VLANs Cheat Sheet for Cisco Beginners

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This is a generic cheat sheet and not for a specific use case.

What are VLANs?

Virtual LANs (VLANs) logically separate devices on the same physical switch into different broadcast domains. Each VLAN acts like a separate network.

VLAN Types

Access VLAN

• Purpose: Assigns a single VLAN to a switch port

• **Use**: Connect end devices (PCs, printers, servers)

• Traffic: Untagged frames

Voice VLAN

• Purpose: Separate voice traffic from data traffic

• **Use**: IP phones with built-in switch

• Traffic: Voice VLAN tagged, data VLAN untagged

Trunk VLAN

• **Purpose**: Carries multiple VLANs between switches

• **Use**: Switch-to-switch connections

• **Traffic**: Tagged frames (except native VLAN)

Native VLAN

• Purpose: Default VLAN for untagged traffic on trunk links

• Use: Management and untagged frames

• **Traffic**: Untagged frames on trunk ports

Basic VLAN Configuration

Create VLANs

Switch(config)# vlan 10 Switch(config-vlan)# name Sales Switch(config-vlan)# exit

Switch(config)# vlan 20 Switch(config-vlan)# name Marketing

Configure Access Port

Switch(config)# interface fastethernet0/1 Switch(config-if)# switchport mode access Switch(config-if)# switchport access vlan 10

Configure Voice VLAN

Switch(config)# interface fastethernet0/2 Switch(config-if)# switchport mode access Switch(config-if)# switchport access vlan 10 Switch(config-if)# switchport voice vlan 100

Configure Trunk Port

Switch(config)# interface gigabitethernet0/1 Switch(config-if)# switchport mode trunk Switch(config-if)# switchport trunk allowed vlan 10,20,100

Set Native VLAN

Switch(config-if)# switchport trunk native vlan 99

Essential Show Commands

View VLANs

Switch# show vlan brief Switch# show vlan

View Interface Status

Switch# show interfaces status Switch# show interfaces trunk

View Specific VLAN

Switch# show vlan id 10

Quick Examples

Basic Setup

```
! Create VLANs
vlan 10
name Data
vlan 20
name Voice
vlan 99
name Management
! Access port for PC
interface fa0/1
switchport mode access
switchport access vlan 10
! Voice port for IP phone
interface fa0/2
switchport mode access
switchport access vlan 10
switchport voice vlan 20
! Trunk port to another switch
interface gi0/1
switchport mode trunk
```

Key Points

- VLAN 1 = Default VLAN (cannot be deleted)
- Access ports = One VLAN only

switchport trunk native vlan 99 switchport trunk allowed vlan 10,20

- Trunk ports = Multiple VLANs
- Native VLAN = Untagged on trunks (default VLAN 1)
- Voice VLANs = Special case for IP phones

Remember: Devices in different VLANs cannot communicate without a router or Layer 3 switch!