



## VXLAN Commands

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For detailed information about VXLAN concepts, configuration tasks, and examples, see the *L2VPN and Ethernet Services Configuration Guide for Cisco ASR 9000 Series Routers*.

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# anycast source-interface loopback

To configure the anycast mode parameters for the VXLAN Tunnel EndPoint (VTEP), use the **anycast source-interface loopback** command in interface configuration submode.

**anycast source-interface loopback** *loopback-interface-identifier* **sync-group** *ip-address*

<b>Syntax Description</b>	<b>anycast</b>	Configures the anycast mode parameters for the VTEP.
	<b>source-interface loopback</b> <i>loopback-interface-identifier</i>	Configures loopback interface as the source interface for the VTEP. The variable <i>loopback-interface-identifier</i> is the loopback interface instance.
	<b>sync-group</b> <i>ip-address</i>	Assigns a bidirectional multicast group for synchronization between anycast gateways.
<b>Command Default</b>	None	
<b>Command Modes</b>	Interface configuration submode	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 5.3.1	This command was introduced.
<b>Usage Guidelines</b>	No specific guidelines impact the use of this command.	

This example shows how to configure anycast mode parameters for VTEP.

```
RP/0/RSP0/CPU0:router# configure
RP/0/RSP0/CPU0:router(config)# interface nve 45
RP/0/RSP0/CPU0:router(config-if)# overlay-encapsulation vxlan
RP/0/RSP0/CPU0:router(config-if)# source-interface loopback 0
RP/0/RSP0/CPU0:router(config-if)# member vni 1 mcast-group 192.20.9.2 0.0.0.0
RP/0/RSP0/CPU0:router(config-if)# anycast source-interface loopback 0 sync-group 192.20.9.2
```

## interface nve

To create a network virtualization endpoint (NVE) interface and enter the NVE interface configuration mode, use the **interface nve** command in Global Configuration mode. To remove the NVE interface, use the **no** form of this command.

**interface nve** *nve-id*

### Syntax Description

*nve-id* The NVE interface ID. It can take values from 1 to 65535.

### Command Default

None

### Command Modes

Global Configuration

### Command History

Release	Modification
Release 5.2.0	This command was introduced.

### Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

### Task ID

Task ID	Operation
interface	read, write

### Example

The following example shows how to create an NVE interface and enter the NVE interface configuration mode.

```
RP/0/RSP0/CPU0:router(config)# interface nve 1
RP/0/RSP0/CPU0:router(config-if)#
```

# member

To associate a VNI member or range of members with the NVE interface and set the multicast group, use the **member** command in NVE interface configuration mode. To disassociate the VNI member or range, use the **no** form of this command.

```
member vni {numberstart_number-end_number} mcast-group ip_address [end_ip_address]
```

Syntax Description	Parameter	Description
	<b>vni</b>	The member VNI.
	<i>number</i>	The VNI for a single VXLAN. The valid values are from 1 to 16777215.
	<i>start_number</i>	The first VNI from a range.
	<i>end_number</i>	The end VNI from a range.
	<b>mcast-group</b>	The multicast group.
	<i>ip_address</i>	A single multicast IP address or the starting multicast IP address from a range.
	<i>end_ip_address</i>	The end multicast IP address from a range.

**Command Default** None

**Command Modes** NVE interface configuration

Command History	Release	Modification
	Release 5.2.0	This command was introduced.

**Usage Guidelines** To associate discontinuous VXLANs or VXLAN ranges with the NVE interface, perform this step for each VXLAN or VXLAN range. For instance,

```
RP/0/RSP0/CPU0:router(config-if)# member vni 10 mcast-group 224.2.2.10
RP/0/RSP0/CPU0:router(config-if)# member vni 23 mcast-group 224.2.2.23
RP/0/RSP0/CPU0:router(config-if)# member vni 50-59 mcast-group 224.2.2.50 224.2.2.59
RP/0/RSP0/CPU0:router(config-if)# member vni 100-120 mcast-group 224.2.2.100 224.2.2.120
```

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID	Task ID	Operation
	interface	read, write
	tunnel	read, write

### Example

The following example shows VNIs from 5000 to 5009 associated with the nve interface "1" and multicast IP address range 200.0.0.1 to 200.0.0.20.

```
RP/0/RSP0/CPU0:router(config)# interface nve 1
RP/0/RSP0/CPU0:router(config-if)# overlay-encapsulation vxlan
RP/0/RSP0/CPU0:router(config-if)# member vni 5000-5009 mcast-group 228.0.0.0 228.0.0.9
```

# member vni

To map a VXLAN to a bridge domain, use the **member vni** command in bridge-domain configuration mode. To remove the VXLAN from the bridge domain, use the **no** form of this command.

**member vni** *number*

<b>Syntax Description</b>	<b>vni</b>	The member virtual network identifier (VNI).
	<b>number</b>	The ID of the VXLAN to be mapped to the bridge domain. The valid values are from 1 to 16777215.
<b>Command Default</b>	None	
<b>Command Modes</b>	Bridge-domain configuration	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 5.2.0	This command was introduced.
<b>Usage Guidelines</b>	To use this command, 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 a command, contact your AAA administrator for assistance.	
<b>Task ID</b>	<b>Task ID</b>	<b>Operation</b>
	interface	read, write
	tunnel	read, write

## Example

The following example shows the VXLAN with VNI "5010" associated with the bridge domain "bd1".

```
RP/0/RSP0/CPU0:router(config)# l2vpn
RP/0/RSP0/CPU0:router(config-l2vpn)# bridge group bg1
RP/0/RSP0/CPU0:router(config-l2vpn-bg)# bridge-domain bd1
RP/0/RSP0/CPU0:router(config-l2vpn-bg-bd)# member vni 5010
```

# overlay-encapsulation

To set a Network Virtualization Endpoint (NVE) interface to provide VXLAN, use the **overlay-encapsulation** command in NVE interface configuration mode. To remove the configured encapsulation on the NVE interface, use the **no** form of this command.

**overlay-encapsulation** {vxlan}

## Syntax Description

**vxlan** Sets the NVE interface as a VXLAN Terminal EndPoint (VTEP).

## Command Default

The NVE interface provides VXLAN encapsulation.

## Command Modes

NVE interface configuration

## Command History

Release	Modification
Release 5.2.0	This command was introduced.

## Usage Guidelines

To use this command, 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 a command, contact your AAA administrator for assistance.

## Task ID

Task ID	Operation
interface	read, write
tunnel	read, write

## Example

The following example shows an NVE interface configured for VXLAN encapsulation.

```
RP/0/RSP0/CPU0:router(config)# interface nve 1
RP/0/RSP0/CPU0:router(config-if)# overlay-encapsulation vxlan
```

# show nve interface

To display the network virtualization endpoint (NVE) interface information, use the **show nve interface** command in EXEC mode.

```
show nve interface [{detail | nve nve-id}]
```

<b>Syntax Description</b>	<b>detail</b>	Displays detailed information about NVE interfaces.
	<b>nve nve-id</b>	Displays information only about the specified NVE interface.
<b>Command Default</b>	None	
<b>Command Modes</b>	EXEC	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 5.2.0	This command was introduced.
	Release 5.3.1	The show command output was enhanced to display VXLAN anycast gateway parameters.
<b>Usage Guidelines</b>	To use this command, 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 a command, contact your AAA administrator for assistance.	
<b>Task ID</b>	<b>Task ID</b>	<b>Operation</b>
		interface read

## Example

This is the sample output for **show interface nve** command enhanced to display VXLAN anycast gateway parameters.

```
RP/0/RSP0/CPU0:router(config)# show interface nve100 detail
Interface: nve100 State: Up Encapsulation: VXLAN
  Source Interface: Loopback1 (primary: 1.1.1.1)
  Source Interface State: Up
  NVE Flags: 0x1, Admin State: Up, Interface Handle 0xba0
  UDP Port: 4789
  Anycast Source Interface: Loopback100 (primary: 100.1.1.1)
  Mcast Sync Group: 224.10.10.1
  Mcast Flags: 0x1
```

The following shows an example output of the **show interface nve** command.

```
RP/0/RSP0/CPU0:router(config)# show interface nve nve1 detail
Interface: nve1, State:up, encapsulation:VXLAN
source-interface: Lol (primary:1.1.1.1, secondary:1.1.1.2)

VNI          mcast          VNI state
```



```
10.10      239.1.1.1  UP
11.10      239.1.1.1  UP
```

## show nve peers

To display the network virtualization endpoint (NVE) peers configured on the router, use the **show nve peers** command in EXEC mode.

```
show nve peers [{interface nve nve-id | vni vni-id}]
```

Syntax Description	
<b>interface nve nve-id</b>	Displays NVE peers of the specified NVE interface.
<b>vni vni-id</b>	Displays NVE peers of the specified VNIs.

**Command Default** None

**Command Modes** EXEC

Command History	Release	Modification
	Release 5.2.0	This command was introduced.

**Usage Guidelines** The router learns about NVE peers through data plane traffic. Therefore, the **show nve peers** command output displays NVE peers only after VXLAN traffic traverses through the router.

To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID	Task ID	Operation
	tunnel	read

### Example

The following shows an example output of the **show nve peers** command.

```
RP/0/RSP0/CPU0:router# show nve peers
Interface Peer-IP      VNI    Up Time
nve1      1.1.1.2      1000   10h
nve2      1.1.1.3      2000   20h
```

## show nve vni

To display list of all VNIs that are associated with various NVE interfaces and the associated multicast IP address that is used for multi-destination frames, use the **show nve vni** command in EXEC mode.

```
show nve vni [{vni_number | detail | interface nve nve-id}]
```

Syntax Description		
	<i>vni_number</i>	Displays output for the specific VXLAN.
	<b>detail</b>	Displays more detailed output.
	<b>interface nve</b> <i>nve-id</i>	Displays details for the specific NVE interface.

**Command Default** None

**Command Modes** EXEC

Command History	Release	Modification
	Release 5.2.0	This command was introduced.

**Usage Guidelines** To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID	Task ID	Operation
	tunnel	read

### Example

The following shows an example output of this show command:

```
RP/0/RSP0/CPU0:router# show nve vni
Interface  VNI          mcast          VNI state
nve1      10.10        239.1.1.1     UP
nve2      11.10        239.1.1.1     UP
```

# source-interface loopback

To specify the IP address for a Network Virtualization Endpoint (NVE) interface, use the **source-interface loopback** command to specify a loopback interface whose IP address should be set as the IP address for the NVE interface.

**source-interface loopback** *interface-id*

Syntax Description	loopback	Specifies a loopback interface as providing IP address for the NVE interface.
	<i>interface-id</i>	Specifies the loopback interface ID. It can take values from 0 to 65535.

**Command Default** None

**Command Modes** NVE interface configuration

Command History	Release	Modification
	Release 5.2.0	This command was introduced.

**Usage Guidelines** To use this command, 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 a command, contact your AAA administrator for assistance.

Task ID	Task ID	Operation
	tunnel	read, write
	interface	read, write

## Example

The following example shows how to configure the IP address of an NVE interface as the IP address of a loopback interface.

```
RP/0/RSP0/CPU0:router(config)# interface nve 1
RP/0/RSP0/CPU0:router(config-if)# source-interface loopback 1
```