

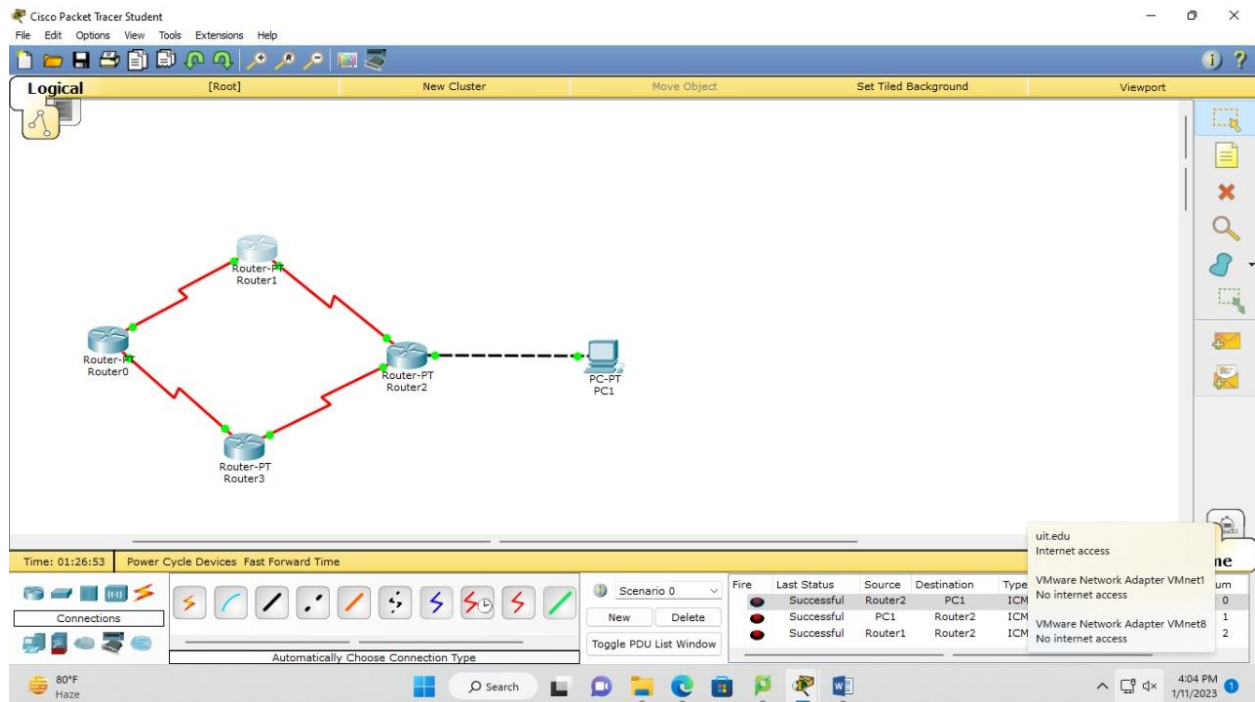
Lab 12

20B-114-CS

Section: A


Hamza Ali Shaikh

Lab Task:



Router0:

Lab 12

 Router0

Physical Config CLI

IOS Command Line Interface

```
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int se3/0
Router(config-if)#ip address 20.0.0.0.255.0.0.0
      ^
% Invalid input detected at '^' marker.

Router(config-if)#ip address 20.0.0.0 255.0.0.0
Bad mask /8 for address 20.0.0.0
Router(config-if)#ip address 20.0.0.2 255.0.0.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#exit
Router(config)#int se2/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#exit
Router(config)#router eigrp 100
Router(config-router)#network 10.0.0.0 0.255.255.255
Router(config-router)#network 20.0.0.0 0.255.255.255
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#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
```

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Lab 12

Router0

Physical Config CLI

IOS Command Line Interface

```
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

Router#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

%LINK-5-CHANGED: Interface Serial2/0, changed state to up

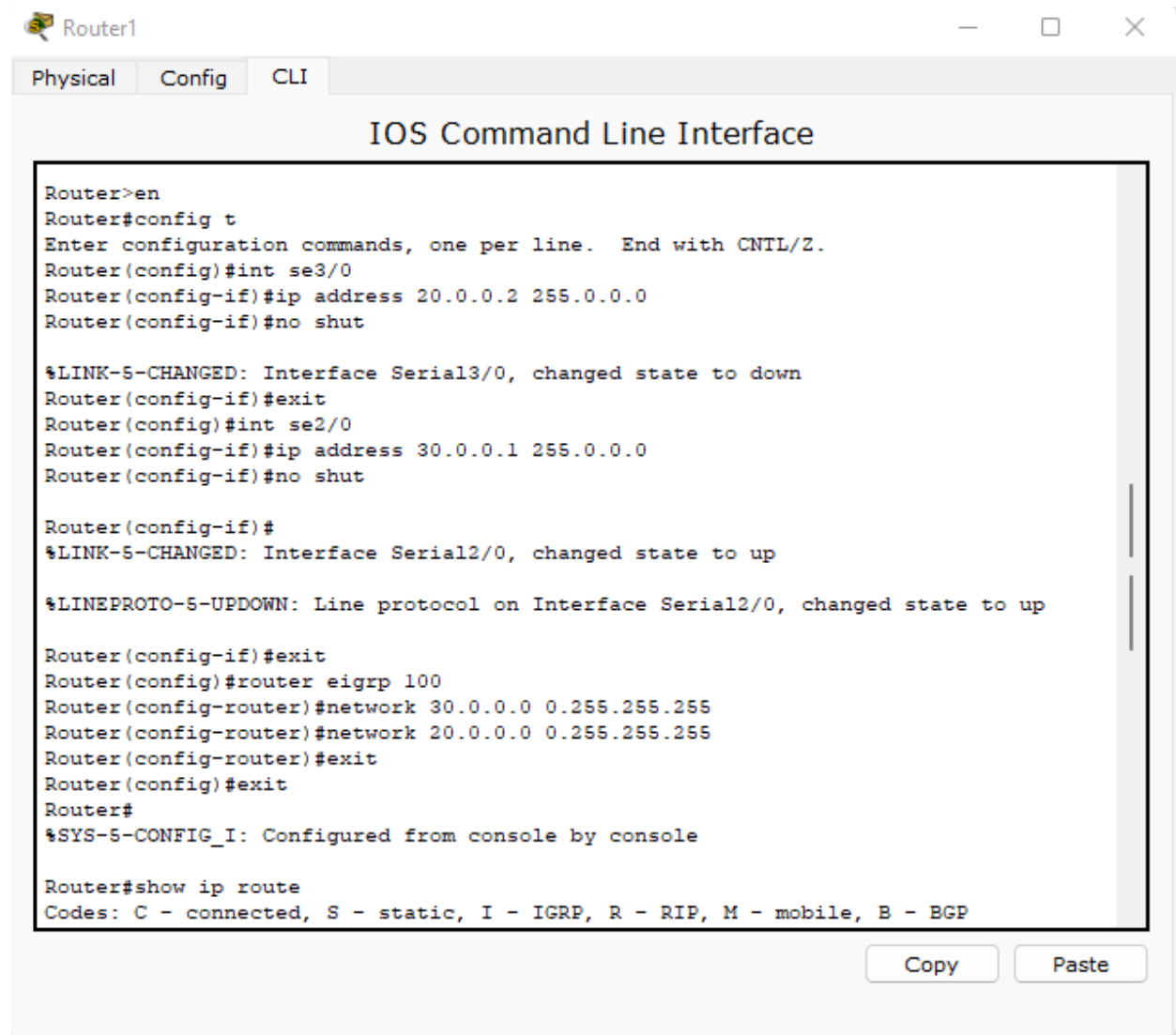
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up


Router con0 is now available
```

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Lab 12

Router1:



The screenshot shows a window titled "Router1" with three tabs: "Physical", "Config", and "CLI". The "CLI" tab is active, displaying the "IOS Command Line Interface". The terminal output shows the following sequence of commands and responses:

```
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int se3/0
Router(config-if)#ip address 20.0.0.2 255.0.0.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#exit
Router(config)#int se2/0
Router(config-if)#ip address 30.0.0.1 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up


%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#exit
Router(config)#router eigrp 100
Router(config-router)#network 30.0.0.0 0.255.255.255
Router(config-router)#network 20.0.0.0 0.255.255.255
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
```

At the bottom right of the CLI window, there are two buttons: "Copy" and "Paste".

Lab 12

 Router1

Physical Config CLI

IOS Command Line Interface

```
Router(config-router)#network 20.0.0.0 0.255.255.255
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#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

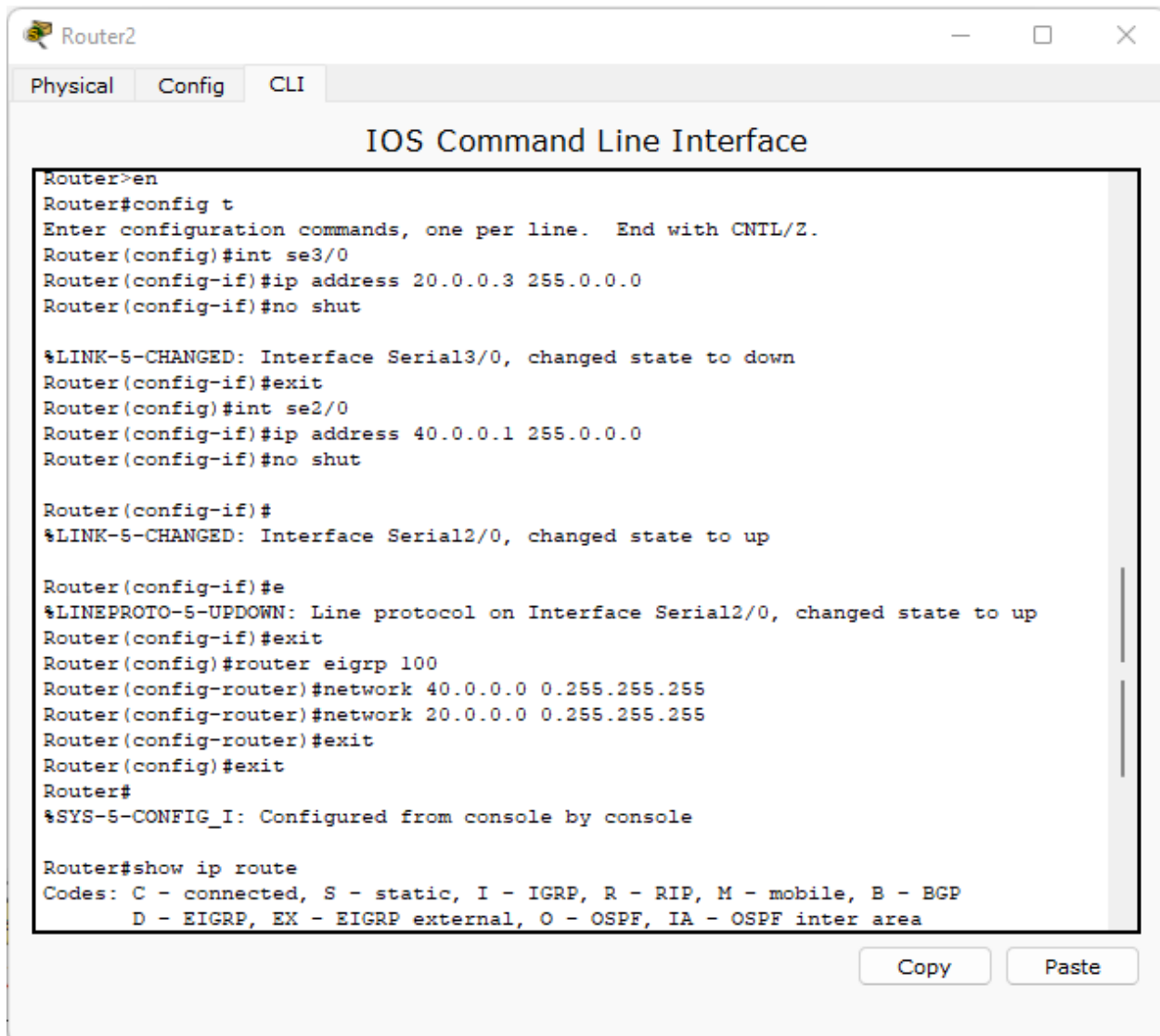
C    30.0.0.0/8 is directly connected, Serial2/0
Router#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up
```

Copy Paste

Router2:

Lab 12



```
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int se3/0
Router(config-if)#ip address 20.0.0.3 255.0.0.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#exit
Router(config)#int se2/0
Router(config-if)#ip address 40.0.0.1 255.0.0.0
Router(config-if)#no shut


Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#e
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up
Router(config-if)#exit
Router(config)#router eigrp 100
Router(config-router)#network 40.0.0.0 0.255.255.255
Router(config-router)#network 20.0.0.0 0.255.255.255
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#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
```

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Lab 12

 Router2

Physical Config CLI

IOS Command Line Interface

```
%LINK-5-CHANGED: Interface Serial3/0, changed state to up
Router(config-if)#exit
Router(config)#router eigrp 100
Router(config-router)#network 40.0.0.0 0.255.255.255
Router(config-router)#network 20.0.0.0 0.255.255.255
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#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

C    40.0.0.0/8 is directly connected, Serial2/0
Router#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

%DUAL-5-NBRCHANGE: IP-EIGRP 100: Neighbor 20.0.0.4 (Serial3/0) is up: new
adjacency
```

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Cisco Packet Tracer Student

File Edit Options View Tools Extensions Help

Logical [Root] New Cluster Move Object Set Tiled Background Viewport

Router2

Physical Config CLI

IOS Command Line Interface

```
Router>en
Router#config
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int se0/0
%Invalid interface type and number
Router(config)#int fa0/0
Router(config-if)#ip address 60.0.0.1 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#
```

Time: 01:18:14 Power Cycle Devices Fast Forward Time

Connections

Toggle PDU List Window

Successfull Router1

Realtime

Destination	Type	Color	Time(sec)	Periodic	Num
PC1	ICMP		0.000	N	0
Router2	ICMP		0.000	N	1
Router2	ICMP		0.000	N	2


80°F Haze

Search

3:55 PM 1/11/2023

Router3:

Lab 12

 Router3

Physical Config CLI

IOS Command Line Interface

```
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int se3/0
Router(config-if)#ip address 20.0.0.4 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

Router(config-if)#exit
Router(config)#int se2/0
Router(config-if)#ip address 50.0.0.1 255.0.0.0
Router(config-if)#no shut


Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#exit
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config)#router eigrp 100
Router(config-router)#network 50.0.0.0 0.255.255.255
Router(config-router)#network 20.0.0.0 0.255.255.255
Router(config-router)#
%DUAL-5-NBRCHANGE: IP-EIGRP 100: Neighbor 20.0.0.3 (Serial3/0) is up: new
adjacency
```

Copy Paste

Lab 12

 Router3

Physical Config CLI

IOS Command Line Interface

```
Router(config-if)#exit
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config)#router eigrp 100
Router(config-router)#network 50.0.0.0 0.255.255.255
Router(config-router)#network 20.0.0.0 0.255.255.255
Router(config-router)#
%DUAL-5-NBRCHANGE: IP-EIGRP 100: Neighbor 20.0.0.3 (Serial3/0) is up: new
adjacency

Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#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

C    20.0.0.0/8 is directly connected, Serial3/0
D    40.0.0.0/8 [90/21024000] via 20.0.0.3, 00:00:17, Serial3/0
C    50.0.0.0/8 is directly connected, Serial2/0
Router#
```

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Lab 12

Cisco Packet Tracer Student

File Edit Options View Tools Extensions Help

Logical [Root] New Cluster Move Object Set Tiled Background Viewport

Router-PT Router1
Router-PT Router3
Router-PT Router0

PC1

Physical Config Desktop Custom Interface

IP Configuration

IP Configuration
☐ DHCP ☒ Static
IP Address 60.0.0.2
Subnet Mask 255.0.0.0
Default Gateway
DNS Server

IPv6 Configuration
☐ DHCP ☐ Auto Config ☒ Static
IPv6 Address
Link Local Address FE80::230:A3FF:FE9D:38E6
IPv6 Gateway
IPv6 DNS Server

Time: 01:18:38 Power Cycle Devices Fast Forward Time

Connections

80°F Haze

Realtime

Destination	Type	Color	Time(sec)	Periodic	Num
PC1	ICMP		0.000	N	0
Router2	ICMP		0.000	N	1
Router2	ICMP		0.000	N	2

3:55 PM 1/11/2023

Cisco Packet Tracer Student

File Edit Options View Tools Extensions Help

Logical [Root] New Cluster Move Object Set Tiled Background Viewport

Router-PT Router1
Router-PT Router3
Router-PT Router0
Router-PT Router2
PC1

Time: 01:17:00 Power Cycle Devices Fast Forward Time

Connections

80°F Haze

Realtime

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
	Successful	Router2	PC1	ICMP		0.000	N	0
	Successful	PC1	Router2	ICMP		0.000	N	1
	Successful	Router1	Router2	ICMP		0.000	N	2

3:54 PM 1/11/2023

Lab 12

Cisco Packet Tracer Student

File Edit Options View Tools Extensions Help

Logical [Root] New Cluster Move Object Set Tiled Background Viewport

Router1

Physical Config CLI

IOS Command Line Interface

```
Router>en
Router#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

C    20.0.0.0/8 is directly connected, Serial3/0
C    30.0.0.0/8 is directly connected, Serial2/0
D    40.0.0.0/8 [90/21024000] via 20.0.0.3, 00:19:47, Serial3/0
Router#
Router#show int se3/0
Serial3/0 is up, line protocol is up (connected)
Hardware is HD64570
Internet address is 20.0.0.2/8
MTU 1500 bytes, BW 128 Kbit, DLY 20000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation HDLC, loopback not set, keepalive set (10 sec)
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0 (size/max/drops); Total output drops: 0
Queueing strategy: weighted fair
```

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Realtime

Destination	Type	Color	Time(sec)	Periodic	Num
PC1	ICMP	Red	0.000	N	0
Router2	ICMP	Blue	0.000	N	1
Router2	ICMP	Green	0.000	N	2

Time: 01:24:48 Power Cycle Devices Fast Forward Time

Connections

Automatically Choose Connection Type

Toggle PDU List Window

Successfull Router1

80°F Haze

4:01 PM 1/11/2023

Router1

Physical Config CLI

IOS Command Line Interface

```
Router>en
Router#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

C    20.0.0.0/8 is directly connected, Serial3/0
C    30.0.0.0/8 is directly connected, Serial2/0
D    40.0.0.0/8 [90/21024000] via 20.0.0.3, 00:19:47, Serial3/0
Router#
Router#show int se3/0
Serial3/0 is up, line protocol is up (connected)
Hardware is HD64570
Internet address is 20.0.0.2/8
MTU 1500 bytes, BW 128 Kbit, DLY 20000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation HDLC, loopback not set, keepalive set (10 sec)
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0 (size/max/drops); Total output drops: 0
Queueing strategy: weighted fair
Output queue: 0/1000/64/0 (size/max total/threshold/drops)
Conversations 0/0/256 (active/max active/max total)
```

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Lab 12