

Floating Static Route

A **floating static route** is a static route that the router uses to back up a dynamic route. You must configure a floating static route with a higher **administrative distance** than the dynamic route that it backs up. In this way, the router prefers a dynamic route to a floating static route. The floating static route will be automatically used as a replacement if the dynamic route is lost.

***Note:** Administrative distance is a feature that routers use in order to select the best path when there are two or more different routes to the same destination from two different routing protocols or sources. Use your favorite search engine to research this topic further.*

Learning Outcomes

After completing this exercise, you will be able to:

- Implement a floating static route

Your Devices

You will be using the following devices in this lab. Please make sure these are powered on before proceeding.

- **NYEDGE1** (Cisco 2911 Router)
- **NYEDGE2** (Cisco 2911 Router)
- **NYWAN1** (Cisco 2911 Router)



Task 1 - Configure a Floating Static Route

In this task, you will configure a floating static route on the **NYEDGE1** router.

Step 1

Before you implement the floating static route, you will first have to reconfigure the IP address of the **GigabitEthernet 0/1** interface of **NYEDGE1** that you changed in a previous exercise. To do so, issue the following commands:

***Note:** If NYEDGE1 is already in configuration mode from the previous exercise, please ignore entering configure terminal again. Start with the interface GigabitEthernet 0/1 command.*

```
NYEDGE1#configure terminal

Enter configuration commands, one per line. End with
CNTL/Z.

NYEDGE1(config)#interface GigabitEthernet 0/1

NYEDGE1(config-if)#ip address 172.14.0.1 255.255.255.0

NYEDGE1(config-if)#exit

NYEDGE1(config)#exit

NYEDGE1#
```

Step 1

Examine the routing table of **NYEDGE2**:

```
NYEDGE2#show ip route | begin Gateway

Gateway of last resort is not set

    172.14.0.0/16 is variably subnetted, 2 subnets, 2
masks
```

```
C      172.14.0.0/24 is directly connected,
GigabitEthernet0/1

L      172.14.0.2/32 is directly connected,
GigabitEthernet0/1

R      172.15.0.0/16 [120/1] via 192.168.16.1, 00:00:19,
GigabitEthernet0/0

R      172.18.0.0/16 [120/1] via 192.168.16.1, 00:00:19,
GigabitEthernet0/0

      192.168.16.0/24 is variably subnetted, 2 subnets,
2 masks

C      192.168.16.0/24 is directly connected,
GigabitEthernet0/0

L      192.168.16.2/32 is directly connected,
GigabitEthernet0/0

NYEDGE2#
```

There are two dynamically learned routes in this routing table. You will create a floating static route to back up the route to the **172.18.0.0** network. Remember that this network is on a loopback interface on **NYEDGE1**.

Step 2

To implement the floating static route, you will first have to determine the alternate path that will be configured. Looking at the lab diagram, let's assume that an alternate route to **172.18.0.0** exists via **172.14.0.1** which is the IP of the **GigabitEthernet 0/1** interface of **NYEDGE1**.

Note that this IP address has been changed in a previous exercise. For the

purposes of this lab, however, let us suppose that it has not been changed. You will not test connectivity to this interface in any case.

Step 3

Next, determine the **administrative distance** or **AD** of the route you want to back up. Examine the following line which is an excerpt of the routing table of **NYEDGE2**:

```
R      172.18.0.0/16 [120/1] via 192.168.16.1, 00:00:19,
GigabitEthernet0/0
```

The first of the two numbers in the square brackets [] is the **AD**. Here the **AD** has a value of **120**, so the **AD** that you will configure for the floating static route must be higher. You can use a value of **130** in your configuration.

Step 4

Now you can configure the floating static route. The route will have the following characteristics:

- Route to **172.18.0.0/24**
- Next hop router **172.14.0.1**
- Administrative distance **130**

To implement the floating static route, issue the following commands on **NYEDGE2**:

```
NYEDGE2#configure terminal
```

```
Enter configuration commands, one per line. End with
CNTL/Z.
```

```
NYEDGE2(config)#ip route 172.18.0.0 255.255.255.0
```

```
172.14.0.1 130
```

```
NYEDGE2(config)#exit
```

```
NYEDGE2#
```

Step 5

Examine the routing table of **NYEDGE2** once again:

```
Gateway of last resort is not set
```

```
      172.14.0.0/16 is variably subnetted, 2 subnets, 2 masks
```

```
C          172.14.0.0/24 is directly connected,  
GigabitEthernet0/1
```

```
L          172.14.0.2/32 is directly connected,  
GigabitEthernet0/1
```

```
R      172.15.0.0/16 [120/1] via 192.168.16.1, 00:00:05,  
GigabitEthernet0/0
```

```
      172.18.0.0/16 is variably subnetted, 2 subnets, 2 masks
```

```
R      172.18.0.0/16 [120/1] via 192.168.16.1,  
00:00:05, GigabitEthernet0/0
```

```
S      172.18.0.0/24 [130/0] via 172.14.0.1
```

```
      192.168.16.0/24 is variably subnetted, 2 subnets,  
2 masks
```

```
C          192.168.16.0/24 is directly connected,  
GigabitEthernet0/0
```

```
L          192.168.16.2/32 is directly connected,  
GigabitEthernet0/0
```

```
NYEDGE2#
```

Notice that the static route has been added to the routing table. There is no special designation for a floating static route in a routing table. It just backs up the dynamic route that is already in the table.

You have successfully configured a floating static route.

Leave the devices in their current states and continue on to the next exercise.