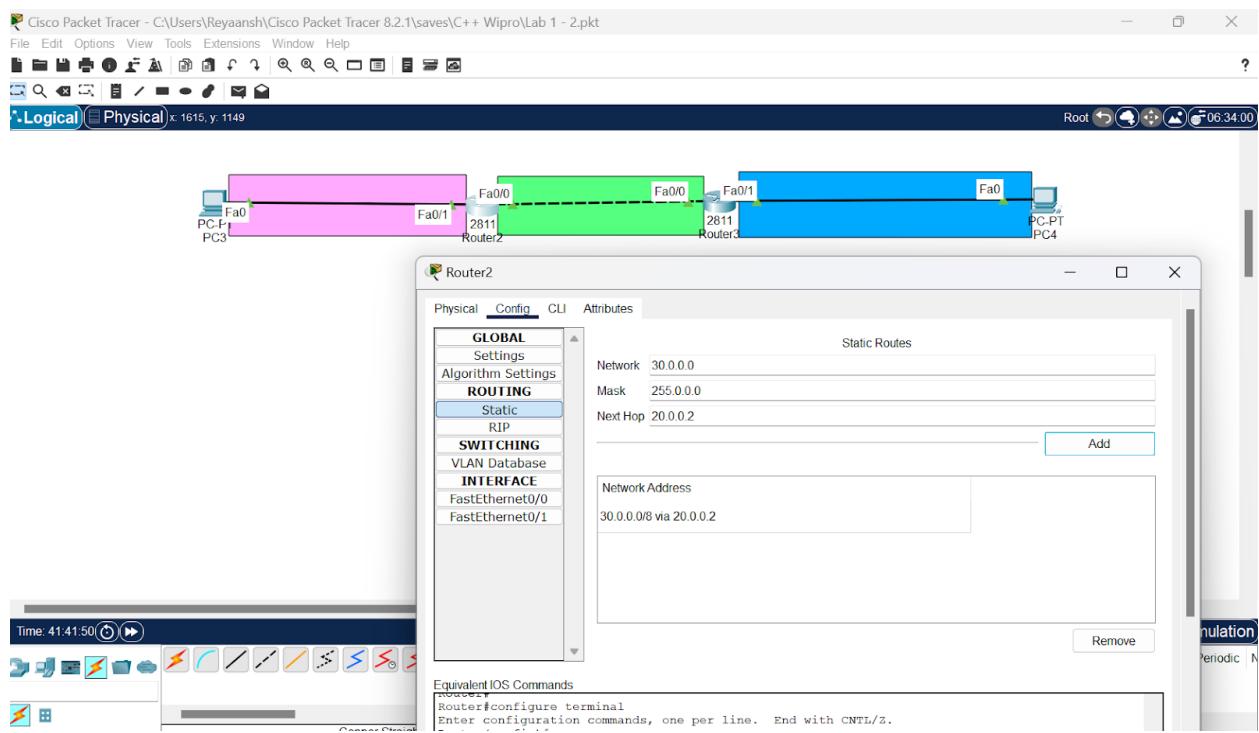


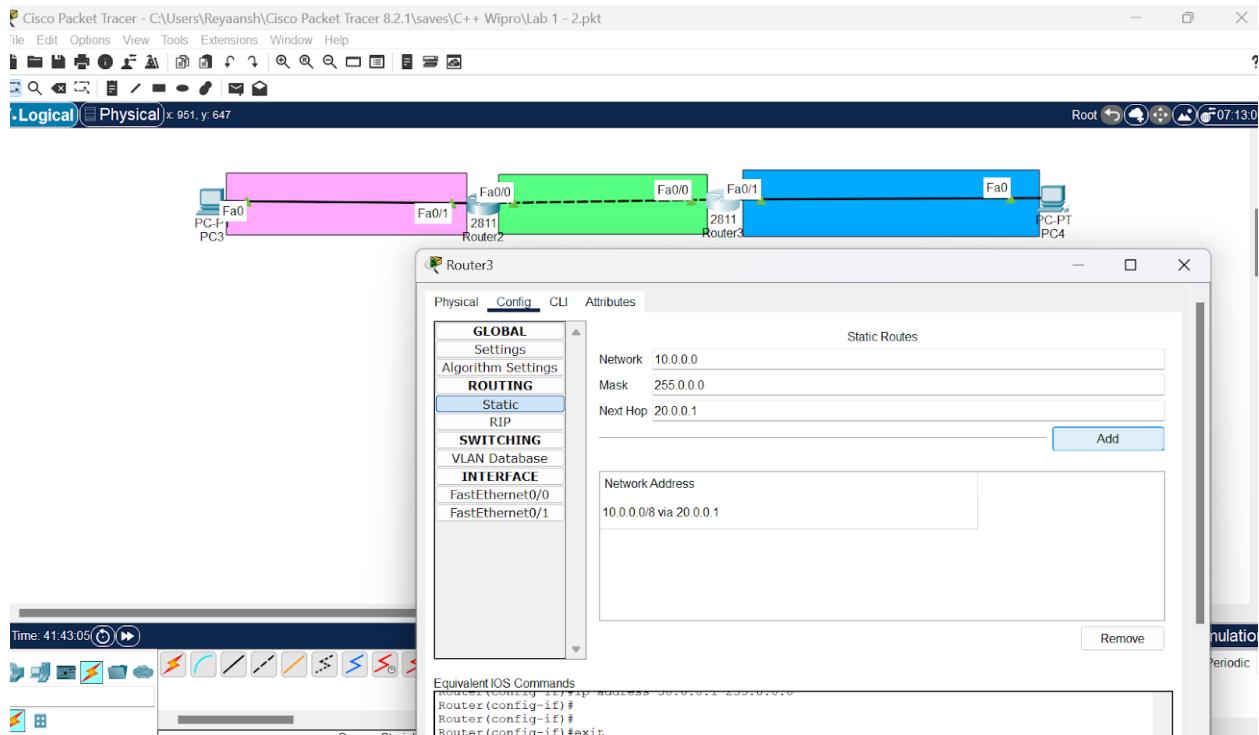
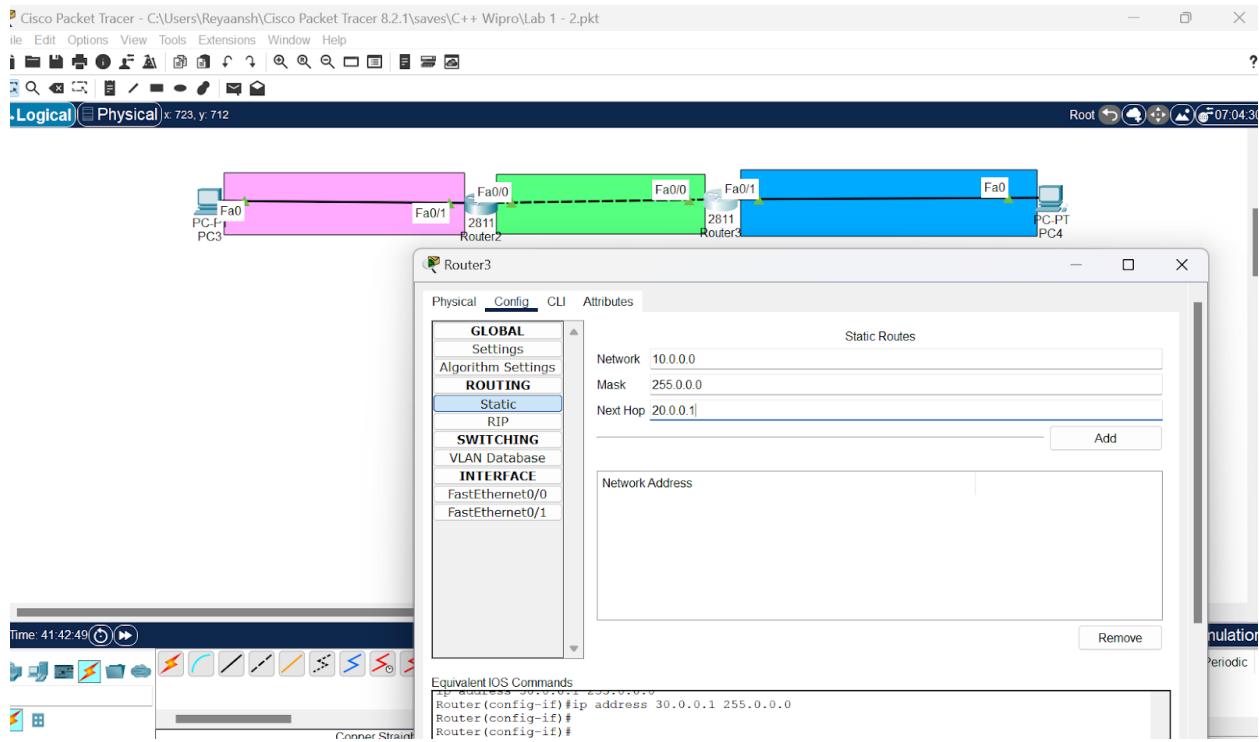


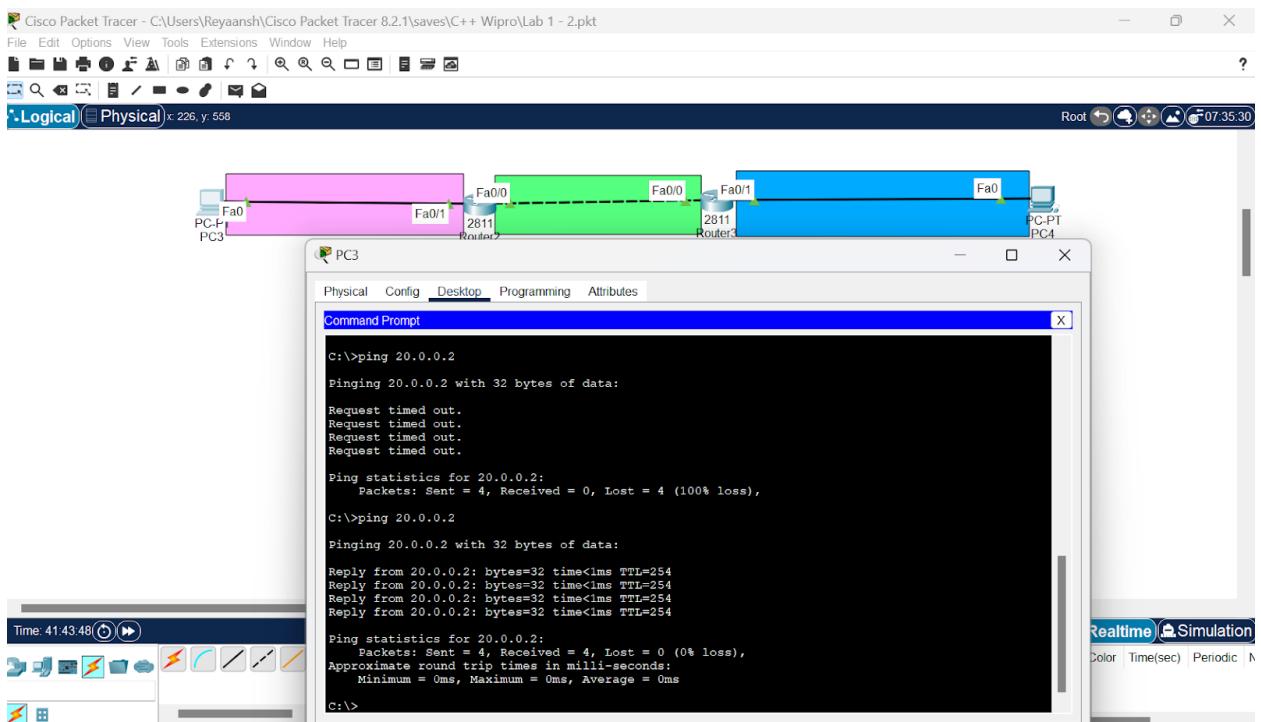
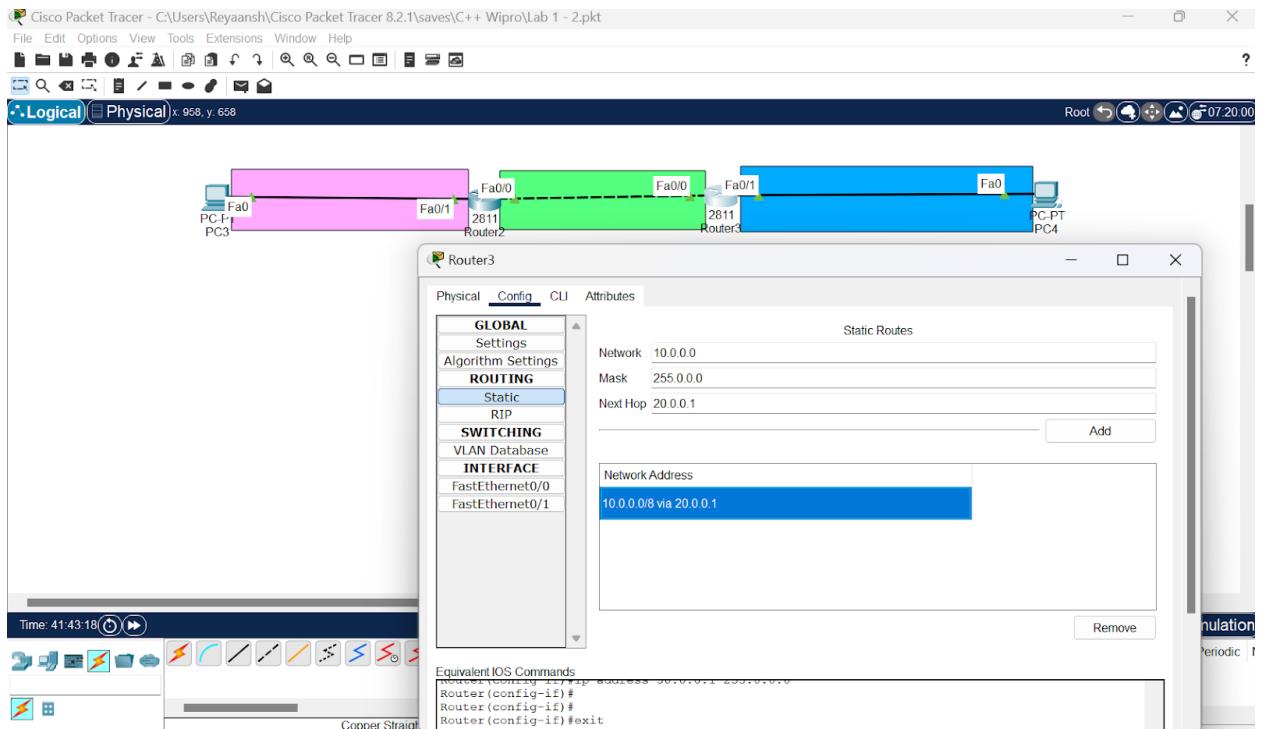


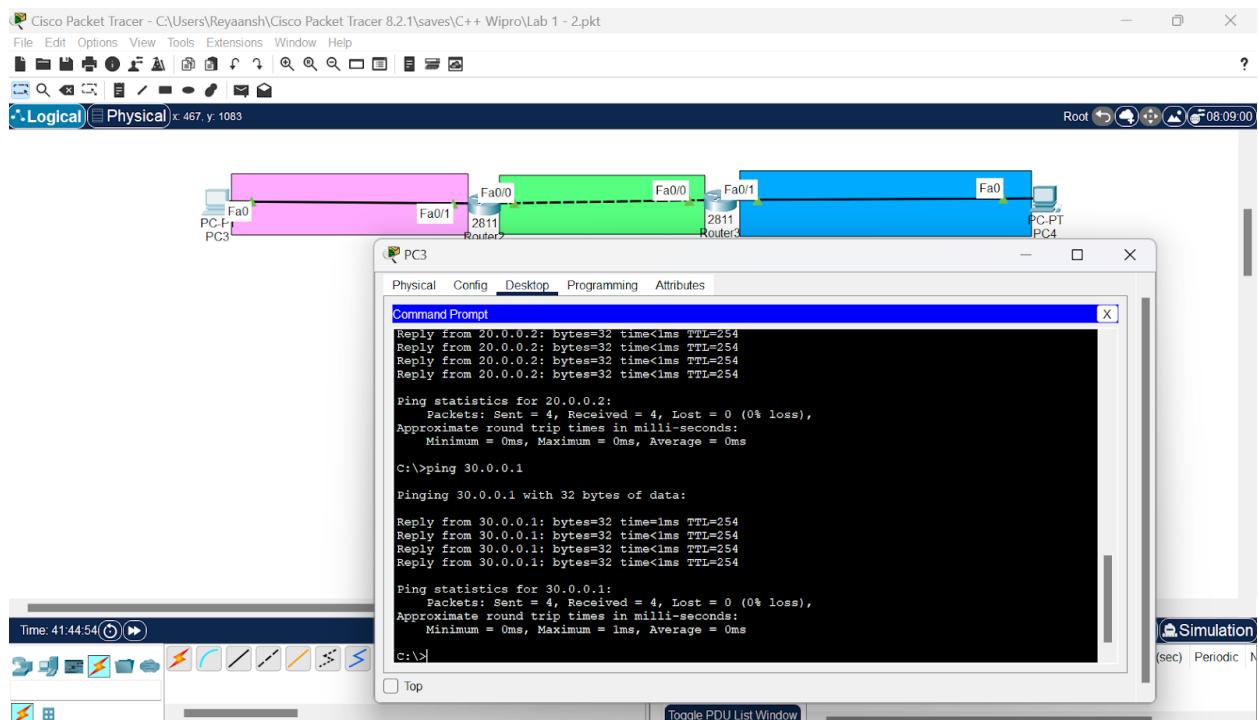
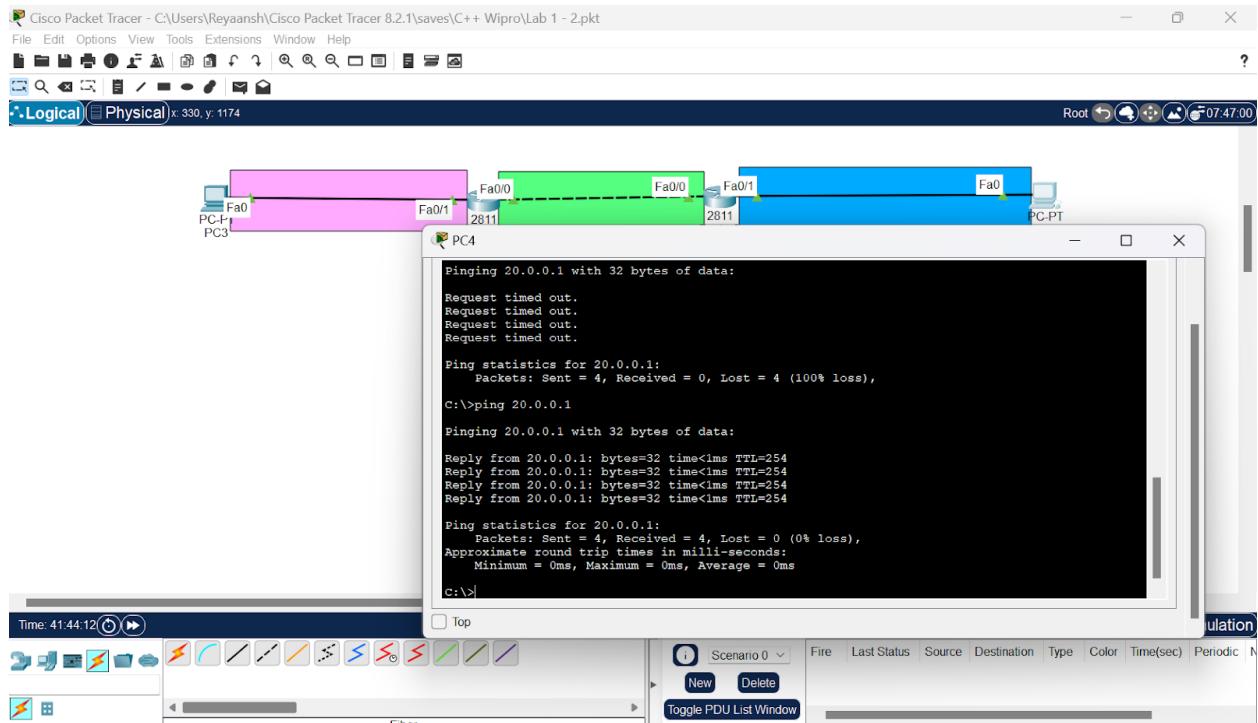


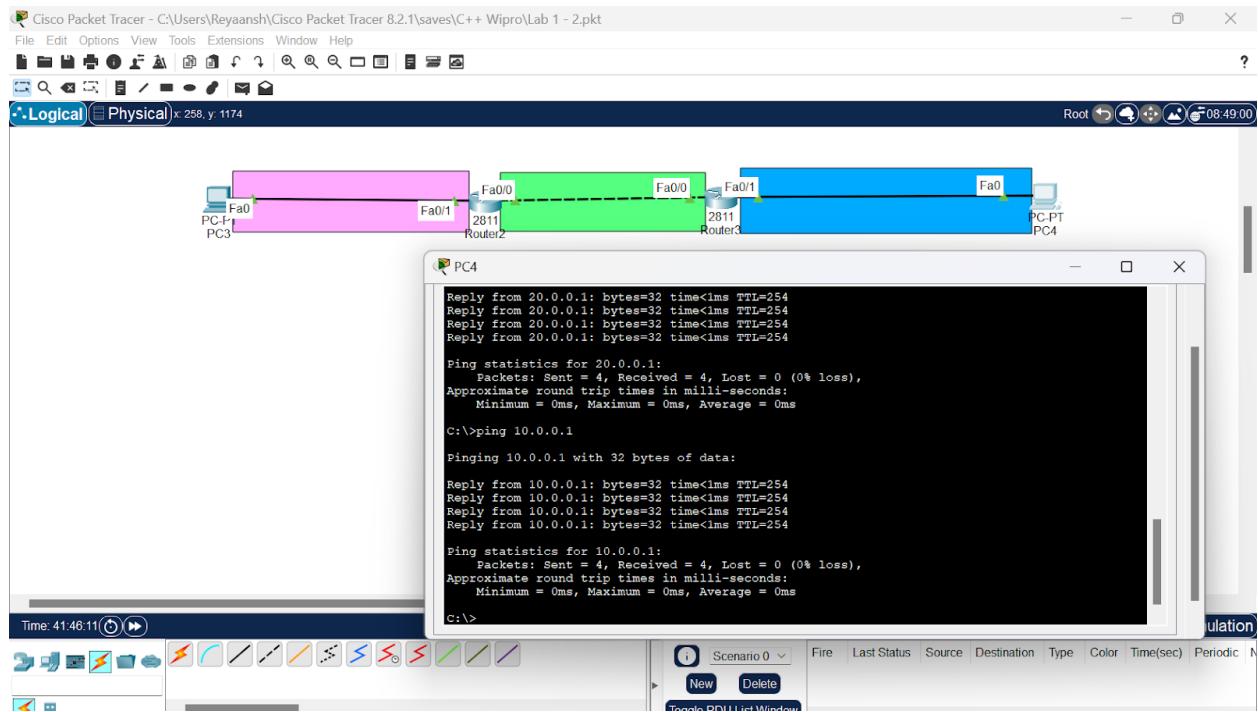
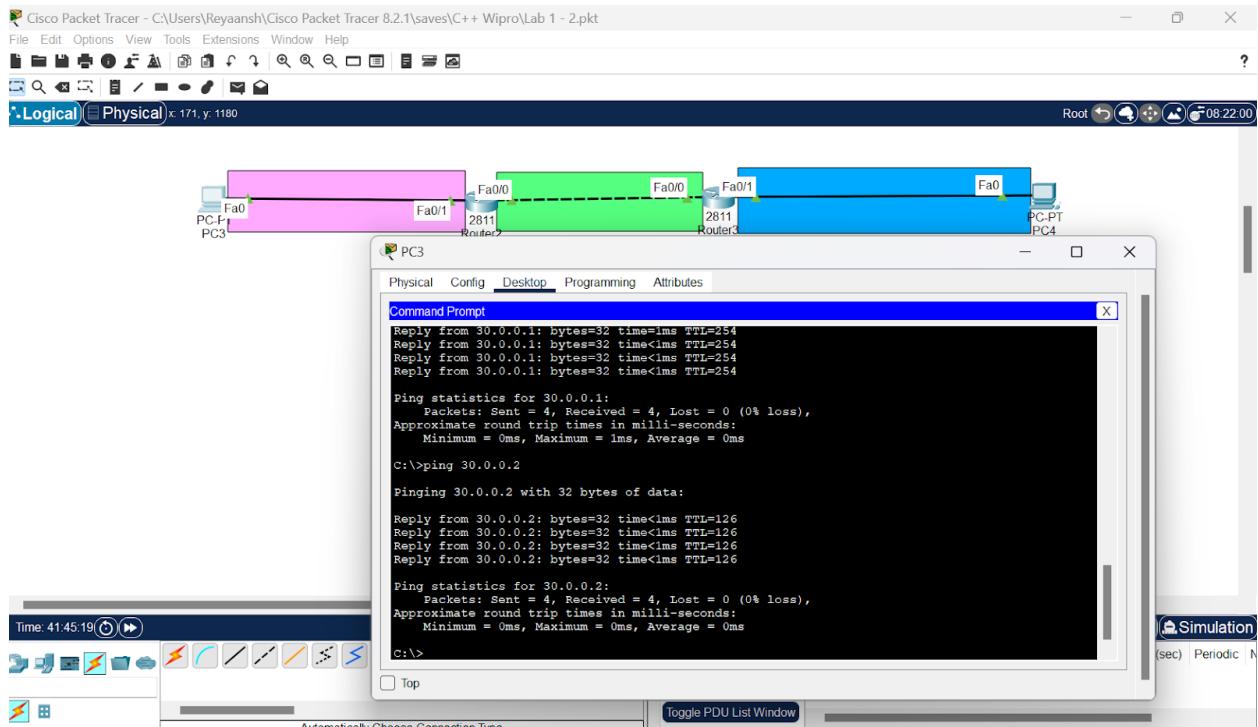


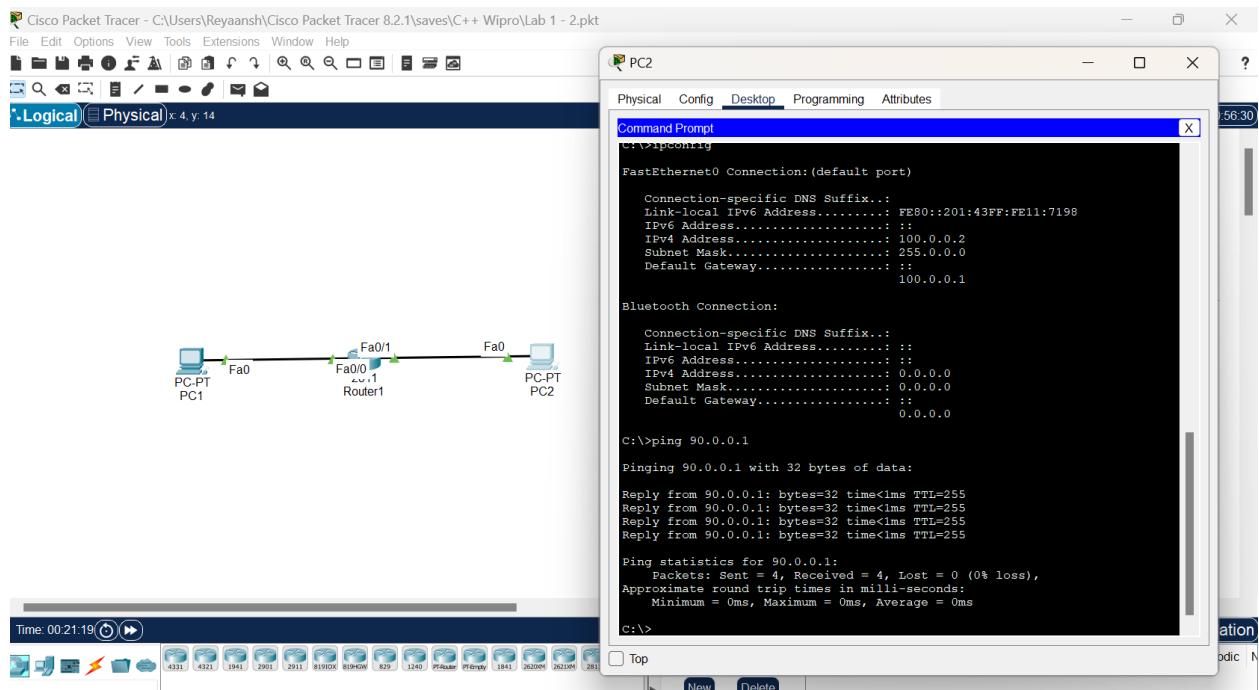
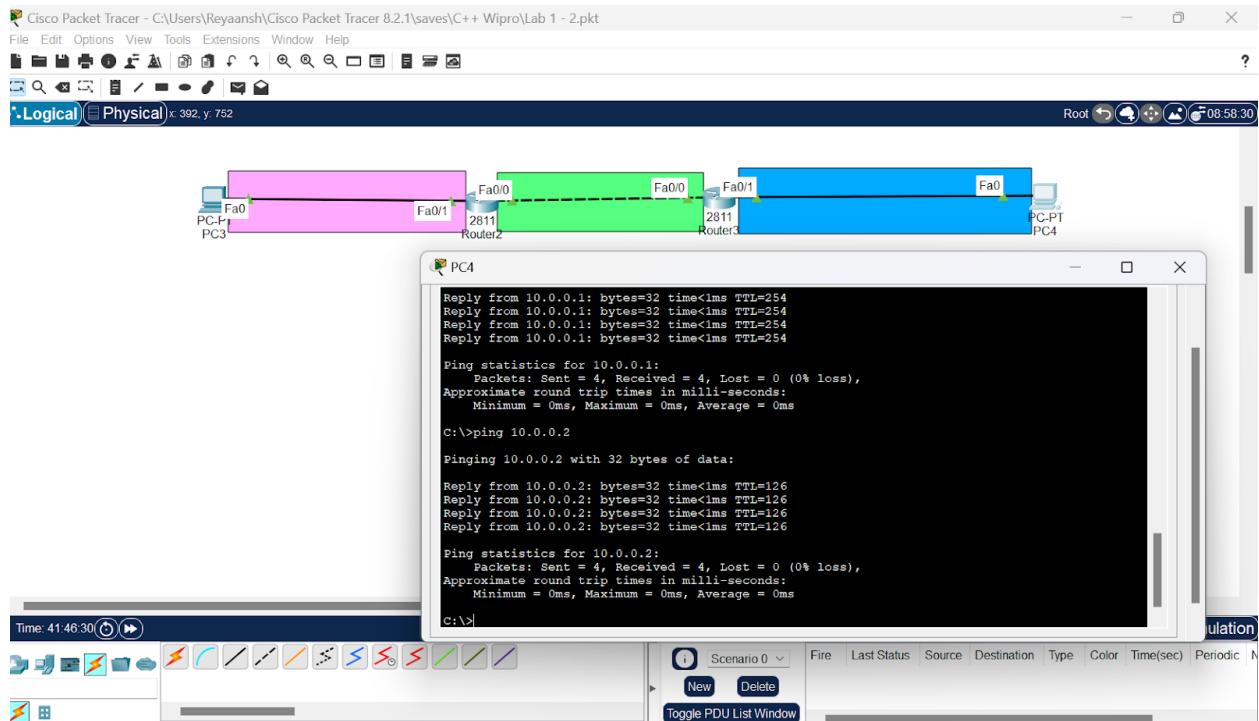




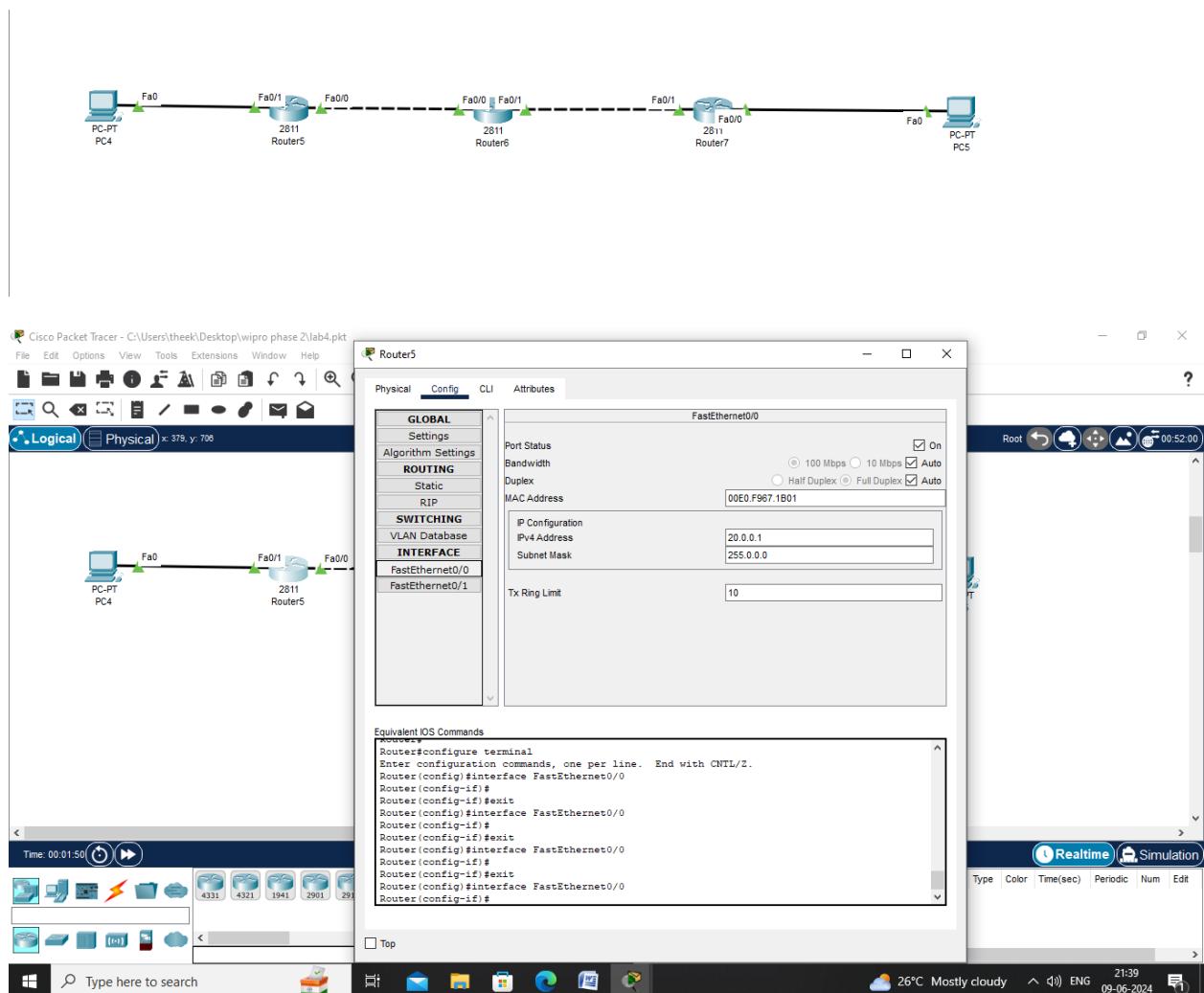


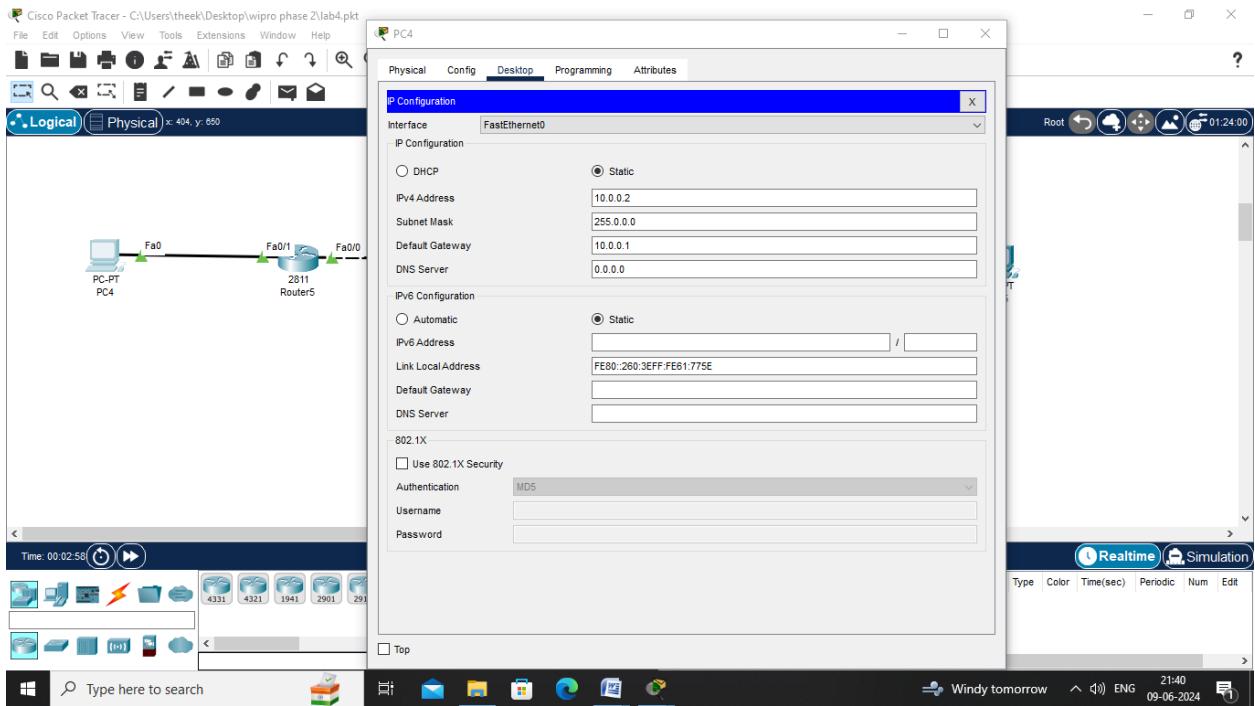
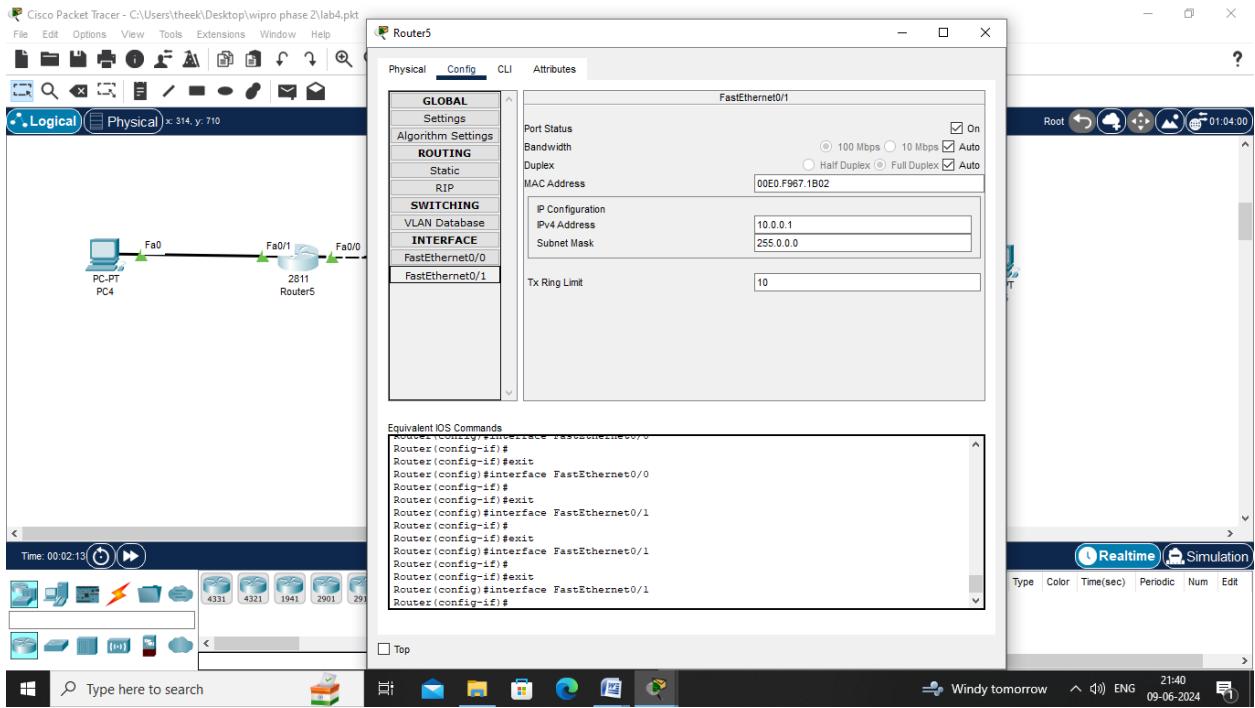


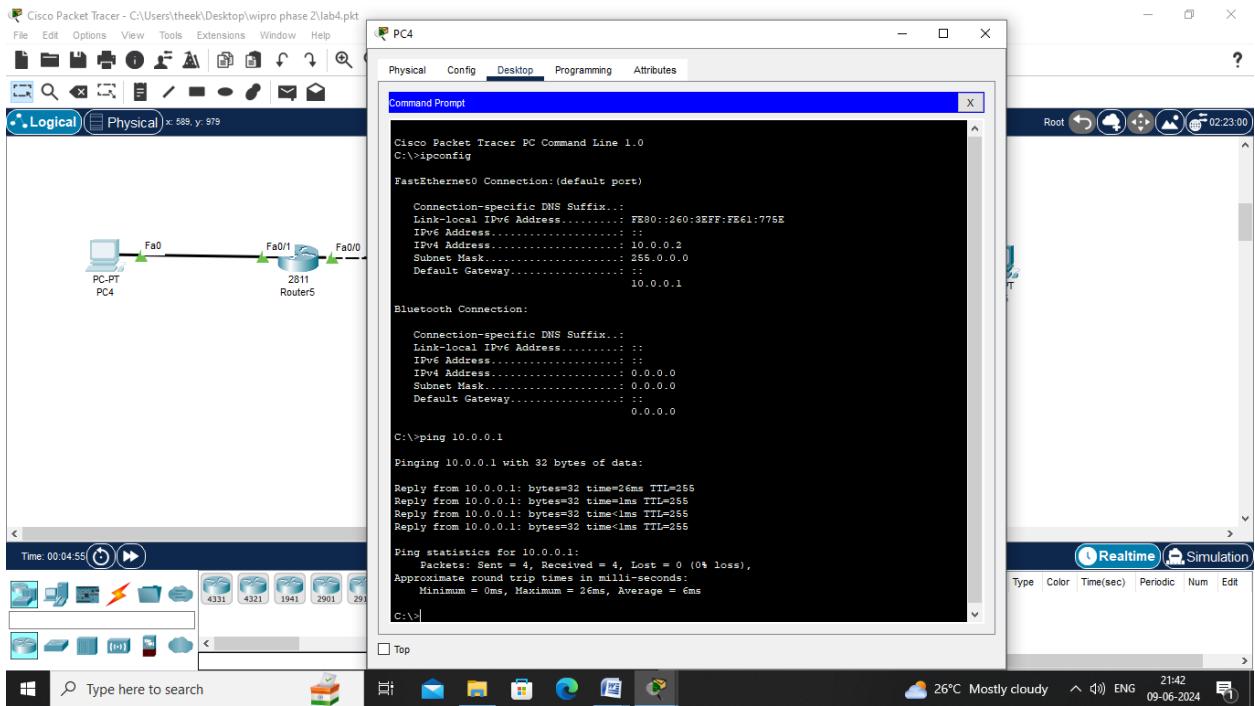
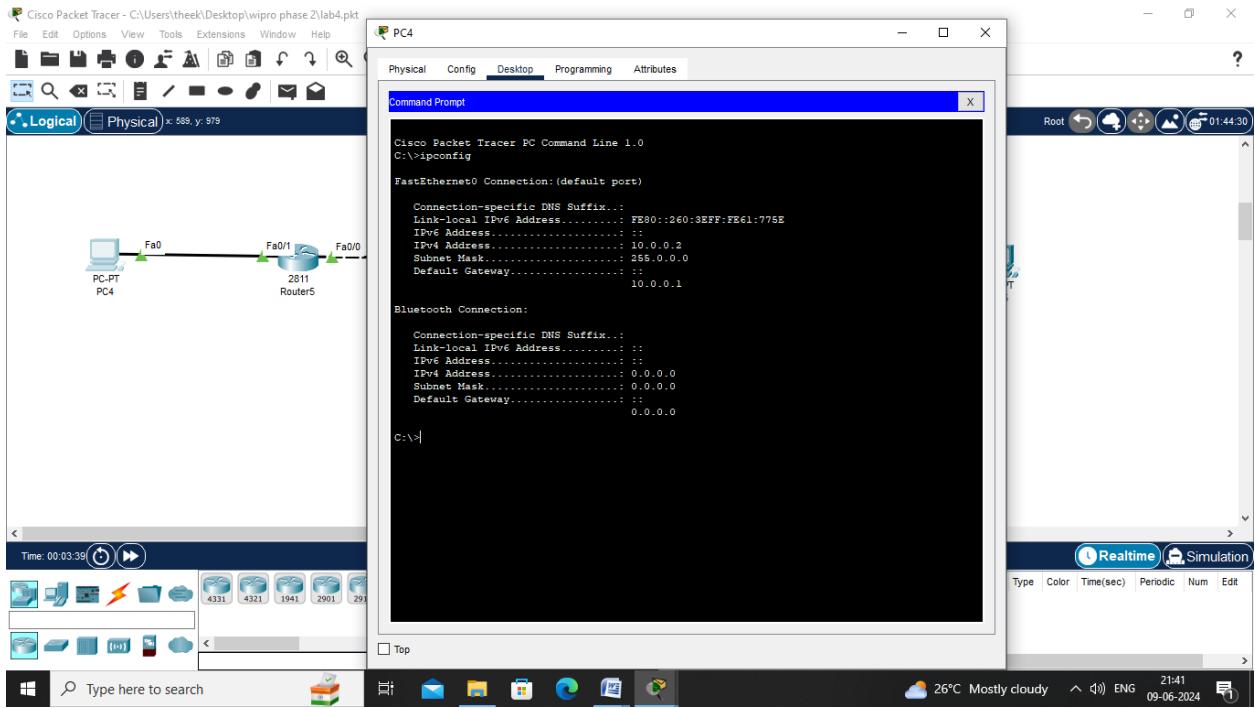


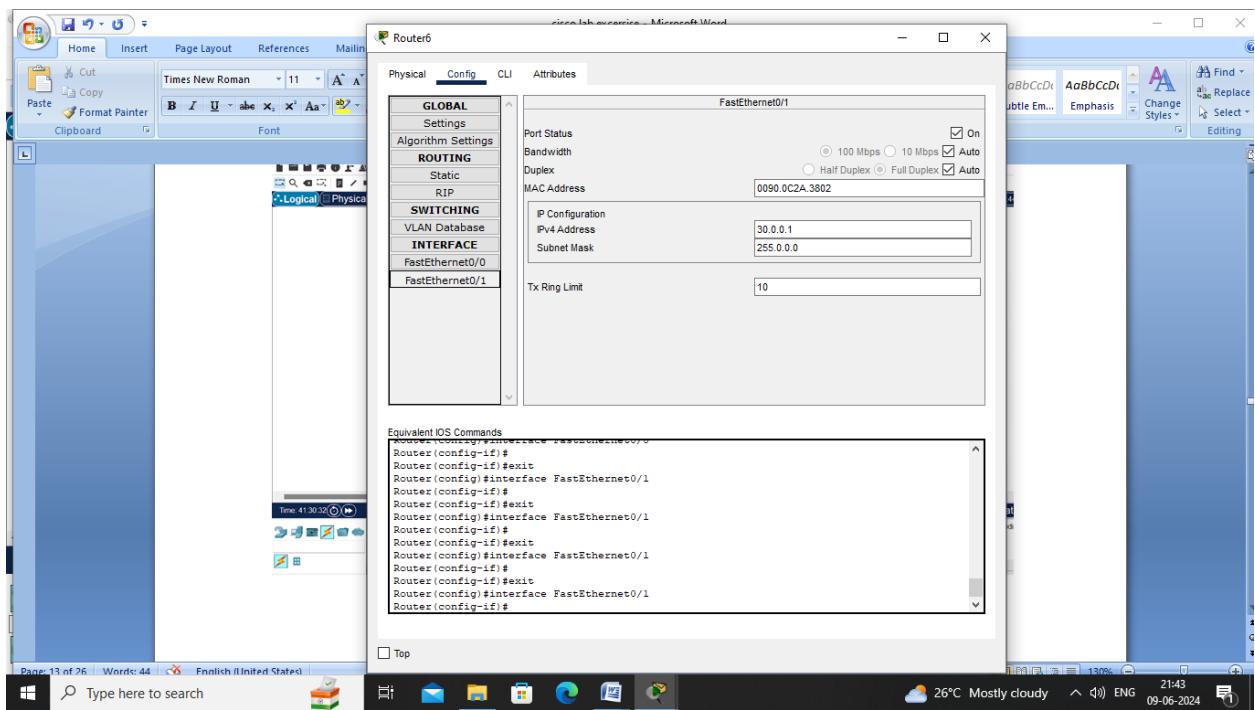
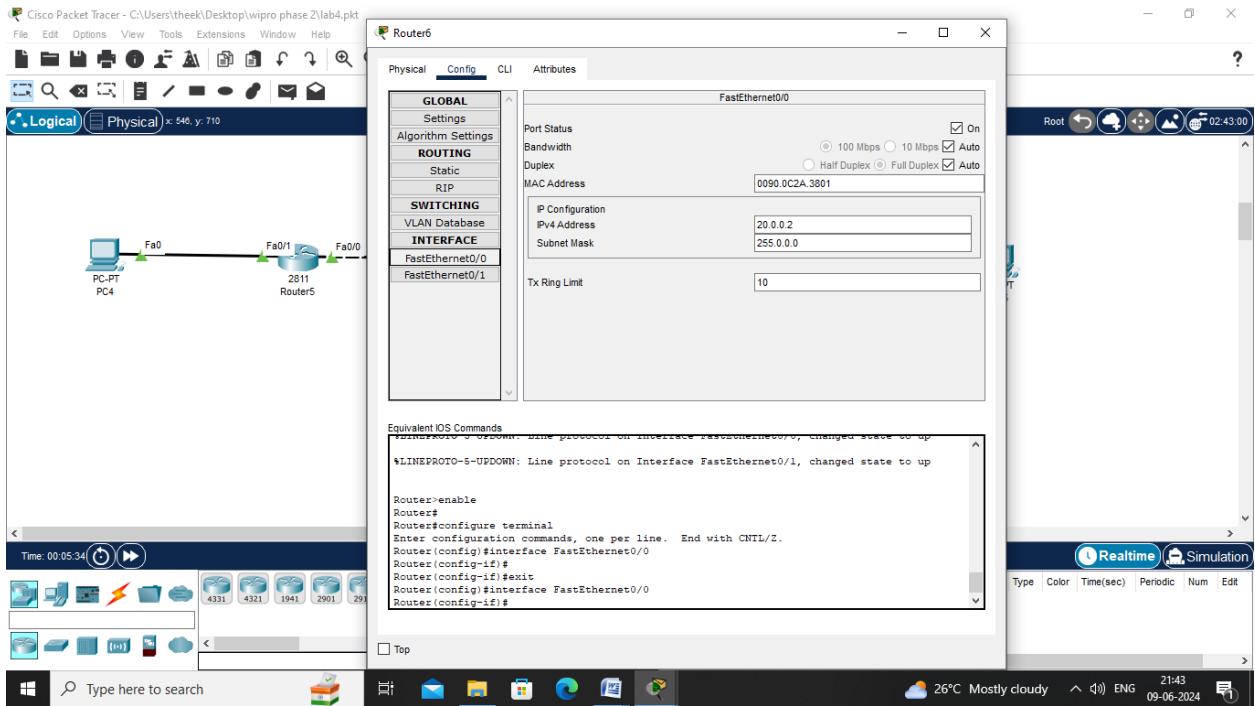


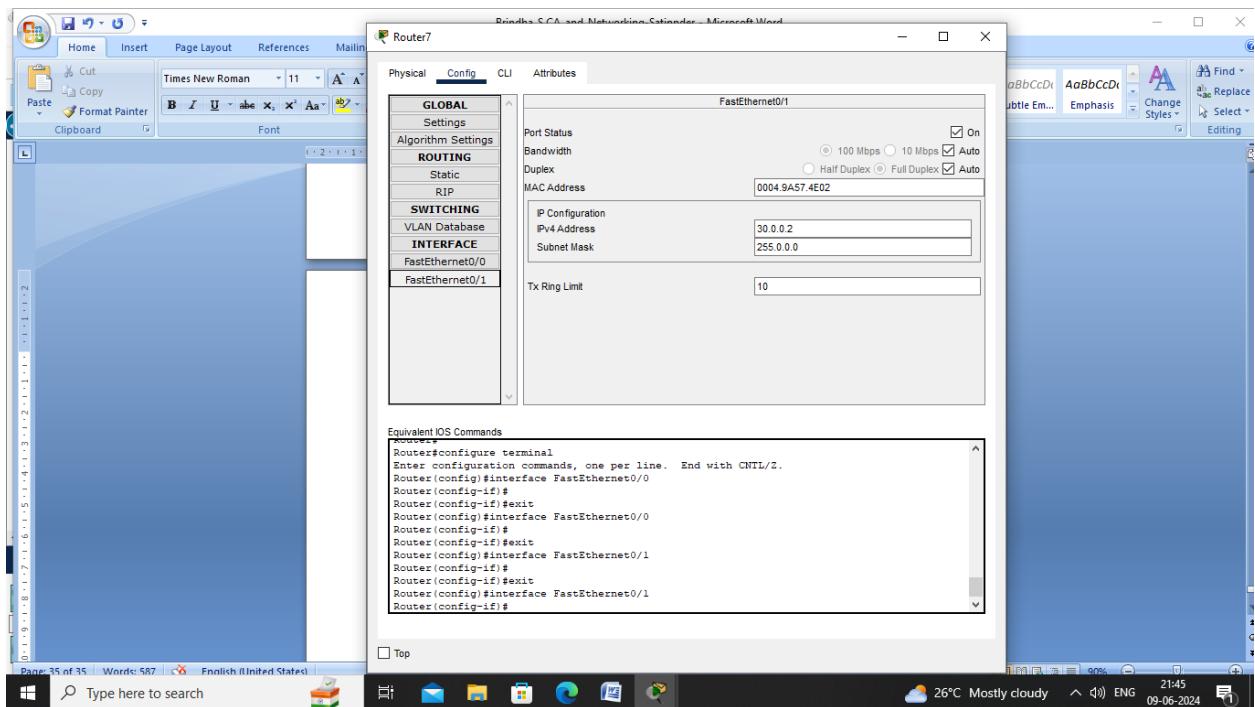
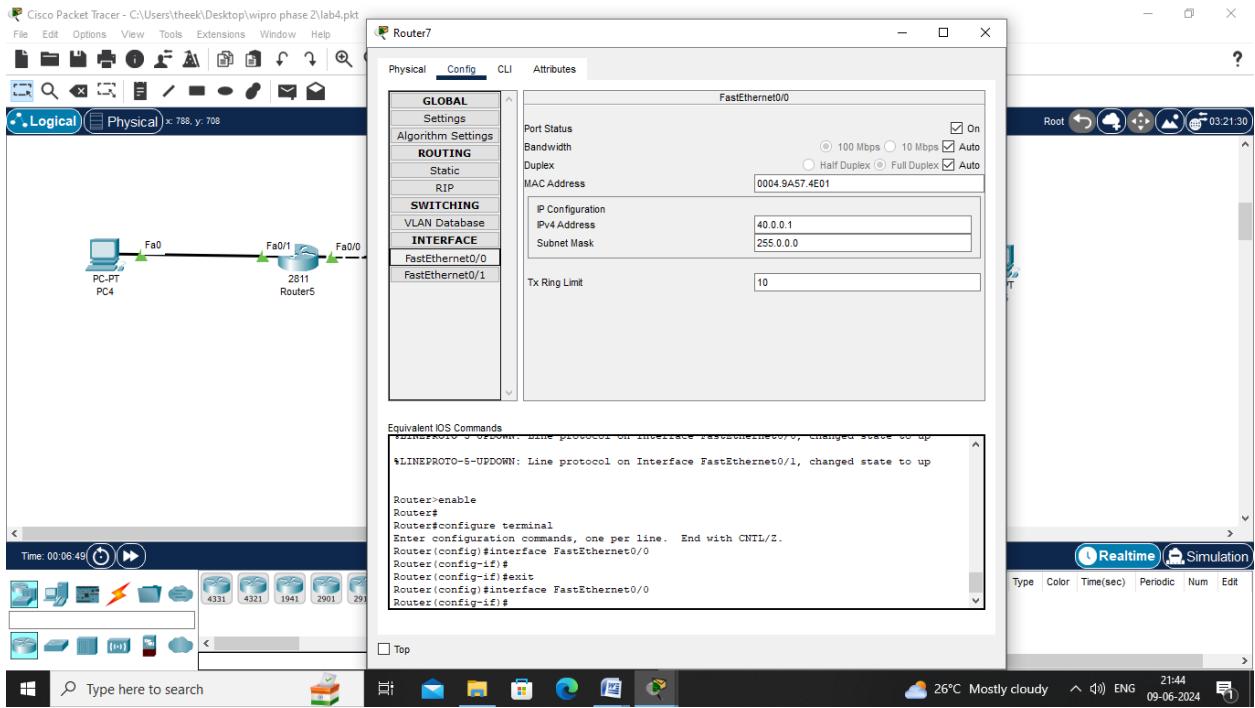
Lab 5 : Static Routing (on three routers)

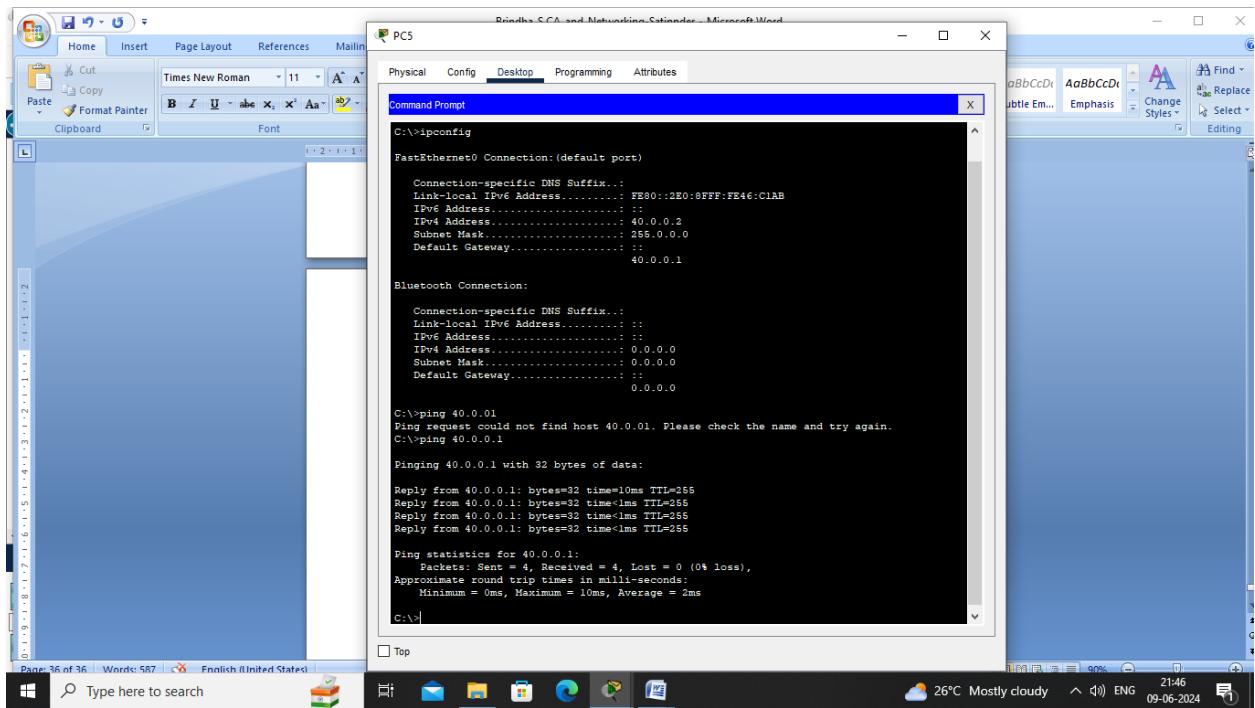
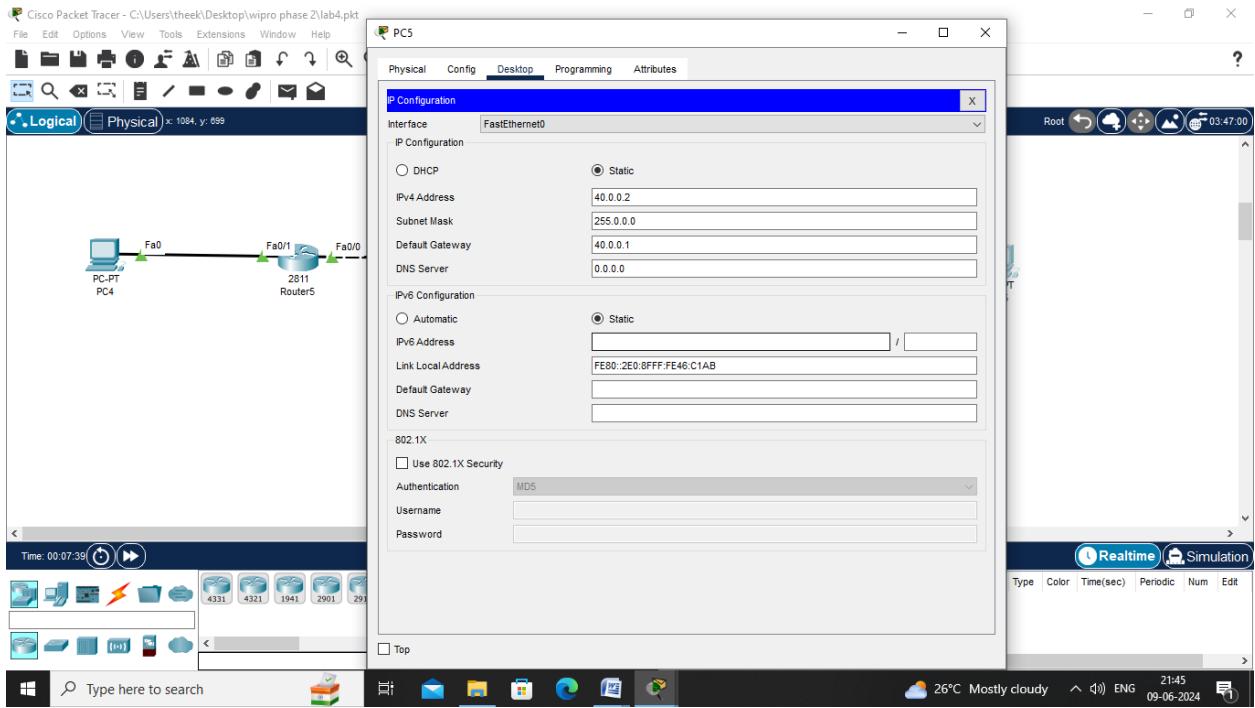


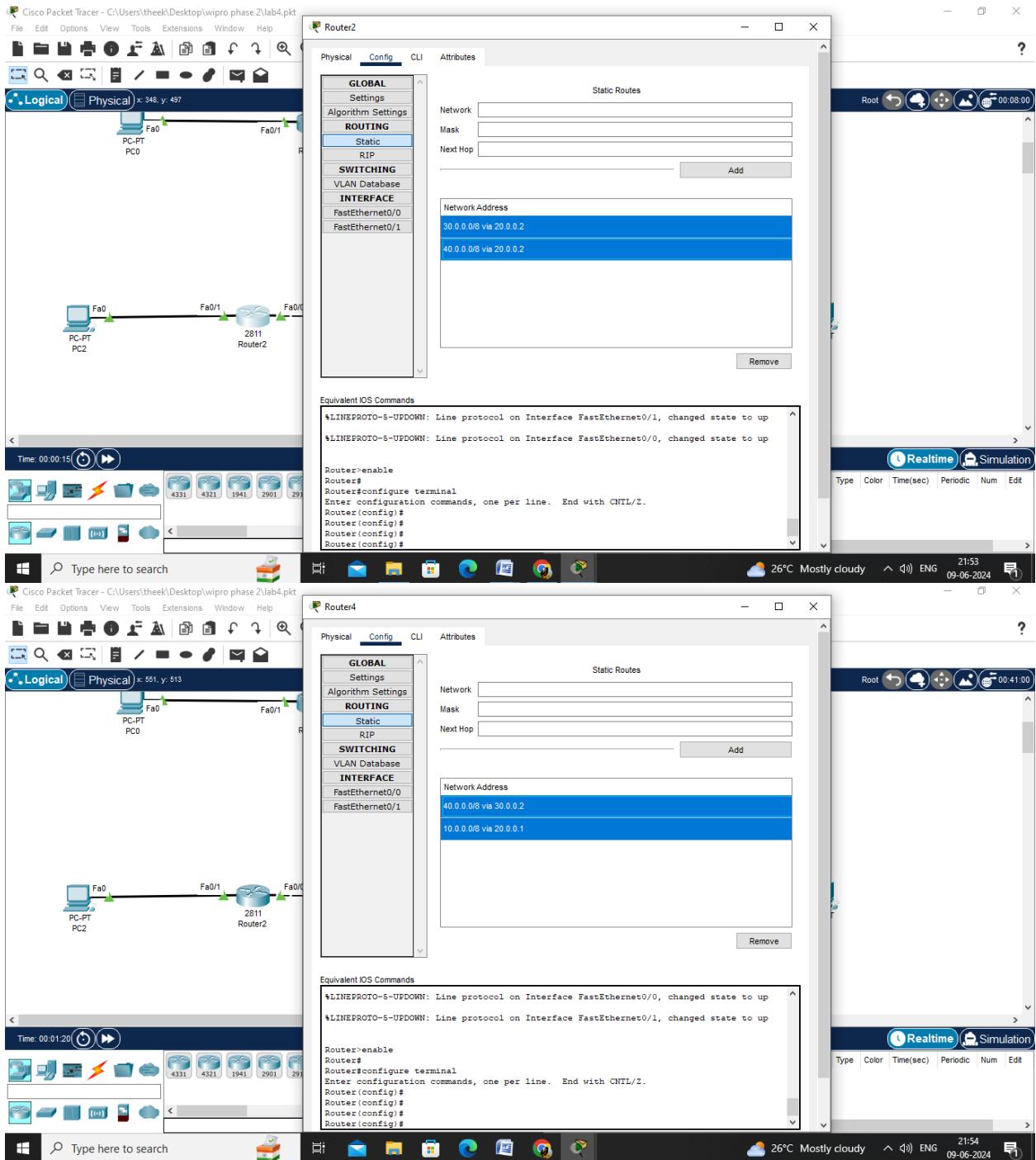


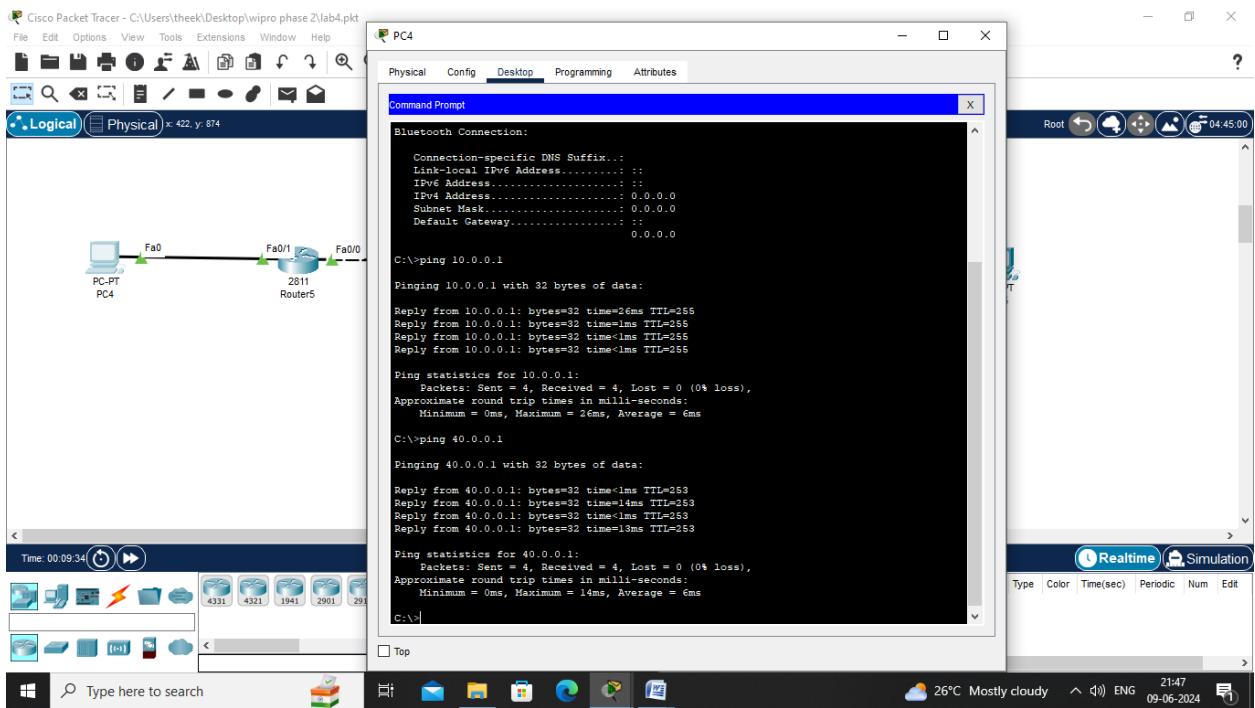
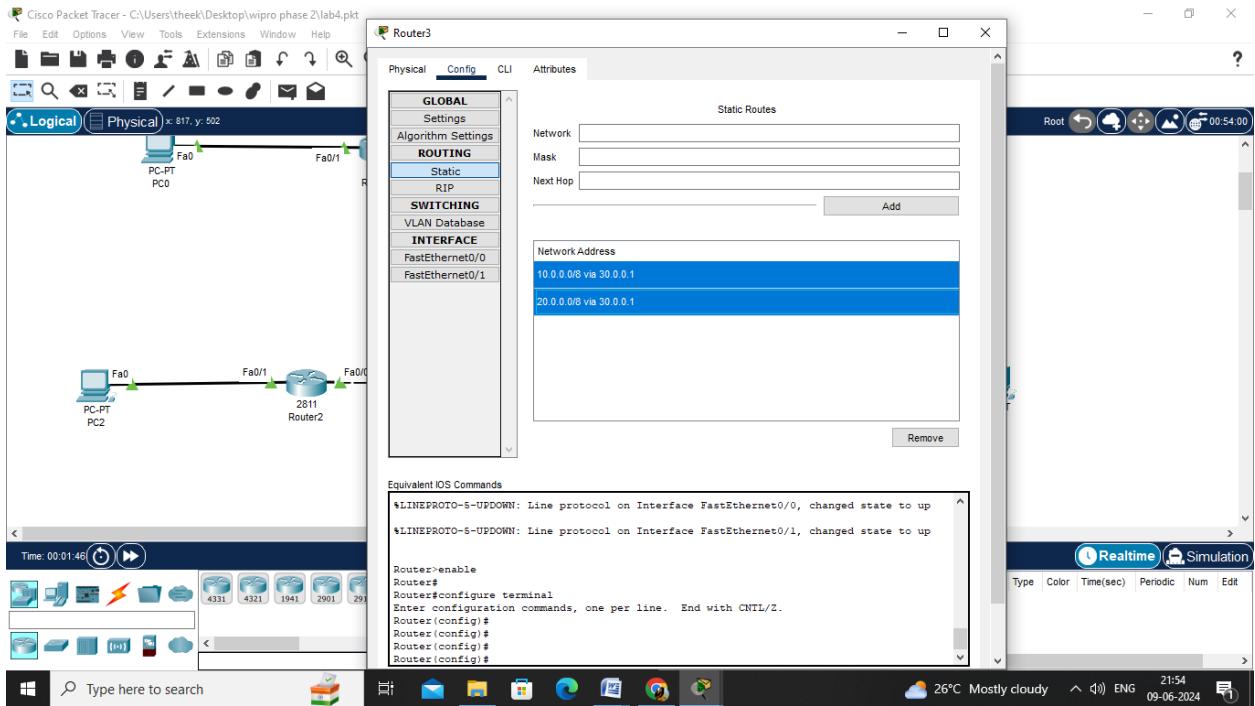


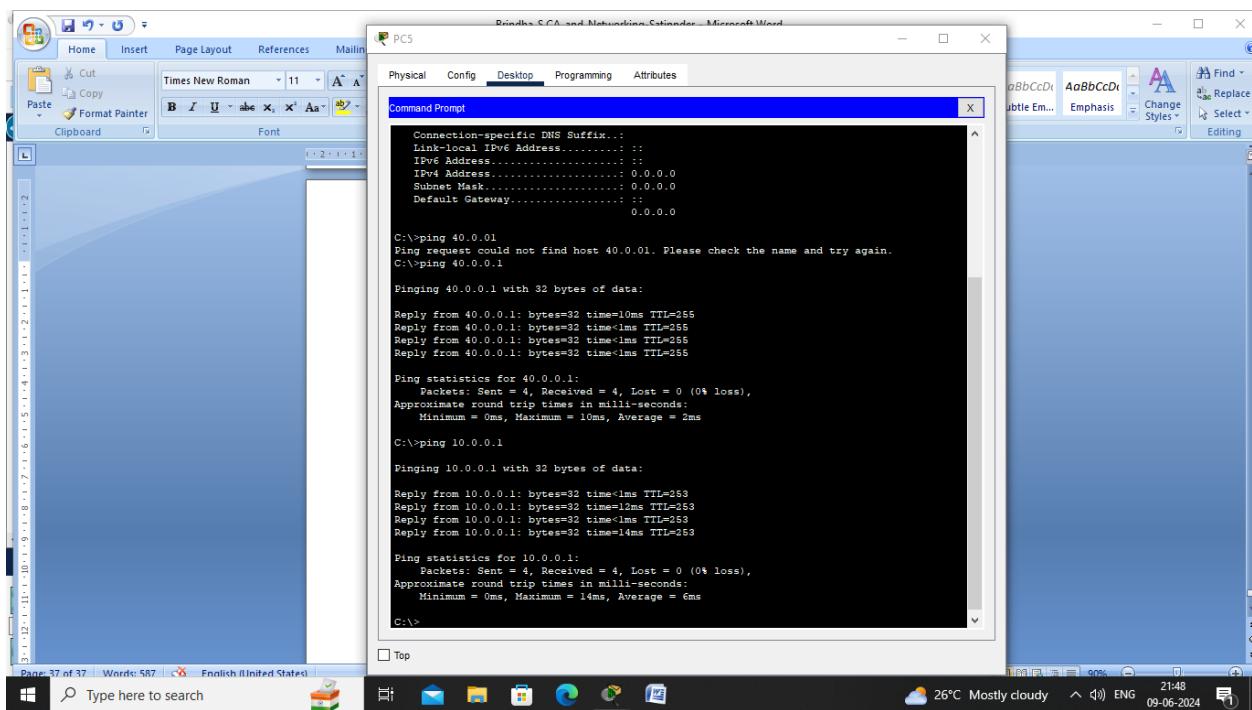












Lab 6 : Dynamic Routing (on three routers)

