

vlan (VLAN configuration mode)

To configure a specific virtual LAN (VLAN), use the **vlan** command in VLAN configuration mode. To delete a VLAN, use the **no** form of this command without additional options.

```
vlan vlan-id [are hops] [backupcrf mode] [bridge type | bridge-number] [media type] [mtu
mtu-size] [name vlan-name] [parent parent-vlan-id] [ring ring-number] [said sa-id-value]
[state {suspend | active}] [stp type type] [tb-vlan1 tb-vlan1-id] [tb-vlan2 tb-vlan2-id]
```

no vlan

Syntax Description	
<i>vlan-id</i>	Number of the VLAN; valid values are from 2 to 1001.
are <i>hops</i>	(Optional) Specifies the maximum number of All Route Explorer hops for this VLAN. Valid values are from 0 to 13. Zero is assumed if no value is specified.
backupcrf <i>mode</i>	(Optional) Enables or disables the backup concentrator relay function (CRF) mode of the VLAN; valid values are enable or disable .
bridge <i>type</i> <i>bridge-number</i>	(Optional) Specifies the bridging characteristics of the VLAN or identification number of the bridge; valid type values are srb or srt . Valid <i>bridge-number</i> values are from 0 to 15.
media <i>type</i>	(Optional) Specifies the media type of the VLAN; valid values are ethernet , fd-net , fddi , trcrf , and trbrf .
mtu <i>mtu-size</i>	(Optional) Specifies the maximum transmission unit (packet size, in bytes) that the VLAN can use; valid values are from 576 to 18190.
name <i>vlan-name</i>	(Optional) Defines a text string used as the name of the VLAN (1 to 32 characters).
parent <i>parent-vlan-id</i>	(Optional) Specifies the ID number of the parent VLAN of FDDI or Token Ring-type VLANs; valid values are from 2 to 1001.
ring <i>ring-number</i>	(Optional) Specifies the ring number of FDDI or Token Ring-type VLANs; valid values are from 2 to 1001.
said <i>sa-id-value</i>	(Optional) Specifies the security association identifier; valid values are from 1 to 4294967294
state { suspend active }	(Optional) Specifies whether the state of the VLAN is active or suspended. VLANs in suspended state do not pass packets.
stp type <i>type</i>	(Optional) Specifies the Spanning Tree Protocol (STP) type; valid values are ieee , ibm , and auto .
tb-vlan1 <i>tb-vlan1-id</i>	(Optional) Specifies the ID number of the first translational VLAN for this VLAN; valid values are from 2 to 1001. Zero is the default value.
tb-vlan2 <i>tb-vlan2-id</i>	(Optional) Specifies the ID number of the second translational VLAN for this VLAN; valid values are from 2 to 1001. Zero is the default value.

Defaults

The defaults are as follows:

vlan-name is VLANxxxx where xxxx represents four numeric digits (including leading zeros) equal to the VLAN ID number

media *type*—ethernet

state—active

said-value—100000 plus the VLAN ID number

mtu-size—dependent upon the VLAN type:

- ethernet—1500
- fddi—1500
- trcrf—1500 if V2 is not enabled, 4472 if it is enabled
- fd-net—1500
- trbrf—1500 if V2 is not enabled, 4472 if it is enabled

ring-number—no ring number is specified

bridge-number—no bridge number is specified

parent-vlan-id—no parent VLAN is specified

type—no STP type is specified

tb-vlan1 and **tb-vlan2**—0, which means no translational bridge VLAN is specified

Command Modes

VLAN configuration

Command History

Release	Modification
12.0(7)XE	This command was introduced on the Catalyst 6000 family switches.
12.1(1)E	Support for this command on the Catalyst 6000 family switch was extended to the E train.
12.2(2)XT	This command was implemented on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.

Usage Guidelines

VLAN 1 parameters are factory configured and cannot be changed.

When you define *vlan-name*, the name must be unique within the administrative domain.

The Security association ID (SAID) is documented in 802.10. When the **no** form is used, the VLAN's SAID is returned to the default.

When you define the *said-value*, the name must be unique within the administrative domain.

The *bridge-number* argument is used only for Token Ring-net and FDDI-net VLANs and is ignored in other types of VLANs. When the **no** form is used, the VLAN's source-routing bridge number returns to the default.

The parent VLAN resets to the default if the parent VLAN is deleted or the media keyword changes the VLAN type or the VLAN type of the parent VLAN.

The **tb-vlan1** and **tb-vlan2** keywords are used to configure translational bridge VLANs of a specified type of VLAN and are not allowed in other types of VLANs. Translational bridge VLANs must be of a differing VLAN type as the affected VLAN; if two VLANs are specified, the two must be of differing VLAN types.

A translational bridge VLAN will reset to the default if the translational bridge VLAN is deleted or the media keyword changes the VLAN type or the VLAN type of the corresponding translational bridge VLAN.

Examples

The following example shows how to add a new VLAN with all default parameters to the new VLAN database:

```
Router(vlan)# vlan 2
```

**Note**

If the VLAN already exists, no action occurs.

The following example shows how to cause the device to add a new VLAN, specify the media type and parent VLAN ID number 3, and set all other parameters to the defaults:

```
Router(vlan)# vlan 2 media ethernet parent 3
```

```
VLAN 2 modified:
  Media type ETHERNET
  Parent VLAN 3
```

The following example shows how to delete VLAN 2:

```
Router(vlan)# no vlan 2
```

The following example shows how to return the maximum transmission unit (MTU) to the default for its type and return translational bridging VLANs to the default:

```
Router(vlan)# no vlan 2 mtu tb-vlan1 tb-vlan2
```

Related Commands

Command	Description
show vlan	Displays VLAN information.
vlan database	Enters VLAN configuration mode.

vlan database

To enter virtual LAN (VLAN) configuration mode, use the **vlan database** command in privileged EXEC mode.

vlan database

Syntax Description This command has no arguments or keywords.

Command Modes Privileged EXEC

Command History	Release	Modification
	12.0(7)XE	This command was introduced on the Catalyst 6000 family switches.
	12.1(1)E	Support for this command on the Catalyst 6000 family switches was extended to the E train.
	12.2(2)XT	This command was implemented on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.
	12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.

Usage Guidelines Once you are in VLAN configuration mode, you can access the VLAN database editing buffer manipulation commands, including:

- **abort**—Used to exit mode without applying the changes.
- **apply**—Used to apply current changes and bump revision number.
- **exit**—Used to apply changes, bump revision number, and exit mode.
- **no**—Used to negate a command or set its defaults; valid values are **vlan** and **vtp**.
- **reset**—Used to abandon current changes and reread current database.
- **show**—Used to display database information.
- **vlan**—Used to access subcommands to add, delete, or modify values associated with a single VLAN. For information about the **vlan** subcommands, see the **vlan** (VLAN configuration mode) command.
- **vtp**—Used to access subcommands to perform Virtual Terminal Protocol (VTP) administrative functions. For information about the **vtp** subcommands, see the **vtp client** command.

Examples The following example shows how to enter VLAN configuration mode:

```
Router# vlan database
Router(vlan)#
```

The following example shows how to exit VLAN configuration mode without applying changes after you are in VLAN configuration mode:

```
Router(vlan)# abort
Aborting...
Router#
```

The following example shows how to delete a VLAN after you are in VLAN configuration mode:

```
Router(vlan)# no vlan 100
Deleting VLAN 100...
Router(vlan)#
```

Related Commands

Command	Description
show vlan	Displays VLAN information.

vtp client

To place the device in VLAN Trunking Protocol (VTP) client mode, use the **vtp client** command in virtual LAN (VLAN) configuration mode. To return to VTP server mode, use the **no** form of this command.

vtp client

no vtp client

Syntax Description This command has no arguments or keywords.

Defaults Server mode

Command Modes VLAN configuration

Command History

Release	Modification
12.0(7)XE	This command was introduced on the Catalyst 6000 family switches.
12.2(2)XT	This command was implemented on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.

Usage Guidelines

If the receiving switch is in client mode, the client switch changes its configuration to duplicate the configuration of the server. If you have switches in client mode, be sure to make all VTP or VLAN configuration changes on a switch in server mode.

The **vtp server** command is the functional equivalent of **no vtp client** command except that it does not return an error if the device is not in client mode.

Examples

The following example shows how to place the device in VTP client mode:

```
Router(vlan)# vtp client
```

Related Commands

Command	Description
show vtp	Displays VTP statistics and domain information.
vtp (global configuration)	Modifies the name of the VTP configuration storage file.
vtp server	Places a device in VTP server mode.
vtp transparent	Places a device in VTP transparent mode.

vtp domain

To configure the administrative domain name for the device, use the **vtp domain** command in virtual LAN (VLAN) configuration mode.

vtp domain *domain-name*

Syntax Description

<i>domain-name</i>	Domain name.
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Defaults

This command has no default setting.

Command Modes

VLAN configuration

Command History

Release	Modification
12.0(7)XE	This command was introduced on the Catalyst 6000 family switches.
12.2(2)XT	This command was implemented on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.

Usage Guidelines

When you define the *domain-name* argument, the domain name is case sensitive.

Until a domain name is set, the device is in the no-management-domain state. In this state, the device does not transmit any VLAN Trunking Protocol (VTP) advertisements regardless of changes to local VLAN configuration. The device leaves the no-management-domain state upon receiving the first VTP summary packet on any port that is currently trunking or upon configuration of a domain name using the **vtp domain** command. If the device receives its domain from a summary packet, it resets its configuration revision number to zero.

Once the device leaves the no-management-domain state, it can never be configured to reenter it, except by cleaning NVRAM and reloading.

Examples

The following example shows how to set the device's administrative domain:

```
Router(vlan)# vtp domain DomainChandon
```

Related Commands

Command	Description
show vtp	Displays VTP statistics and domain information.
vtp (global configuration)	Modifies the name of the VTP configuration storage file.

vtp password

To create a VLAN Trunking Protocol (VTP) domain password, use the **vtp password** command in virtual LAN (VLAN) configuration mode. To delete the password, use the **no** form of this command.

vtp password *password-value*

no vtp password

Syntax Description	<i>password-value</i>	Specifies the password. The value is an ASCII string from 1 to 32 characters identifying the administrative domain for the device.
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Defaults The default is no password.

Command Modes VLAN configuration

Command History	Release	Modification
	12.0(7)XE	This command was introduced on the Catalyst 6000 family switches.
	12.1(1)E	Support for this command on the Catalyst 6000 family switches was extended to the E train.
	12.2(2)XT	This command was implemented on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.
	12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.

Usage Guidelines The value of the *password-value* argument is an ASCII string from 1 to 32 characters identifying the administrative domain for the device.

Examples The following example shows how to create a VTP domain password:

```
Router(vlan)# vtp password DomainChandon
```

The following example shows how to delete the VTP domain password:

```
Router(vlan)# no vtp password
Clearing device VLAN database password.
```

Related Commands	Command	Description
	show vtp	Displays VTP statistics and domain information.
	vtp (global configuration)	Modifies the name of the VTP configuration storage file.

vtp server

To place the device in VLAN Trunking Protocol (VTP) server mode, use the **vtp server** command in virtual LAN (VLAN) configuration mode.

vtp server

Syntax Description This command has no arguments or keywords.

Defaults The default is VTP server mode.

Command Modes VLAN configuration

Command History	Release	Modification
	12.0(7)XE	This command was introduced on the Catalyst 6000 family switches.
	12.1(1)E	Support for this command on the Catalyst 6000 family switches was extended to the E train.
	12.2(2)XT	This command was implemented on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.
	12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.

Usage Guidelines If you make a change to the VTP or VLAN configuration on a switch in server mode, that change is propagated to all the switches in the same VTP domain.

VTP can be set to either server or client mode only when dynamic VLAN creation is disabled.

If the receiving switch is in server mode, the configuration is not changed.

The **vtp server** command is the functional equivalent of **no vtp client** command except that it does not return an error if the device is not in client mode.

Examples The following example shows how to place the device in VTP server mode:

```
Router(vlan)# vtp server
```

Related Commands	Command	Description
	show vtp	Displays VTP statistics and domain information.
	vtp (global configuration)	Modifies the name of the VTP configuration storage file.
	vtp client	Places a device in VTP client mode.
	vtp transparent	Places a device in VTP transparent mode.

vtp transparent

To place the device in VLAN Trunking Protocol (VTP) transparent mode, use the **vtp transparent** command in virtual LAN (VLAN) configuration mode. To return to VTP server mode, use the **no** form of this command.

vtp transparent

no vtp transparent

Syntax Description This command has no arguments or keywords.

Defaults The default is VTP server mode.

Command Modes VLAN configuration

Command History

Release	Modification
12.0(7)XE	This command was introduced on the Catalyst 6000 family switches.
12.1(1)E	Support for this command on the Catalyst 6000 family switches was extended to the E train.
12.2(2)XT	This command was implemented on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.

Usage Guidelines

The **vtp transparent** command disables VTP from the domain but does not remove the domain from the switch.

If the receiving switch is in transparent mode, the configuration is not changed. Switches in transparent mode do not participate in VTP. If you make VTP or VLAN configuration changes on a switch in transparent mode, the changes are not propagated to the other switches in the network.

The **vtp server** command is similar to the **no vtp transparent** command, except that it does not return an error if the device is not in transparent mode.

Examples

The following example shows how to place the device in VTP transparent mode:

```
Router(vlan)# vtp transparent
```

The following example shows how to return the device to VTP server mode:

```
Router(vlan)# no vtp transparent
```

Related Commands	Command	Description
	show vtp	Displays VTP statistics and domain information.
	vtp (global configuration)	Modifies the name of the VTP configuration storage file.
	vtp client	Places a device in VTP client mode.
	vtp server	Places a device in VTP server mode.

vtp v2-mode

To enable VLAN Trunk Protocol (VTP) version 2 mode, use the **vtp v2-mode** command in virtual LAN (VLAN) configuration mode. To disable version 2 mode, use the **no** form of this command.

vtp v2-mode

no vtp v2-mode

Syntax Description This command has no arguments or keywords.

Defaults Version 2 mode is disabled.

Command Modes VLAN configuration

Command History

Release	Modification
12.0(7)XE	This command was introduced on the Catalyst 6000 family switches.
12.1(1)E	This command was integrated into Cisco IOS Release 12.1(1) E on the Catalyst 6000 family switches.
12.2(2)XT	This command was implemented on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.

Usage Guidelines

All switches in a VTP domain must run the same version of VTP. VTP version 1 and VTP version 2 do not operate on switches in the same VTP domain.

If all switches in a domain are VTP version 2-capable, you must enable VTP version 2 only on one switch; the version number is then propagated to the other version 2-capable switches in the VTP domain.

If you toggle the version 2 mode, parameters of certain default VLANs are modified.

Examples

The following example shows how to enable version 2 mode in the VLAN database:

```
Router(vlan)# vtp v2-mode
```

The following example shows how to disable version 2 mode in the VLAN database:

```
Router(vlan)# no vtp v2-mode
```