

LAB-4

23/10/24 Exp-4

Aim: configure default route, static route to the router

Topology:

Router 0: 30.0.0.1, 10.0.0.1
Router 1: 20.0.0.1, 20.0.0.2
Router 2: 40.0.0.1, 40.0.0.2

PC1: 10.0.0.10, gateway 10.0.0.1
PC2: 40.0.0.10, gateway 40.0.0.1

Procedure:

1. add two generic PC and 3 generic routers
2. Give the PC generic IP and gateway
3. PCs are connected to routers with copper
4. Click on router and go CLI commands
5. router > enable
Router# config terminal
Router(config)# interface FastEthernet 0/0
Router(config)# ip address 10.0.0.1 255.255.255.0
Router(config)# no shut
exit
6. Similarly connect PC2 as well

7. for router to router

Router>enable

Router#config terminal

Router(config)#interface serial 2/0

Router(config)#ip address 20.0.0.1 255.0.0.0

Router(config)#no shut

exit

→ similarly connecting all 3 routers

8. In Router 1

CLI

Router#config terminal

Router(config)#ip route 10.0.0.0 255.0.0.0 20.0.0.1

Router(config)#ip route 40.0.0.0 255.0.0.0 30.0.0.1

Router(config)#exit

Router#

9. In Router 0

R1(config)#ip route 0.0.0.0 0.0.0.0 20.0.0.2

10. In Router 2

R2(config)#ip route 0.0.0.0 0.0.0.0 30.0.0.1

Observation

→ In PC 0 Command Prompt

PC>ping 40.0.0.10

Pinging 40.0.0.10 with 32 bytes of data:

Request timed out.

Reply from 40.0.0.10: bytes=32 time=6ms TTL=128

Reply from 40.0.0.1: bytes=32

"

"

ping statistics for 40.0.0.10:
packets: sent = 4, received = 4, lost = 0
minimum = 1ms, maximum = 8ms average = 6ms

⇒ In CLI of router 0

Router# show ip route

C 10.0.0.0/8 is directly connected, FastEthernet0/0
C 20.0.0.0/8 is directly connected, serial 2/0
S* 0.0.0.0/0 [1/0] via 20.0.0.2

⇒ In CLI of router 2

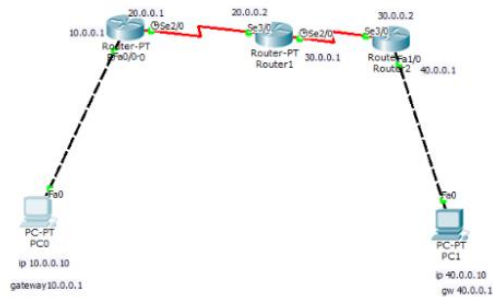
R# show ip route

C 30.0.0.0/8 is directly connected, serial 3/0
C 40.0.0.0/8 is directly connected, FE 0/0
S* 0.0.0.0/0 [1/0] via 30.0.0.1

Result: each PC is now connected to
all three routers and other PC.

Packet can be sent

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```

PC0
Physical Config Desktop Custom Interface

Command Prompt

Request timed out.
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125

Ping statistics for 40.0.0.10:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 6ms, Average = 6ms

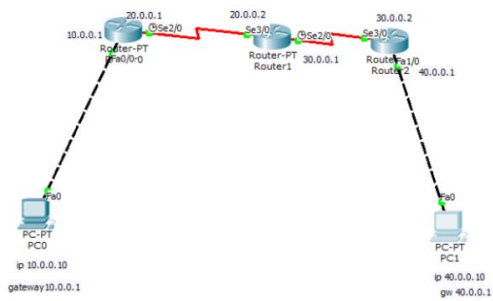
PC>ping 40.0.0.10

Pinging 40.0.0.10 with 32 bytes of data:
Reply from 40.0.0.10: bytes=32 time=7ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125

Ping statistics for 40.0.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 6ms, Average = 6ms

PC>
PC>

```



```

PC1
Physical Config Desktop Custom Interface

Command Prompt

Packet Tracer PC Command Line 1.0
PC>PING 10.0.0.10

Pinging 10.0.0.10 with 32 bytes of data:
Reply from 10.0.0.10: bytes=32 time=7ms TTL=125
Reply from 10.0.0.10: bytes=32 time=6ms TTL=125
Reply from 10.0.0.10: bytes=32 time=6ms TTL=125
Reply from 10.0.0.10: bytes=32 time=7ms TTL=125

Ping statistics for 10.0.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 6ms, Average = 7ms

PC>

```

Time: 00:43:16 | Power Cycle Devices | Fast Forward Time

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

Router2

Physical Config CLI

IOS Command Line Interface

```
Router>enable
Router>conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 0.0.0.0 0.0.0.0 30.0.0.1
Router(config)#exit
Router#
R019-3-CORR15_1: Configured from console by console

Router#show ip route
Codes: C - connected, S - static, I - IGRP, D - 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, 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 - ODR
       P - periodic downloaded static route

Gateway of last resort is 30.0.0.1 to network 0.0.0.0

C 30.0.0.0/8 is directly connected, Serial0/0
C 40.0.0.0/8 is directly connected, FastEthernet0/0
S* 0.0.0.0/0 [1/0] via 30.0.0.1
Router#
```

Copy Paste

Realtime

Time: 00:43:35 | Power Cycle Devices | Fast Forward Time

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

Router1

Physical Config CLI

IOS Command Line Interface

```
Router>conf t
Invalid input detected at '^' marker.

Router>
Router>enable
Router>conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 10.0.0.0 255.0.0.0 30.0.0.1
Router(config)#ip route 40.0.0.0 255.0.0.0 30.0.0.2
Router(config)#exit
Router#
```

Copy Paste

Realtime

Scenario 0

New Delete

Toggle PDU List Window

Serial DCE

Connections

100% 0.07%

Search

23-10-2024

Cisco Packet Tracer

File Edit Options View Tools Extensions Help

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

Router0

Physical Config CLI

IOS Command Line Interface

```
Router>configure terminal
Router(config)#
* Invalid input detected at '^' marker.
Router(config)#ip route 0.0.0.0 0.0.0.0 20.0.0.2
Router(config)#exit
Router#
RTT=0-CORRIG_1: Configured from console by console

Router#show ip route
Codes: C - connected, S - static, I - IGMP, 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, S - SGP
       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 20.0.0.2 to network 0.0.0.0

C    10.0.0.0/8 is directly connected, FastEthernet0/0
C    20.0.0.0/8 is directly connected, FastEthernet0/0
S*   0.0.0.0/0 [1/0] via 20.0.0.2
Router#
```

Copy Paste

Time: 00:42:54 Power Cycle Devices Fast Forward Time

Connections

Serial DCE

Scenario 0

New Delete

Toggle PCU List Window

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

100% 15:00:39 23-10-2024