

# 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*.


- anycast source-interface loopback, on page 2
- interface nve, on page 3
- member, on page 4
- member vni, on page 6
- overlay-encapsulation, on page 7
- show nve interface, on page 8
- show nve peers, on page 9
- show nve vni, on page 10
- source-interface loopback, on page 11

# 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

| | |
|---|---|
| **anycast** | Configures the anycast mode parameters for the VTEP. |
| **source-interface loopback** *loopback-interface-identifier* | Configures loopback interface as the source interface for the VTEP.<br>The variable *loopback-interface-identifier* is the loopback interface instance. |
| **sync-group** *ip-address* | 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*

## 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

| | |
|---|---|
| **vni** | The member VNI. |
| *number* | The VNI for a single VXLAN. The valid values are from 1 to 16777215. |
| *start_number* | The first VNI from a range. |
| *end_number* | The end VNI from a range. |
| *mcast-group* | The multicast group. |
| *ip_address* | A single multicast IP address or the starting multicast IP address from a range. |
| *end_ip_address* | 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 discontiguous 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

| | |
|---|---|
| **vni** | The member virtual network identifier (VNI). |
| *number* | 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

| 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 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*]

**Syntax Description**

| | |
|---|---|
| **detail** | Displays detailed information about NVE interfaces. |
| **nve** *nve-id* | Displays information only about the specified 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 |
|---|---|
| interface | read |

### Example

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: Lo1 (primary:10.0.0.1, 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       10.0.0.1        1000    10h
nve2       10.0.0.2        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*

## Syntax Description

| | |
|---|---|
| **loopback** | Specifies a loopback interface as providing IP address for the NVE interface. |
| *interface-id* | 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
```