Institute of Computer Technology

B. Tech Computer Science and Engineering

Sub: Computer Network

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Enrollment Number: 23162581024

Branch: CSE

Batch: 53

Class: B

Practical-10

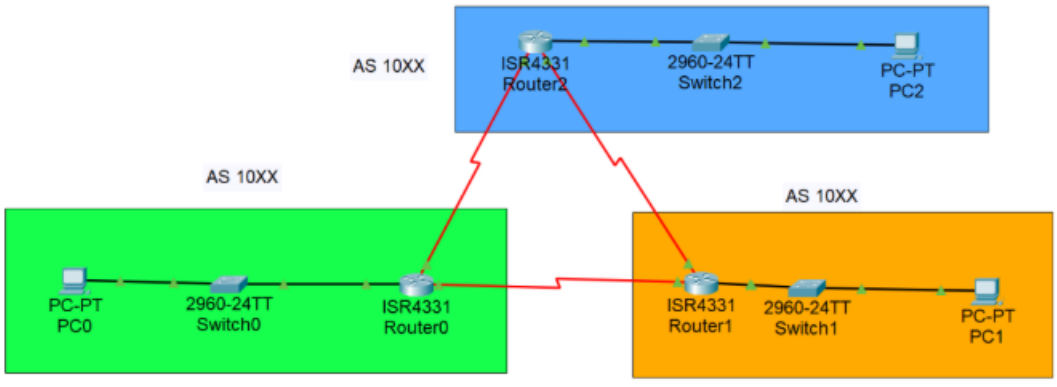
Aim: To design a network using Enhanced Interior Gateway Routing Protocol (EIGRP).

Scenario:

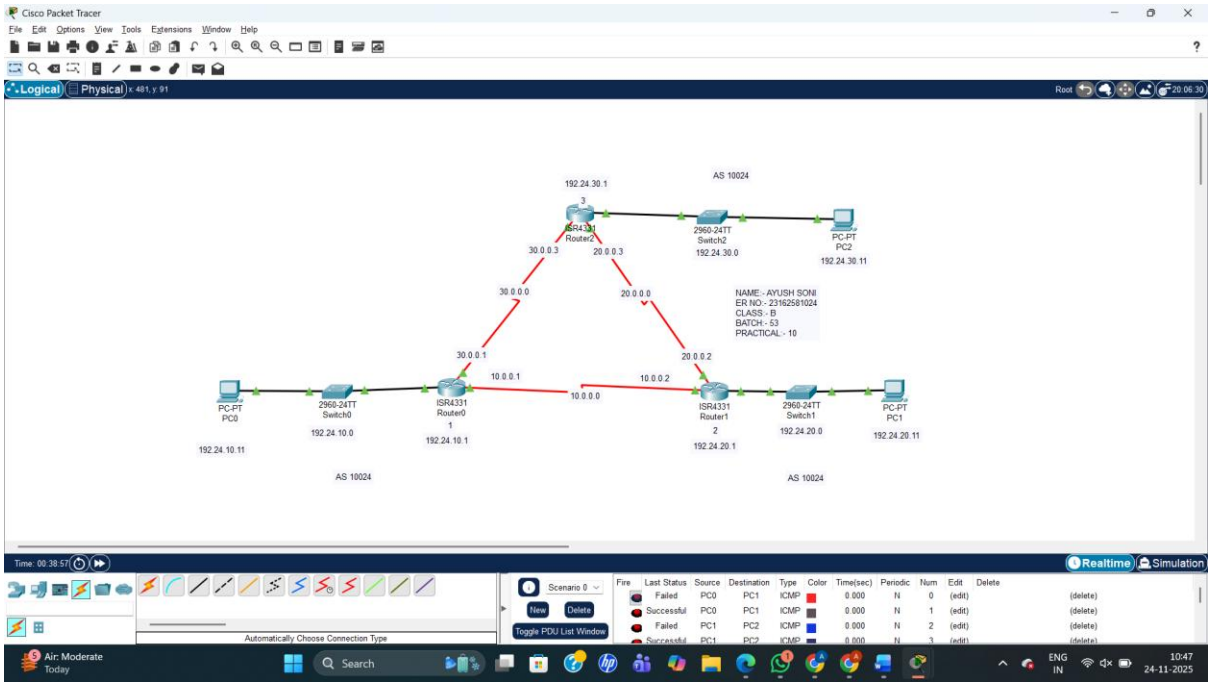
Consider that organization has three departments and as routing protocol Enhanced Interior Gateway Routing Protocol (EIGRP) is to be implemented. Configure network as shown in figure below and implement Enhanced Interior Gateway Routing Protocol (EIGRP).

Procedure:

1) Create network as given below. (XX indicates last two digits of your enrollment no.)

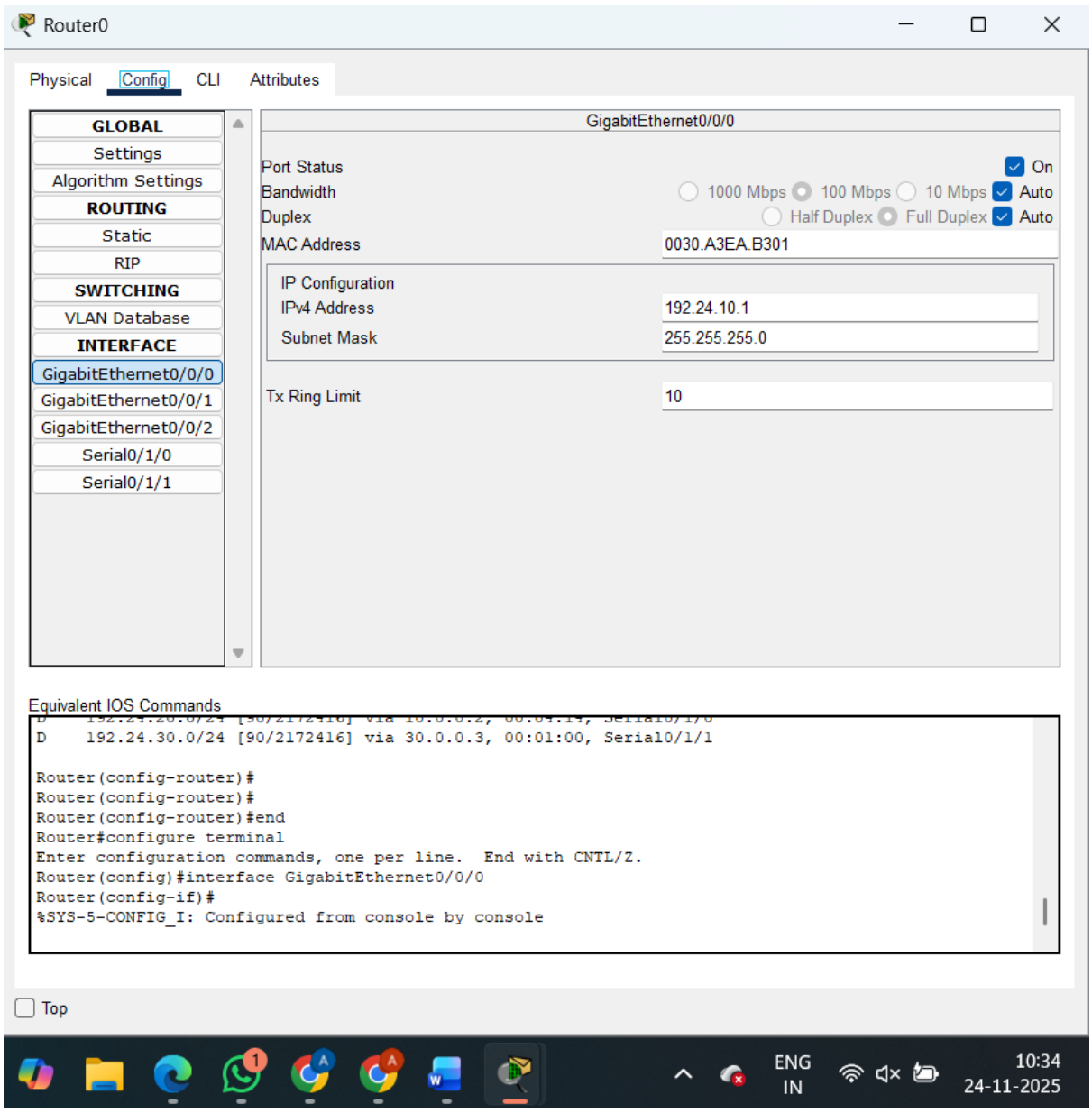


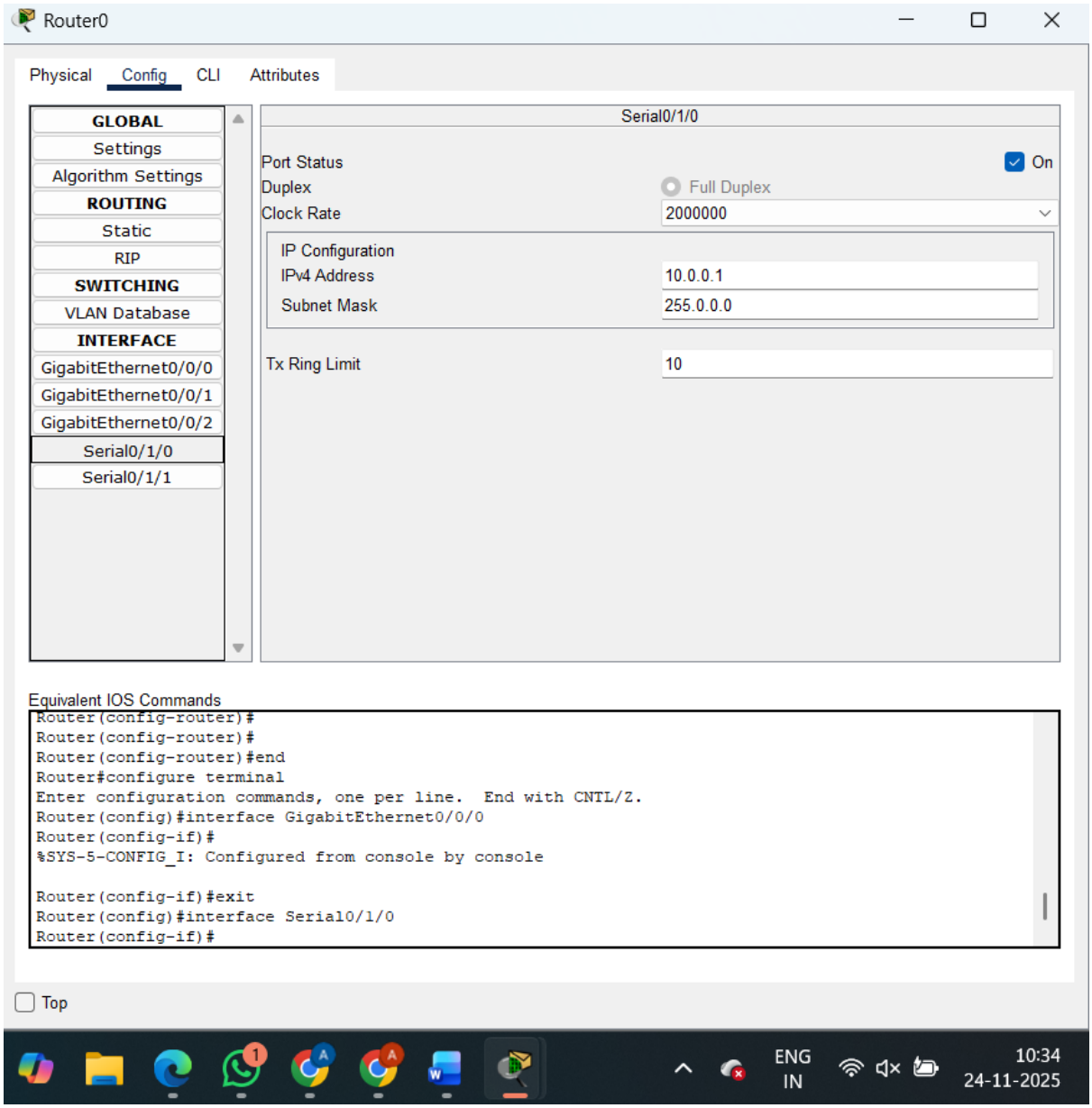
MAIN CONFIGURATION:

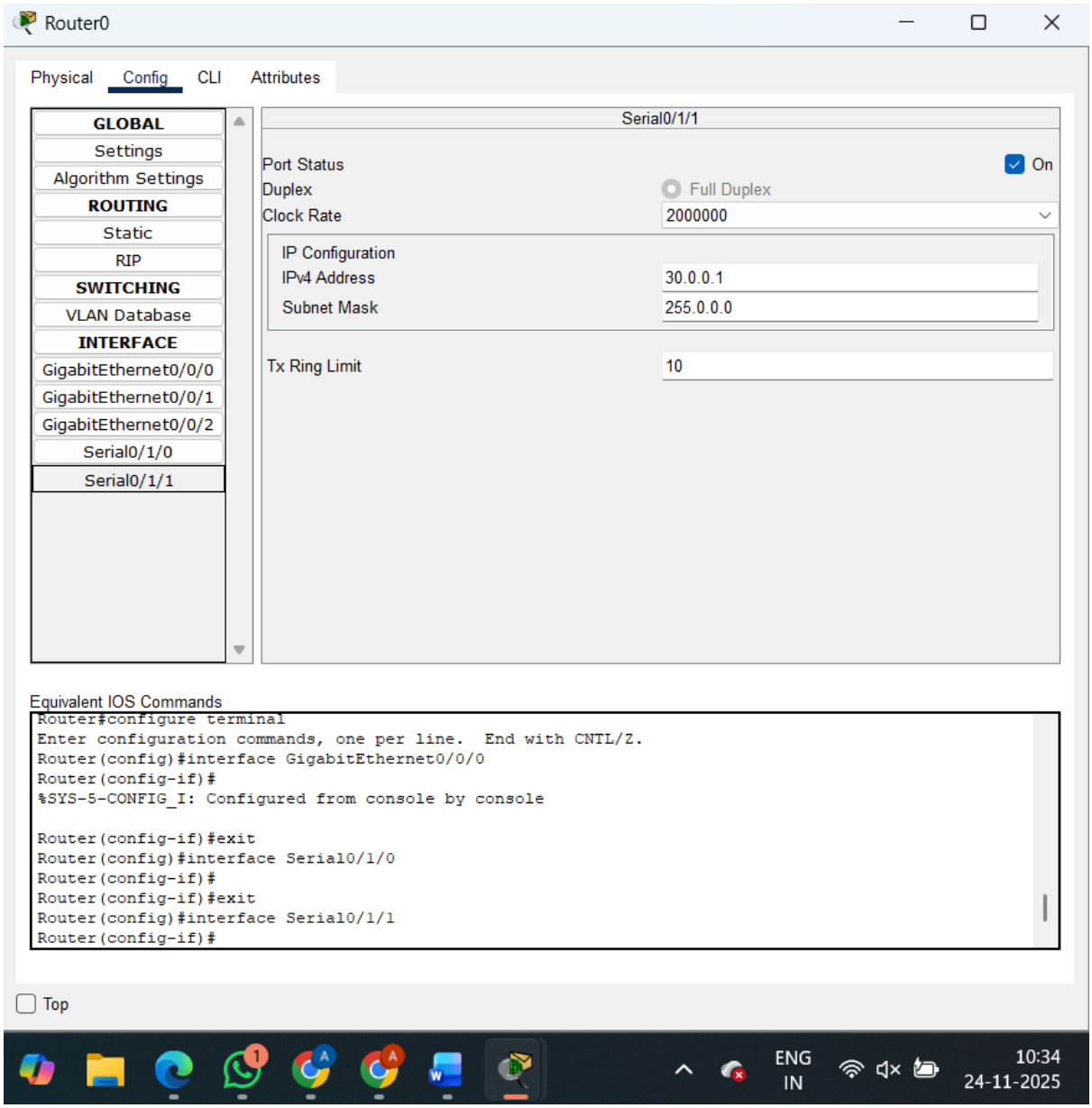


2) Configure IP address (All Devices, Routers)

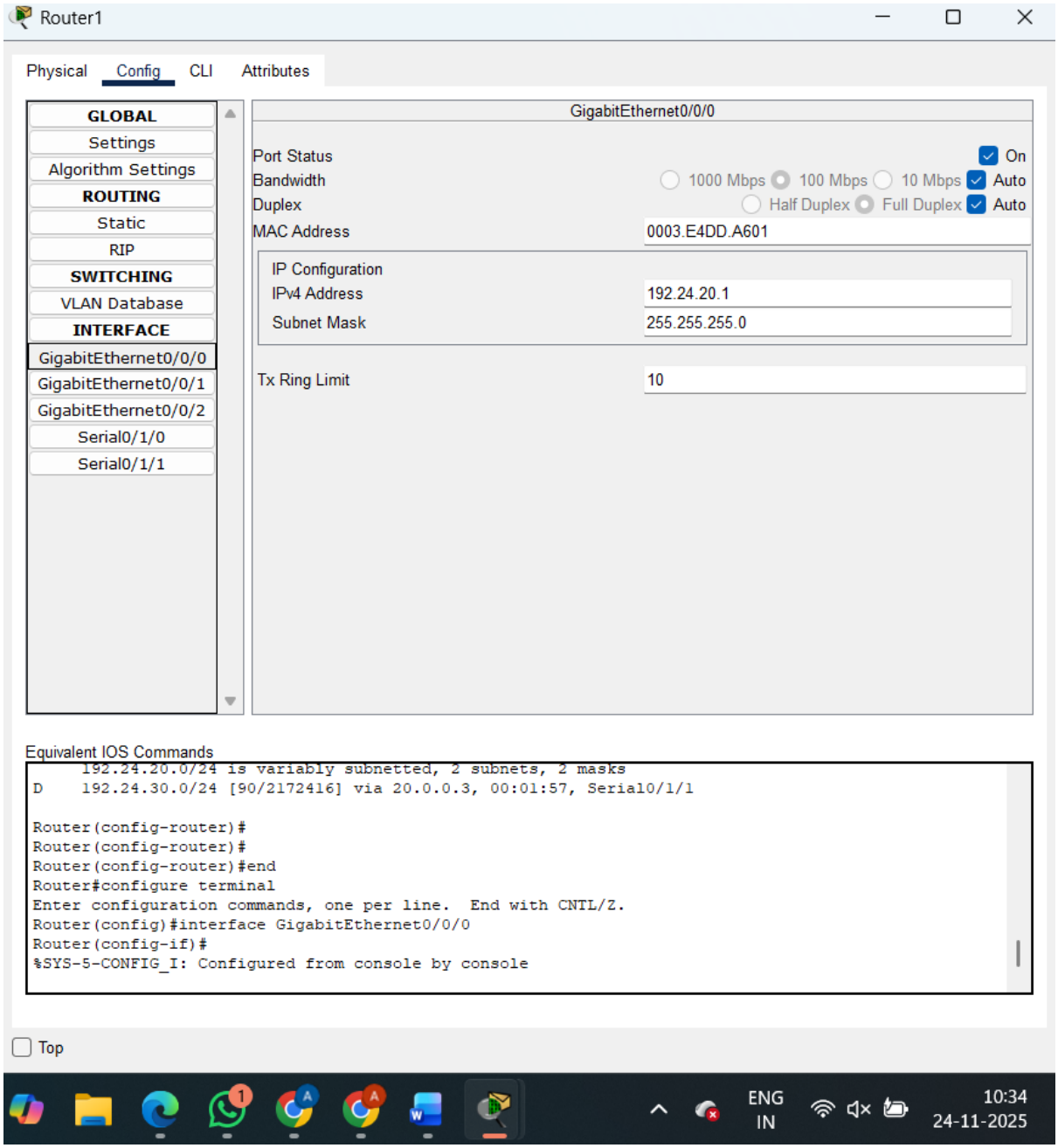
ROUTER:- 0

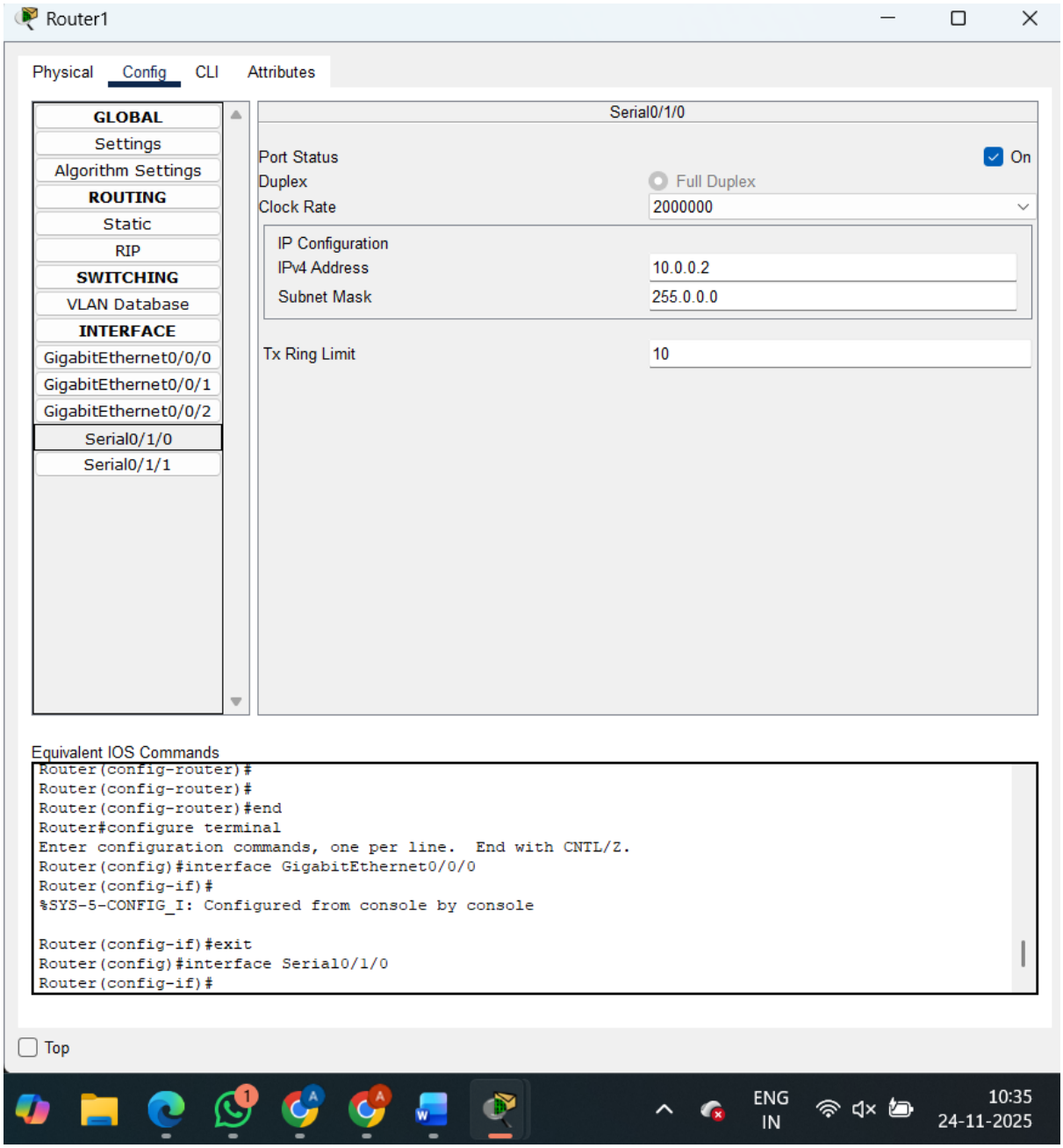


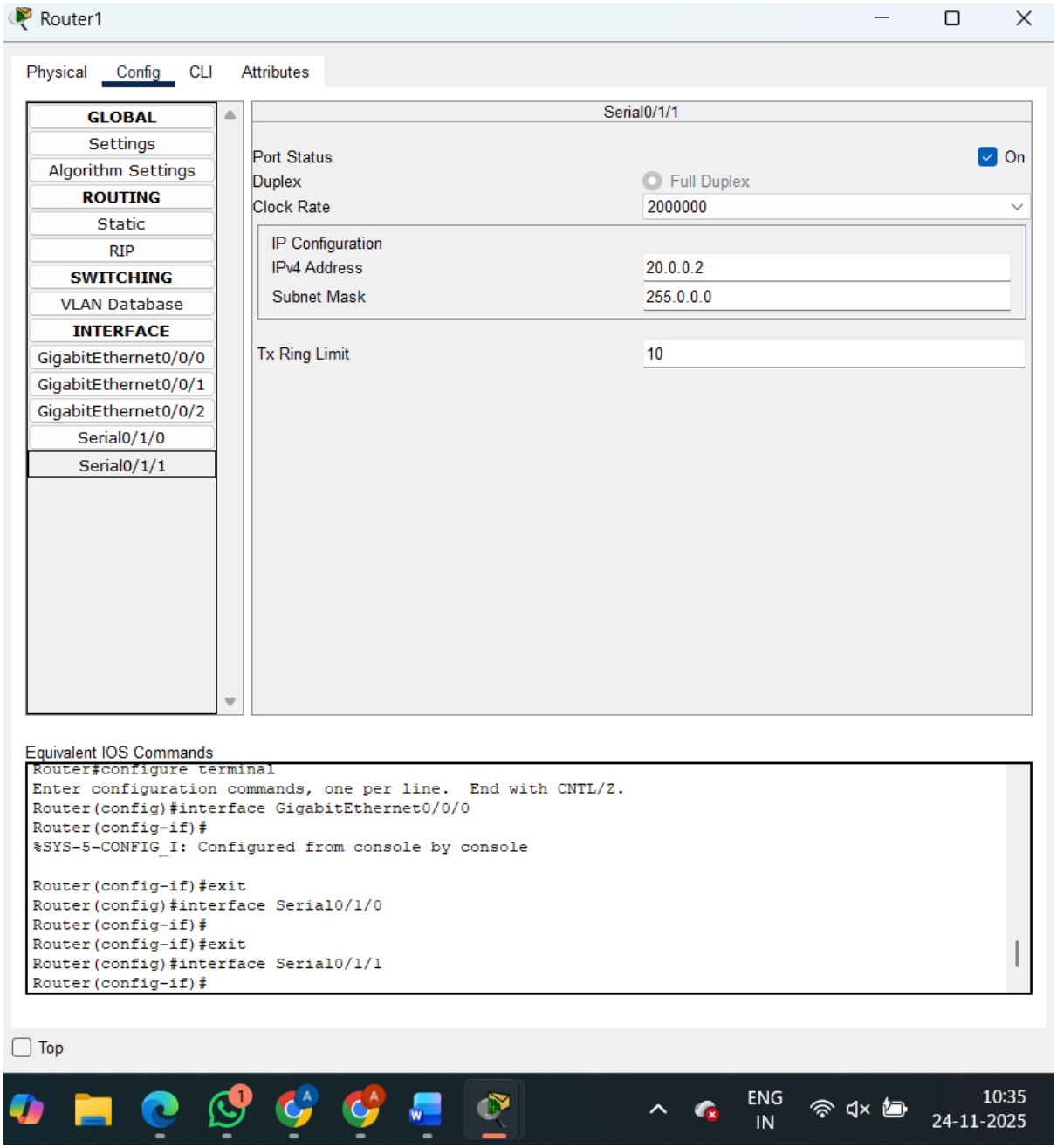

Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
Serial0/1/0
Serial0/1/1
Serial0/1/0
Port Status
On
Duplex
Full Duplex
Clock Rate
2000000
IP Configuration
IPv4 Address
10.0.0.1
Subnet Mask
255.0.0.0
Tx Ring Limit
10
Equivalent IOS Commands
Router(config-router)#
Router(config-router)#
Router(config-router)#end
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
%SYS-5-CONFIG_I: Configured from console by console
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#
Top
ENG
IN
10:34
24-11-2025


Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
Serial0/1/0
Serial0/1/1
Serial0/1/1
Port Status
On
Duplex
Full Duplex
Clock Rate
2000000
IP Configuration
IPv4 Address
30.0.0.1
Subnet Mask
255.0.0.0
Tx Ring Limit
10
Equivalent IOS Commands
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
%SYS-5-CONFIG_I: Configured from console by console
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#
Top
ENG
IN
10:34
24-11-2025

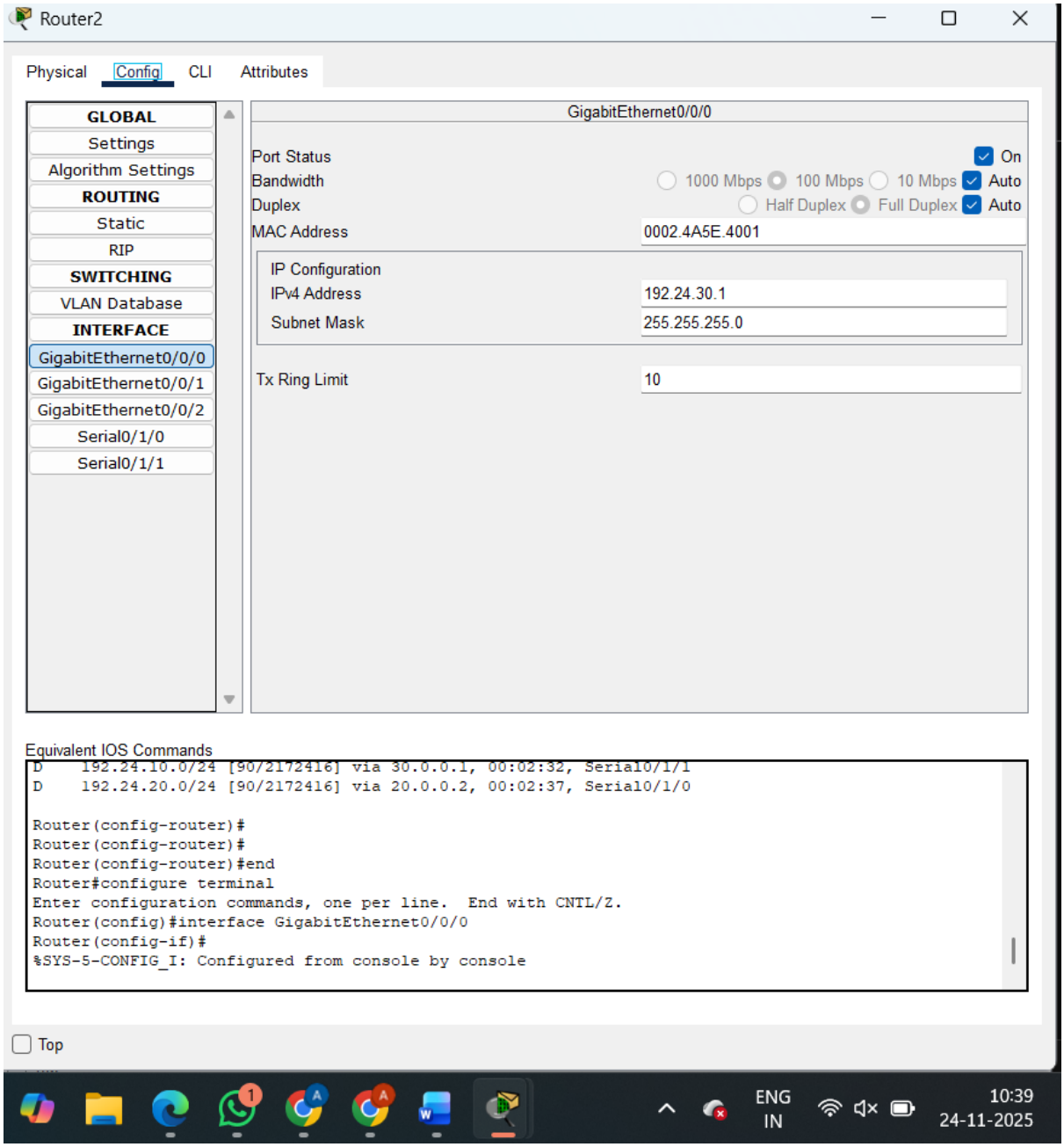
Router:1

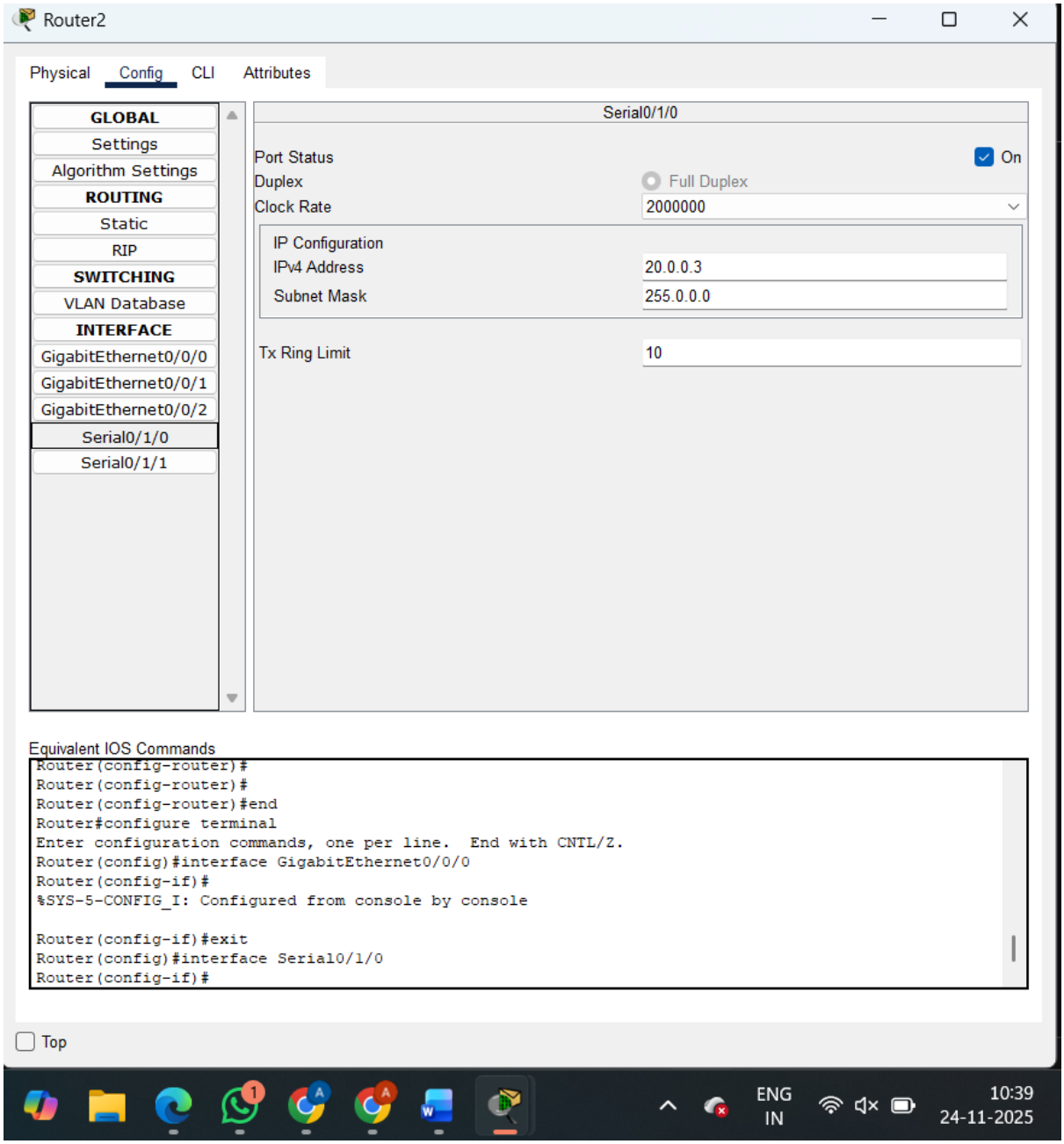

Router1
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
Serial0/1/0
Serial0/1/1
GigabitEthernet0/0/0
Port Status
On
Bandwidth
1000 Mbps
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0003.E4DD.A601
IP Configuration
IPv4 Address
192.24.20.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
192.24.20.0/24 is variably subnetted, 2 subnets, 2 masks
D 192.24.30.0/24 [90/2172416] via 20.0.0.3, 00:01:57, Serial0/1/1
Router(config-router)#
Router(config-router)#
Router(config-router)#end
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
%SYS-5-CONFIG_I: Configured from console by console
Top
ENG
IN
10:34
24-11-2025

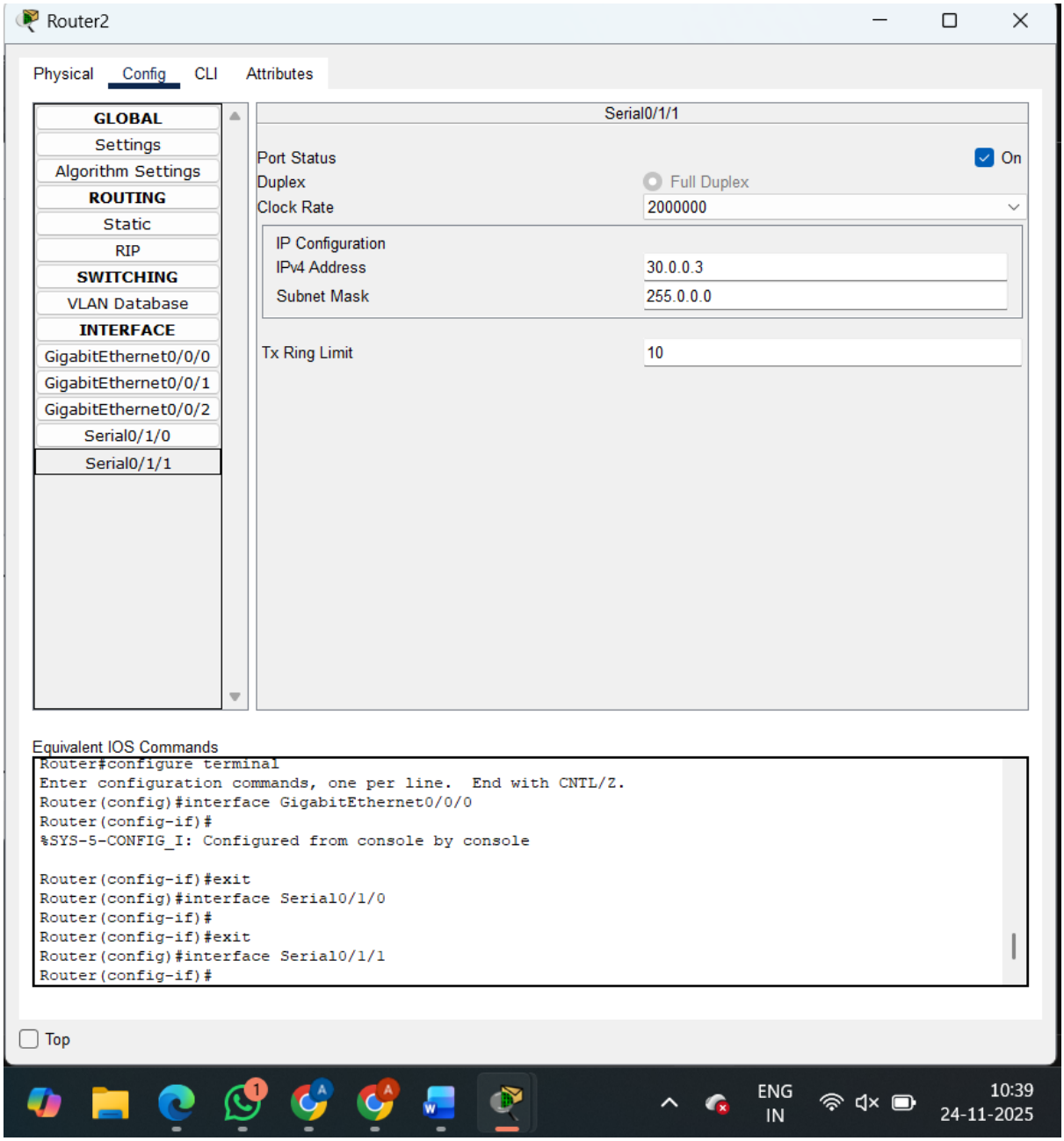

Router1
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
Serial0/1/0
Serial0/1/1
Serial0/1/0
Port Status
On
Duplex
Full Duplex
Clock Rate
2000000
IP Configuration
IPv4 Address
10.0.0.2
Subnet Mask
255.0.0.0
Tx Ring Limit
10
Equivalent IOS Commands
Router(config-router)#
Router(config-router)#
Router(config-router)#end
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
%SYS-5-CONFIG_I: Configured from console by console
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#
Top
ENG
IN
10:35
24-11-2025


Router1
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
Serial0/1/0
Serial0/1/1
Serial0/1/1
Port Status
On
Duplex
Full Duplex
Clock Rate
2000000
IP Configuration
IPv4 Address
20.0.0.2
Subnet Mask
255.0.0.0
Tx Ring Limit
10
Equivalent IOS Commands
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
%SYS-5-CONFIG_I: Configured from console by console
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#
Top
ENG
IN
10:35
24-11-2025

Router-2:

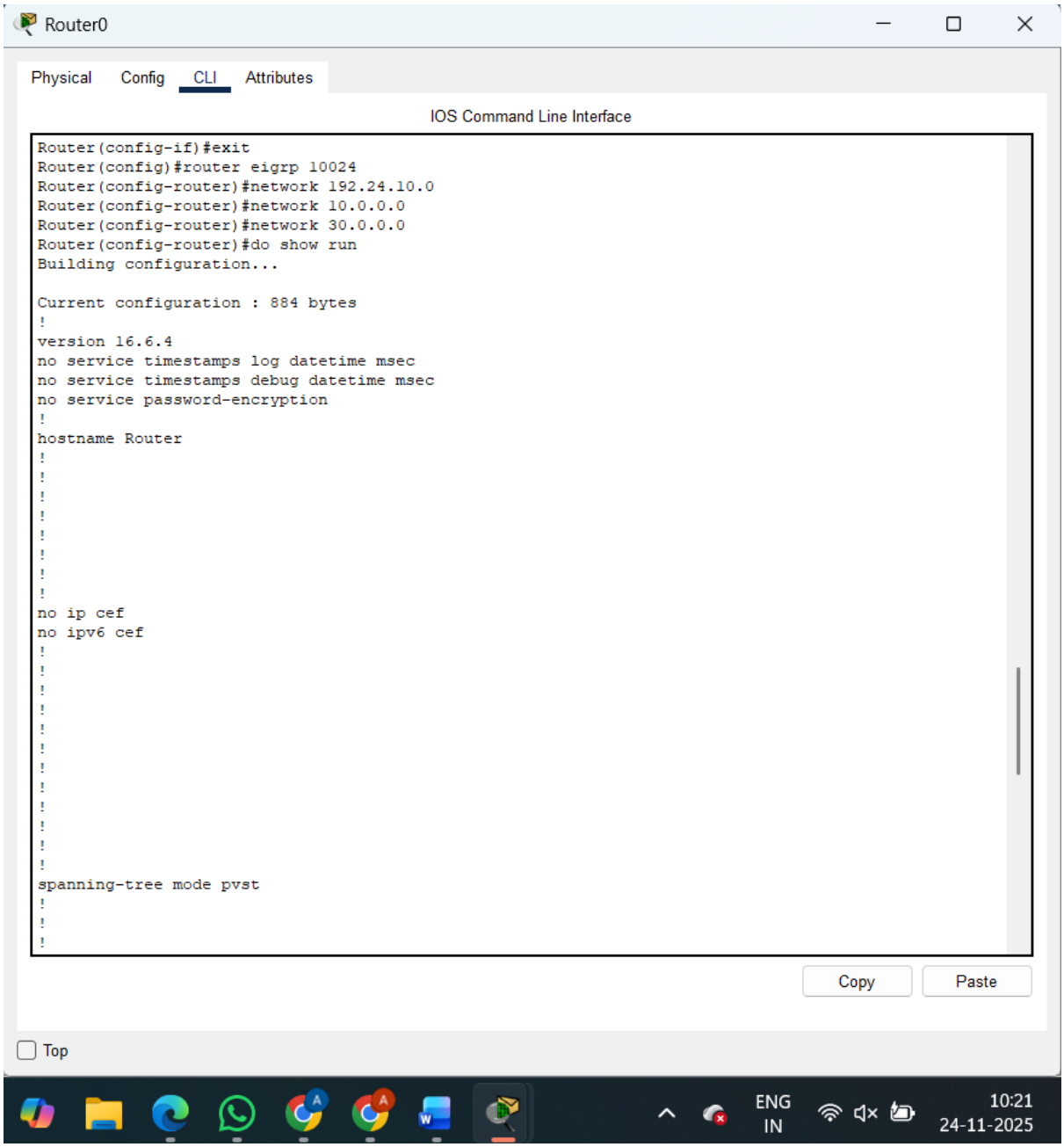

Router2
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
Serial0/1/0
Serial0/1/1
GigabitEthernet0/0/0
Port Status
On
Bandwidth
1000 Mbps
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0002.4A5E.4001
IP Configuration
IPv4 Address
192.24.30.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
D 192.24.10.0/24 [90/2172416] via 30.0.0.1, 00:02:32, Serial0/1/1
D 192.24.20.0/24 [90/2172416] via 20.0.0.2, 00:02:37, Serial0/1/0
Router(config-router)#
Router(config-router)#
Router(config-router)#end
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
%SYS-5-CONFIG_I: Configured from console by console
Top
ENG
IN
10:39
24-11-2025

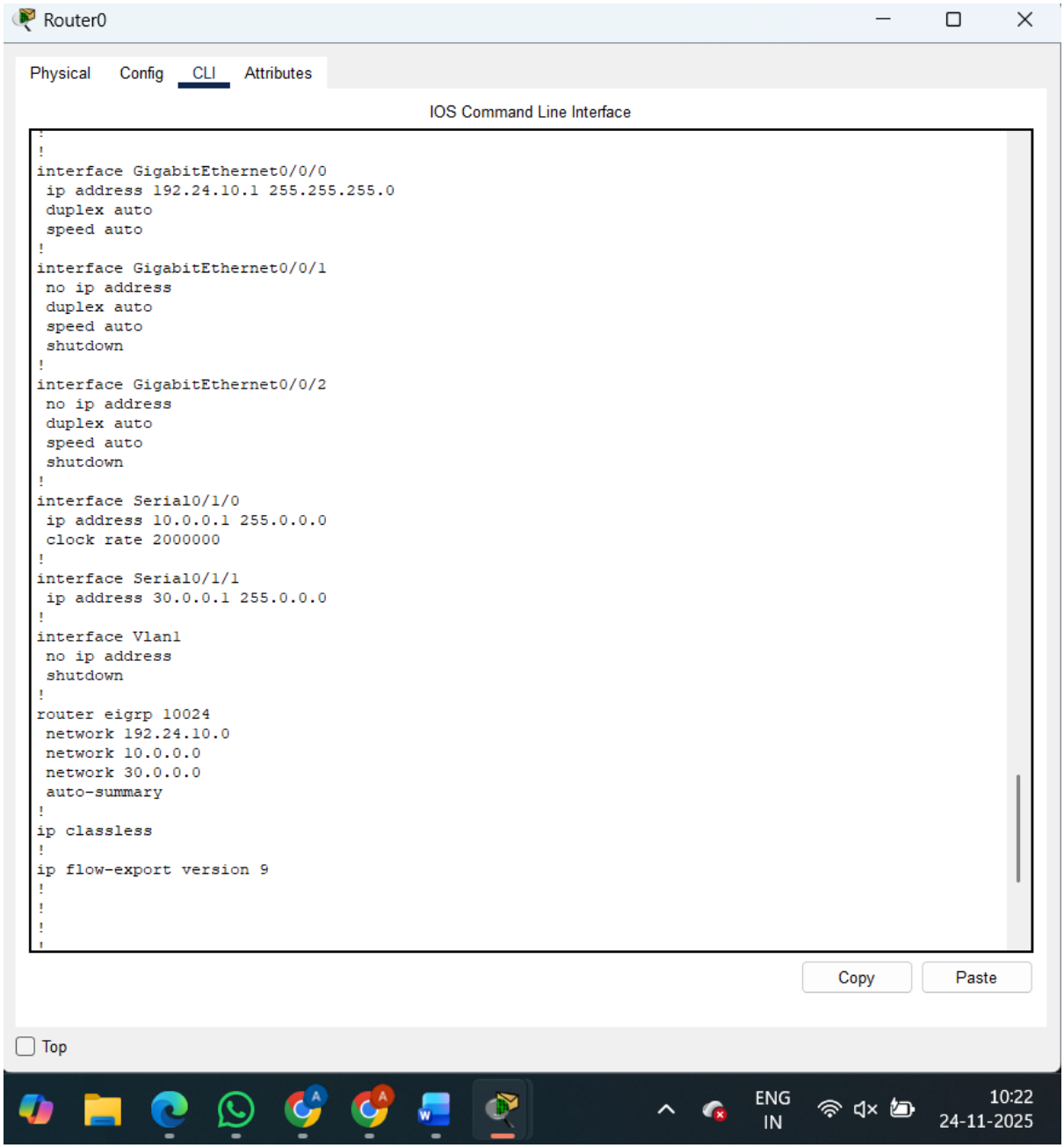

Router2
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
Serial0/1/0
Serial0/1/1
Serial0/1/0
Port Status
On
Duplex
Full Duplex
Clock Rate
2000000
IP Configuration
IPv4 Address
20.0.0.3
Subnet Mask
255.0.0.0
Tx Ring Limit
10
Equivalent IOS Commands
Router(config-router)#
Router(config-router)#
Router(config-router)#end
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
%SYS-5-CONFIG_I: Configured from console by console
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#
Top
ENG
IN
10:39
24-11-2025

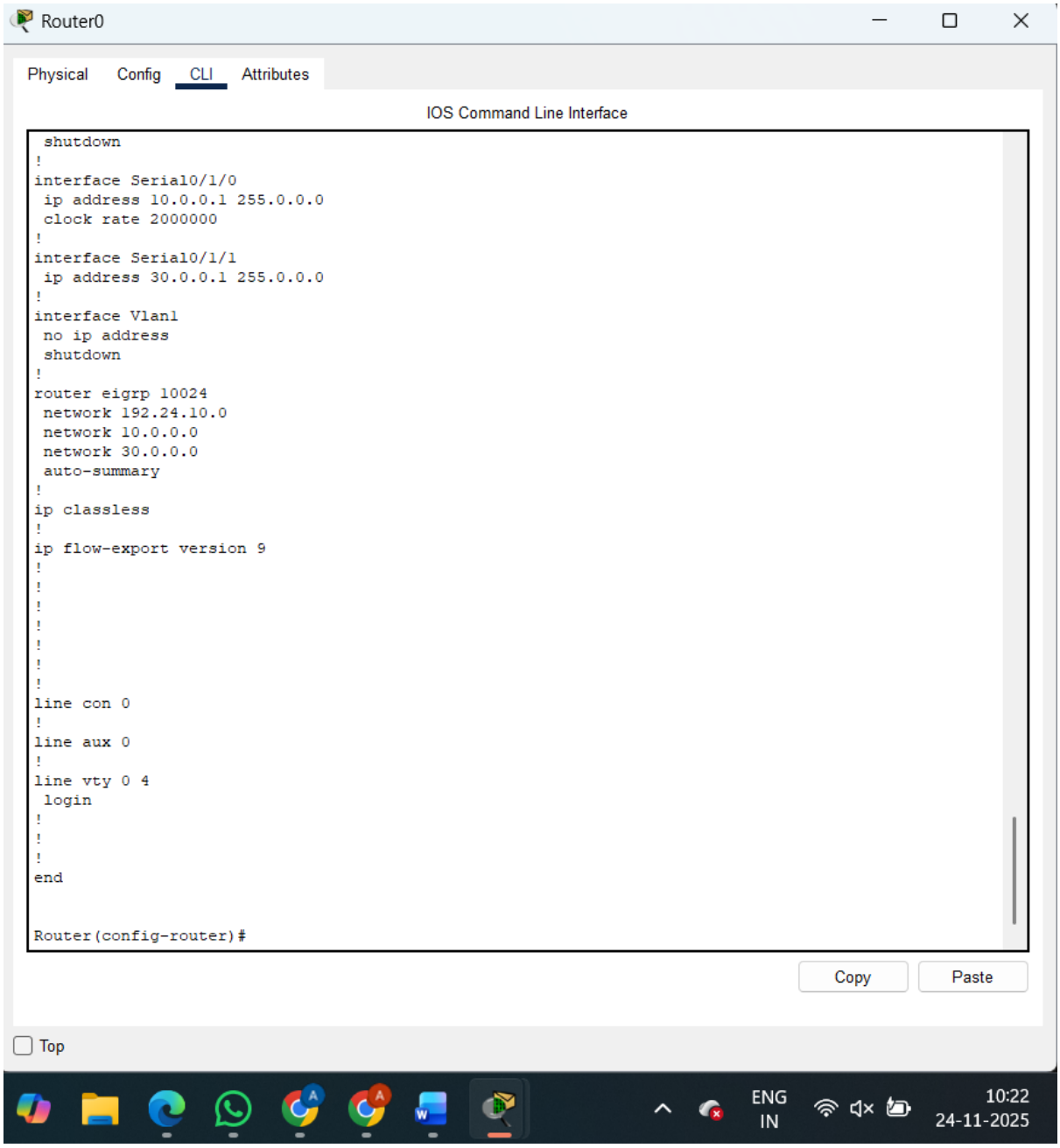

Router2
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
Serial0/1/0
Serial0/1/1
Serial0/1/1
Port Status
On
Duplex
Full Duplex
Clock Rate
2000000
IP Configuration
IPv4 Address
30.0.0.3
Subnet Mask
255.0.0.0
Tx Ring Limit
10
Equivalent IOS Commands
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
%SYS-5-CONFIG_I: Configured from console by console
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#
Top
ENG
IN
10:39
24-11-2025

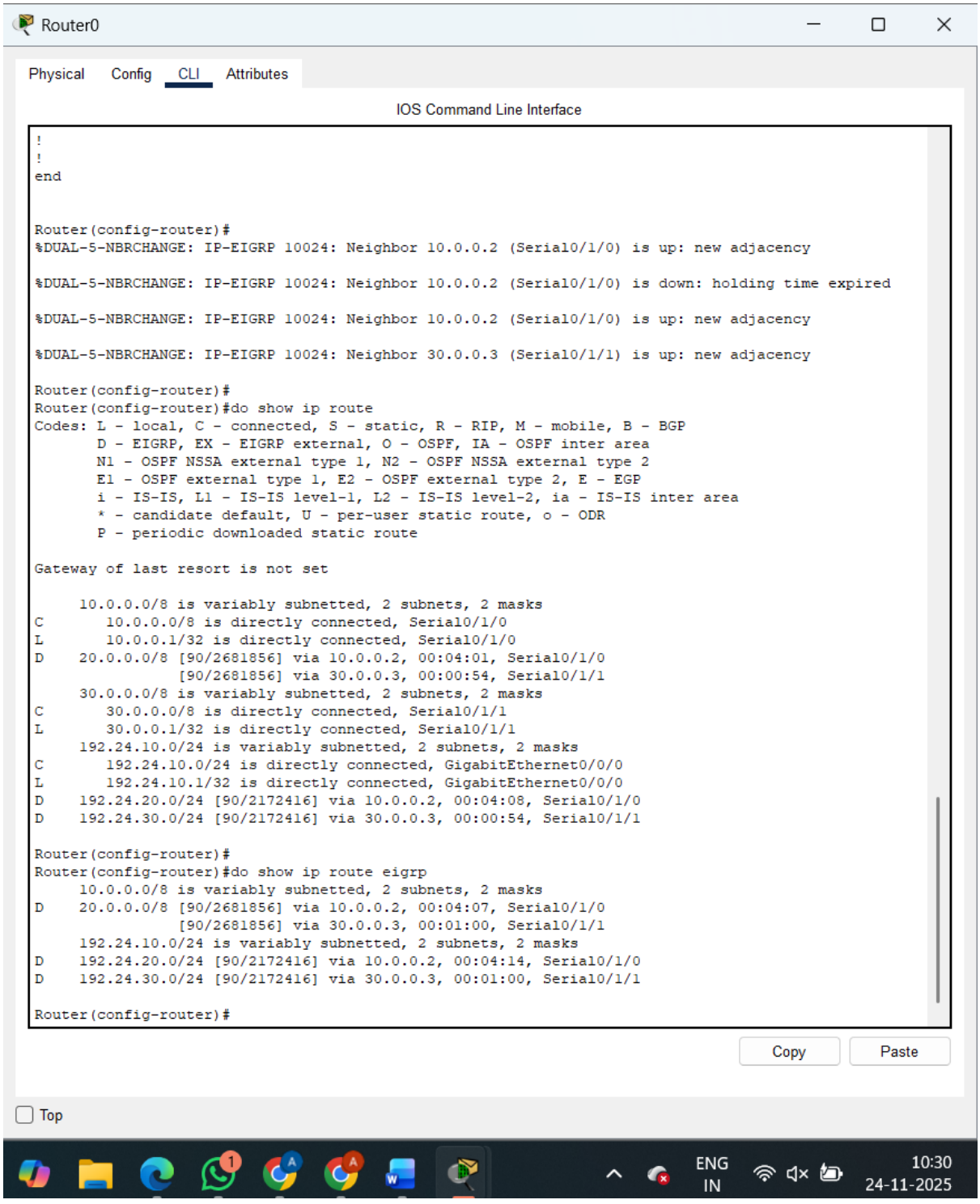
3) Configure Border Gateway Protocol (EIGRP)

ROUTER:-0

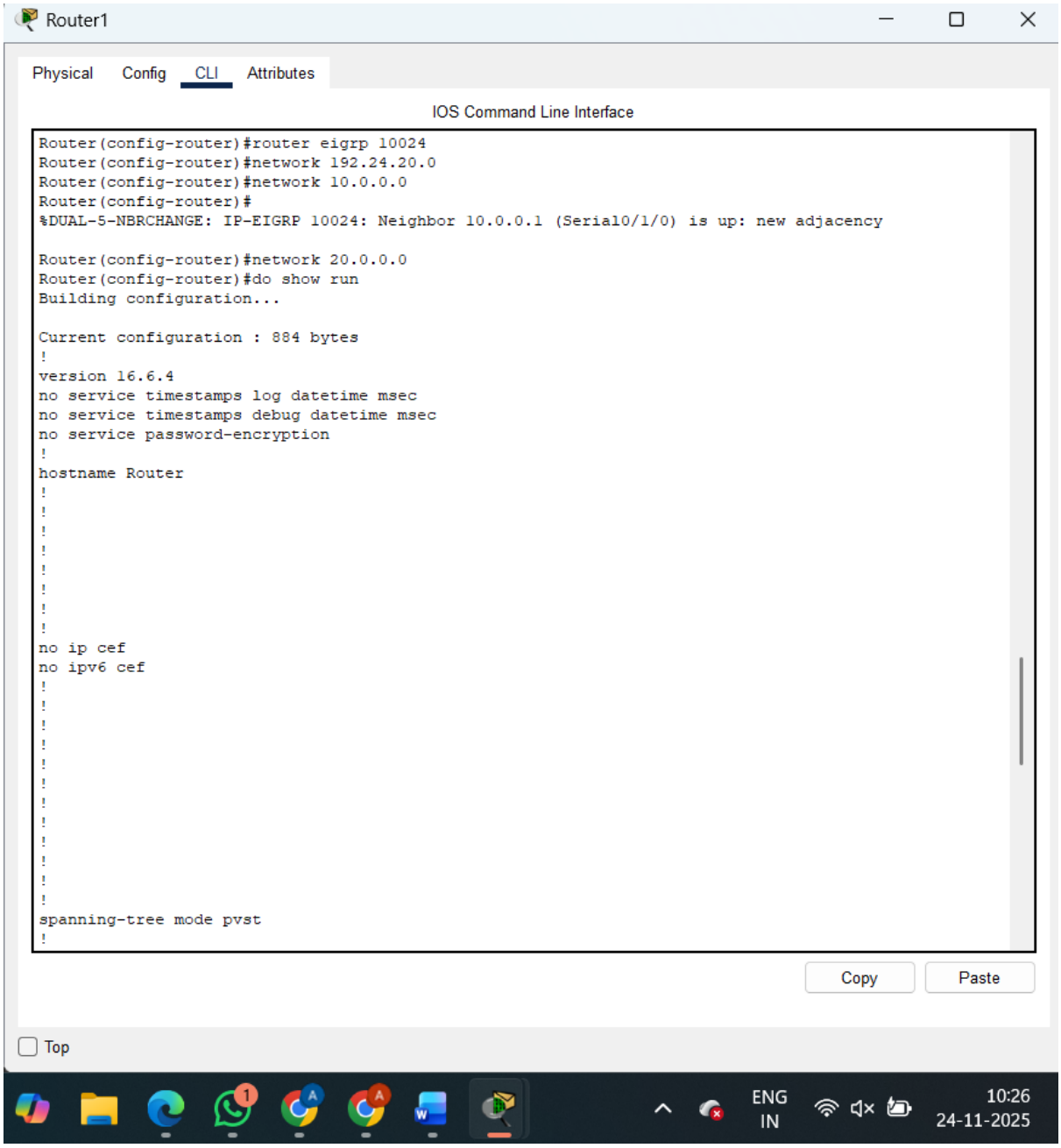


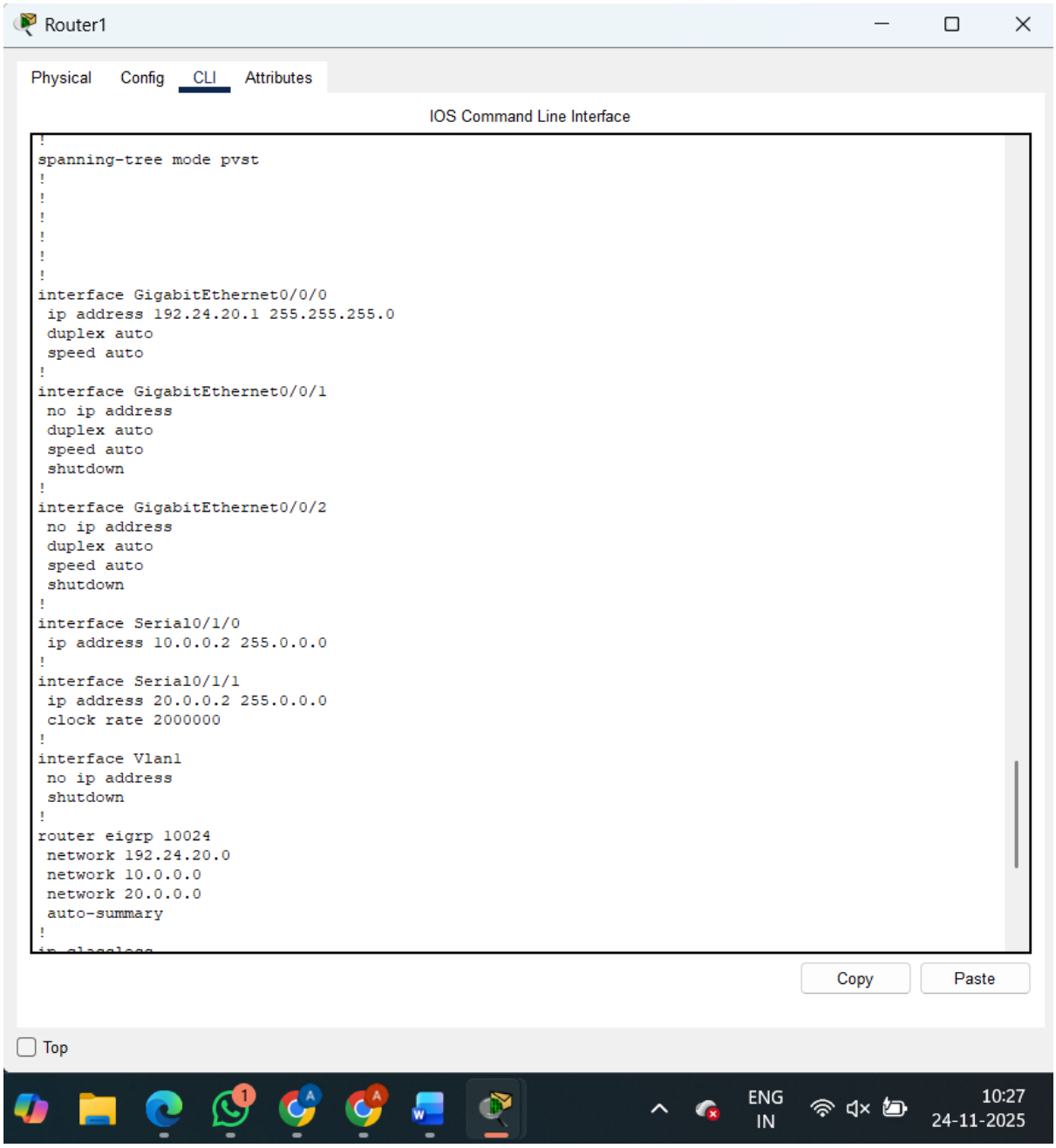

Router0
Physical
Config
CLI
Attributes
IOS Command Line Interface
!
!
interface GigabitEthernet0/0/0
 ip address 192.24.10.1 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface GigabitEthernet0/0/2
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/1/0
 ip address 10.0.0.1 255.0.0.0
 clock rate 2000000
!
interface Serial0/1/1
 ip address 30.0.0.1 255.0.0.0
!
interface Vlan1
 no ip address
 shutdown
!
router eigrp 10024
 network 192.24.10.0
 network 10.0.0.0
 network 30.0.0.0
 auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
Copy
Paste
Top
ENG
IN
10:22
24-11-2025

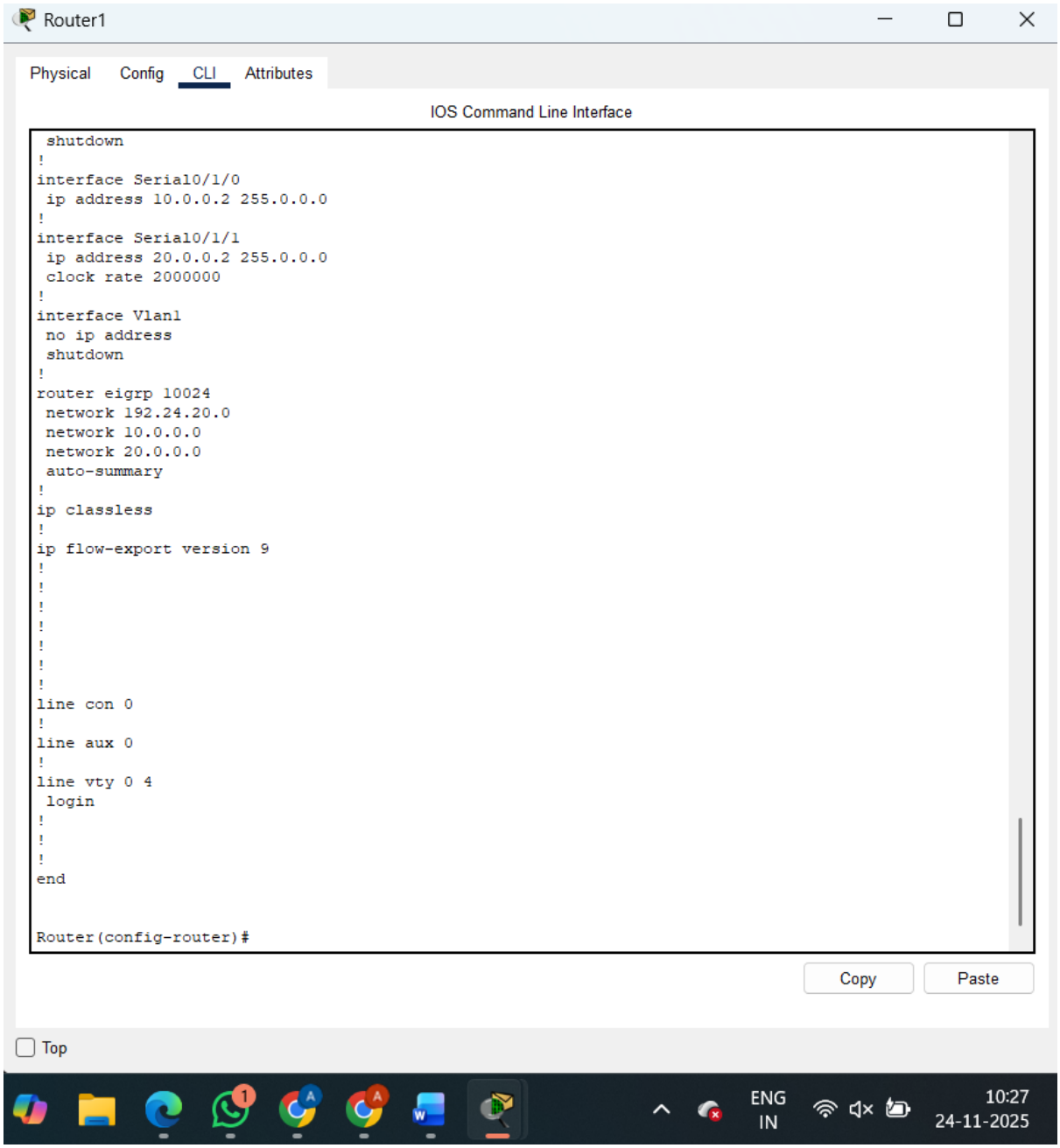

Router0
Physical
Config
CLI
Attributes
IOS Command Line Interface
shutdown
!
interface Serial0/1/0
ip address 10.0.0.1 255.0.0.0
clock rate 2000000
!
interface Serial0/1/1
ip address 30.0.0.1 255.0.0.0
!
interface Vlan1
no ip address
shutdown
!
router eigrp 10024
network 192.24.10.0
network 10.0.0.0
network 30.0.0.0
auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
Router(config-router)#
Copy
Paste
Top
ENG
IN
10:22
24-11-2025

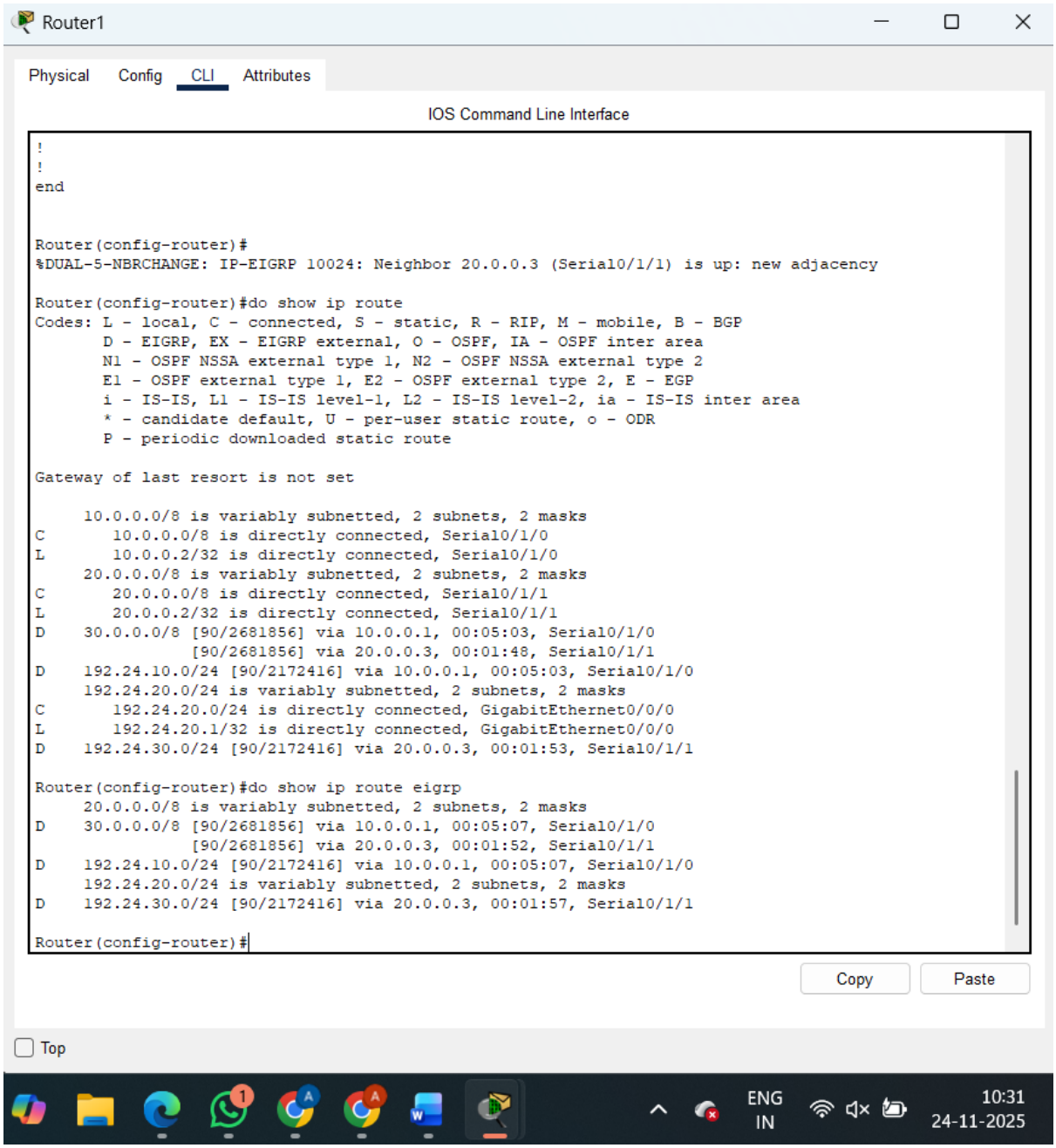

Router0
Physical
Config
CLI
Attributes
IOS Command Line Interface
!
!
end
Router(config-router)#
%DUAL-5-NBRCHANGE: IP-EIGRP 10024: Neighbor 10.0.0.2 (Serial0/1/0) is up: new adjacency
%DUAL-5-NBRCHANGE: IP-EIGRP 10024: Neighbor 10.0.0.2 (Serial0/1/0) is down: holding time expired
%DUAL-5-NBRCHANGE: IP-EIGRP 10024: Neighbor 10.0.0.2 (Serial0/1/0) is up: new adjacency
%DUAL-5-NBRCHANGE: IP-EIGRP 10024: Neighbor 30.0.0.3 (Serial0/1/1) is up: new adjacency
Router(config-router)#
Router(config-router)#do show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route
Gateway of last resort is not set
10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 10.0.0.0/8 is directly connected, Serial0/1/0
L 10.0.0.1/32 is directly connected, Serial0/1/0
D 20.0.0.0/8 [90/2681856] via 10.0.0.2, 00:04:01, Serial0/1/0
[90/2681856] via 30.0.0.3, 00:00:54, Serial0/1/1
30.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 30.0.0.0/8 is directly connected, Serial0/1/1
L 30.0.0.1/32 is directly connected, Serial0/1/1
192.24.10.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.24.10.0/24 is directly connected, GigabitEthernet0/0/0
L 192.24.10.1/32 is directly connected, GigabitEthernet0/0/0
D 192.24.20.0/24 [90/2172416] via 10.0.0.2, 00:04:08, Serial0/1/0
D 192.24.30.0/24 [90/2172416] via 30.0.0.3, 00:00:54, Serial0/1/1
Router(config-router)#
Router(config-router)#do show ip route eigrp
10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
D 20.0.0.0/8 [90/2681856] via 10.0.0.2, 00:04:07, Serial0/1/0
[90/2681856] via 30.0.0.3, 00:01:00, Serial0/1/1
192.24.10.0/24 is variably subnetted, 2 subnets, 2 masks
D 192.24.20.0/24 [90/2172416] via 10.0.0.2, 00:04:14, Serial0/1/0
D 192.24.30.0/24 [90/2172416] via 30.0.0.3, 00:01:00, Serial0/1/1
Router(config-router)#
Copy
Paste
Top
ENG
IN
10:30
24-11-2025

ROUTER:-1


Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router(config-router)#router eigrp 10024
Router(config-router)#network 192.24.20.0
Router(config-router)#network 10.0.0.0
Router(config-router)#
%DUAL-5-NBRCHANGE: IP-EIGRP 10024: Neighbor 10.0.0.1 (Serial0/1/0) is up: new adjacency
Router(config-router)#network 20.0.0.0
Router(config-router)#do show run
Building configuration...
Current configuration : 884 bytes
!
version 16.6.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
!
no ip cef
no ipv6 cef
!
!
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
!
Copy
Paste
Top
ENG
IN
10:26
24-11-2025


Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
!
spanning-tree mode pvst
!
!
!
!
!
!
interface GigabitEthernet0/0/0
 ip address 192.24.20.1 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface GigabitEthernet0/0/2
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/1/0
 ip address 10.0.0.2 255.0.0.0
!
interface Serial0/1/1
 ip address 20.0.0.2 255.0.0.0
 clock rate 2000000
!
interface Vlan1
 no ip address
 shutdown
!
router eigrp 10024
 network 192.24.20.0
 network 10.0.0.0
 network 20.0.0.0
 auto-summary
!
Copy
Paste
Top
ENG
IN
10:27
24-11-2025


Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
shutdown
!
interface Serial0/1/0
ip address 10.0.0.2 255.0.0.0
!
interface Serial0/1/1
ip address 20.0.0.2 255.0.0.0
clock rate 2000000
!
interface Vlan1
no ip address
shutdown
!
router eigrp 10024
network 192.24.20.0
network 10.0.0.0
network 20.0.0.0
auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
Router(config-router)#
Copy
Paste
Top
ENG
IN
10:27
24-11-2025


Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
!
!
end
Router(config-router)#
%DUAL-5-NBRCHANGE: IP-EIGRP 10024: Neighbor 20.0.0.3 (Serial0/1/1) is up: new adjacency
Router(config-router)#do show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route
Gateway of last resort is not set
10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 10.0.0.0/8 is directly connected, Serial0/1/0
L 10.0.0.2/32 is directly connected, Serial0/1/0
20.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 20.0.0.0/8 is directly connected, Serial0/1/1
L 20.0.0.2/32 is directly connected, Serial0/1/1
D 30.0.0.0/8 [90/2681856] via 10.0.0.1, 00:05:03, Serial0/1/0
[90/2681856] via 20.0.0.3, 00:01:48, Serial0/1/1
D 192.24.10.0/24 [90/2172416] via 10.0.0.1, 00:05:03, Serial0/1/0
192.24.20.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.24.20.0/24 is directly connected, GigabitEthernet0/0/0
L 192.24.20.1/32 is directly connected, GigabitEthernet0/0/0
D 192.24.30.0/24 [90/2172416] via 20.0.0.3, 00:01:53, Serial0/1/1
Router(config-router)#do show ip route eigrp
20.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
D 30.0.0.0/8 [90/2681856] via 10.0.0.1, 00:05:07, Serial0/1/0
[90/2681856] via 20.0.0.3, 00:01:52, Serial0/1/1
D 192.24.10.0/24 [90/2172416] via 10.0.0.1, 00:05:07, Serial0/1/0
192.24.20.0/24 is variably subnetted, 2 subnets, 2 masks
D 192.24.30.0/24 [90/2172416] via 20.0.0.3, 00:01:57, Serial0/1/1
Router(config-router)#
Copy
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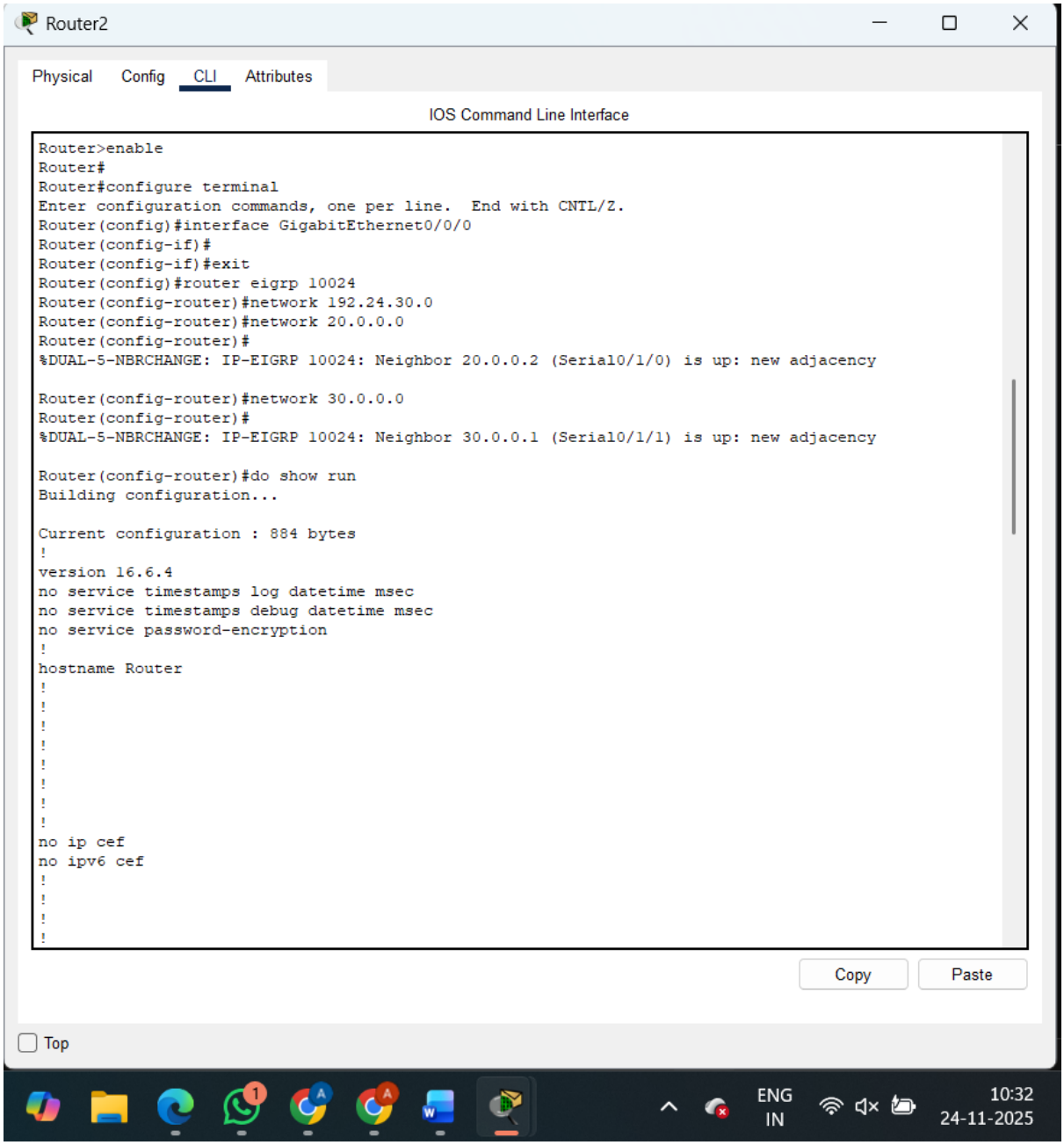
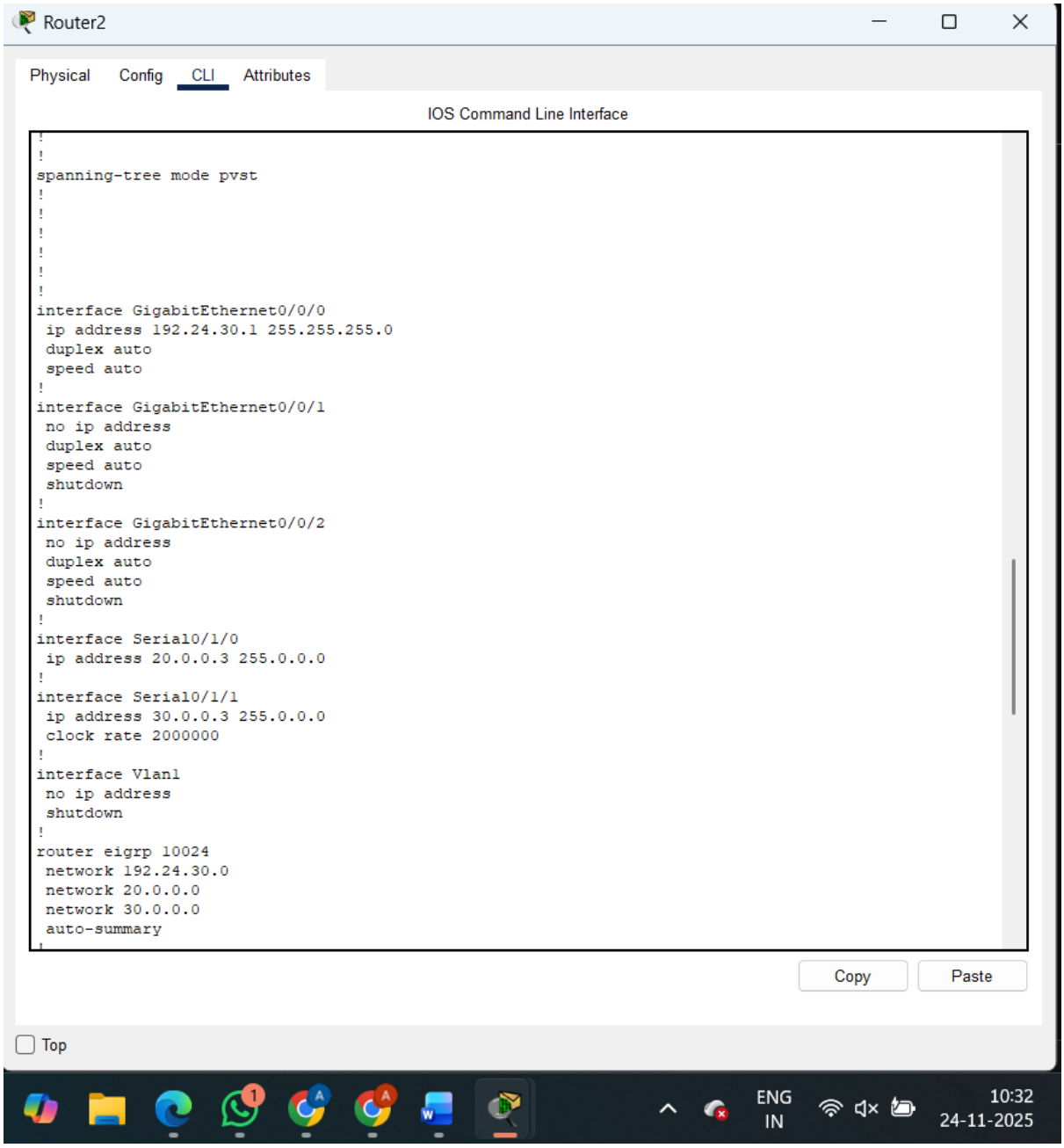
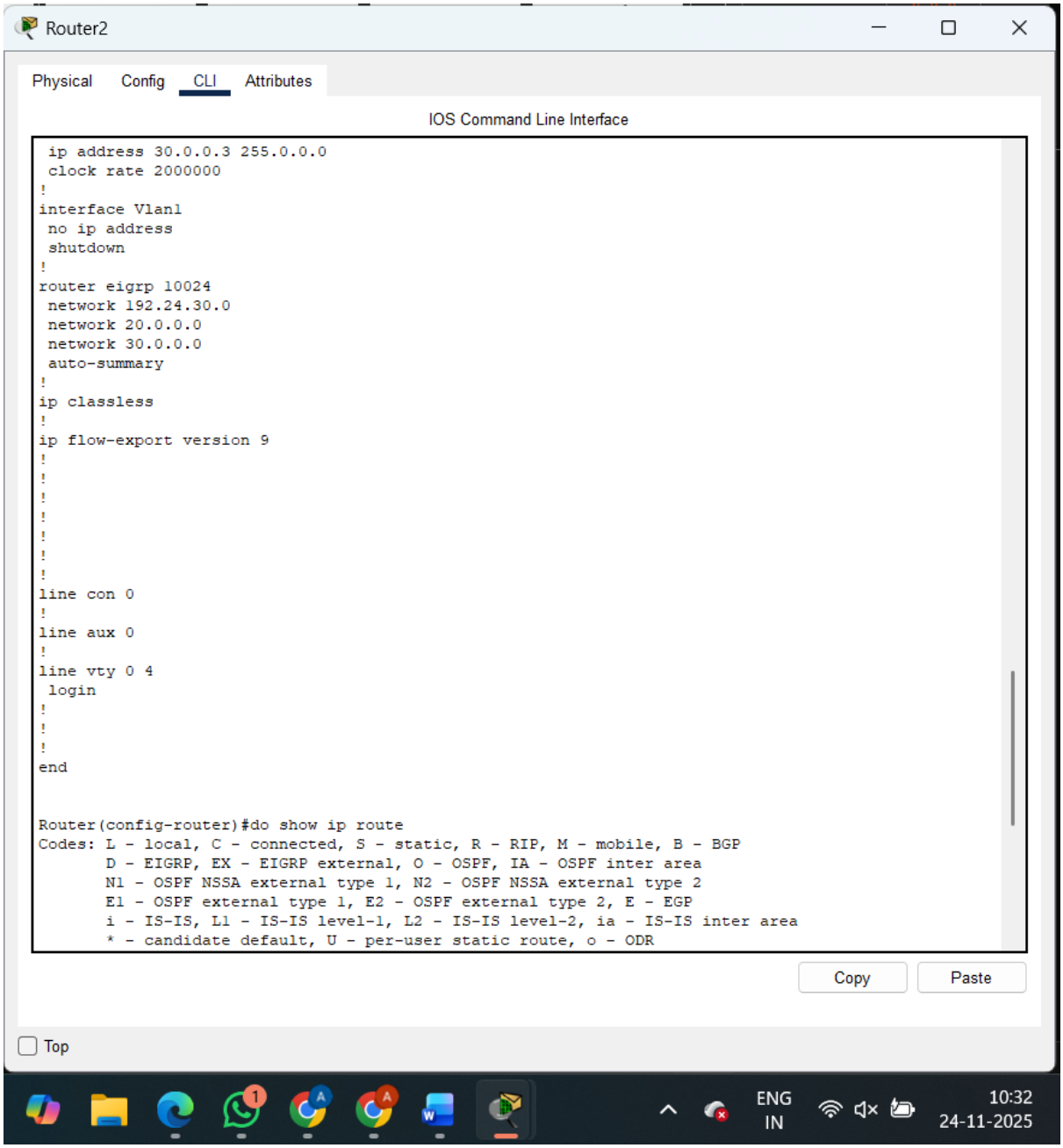
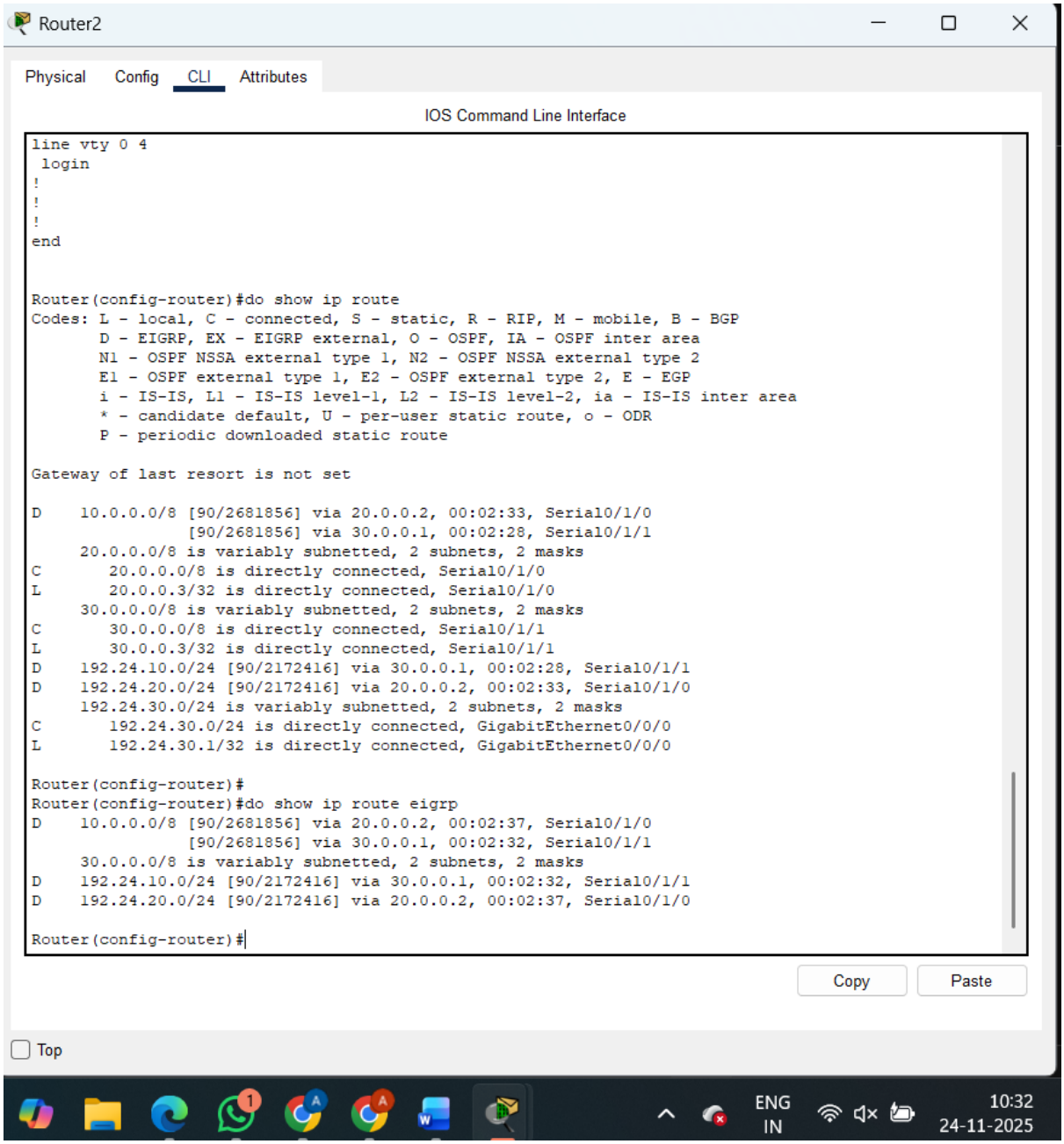
Top
ENG
IN
10:31
24-11-2025

ROUTER:- 2


Router2
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#router eigrp 10024
Router(config-router)#network 192.24.30.0
Router(config-router)#network 20.0.0.0
Router(config-router)#
%DUAL-5-NBRCHANGE: IP-EIGRP 10024: Neighbor 20.0.0.2 (Serial0/1/0) is up: new adjacency
Router(config-router)#network 30.0.0.0
Router(config-router)#
%DUAL-5-NBRCHANGE: IP-EIGRP 10024: Neighbor 30.0.0.1 (Serial0/1/1) is up: new adjacency
Router(config-router)#do show run
Building configuration...
Current configuration : 884 bytes
!
version 16.6.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
!
no ip cef
no ipv6 cef
!
!
!
!
Copy
Paste
Top
ENG
IN
10:32
24-11-2025


Router2
Physical
Config
CLI
Attributes
IOS Command Line Interface
!
!
spanning-tree mode pvst
!
!
!
!
!
!
interface GigabitEthernet0/0/0
 ip address 192.24.30.1 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface GigabitEthernet0/0/2
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/1/0
 ip address 20.0.0.3 255.0.0.0
!
interface Serial0/1/1
 ip address 30.0.0.3 255.0.0.0
 clock rate 2000000
!
interface Vlan1
 no ip address
 shutdown
!
router eigrp 10024
 network 192.24.30.0
 network 20.0.0.0
 network 30.0.0.0
 auto-summary
!
Copy
Paste
Top
ENG
IN
10:32
24-11-2025


Router2
Physical
Config
CLI
Attributes
IOS Command Line Interface
ip address 30.0.0.3 255.0.0.0
clock rate 2000000
!
interface Vlan1
no ip address
shutdown
!
router eigrp 10024
network 192.24.30.0
network 20.0.0.0
network 30.0.0.0
auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
Router(config-router)#do show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
Copy
Paste
Top
ENG
IN
10:32
24-11-2025


Router2
Physical
Config
CLI
Attributes
IOS Command Line Interface
line vty 0 4
login
!
!
!
end
Router(config-router)#do show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route
Gateway of last resort is not set
D 10.0.0.0/8 [90/2681856] via 20.0.0.2, 00:02:33, Serial0/1/0
[90/2681856] via 30.0.0.1, 00:02:28, Serial0/1/1
20.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 20.0.0.0/8 is directly connected, Serial0/1/0
L 20.0.0.3/32 is directly connected, Serial0/1/0
30.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 30.0.0.0/8 is directly connected, Serial0/1/1
L 30.0.0.3/32 is directly connected, Serial0/1/1
D 192.24.10.0/24 [90/2172416] via 30.0.0.1, 00:02:28, Serial0/1/1
D 192.24.20.0/24 [90/2172416] via 20.0.0.2, 00:02:33, Serial0/1/0
192.24.30.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.24.30.0/24 is directly connected, GigabitEthernet0/0/0
L 192.24.30.1/32 is directly connected, GigabitEthernet0/0/0
Router(config-router)#
Router(config-router)#do show ip route eigrp
D 10.0.0.0/8 [90/2681856] via 20.0.0.2, 00:02:37, Serial0/1/0
[90/2681856] via 30.0.0.1, 00:02:32, Serial0/1/1
30.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
D 192.24.10.0/24 [90/2172416] via 30.0.0.1, 00:02:32, Serial0/1/1
D 192.24.20.0/24 [90/2172416] via 20.0.0.2, 00:02:37, Serial0/1/0
Router(config-router)#
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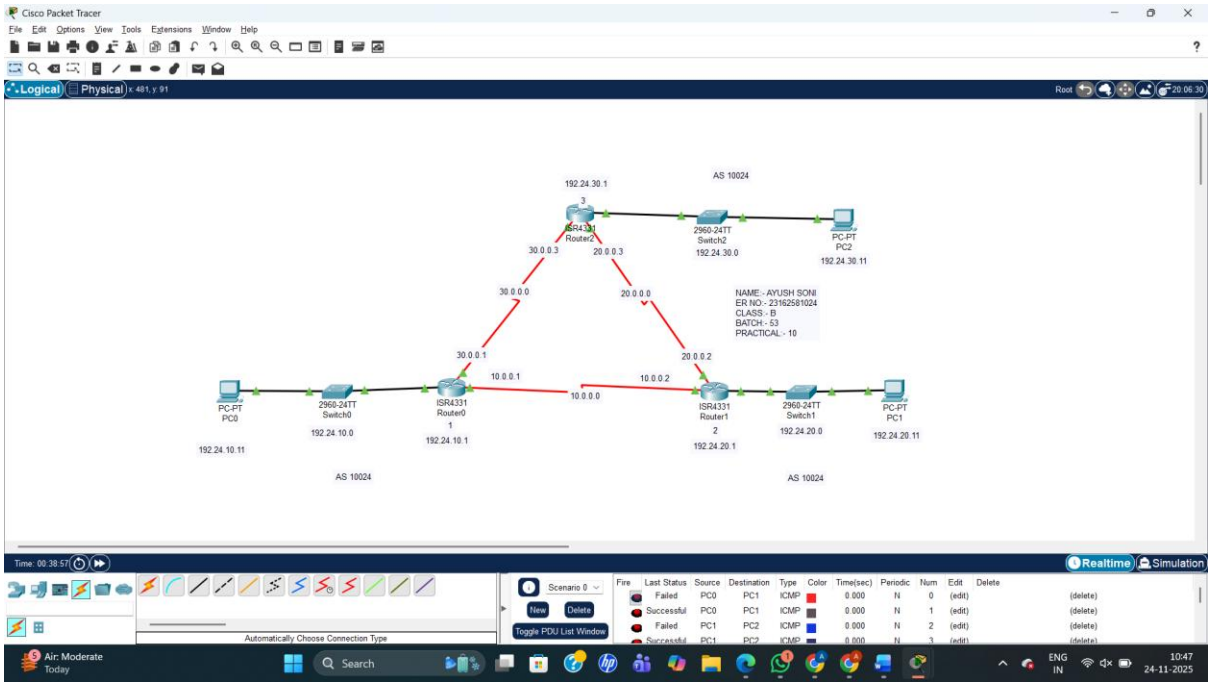
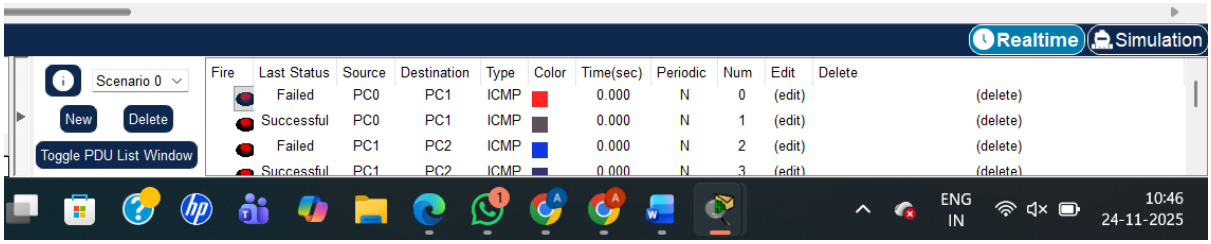
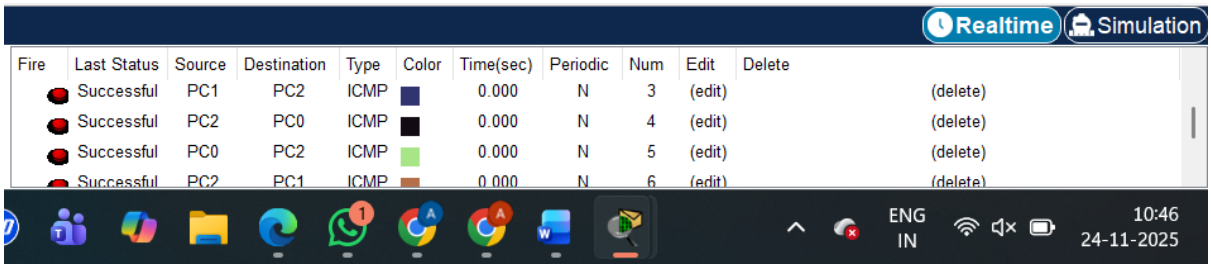
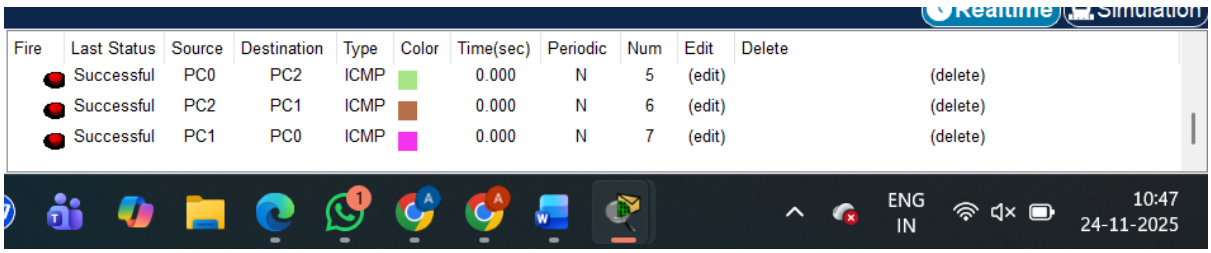
Top
ENG
IN
10:32
24-11-2025

OUTPUT PACKET TRANSFER:-









Conclusion:
The network was effectively designed and configured using Enhanced Interior Gateway Routing Protocol (EIGRP) to facilitate smooth communication among the three departments. EIGRP was properly deployed on all routers, ensuring efficient routing updates and information sharing. The final setup delivered stable connectivity, rapid convergence, and optimal route selection throughout the network. This implementation demonstrated a reliable, scalable, and high-performance internal routing solution for the organization.

Note:

Make sure last two digits of your enrollment numbers appears in network IP address that must be visible in snapshot of the cisco packet tracer. i.e. 192.XX.10.1 (XX indicates last two digits of your enrollment no.)