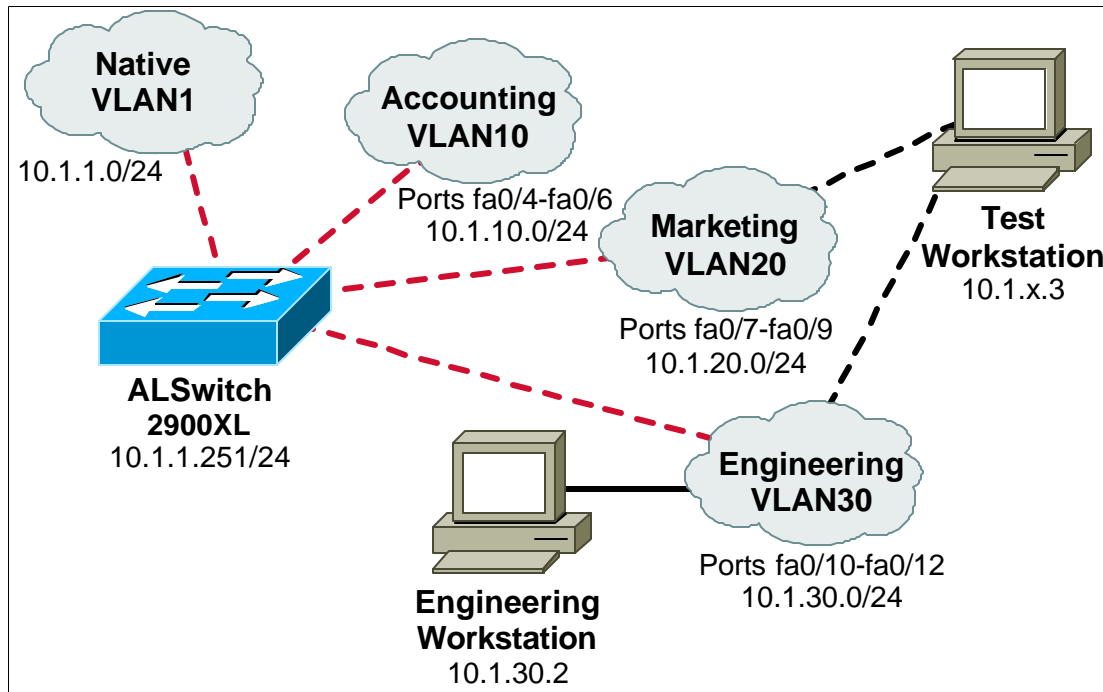


Lab 4.3.1.2: Catalyst 2900 Static VLANs



Objective:

Configure your Access Layer Catalyst 2900 Ethernet Switch to support three VLANs - Marketing, Accounting, and Engineering.

Scenario:

You are migrating your current hub based network to a Catalyst 2900 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	Fa0/1-Fa0/3	Fa0/4-Fa0/6	Fa0/7-Fa0/9	Fa0/10-Fa0/12

Lab Tasks:

1. First, configure your 2900 switch to the diagram above. You can skip this step if you already have the Lab 3.2.3 (2900 initial setup) configured.

```
Switch> enable
Switch#
```

Set the switch name.

```
Switch#config terminal
Switch(config)#host ALSwitch
ALSwitch(config)#

ALSwitch(config)#enable password class
ALSwitch(config)#line con 0
ALSwitch(config-line)#password cisco
ALSwitch(config-line)#login
ALSwitch(config-line)#line vty 0 15
ALSwitch(config-line)#password cisco
ALSwitch(config-line)#login

ALSwitch(config)#interface vlan 1
ALSwitch(config-if)#ip address 10.1.1.251 255.255.255.0
```

2. Next you will configure the VLANs. Refer to the **Design** section for VLAN port assignments.

First you need to set all of the ports to “access” ports. A port on a 2900 switch can be one of three modes: A trunk port, a multi-VLAN port, or an access port. Trunk ports and multi-VLAN ports are used when connecting a switch to another switch (or other device that understands VLAN trunking.) Because you will be connecting workstations to these ports, you need to configure these ports as “access” ports, which means that these will be single VLAN ports with standard devices attached.

By default all ports should be configured as access ports. This command is not necessary unless the ports have been setup as trunk ports.

```
ALSwitch(config)#interface fa0/1
ALSwitch(config-if)#switchport mode access
```

You have to repeat this step for all ports that need to be converted back to access ports.

What command(s) could you use to determine if a port is in "access" or "trunk" mode and needs to be converted?

3. Next assign the ports to the appropriate VLANs.

Use the **switchport access vlan n** (where *n* is the VLAN number) to assign the ports to their appropriate VLANs.

```
ALSwitch(config)#interface fa0/4
ALSwitch(config-if)#switchport access vlan 10
```

```
ALSwitch(config)#interface fa0/5
ALSwitch(config-if)#switchport access vlan 10
```

```
ALSwitch(config)#interface fa0/6
ALSwitch(config-if)#switchport access vlan 10
```

```
ALSwitch(config)#interface fa0/7
ALSwitch(config-if)#switchport access vlan 20
```

```
ALSwitch(config)#interface fa0/8
ALSwitch(config-if)#switchport access vlan 20
```

```
ALSwitch(config)#interface fa0/9
ALSwitch(config-if)#switchport access vlan 20
```

```
ALSwitch(config)#interface fa0/10
ALSwitch(config-if)#switchport access vlan 30
```

```
ALSwitch(config)#interface fa0/11
ALSwitch(config-if)#switchport access vlan 30
```

```
ALSwitch(config)#interface fa0/12
ALSwitch(config-if)#switchport access vlan 30
```

Be default, you do not need to configure fa0/1-fa0/3 as VLAN 1 because that is the default VLAN that ports are assigned to.

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 2900 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?

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 cannot 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.