

Cisco Packet Tracer Student

File Edit Options View Tools Extensions Help

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

PC-PT 10.0.0.10 (Area-3) Gateway: 10.0.0.1 Router-PT Router - 1

Router-1

IOS Command Line Interface

```
Router>enable
Router(config)#
Router(config)#router ospf 1
Router(config-router)#router-id 1.1.1.1
Router(config-router)#network 10.0.0.0 0.255.255.255 area 3
Router(config-router)#network 20.0.0.0 0.255.255.255 area 1
Router(config-router)#exit
Router(config)#
00:14:47: NMSFP-S-ADJCHG: Process 1, Mbr 2.2.2.2 on Serial1/0 from LOADING to FULL, Loading Done
Router(config)#interface Ser2/0
Router(config-if)#interface loopback 0
%LINEPROTO-5-UPDOWN: Interface Loopback0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback0, changed state to up
Router(config-if)#ip address 172.16.1.252 255.255.0.0
Router(config-if)#no shut
Router(config-if)#exit
Router(config)#router ospf 1
Router(config-router)#area 1 virtual-link 2.2.2.2
Router(config-router)#exit
Router#
NTP-4-CORP20_1: Configured from console by console
Router#
```

Time: 00:26:18 Power Cycle Devices Fast Forward Time

Scenario 0 Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

Serial DCE

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

PC-PT 10.0.0.10 (Area-3) Gateway: 10.0.0.1 Router-PT Router - 1

Router-1

IOS Command Line Interface

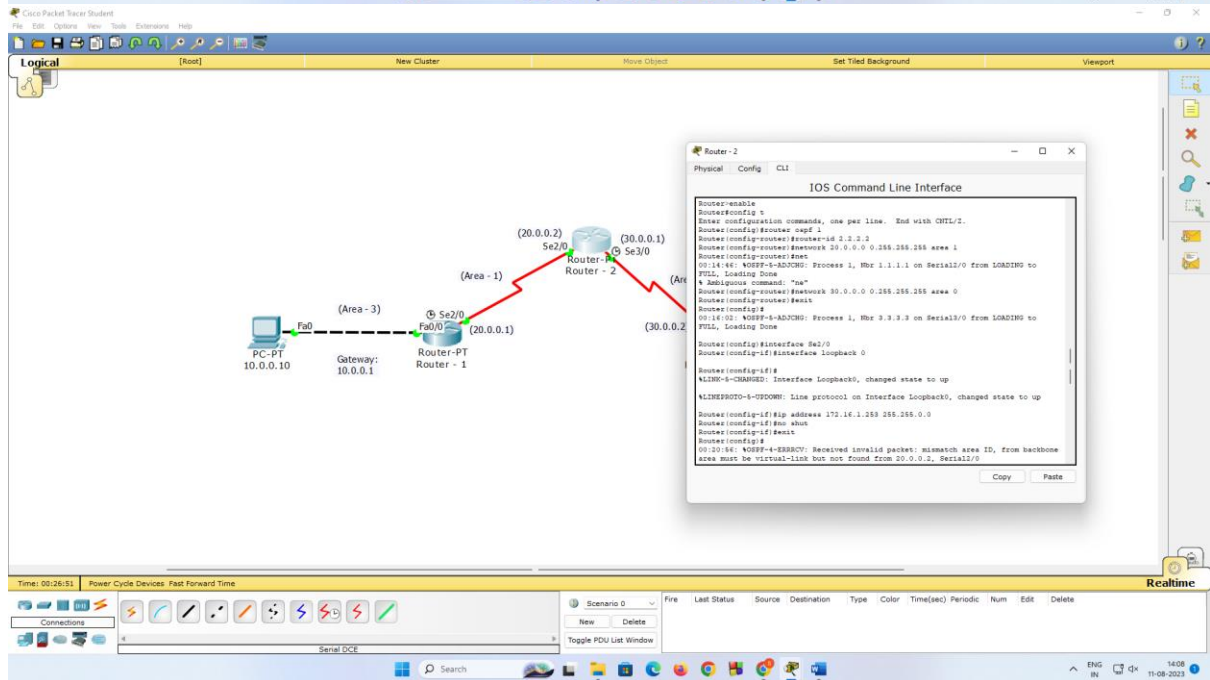
```
Router(config-if)#no shut
Router(config-if)#exit
Router(config)#router ospf 1
Router(config-router)#area 1 virtual-link 2.2.2.2
Router(config-router)#exit
Router(config)#exit
Router#
NTP-4-CORP20_1: Configured from console by console
Router#
00:22:08: NMSFP-S-ADJCHG: Process 1, Mbr 2.2.2.2 on OSPF_VL0 from LOADING to FULL, Loading Done
Router#show ip route
Codes: C - connected, S - static, I - ISDP, B - BGP, H - 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 - IGP, ll - LSP level-1, ll2 - LSP level-2, la - LSP level-2
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route
Gateway of last resort is not set
C 10.0.0.0/8 is directly connected, FastEthernet0/0
C 20.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 20.0.0.0/8 is directly connected, Serial2/0
C 20.0.0.0/22 is directly connected, Serial2/0
O 20.0.0.0/8 (110/128) via 20.0.0.2, 00:00:04, Serial2/0
O IA 40.0.0.0/8 (110/128) via 20.0.0.2, 00:00:04, Serial2/0
C 172.16.0.0/16 is directly connected, Loopback0
Router#
```

Time: 00:26:23 Power Cycle Devices Fast Forward Time

Scenario 0 Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

Serial DCE

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File Edit Options View Tools Extensions Help

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

Router-2

IOS Command Line Interface

```

00:21:06: %OSPF-4-ERRRCV: Received invalid packet: mismatch area ID, from backbone
area must be virtual-link but not found from 20.0.0.2, Serial2/0

Router(config)#router ospf
Router(config-router)#
00:21:06: %OSPF-4-ERRRCV: Received invalid packet: mismatch area ID, from backbone
area must be virtual-link but not found from 20.0.0.2, Serial2/0

Router(config-router)#area 1 virtual-link
Router(config-router)#area 1 virtual-link 1.1.1.1
Router(config-router)#
00:21:06: %OSPF-4-ERRRCV: Received invalid packet: mismatch area ID, from backbone
area must be virtual-link but not found from 20.0.0.2, Serial2/0

Router(config-router)#area 1 virtual-link 1.1.1.1
Router(config-router)#exit

```

Time: 00:26:59 Power Cycle Devices Fast Forward Time

Scenario 0 Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

Serial DCE

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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

Router-2

IOS Command Line Interface

```

Router(config-router)#exit
Router(config)#exit
Router#
%SYS-4-CONF70_1: Configured from console by console
Router#
Router#
00:22:06: %OSPF-4-ADJRCG: Process 1, Wtr 1.1.1.1 on OSPF_VTO from LOADING to FULL,
Loading Done

Router#show ip route
Codes: C - connected, S - static, I - ISDP, E - EIGRP, 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, S - BGP
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 - OGP
P - periodic downloaded static route

Gateway of last resort is not set

O IA 10.0.0.0/8 [110/65] via 20.0.0.1, 00:00:04, Serial2/0
O 20.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 20.0.0.0/8 is directly connected, Serial2/0
C 20.0.0.1/32 is directly connected, Serial2/0
O 30.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 30.0.0.0/8 is directly connected, Serial3/0
C 30.0.0.2/32 is directly connected, Serial3/0
O IA 40.0.0.0/8 [110/65] via 30.0.0.2, 00:04:03, Serial3/0
C 170.16.0.0/16 is directly connected, Loopback0
Router#

```

Time: 00:27:08 Power Cycle Devices Fast Forward Time

Scenario 0 Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

Serial DCE

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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

Router - 3

Physical Config CLI

IOS Command Line Interface

```
Router>enable
Router#configure t
Enter configuration commands, one per line. End with CTRL/Z.
Router(config)#interface fa0/0
Router(config-if)#ip address 30.0.0.2 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit

Router(config)#interface s0/0/0
ALERT-6-CHANGED: Interface Serial3/0, changed state to up
Router(config)#interface s0/0/1
ALERT-6-CHANGED: Line protocol on Interface Serial3/0, changed state
Router(config)#interface fa0/0
Router(config-if)#ip address 40.0.0.1 255.0.0.0
Router(config-if)#no shutdown

Router(config)#interface fa0/0/0
ALERT-6-CHANGED: Interface FastEthernet0/0, changed state to up
ALERT-6-CHANGED: Line protocol on Interface FastEthernet0/0, changed state
to up
Router(config)#interface s0/0/0
Router(config-if)#no shutdown
Router#
NTP-5-CONFIG_1: Configured from console by console
Router#
```

Copy Paste

PC-10.0.0

(Area-0) 0.2

Router-PT Router - 3

(Area-2)

Gateway: 40.0.0.1

PC-PT 40.0.0.10

Time: 00:27:35 Power Cycle Devices Fast Forward Time

Connections

Serial DCE

Scenario 0

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

New Delete

Toggle PDU List Window

ENG IN 1409 11-08-2023

Cisco Packet Tracer Student

File Edit Options View Tools Extensions Help

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

Router - 3

Physical Config CLI

IOS Command Line Interface

```
Router>enable
Router#configure t
Enter configuration commands, one per line. End with CTRL/Z.
Router(config)#router ospf 1
Router(config-router)#router-id 3.3.3.3
Router(config-router)#network 30.0.0.0 0.255.255.255 area 0
Router(config-router)#
Router(config)#router 2
Router(config-router)#network 40.0.0.0 0.255.255.255 area 2
Router(config-router)#exit
Router(config)#interface fa0/0
ALERT-6-CHANGED: Interface FastEthernet0/0, changed state to up
Router(config-if)#ip address 172.16.1.254 255.255.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router#
NTP-5-CONFIG_1: Configured from console by console
Router#show ip route
Codes: C - connected, S - static, I - ISDP, R - RIP, H - mobile, B - BGP
        O - OSPF, EX - EIGRP external, D - OSPF, IA - OSPF inter area
        N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
```

Copy Paste

PC-10.0.0

(Area-0) 0.2

Router-PT Router - 3

(Area-2)

Gateway: 40.0.0.1

PC-PT 40.0.0.10

Time: 00:27:40 Power Cycle Devices Fast Forward Time

Connections

Serial DCE

Scenario 0

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

New Delete

Toggle PDU List Window

ENG IN 1409 11-08-2023

Cisco Packet Tracer Student

File Edit Options View Tools Extensions Help

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

Router-3

Physical Config CLI

IOS Command Line Interface

```
Router(config)#ifconfig
%LINE-6-CRANGED: Interface Loopback0, changed state to up
%LINE20000-5-CDOWN0: Line protocol on Interface Loopback0, changed state to up
Router(config)#ip address 172.16.1.254 255.255.0.0
Router(config)#ifconfig eth0
Router(config)#ifconfig eth1
Router(config)#ifconfig eth2
Router#
N320-6-CRFGD_2: Configured from console by console
Router#
Router#show ip route
Codes: C - connected, S - static, I - ISRP, 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, I - ISB
       L - LSP, LL - LSP level-1, LL - LSP level-2, LA - LSP level
       * - candidate default, U - per-user static route, u - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

O 18.0.0.0/8 [110/120] via 30.0.0.1, 00:00:02, Serial0/0
O 18.0.0.0/8 [110/120] via 30.0.0.1, 00:00:04, Serial0/0
C 30.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
  30.0.0.0/8 is directly connected, Serial0/0
  30.0.0.1/32 is directly connected, Serial0/0
C 40.0.0.0/8 is directly connected, FastEthernet0/0
C 172.16.0.0/16 is directly connected, Loopback0
Router#
```

PC-PT 10.0.0.10

(Area-0) S3/0 (Area-2) Fa0/0

Router-PT Router-3

Gateway: 40.0.0.1

PC-PT 40.0.0.10

Time: 00:27:45 Power Cycle Devices Fast Forward Time

Connections

Serial DCE

Scenario 0

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

New Delete

Toggle PDU List Window

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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

10.0.0.10

Physical Config Desktop Custom Interface

Global Settings

Display Name 10.0.0.10

Gateway/DNS

☐ DHCP

☒ Static

Gateway 10.0.0.1

DNS Server

Gateway/DNS IPv6

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Gateway

IPv6 DNS Server

PC-PT 10.0.0.10

(Area-3) Fa0

Gateway: 10.0.0.1

PC-PT 40.0.0.10

Time: 00:27:50 Power Cycle Devices Fast Forward Time

Connections

Serial DCE

Scenario 0

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

New Delete

Toggle PDU List Window

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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

10.0.0.10

Physical Config Desktop Custom Interface

FastEthernet0

GLOBAL Settings

Port Status ☐ 100 Mbps ☐ 10 Mbps ☒ On

Bandwidth ☐ Half Duplex ☐ Full Duplex ☒ Auto

Duplex ☐ Half Duplex ☐ Full Duplex ☒ Auto

MAC Address 0030.F295.8106

IP Configuration

☐ DHCP

☒ Static

IP Address 10.0.0.10

Subnet Mask 255.0.0.0

IPv6 Configuration

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Address

Link Local Address: FE80::230:F2FF:FE95:8106

PC-PT 10.0.0.10 Fa0 Gateway: 10.0.0.1 (Area - 3)

PC-PT 40.0.0.10 Fa0 Gateway: 40.0.0.1

Time: 00:27:52 Power Cycle Devices Fast Forward Time

Connections

Serial DCE

Scenario 0 Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

New Delete

Toggle PDU List Window

ENG IN 1409 11-08-2023

Cisco Packet Tracer Student

File Edit Options View Tools Extensions Help

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

40.0.0.10

Physical Config Desktop Custom Interface

Global Settings

Display Name 40.0.0.10

Gateway/DNS

☐ DHCP

☒ Static

Gateway 40.0.0.1

DNS Server

Gateway/DNS IPv6

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Gateway

IPv6 DNS Server

PC-PT 10.0.0.10 Fa0 Gateway: 10.0.0.1 (Area - 3)

PC-PT 40.0.0.10 Fa0 Gateway: 40.0.0.1

Time: 00:27:58 Power Cycle Devices Fast Forward Time

Connections

Serial DCE

Scenario 0 Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

New Delete

Toggle PDU List Window

ENG IN 1409 11-08-2023



Cisco Packet Tracer Student

File Edit Options View Tools Extensions Help

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

40.0.0.10

Physical Config Desktop Custom Interface

FastEthernet0

GLOBAL Settings

Algorithm Settings

INTERFACE

FastEthernet0

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

Static

IP Address

Subnet Mask

IPv6 Configuration

DHCP

Auto Config

Static

IPv6 Address

Link Local Address: FE80::201:C9FF:FE85:CC55

(Area - 3)

PC-PT 10.0.0.10

Fa0/0

Gateway: 10.0.0.1

PC-PT 40.0.0.10

Fa0/0

Time: 00:28:01 Power Cycle Devices Fast Forward Time

Connections

Serial DCE

Scenario 0

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

New Delete

Toggle PDU List Window

Cisco Packet Tracer Student

File Edit Options View Tools Extensions Help

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

(Area - 3)

PC-PT 10.0.0.10

Fa0/0

Gateway: 10.0.0.1

(Area - 1)

Router-PT Router - 1

Se2/0 (10.0.0.1)

Fa0/0 (20.0.0.1)

(Area - 0)

Router-PT Router - 2

Se2/0 (20.0.0.2)

Se3/0 (30.0.0.1)

(Area - 2)

Router-PT Router - 3

Se3/0 (30.0.0.2)

Fa0/0 (40.0.0.1)

Gateway: 40.0.0.1

PC-PT 40.0.0.10

Time: 00:28:31 Power Cycle Devices Fast Forward Time

Connections

Serial DCE

Scenario 0

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

New Delete

Toggle PDU List Window