

VLAN Subinterface Commands

This module provides command line interface (CLI) commands for configuring IEEE 802.1Q VLANs on the Cisco 8000 Series Routers.

To use commands of this module, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using any command, contact your AAA administrator for assistance.

- dot1q vlan, on page 2
- encapsulation untagged, on page 4
- interface (VLAN), on page 5

dot1q vlan

To assign a VLAN ID to a subinterface (or to modify the VLAN ID that is currently assigned to a subinterface), use the **dot1q vlan** command in subinterface configuration mode. To remove the VLAN ID assigned to a subinterface, use the **no** form of this command.

dot1q vlan *vlan-id*

Syntax Description

vlan-id ID of the subinterface. Range is from 1 to 4094 (0 and 4095 are reserved).

Command Default

No default behavior or values

Command Modes

Subinterface configuration

Command History

Release	Modification
Release 7.0.12	This command was introduced.

Usage Guidelines

The VLAN ID specifies where 802.1Q tagged packets are sent and received on a specified subinterface. An 802.1Q VLAN subinterface must have a configured VLAN ID to send and receive traffic; without a VLAN ID, the subinterface remains in the down state. All VLAN IDs must be unique among all subinterfaces configured on the same physical interface. To change a VLAN ID, the new VLAN must not already be in use on the same physical interface. To exchange VLAN IDs, you must remove the configuration information and reconfigure the ID for each device.



Note The subinterface does not pass traffic without an assigned VLAN ID.



Note The **dot1q vlan** command is is replaced by the **encapsulation dot1q** command. It is still available for backward-compatibility, but only for Layer 3 interfaces. The **encapsulation dot1q** command must be used going forward.

Task ID

Task ID	Operations
vlan	read, write

Examples

This example shows how to configure the VLAN ID and IP address on a subinterface:

```
RP/0/RP0/CPU0:router# configure
RP/0/RP0/CPU0:router(config)# interface TenGigE 0/2/0/4.1
```

```
RP/0/RP0/CPU0:router(config-subif)# dot1q vlan 10
RP/0/RP0/CPU0:router(config-subif)# ipv4 addr 10.0.0.1/24
```

This example shows how to configure the VLAN IDs for both VLANS in a single Q-in-Q attachment circuit (AC). In this case, incoming traffic must match both of the VLAN IDs before it is accepted by the subinterface:

```
RP/0/RP0/CPU0:router# configure
RP/0/RP0/CPU0:router(config)# interface TenGigE 0/2/0/4.1
RP/0/RP0/CPU0:router(config-subif)# dot1q vlan 10 20
```

This example shows how to configure the VLAN IDs for a Q-in-any AC. In this case, all incoming traffic must have two VLAN tags, where the outer VLAN ID matches the configured value, while the inner VLAN ID can be any value.

encapsulation untagged

To define the matching criteria to map untagged frames on an interface, use the **encapsulation untagged** command in the Interface configuration mode.

encapsulation untagged

Syntax Description

This command has no keywords or arguments.

Command Default

No matching criteria are defined.

Command Modes

Interface configuration

Command History

Release	Modification
Release 24.2.11	This command was introduced.

Usage Guidelines

None

Examples

The following example shows how to configure encapsulation untagged under an L2 transport sub-interface.

```
Router# configure
Router(config)# interface HundredGigE0/0/16.1500 l2transport
Router(config-subif)# encapsulation untagged
```

interface (VLAN)

To create a VLAN subinterface, use the **interface** command in XR Config mode. To delete a subinterface, use the **no** form of this command.

interface *type interface-path-id.subinterface*

Syntax Description

type	Type of Ethernet interface on which you want to create a VLAN. Enter **HundredGigabitEthernet**, **TenGigE**, or **Bundle-Ether**.
interface-path-id.subinterface	Physical interface or virtual interface followed by the subinterface path ID. Naming notation is *interface-path-id.subinterface*. The period in front of the subinterface value is required as part of the notation. For more information about the syntax for the router, use the question mark (?) online help function.

Command Default

No default behavior or values

Command Modes

XR Config

Command History

Release	Modification
Release 7.0.12	This command was introduced.

Usage Guidelines

For the *interface-path-id* argument, use the following guidelines:

- If specifying a physical interface, the naming notation is *rack*/*slot*/*module*/*port*. The slash between values is required as part of the notation. An explanation of each component of the naming notation is as follows:
  - *rack*: Chassis number of the rack.
  - *slot*: Physical slot number of the line card.
  - *module*: Module number. A physical layer interface module (PLIM) is always 0.
  - *port*: Physical port number of the interface.
- If specifying an Ethernet bundle interface, the range is from 1 through 65535.

For the *subinterface* argument, the range is from 0 through 4095.

To configure a large number of subinterfaces, we recommend entering all configuration data before you commit the **interface** command.

To change an interface from Layer 2 to Layer 3 mode and back, you must delete the interface first and then re-configure it in the appropriate mode.



Note A subinterface does not pass traffic without an assigned VLAN ID.

Task ID

Task ID	Operations
vlan	read, write

Examples

This example shows how to configure a VLAN subinterface on a 10-Gigabit Ethernet interface:

```
RP/0/RP0/CPU0:router(config)# interface TenGigE 0/0/0/1.2
RP/0/RP0/CPU0:router(config-subif)# dot1q vlan 1
RP/0/RP0/CPU0:router(config-subif)# ipv4 address 50.0.0.1/24
```

Related Commands

Command	Description
dot1q vlan, on page 2	Assigns a VLAN ID to a subinterface (or modifies the VLAN ID that is currently assigned to a subinterface).