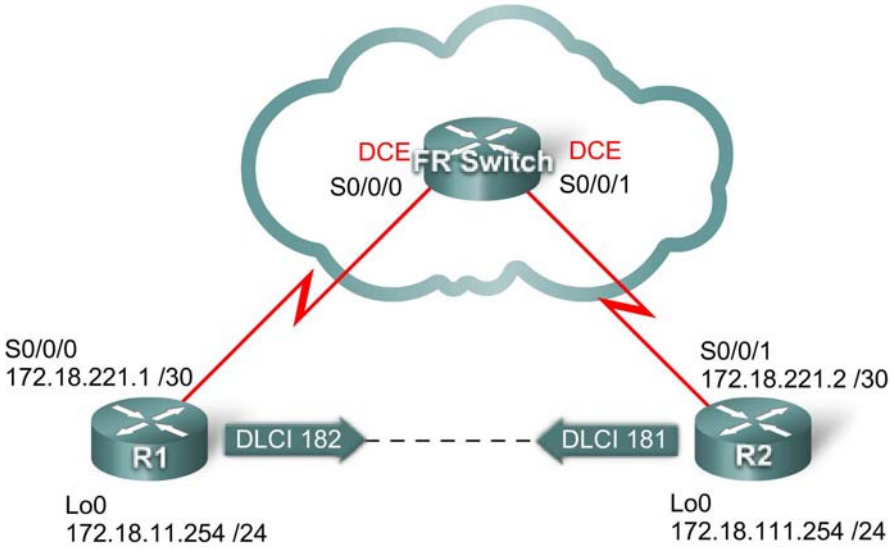
Lab 3.5.3: Troubleshooting Frame Relay

Topology Diagram



Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	**Lo0**	172.18.11.254	255.255.255.0	N/A
	S0/0/0	172.18.221.1	255.255.255.252	N/A
R2	**Lo0**	172.18.111.254	255.255.255.0	N/A
	S0/0/1	172.18.221.2	255.255.255.252	N/A

Learning Objectives

Practice Frame Relay troubleshooting skills.

Scenario

In this lab, you will practice troubleshooting a misconfigured Frame Relay environment. Load or have your instructor load the configurations below into your routers. Locate and repair all errors in the configurations and establish end-to-end connectivity. Your final configuration should match the topology diagram and addressing table. All passwords are set to **cisco** except the enable secret password which is set to **class**.

Task 1: Prepare the Network

Step 1: Cable a network that is similar to the one in the topology diagram.

Step 2: Clear any existing configurations on the routers.

Step 3: Import the configurations.

Router 1

```
!
hostname R1
!
enable secret class
!
no ip domain lookup
!
!
!
!
interface Loopback0
 ip address 172.18.11.254 255.255.255.0
!
interface FastEthernet0/0
 no ip address
 shutdown
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 shutdown
 duplex auto
 speed auto
!
interface Serial0/0/1
 no ip address
 shutdown
 no fair-queue
!
interface Serial0/0/0
 ip address 172.18.221.1 255.255.255.252
 encapsulation frame-relay
 frame-relay map ip 172.18.221.2 678 broadcast
 no frame-relay inverse-arp
 no shutdown
!
router eigrp 1
 network 172.18.221.0
 network 172.18.11.0
 no auto-summary
!
!
!
line con 0
 password cisco
```



```
 logging synchronous
line aux 0
line vty 0 4
 password cisco
 login
!
end
```

Router 2

```
!
hostname R2
!
enable secret class
!
no ip domain lookup
!
interface Loopback0
 ip address 172.18.111.254 255.255.255.0
!
interface FastEthernet0/0
 no ip address
 shutdown
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 shutdown
 duplex auto
 speed auto
!
interface Serial0/0/0
 no ip address
 shutdown
 no fair-queue
!
interface Serial0/0/1
 ip address 172.18.221.2 255.255.255.252
 encapsulation frame-relay
 frame-relay map ip 172.18.221.1 181
 no frame-relay inverse-arp
 frame-relay lmi-type ansi
!
router eigrp 1
 network 172.18.221.0
 network 172.18.111.0
 no auto-summary
!
!
!
line con 0
 password cisco
 logging synchronous
line aux 0
line vty 0 4
 login
```



```
!
end
```

FR-Switch

```
!
hostname FR-Switch
!
!
enable secret class
!
!
!
no ip domain lookup
frame-relay switching
!
!
!
!
interface FastEthernet0/0
 no ip address
 shutdown
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 shutdown
 duplex auto
 speed auto
!
interface Serial0/0/0
 no ip address
 encapsulation frame-relay
 no fair-queue
 clockrate 125000
 frame-relay intf-type dce
 frame-relay route 182 interface Serial0/0/1 181
 no shutdown
!
interface Serial0/0/1
 no ip address
 clockrate 125000
 encapsulation frame-relay
 frame-relay intf-type dce
 no shutdown
!
!
line con 0
 password cisco
 logging synchronous
line aux 0
line vty 0 4
 password cisco
 login
!
end
```


Task 2: Troubleshoot and Repair the Frame Relay Connection Between R1 and R2.

Task 3: Document the Router Configurations

On each router, issue the **show run** command and capture the configurations.

Task 4: Clean Up

Erase the configurations and reload the routers. Disconnect and store the cabling. For PC hosts that are normally connected to other networks, such as the school LAN or to the Internet, reconnect the appropriate cabling and restore the TCP/IP settings.

