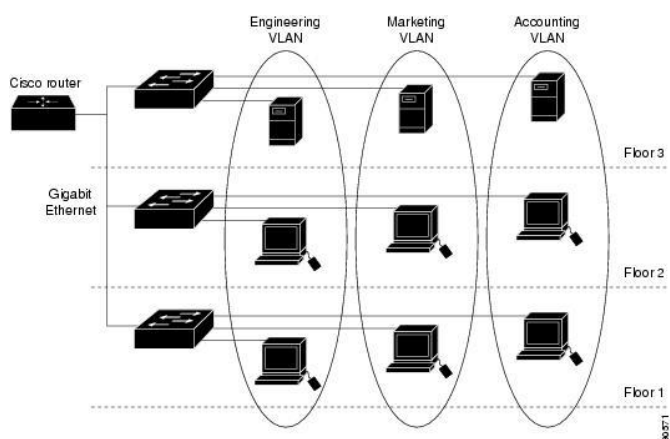


Lecture 9

VLAN Configurations

What is VLAN ?

A VLAN is a switched network that is logically segmented by function, project team, or application, without regard to the physical locations of the users. VLANs have the same attributes as physical LANs, but you can group end stations even if they are not physically located on the same LAN segment. Any switch module port can belong to a VLAN, and unicast, broadcast, and multicast packets are forwarded and flooded only to end stations in the VLAN.



Normal-Range VLANs

Normal-range VLANs are VLANs with VLAN IDs 1 to 1005. You can add, modify or remove configurations for VLANs 2 to 1001 in the VLAN database. (VLAN IDs 1 and 1002 to 1005 are automatically created and cannot be removed.)

Configurations for VLAN IDs 1 to 1005 are written to the file *vlan.dat* (VLAN database), and you can display them by entering the **show vlan** privileged EXEC command. The *vlan.dat* file is stored in flash memory.

Extended-Range VLANs

You can create extended-range VLANs (in the range 1006 to 4094) to enable service providers to extend their infrastructure to a greater number of customers. The extended-range VLAN IDs are allowed for any **switchport** commands that allow VLAN IDs. Extended-range VLAN configurations are not stored in the VLAN database, but they are stored in the

switch module running configuration file, and you can save the configuration in the startup configuration file by using the **copy running-config startup-config** privileged EXEC command.

Part1: Creation of VLANs:

```
switch# configure terminal  
Switch(config)# vlan 20  
Switch(config-vlan)# name test20  
Switch(config-vlan)# end
```

Part2: Assigning ports to VLANs:

```
Switch# configure terminal  
Switch(config)# interface fastethernet0/1  
Switch(config-if)# switchport mode access  
Switch(config-if)# switchport access vlan 20  
Switch(config-if)# end
```

Command to Displays selected configuration information for the defined VLAN(s).

```
switch# show vlan [ brief | id [ vlan_id | vlan_range ]  
| name name | summary ]  
switch# show vlan summary
```

To add PCs from another switch to a VLAN, you will have to add truck link to connect the two switches and allow VLANs to pass through the trunk link:

Switch# **configure terminal**

Switch(config)# **interface fastethernet0/9**

Switch(config-if)# **switchport mode trunk**

Switch(config-if)# **switchport trunk allow vlan 20**

Switch(config-if)# **end**

Switch# **show vlan**

