

Cisco Switch VLAN Setup (IOS)

Summary

WirelessTrakker requires that the switch ports involved for connecting the components for WirelessTrakker be 802.1q VLAN tagged / trunked ports. These directions tell you how to do that. Note: These were written using a Cisco Catalyst 2950. While this should work for most modern Cisco switches running IOS (as opposed to the older CatOS), some Cisco equipment has small nuances that may be different.

Applies To

WirelessTrakker, Cisco switches

More Information

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Using VLAN 100 for the WirelessTrakker management VLAN, and VLANs 101, 102, 103 and 104 for four different SSIDs, the following ports need the following configurations (this assumes there are no other VLANs on your network):

The ports the WirelessTrakker devices are connected to need to have their native / untagged VLAN ID set to the management VLAN (100 in this case), and allow VLANs 101, 102, 103 and 104. The VLAN information needs to make it through the network from the access points back to the controller. Therefore, all the ports in between need to allow the VLAN tagged frames through, while continuing to pass the default traffic (VLAN 1) without touching it. To configure Switch 1, you would need to run these commands at the console:

```
enable
config t

vlan 100
name Management
state active
no shutdown
exit

vlan 101
name Student
state active
no shutdown
exit

vlan 102
name Staff
state active
no shutdown
exit

vlan 103
name Admin
state active
no shutdown
exit

vlan 104
```

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```
name Guest
state active
no shutdown
exit
```

```
interface Vlan 100
description Managment
no shutdown
exit
```

```
interface Vlan 101
description Student
no shutdown
exit
```

```
interface Vlan 102
description Staff
no shutdown
exit
```

```
interface Vlan 103
description Admin
no shutdown
exit
```

```
interface Vlan 104
description Guest
no shutdown
exit
```

```
interface gig0/1
description WT-Wired
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 1,100-104
switchport trunk native vlan 1
exit
```

```
interface gig0/2
description WT-Wireless
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100-104
```

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```
switchport trunk native vlan 100
exit

interface gig0/3
description AP1
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100-104
switchport trunk native vlan 100
exit

interface gig0/4
description AP2
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100-104
switchport trunk native vlan 100
exit

exit
write memory
```

To confirm VLAN configuration is correct, type SHOW VLAN, you see something like this, if not, your VLANS are not configured correctly.

```
Switch#show vlan
```

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VLAN Name	Status	Ports
1 default	active	g0/1, g0/2, g0/3, g0/4 g0/5, g0/6, g0/7, g0/8 g0/9, g0/10, g0/11, g0/12 g0/13, g0/14, g0/15, g0/16 g0/17, g0/18, g0/19, g0/20 g0/21, g0/22, g0/23, g0/24 g0/25, g0/26, g0/27, g0/28 g0/29, g0/30, g0/31, g0/32 g0/33, g0/34, g0/35, g0/36 g0/37, g0/38, g0/39, g0/40 g0/41, g0/42, g0/43, g0/44 g0/45, g0/46, g0/47, g0/48 g0/49, g0/50
100 Managment	active	
101 Student	active	
102 Staff	active	

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103 Admin	active
104 Guest	active
1002 fddi-default	act/unsup
1003 token-ring-default	act/unsup
1004 fddinet-default	act/unsup
1005 trnet-default	act/unsup

For Switch 2, both ports involved would have the same configuration as port 0/2 on Switch 1. For Switch 3, port 0/1 would be the same as Switch 1 port 0/2, and Switch 3 port 0/23 & 0/24 would be the same as Switch 1 port 0/1.

A helpful hint to help keep your port configuration information straight is to not only save each switch's configuration in a spreadsheet, but also print that spreadsheet and keep it in the wiring closet with each switch. Many people use 8 1/2" x 11" sheet protectors designed to hold a piece of paper in a binder, and hang them right from the rack...one per switch. This is especially useful with bigger networks that use larger switches with >100 ports on them, each with a potentially different configuration.

K12USA Support Knowledge Base

<https://kb.k12usa.com/Knowledgebase/50096/Cisco-Switch-VLAN-Setup-IOS>