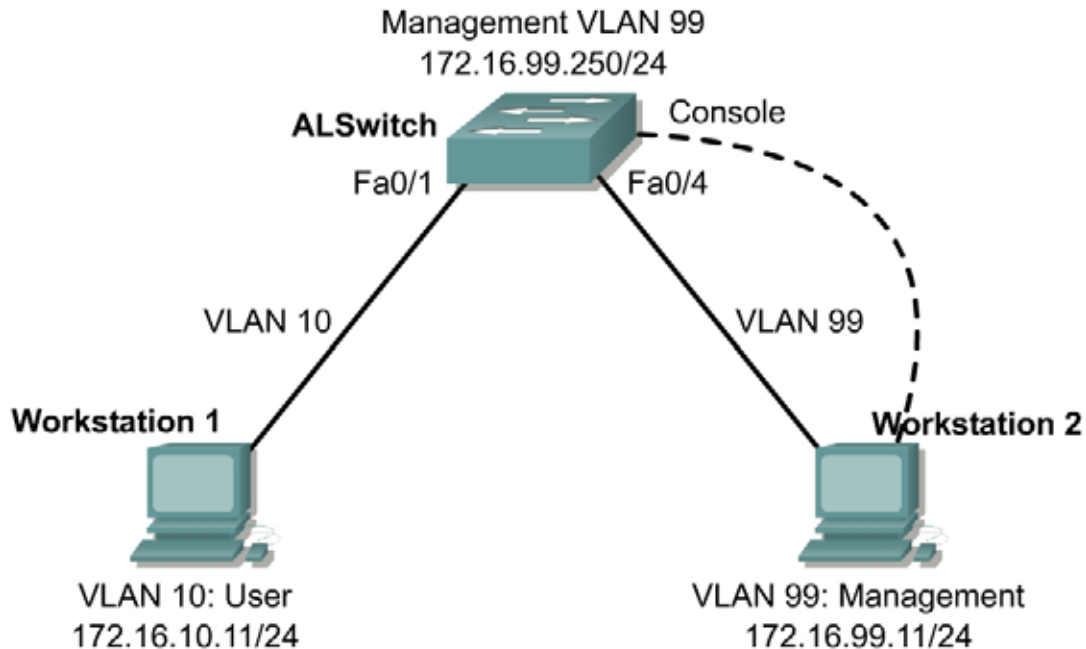


Lab 7.5.6.4 Configuring the Management VLAN on a Single Switch



Objective

In this lab, students will configure and use a non-default Management VLAN. This lab will use the `config-vlan` and `vlan database` modes to configure VLANs.

Equipment

The following equipment is required to complete this lab:

- Catalyst 3550 or 2950 series switch
- IOS 12.1(11)EA1
- Two network-capable workstations with Telnet client packages

Scenario

Corporate headquarters has decided to further improve network management security by implementing VLANs to separate user and management traffic.

Step 1

Build the network according to the diagram. Reset the switch to factory defaults. Assign IP addresses to the workstations. Configure the switch name, but do not configure VLANs and do not assign an IP address to the switch.

Step 2

From privileged mode, enter VLAN database mode:

```
ALSwitch#vlan database
ALSwitch(vlan)#
```

Create VLAN 10 and name it **Users**.

```
ALSwitch(vlan)#vlan 10 name Users
VLAN 10 added:
  Name: Users
ALSwitch(vlan)#
```

Verify that the VLAN has been created.

```
ALSwitch(vlan)#show
VLAN ISL Id: 1
  Name: default
  Media Type: Ethernet
  VLAN 802.10 Id: 100001
  State: Operational
  MTU: 1500
  Backup CRF Mode: Disabled
  Remote SPAN VLAN: No

VLAN ISL Id: 10
  Name: Users
  Media Type: Ethernet
  VLAN 802.10 Id: 100010
  State: Operational
  MTU: 1500
  Backup CRF Mode: Disabled
  Remote SPAN VLAN: No

VLAN ISL Id: 1002
  Name: fddi-default
  Media Type: FDDI
  VLAN 802.10 Id: 101002
  State: Operational
  MTU: 1500
  Backup CRF Mode: Disabled
  Remote SPAN VLAN: No

VLAN ISL Id: 1003
  Name: token-ring-default
  Media Type: Token Ring
  VLAN 802.10 Id: 101003
  State: Operational
  MTU: 1500
  Maximum ARE Hop Count: 7
  Maximum STE Hop Count: 7
  Backup CRF Mode: Disabled
  Remote SPAN VLAN: No

VLAN ISL Id: 1004
  Name: fddinet-default
  Media Type: FDDI Net
  VLAN 802.10 Id: 101004
```

```

State: Operational
MTU: 1500
STP Type: IEEE
Backup CRF Mode: Disabled
Remote SPAN VLAN: No

VLAN ISL Id: 1005
Name: trnet-default
Media Type: Token Ring Net
VLAN 802.10 Id: 101005
State: Operational
MTU: 1500
STP Type: IBM
Backup CRF Mode: Disabled
Remote SPAN VLAN: No

```

1. What VLAN numbers and names are displayed?

Step 3

Exit VLAN database mode.

```

ALSwitch(vlan)#exit
APPLY completed.
Exiting....
ALSwitch#

```

Display summary VLAN information from privileged mode.

```

ALSwitch#show vlan

```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/6, Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/11, Fa0/12 Gi0/1, Gi0/2
10	Users	active	
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
10	enet	100010	1500	-	-	-	-	-	0	0
1002	fddi	101002	1500	-	-	-	-	-	0	0
1003	tr	101003	1500	-	-	-	-	srb	0	0
1004	fdnet	101004	1500	-	-	-	-	ieee	0	0
1005	trnet	101005	1500	-	-	-	-	ibm	0	0

Remote SPAN VLANs

Primary	Secondary	Type	Ports

Step 4

Enter global configuration mode.

Use the **config-vlan** configuration mode to create VLAN 99 and name it **Mgt**.

```
ALSwitch(config)#vlan 99
ALSwitch(config-vlan)#name Mgt
```

Return to privileged mode and verify the VLAN configuration.

```
ALSwitch(config-vlan)#end
ALSwitch#show vlan
00:44:11: %SYS-5-CONFIG_I: Configured from console by console

VLAN Name                Status    Ports
-----
1    default                active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                           Fa0/5, Fa0/6, Fa0/7, Fa0/8
                                           Fa0/9, Fa0/10, Fa0/11, Fa0/12
                                           Gi0/1, Gi0/2
10   Users                  active
99   Mgt                    active
1002 fddi-default          active
1003 token-ring-default   active
1004 fddinet-default      active
1005 trnet-default        active

VLAN Type  SAID      MTU    Parent RingNo BridgeNo  Stp  BrdgMode Transl  Trans2
-----
1    enet    100001    1500   -      -      -        -   -          0      0
10   enet    100010    1500   -      -      -        -   -          0      0
99   enet    100099    1500   -      -      -        -   -          0      0
1002 fddi    101002    1500   -      -      -        -   -          0      0
1003 tr     101003    1500   -      -      -        -   srb        0      0
1004 fdnet  101004    1500   -      -      -        ieee -          0      0
1005 trnet  101005    1500   -      -      -        ibm  -          0      0

Remote SPAN VLANs
-----
Primary Secondary Type      Ports
-----
```

2. Can a **Telnet** connection from either PC to the switch be established? Explain why or why not.

Step 5

Enter global configuration mode.

Assign an IP address to VLAN 99 on the switch.

```
ALSwitch(config)#interface vlan 99
ALSwitch(config-if)#ip address 172.16.99.250 255.255.255.0
ALSwitch(config-if)#no shutdown
```

3. Can a **Telnet** connection from either workstation to the switch be established? Explain why or why not.

Step 6

Make port FastEthernet0/1 a member of VLAN 10.

```
ALSwitch(config)#interface fastethernet 0/1
ALSwitch(config-if)#switchport mode access
ALSwitch(config-if)#switchport access vlan 10
```

Make port FastEthernet0/4 a member of VLAN 99.

```
ALSwitch(config)#interface fastethernet0/4
ALSwitch(config-if)#switchport mode access
ALSwitch(config-if)#switchport access vlan 99
ALSwitch(config-if)#end
```

Return to privileged mode and verify the VLAN configuration.

```
ALSwitch#show vlan
```

VLAN	Name	Status	Ports
1	default	active	Fa0/2, Fa0/3, Fa0/5, Fa0/6 Fa0/7, Fa0/8, Fa0/9, Fa0/10 Fa0/11, Fa0/12, Gi0/1, Gi0/2
10	Users	active	Fa0/1
99	Mgt	active	Fa0/4
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
10	enet	100010	1500	-	-	-	-	-	0	0
99	enet	100099	1500	-	-	-	-	-	0	0
1002	fddi	101002	1500	-	-	-	-	-	0	0
1003	tr	101003	1500	-	-	-	-	srb	0	0
1004	fdnet	101004	1500	-	-	-	-	ieee	0	0
1005	trnet	101005	1500	-	-	-	-	ibm	0	0

Remote SPAN VLANs

Primary	Secondary	Type	Ports

Note VLANs 10 and 99 now have associated interfaces.

4. Now is it possible to establish a Telnet connection from either workstation to the switch? Explain why or why not.

Return to privileged mode and verify the VLAN configuration.

```

ALSwitch(config-if)#end
ALSwitch#
00:54:52: %SYS-5-CONFIG_I: Configured from console by console
ALSwitch#show vlan

```

VLAN	Name	Status	Ports

1	default	active	Fa0/2, Fa0/3, Fa0/5, Fa0/6 Fa0/7, Fa0/8, Fa0/9, Fa0/10 Fa0/11, Fa0/12, Gi0/1, Gi0/2
10	Users	active	Fa0/1
99	Mgt	active	Fa0/4
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2

1	enet	100001	1500	-	-	-	-	-	0	0
10	enet	100010	1500	-	-	-	-	-	0	0
99	enet	100099	1500	-	-	-	-	-	0	0
1002	fddi	101002	1500	-	-	-	-	-	0	0
1003	tr	101003	1500	-	-	-	-	srb	0	0
1004	fdnet	101004	1500	-	-	-	ieee	-	0	0
1005	trnet	101005	1500	-	-	-	ibm	-	0	0

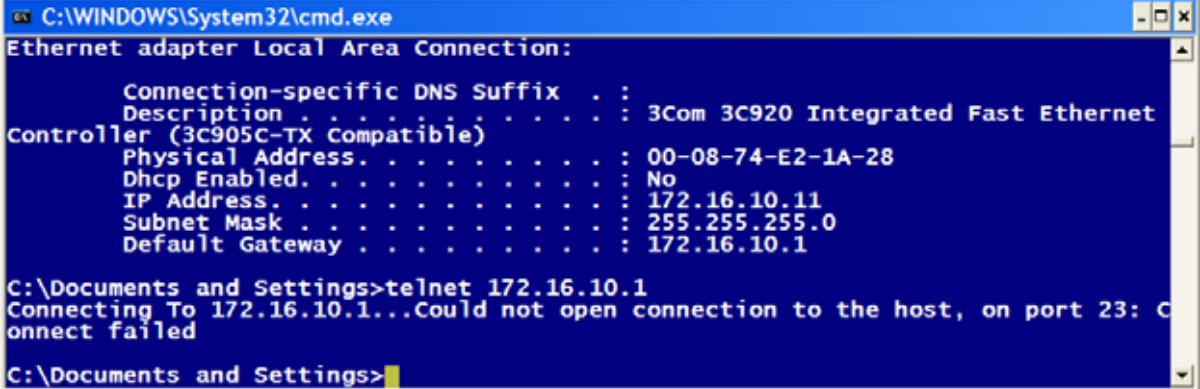
Remote SPAN VLANs

Primary	Secondary	Type	Ports

Note VLANs 10 and 99 now have associated interfaces.

Step 7

Try to open a Telnet session to the switch from workstation 1.



```
C:\WINDOWS\System32\cmd.exe
Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    Description . . . . . : 3Com 3C920 Integrated Fast Ethernet
    Controller (3C905C-TX Compatible)
    Physical Address. . . . . : 00-08-74-E2-1A-28
    Dhcp Enabled. . . . . : No
    IP Address. . . . . : 172.16.10.11
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 172.16.10.1

C:\Documents and Settings>telnet 172.16.10.1
Connecting To 172.16.10.1...Could not open connection to the host, on port 23: C
onnect failed

C:\Documents and Settings>
```

5. Did it work? Why or why not?

Try to open a Telnet session to the switch from workstation 2.

6. Did it work? Why or why not?

Configure the vty lines for Telnet access into the switch.

```
ALSwitch(config)#line vty 0 15
ALSwitch(config-line)#password cisco
ALSwitch(config-line)#login
ALSwitch(config-line)#end
```

A Telnet session from workstation 2 should now be successful.