

Configuring default route to the Router

Lab 4 (12 October 2020)

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Procedure

1. A topology was created using three PT Routers, two Switch-PTs and two PC's connected to each switch
2. Default gateways and unique ip addresses were configured for each PC and router.
3. Static routes were configured from routers R1, R2, and R3
4. Pinging PC2 from PC0 gave, which are on networks 10.0.0.0 and 40.0.0.0 respectively, gave successful ping responses. Similarly, PC3 was pinged from PC1
5. ip routes for each router was viewed using the command: show ip route
6. Static ip route was configured for router 1 using CLI commands: ip route destination_network subnet_mask next_hop_address
7. Default ip route was configured for router 0 and router 2 using CLI commands: ip 0.0.0.0 0.0.0.0 next_hop_address

Screenshots

Topology



Router R1 default route

```

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 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, Serial2/0
S*  0.0.0.0/0 [1/0] via 20.0.0.2

Router>

```

Router R2 static routes

```

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

S   10.0.0.0/8 [1/0] via 20.0.0.1
C   20.0.0.0/8 is directly connected, Serial2/0
C   30.0.0.0/8 is directly connected, Serial3/0
S   40.0.0.0/8 [1/0] via 30.0.0.2

Router>

```

Router R3 default route

```

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 30.0.0.1 to network 0.0.0.0

C   30.0.0.0/8 is directly connected, Serial3/0
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>

```

Ping test PC2 from PC0

```
C:\>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=2ms TTL=125
Reply from 40.0.0.10: bytes=32 time=2ms TTL=125
Reply from 40.0.0.10: bytes=32 time=2ms 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 = 2ms, Maximum = 2ms, Average = 2ms

C:\>
```

Ping test PC3 from PC1

```
C:\>ping 40.0.0.11

Pinging 40.0.0.11 with 32 bytes of data:

Request timed out.
Reply from 40.0.0.11: bytes=32 time=3ms TTL=125
Reply from 40.0.0.11: bytes=32 time=4ms TTL=125
Reply from 40.0.0.11: bytes=32 time=4ms TTL=125

Ping statistics for 40.0.0.11:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 3ms, Maximum = 4ms, Average = 3ms

C:\>
```