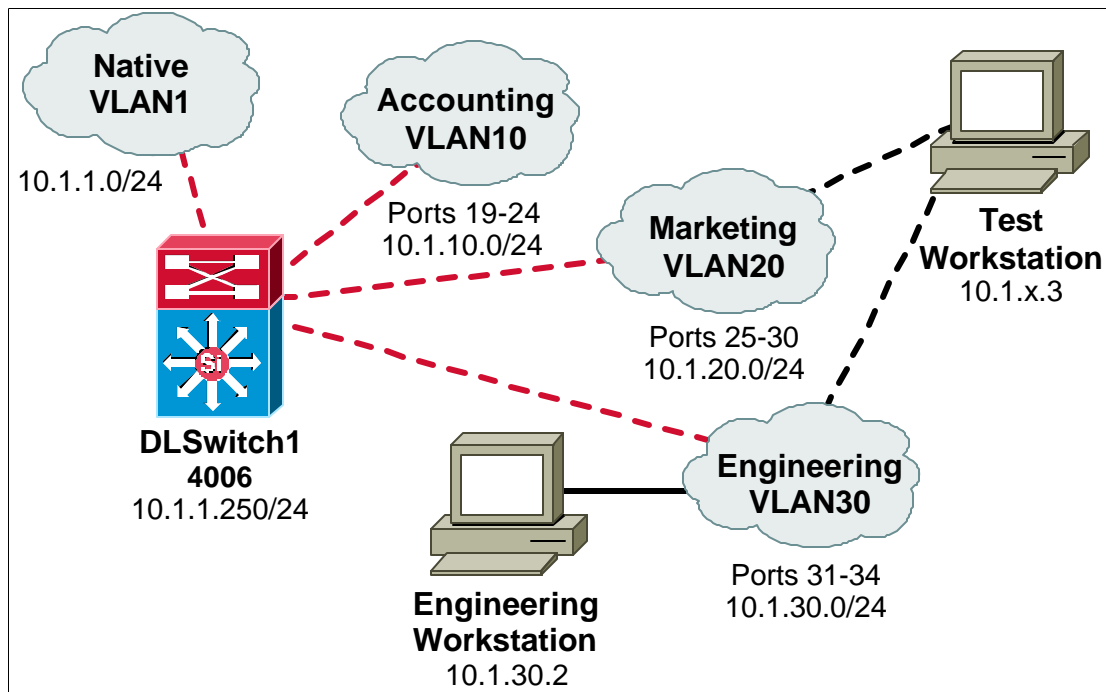


Lab 4.3.1.1: Catalyst 4000 Static VLANs



Objective:

Configure your Distribution Layer Catalyst 4000 Ethernet Switch to support three VLANs - Marketing, Accounting, and Engineering.

Scenario:

You are migrating your current hub based network to a Catalyst 4000 switch based network. You currently have three hubs, one for each network. You will need to create the three VLANs on your new switch. You will assign 3 ports to each VLAN.

Design:

Switch VLAN Port Assignments:

VLANs	VLAN 1 Default	VLAN 10 Accounting	VLAN 20 Marketing	VLAN 30 Engineering
Port Number		19-24	25-30	31-34

Lab Tasks:

1. First, configure your 4000 switch to the diagram above. You can skip this step if you already have the Lab 3.1.3 (4000 initial setup) configured.

```
Console> enable
Console> (enable) set system name DLSwitch1
System name set.
```

```
DLSwitch1> (enable)
```

```
DLSwitch1> (enable) set password
```

```
Enter old password: (Because you do not currently have a password, just hit enter)
```

```
Enter new password:
```

```
Retype new password:
```

```
Password changed.
```

```
DLSwitch1> (enable) set enablepass
```

```
Enter old password: (Because you do not currently have a password, just hit enter)
```

```
Enter new password:
```

```
Retype new password:
```

```
Password changed.
```

```
DLSwitch1> (enable) set interface sc0 10.1.1.250 255.255.255.0
```

```
DLSwitch1> (enable) set interface sc0 1
```

2. Before you can configure the VLANs, you must understand a little about the default operation of the Catalyst 4000.

By default, the Catalyst 4000 is configured as a VTP (VLAN Trunking Protocol) server. You will learn more about this in later labs. Since the switch defaults to a VTP server, you must assign a VTP domain name to the switch.

```
DLSwitch1> (enable) set vtp domain corp
```

This command sets the VTP server domain name to "corp" which is what you will be using during the rest of the labs.

Once this is set, you will be able to configure VLANs.

3. Next you will assign the ports to their appropriate VLANs.

Use the `set vlan 10 slot#/port#` to assign the ports to their appropriate VLANs.

```
DLSwitch1> (enable) set vlan 10 2/19-24
```

Notice that you can specify multiple ports by indicating a range of port numbers - 2/19-24 will include ports 19 through 24 on slot 2.

The switch will return a confirmation of the VLAN assignment:

```
Vlan 10 configuration successful
```

```
VLAN 10 modified.
```

```
VLAN 1 modified.
```

```
VLAN Mod/Ports
```

```
-----
```

```
10      2/19-24
```

Why does the switch tell you that VLAN 1 was modified?

Continue with the other VLANs:

```
DLSwitch1> (enable) set vlan 20 2/25-30
DLSwitch1> (enable) set vlan 30 2/31-34
```

You do not need to configure the other ports as VLAN 1 because they are in VLAN 1 by default.

Use the **show vlan** command to verify that the ports are assigned to the correct VLAN.

What is the maximum number of VLAN supported on a Catalyst 4000 switch?

4. Now configure the Engineering workstation that will sit on the Engineering VLAN using the IP address 10.1.30.2/24. Make sure the Engineering workstation is plugged into one of the Engineering VLAN ports.

What ports are connected to the Engineering VLAN?

What command could you use to determine what ports are assigned to what VLAN?

VLANs can be named so they are easier to identify when doing **show** commands on the switch. These names do not affect the functionality of the VLANs.

```
DLSwitch1> (enable) set vlan 10 name Accounting
DLSwitch1> (enable) set vlan 20 name Marketing
DLSwitch1> (enable) set vlan 30 name Engineering
```

Do another **show vlan** command:

```
Console> (enable) sh vlan
```

VLAN	Name	Status	IfIndex	Mod/Ports, Vlans
1	default	active	6	1/1-2 2/1-18
10	Accounting	active	45	2/19-24
20	Marketing	active	46	2/25-30
30	Engineering	active	47	2/31-34
1002	fddi-default	active	7	
1003	token-ring-default	active	10	
1004	fddinet-default	active	8	
1005	trnet-default	active	9	

5. Configure the Test workstation so it has an IP address of 10.1.20.3/24 and plug it into the Marketing VLAN.

What ports are in the Marketing VLAN?

Can you ping 10.1.30.2, the IP address of the Engineering workstation?

What is needed for you to be able to ping the Engineering workstation?

6. Change the IP address of the Test workstation to 10.1.30.3/24.

Can you ping the Engineering workstation now?

If you can't ping the Engineering workstation after you changed the IP address, make sure you remembered to move the Test workstation to the Engineering VLAN after changing the IP address.