



# VXLAN Commands

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*

Syntax Description	<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.
Command Default	None	
Command Modes	Interface configuration submode	

Command History	Release	Modification
	Release 5.3.1	This command was introduced.

**Usage Guidelines** 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*

<b>Syntax Description</b>	<i>nve-id</i> The NVE interface ID. It can take values from 1 to 65535.
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<b>Command Default</b>	None
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<b>Command Modes</b>	Global Configuration
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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** {*number**start\_number-end\_number*} **mcast-group** *ip\_address* [*end\_ip\_address*]

Syntax 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.
<i>mcast-group</i>		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*

Syntax Description	<b>vni</b>	The member virtual network identifier (VNI).
	<i>number</i>	The ID of the VXLAN to be mapped to the bridge domain. The valid values are from 1 to 16777215.
Command Default	None	
Command Modes	Bridge-domain configuration	
Command History	<b>Release</b>	<b>Modification</b>
	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 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 bgl
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

**interface nve** *nve-id* Displays NVE peers of the specified NVE interface.

**vni** *vni-id* 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	vni_number		Displays output for the specific VXLAN.
	detail		Displays more detailed output.
	interface nve nve-id		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*

<b>Syntax Description</b>	<b>loopback</b> Specifies a loopback interface as providing IP address for the NVE interface. <b>interface-id</b> Specifies the loopback interface ID. It can take values from 0 to 65535.						
<b>Command Default</b>	None						
<b>Command Modes</b>	NVE interface configuration						
<b>Command History</b>	<table> <tr> <th>Release</th><th>Modification</th></tr> <tr> <td>Release 5.2.0</td><td>This command was introduced.</td></tr> </table>	Release	Modification	Release 5.2.0	This command was introduced.		
Release	Modification						
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>	<table> <tr> <th>Task ID</th><th>Operation</th></tr> <tr> <td>tunnel</td><td>read, write</td></tr> <tr> <td>interface</td><td>read, write</td></tr> </table>	Task ID	Operation	tunnel	read, write	interface	read, write
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
```

 source-interface loopback