



QoS Configuration

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 **Note**

To learn more about port QoS configuration, refer to [this](#) community post.

 **Warning**

When working in Embedded Host mode, using `mlnx_qos` on both the host and Arm will result with undefined behavior. Users must only use `mlnx_qos` from the Arm. After changing the QoS settings from Arm, users must restart the `mlx5` driver on host.

 **Note**

When configuring QoS using DCBX, the `lldpad` service from the NVIDIA® BlueField® networking platform's (DPU or SuperNIC) side must be disabled if the configurations are not done using tools other than `lldpad`.

This section explains how to configure QoS group and settings using `devlink` located under `/opt/mellanox/iproute2/sbin/`. It is applicable to host PF/VF and Arm side SFs. The following uses VF as example.

The settings of a QoS group include creating/deleting a QoS group and modifying its `tx_max` and `tx_share` values. The settings of VF QoS include modifying its `tx_max` and `tx_share` values, assigning a VF to a QoS group, and unassigning a VF from a QoS group. This section focuses on the configuration syntax.

Please refer to section "Limit and Bandwidth Share Per VF" in the MLNX_OFED User Manual for detailed explanation on vPort QoS behaviors.

devlink port function rate add

	devlink port function rate add <DEV>/<GROUP_NAME> Adds a QoS group.	
Syntax Description	DEV/GROUP_NAME	Specifies group name in string format
Example	<p>This command adds a new QoS group named 12_group under device pci/0000:03:00.0:</p> <pre>devlink port function rate add pci/0000:03:00.0/12_group</pre>	
Notes		

devlink port function rate del

	devlink port function rate del <DEV>/<GROUP_NAME> Deletes a QoS group.	
Syntax Description	DEV/GROUP_NAME	Specifies group name in string format
Example	<p>This command deletes QoS group 12_group from device pci/0000:03:00.0:</p> <pre>devlink port function rate del pci/0000:03:00.0/12_group</pre>	
Notes		

devlink port function rate set tx_max tx_share

	devlink port function rate set {<DEV>/<GROUP_NAME> <DEV>/<PORT_INDEX>} tx_max <TX_MAX> [tx_share <TX_SHARE>] Sets tx_max and tx_share for QoS group or devlink port.	
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Syntax Description	DEV/GROUP_NAME	Specifies the group name to operate on
	DEV/PORT_INDEX	Specifies the devlink port to operate on
	TX_MAX	tx_max bandwidth in MB/s
	TX_SHARE	tx_share bandwidth in MB/s
Example	This command sets tx_max to 2000MB/s and tx_share to 500MB/s for the 12_group QoS group:	
	<pre>devlink port function rate set pci/0000:03:00.0/12_group tx_max 2000MBps tx_share 500MBps</pre>	
	This command sets tx_max to 2000MB/s and tx_share to 500MB/s for the VF represented by port index 196609:	
Example	<pre>devlink port function rate set pci/0000:03:00.0/196609 tx_max 200MBps tx_share 50MBps</pre>	
	This command displays a mapping between VF devlink ports and netdev names:	
	<pre>\$ devlink port</pre>	
In the output of this command, VFs are indicated by flavour pcivf.		
Notes		

devlink port function rate set parent

	<pre>devlink port function rate set <DEV>/<PORT_INDEX> {parent <PARENT_GROUP_NAME>}</pre> Assigns devlink port to a QoS group.	
Syntax Description	DEV/PORT_INDEX	Specifies the devlink port to operate on
	PARENT_GROUP_NAME	parent group name in string format
Example	This command assigns this function to the QoS group 12_group: <pre>devlink port function rate set pci/0000:03:00.0/196609 parent 12_group</pre>	

Notes	
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devlink port function rate set noparent

	devlink port function rate set <DEV>/<PORT_INDEX> noparent Ungroups a devlink port.	
Syntax Description	DEV/PORT_INDEX	Specifies the devlink port to operate on
Example	<p>This command ungroups this function:</p> <pre>devlink port function rate set pci/0000:03:00.0/196609 noparent</pre>	
Notes		

devlink port function rate show

	devlink port function rate show [<DEV>/<GROUP_NAME> <DEV>/<PORT_INDEX>] Displays QoS information QoS group or devlink port.	
Syntax Description	DEV/GROUP_NAME	Specifies the group name to display
	DEV/PORT_INDEX	Specifies the devlink port to display
Example	<p>This command displays the QoS info of all QoS groups and devlink ports on the system:</p> <pre>devlink port function rate show pci/0000:03:00.0/12_group type node tx_max 2000MBps tx_share 500MBps pci/0000:03:00.0/196609 type leaf tx_max 200MBps tx_share 50MBps parent 12_group</pre> <p>This command displays QoS info of 12_group:</p> <pre>devlink port function rate show pci/0000:03:00.0/12_group pci/0000:03:00.0/12_group type node tx_max 2000MBps tx_share 500MBps</pre>	
Notes	If a QoS group name or devlink port are not specified, all QoS groups and devlink ports are displayed.	

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