FS S3700-24T4F VLAN CLI 24-Port Gigabit Ethernet L2 Switch User Guide

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Product Information: VLAN CLI Reference Guide

The VLAN CLI Reference Guide is a user manual for the S3700-24T4F switch model. This guide provides detailed instructions and information on how to configure VLANs using the Command Line Interface (CLI) on the S3700-24T4F switch. The S3700-24T4F switch is a layer 2 switch that is designed for small to medium-sized businesses.

Product Features:

- 24 10/100/1000BASE-T ports
- 4 Gigabit SFP ports
- Layer 2 switching
- Supports VLANs and VLAN tagging
- CLI management interface

Product Usage Instructions:

To configure VLANs using the CLI on the S3700-24T4F switch, follow these steps:

1. Connect to the switch using a console cable and a terminal emulation program, such as PuTTY.
2. Log in to the switch using your username and password.
3. Enter the VLAN configuration mode by typing “vlan” and pressing enter.
4. Create a new VLAN by typing “vlan [vlan-id]” and pressing enter. Replace “[vlan-id]” with the desired VLAN ID number.
5. Add ports to the new VLAN by typing “port vlan [vlan-id] [port-number]” and pressing enter. Replace “[vlan-id]” with the VLAN ID number you created in step 4, and replace “[port-number]” with the number of the port you want to add to the VLAN.
6. Repeat steps 4 and 5 to create and configure additional VLANs as needed.
7. Save your changes by typing “save” and pressing enter.

For more detailed instructions and information on configuring VLANs using the CLI on the S3700-24T4F switch, refer to the VLAN CLI Reference Guide.

VLAN Configuration Commands

VLAN Configuration Commands

The VLAN configuration commands include:

- vlan
- name
- dot1g-tunnel
- switchport pvid
- switchport mode
- switchport trunk
- show vlan
- show interface vlan

vlan
Syntax
[nol vlan vlan-id
To add a VLAN, run vlan vlan-id. To delete a VLAN, run [no] vlan vlan-id.

Parameters

Parameters	Description
vlan-id	Defines the ID of the VLAN. Value range: 1-4094.

Default Value
The default value is 1.
Command Mode
Global configuration mode
Usage Guidelines
After this command is run, the system enters the VLAN configuration mode and then you can modify some VLAN attributes.
Example
The following example shows how to add the VLAN whose ID is 2:
Switch_config#
Switch_config#van 2
Switch_config_vlan2#exit

name
Syntax
To name a VLAN, run name str.
[no] name str

Parameters

Parameters	Description
str	Defines the name of the VLAN. Value range: 1-32 characters.

Default Value
The default VLAN name is ‘Default’. Other VLAN’s name is VLANxxxx (xxxx is 4-digit stack ID)
Command Mode
VLAN configuration mode
Usage Guidelines
This command can be used to modify the VLAN name to symbolize a specific VLAN.
Example
The following example shows how to set the name of VLAN200 to main405:
Switch_config#
Switch_config#
Switch_config#vlan 200
Switch_config_vlan200#name ?
WORD The ascii name of VLAN(32bytes)
Switch_config_vlan200#name main405

dot1g-tunnel
Syntax

dot1g-tunnel
no dot1q-tunnel
To enable or disable the Dot1q tunnel globally, run the following commands.
Parameters
None
Default Value
Dot1q Tunnel is not enabled globally.
Command Mode
Global configuration mode
Usage Guidelines
After Qot1Q Tunnel is globally enabled, all ports serve as the downlink ports of Qot1Q Tunnel by default and put the SPLAN tag on the incoming packets.
Example
The following example shows how to enable Dot1q tunnel in the global configuration mode.

Switch_config#dot1q-tunnel

switchport pvid

Syntax

To configure VLAN of the access-mode port, run switchport pid vlan-id.

switchport pvid vlan-id

no switchport pvid

Parameters

Parameters	Description
vlan-id	VLAN ID which the port belongs to, ranging between 1 and 4049 Value range: 1-4094

Default Value

All ports belong to VLAN 1.

Command Mode

Port configuration mode

Usage Guidelines

If vlan which pvid belongs does not exist before the command, it will be created with the creation of pvid. The port can be configured in the access mode or the relay mode.

Example

The following example shows how to set port Gigathernet 0/1 to the access port of VLAN10:

Switch_config#interface g0/1

Switch_config_g0/1#switchport pvid 10

switchport mode

Syntax

switchport mode (access | trunk | dot1q-tunnel-uplink | dot1q-translating tunnel no switchport mode

To configure the mode of the port, run the following command.

Parameters

Parameters	Description
access	Access mode
trunk	Relay mode
dot1q-tunnel-uplink	VLAN tunnel uplink mode
dot1q-translating-tunnel	VLAN translating tunnel mode

Default Value

Access mode

Command Mode

Port configuration mode

Usage Guidelines

The switch's port supports the following modes: the access mode, the relay mode, the VLAN tunnel mode, the VLAN translating tunnel mode and the VLAN tunnel uplink mode. The access mode indicates that the port belongs to just one VLAN; only the untagged Ethernet frame can be transmitted and received. The relay mode indicates that the port connects other switches and the tagged Ethernet frame can be transmitted and received. The VLAN translating tunnel mode is a sub mode based on the relay mode. The port looks up the VLAN translation table according to the VLAN tag of received packets to obtain corresponding SPVLAN, and then the switching chip replaces the original tag with SPVLAN or adds the SPVLAN tag to the outside layer of the original tag. When the packets is forwarded out of the port, the SPVLAN will be replaced by the original tag or the SPVLAN tag will be removed mandatorily. Hence, the switch omits different VLAN partitions that access the network, and then passes them without change to the other subnet that connects the other port of the same client, realizing transparent transmission. The VLAN tunnel uplink mode is a sub mode based on the relay mode. The SPVLAN should be set when packets are forwarded out of the port. When the packets are received by the port, their TPIDs will be checked. If difference occurs or they are untagged packets, the SPVLAN tag which contains their own TPID will be added to them as their as outer-layer tag. When the packets are receied by the port, their TPIDs will be checked. If difference occurs or they are untagged packets, the SPLAN tag which contains their own TPID will be added to them as their outer-layer tag. The port mode collides with the 802.1X protocol. The 802.1X protocol cannot be configured in relay mode (including the VLAN translating tunnel mode and the VLAN tunnel

uplinkv mode); the port on which the 802.1X protocol is configured cannot be set to the relay mode. That is to say, the 802.1X protocol can be effective only on the access-mode port (including the VLAN tunnel mode). The 802.1X standard does not support authentication on the trunk port. The reason is that the authentication object regulated in the standard is not the port. As to port multiplexing, if user authentication is approved in one VLAN, all other VLAN users who multiplex this port are also authorized correspondingly, therefore, the trunk port does not support authentication.
Example
The following example shows how to configure the port to VLAN tunnel uplink port mode.
Switch_config_g0/1#switchport mode dot1q-tunnel-uplink

switchport trunk
Syntax
To configure the attributes of the relay port, run the following command.
(no] switchport trunk [(vlan-allowed vlan-list | (vlan-untagged vlan-list} }

Parameters

Parameters	Description
vlan-allowed	VLAN ID which can be received and transmitted by the port Value Range: 1-4094
vlan-untagged	Frame that will be transmitted without adding the VLAN tag Value Range: 1-4094

Default Value
The native VLAN ID of all relay ports is 1. The allowable value for all VLANs ranges between 1 and 4094.
Command Mode
Port configuration mode
Usage Guidelines
No matter the port is in access mode or in relay mode, you can run this command on the port. However, the port is in relay mode when this command functions. The vlan-allowed parameter is used to control the VLAN range of the port; the vlan-untagged parameter is used to decide which packets need be added with the VLAN tag when a port transmits these packets. When the vlan list is used, you can add, remove or set (none, all, except) the lists of the existinqVLAN. The entered lists are separated by the comma or the hyphen. For example, “1, 3, 5, 7′ stands for “vlan 1, vlan 3, vlan 5, vlan 7”, while “1, 3-5, 7” stands for “van 1, vlan 3, vlan 4, vlan -5, vlan 7”
Example
The following example shows how to set the allowable VLAN range to 1-10, and the untagged VLAN range to 2-1000.
Switch_config_g0/1#switchport trunk vlan-allowed 1-10
Switch_config_g0/1#switchport trunk vlan-untagged 2-1000

show vlan
Syntax
To display relative information about all VLANs, run the following command.
show vlan [id vlan-id | interface intfid | dot1q-tunnel [interface intf Imac-vlan | subnet I protocol-vlan dot1q-translating-tunnel flat-translation-table]

Parameters

Parameters	Description
Id *vlan-id*	Displays the designated VLAN. Value range: 1-4094
Interface *Intf-id*	Displays the designated port.
dot1q-tunnel [interface *intf*]	Displays the global information and statistics information about Dot1Q tunnel, or displays the detailed information about Dot1Q tunnel of the designated port.
mac-vlan	Displays the configured MAC VLAN entries.
subnet	Displays the configured IP-subnet VLAN entries.
protocol-vlan	Displays the configured protocol VLAN template or entry.
dot1q-translating-tunnel	Displays the port vlan tunnel translation information
flat-translation-table	Checks the configured items of flat translation

Default Value
None
Command Mode
Global configuration mode, port configuration and EXEC configuration mode
Usage Guidelines
None
Example
The following example shows how to display relative information about all VLANs.
Switch#show vlan

```
VLAN Status Name           Ports
---- ------ ---------------- ------------------------------------------------
1    Static  Default        g0/1, g0/2, g0/4……
2    Static  VLAN0002       g0/3
3    Static  VLAN0003       g0/3
4    Static  VLAN0004       g0/3
5    Static  VLAN0005       g0/3
```

The status parameter stands for the VLAN generation source; the static parameter means that VLAN is generated through configuration; the dynamic parameter means that VLAN is generated dynamically through the GVRP protocol.
The following example shows the detailed information about a VLAN: Switch#show vlan id 1

```
VLAN id: 1, Name: default, TotalPorts:11

Ports          Atttributes
-------------------------------------------------------------------
g0/1           Trunk,Untagged
g0/2           Access
```

The following example shows relative information about alLANon a port: Switch#show van int g0/6

```
Interface        VLAN
Name             Property PVID Vlan-Map       uTagg-VLan-Map
-------------------- -------- ---- ---------------- ----------------
GigaEthernet0/2    Trunk   1   3,5,7,9,11,13,15 none
                             17,19
Switch#show vlan int g0/7

Interface        VLAN
Name             Property PVID Vlan-Map       uTagg-VLan-Map
GigaEthernet 0/3    Access   7   7            ----
```

show interface vlan
Syntax
To display relative information about the VLAN interface, run the following command. show interface vlan intf-id

Parameters

Parameters	Notes:	Value Range
Intf-id	Displays the designated port.	1-4094

Default Value
None
Command Mode
Global configuration mode, port configuration and EXEC configuration mode
Usage Guidelines
None
Example
The following example shows how to display the information about interface VLAN 1.
Switch#show int vlan
VLAN1 is up, line protocol is up
Hardware is EtherSV1, Address is 00e0.0f42.0071(00e0.0f42.0071)
MTU 1500 bytes, BW 1000000 kbit, DLY 2000 usec
Encapsulation ARPA, loopback not set
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts, 0 multicasts
0 input errors, 0 input discards
0 packets output, 0 bytes, 0 underruns
Transmited 0 broadcasts, 0 multicasts
0 output errors, 0 discards
ARP type: ARPA, ARP timeout 04:00:00
The statistics values are explained as follows:
Packets input means the input of all packets, including broadcast packets, multicast packets and unicast packets. Bytes means the byte volume of all packets. Broadcasts means received broadcast packets. Broadcasts means received broadcast packets. Input errors means received error packets. Input discards means that the received packets are dropped, such as the received packets when the interface protocol is down. Packets output means the output of all packets, including broadcast packets, multicast packets and unicast packets. Bytes means the byte volume of all transmitted packets. Broadcasts means transmitted broadcast packets. Multicasts means transmitted multicast packets. Output errors means transmitting error packets. Output discards means that the transmitted packets are dropped, such as the transmitted packets when the interface protocol is down.
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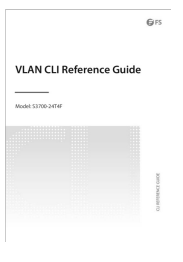	FS S3700-24T4F VLAN CLI 24-Port Gigabit Ethernet L2+ Switch [pdf] User Guide S3700-24T4F VLAN CLI 24-Port Gigabit Ethernet L2 Switch, S3700-24T4F, VLAN CLI 24-Port Gigabit Ethernet L2 Switch, 24-Port Gigabit Ethernet L2 Switch, Gigabit Ethernet L2 Switch, Ethernet L2 Switch, L2 Switch, Switch

References

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