

# **Internet & Intranet Architecture (110656)**

## **Project Report**

### **Group Members:**

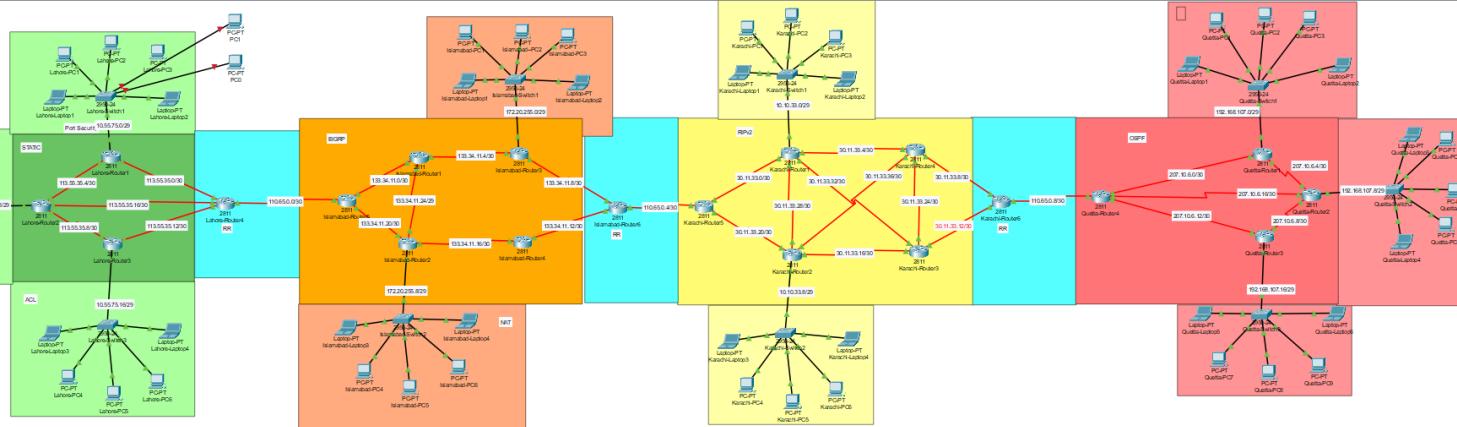
**1. Asad Sheikh: 11355**

**2. Sameer-Ul-Haq: 11334**

**3. Muhammad Nomir: 11330**

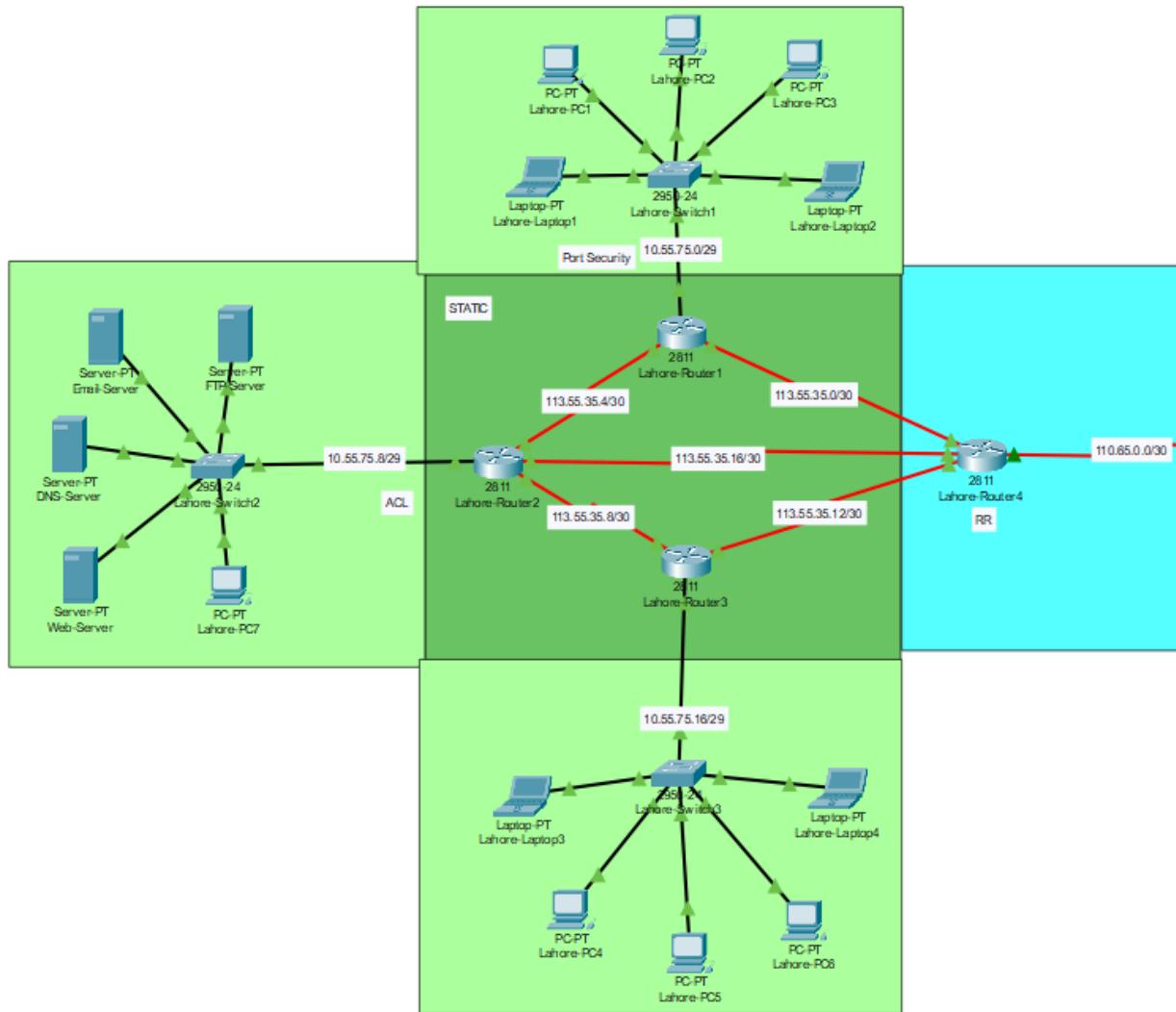
**4. Hina Qamar: 10706**

## Topology Diagram:



## 1.Asad Sheikh (11355):

### Lahore Topology:



## Lahore-Router1:

The screenshot shows a Cisco IOS Command Line Interface (CLI) window titled "Lahore-Router1". The window has tabs for "Physical", "Config", "CLI" (which is selected), and "Attributes". The main area displays the output of several commands:

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 10.55.75.1.

Lahore-Router1>en
Lahore-Router1#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0     10.55.75.1    YES manual up
up
FastEthernet0/1     unassigned     YES unset
administratively down down
Serial0/0/0          113.55.35.6   YES manual up
up
Serial0/0/1          113.55.35.1   YES manual up
up
Serial0/1/0          unassigned     YES unset
administratively down down
Serial0/1/1          unassigned     YES unset
administratively down down
Vlan1               unassigned     YES unset
administratively down down
Lahore-Router1#
```

At the bottom of the window, there are buttons for "Copy" and "Paste". Below the window, a status bar includes the text "Ctrl+F6 to exit CLI focus" and a checkbox labeled "Top".

Lahore-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Lahore-Router1#show running
Building configuration...

Current configuration : 1581 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Lahore-Router1
!
!
!
!
!
ip dhcp pool Asad_11355_Pool1
network 10.55.75.0 255.255.255.248
default-router 10.55.75.1
dns-server 10.55.75.11
!
!
!
no ip cef
no ipv6 cef
```

Ctrl+F6 to exit CLI focus

Top

Lahore-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
spanning-tree mode pvst
!
!
!
!
!
interface FastEthernet0/0
ip address 10.55.75.1 255.255.255.248
duplex auto
speed auto
!
interface FastEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Serial0/0/0
ip address 113.55.35.6 255.255.255.252
!
interface Serial0/0/1
ip address 113.55.35.1 255.255.255.252
clock rate 64000
!
interface Serial0/1/0
no ip address
clock rate 2000000
shutdown
!
interface Serial0/1/1
no ip address
clock rate 2000000
shutdown
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Lahore-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface Vlan1
no ip address
shutdown
!
ip classless
ip route 113.55.35.16 255.255.255.252 113.55.35.5 20
ip route 113.55.35.16 255.255.255.252 113.55.35.2 20
ip route 113.55.35.8 255.255.255.252 113.55.35.5 20
ip route 113.55.35.8 255.255.255.252 113.55.35.2 20
ip route 113.55.35.12 255.255.255.252 113.55.35.5 20
ip route 113.55.35.12 255.255.255.252 113.55.35.2 20
ip route 10.55.75.8 255.255.255.248 113.55.35.5 20
ip route 10.55.75.8 255.255.255.248 113.55.35.2 20
ip route 10.55.75.16 255.255.255.248 113.55.35.5 20
ip route 10.55.75.16 255.255.255.248 113.55.35.2 20
ip route 0.0.0.0 0.0.0.0 113.55.35.2 20
ip route 0.0.0.0 0.0.0.0 113.55.35.5 20
!
ip flow-export version 9
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Lahore-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Lahore-Router1#show ip route
Codes: C - connected, S - static, I - IGRP, 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

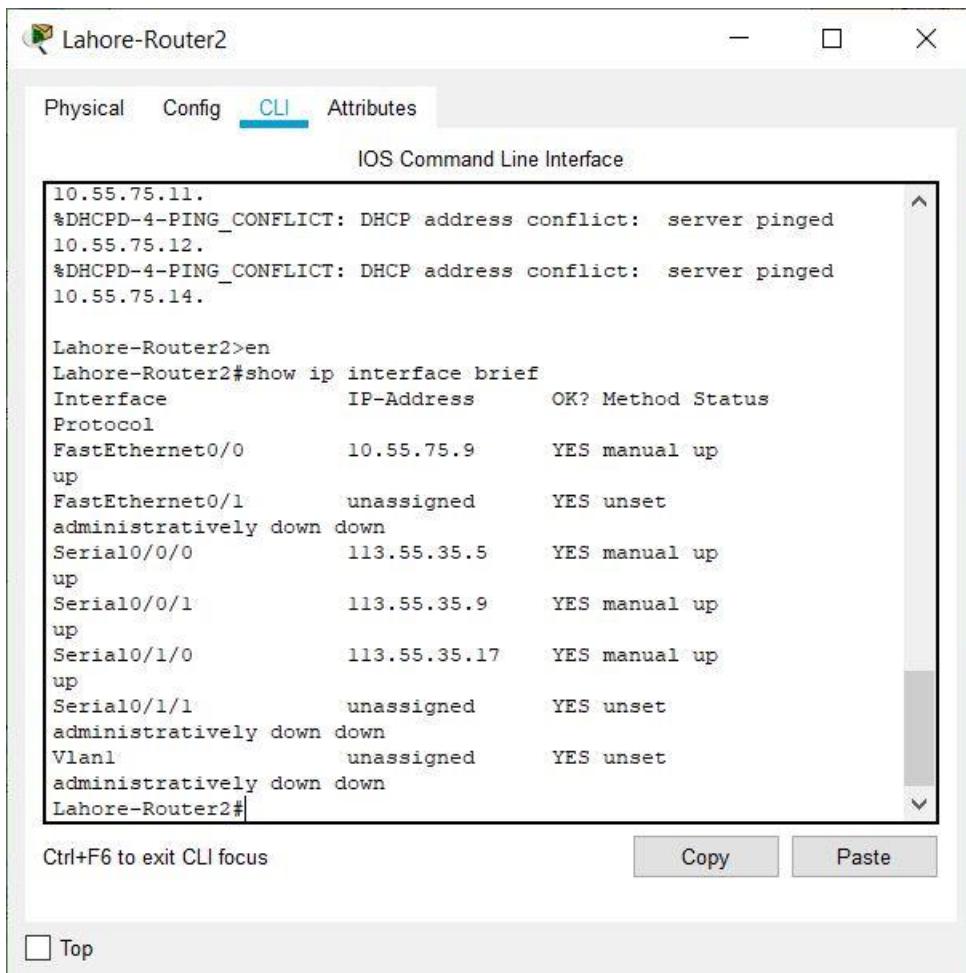
Gateway of last resort is 113.55.35.2 to network 0.0.0.0

      10.0.0.0/29 is subnetted, 3 subnets
C        10.55.75.0 is directly connected, FastEthernet0/0
S          10.55.75.8 [20/0] via 113.55.35.2
                  [20/0] via 113.55.35.5
S          10.55.75.16 [20/0] via 113.55.35.2
                  [20/0] via 113.55.35.5
      113.0.0.0/30 is subnetted, 5 subnets
C        113.55.35.0 is directly connected, Serial0/0/1
C        113.55.35.4 is directly connected, Serial0/0/0
S          113.55.35.8 [20/0] via 113.55.35.2
                  [20/0] via 113.55.35.5
S          113.55.35.12 [20/0] via 113.55.35.2
                  [20/0] via 113.55.35.5
S          113.55.35.16 [20/0] via 113.55.35.2
                  [20/0] via 113.55.35.5
S*        0.0.0.0/0 [20/0] via 113.55.35.2
                  [20/0] via 113.55.35.5
```

Ctrl+F6 to exit CLI focus     

Top

## Lahore-Router2:



Lahore-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
10.55.75.11.  
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged  
10.55.75.12.  
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged  
10.55.75.14.  
  
Lahore-Router2>en  
Lahore-Router2#show ip interface brief  
Interface IP-Address OK? Method Status  
Protocol  
FastEthernet0/0 10.55.75.9 YES manual up  
up  
FastEthernet0/1 unassigned YES unset  
administratively down down  
Serial0/0/0 113.55.35.5 YES manual up  
up  
Serial0/0/1 113.55.35.9 YES manual up  
up  
Serial0/1/0 113.55.35.17 YES manual up  
up  
Serial0/1/1 unassigned YES unset  
administratively down down  
Vlan1 unassigned YES unset  
administratively down down  
Lahore-Router2#
```

Ctrl+F6 to exit CLI focus     

Top

Lahore-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Lahore-Router2#show running
Building configuration...

Current configuration : 1765 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Lahore-Router2
!
!
!
!
!
ip dhcp pool Asad_11355_Pool2
  network 10.55.75.8 255.255.255.248
  default-router 10.55.75.9
  dns-server 10.55.75.11
!
!
!
no ip cef
no ipv6 cef
```

Ctrl+F6 to exit CLI focus     

Top

Lahore-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
spanning-tree mode pvst
!
!
!
!
!
interface FastEthernet0/0
ip address 10.55.75.9 255.255.255.248
duplex auto
speed auto
!
interface FastEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Serial0/0/0
ip address 113.55.35.5 255.255.255.252
clock rate 64000
!
interface Serial0/0/1
ip address 113.55.35.9 255.255.255.252
clock rate 64000
!
interface Serial0/1/0
ip address 113.55.35.17 255.255.255.252
clock rate 64000
!
interface Serial0/1/1
no ip address
clock rate 2000000
shutdown
!
```

Ctrl+F6 to exit CLI focus

Top

Lahore-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface Vlan1
no ip address
shutdown
!
ip classless
ip route 113.55.35.0 255.255.255.252 113.55.35.6 20
ip route 113.55.35.0 255.255.255.252 113.55.35.10 20
ip route 113.55.35.0 255.255.255.252 113.55.35.18 20
ip route 113.55.35.12 255.255.255.252 113.55.35.10 20
ip route 113.55.35.12 255.255.255.252 113.55.35.6 20
ip route 113.55.35.12 255.255.255.252 113.55.35.18 20
ip route 10.55.75.0 255.255.255.248 113.55.35.6 20
ip route 10.55.75.0 255.255.255.248 113.55.35.18 20
ip route 10.55.75.0 255.255.255.248 113.55.35.10 20
ip route 10.55.75.16 255.255.255.248 113.55.35.10 20
ip route 10.55.75.16 255.255.255.248 113.55.35.18 20
ip route 10.55.75.16 255.255.255.248 113.55.35.6 20
ip route 0.0.0.0 0.0.0.0 113.55.35.18 20
ip route 0.0.0.0 0.0.0.0 113.55.35.10 20
ip route 0.0.0.0 0.0.0.0 113.55.35.6 20
!
ip flow-export version 9
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Lahore-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Lahore-Router2#show ip route
Codes: C - connected, S - static, I - IGRP, 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 113.55.35.6 to network 0.0.0.0

      10.0.0.0/29 is subnetted, 3 subnets
S        10.55.75.0 [20/0] via 113.55.35.6
                  [20/0] via 113.55.35.10
                  [20/0] via 113.55.35.18
C        10.55.75.8 is directly connected, FastEthernet0/0
S        10.55.75.16 [20/0] via 113.55.35.6
                  [20/0] via 113.55.35.10
                  [20/0] via 113.55.35.18
      113.0.0.0/30 is subnetted, 5 subnets
S        113.55.35.0 [20/0] via 113.55.35.6
                  [20/0] via 113.55.35.10
                  [20/0] via 113.55.35.18
C        113.55.35.4 is directly connected, Serial0/0/0
C        113.55.35.8 is directly connected, Serial0/0/1
S        113.55.35.12 [20/0] via 113.55.35.6
                  [20/0] via 113.55.35.10
                  [20/0] via 113.55.35.18
C        113.55.35.16 is directly connected, Serial0/1/0
S*       0.0.0.0/0 [20/0] via 113.55.35.6
                  [20/0] via 113.55.35.10
                  [20/0] via 113.55.35.18
```

Ctrl+F6 to exit CLI focus     

Top

## Lahore-Router3:

Lahore-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 10.55.75.17.

Lahore-Router3>en
Lahore-Router3#show ip int brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    10.55.75.17   YES manual up
up
FastEthernet0/1    unassigned     YES unset
administratively down down
Serial0/0/0        113.55.35.10  YES manual up
up
Serial0/0/1        113.55.35.13  YES manual up
up
Serial0/1/0        unassigned     YES unset
administratively down down
Serial0/1/1        unassigned     YES unset
administratively down down
Vlan1              unassigned     YES unset
administratively down down
Lahore-Router3#
```

Ctrl+F6 to exit CLI focus     

Top

Lahore-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Building configuration...

Current configuration : 1869 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Lahore-Router3
!
!
!
!
!
ip dhcp pool Asad_11355_Pool3
network 10.55.75.16 255.255.255.248
default-router 10.55.75.17
dns-server 10.55.75.11
!
!
!
no ip cef
no ipv6 cef
```

Ctrl+F6 to exit CLI focus

Top

Lahore-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
spanning-tree mode pvst
!
!
!
!
!

interface FastEthernet0/0
 ip address 10.55.75.17 255.255.255.248
 ip access-group Asad_11355_ACL in
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 ip address 113.55.35.10 255.255.255.252
!
interface Serial0/0/1
 ip address 113.55.35.13 255.255.255.252
 clock rate 64000
!
interface Serial0/1/0
 no ip address
 clock rate 2000000
 shutdown
!
interface Serial0/1/1
 no ip address
 clock rate 2000000
 shutdown
!
```

Ctrl+F6 to exit CLI focus

Top

Lahore-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface Vlan1
no ip address
shutdown
!
ip classless
ip route 113.55.35.16 255.255.255.252 113.55.35.9 20
ip route 113.55.35.16 255.255.255.252 113.55.35.14 20
ip route 113.55.35.4 255.255.255.252 113.55.35.9 20
ip route 113.55.35.4 255.255.255.252 113.55.35.14 20
ip route 113.55.35.0 255.255.255.252 113.55.35.9 20
ip route 113.55.35.0 255.255.255.252 113.55.35.14 20
ip route 10.55.75.8 255.255.255.248 113.55.35.9 20
ip route 10.55.75.8 255.255.255.248 113.55.35.14 20
ip route 10.55.75.0 255.255.255.248 113.55.35.14 20
ip route 10.55.75.0 255.255.255.248 113.55.35.9 20
ip route 0.0.0.0 0.0.0.0 113.55.35.14 20
ip route 0.0.0.0 0.0.0.0 113.55.35.9 20
!
ip flow-export version 9
!
!
ip access-list extended Asad_11355_ACL
deny ip 10.55.75.16 0.0.0.15 host 10.55.75.10
deny ip 10.55.75.16 0.0.0.15 host 10.55.75.12
deny ip 10.55.75.16 0.0.0.15 host 10.55.75.11
deny ip 10.55.75.16 0.0.0.15 host 10.55.75.13
permit ip any any
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Lahore-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Lahore-Router3#show ip route
Codes: C - connected, S - static, I - IGRP, 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 113.55.35.14 to network 0.0.0.0

      10.0.0.0/29 is subnetted, 3 subnets
S        10.55.75.0 [20/0] via 113.55.35.14
                  [20/0] via 113.55.35.9
S        10.55.75.8 [20/0] via 113.55.35.14
                  [20/0] via 113.55.35.9
C        10.55.75.16 is directly connected, FastEthernet0/0
113.0.0.0/30 is subnetted, 5 subnets
S          113.55.35.0 [20/0] via 113.55.35.14
                  [20/0] via 113.55.35.9
S          113.55.35.4 [20/0] via 113.55.35.14
                  [20/0] via 113.55.35.9
C          113.55.35.8 is directly connected, Serial0/0/0
C          113.55.35.12 is directly connected, Serial0/0/1
S          113.55.35.16 [20/0] via 113.55.35.14
                  [20/0] via 113.55.35.9
S*        0.0.0.0/0 [20/0] via 113.55.35.14
                  [20/0] via 113.55.35.9
```

Ctrl+F6 to exit CLI focus     

Top

## Lahore-Router4:

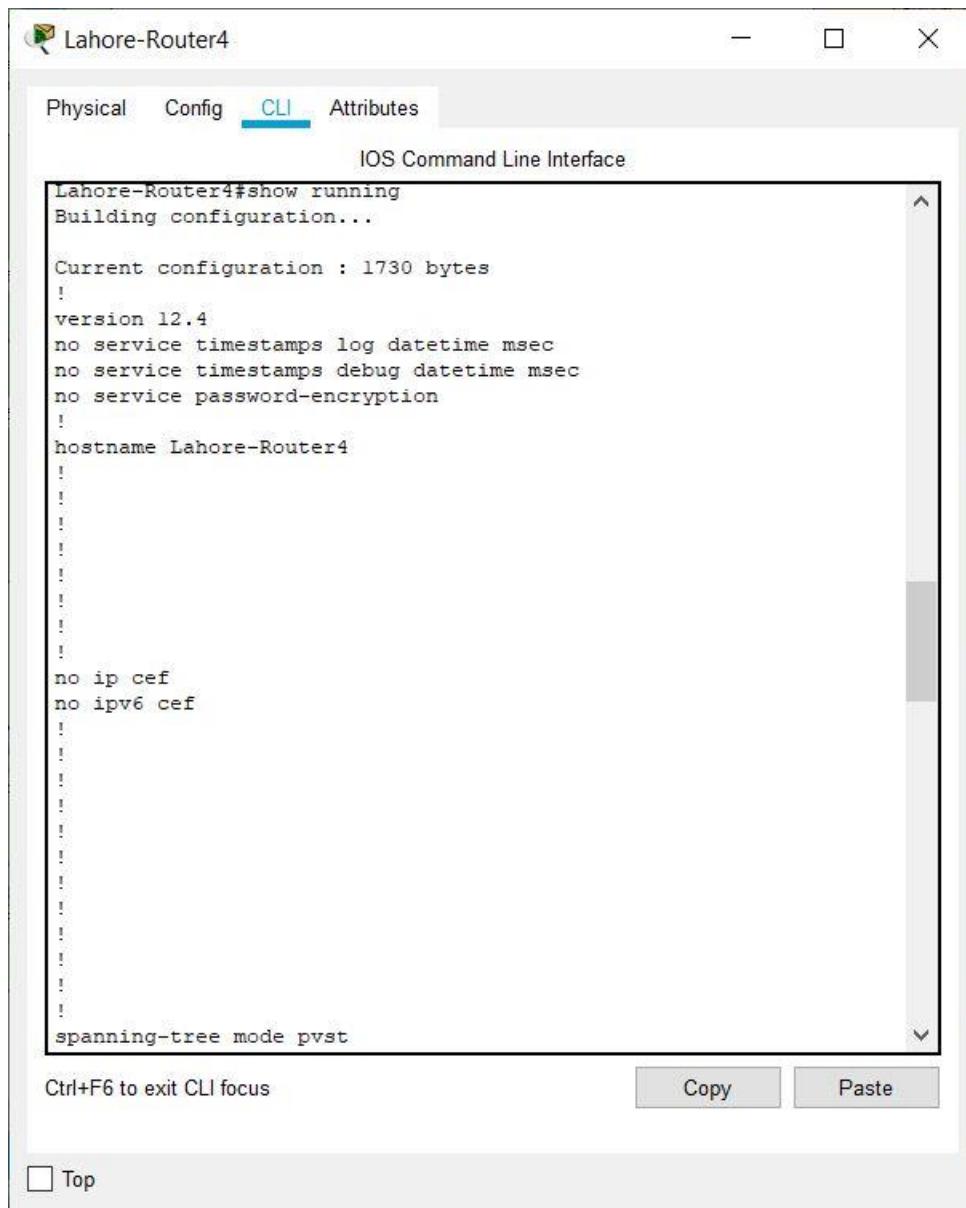
The screenshot shows a terminal window titled "Lahore-Router4". The window has tabs at the top: "Physical", "Config", "CLI" (which is selected), and "Attributes". Below the tabs is the text "IOS Command Line Interface". The main area displays the output of several commands:

```
changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0,
changed state to up

Lahore-Router4>en
Lahore-Router4#show ip int brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    unassigned      YES unset
administratively down down
FastEthernet0/1    unassigned      YES unset
administratively down down
Serial0/0/0        113.55.35.14   YES manual up
up
Serial0/0/1        113.55.35.2    YES manual up
up
Serial0/1/0        113.55.35.18   YES manual up
up
Serial0/1/1        110.65.0.1    YES manual up
up
Vlan1             unassigned      YES unset
administratively down down
Lahore-Router4#
```

At the bottom left of the terminal window, there is a note: "Ctrl+F6 to exit CLI focus". At the bottom right, there are "Copy" and "Paste" buttons. A checkbox labeled "Top" is located at the very bottom left.



Lahore-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface FastEthernet0/0
no ip address
duplex auto
speed auto
shutdown
!
interface FastEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Serial0/0/0
ip address 113.55.35.14 255.255.255.252
!
interface Serial0/0/1
ip address 113.55.35.2 255.255.255.252
!
interface Serial0/1/0
ip address 113.55.35.18 255.255.255.252
!
interface Serial0/1/1
ip address 110.65.0.1 255.255.255.252
clock rate 64000
!
interface Vlan1
no ip address
shutdown
!
router eigrp 11334
redistribute static metric 100 1 255 10 5
network 110.65.0.0 0.0.0.3
auto-summary
!
```

Ctrl+F6 to exit CLI focus

Top

Lahore-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
ip classless
ip route 113.55.35.4 255.255.255.252 113.55.35.1 20
ip route 113.55.35.4 255.255.255.252 113.55.35.17 20
ip route 113.55.35.4 255.255.255.252 113.55.35.13 20
ip route 113.55.35.8 255.255.255.252 113.55.35.1 20
ip route 113.55.35.8 255.255.255.252 113.55.35.17 20
ip route 113.55.35.8 255.255.255.252 113.55.35.13 20
ip route 10.55.75.0 255.255.255.248 113.55.35.1 20
ip route 10.55.75.0 255.255.255.248 113.55.35.13 20
ip route 10.55.75.0 255.255.255.248 113.55.35.17 20
ip route 10.55.75.8 255.255.255.248 113.55.35.1 20
ip route 10.55.75.8 255.255.255.248 113.55.35.13 20
ip route 10.55.75.8 255.255.255.248 113.55.35.17 20
ip route 10.55.75.16 255.255.255.248 113.55.35.1 20
ip route 10.55.75.16 255.255.255.248 113.55.35.13 20
ip route 10.55.75.16 255.255.255.248 113.55.35.17 20
!
ip flow-export version 9
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
 login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Lahore-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Lahore-Router4#show ip route
Codes: C - connected, S - static, I - IGRP, 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

10.0.0.0/29 is subnetted, 5 subnets
D EX  10.10.33.0 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
D EX  10.10.33.8 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
S    10.55.75.0 [20/0] via 113.55.35.1
      [20/0] via 113.55.35.17
      [20/0] via 113.55.35.13
S    10.55.75.8 [20/0] via 113.55.35.1
      [20/0] via 113.55.35.17
      [20/0] via 113.55.35.13
S    10.55.75.16 [20/0] via 113.55.35.1
      [20/0] via 113.55.35.17
      [20/0] via 113.55.35.13
      30.0.0.0/30 is subnetted, 10 subnets
D EX  30.11.33.0 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
D EX  30.11.33.4 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
D EX  30.11.33.8 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
D EX  30.11.33.12 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
D EX  30.11.33.16 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
D EX  30.11.33.20 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
D EX  30.11.33.24 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
D EX  30.11.33.28 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
D EX  30.11.33.32 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
D EX  30.11.33.36 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
      110.0.0.0/30 is subnetted, 3 subnets
C    110.65.0.0 is directly connected, Serial0/1/1
D EX  110.65.0.4 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
D EX  110.65.0.8 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
      113.0.0.0/30 is subnetted, 5 subnets
```

Ctrl+F6 to exit CLI focus     

Top

Lahore-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
D EX    110.65.0.8 [170/27648000] via 110.65.0.2, 00:16:33, Serial0/1/1
      113.0.0.0/30 is subnetted, 5 subnets
C       113.55.35.0 is directly connected, Serial0/0/1
S       113.55.35.4 [20/0] via 113.55.35.1
          [20/0] via 113.55.35.17
          [20/0] via 113.55.35.13
S       113.55.35.8 [20/0] via 113.55.35.1
          [20/0] via 113.55.35.17
          [20/0] via 113.55.35.13
C       113.55.35.12 is directly connected, Serial0/0/0
C       113.55.35.16 is directly connected, Serial0/1/0
      133.34.0.0/16 is variably subnetted, 7 subnets, 2 masks
D       133.34.11.0/30 [90/2681856] via 110.65.0.2, 00:16:34, Serial0/1/1
D       133.34.11.4/30 [90/3193856] via 110.65.0.2, 00:16:34, Serial0/1/1
D       133.34.11.8/30 [90/3705856] via 110.65.0.2, 00:16:33, Serial0/1/1
D       133.34.11.12/30 [90/3705856] via 110.65.0.2, 00:16:33, Serial0/1/1
D       133.34.11.16/30 [90/3193856] via 110.65.0.2, 00:16:34, Serial0/1/1
D       133.34.11.20/30 [90/2681856] via 110.65.0.2, 00:16:34, Serial0/1/1
D       133.34.11.24/29 [90/3193856] via 110.65.0.2, 00:16:34, Serial0/1/1
      172.20.0.0/29 is subnetted, 2 subnets
D       172.20.255.0 [90/3196416] via 110.65.0.2, 00:16:33, Serial0/1/1
D       172.20.255.8 [90/2684416] via 110.65.0.2, 00:16:34, Serial0/1/1
      192.168.107.0/29 is subnetted, 3 subnets
D EX     192.168.107.0 [170/27648000] via 110.65.0.2, 00:16:12, Serial0/1/1
D EX     192.168.107.8 [170/27648000] via 110.65.0.2, 00:16:12, Serial0/1/1
D EX     192.168.107.16 [170/27648000] via 110.65.0.2, 00:16:12,
Serial0/1/1
      207.10.6.0/30 is subnetted, 5 subnets
D EX     207.10.6.0 [170/27648000] via 110.65.0.2, 00:16:12, Serial0/1/1
D EX     207.10.6.4 [170/27648000] via 110.65.0.2, 00:16:12, Serial0/1/1
D EX     207.10.6.8 [170/27648000] via 110.65.0.2, 00:16:12, Serial0/1/1
D EX     207.10.6.12 [170/27648000] via 110.65.0.2, 00:16:12, Serial0/1/1
D EX     207.10.6.16 [170/27648000] via 110.65.0.2, 00:16:12, Serial0/1/1
```

Ctrl+F6 to exit CLI focus     

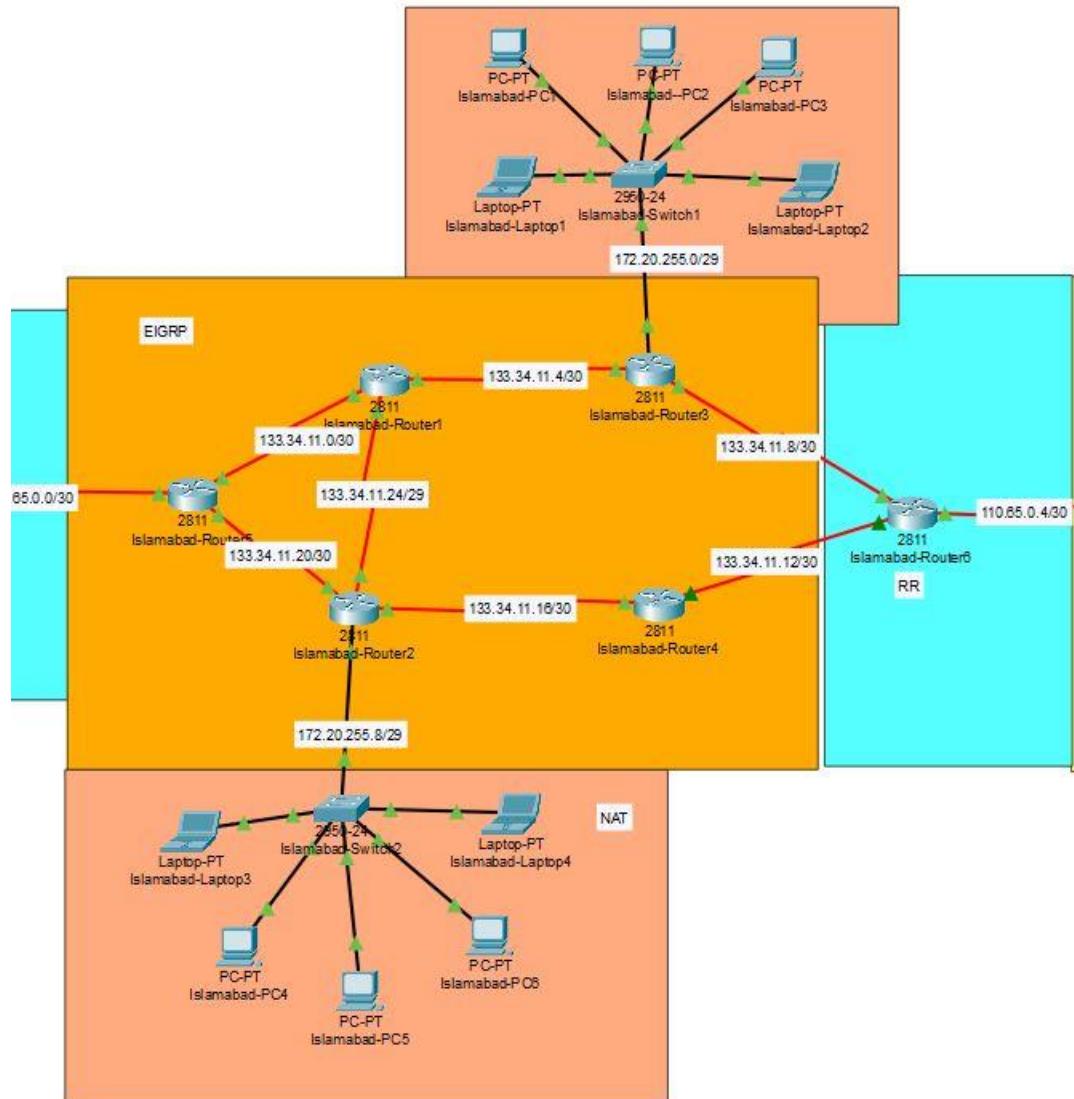
Top

## Example Pings:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
●	Successful	Lahore-PC1	Lahore-PC6	ICMP	tan	0.000	N	0	(edit)	(delete)
●	Successful	Lahore-Router1	Lahore-Router3	ICMP	purple	0.000	N	1	(edit)	(delete)
●	Successful	DNS-Server	Lahore-Laptop4	ICMP	green	0.000	N	2	(edit)	(delete)

## 2. Sameer-Ul-Haq (11334):

### Islamabad Topology:



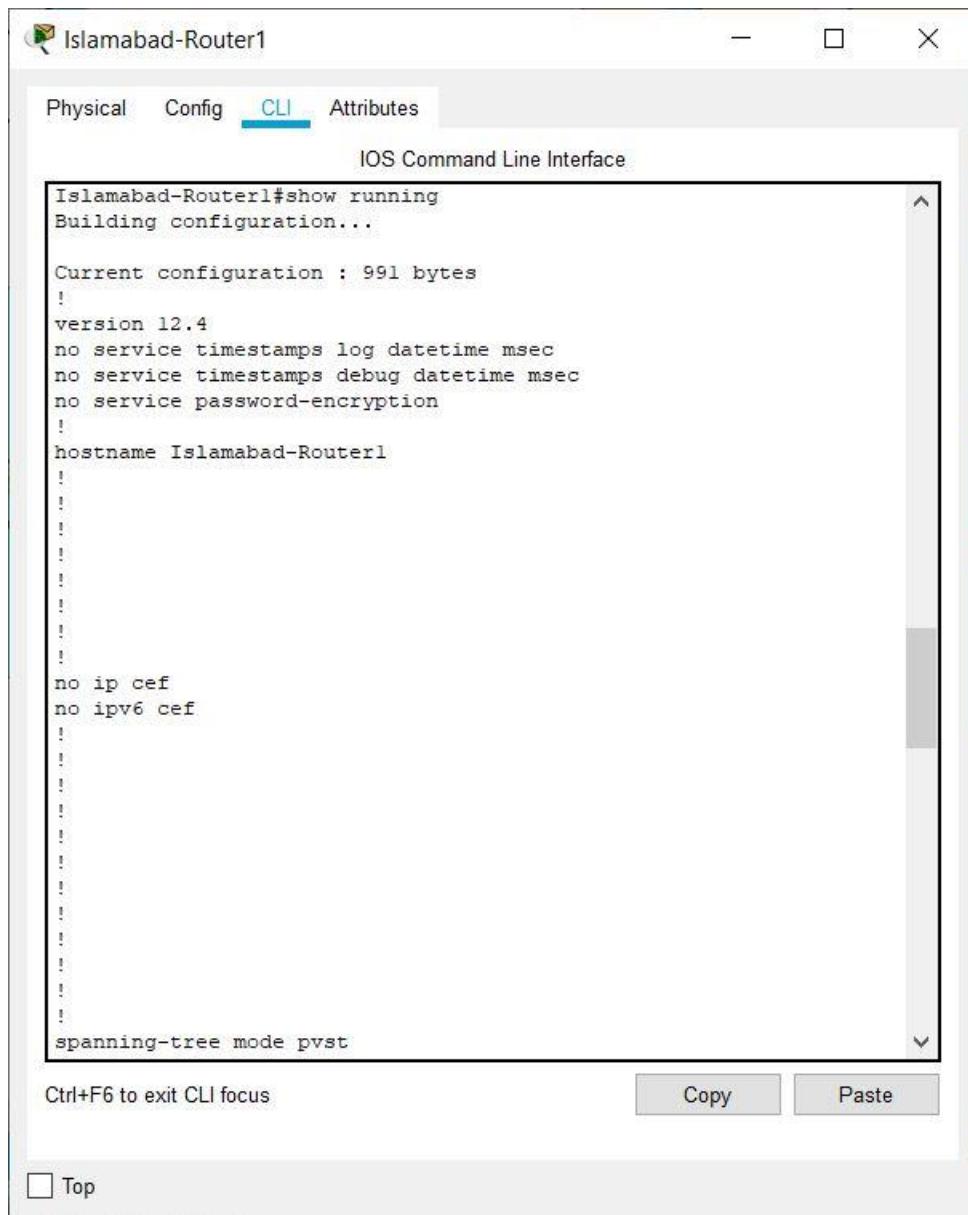
## Islamabad-Router1:

The screenshot shows a window titled "Islamabad-Router1" with a tab bar containing "Physical", "Config", "CLI" (which is selected), and "Attributes". The main area displays the "IOS Command Line Interface".

```
(Serial0/1/0) is up: new adjacency
%DUAL-5-NBRCHANGE: IP-EIGRP 11334: Neighbor 133.34.11.6
(Serial0/0/1) is up: new adjacency

Islamabad-Router1>en
Islamabad-Router1#show ip int brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    unassigned     YES unset
administratively down down
FastEthernet0/1    unassigned     YES unset
administratively down down
Serial0/0/0        133.34.11.2   YES manual up
up
Serial0/0/1        133.34.11.5   YES manual up
up
Serial0/1/0        133.34.11.26  YES manual up
up
Serial0/1/1        unassigned     YES unset
administratively down down
Vlan1              unassigned     YES unset
administratively down down
Islamabad-Router1#
```

At the bottom of the CLI window, there are buttons for "Copy" and "Paste". Below the window, there is a small checkbox labeled "Top".



Islamabad-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface FastEthernet0/0
no ip address
duplex auto
speed auto
shutdown
!
interface FastEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Serial0/0/0
ip address 133.34.11.2 255.255.255.252
!
interface Serial0/0/1
ip address 133.34.11.5 255.255.255.252
clock rate 64000
!
interface Serial0/1/0
ip address 133.34.11.26 255.255.255.248
clock rate 64000
!
interface Serial0/1/1
no ip address
clock rate 2000000
shutdown
!
interface Vlan1
no ip address
shutdown
!
```

Ctrl+F6 to exit CLI focus

Top

Islamabad-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
router eigrp 11334
network 133.34.11.4 0.0.0.3
network 133.34.11.0 0.0.0.3
network 133.34.11.24 0.0.0.7
no auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Islamabad-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Islamabad-Router1#show ip route
Codes: C - connected, S - static, I - IGRP, 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

    10.0.0.0/29 is subnetted, 5 subnets
D EX    10.10.33.0 [170/26624000] via 133.34.11.6, 00:32:28, Serial0/0/1
D EX    10.10.33.8 [170/26624000] via 133.34.11.6, 00:32:28, Serial0/0/1
D EX    10.55.75.0 [170/26624256] via 133.34.11.1, 00:32:27, Serial0/0/0
D EX    10.55.75.8 [170/26624256] via 133.34.11.1, 00:32:27, Serial0/0/0
D EX    10.55.75.16 [170/26624256] via 133.34.11.1, 00:32:27, Serial0/0/0
    30.0.0.0/30 is subnetted, 10 subnets
D EX    30.11.33.0 [170/26624000] via 133.34.11.6, 00:32:28, Serial0/0/1
D EX    30.11.33.4 [170/26624000] via 133.34.11.6, 00:32:28, Serial0/0/1
D EX    30.11.33.8 [170/26624000] via 133.34.11.6, 00:32:28, Serial0/0/1
D EX    30.11.33.12 [170/26624000] via 133.34.11.6, 00:32:27, Serial0/0/1
D EX    30.11.33.16 [170/26624000] via 133.34.11.6, 00:32:28, Serial0/0/1
D EX    30.11.33.20 [170/26624000] via 133.34.11.6, 00:32:28, Serial0/0/1
D EX    30.11.33.24 [170/26624000] via 133.34.11.6, 00:32:28, Serial0/0/1
D EX    30.11.33.28 [170/26624000] via 133.34.11.6, 00:32:28, Serial0/0/1
D EX    30.11.33.32 [170/26624000] via 133.34.11.6, 00:32:28, Serial0/0/1
D EX    30.11.33.36 [170/26624000] via 133.34.11.6, 00:32:28, Serial0/0/1
    110.0.0.0/30 is subnetted, 3 subnets
D      110.65.0.0 [90/2681856] via 133.34.11.1, 00:32:28, Serial0/0/0
D EX    110.65.0.4 [170/26624000] via 133.34.11.6, 00:32:28, Serial0/0/1
D EX    110.65.0.8 [170/26624000] via 133.34.11.6, 00:32:28, Serial0/0/1
    113.0.0.0/30 is subnetted, 2 subnets
D EX    113.55.35.4 [170/26624256] via 133.34.11.1, 00:32:27, Serial0/0/0
D EX    113.55.35.8 [170/26624256] via 133.34.11.1, 00:32:27, Serial0/0/0
133.34.0.0/16 is variably subnetted, 7 subnets, 2 masks
```

Ctrl+F6 to exit CLI focus     

Top

Islamabad-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
133.34.0.0/16 is variably subnetted, 7 subnets, 2 masks
C   133.34.11.0/30 is directly connected, Serial0/0/0
C   133.34.11.4/30 is directly connected, Serial0/0/1
D   133.34.11.8/30 [90/2681856] via 133.34.11.6, 00:32:28, Serial0/0/1
D   133.34.11.12/30 [90/3193856] via 133.34.11.6, 00:32:28, Serial0/0/1
D   133.34.11.16/30 [90/2681856] via 133.34.11.25, 00:32:28, Serial0/1/0
D   133.34.11.20/30 [90/2681856] via 133.34.11.1, 00:32:29, Serial0/0/0
C     [90/2681856] via 133.34.11.25, 00:32:29, Serial0/1/0
C   133.34.11.24/29 is directly connected, Serial0/1/0
  172.20.0.0/29 is subnetted, 2 subnets
D     172.20.255.0 [90/2172416] via 133.34.11.6, 00:32:28, Serial0/0/1
D     172.20.255.8 [90/2172416] via 133.34.11.25, 00:32:29, Serial0/1/0
  192.168.107.0/29 is subnetted, 3 subnets
D EX    192.168.107.0 [170/26624000] via 133.34.11.6, 00:32:06, Serial0/0/1
D EX    192.168.107.8 [170/26624000] via 133.34.11.6, 00:32:06, Serial0/0/1
D EX    192.168.107.16 [170/26624000] via 133.34.11.6, 00:32:06, Serial0/0/1
  207.10.6.0/30 is subnetted, 5 subnets
D EX    207.10.6.0 [170/26624000] via 133.34.11.6, 00:32:06, Serial0/0/1
D EX    207.10.6.4 [170/26624000] via 133.34.11.6, 00:32:06, Serial0/0/1
D EX    207.10.6.8 [170/26624000] via 133.34.11.6, 00:32:06, Serial0/0/1
D EX    207.10.6.12 [170/26624000] via 133.34.11.6, 00:32:06, Serial0/0/1
D EX    207.10.6.16 [170/26624000] via 133.34.11.6, 00:32:06, Serial0/0/1
```

Ctrl+F6 to exit CLI focus

Top

**Copy**   **Paste**

## Islamabad-Router2:

The screenshot shows a Cisco IOS Command Line Interface window titled "Islamabad-Router2". The window has tabs for "Physical", "Config", "CLI" (which is selected), and "Attributes". The main area displays the output of several commands:

```
%DUAL-5-NBRCHANGE: IP-EIGRP 11334: Neighbor 133.34.11.26  
(Serial0/1/0) is up: new adjacency  
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged  
172.20.255.9.  
  
Islamabad-Router2>en  
Islamabad-Router2#show ip int brief  
Interface IP-Address OK? Method Status  
Protocol  
FastEthernet0/0 172.20.255.9 YES manual up  
up  
FastEthernet0/1 unassigned YES unset  
administratively down down  
Serial0/0/0 133.34.11.18 YES manual up  
up  
Serial0/0/1 133.34.11.21 YES manual up  
up  
Serial0/1/0 133.34.11.25 YES manual up  
up  
Serial0/1/1 unassigned YES unset  
administratively down down  
Vlan1 unassigned YES unset  
administratively down down  
Islamabad-Router2#
```

At the bottom of the window, there are buttons for "Copy" and "Paste". A checkbox labeled "Top" is located at the bottom left.

Islamabad-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Islamabad-Router2#show running
Building configuration...

Current configuration : 1369 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Islamabad-Router2
!
!
!
!
!
ip dhcp pool Sameer_11334_Pool2
  network 172.20.255.8 255.255.255.248
  default-router 172.20.255.9
  dns-server 10.55.75.11
!
!
!
no ip cef
no ipv6 cef
```

Ctrl+F6 to exit CLI focus     

Top

Islamabad-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
spanning-tree mode pvst
!
!
!
!
!
!
interface FastEthernet0/0
 ip address 172.20.255.9 255.255.255.248
 ip nat inside
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 ip address 133.34.11.18 255.255.255.252
!
interface Serial0/0/1
 ip address 133.34.11.21 255.255.255.252
 clock rate 64000
!
interface Serial0/1/0
 ip address 133.34.11.25 255.255.255.248
 ip nat outside
!
interface Serial0/1/1
 no ip address
 clock rate 2000000
 shutdown
```

Ctrl+F6 to exit CLI focus

Top

Islamabad-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface Vlan1
no ip address
shutdown
!
router eigrp 11334
network 133.34.11.20 0.0.0.3
network 133.34.11.16 0.0.0.3
network 172.20.255.8 0.0.0.7
network 133.34.11.24 0.0.0.7
no auto-summary
!
ip nat pool Sameer_11334_DNATPool 133.34.11.27 133.34.11.30
netmask 255.255.255.248
ip nat inside source list 20 pool Sameer_11334_DNATPool overload
ip classless
!
ip flow-export version 9
!
!
access-list 20 permit 172.20.255.8 0.0.0.7
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Islamabad-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Islamabad-Router2#show ip route
Codes: C - connected, S - static, I - IGRP, 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

      10.0.0.0/29 is subnetted, 5 subnets
D EX  10.10.33.0 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
D EX  10.10.33.8 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
D EX  10.55.75.0 [170/26624256] via 133.34.11.22, 00:35:17, Serial0/0/1
D EX  10.55.75.8 [170/26624256] via 133.34.11.22, 00:35:17, Serial0/0/1
D EX  10.55.75.16 [170/26624256] via 133.34.11.22, 00:35:17, Serial0/0/1
      30.0.0.0/30 is subnetted, 10 subnets
D EX  30.11.33.0 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
D EX  30.11.33.4 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
D EX  30.11.33.8 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
D EX  30.11.33.12 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
D EX  30.11.33.16 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
D EX  30.11.33.20 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
D EX  30.11.33.24 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
D EX  30.11.33.28 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
D EX  30.11.33.32 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
D EX  30.11.33.36 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
      110.0.0.0/30 is subnetted, 3 subnets
D   110.65.0.0 [90/2681856] via 133.34.11.22, 00:35:18, Serial0/0/1
D EX  110.65.0.4 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
D EX  110.65.0.8 [170/26624000] via 133.34.11.17, 00:35:17, Serial0/0/0
      113.0.0.0/30 is subnetted, 2 subnets
D EX  113.55.35.4 [170/26624256] via 133.34.11.22, 00:35:17, Serial0/0/1
D EX  113.55.35.8 [170/26624256] via 133.34.11.22, 00:35:17, Serial0/0/1
      133.34.0.0/16 is variably subnetted, 7 subnets, 2 masks
```

Ctrl+F6 to exit CLI focus

Top

**Copy** **Paste**

Islamabad-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
133.34.0.0/16 is varably subnetted, 7 subnets, 2 masks
D    133.34.11.0/30 [90/2681856] via 133.34.11.22, 00:35:21, Serial0/0/1
     [90/2681856] via 133.34.11.26, 00:35:19, Serial0/1/0
D    133.34.11.4/30 [90/2681856] via 133.34.11.26, 00:35:19, Serial0/1/0
D    133.34.11.8/30 [90/3193856] via 133.34.11.26, 00:35:18, Serial0/1/0
     [90/3193856] via 133.34.11.17, 00:35:17, Serial0/0/0
D    133.34.11.12/30 [90/2681856] via 133.34.11.17, 00:35:18, Serial0/0/0
C    133.34.11.16/30 is directly connected, Serial0/0/0
C    133.34.11.20/30 is directly connected, Serial0/0/1
C    133.34.11.24/29 is directly connected, Serial0/1/0
    172.20.0.0/29 is subnetted, 2 subnets
D    172.20.255.0 [90/2684416] via 133.34.11.26, 00:35:18, Serial0/1/0
C    172.20.255.8 is directly connected, FastEthernet0/0
    192.168.107.0/29 is subnetted, 3 subnets
D EX   192.168.107.0 [170/26624000] via 133.34.11.17, 00:34:56, Serial0/0/0
D EX   192.168.107.8 [170/26624000] via 133.34.11.17, 00:34:56, Serial0/0/0
D EX   192.168.107.16 [170/26624000] via 133.34.11.17, 00:34:56, Serial0/0/0
    207.10.6.0/30 is subnetted, 5 subnets
D EX   207.10.6.0 [170/26624000] via 133.34.11.17, 00:34:56, Serial0/0/0
D EX   207.10.6.4 [170/26624000] via 133.34.11.17, 00:34:56, Serial0/0/0
D EX   207.10.6.8 [170/26624000] via 133.34.11.17, 00:34:56, Serial0/0/0
D EX   207.10.6.12 [170/26624000] via 133.34.11.17, 00:34:56, Serial0/0/0
D EX   207.10.6.16 [170/26624000] via 133.34.11.17, 00:34:56, Serial0/0/0
```

Ctrl+F6 to exit CLI focus

Top

**Copy**      **Paste**

## Islamabad-Router3:

The screenshot shows a Cisco IOS Command Line Interface window titled "Islamabad-Router3". The window has tabs for "Physical", "Config", "CLI" (which is selected), and "Attributes". The main area displays the following output:

```
%DUAL-5-NBRCHANGE: IP-EIGRP 11334: Neighbor 133.34.11.5  
(Serial0/0/0) is up: new adjacency  
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged  
172.20.255.1.  
  
Islamabad-Router3>en  
Islamabad-Router3#show ip int brief  
Interface IP-Address OK? Method Status  
Protocol  
FastEthernet0/0 172.20.255.1 YES manual up  
up  
FastEthernet0/1 unassigned YES unset  
administratively down down  
Serial0/0/0 133.34.11.6 YES manual up  
up  
Serial0/0/1 133.34.11.9 YES manual up  
up  
Serial0/1/0 unassigned YES unset  
administratively down down  
Serial0/1/1 unassigned YES unset  
administratively down down  
Vlan1 unassigned YES unset  
administratively down down  
Islamabad-Router3#
```

At the bottom of the window, there are buttons for "Copy" and "Paste". Below the window, there is a small toolbar with a "Top" button.

Islamabad-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Islamabad-Router3#show running
Building configuration...

Current configuration : 1116 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Islamabad-Router3
!
!
!
!
!
ip dhcp pool Sameer_11334_Pool1
network 172.20.255.0 255.255.255.248
default-router 172.20.255.1
dns-server 10.55.75.11
!
!
!
no ip cef
no ipv6 cef
```

Ctrl+F6 to exit CLI focus

Top

Islamabad-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
spanning-tree mode pvst
!
!
!
!
!
interface FastEthernet0/0
 ip address 172.20.255.1 255.255.255.248
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 ip address 133.34.11.6 255.255.255.252
!
interface Serial0/0/1
 ip address 133.34.11.9 255.255.255.252
 clock rate 64000
!
interface Serial0/1/0
 no ip address
 clock rate 2000000
 shutdown
!
interface Serial0/1/1
 no ip address
 clock rate 2000000
 shutdown
```

Ctrl+F6 to exit CLI focus

Top

Islamabad-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface Vlan1
no ip address
shutdown
!
router eigrp 11334
network 133.34.11.4 0.0.0.3
network 133.34.11.8 0.0.0.3
network 172.20.255.0 0.0.0.7
no auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Islamabad-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Islamabad-Router3#show ip route
Codes: C - connected, S - static, I - IGRP, 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

  10.0.0.0/29 is subnetted, 5 subnets
D EX  10.10.33.0 [170/26112000] via 133.34.11.10, 00:37:17, Serial0/0/1
D EX  10.10.33.8 [170/26112000] via 133.34.11.10, 00:37:17, Serial0/0/1
D EX  10.55.75.0 [170/27136256] via 133.34.11.5, 00:37:15, Serial0/0/0
D EX  10.55.75.8 [170/27136256] via 133.34.11.5, 00:37:15, Serial0/0/0
D EX  10.55.75.16 [170/27136256] via 133.34.11.5, 00:37:15, Serial0/0/0
  30.0.0.0/30 is subnetted, 10 subnets
D EX  30.11.33.0 [170/26112000] via 133.34.11.10, 00:37:17, Serial0/0/1
D EX  30.11.33.4 [170/26112000] via 133.34.11.10, 00:37:17, Serial0/0/1
D EX  30.11.33.8 [170/26112000] via 133.34.11.10, 00:37:17, Serial0/0/1
D EX  30.11.33.12 [170/26112000] via 133.34.11.10, 00:37:15, Serial0/0/1
D EX  30.11.33.16 [170/26112000] via 133.34.11.10, 00:37:17, Serial0/0/1
D EX  30.11.33.20 [170/26112000] via 133.34.11.10, 00:37:17, Serial0/0/1
D EX  30.11.33.24 [170/26112000] via 133.34.11.10, 00:37:17, Serial0/0/1
D EX  30.11.33.28 [170/26112000] via 133.34.11.10, 00:37:17, Serial0/0/1
D EX  30.11.33.32 [170/26112000] via 133.34.11.10, 00:37:17, Serial0/0/1
D EX  30.11.33.36 [170/26112000] via 133.34.11.10, 00:37:17, Serial0/0/1
  110.0.0.0/30 is subnetted, 3 subnets
```

Ctrl+F6 to exit CLI focus

Top

**Copy** **Paste**

Islamabad-Router

Physical Config **CLI** Attributes

IOS Command Line Interface

```
D      110.65.0.0 [90/3193856] via 133.34.11.5, 00:37:16, Serial0/0/0
D EX    110.65.0.4 [170/26112000] via 133.34.11.10, 00:37:18, Serial0/0/1
D EX    110.65.0.8 [170/26112000] via 133.34.11.10, 00:37:17, Serial0/0/1
      113.0.0.0/30 is subnetted, 2 subnets
D EX    113.55.35.4 [170/27136256] via 133.34.11.5, 00:37:15, Serial0/0/0
D EX    113.55.35.8 [170/27136256] via 133.34.11.5, 00:37:15, Serial0/0/0
      133.34.0.0/16 is variably subnetted, 7 subnets, 2 masks
D      133.34.11.0/30 [90/2681856] via 133.34.11.5, 00:37:16, Serial0/0/0
C      133.34.11.4/30 is directly connected, Serial0/0/0
C      133.34.11.8/30 is directly connected, Serial0/0/1
D      133.34.11.12/30 [90/2681856] via 133.34.11.10, 00:37:18, Serial0/0/1
D      133.34.11.16/30 [90/3193856] via 133.34.11.5, 00:37:16, Serial0/0/0
                  [90/3193856] via 133.34.11.10, 00:37:16, Serial0/0/1
D      133.34.11.20/30 [90/3193856] via 133.34.11.5, 00:37:16, Serial0/0/0
D      133.34.11.24/29 [90/2681856] via 133.34.11.5, 00:37:16, Serial0/0/0
      172.20.0.0/29 is subnetted, 2 subnets
C      172.20.255.0 is directly connected, FastEthernet0/0
D      172.20.255.8 [90/2684416] via 133.34.11.5, 00:37:16, Serial0/0/0
      192.168.107.0/29 is subnetted, 3 subnets
D EX    192.168.107.0 [170/26112000] via 133.34.11.10, 00:36:54, Serial0/0/1
D EX    192.168.107.8 [170/26112000] via 133.34.11.10, 00:36:54, Serial0/0/1
D EX    192.168.107.16 [170/26112000] via 133.34.11.10, 00:36:54, Serial0/0/1
      207.10.6.0/30 is subnetted, 5 subnets
D EX    207.10.6.0 [170/26112000] via 133.34.11.10, 00:36:54, Serial0/0/1
D EX    207.10.6.4 [170/26112000] via 133.34.11.10, 00:36:54, Serial0/0/1
D EX    207.10.6.8 [170/26112000] via 133.34.11.10, 00:36:54, Serial0/0/1
D EX    207.10.6.12 [170/26112000] via 133.34.11.10, 00:36:54, Serial0/0/1
D EX    207.10.6.16 [170/26112000] via 133.34.11.10, 00:36:54, Serial0/0/1
```

Ctrl+F6 to exit CLI focus

Top

**Copy** **Paste**

## Islamabad-Router4:

The screenshot shows a Cisco IOS Command Line Interface window titled "Islamabad-Router4". The window has tabs for "Physical", "Config", "CLI" (which is selected), and "Attributes". The main area displays the output of the "show ip int brief" command. The output shows the following interface status:

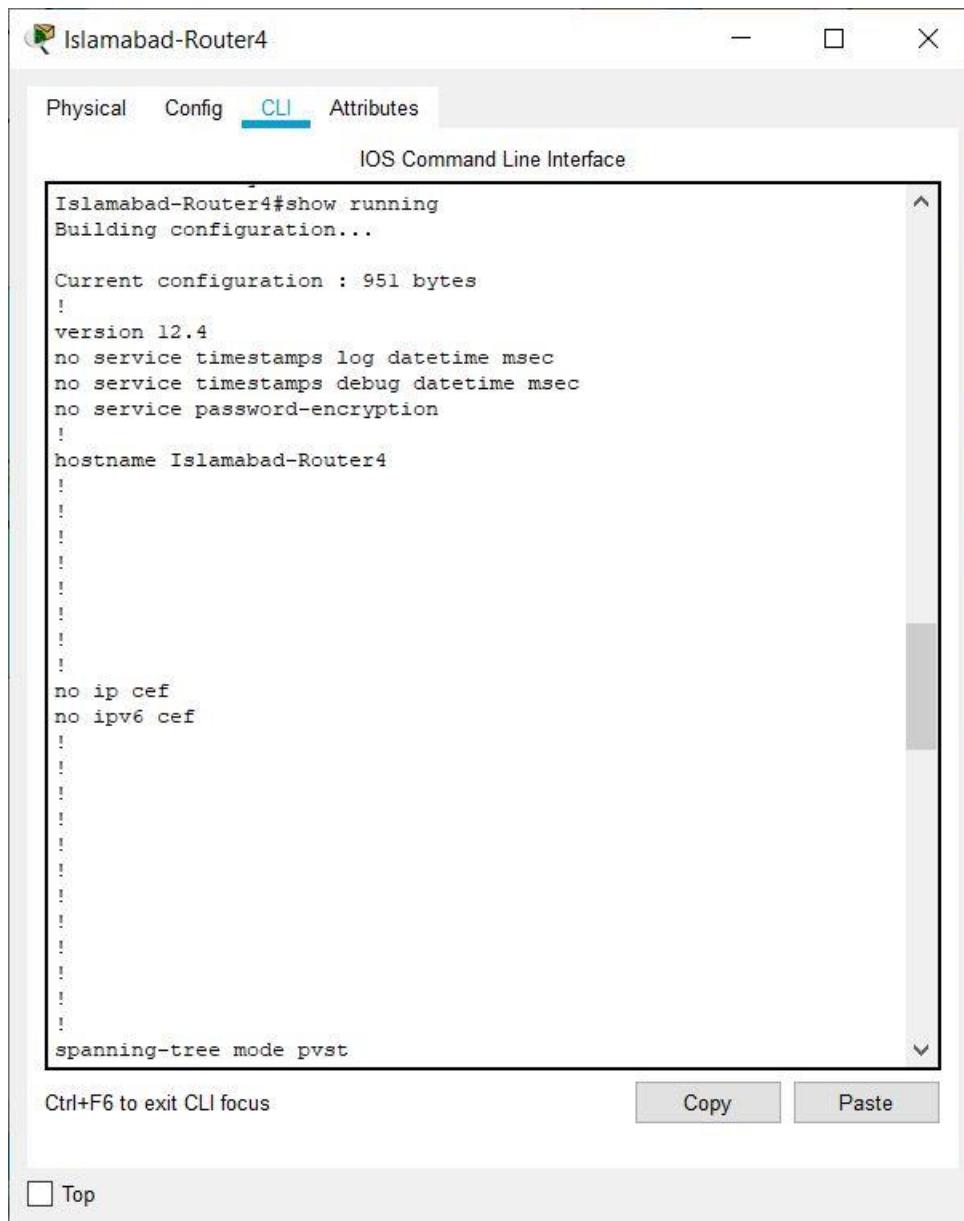
Interface	IP-Address	OK?	Method	Status
FastEthernet0/0	unassigned	YES	unset	administratively down down
FastEthernet0/1	unassigned	YES	unset	administratively down down
Serial0/0/0	133.34.11.14	YES	manual	up
Serial0/0/1	133.34.11.17	YES	manual	up
Serial0/1/0	unassigned	YES	unset	administratively down down
Serial0/1/1	unassigned	YES	unset	administratively down down
Vlan1	unassigned	YES	unset	administratively down down

At the bottom of the CLI window, there are buttons for "Copy" and "Paste", and a checkbox labeled "Top".

```
changed state to up

%DUAL-5-NBRCHANGE: IP-EIGRP 11334: Neighbor 133.34.11.13
(Serial0/0/0) is up: new adjacency

Islamabad-Router4>en
Islamabad-Router4#show ip int brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    unassigned     YES unset
administratively down down
FastEthernet0/1    unassigned     YES unset
administratively down down
Serial0/0/0        133.34.11.14  YES manual up
up
Serial0/0/1        133.34.11.17  YES manual up
up
Serial0/1/0        unassigned     YES unset
administratively down down
Serial0/1/1        unassigned     YES unset
administratively down down
Vlan1             unassigned     YES unset
administratively down down
Islamabad-Router4#
```



Islamabad-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface FastEthernet0/0
no ip address
duplex auto
speed auto
shutdown
!
interface FastEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Serial0/0/0
ip address 133.34.11.14 255.255.255.252
!
interface Serial0/0/1
ip address 133.34.11.17 255.255.255.252
clock rate 64000
!
interface Serial0/1/0
no ip address
clock rate 2000000
shutdown
!
interface Serial0/1/1
no ip address
clock rate 2000000
shutdown
!
interface Vlan1
no ip address
shutdown
```

Ctrl+F6 to exit CLI focus

Top

Islamabad-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
router eigrp 11334
network 133.34.11.12 0.0.0.3
network 133.34.11.16 0.0.0.3
no auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Islamabad-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Islamabad-Router4#show ip route
Codes: C - connected, S - static, I - IGRP, 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

  10.0.0.0/29 is subnetted, 5 subnets
D EX  10.10.33.0 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
D EX  10.10.33.8 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
D EX  10.55.75.0 [170/27136256] via 133.34.11.18, 00:39:04, Serial0/0/1
D EX  10.55.75.8 [170/27136256] via 133.34.11.18, 00:39:04, Serial0/0/1
D EX  10.55.75.16 [170/27136256] via 133.34.11.18, 00:39:04, Serial0/0/1
  30.0.0.0/30 is subnetted, 10 subnets
D EX  30.11.33.0 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
D EX  30.11.33.4 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
D EX  30.11.33.8 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
D EX  30.11.33.12 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
D EX  30.11.33.16 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
D EX  30.11.33.20 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
D EX  30.11.33.24 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
D EX  30.11.33.28 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
D EX  30.11.33.32 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
D EX  30.11.33.36 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
  110.0.0.0/30 is subnetted, 3 subnets
```

Ctrl+F6 to exit CLI focus

Top

Islamabad-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
D      110.65.0.0 [90/3193856] via 133.34.11.18, 00:39:05, Serial0/0/1
D EX    110.65.0.4 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
D EX    110.65.0.8 [170/26112000] via 133.34.11.13, 00:39:04, Serial0/0/0
      113.0.0.0/30 is subnetted, 2 subnets
D EX    113.55.35.4 [170/27136256] via 133.34.11.18, 00:39:04, Serial0/0/1
D EX    113.55.35.8 [170/27136256] via 133.34.11.18, 00:39:04, Serial0/0/1
      133.34.0.0/16 is variably subnetted, 7 subnets, 2 masks
D      133.34.11.0/30 [90/3193856] via 133.34.11.18, 00:39:08, Serial0/0/1
D      133.34.11.4/30 [90/3193856] via 133.34.11.18, 00:39:06, Serial0/0/1
      [90/3193856] via 133.34.11.13, 00:39:04, Serial0/0/0
D      133.34.11.8/30 [90/2681856] via 133.34.11.13, 00:39:04, Serial0/0/0
C      133.34.11.12/30 is directly connected, Serial0/0/0
C      133.34.11.16/30 is directly connected, Serial0/0/1
D      133.34.11.20/30 [90/2681856] via 133.34.11.18, 00:39:08, Serial0/0/1
D      133.34.11.24/29 [90/2681856] via 133.34.11.18, 00:39:06, Serial0/0/1
      172.20.0.0/29 is subnetted, 2 subnets
D      172.20.255.0 [90/2684416] via 133.34.11.13, 00:39:04, Serial0/0/0
D      172.20.255.8 [90/2172416] via 133.34.11.18, 00:39:08, Serial0/0/1
      192.168.107.0/29 is subnetted, 3 subnets
D EX    192.168.107.0 [170/26112000] via 133.34.11.13, 00:38:43, Serial0/0/0
D EX    192.168.107.8 [170/26112000] via 133.34.11.13, 00:38:43, Serial0/0/0
D EX    192.168.107.16 [170/26112000] via 133.34.11.13, 00:38:43, Serial0/0/0
      207.10.6.0/30 is subnetted, 5 subnets
D EX    207.10.6.0 [170/26112000] via 133.34.11.13, 00:38:43, Serial0/0/0
D EX    207.10.6.4 [170/26112000] via 133.34.11.13, 00:38:43, Serial0/0/0
D EX    207.10.6.8 [170/26112000] via 133.34.11.13, 00:38:43, Serial0/0/0
D EX    207.10.6.12 [170/26112000] via 133.34.11.13, 00:38:43, Serial0/0/0
D EX    207.10.6.16 [170/26112000] via 133.34.11.13, 00:38:43, Serial0/0/0
```

Ctrl+F6 to exit CLI focus

Top

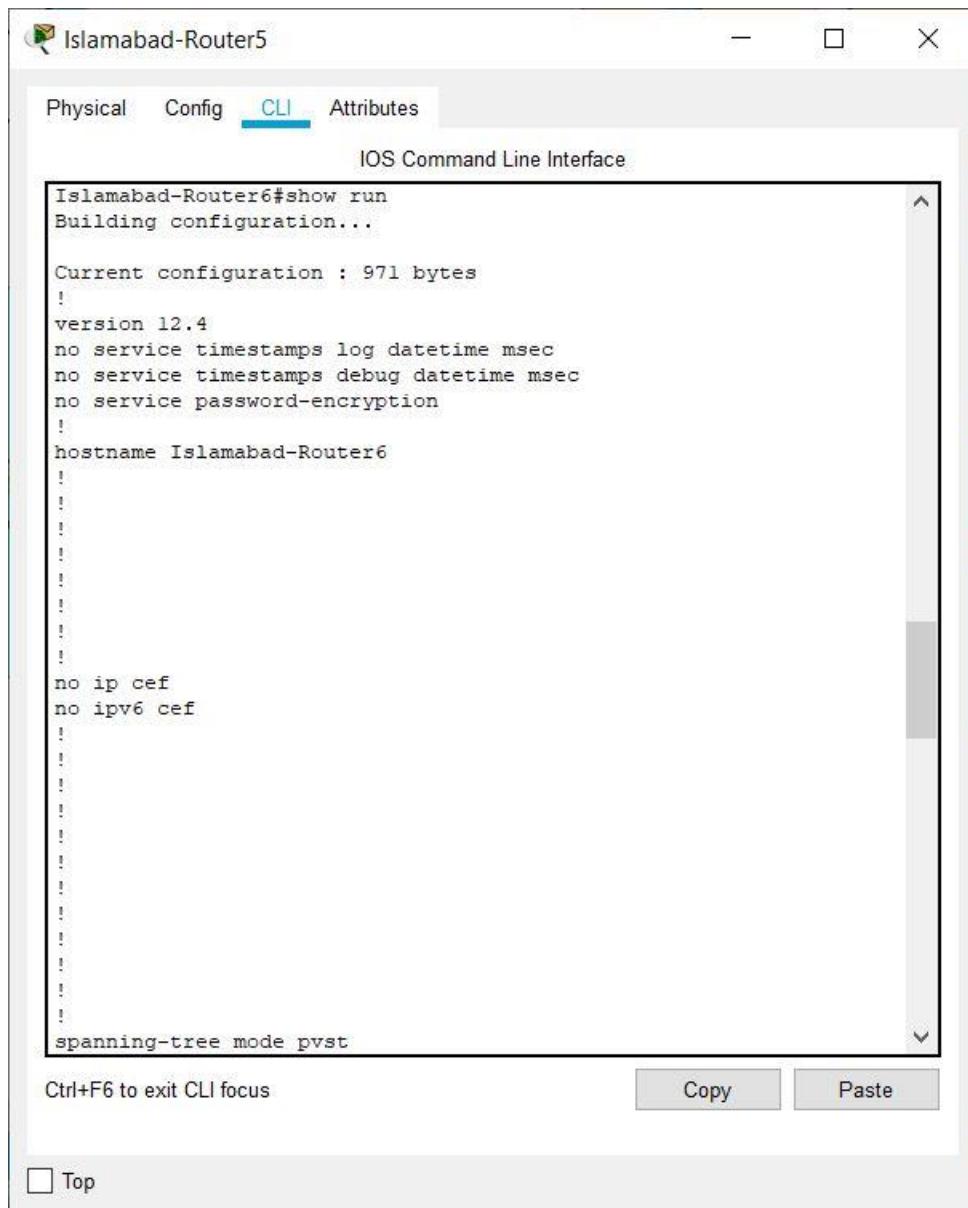
## Islamabad-Router5:

The screenshot shows a window titled "Islamabad-Router5" with a tab bar containing "Physical", "Config", "CLI" (which is selected), and "Attributes". Below the tabs is a title "IOS Command Line Interface". The main area displays the CLI session output:

```
Islamabad-Router6>int
Translating "int"...domain server (255.255.255.255)
% Unknown command or computer name, or unable to find computer
address

Islamabad-Router6>en
Islamabad-Router6#show ip int brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    unassigned     YES unset
administratively down down
FastEthernet0/1    unassigned     YES unset
administratively down down
Serial0/0/0        110.65.0.2   YES manual up
up
Serial0/0/1        133.34.11.1  YES manual up
up
Serial0/1/0        133.34.11.22 YES manual up
up
Serial0/1/1        unassigned     YES unset
administratively down down
Vlan1              unassigned     YES unset
administratively down down
Islamabad-Router6#
```

At the bottom of the window, there are buttons for "Copy" and "Paste". A checkbox labeled "Top" is located at the very bottom left.



Islamabad-Router5

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface FastEthernet0/0
no ip address
duplex auto
speed auto
shutdown
!
interface FastEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Serial0/0/0
ip address 110.65.0.2 255.255.255.252
!
interface Serial0/0/1
ip address 133.34.11.1 255.255.255.252
clock rate 64000
!
interface Serial0/1/0
ip address 133.34.11.22 255.255.255.252
!
interface Serial0/1/1
no ip address
clock rate 2000000
shutdown
!
interface Vlan1
no ip address
shutdown
!
```

Ctrl+F6 to exit CLI focus

Top

Islamabad-Router5

Physical Config **CLI** Attributes

IOS Command Line Interface

```
router eigrp 11334
network 110.65.0.0 0.0.0.3
network 133.34.11.0 0.0.0.3
network 133.34.11.20 0.0.0.3
no auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Islamabad-Router5

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Islamabad-Router6#show ip route
Codes: C - connected, S - static, I - IGRP, 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

      10.0.0.0/29 is subnetted, 5 subnets
D EX    10.10.33.0 [170/27136000] via 133.34.11.2, 00:42:08, Serial0/0/1
          [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
D EX    10.10.33.8 [170/27136000] via 133.34.11.2, 00:42:08, Serial0/0/1
          [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
D EX    10.55.75.0 [170/26112256] via 110.65.0.1, 00:42:07, Serial0/0/0
D EX    10.55.75.8 [170/26112256] via 110.65.0.1, 00:42:07, Serial0/0/0
D EX    10.55.75.16 [170/26112256] via 110.65.0.1, 00:42:07, Serial0/0/0
      30.0.0.0/30 is subnetted, 10 subnets
D EX    30.11.33.0 [170/27136000] via 133.34.11.2, 00:42:08, Serial0/0/1
          [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
D EX    30.11.33.4 [170/27136000] via 133.34.11.2, 00:42:08, Serial0/0/1
          [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
D EX    30.11.33.8 [170/27136000] via 133.34.11.2, 00:42:08, Serial0/0/1
          [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
D EX    30.11.33.12 [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
          [170/27136000] via 133.34.11.2, 00:42:07, Serial0/0/1
D EX    30.11.33.16 [170/27136000] via 133.34.11.2, 00:42:08, Serial0/0/1
          [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
D EX    30.11.33.20 [170/27136000] via 133.34.11.2, 00:42:08, Serial0/0/1
          [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
D EX    30.11.33.24 [170/27136000] via 133.34.11.2, 00:42:08, Serial0/0/1
          [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
D EX    30.11.33.28 [170/27136000] via 133.34.11.2, 00:42:08, Serial0/0/1
          [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
D EX    30.11.33.32 [170/27136000] via 133.34.11.2, 00:42:08, Serial0/0/1
          [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
D EX    30.11.33.36 [170/27136000] via 133.34.11.2, 00:42:08, Serial0/0/1
          [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
      110.0.0.0/30 is subnetted, 3 subnets
```

Ctrl+F6 to exit CLI focus

Top

**Copy**    **Paste**

Islamabad-Router5

Physical Config **CLI** Attributes

IOS Command Line Interface

```
C    110.65.0.0 is directly connected, Serial0/0/0
D EX  110.65.0.4 [170/27136000] via 133.34.11.2, 00:42:08, Serial0/0/1
      [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
D EX  110.65.0.8 [170/27136000] via 133.34.11.2, 00:42:08, Serial0/0/1
      [170/27136000] via 133.34.11.21, 00:42:07, Serial0/1/0
      113.0.0.0/30 is subnetted, 2 subnets
D EX  113.55.35.4 [170/26112256] via 110.65.0.1, 00:42:07, Serial0/0/0
D EX  113.55.35.8 [170/26112256] via 110.65.0.1, 00:42:07, Serial0/0/0
      133.34.0.0/16 is variably subnetted, 7 subnets, 2 masks
C    133.34.11.0/30 is directly connected, Serial0/0/1
D    133.34.11.4/30 [90/2681856] via 133.34.11.2, 00:42:09, Serial0/0/1
D    133.34.11.8/30 [90/3193856] via 133.34.11.2, 00:42:08, Serial0/0/1
D    133.34.11.12/30 [90/3193856] via 133.34.11.21, 00:42:08, Serial0/1/0
D    133.34.11.16/30 [90/2681856] via 133.34.11.21, 00:42:11, Serial0/1/0
C    133.34.11.20/30 is directly connected, Serial0/1/0
D    133.34.11.24/29 [90/2681856] via 133.34.11.2, 00:42:09, Serial0/0/1
      [90/2681856] via 133.34.11.21, 00:42:09, Serial0/1/0
      172.20.0.0/29 is subnetted, 2 subnets
D    172.20.255.0 [90/2684416] via 133.34.11.2, 00:42:08, Serial0/0/1
D    172.20.255.8 [90/2172416] via 133.34.11.21, 00:42:11, Serial0/1/0
      192.168.107.0/29 is subnetted, 3 subnets
D EX  192.168.107.0 [170/27136000] via 133.34.11.21, 00:41:46, Serial0/1/0
      [170/27136000] via 133.34.11.2, 00:41:46, Serial0/0/1
D EX  192.168.107.8 [170/27136000] via 133.34.11.21, 00:41:46, Serial0/1/0
      [170/27136000] via 133.34.11.2, 00:41:46, Serial0/0/1
D EX  192.168.107.16 [170/27136000] via 133.34.11.2, 00:41:46, Serial0/0/1
      [170/27136000] via 133.34.11.21, 00:41:46, Serial0/1/0
      207.10.6.0/30 is subnetted, 5 subnets
D EX  207.10.6.0 [170/27136000] via 133.34.11.2, 00:41:46, Serial0/0/1
      [170/27136000] via 133.34.11.21, 00:41:46, Serial0/1/0
D EX  207.10.6.4 [170/27136000] via 133.34.11.2, 00:41:46, Serial0/0/1
      [170/27136000] via 133.34.11.21, 00:41:46, Serial0/1/0
D EX  207.10.6.8 [170/27136000] via 133.34.11.21, 00:41:46, Serial0/1/0
      [170/27136000] via 133.34.11.2, 00:41:46, Serial0/0/1
D EX  207.10.6.12 [170/27136000] via 133.34.11.21, 00:41:46, Serial0/1/0
      [170/27136000] via 133.34.11.2, 00:41:46, Serial0/0/1
D EX  207.10.6.16 [170/27136000] via 133.34.11.21, 00:41:46, Serial0/1/0
      [170/27136000] via 133.34.11.2, 00:41:46, Serial0/0/1

Islamabad-Router6#
Islamabad-Router6#
Islamabad-Router6#
```

Ctrl+F6 to exit CLI focus

Top

**Copy**   **Paste**

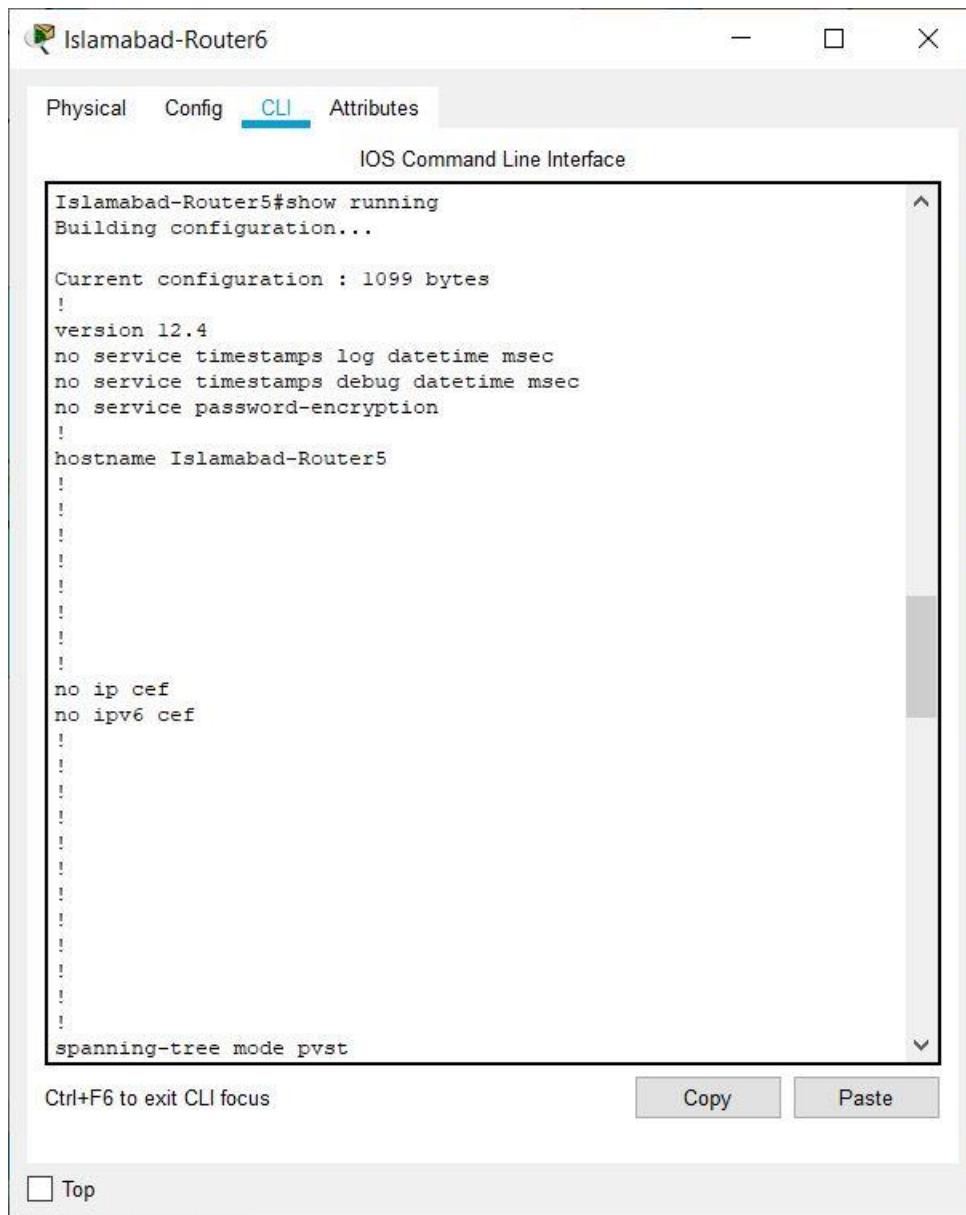
## Islamabad-Router6:

The screenshot shows a Cisco IOS Command Line Interface window titled "Islamabad-Router6". The window has tabs for "Physical", "Config", "CLI" (which is selected), and "Attributes". The main area displays the output of several commands:

```
(Serial0/0/0) is up: new adjacency
%DUAL-5-NBRCHANGE: IP-EIGRP 11334: Neighbor 133.34.11.14
(Serial0/0/1) is up: new adjacency

Islamabad-Router5>en
Islamabad-Router5#show ip int brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    unassigned     YES unset
administratively down down
FastEthernet0/1    unassigned     YES unset
administratively down down
Serial0/0/0        133.34.11.10  YES manual up
up
Serial0/0/1        133.34.11.13  YES manual up
up
Serial0/1/0        110.65.0.5   YES manual up
up
Serial0/1/1        unassigned     YES unset
administratively down down
Vlan1              unassigned     YES unset
administratively down down
Islamabad-Router5#
```

At the bottom of the window, there are buttons for "Copy" and "Paste". Below the window, there is a small checkbox labeled "Top".



Islamabad-Router6

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface FastEthernet0/0
no ip address
duplex auto
speed auto
shutdown
!
interface FastEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Serial0/0/0
ip address 133.34.11.10 255.255.255.252
!
interface Serial0/0/1
ip address 133.34.11.13 255.255.255.252
clock rate 64000
!
interface Serial0/1/0
ip address 110.65.0.5 255.255.255.252
clock rate 64000
!
interface Serial0/1/1
no ip address
clock rate 2000000
shutdown
!
interface Vlan1
no ip address
shutdown
!
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Islamabad-Router6

Physical Config **CLI** Attributes

IOS Command Line Interface

```
!
router eigrp 11334
 redistribute rip metric 100 0 255 10 5
 network 133.34.11.8 0.0.0.3
 network 133.34.11.12 0.0.0.3
 no auto-summary
!
router rip
 version 2
 redistribute eigrp 11334 metric 2
 network 110.0.0.0
 no auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
 login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Islamabad-Router6

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Islamabad-Router5#show ip route
Codes: C - connected, S - static, I - IGRP, 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

  10.0.0.0/29 is subnetted, 5 subnets
R    10.10.33.0 [120/2] via 110.65.0.6, 00:00:24, Serial0/1/0
R    10.10.33.8 [120/2] via 110.65.0.6, 00:00:24, Serial0/1/0
R    10.55.75.0 [120/2] via 133.34.11.9, 00:44:34, Serial0/0/0
R    10.55.75.8 [120/2] via 133.34.11.9, 00:44:34, Serial0/0/0
R    10.55.75.16 [120/2] via 133.34.11.9, 00:44:34, Serial0/0/0
      30.0.0.0/30 is subnetted, 10 subnets
R    30.11.33.0 [120/1] via 110.65.0.6, 00:00:24, Serial0/1/0
R    30.11.33.4 [120/2] via 110.65.0.6, 00:00:24, Serial0/1/0
R    30.11.33.8 [120/3] via 110.65.0.6, 00:00:24, Serial0/1/0
R    30.11.33.12 [120/3] via 110.65.0.6, 00:00:24, Serial0/1/0
R    30.11.33.16 [120/2] via 110.65.0.6, 00:00:24, Serial0/1/0
R    30.11.33.20 [120/1] via 110.65.0.6, 00:00:24, Serial0/1/0
R    30.11.33.24 [120/3] via 110.65.0.6, 00:00:24, Serial0/1/0
R    30.11.33.28 [120/2] via 110.65.0.6, 00:00:24, Serial0/1/0
R    30.11.33.32 [120/2] via 110.65.0.6, 00:00:24, Serial0/1/0
R    30.11.33.36 [120/2] via 110.65.0.6, 00:00:24, Serial0/1/0
      110.0.0.0/30 is subnetted, 3 subnets
D    110.65.0.0 [90/3705856] via 133.34.11.9, 00:44:35, Serial0/0/0
          [90/3705856] via 133.34.11.14, 00:44:35, Serial0/0/1
C    110.65.0.4 is directly connected, Serial0/1/0
R    110.65.0.8 [120/5] via 110.65.0.6, 00:00:24, Serial0/1/0
      113.0.0.0/30 is subnetted, 2 subnets
```

Ctrl+F6 to exit CLI focus

Top

**Copy** **Paste**

Islamabad-Router6

Physical Config **CLI** Attributes

IOS Command Line Interface

```
R    113.55.35.4 [120/2] via 133.34.11.9, 00:44:34, Serial0/0/0
R    113.55.35.8 [120/2] via 133.34.11.9, 00:44:34, Serial0/0/0
  133.34.0.0/16 is variably subnetted, 7 subnets, 2 masks
D    133.34.11.0/30 [90/3193856] via 133.34.11.9, 00:44:35, Serial0/0/0
D    133.34.11.4/30 [90/2681856] via 133.34.11.9, 00:44:35, Serial0/0/0
C    133.34.11.8/30 is directly connected, Serial0/0/0
C    133.34.11.12/30 is directly connected, Serial0/0/1
D    133.34.11.16/30 [90/2681856] via 133.34.11.14, 00:44:35, Serial0/0/1
D    133.34.11.20/30 [90/3193856] via 133.34.11.14, 00:44:35, Serial0/0/1
D    133.34.11.24/29 [90/3193856] via 133.34.11.9, 00:44:35, Serial0/0/0
          [90/3193856] via 133.34.11.14, 00:44:35, Serial0/0/1
  172.20.0.0/29 is subnetted, 2 subnets
D    172.20.255.0 [90/2172416] via 133.34.11.9, 00:44:37, Serial0/0/0
D    172.20.255.8 [90/2684416] via 133.34.11.14, 00:44:35, Serial0/0/1
  192.168.107.0/29 is subnetted, 3 subnets
R    192.168.107.0 [120/5] via 110.65.0.6, 00:00:24, Serial0/1/0
R    192.168.107.8 [120/5] via 110.65.0.6, 00:00:24, Serial0/1/0
R    192.168.107.16 [120/5] via 110.65.0.6, 00:00:24, Serial0/1/0
  207.10.6.0/30 is subnetted, 5 subnets
R    207.10.6.0 [120/5] via 110.65.0.6, 00:00:24, Serial0/1/0
R    207.10.6.4 [120/5] via 110.65.0.6, 00:00:24, Serial0/1/0
R    207.10.6.8 [120/5] via 110.65.0.6, 00:00:24, Serial0/1/0
R    207.10.6.12 [120/5] via 110.65.0.6, 00:00:24, Serial0/1/0
R    207.10.6.16 [120/5] via 110.65.0.6, 00:00:24, Serial0/1/0
```

Ctrl+F6 to exit CLI focus

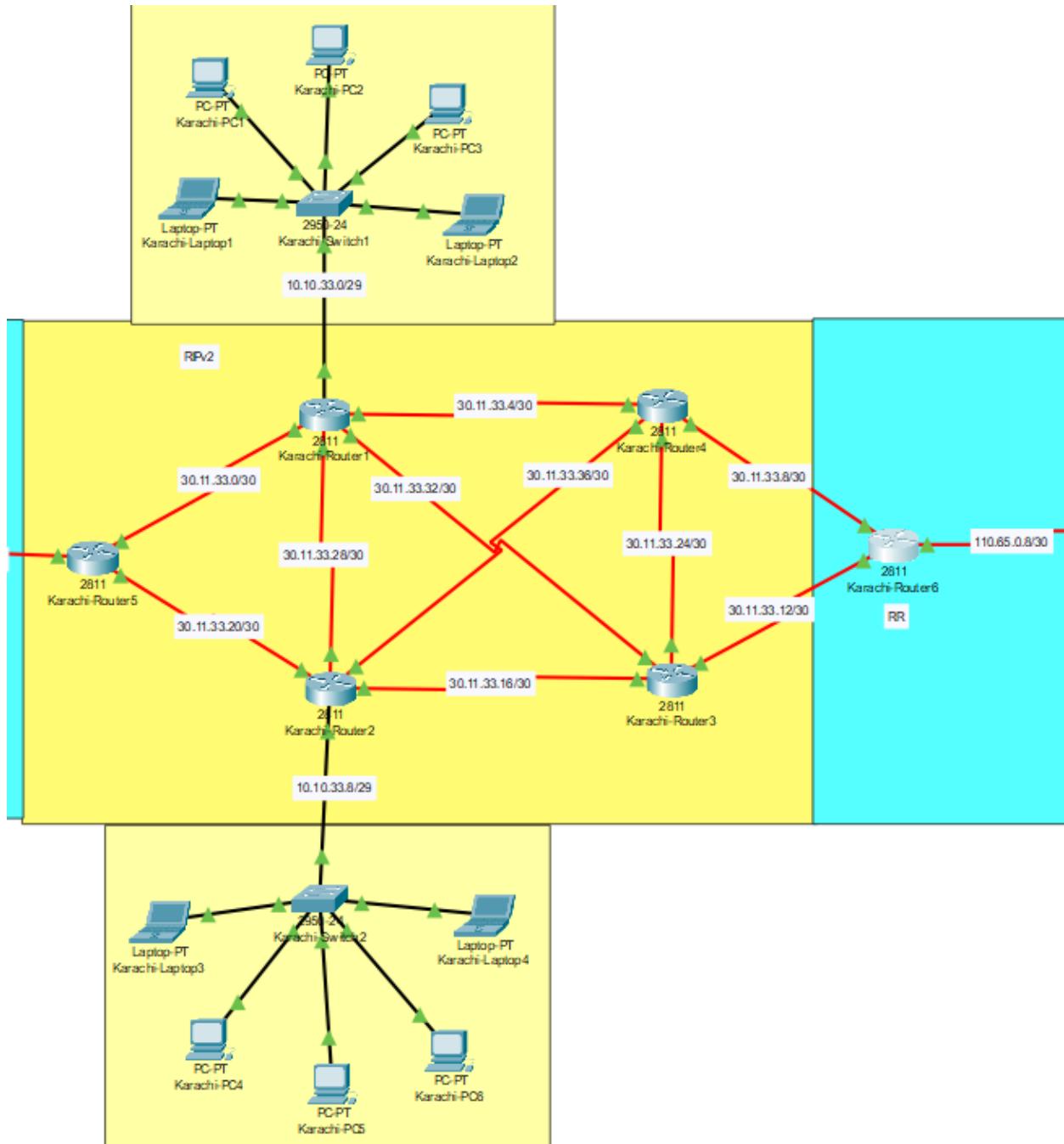
Top

## Example Pings:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
●	Successful	Islamabad-PC1	Islamabad-PC5	ICMP		0.000	N	0	(edit)	(delete)
●	Successful	Islamabad-Router5	Islamabad-Laptop2	ICMP		0.000	N	1	(edit)	(delete)
●	Successful	Islamabad-Router1	Islamabad-Router4	ICMP		0.000	N	2	(edit)	(delete)

### 3.Muhammad Nomir (11330):

#### Karachi Topology:



## Karachi-Router1:

The screenshot shows a software interface for managing network devices. At the top, there's a title bar with the device name "Karachi-Router1". Below it is a navigation bar with tabs: "Physical", "Config", "CLI" (which is selected and highlighted in blue), and "Attributes". The main area is titled "IOS Command Line Interface". It displays several lines of text output from the router's CLI, including log messages about interface states and a detailed table of interface configurations. At the bottom of the CLI window, there are buttons for "Copy" and "Paste", and a checkbox labeled "Top".

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
%DHCPCD-4-PING_CONFLICT: DHCP address conflict: server pinged 10.10.33.1.

Karachi-Router1>en
Karachi-Router1#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0     10.10.33.1    YES manual up
up
FastEthernet0/1     unassigned     YES unset administratively
down down
Serial0/0/0         30.11.33.2    YES manual up
up
Serial0/0/1         30.11.33.5    YES manual up
up
Serial0/1/0         30.11.33.29   YES manual up
up
Serial0/1/1         30.11.33.33   YES manual up
up
Vlan1              unassigned     YES unset administratively
down down
Karachi-Router1#
```

Ctrl+F6 to exit CLI focus     

Top

Karachi-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Karachi-Router1#show running
Building configuration...

Current configuration : 1082 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Karachi-Router1
!
!
!
!
ip dhcp pool Nomir_11330_Pool1
  network 10.10.33.0 255.255.255.248
  default-router 10.10.33.1
  dns-server 10.55.75.11
!
!
!
no ip cef
no ipv6 cef
!
```

Ctrl+F6 to exit CLI focus

Top

Karachi-Router1

Physical    Config    **CLI**    Attributes

IOS Command Line Interface

```
!
!
spanning-tree mode pvst
!
!
!
!
!
!
interface FastEthernet0/0
 ip address 10.10.33.1 255.255.255.248
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 ip address 30.11.33.2 255.255.255.252
!
interface Serial0/0/1
 ip address 30.11.33.5 255.255.255.252
 clock rate 64000
!
interface Serial0/1/0
 ip address 30.11.33.29 255.255.255.252
 clock rate 64000
!
interface Serial0/1/1
 ip address 30.11.33.33 255.255.255.252
 clock rate 64000
```

Ctrl+F6 to exit CLI focus

Top

Karachi-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
!
interface Vlan1
no ip address
shutdown
!
router rip
version 2
network 10.0.0.0
network 30.0.0.0
no auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Karachi-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Karachi-Router1#show ip route
Codes: C - connected, S - static, I - IGRP, 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

      10.0.0.0/29 is subnetted, 5 subnets
C        10.10.33.0 is directly connected, FastEthernet0/0
R        10.10.33.8 [120/1] via 30.11.33.30, 00:00:18, Serial0/1/0
R        10.55.75.0 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
R        10.55.75.8 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
R        10.55.75.16 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
      30.0.0.0/30 is subnetted, 10 subnets
C        30.11.33.0 is directly connected, Serial0/0/0
C        30.11.33.4 is directly connected, Serial0/0/1
R        30.11.33.8 [120/1] via 30.11.33.6, 00:00:04, Serial0/0/1
R        30.11.33.12 [120/1] via 30.11.33.34, 00:00:24, Serial0/1/1
R        30.11.33.16 [120/1] via 30.11.33.34, 00:00:24, Serial0/1/1
          [120/1] via 30.11.33.30, 00:00:18, Serial0/1/0
R        30.11.33.20 [120/1] via 30.11.33.30, 00:00:18, Serial0/1/0
          [120/1] via 30.11.33.1, 00:00:10, Serial0/0/0
R        30.11.33.24 [120/1] via 30.11.33.34, 00:00:24, Serial0/1/1
          [120/1] via 30.11.33.6, 00:00:04, Serial0/0/1
C        30.11.33.28 is directly connected, Serial0/1/0
C        30.11.33.32 is directly connected, Serial0/1/1
R        30.11.33.36 [120/1] via 30.11.33.6, 00:00:04, Serial0/0/1
          [120/1] via 30.11.33.30, 00:00:18, Serial0/1/0
      110.0.0.0/30 is subnetted, 3 subnets
R        110.65.0.0 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
R        110.65.0.4 [120/1] via 30.11.33.1, 00:00:10, Serial0/0/0
R        110.65.0.8 [120/3] via 30.11.33.34, 00:00:24, Serial0/1/1
          [120/3] via 30.11.33.6, 00:00:04, Serial0/0/1
      113.0.0.0/30 is subnetted, 2 subnets
```

Ctrl+F6 to exit CLI focus     

Top

Karachi-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
R      113.55.35.4 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
R      113.55.35.8 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
  133.34.0.0/30 is subnetted, 6 subnets
R      133.34.11.0 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
R      133.34.11.4 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
R      133.34.11.8 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
R      133.34.11.12 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
R      133.34.11.16 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
R      133.34.11.20 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
  172.20.0.0/29 is subnetted, 2 subnets
R      172.20.255.0 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
R      172.20.255.8 [120/3] via 30.11.33.1, 00:00:10, Serial0/0/0
  192.168.107.0/29 is subnetted, 2 subnets
R      192.168.107.0 [120/3] via 30.11.33.34, 00:00:24, Serial0/1/1
          [120/3] via 30.11.33.6, 00:00:04, Serial0/0/1
R      192.168.107.16 [120/3] via 30.11.33.34, 00:00:24, Serial0/1/1
          [120/3] via 30.11.33.6, 00:00:04, Serial0/0/1
  207.10.6.0/30 is subnetted, 5 subnets
R      207.10.6.0 [120/3] via 30.11.33.34, 00:00:24, Serial0/1/1
          [120/3] via 30.11.33.6, 00:00:04, Serial0/0/1
R      207.10.6.4 [120/3] via 30.11.33.34, 00:00:24, Serial0/1/1
          [120/3] via 30.11.33.6, 00:00:04, Serial0/0/1
R      207.10.6.8 [120/3] via 30.11.33.34, 00:00:24, Serial0/1/1
          [120/3] via 30.11.33.6, 00:00:04, Serial0/0/1
R      207.10.6.12 [120/3] via 30.11.33.34, 00:00:24, Serial0/1/1
          [120/3] via 30.11.33.6, 00:00:04, Serial0/0/1
R      207.10.6.16 [120/3] via 30.11.33.34, 00:00:24, Serial0/1/1
          [120/3] via 30.11.33.6, 00:00:04, Serial0/0/1
```

Ctrl+F6 to exit CLI focus      **Copy**      **Paste**

Top

## Karachi-Router2:

The screenshot shows a software window titled "Karachi-Router2" with a green header bar. Below the header are four tabs: "Physical", "Config", "CLI" (which is highlighted in blue), and "Attributes". The main area is labeled "IOS Command Line Interface". Inside this area, there is a scrollable terminal window displaying the following text:

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/1, changed state to up
%DHCPCD-4-PING_CONFLICT: DHCP address conflict: server pinged 10.10.33.9.

Karachi-Router2>en
Karachi-Router2#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    10.10.33.9     YES manual up
up
FastEthernet0/1    unassigned      YES unset administratively
down down
Serial0/0/0        30.11.33.18   YES manual up
up
Serial0/0/1        30.11.33.21   YES manual up
up
Serial0/1/0        30.11.33.30   YES manual up
up
Serial0/1/1        30.11.33.38   YES manual up
up
Vlan1             unassigned      YES unset administratively
down down
Karachi-Router2#
```

At the bottom left of the terminal window, it says "Ctrl+F6 to exit CLI focus". At the bottom right are two buttons: "Copy" and "Paste". Below the terminal window, there is a small checkbox labeled "Top".

Karachi-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Karachi-Router2#show running
Building configuration...

Current configuration : 1048 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Karachi-Router2
!
!
!
!
!
ip dhcp pool Nomir_11330_Pool2
  network 10.10.33.8 255.255.255.248
  default-router 10.10.33.9
  dns-server 10.55.75.12
!
!
!
no ip cef
no ipv6 cef
!
```

Ctrl+F6 to exit CLI focus

Top

Karachi-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
spanning-tree mode pvst
!
!
!
!
!
!
interface FastEthernet0/0
 ip address 10.10.33.9 255.255.255.248
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 ip address 30.11.33.18 255.255.255.252
!
interface Serial0/0/1
 ip address 30.11.33.21 255.255.255.252
 clock rate 64000
!
interface Serial0/1/0
 ip address 30.11.33.30 255.255.255.252
!
interface Serial0/1/1
 ip address 30.11.33.38 255.255.255.252
!
```

Ctrl+F6 to exit CLI focus

Top

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Karachi-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface Vlan1
no ip address
shutdown
!
router rip
version 2
network 10.0.0.0
network 30.0.0.0
no auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Karachi-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Karachi-Router2#show ip route
Codes: C - connected, S - static, I - IGRP, 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

      10.0.0.0/29 is subnetted, 5 subnets
R        10.10.33.0 [120/1] via 30.11.33.29, 00:00:13, Serial0/1/0
C        10.10.33.8 is directly connected, FastEthernet0/0
R        10.55.75.0 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
R        10.55.75.8 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
R        10.55.75.16 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
      30.0.0.0/30 is subnetted, 10 subnets
R          30.11.33.0 [120/1] via 30.11.33.22, 00:00:19, Serial0/0/1
                  [120/1] via 30.11.33.29, 00:00:13, Serial0/1/0
R          30.11.33.4 [120/1] via 30.11.33.29, 00:00:13, Serial0/1/0
                  [120/1] via 30.11.33.37, 00:00:18, Serial0/1/1
R          30.11.33.8 [120/1] via 30.11.33.37, 00:00:18, Serial0/1/1
R          30.11.33.12 [120/1] via 30.11.33.17, 00:00:08, Serial0/0/0
C          30.11.33.16 is directly connected, Serial0/0/0
C          30.11.33.20 is directly connected, Serial0/0/1
R          30.11.33.24 [120/1] via 30.11.33.17, 00:00:08, Serial0/0/0
                  [120/1] via 30.11.33.37, 00:00:18, Serial0/1/1
C          30.11.33.28 is directly connected, Serial0/1/0
R          30.11.33.32 [120/1] via 30.11.33.17, 00:00:08, Serial0/0/0
                  [120/1] via 30.11.33.29, 00:00:13, Serial0/1/0
C          30.11.33.36 is directly connected, Serial0/1/1
      110.0.0.0/30 is subnetted, 3 subnets
```

Ctrl+F6 to exit CLI focus     

Top

Karachi-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
R      110.65.0.0 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
R      110.65.0.4 [120/1] via 30.11.33.22, 00:00:19, Serial0/0/1
R      110.65.0.8 [120/3] via 30.11.33.17, 00:00:08, Serial0/0/0
                  [120/3] via 30.11.33.37, 00:00:18, Serial0/1/1
      113.0.0.0/30 is subnetted, 2 subnets
R          113.55.35.4 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
R          113.55.35.8 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
      133.34.0.0/30 is subnetted, 6 subnets
R          133.34.11.0 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
R          133.34.11.4 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
R          133.34.11.8 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
R          133.34.11.12 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
R          133.34.11.16 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
R          133.34.11.20 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
      172.20.0.0/29 is subnetted, 2 subnets
R          172.20.255.0 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
R          172.20.255.8 [120/3] via 30.11.33.22, 00:00:19, Serial0/0/1
      192.168.107.0/29 is subnetted, 2 subnets
R          192.168.107.0 [120/3] via 30.11.33.17, 00:00:08, Serial0/0/0
                  [120/3] via 30.11.33.37, 00:00:18, Serial0/1/1
R          192.168.107.16 [120/3] via 30.11.33.37, 00:00:18, Serial0/1/1
                  [120/3] via 30.11.33.17, 00:00:08, Serial0/0/0
      207.10.6.0/30 is subnetted, 5 subnets
R          207.10.6.0 [120/3] via 30.11.33.17, 00:00:08, Serial0/0/0
                  [120/3] via 30.11.33.37, 00:00:18, Serial0/1/1
R          207.10.6.4 [120/3] via 30.11.33.17, 00:00:08, Serial0/0/0
                  [120/3] via 30.11.33.37, 00:00:18, Serial0/1/1
R          207.10.6.8 [120/3] via 30.11.33.37, 00:00:18, Serial0/1/1
                  [120/3] via 30.11.33.17, 00:00:08, Serial0/0/0
R          207.10.6.12 [120/3] via 30.11.33.17, 00:00:08, Serial0/0/0
                  [120/3] via 30.11.33.37, 00:00:18, Serial0/1/1
R          207.10.6.16 [120/3] via 30.11.33.37, 00:00:18, Serial0/1/1
                  [120/3] via 30.11.33.17, 00:00:08, Serial0/0/0
```

Karachi-Router2#

Ctrl+F6 to exit CLI focus

Top

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## Karachi-Router3:

The screenshot shows a software window titled "Karachi-Router3" with a toolbar at the top featuring icons for Physical, Config, CLI (which is highlighted in blue), and Attributes. The main area is labeled "IOS Command Line Interface". It displays the following output:

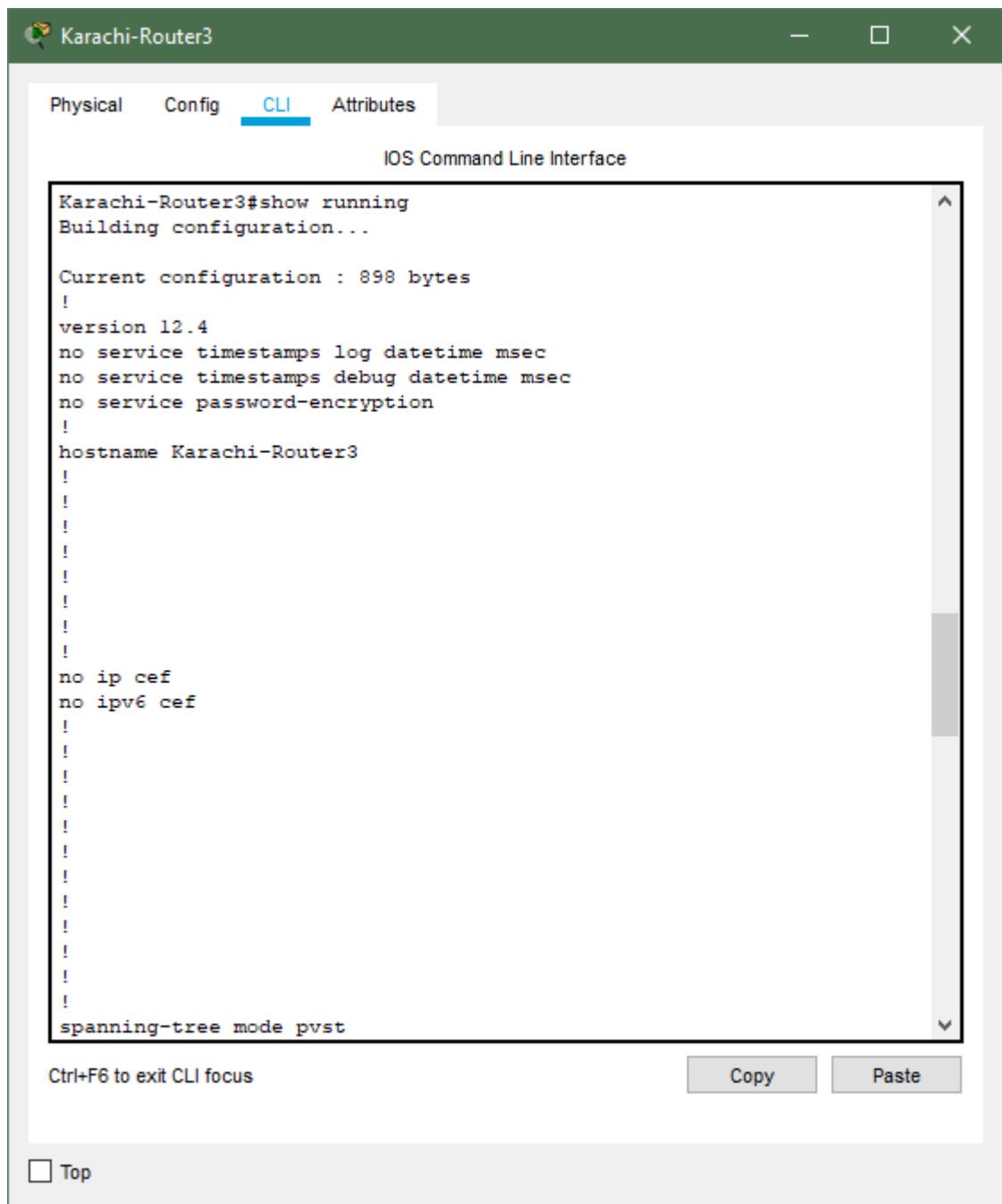
```
state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed
state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed
state to up

Karachi-Router3>en
Karachi-Router3#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    unassigned      YES unset administratively
down down
FastEthernet0/1    unassigned      YES unset administratively
down down
Serial0/0/0        30.11.33.14   YES manual up
up
Serial0/0/1        30.11.33.17   YES manual up
up
Serial0/1/0        30.11.33.26   YES manual up
up
Serial0/1/1        30.11.33.34   YES manual up
up
Vlan1             unassigned      YES unset administratively
down down
Karachi-Router3#
```

At the bottom left, it says "Ctrl+F6 to exit CLI focus". On the right, there are "Copy" and "Paste" buttons. At the very bottom left is a "Top" button with an upward arrow icon.



Karachi-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface FastEthernet0/0
no ip address
duplex auto
speed auto
shutdown
!
interface FastEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Serial0/0/0
ip address 30.11.33.14 255.255.255.252
!
interface Serial0/0/1
ip address 30.11.33.17 255.255.255.252
clock rate 64000
!
interface Serial0/1/0
ip address 30.11.33.26 255.255.255.252
!
interface Serial0/1/1
ip address 30.11.33.34 255.255.255.252
!
interface Vlan1
no ip address
shutdown
!
router rip
version 2
network 30.0.0.0
no auto-summary
!
```

Ctrl+F6 to exit CLI focus

Top

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Karachi-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
 login
!
!
end

Karachi-Router3#
```

Ctrl+F6 to exit CLI focus

Top

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Karachi-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Karachi-Router3#show ip route
Codes: C - connected, S - static, I - IGRP, 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

  10.0.0.0/29 is subnetted, 5 subnets
R    10.10.33.0 [120/1] via 30.11.33.33, 00:00:13, Serial0/1/1
R    10.10.33.8 [120/1] via 30.11.33.18, 00:00:04, Serial0/0/1
R    10.55.75.0 [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
          [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
R    10.55.75.8 [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
          [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
R    10.55.75.16 [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
          [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
  30.0.0.0/30 is subnetted, 10 subnets
R    30.11.33.0 [120/1] via 30.11.33.33, 00:00:13, Serial0/1/1
R    30.11.33.4 [120/1] via 30.11.33.33, 00:00:13, Serial0/1/1
          [120/1] via 30.11.33.25, 00:00:21, Serial0/1/0
R    30.11.33.8 [120/1] via 30.11.33.25, 00:00:21, Serial0/1/0
          [120/1] via 30.11.33.13, 00:00:25, Serial0/0/0
C    30.11.33.12 is directly connected, Serial0/0/0
C    30.11.33.16 is directly connected, Serial0/0/1
R    30.11.33.20 [120/1] via 30.11.33.18, 00:00:04, Serial0/0/1
C    30.11.33.24 is directly connected, Serial0/1/0
R    30.11.33.28 [120/1] via 30.11.33.33, 00:00:13, Serial0/1/1
          [120/1] via 30.11.33.18, 00:00:04, Serial0/0/1
C    30.11.33.32 is directly connected, Serial0/1/1
R    30.11.33.36 [120/1] via 30.11.33.25, 00:00:21, Serial0/1/0
          [120/1] via 30.11.33.18, 00:00:04, Serial0/0/1
  110.0.0.0/30 is subnetted, 3 subnets

Ctrl+F6 to exit CLI focus
```

Top

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Karachi-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
R      110.65.0.0 [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
          [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
R      110.65.0.4 [120/2] via 30.11.33.18, 00:00:04, Serial0/0/1
          [120/2] via 30.11.33.33, 00:00:13, Serial0/1/1
R      110.65.0.8 [120/2] via 30.11.33.13, 00:00:25, Serial0/0/0
113.0.0.0/30 is subnetted, 2 subnets
R      113.55.35.4 [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
          [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
R      113.55.35.8 [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
          [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
133.34.0.0/30 is subnetted, 6 subnets
R      133.34.11.0 [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
          [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
R      133.34.11.4 [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
          [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
R      133.34.11.8 [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
          [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
R      133.34.11.12 [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
          [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
R      133.34.11.16 [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
          [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
R      133.34.11.20 [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
          [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
172.20.0.0/29 is subnetted, 2 subnets
R      172.20.255.0 [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
          [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
R      172.20.255.8 [120/4] via 30.11.33.18, 00:00:04, Serial0/0/1
          [120/4] via 30.11.33.33, 00:00:13, Serial0/1/1
192.168.107.0/29 is subnetted, 2 subnets
R      192.168.107.0 [120/2] via 30.11.33.13, 00:00:25, Serial0/0/0
R      192.168.107.16 [120/2] via 30.11.33.13, 00:00:25, Serial0/0/0
207.10.6.0/30 is subnetted, 5 subnets
R      207.10.6.0 [120/2] via 30.11.33.13, 00:00:25, Serial0/0/0
R      207.10.6.4 [120/2] via 30.11.33.13, 00:00:25, Serial0/0/0
R      207.10.6.8 [120/2] via 30.11.33.13, 00:00:25, Serial0/0/0
R      207.10.6.12 [120/2] via 30.11.33.13, 00:00:25, Serial0/0/0
R      207.10.6.16 [120/2] via 30.11.33.13, 00:00:25, Serial0/0/0
```

Ctrl+F6 to exit CLI focus

Top

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## Karachi-Router4:

The screenshot shows a software window titled "Karachi-Router4" with a toolbar at the top featuring icons for Physical, Config, CLI (which is highlighted in blue), and Attributes. The main area is labeled "IOS Command Line Interface". It displays the following output:

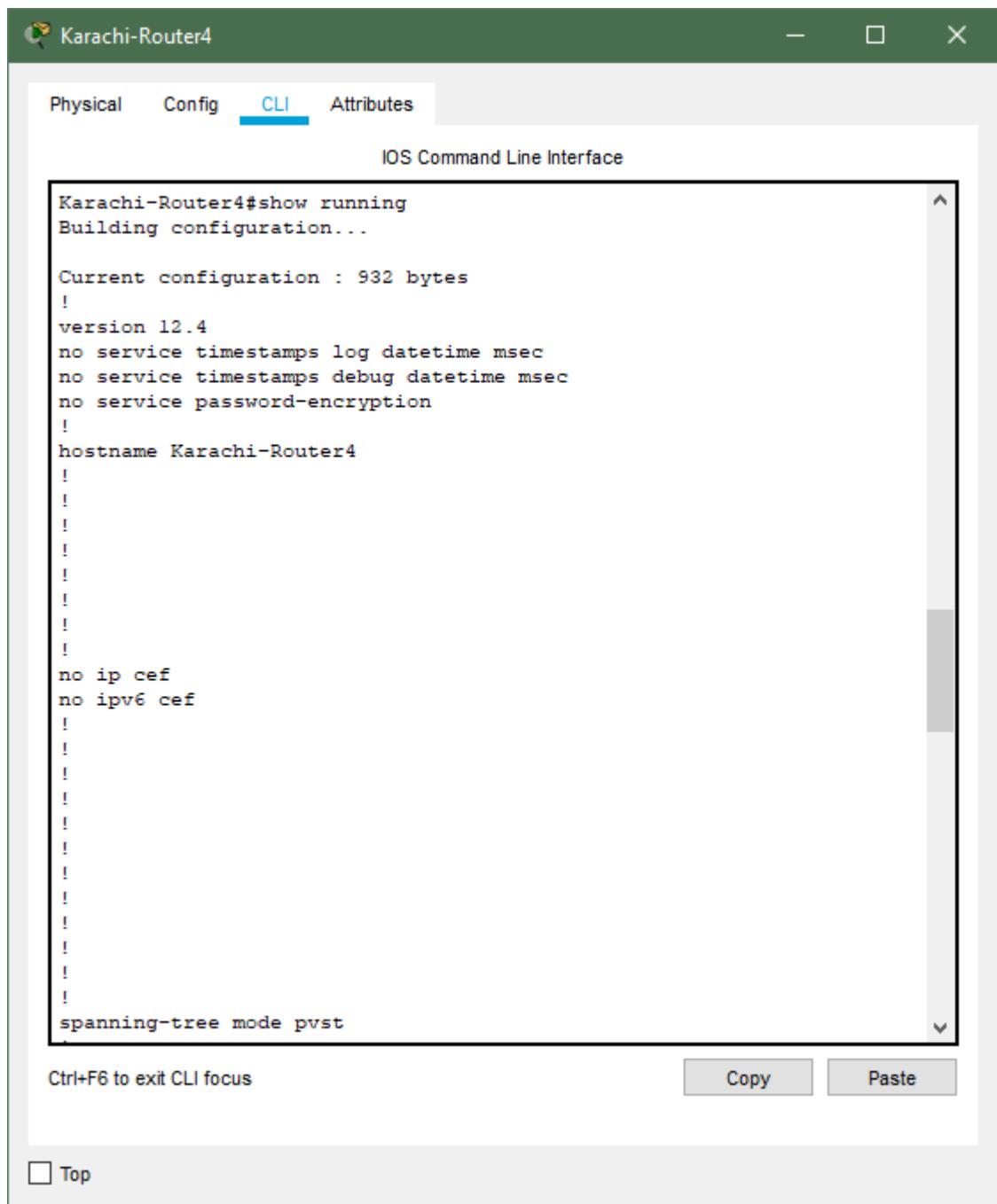
```
state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed
state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed
state to up

Karachi-Router4>en
Karachi-Router4#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    unassigned      YES unset administratively
down down
FastEthernet0/1    unassigned      YES unset administratively
down down
Serial0/0/0        30.11.33.6    YES manual up
up
Serial0/0/1        30.11.33.9    YES manual up
up
Serial0/1/0        30.11.33.25   YES manual up
up
Serial0/1/1        30.11.33.37   YES manual up
up
Vlan1             unassigned      YES unset administratively
down down
Karachi-Router4#
```

At the bottom left, it says "Ctrl+F6 to exit CLI focus". On the right, there are "Copy" and "Paste" buttons. At the very bottom left is a "Top" button with an upward arrow icon.



Karachi-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface FastEthernet0/0
no ip address
duplex auto
speed auto
shutdown
!
interface FastEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Serial0/0/0
ip address 30.11.33.6 255.255.255.252
!
interface Serial0/0/1
ip address 30.11.33.9 255.255.255.252
clock rate 64000
!
interface Serial0/1/0
ip address 30.11.33.25 255.255.255.252
clock rate 64000
!
interface Serial0/1/1
ip address 30.11.33.37 255.255.255.252
clock rate 64000
!
interface Vlan1
no ip address
shutdown
!
router rip
version 2
network 30.0.0.0
no auto-summary
```

Ctrl+F6 to exit CLI focus

Top

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Karachi-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
 login
!
!
end

Karachi-Router4#
```

Ctrl+F6 to exit CLI focus

Top

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Karachi-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Karachi-Router4#show ip route
Codes: C - connected, S - static, I - IGRP, 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

  10.0.0.0/29 is subnetted, 5 subnets
R    10.10.33.0 [120/1] via 30.11.33.5, 00:00:03, Serial0/0/0
R    10.10.33.8 [120/1] via 30.11.33.38, 00:00:24, Serial0/1/1
R    10.55.75.0 [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
          [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
R    10.55.75.8 [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
          [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
R    10.55.75.16 [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
          [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
  30.0.0.0/30 is subnetted, 10 subnets
R    30.11.33.0 [120/1] via 30.11.33.5, 00:00:03, Serial0/0/0
C    30.11.33.4 is directly connected, Serial0/0/0
C    30.11.33.8 is directly connected, Serial0/0/1
R    30.11.33.12 [120/1] via 30.11.33.26, 00:00:24, Serial0/1/0
          [120/1] via 30.11.33.10, 00:00:21, Serial0/0/1
R    30.11.33.16 [120/1] via 30.11.33.26, 00:00:24, Serial0/1/0
          [120/1] via 30.11.33.38, 00:00:24, Serial0/1/1
R    30.11.33.20 [120/1] via 30.11.33.38, 00:00:24, Serial0/1/1
C    30.11.33.24 is directly connected, Serial0/1/0
R    30.11.33.28 [120/1] via 30.11.33.5, 00:00:03, Serial0/0/0
          [120/1] via 30.11.33.38, 00:00:24, Serial0/1/1
R    30.11.33.32 [120/1] via 30.11.33.26, 00:00:24, Serial0/1/0
          [120/1] via 30.11.33.5, 00:00:03, Serial0/0/0
C    30.11.33.36 is directly connected, Serial0/1/1
  110.0.0.0/30 is subnetted, 3 subnets

Ctrl+F6 to exit CLI focus
```

Top

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Karachi-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
R      110.65.0.0 [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
          [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
R      110.65.0.4 [120/2] via 30.11.33.38, 00:00:24, Serial0/1/1
          [120/2] via 30.11.33.5, 00:00:03, Serial0/0/0
R      110.65.0.8 [120/2] via 30.11.33.10, 00:00:21, Serial0/0/1
113.0.0.0/30 is subnetted, 2 subnets
R      113.55.35.4 [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
          [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
R      113.55.35.8 [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
          [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
133.34.0.0/30 is subnetted, 6 subnets
R      133.34.11.0 [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
          [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
R      133.34.11.4 [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
          [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
R      133.34.11.8 [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
          [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
R      133.34.11.12 [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
          [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
R      133.34.11.16 [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
          [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
R      133.34.11.20 [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
          [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
172.20.0.0/29 is subnetted, 2 subnets
R      172.20.255.0 [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
          [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
R      172.20.255.8 [120/4] via 30.11.33.38, 00:00:24, Serial0/1/1
          [120/4] via 30.11.33.5, 00:00:03, Serial0/0/0
192.168.107.0/29 is subnetted, 2 subnets
R      192.168.107.0 [120/2] via 30.11.33.10, 00:00:21, Serial0/0/1
R      192.168.107.16 [120/2] via 30.11.33.10, 00:00:21, Serial0/0/1
207.10.6.0/30 is subnetted, 5 subnets
R      207.10.6.0 [120/2] via 30.11.33.10, 00:00:21, Serial0/0/1
R      207.10.6.4 [120/2] via 30.11.33.10, 00:00:21, Serial0/0/1
R      207.10.6.8 [120/2] via 30.11.33.10, 00:00:21, Serial0/0/1
R      207.10.6.12 [120/2] via 30.11.33.10, 00:00:21, Serial0/0/1
R      207.10.6.16 [120/2] via 30.11.33.10, 00:00:21, Serial0/0/1
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

## Karachi-Router5:

The screenshot shows a software window titled "Karachi-Router5" with a toolbar at the top featuring icons for Physical, Config, CLI (which is highlighted in blue), and Attributes. The main area is labeled "IOS Command Line Interface". It displays the following output:

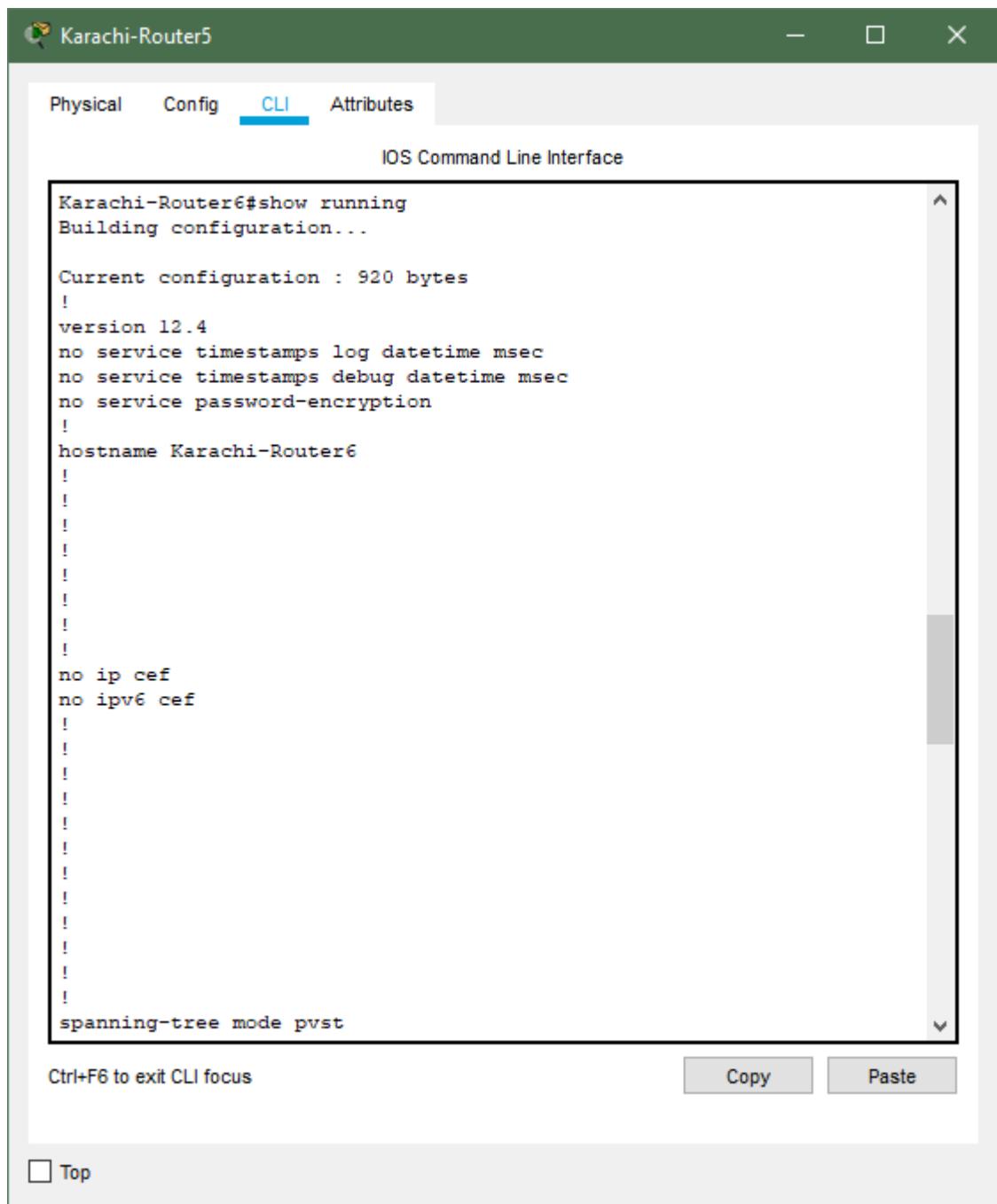
```
state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed
state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed
state to up

Karachi-Router6>en
Karachi-Router6#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    unassigned      YES unset administratively
down down
FastEthernet0/1    unassigned      YES unset administratively
down down
Serial0/0/0        110.65.0.6    YES manual up
up
Serial0/0/1        30.11.33.1    YES manual up
up
Serial0/1/0        30.11.33.22   YES manual up
up
Serial0/1/1        unassigned      YES unset administratively
down down
Vlan1             unassigned      YES unset administratively
down down
Karachi-Router6#
```

At the bottom left, it says "Ctrl+F6 to exit CLI focus". On the right, there are "Copy" and "Paste" buttons. At the very bottom left is a "Top" button with an upward arrow icon.



Karachi-Router5

Physical Config **CLI** Attributes

IOS Command Line Interface

```
!
interface FastEthernet0/0
no ip address
duplex auto
speed auto
shutdown
!
interface FastEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Serial0/0/0
ip address 110.65.0.6 255.255.255.252
!
interface Serial0/0/1
ip address 30.11.33.1 255.255.255.252
clock rate 64000
!
interface Serial0/1/0
ip address 30.11.33.22 255.255.255.252
!
interface Serial0/1/1
no ip address
clock rate 2000000
shutdown
!
interface Vlan1
no ip address
shutdown
!
router rip
version 2
network 30.0.0.0
network 110.0.0.0
no auto-summary
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Karachi-Router5

Physical Config **CLI** Attributes

IOS Command Line Interface

```
no auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
  login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Karachi-Router5

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Karachi-Router6#show ip route
Codes: C - connected, S - static, I - IGRP, 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

      10.0.0.0/29 is subnetted, 5 subnets
R        10.10.33.0 [120/1] via 30.11.33.2, 00:00:08, Serial0/0/1
R        10.10.33.8 [120/1] via 30.11.33.21, 00:00:26, Serial0/1/0
R        10.55.75.0 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
R        10.55.75.8 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
R        10.55.75.16 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
      30.0.0.0/30 is subnetted, 10 subnets
C          30.11.33.0 is directly connected, Serial0/0/1
R          30.11.33.4 [120/1] via 30.11.33.2, 00:00:08, Serial0/0/1
R          30.11.33.8 [120/2] via 30.11.33.21, 00:00:26, Serial0/1/0
                  [120/2] via 30.11.33.2, 00:00:08, Serial0/0/1
R          30.11.33.12 [120/2] via 30.11.33.21, 00:00:26, Serial0/1/0
                  [120/2] via 30.11.33.2, 00:00:08, Serial0/0/1
R          30.11.33.16 [120/1] via 30.11.33.21, 00:00:26, Serial0/1/0
C          30.11.33.20 is directly connected, Serial0/1/0
R          30.11.33.24 [120/2] via 30.11.33.21, 00:00:26, Serial0/1/0
                  [120/2] via 30.11.33.2, 00:00:08, Serial0/0/1
R          30.11.33.28 [120/1] via 30.11.33.21, 00:00:26, Serial0/1/0
                  [120/1] via 30.11.33.2, 00:00:08, Serial0/0/1
R          30.11.33.32 [120/1] via 30.11.33.2, 00:00:08, Serial0/0/1
R          30.11.33.36 [120/1] via 30.11.33.21, 00:00:26, Serial0/1/0
      110.0.0.0/30 is subnetted, 3 subnets
R        110.65.0.0 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
C        110.65.0.4 is directly connected, Serial0/0/0
R        110.65.0.8 [120/4] via 30.11.33.21, 00:00:26, Serial0/1/0
                  [120/4] via 30.11.33.2, 00:00:08, Serial0/0/1
      113.0.0.0/30 is subnetted, 2 subnets
```

Ctrl+F6 to exit CLI focus     

Top

Karachi-Router5

Physical Config **CLI** Attributes

IOS Command Line Interface

```
R      113.55.35.4 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
R      113.55.35.8 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
  133.34.0.0/30 is subnetted, 6 subnets
R      133.34.11.0 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
R      133.34.11.4 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
R      133.34.11.8 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
R      133.34.11.12 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
R      133.34.11.16 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
R      133.34.11.20 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
  172.20.0.0/29 is subnetted, 2 subnets
R      172.20.255.0 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
R      172.20.255.8 [120/2] via 110.65.0.5, 00:00:03, Serial0/0/0
  192.168.107.0/29 is subnetted, 2 subnets
R      192.168.107.0 [120/4] via 30.11.33.2, 00:00:08, Serial0/0/1
          [120/4] via 30.11.33.21, 00:00:26, Serial0/1/0
R      192.168.107.16 [120/4] via 30.11.33.2, 00:00:08, Serial0/0/1
          [120/4] via 30.11.33.21, 00:00:26, Serial0/1/0
  207.10.6.0/30 is subnetted, 5 subnets
R      207.10.6.0 [120/4] via 30.11.33.2, 00:00:08, Serial0/0/1
          [120/4] via 30.11.33.21, 00:00:26, Serial0/1/0
R      207.10.6.4 [120/4] via 30.11.33.2, 00:00:08, Serial0/0/1
          [120/4] via 30.11.33.21, 00:00:26, Serial0/1/0
R      207.10.6.8 [120/4] via 30.11.33.2, 00:00:08, Serial0/0/1
          [120/4] via 30.11.33.21, 00:00:26, Serial0/1/0
R      207.10.6.12 [120/4] via 30.11.33.2, 00:00:08, Serial0/0/1
          [120/4] via 30.11.33.21, 00:00:26, Serial0/1/0
R      207.10.6.16 [120/4] via 30.11.33.2, 00:00:08, Serial0/0/1
          [120/4] via 30.11.33.21, 00:00:26, Serial0/1/0
```

Ctrl+F6 to exit CLI focus     

Top

## Karachi-Router6:

The screenshot shows a software interface for managing network devices. At the top, there's a title bar with the device name "Karachi-Router6". Below it is a navigation bar with tabs: "Physical", "Config", "CLI" (which is selected), and "Attributes". The main area is titled "IOS Command Line Interface". It contains the following text output:

```
state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed
state to up

00:00:10: %OSPF-5-ADJCHG: Process 10706, Nbr 207.10.6.17 on
Serial0/1/0 from LOADING to FULL, Loading Done

Karachi-Router5>en
Karachi-Router5#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    unassigned      YES unset administratively
down down
FastEthernet0/1    unassigned      YES unset administratively
down down
Serial0/0/0        30.11.33.10   YES manual up
up
Serial0/0/1        30.11.33.13   YES manual up
up
Serial0/1/0        110.65.0.9    YES manual up
up
Serial0/1/1        unassigned      YES unset administratively
down down
Vlan1             unassigned      YES unset administratively
down down
Karachi-Router5#
```

At the bottom left, there's a note: "Ctrl+F6 to exit CLI focus". On the right side, there are "Copy" and "Paste" buttons. At the very bottom left, there's a "Top" button with a checkbox.

Karachi-Router6

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Karachi-Router5#show running
Building configuration...

Current configuration : 1071 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Karachi-Router5
!
!
!
!
!
!
!
!
no ip cef
no ipv6 cef
!
!
!
!
!
!
!
!
!
!
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
!
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Karachi-Router6

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface FastEthernet0/0
no ip address
duplex auto
speed auto
shutdown
!
interface FastEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Serial0/0/0
ip address 30.11.33.10 255.255.255.252
!
interface Serial0/0/1
ip address 30.11.33.13 255.255.255.252
clock rate 64000
!
interface Serial0/1/0
ip address 110.65.0.9 255.255.255.252
clock rate 64000
!
interface Serial0/1/1
no ip address
clock rate 2000000
shutdown
!
interface Vlan1
no ip address
shutdown
!
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Karachi-Router6

Physical Config **CLI** Attributes

IOS Command Line Interface

```
router ospf 10706
log-adjacency-changes
redistribute rip metric 250 subnets
network 110.65.0.8 0.0.0.3 area 0
!
router rip
version 2
redistribute ospf 10706 metric 2
network 30.0.0.0
no auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Karachi-Router6

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Karachi-Router5#show ip route
Codes: C - connected, S - static, I - IGRP, 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

  10.0.0.0/29 is subnetted, 5 subnets
R    10.10.33.0 [120/2] via 30.11.33.14, 00:00:29, Serial0/0/1
      [120/2] via 30.11.33.9, 00:00:27, Serial0/0/0
R    10.10.33.8 [120/2] via 30.11.33.14, 00:00:29, Serial0/0/1
      [120/2] via 30.11.33.9, 00:00:27, Serial0/0/0
R    10.55.75.0 [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
      [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
R    10.55.75.8 [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
      [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
R    10.55.75.16 [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
      [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
  30.0.0.0/30 is subnetted, 10 subnets
R    30.11.33.0 [120/2] via 30.11.33.14, 00:00:29, Serial0/0/1
      [120/2] via 30.11.33.9, 00:00:27, Serial0/0/0
R    30.11.33.4 [120/1] via 30.11.33.9, 00:00:27, Serial0/0/0
C    30.11.33.8 is directly connected, Serial0/0/0
C    30.11.33.12 is directly connected, Serial0/0/1
R    30.11.33.16 [120/1] via 30.11.33.14, 00:00:29, Serial0/0/1
R    30.11.33.20 [120/2] via 30.11.33.14, 00:00:29, Serial0/0/1
      [120/2] via 30.11.33.9, 00:00:27, Serial0/0/0
R    30.11.33.24 [120/1] via 30.11.33.14, 00:00:29, Serial0/0/1
      [120/1] via 30.11.33.9, 00:00:27, Serial0/0/0
R    30.11.33.28 [120/2] via 30.11.33.14, 00:00:29, Serial0/0/1
      [120/2] via 30.11.33.9, 00:00:27, Serial0/0/0
R    30.11.33.32 [120/1] via 30.11.33.14, 00:00:29, Serial0/0/1
R    30.11.33.36 [120/1] via 30.11.33.9, 00:00:27, Serial0/0/0
  110.0.0.0/30 is subnetted, 3 subnets
R    110.65.0.0 [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
      [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
R    110.65.0.4 [120/3] via 30.11.33.14, 00:00:29, Serial0/0/1
      [120/3] via 30.11.33.9, 00:00:27, Serial0/0/0
C    110.65.0.8 is directly connected, Serial0/1/0
  113.0.0.0/30 is subnetted, 2 subnets
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Karachi-Router6

Physical Config **CLI** Attributes

IOS Command Line Interface

```
R      113.55.35.4 [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
          [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
R      113.55.35.8 [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
          [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
    133.34.0.0/30 is subnetted, 6 subnets
R      133.34.11.0 [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
          [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
R      133.34.11.4 [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
          [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
R      133.34.11.8 [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
          [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
R      133.34.11.12 [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
          [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
R      133.34.11.16 [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
          [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
R      133.34.11.20 [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
          [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
    172.20.0.0/29 is subnetted, 2 subnets
R      172.20.255.0 [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
          [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
R      172.20.255.8 [120/5] via 30.11.33.14, 00:00:29, Serial0/0/1
          [120/5] via 30.11.33.9, 00:00:27, Serial0/0/0
    192.168.107.0/29 is subnetted, 2 subnets
O      192.168.107.0 [110/129] via 110.65.0.10, 00:25:10,
Serial0/1/0
O      192.168.107.16 [110/129] via 110.65.0.10, 00:25:10,
Serial0/1/0
    207.10.6.0/30 is subnetted, 5 subnets
O      207.10.6.0 [110/128] via 110.65.0.10, 00:25:10, Serial0/1/0
O      207.10.6.4 [110/192] via 110.65.0.10, 00:25:10, Serial0/1/0
O      207.10.6.8 [110/192] via 110.65.0.10, 00:25:10, Serial0/1/0
O      207.10.6.12 [110/128] via 110.65.0.10, 00:25:10, Serial0/1/0
O      207.10.6.16 [110/128] via 110.65.0.10, 00:25:10, Serial0/1/0
```

Ctrl+F6 to exit CLI focus

Top

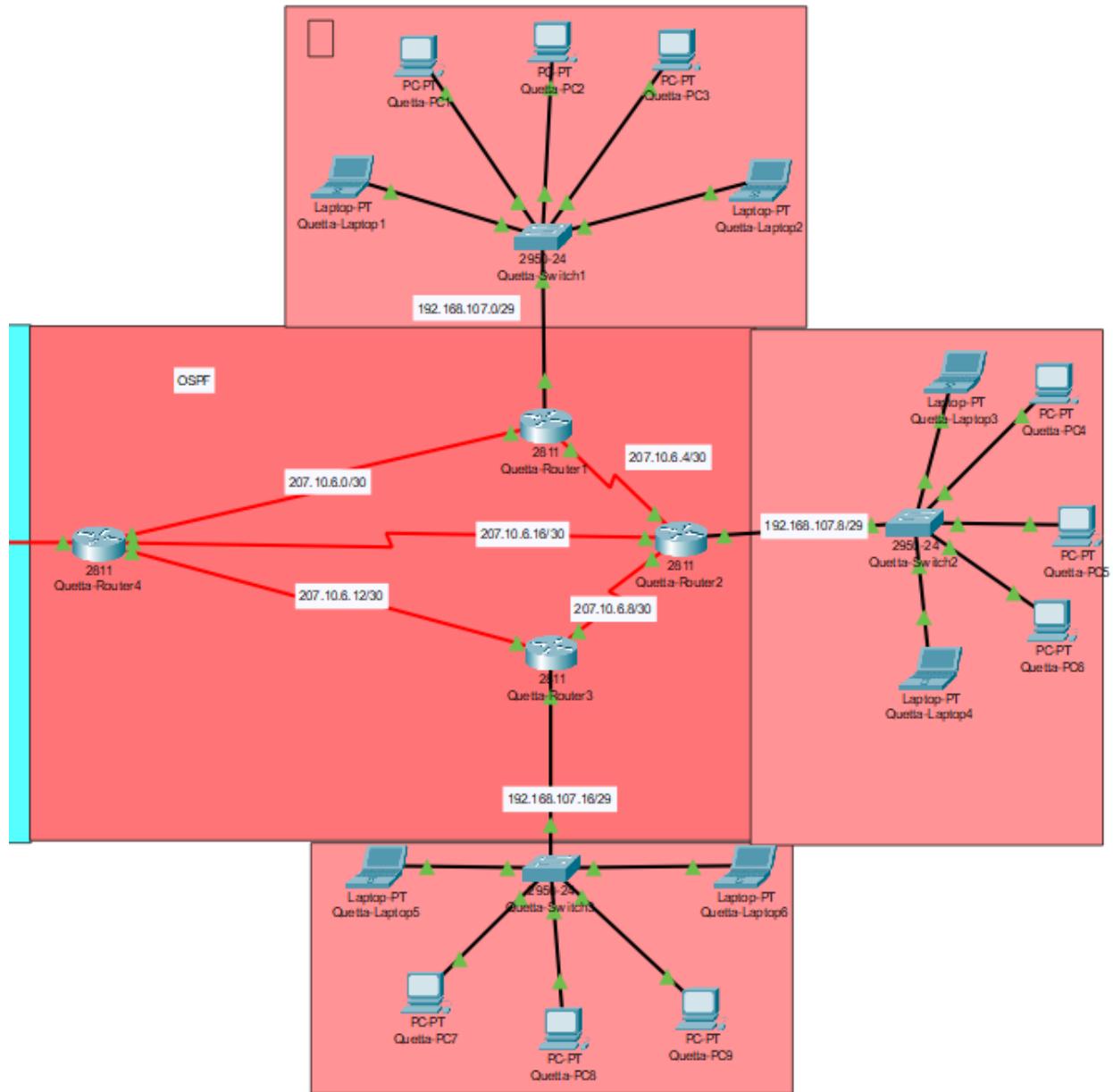
Copy Paste

## Example Pings:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
●	Successful	Karachi-PC1	Karachi-PC6	ICMP	■	0.000	N	0	(edit)	(delete)
●	Successful	Karachi-Laptop3	Karachi-Router4	ICMP	■	0.000	N	1	(edit)	(delete)
●	Successful	Karachi-Router5	Karachi-Router6	ICMP	■	0.000	N	2	(edit)	(delete)

## 4.Hina Qamar (10706):

### Quetta Topology:



## Quetta-Router1:

The screenshot shows a software window titled "Quetta-Router1" with a toolbar at the top featuring icons for Physical, Config, CLI (which is highlighted in blue), and Attributes. Below the toolbar is a section titled "IOS Command Line Interface". Inside this section, there is a scrollable terminal window displaying the following output:

```
00:00:10: %OSPF-5-ADJCHG: Process 10706, Nbr 207.10.6.17 on
Serial0/0/0 from LOADING to FULL, Loading Done

00:00:10: %OSPF-5-ADJCHG: Process 10706, Nbr 207.10.6.17 on
Serial0/0/1 from LOADING to FULL, Loading Done
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged
192.168.107.1.

Quetta-Router1>en
Quetta-Router1#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    192.168.107.1  YES manual up
up
FastEthernet0/1    unassigned     YES unset administratively
down down
Serial0/0/0        207.10.6.2   YES manual up
up
Serial0/0/1        207.10.6.5   YES manual up
up
Serial0/1/0        unassigned     YES unset administratively
down down
Serial0/1/1        unassigned     YES unset administratively
down down
Vlan1             unassigned     YES unset administratively
down down
Quetta-Router1#
```

At the bottom of the terminal window, there is a status message "Ctrl+F6 to exit CLI focus" and two buttons: "Copy" and "Paste". Below the terminal window, there is a small checkbox labeled "Top".

Quetta-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Quetta-Router1#show running
Building configuration...

Current configuration : 1137 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Quetta-Router1
!
!
!
!
!
ip dhcp pool Hina_10706_Pooll
  network 192.168.107.0 255.255.255.248
  default-router 192.168.107.1
  dns-server 10.55.75.12
!
!
!
no ip cef
no ipv6 cef
!
```

Ctrl+F6 to exit CLI focus

Top

Quetta-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
spanning-tree mode pvst
!
!
!
!
!
!
interface FastEthernet0/0
 ip address 192.168.107.1 255.255.255.248
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 ip address 207.10.6.2 255.255.255.252
!
interface Serial0/0/1
 ip address 207.10.6.5 255.255.255.252
 clock rate 64000
!
interface Serial0/1/0
 no ip address
 clock rate 2000000
 shutdown
!
interface Serial0/1/1
 no ip address
 clock rate 2000000
 shutdown
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Quetta-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface Vlan1
no ip address
shutdown
!
router ospf 10706
log-adjacency-changes
network 192.168.107.0 0.0.0.7 area 0
network 207.10.6.4 0.0.0.3 area 0
network 207.10.6.0 0.0.0.3 area 0
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
end

Quetta-Router1#
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Quetta-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Quetta-Router1#show ip route
Codes: C - connected, S - static, I - IGRP, 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

      10.0.0.0/29 is subnetted, 5 subnets
O E2    10.10.33.0 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    10.10.33.8 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    10.55.75.0 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    10.55.75.8 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    10.55.75.16 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
      30.0.0.0/30 is subnetted, 10 subnets
O E2    30.11.33.0 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    30.11.33.4 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    30.11.33.8 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    30.11.33.12 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    30.11.33.16 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    30.11.33.20 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    30.11.33.24 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    30.11.33.28 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    30.11.33.32 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    30.11.33.36 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
      110.0.0.0/30 is subnetted, 3 subnets
```

Ctrl+F6 to exit CLI focus     

Top

Quetta-Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
O E2    110.65.0.0 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    110.65.0.4 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O      110.65.0.8 [110/128] via 207.10.6.1, 00:32:09, Serial0/0/0
      113.0.0.0/30 is subnetted, 2 subnets
O E2    113.55.35.4 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    113.55.35.8 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
      133.34.0.0/30 is subnetted, 6 subnets
O E2    133.34.11.0 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    133.34.11.4 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    133.34.11.8 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    133.34.11.12 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    133.34.11.16 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    133.34.11.20 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
      172.20.0.0/29 is subnetted, 2 subnets
O E2    172.20.255.0 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
O E2    172.20.255.8 [110/250] via 207.10.6.1, 00:32:09, Serial0/0/0
      192.168.107.0/29 is subnetted, 2 subnets
C      192.168.107.0 is directly connected, FastEthernet0/0
O      192.168.107.16 [110/129] via 207.10.6.1, 00:32:09,
Serial0/0/0
      207.10.6.0/30 is subnetted, 5 subnets
C      207.10.6.0 is directly connected, Serial0/0/0
C      207.10.6.4 is directly connected, Serial0/0/1
O      207.10.6.8 [110/192] via 207.10.6.1, 00:32:09, Serial0/0/0
O      207.10.6.12 [110/128] via 207.10.6.1, 00:32:09, Serial0/0/0
O      207.10.6.16 [110/128] via 207.10.6.1, 00:32:09, Serial0/0/0
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

## Quetta-Router2:

The screenshot shows a Windows-style application window titled "Quetta-Router2". The window has tabs at the top: "Physical", "Config", "CLI" (which is selected), and "Attributes". Below the tabs is a title bar "IOS Command Line Interface". The main area contains the output of the "show ip interface brief" command:

```
Quetta-Router2>en
Quetta-Router2#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    192.168.107.9   YES manual up
up
FastEthernet0/1    unassigned      YES unset administratively
down down
Serial0/0/0        207.10.6.6    YES manual up
up
Serial0/0/1        207.10.6.9    YES manual up
up
Serial0/1/0        207.10.6.17   YES manual up
up
Serial0/1/1        unassigned      YES unset administratively
down down
Vlan1             unassigned      YES unset administratively
down down
Quetta-Router2#
```

At the bottom left, there is a note: "Ctrl+F6 to exit CLI focus". On the right side, there are "Copy" and "Paste" buttons. At the very bottom left, there is a "Top" button.

Quetta-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Quetta-Router2#show running
Building configuration...

Current configuration : 1199 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Quetta-Router2
!
!
!
!
ip dhcp pool Hina_10706_Pool2
  network 192.168.107.8 255.255.255.248
  default-router 192.168.107.9
  dns-server 10.55.75.12
!
!
!
no ip cef
no ipv6 cef
!
```

Ctrl+F6 to exit CLI focus

Top

Quetta-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
spanning-tree mode pvst
!
!
!
!
!
!
interface FastEthernet0/0
 ip address 192.168.107.9 255.255.255.248
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 ip address 207.10.6.6 255.255.255.252
!
interface Serial0/0/1
 ip address 207.10.6.9 255.255.255.252
 clock rate 64000
!
interface Serial0/1/0
 ip address 207.10.6.17 255.255.255.252
 clock rate 64000
!
interface Serial0/1/1
 no ip address
 clock rate 2000000
 shutdown
!
```

Ctrl+F6 to exit CLI focus

Top

**Copy** **Paste**

Quetta-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface Vlan1
no ip address
shutdown
!
router ospf 10706
log-adjacency-changes
network 192.168.107.8 0.0.0.7 area 0
network 207.10.6.4 0.0.0.3 area 0
network 207.10.6.8 0.0.0.3 area 0
network 207.10.6.16 0.0.0.3 area 0
!
ip classless
!
ip flow-export version 9
!
!
!
no cdp run
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Quetta-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Quetta-Router2#show ip route
Codes: C - connected, S - static, I - IGRP, 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

      10.0.0.0/29 is subnetted, 5 subnets
O E2    10.10.33.0 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    10.10.33.8 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    10.55.75.0 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    10.55.75.8 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    10.55.75.16 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
      30.0.0.0/30 is subnetted, 10 subnets
O E2    30.11.33.0 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    30.11.33.4 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    30.11.33.8 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    30.11.33.12 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    30.11.33.16 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    30.11.33.20 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    30.11.33.24 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    30.11.33.28 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    30.11.33.32 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    30.11.33.36 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
      110.0.0.0/30 is subnetted, 3 subnets
O E2    110.65.0.0 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    110.65.0.4 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O     110.65.0.8 [110/128] via 207.10.6.18, 00:06:03, Serial0/1/0
      113.0.0.0/30 is subnetted, 2 subnets
O E2    113.55.35.4 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    113.55.35.8 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
      133.34.0.0/16 is variably subnetted, 7 subnets, 2 masks
```

Ctrl+F6 to exit CLI focus     

Top

Quetta-Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
O E2    133.34.11.0/30 [110/250] via 207.10.6.18, 00:06:03,
Serial0/1/0
O E2    133.34.11.4/30 [110/250] via 207.10.6.18, 00:06:03,
Serial0/1/0
O E2    133.34.11.8/30 [110/250] via 207.10.6.18, 00:06:03,
Serial0/1/0
O E2    133.34.11.12/30 [110/250] via 207.10.6.18, 00:06:03,
Serial0/1/0
O E2    133.34.11.16/30 [110/250] via 207.10.6.18, 00:06:03,
Serial0/1/0
O E2    133.34.11.20/30 [110/250] via 207.10.6.18, 00:06:03,
Serial0/1/0
O E2    133.34.11.24/29 [110/250] via 207.10.6.18, 00:06:03,
Serial0/1/0
    172.20.0.0/29 is subnetted, 2 subnets
O E2    172.20.255.0 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
O E2    172.20.255.8 [110/250] via 207.10.6.18, 00:06:03, Serial0/1/0
    192.168.107.0/29 is subnetted, 3 subnets
O      192.168.107.0 [110/65] via 207.10.6.5, 00:06:03, Serial0/0/0
C      192.168.107.8 is directly connected, FastEthernet0/0
O      192.168.107.16 [110/65] via 207.10.6.10, 00:06:03,
Serial0/0/1
    207.10.6.0/30 is subnetted, 5 subnets
O      207.10.6.0 [110/128] via 207.10.6.18, 00:06:03, Serial0/1/0
          [110/128] via 207.10.6.5, 00:06:03, Serial0/0/0
C      207.10.6.4 is directly connected, Serial0/0/0
C      207.10.6.8 is directly connected, Serial0/0/1
O      207.10.6.12 [110/128] via 207.10.6.10, 00:06:03, Serial0/0/1
          [110/128] via 207.10.6.18, 00:06:03, Serial0/1/0
C      207.10.6.16 is directly connected, Serial0/1/0

Quetta-Router2#
Quetta-Router2#
```

Ctrl+F6 to exit CLI focus

Top

## Quetta-Router3:

The screenshot shows the Quetta-Router3 CLI interface. The title bar says "Quetta-Router3". The tab bar has "Physical", "Config", "CLI" (which is selected), and "Attributes". The main window displays the IOS Command Line Interface (CLI) output.

**IOS Command Line Interface**

```
00:00:10: %OSPF-5-ADJCHG: Process 10706, Nbr 207.10.6.17 on
Serial0/0/0 from LOADING to FULL, Loading Done

00:00:10: %OSPF-5-ADJCHG: Process 10706, Nbr 207.10.6.17 on
Serial0/0/1 from LOADING to FULL, Loading Done
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged
192.168.107.17.

Quetta-Router3>en
Quetta-Router3#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    192.168.107.17  YES manual up
up
FastEthernet0/1    unassigned      YES unset administratively
down down
Serial0/0/0        207.10.6.10   YES manual up
up
Serial0/0/1        207.10.6.13   YES manual up
up
Serial0/1/0        unassigned      YES unset administratively
down down
Serial0/1/1        unassigned      YES unset administratively
down down
Vlan1             unassigned      YES unset administratively
down down
Quetta-Router3#
```

At the bottom left, it says "Ctrl+F6 to exit CLI focus". At the bottom right, there are "Copy" and "Paste" buttons. A checkbox labeled "Top" is at the bottom center.

Quetta-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Building configuration...

Current configuration : 1157 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Quetta-Router3
!
!
!
!
!
ip dhcp pool Hina_10706_Pool3
network 192.168.107.16 255.255.255.248
default-router 192.168.107.17
dns-server 10.55.75.12
!
!
!
no ip cef
no ipv6 cef
!
!
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Quetta-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
spanning-tree mode pvst
!
!
!
!
!
!
interface FastEthernet0/0
 ip address 192.168.107.17 255.255.255.248
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 ip address 207.10.6.10 255.255.255.252
!
interface Serial0/0/1
 ip address 207.10.6.13 255.255.255.252
 clock rate 64000
!
interface Serial0/1/0
 no ip address
 clock rate 2000000
 shutdown
!
interface Serial0/1/1
 no ip address
 clock rate 2000000
 shutdown
!
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Quetta-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
interface Vlan1
no ip address
shutdown
!
router ospf 10706
log-adjacency-changes
network 207.10.6.8 0.0.0.3 area 0
network 207.10.6.12 0.0.0.3 area 0
network 192.168.107.16 0.0.0.7 area 0
!
ip classless
!
ip flow-export version 9
!
!
no cdp run
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
end
```

Ctrl+F6 to exit CLI focus

Top

Copy Paste

Quetta-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Quetta-Router3#show ip route
Codes: C - connected, S - static, I - IGRP, 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

      10.0.0.0/29 is subnetted, 5 subnets
O E2    10.10.33.0 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    10.10.33.8 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    10.55.75.0 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    10.55.75.8 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    10.55.75.16 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
      30.0.0.0/30 is subnetted, 10 subnets
O E2    30.11.33.0 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    30.11.33.4 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    30.11.33.8 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    30.11.33.12 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    30.11.33.16 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    30.11.33.20 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    30.11.33.24 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    30.11.33.28 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    30.11.33.32 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    30.11.33.36 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
      110.0.0.0/30 is subnetted, 3 subnets
O E2    110.65.0.0 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2    110.65.0.4 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O     110.65.0.8 [110/128] via 207.10.6.14, 00:41:48, Serial0/0/1
      113.0.0.0/30 is subnetted, 2 subnets
```

Ctrl+F6 to exit CLI focus

Top

**Copy**   **Paste**

Quetta-Router3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
O E2      113.55.35.4 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2      113.55.35.8 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
    133.34.0.0/30 is subnetted, 6 subnets
O E2      133.34.11.0 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2      133.34.11.4 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2      133.34.11.8 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2      133.34.11.12 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2      133.34.11.16 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2      133.34.11.20 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
    172.20.0.0/29 is subnetted, 2 subnets
O E2      172.20.255.0 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
O E2      172.20.255.8 [110/250] via 207.10.6.14, 00:41:48, Serial0/0/1
    192.168.107.0/29 is subnetted, 2 subnets
O       192.168.107.0 [110/129] via 207.10.6.14, 00:41:48,
Serial0/0/1
C       192.168.107.16 is directly connected, FastEthernet0/0
    207.10.6.0/30 is subnetted, 5 subnets
O       207.10.6.0 [110/128] via 207.10.6.14, 00:41:48, Serial0/0/1
O       207.10.6.4 [110/192] via 207.10.6.14, 00:41:48, Serial0/0/1
C       207.10.6.8 is directly connected, Serial0/0/0
C       207.10.6.12 is directly connected, Serial0/0/1
O       207.10.6.16 [110/128] via 207.10.6.14, 00:41:48, Serial0/0/1

Quetta-Router3#
```

Ctrl+F6 to exit CLI focus

Top

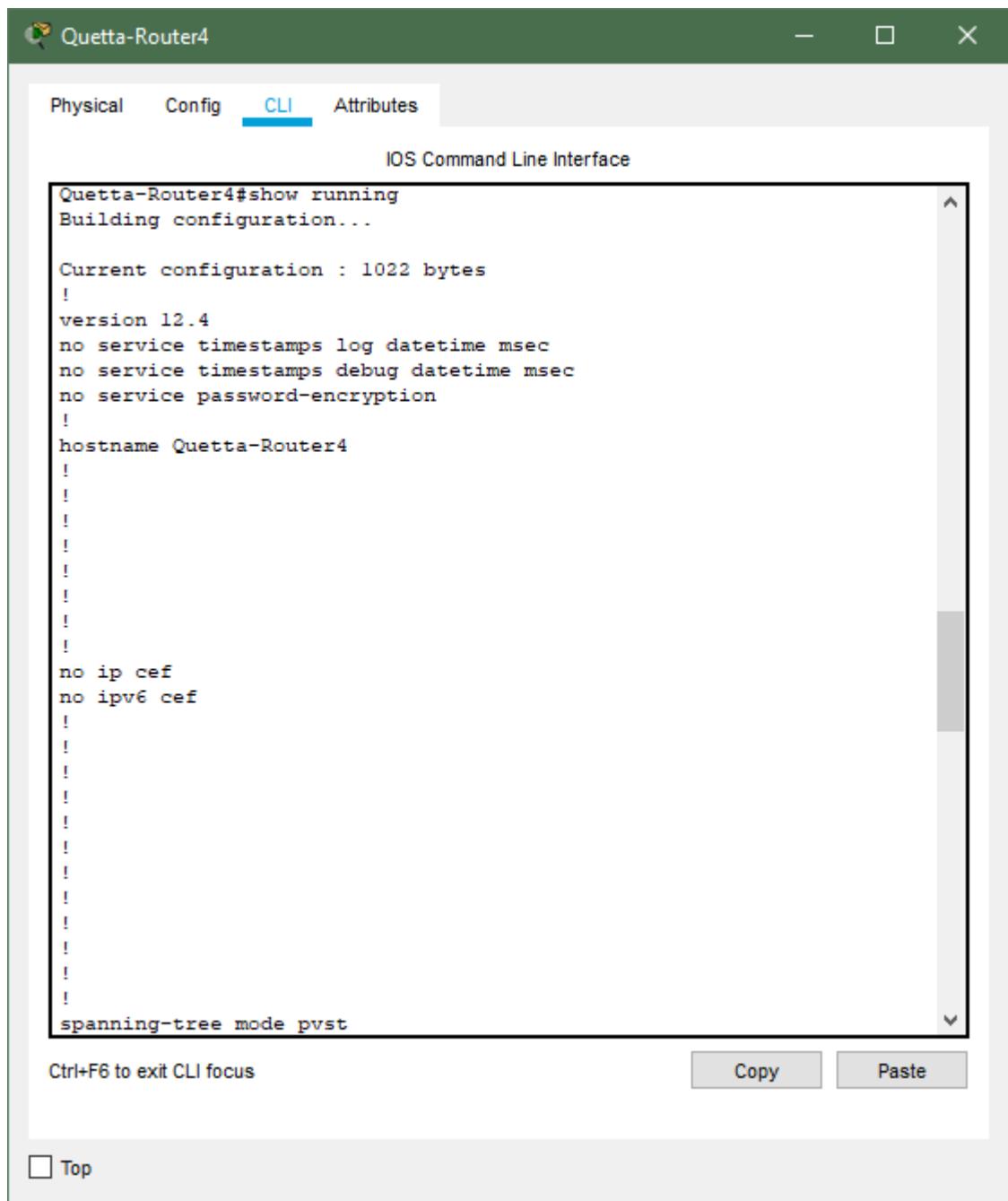
**Copy**   **Paste**

## Quetta-Router4:

The screenshot shows a Windows-style application window titled "Quetta-Router4". The window has tabs at the top: "Physical", "Config", "CLI" (which is selected), and "Attributes". Below the tabs is a title bar "IOS Command Line Interface". The main area contains the output of the command "show ip interface brief".

```
Quetta-Router4>en
Quetta-Router4#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    unassigned     YES unset administratively
down down
FastEthernet0/1    unassigned     YES unset administratively
down down
Serial0/0/0        110.65.0.10   YES manual up
up
Serial0/0/1        207.10.6.1    YES manual up
up
Serial0/1/0        207.10.6.14   YES manual up
up
Serial0/1/1        207.10.6.18   YES manual up
up
Vlan1             unassigned     YES unset administratively
down down
Quetta-Router4#
```

At the bottom left, it says "Ctrl+F6 to exit CLI focus". On the right, there are "Copy" and "Paste" buttons. At the very bottom left is a "Top" button.



Quetta-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
!
interface FastEthernet0/0
no ip address
duplex auto
speed auto
shutdown
!
interface FastEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Serial0/0/0
ip address 110.65.0.10 255.255.255.252
!
interface Serial0/0/1
ip address 207.10.6.1 255.255.255.252
clock rate 64000
!
interface Serial0/1/0
ip address 207.10.6.14 255.255.255.252
!
interface Serial0/1/1
ip address 207.10.6.18 255.255.255.252
!
interface Vlan1
no ip address
shutdown
!
router ospf 10706
log-adjacency-changes
network 207.10.6.0 0.0.0.3 area 0
network 207.10.6.16 0.0.0.3 area 0
network 207.10.6.12 0.0.0.3 area 0
network 110.65.0.8 0.0.0.3 area 0
!
```

Ctrl+F6 to exit CLI focus

Top

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Quetta-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
  login
!
!
end

Quetta-Router4#
Quetta-Router4#
```

Ctrl+F6 to exit CLI focus

Top

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Quetta-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Quetta-Router4#show ip route
Codes: C - connected, S - static, I - IGRP, 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

      10.0.0.0/29 is subnetted, 5 subnets
O E2    10.10.33.0 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    10.10.33.8 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    10.55.75.0 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    10.55.75.8 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    10.55.75.16 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
      30.0.0.0/30 is subnetted, 10 subnets
O E2    30.11.33.0 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    30.11.33.4 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    30.11.33.8 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    30.11.33.12 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    30.11.33.16 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    30.11.33.20 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    30.11.33.24 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    30.11.33.28 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    30.11.33.32 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    30.11.33.36 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
      110.0.0.0/30 is subnetted, 3 subnets
O E2    110.65.0.0 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    110.65.0.4 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
C      110.65.0.8 is directly connected, Serial0/0/0
      113.0.0.0/30 is subnetted, 2 subnets
```

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Top

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Quetta-Router4

Physical Config **CLI** Attributes

IOS Command Line Interface

```
O E2    113.55.35.4 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    113.55.35.8 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
      133.34.0.0/30 is subnetted, 6 subnets
O E2    133.34.11.0 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    133.34.11.4 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    133.34.11.8 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    133.34.11.12 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    133.34.11.16 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    133.34.11.20 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
      172.20.0.0/29 is subnetted, 2 subnets
O E2    172.20.255.0 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
O E2    172.20.255.8 [110/250] via 110.65.0.9, 00:29:10, Serial0/0/0
      192.168.107.0/29 is subnetted, 1 subnets
O      192.168.107.16 [110/65] via 207.10.6.13, 00:30:06,
Serial0/1/0
      207.10.6.0/30 is subnetted, 4 subnets
C      207.10.6.0 is directly connected, Serial0/0/1
O      207.10.6.8 [110/128] via 207.10.6.13, 00:29:10, Serial0/1/0
C      207.10.6.12 is directly connected, Serial0/1/0
C      207.10.6.16 is directly connected, Serial0/1/1

Quetta-Router4#
Quetta-Router4#
Quetta-Router4#
```

Ctrl+F6 to exit CLI focus

Top

## Example Pings:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
●	Successful	Quetta-Laptop5	Quetta-Router4	ICMP	■	0.000	N	0	(edit)	(delete)
●	Successful	Quetta-Router4	Quetta-Router2	ICMP	■	0.000	N	1	(edit)	(delete)
●	Successful	Quetta-Router1	Quetta-Router3	ICMP	■	0.000	N	2	(edit)	(delete)

## Redistribution Example Pings:

### Lahore TO Islamabad:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
●	Successful	Lahore-Router3	Islamabad-Router5	ICMP	█	0.000	N	0	(edit)	(delete)
●	Successful	Lahore-Laptop4	Islamabad-Laptop1	ICMP	█	0.000	N	1	(edit)	(delete)
●	Successful	Lahore-PC2	Islamabad-PC5	ICMP	█	0.000	N	2	(edit)	(delete)

### Islamabad TO Karachi:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
●	Successful	Islamabad-Router5	Karachi-Router4	ICMP	█	0.000	N	0	(edit)	(delete)
●	Successful	Islamabad-Laptop1	Karachi-Laptop4	ICMP	█	0.000	N	1	(edit)	(delete)
●	Successful	Islamabad-PC5	Karachi-PC2	ICMP	█	0.000	N	2	(edit)	(delete)

### Karachi TO Quetta:

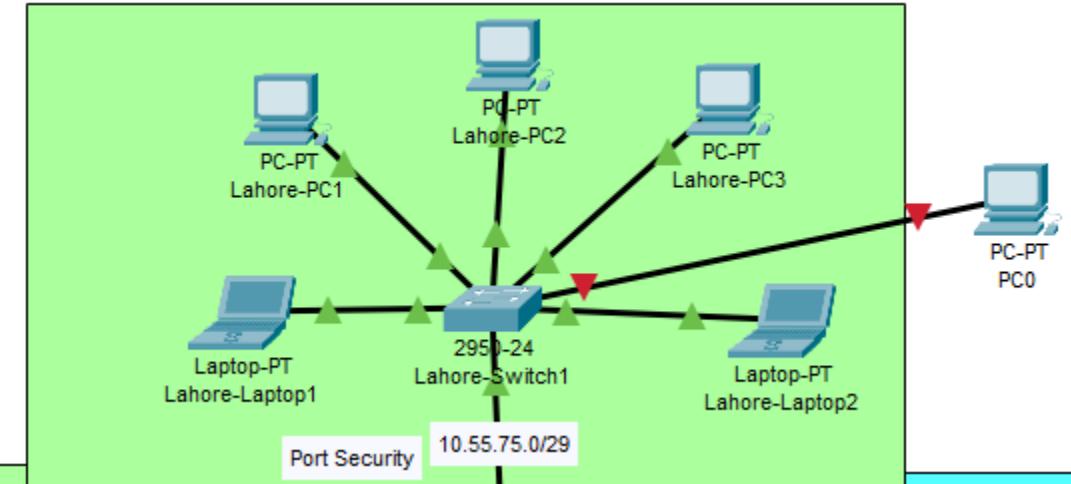
Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
●	Successful	Karachi-Laptop1	Quetta-Laptop5	ICMP	█	0.000	N	0	(edit)	(delete)
●	Successful	Karachi-Router5	Quetta-Router4	ICMP	█	0.000	N	1	(edit)	(delete)
●	Successful	Karachi-Laptop4	Quetta-Router4	ICMP	█	0.000	N	2	(edit)	(delete)

### Quetta TO Lahore:

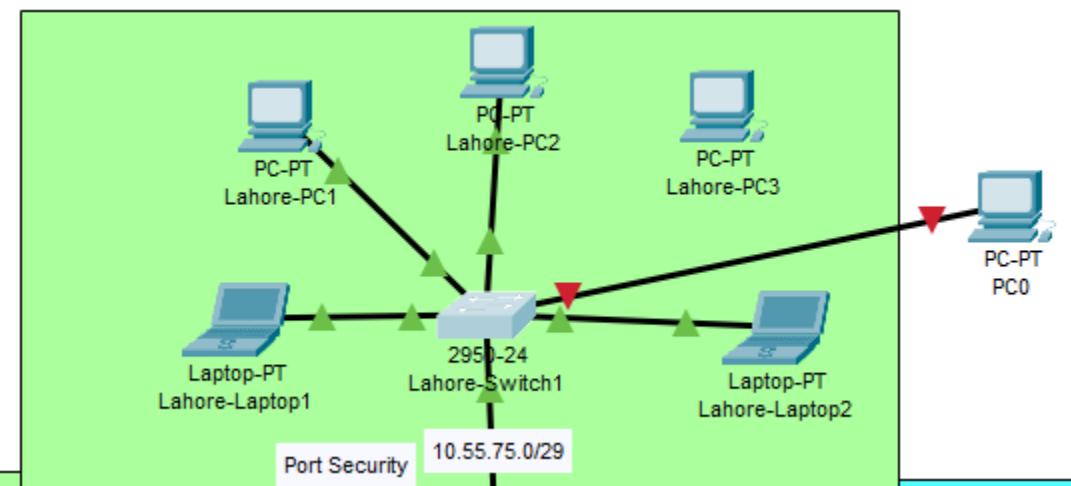
Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
●	Successful	Quetta-Router4	Lahore-Router2	ICMP	█	0.000	N	0	(edit)	(delete)
●	Successful	Quetta-Laptop5	Lahore-PC1	ICMP	█	0.000	N	1	(edit)	(delete)
●	Successful	Quetta-PC8	Lahore-Laptop3	ICMP	█	0.000	N	2	(edit)	(delete)

## Port Security Example:

New PC:



New PC at old PC place:



Lahore-Switch1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Switch>en
Switch#show por
Switch#show port-security
Secure Port MaxSecureAddr CurrentAddr SecurityViolation Security
Action
      (Count)      (Count)      (Count)
-----
Fa0/1      1          1          0      Shutdown
Fa0/2      1          1          0      Shutdown
Fa0/3      1          1          0      Shutdown
Fa0/4      1          1          0      Shutdown
Fa0/5      1          1          1      Shutdown
Fa0/6      1          1          0      Shutdown
-----
-
Switch#
```

Ctrl+F6 to exit CLI focus

Top

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## NAT Example:

The screenshot shows a Cisco IOS Command Line Interface (CLI) window titled "Islamabad-Router2". The window has tabs for "Physical", "Config", "CLI" (which is selected), and "Attributes". The main area displays the IOS Command Line Interface (CLI) prompt and output.

IOS Command Line Interface

Press RETURN to get started.

```
Islamabad-Router2>en
Islamabad-Router2#show ip nat tras
Islamabad-Router2#show ip nat tra
Islamabad-Router2#show ip nat translations
Pro Inside global      Inside local        Outside local       Outside global
icmp 133.34.11.27:1024 172.20.255.14:1   172.20.255.3:1   172.20.255.3:1024
icmp 133.34.11.27:1025 172.20.255.13:1   172.20.255.3:1   172.20.255.3:1025
icmp 133.34.11.27:1    172.20.255.11:1  172.20.255.5:1   172.20.255.5:1

Islamabad-Router2#
```

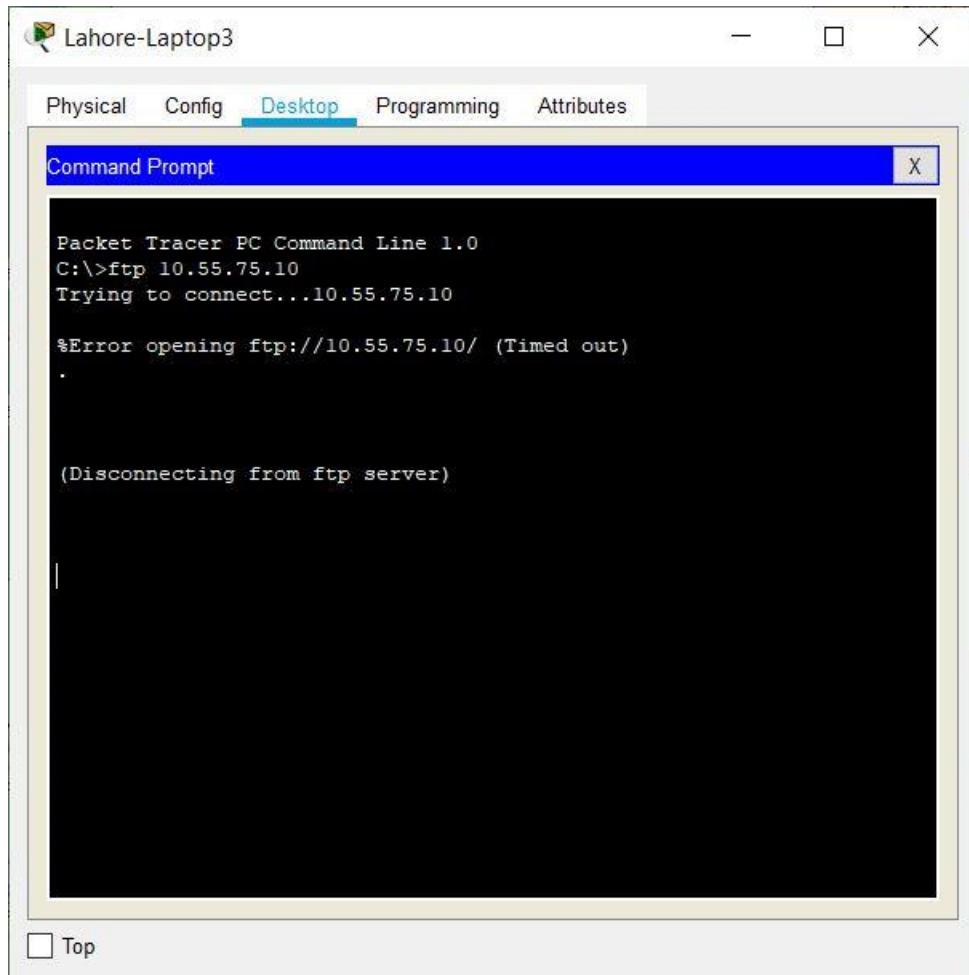
Ctrl+F6 to exit CLI focus

Top

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## ACL Example:

### ACL FTP:



Lahore-Laptop3

Physical Config Desktop Programming Attributes

Command Prompt X

```
Packet Tracer PC Command Line 1.0
C:\>ftp 10.55.75.10
Trying to connect...10.55.75.10

%Error opening ftp://10.55.75.10/ (Timed out)

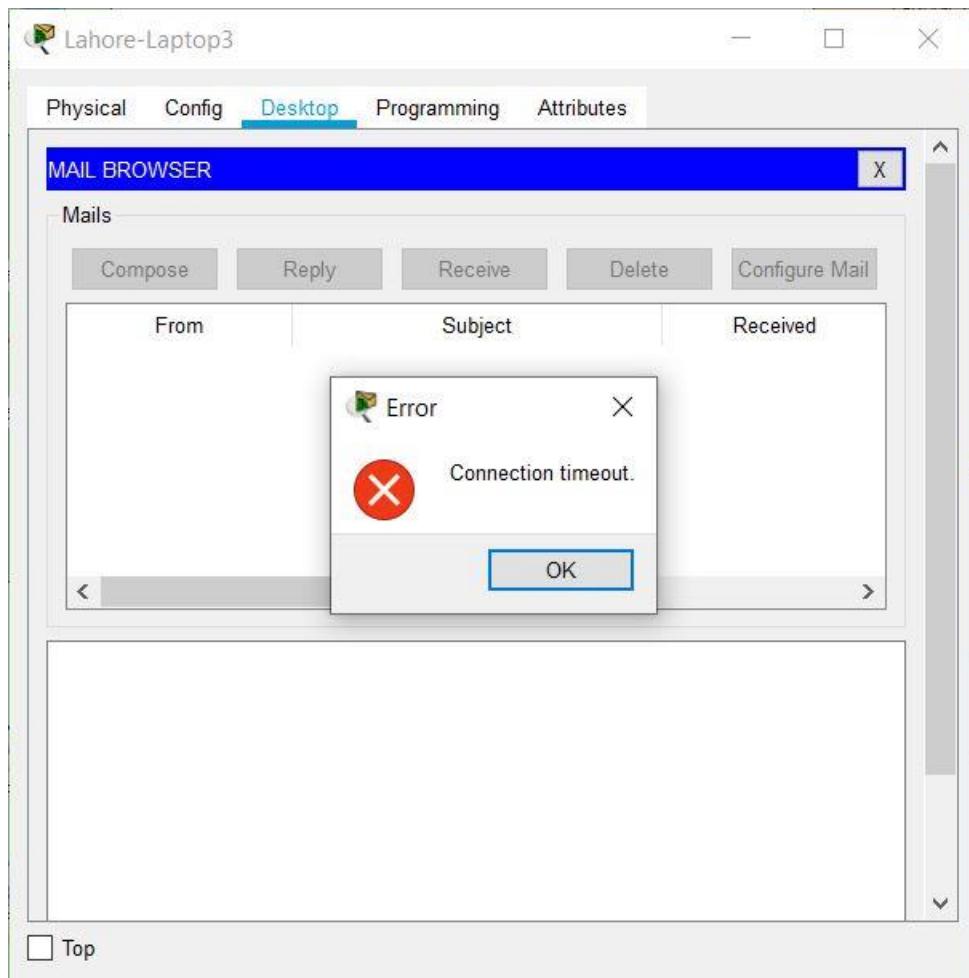
.

(Disconnecting from ftp server)
```

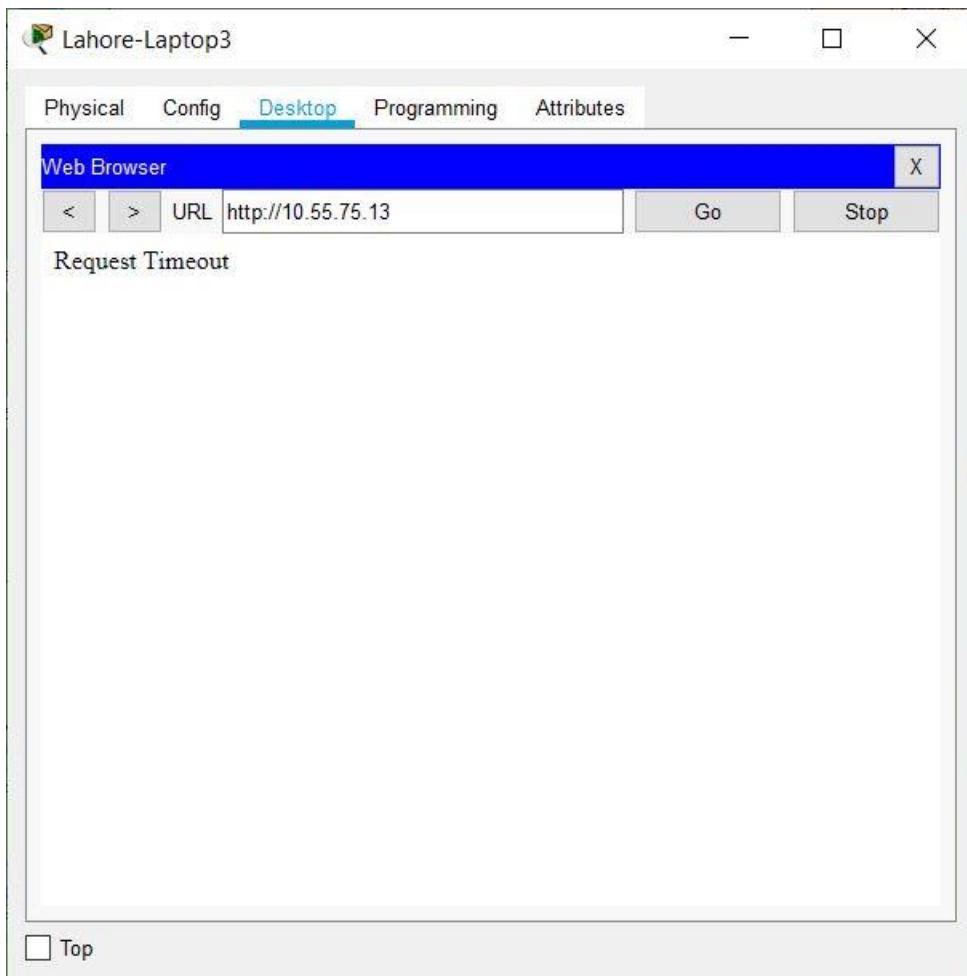
Top

The screenshot shows a Windows Command Prompt window titled "Command Prompt". The window is part of a larger application interface with tabs for "Physical", "Config", "Desktop" (which is selected), "Programming", and "Attributes". The command entered was "C:\>ftp 10.55.75.10", but it failed with the error "%Error opening ftp://10.55.75.10/ (Timed out)". The message "(Disconnecting from ftp server)" is also visible. The window has standard minimize, maximize, and close buttons at the top right.

## **ACL EMAIL:**



## ACL WEB:



## ACL DNS:

