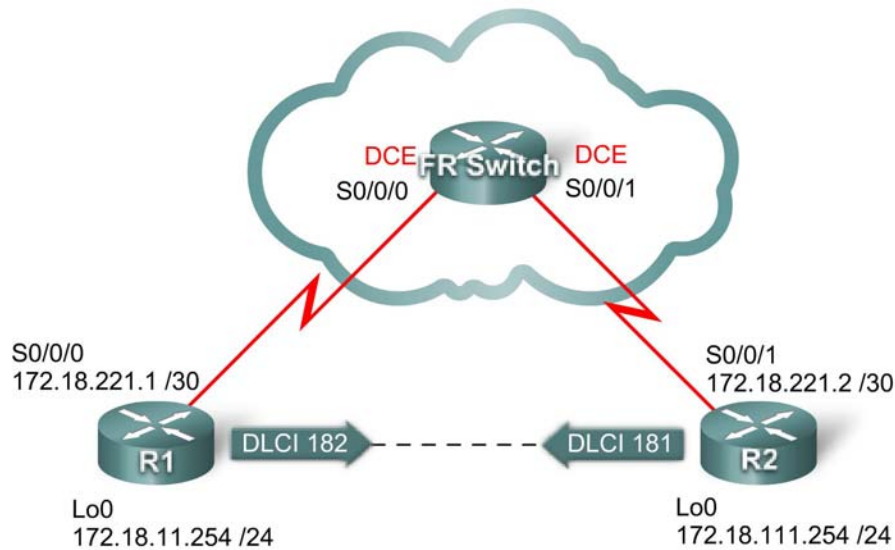


Lab 3.5.3: Troubleshooting Frame Relay

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  
  clockrate 125000  
!  
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
clockrate 125000
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.