



## **qos policy-group commands**

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# qos policy-group commands

## qos policy-group create

Create a policy group

**Availability:** This command is available to *cluster* administrators at the *admin* privilege level.

### Description

The `qos policy-group create` command creates a new policy group. You can use a QoS policy group to control a set of storage objects known as "workloads" - LUNs, volumes, files, or Vservers. Policy groups define measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated.

After you create a policy group, you use the storage object create command or the storage object modify command to apply the policy group to a storage object.

### Parameters

#### **-policy-group <text> - Policy Group Name**

Specifies the name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters including underscores "\_" and hyphens "-". Policy group names must start with an alphanumeric character. You use the [qos policy-group rename](#) command to change the policy group name.

#### **-vserver <vserver name> - Vserver**

Specifies the data Vserver to which this policy group belongs. You can apply this policy group to only the storage objects contained in the specified Vserver. For example, if you want to apply this policy group to a volume, that volume must belong to the specified Vserver. Using this parameter does not apply the policy group's SLOs to the Vserver. You need to use the vserver modify command if you want to apply this policy group to the Vserver. If the system has only one Vserver, then the command uses that Vserver by default.

#### **[-max-throughput <qos\_tput>] - Maximum Throughput**

Specifies the maximum throughput for the policy group. A maximum throughput limit specifies the throughput that the policy group must not exceed. It is specified in terms of IOPS or MB/s, or a combination of comma separated IOPS and MB/s. The range is one to infinity. A value of zero is accepted but is internally treated as infinity.

The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity, which can be specified by the special value "INF". Note that there is no default unit - all numbers except zero require explicit specification of the units.

Two reserved keywords, "none" and "INF", are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value.

Examples of valid throughput specifications are: "100B/s", "10KB/s", "1gb/s", "500MB/s", "1tb/s", "100iops", "100iops,400KB/s", and "800KB/s,100iops"

#### **[-min-throughput <qos\_tput>] - Minimum Throughput**

Specifies the minimum throughput for the policy group. A minimum throughput specifies the desired

performance level for a policy group. It is specified in terms of IOPS or MB/s, or a combination of comma separated IOPS and MB/s.

The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is "0". The default unit is IOPS.

One reserved keyword, 'none' is available for the situation that requires removal of a value.

Examples of valid throughput specifications are: "100B/s", "10KB/s", "1gb/s", "500MB/s", "1tb/s", "100iops", "100iops,400KB/s", and "800KB/s,100iops"

#### **`[-is-shared {true|false}] -Is Shared`**

Specifies whether the policy group can be shared or not. The default value is "true". This parameter specifies if the SLOs of the policy group are shared between the workloads or if the SLOs are applied separately to each workload.

## Examples

```
cluster1::> qos policy-group create p1 -vserver vs1
```

Creates the "p1" policy group which belongs to Vserver "vs1" with default policy values.

```
cluster1::> qos policy-group create p2 -vserver vs1 -max-throughput  
500MB/s
```

Creates the "p2" policy group which belongs to Vserver "vs1" with the maximum throughput set to 500 MB/s.

```
cluster1::> qos policy-group create p3 -vserver vs1 -max-throughput  
500MB/s -is-shared false
```

Creates the "p3" policy group which belongs to Vserver "vs1" with the maximum throughput set to 500 MB/s and shared set to false.

## Related Links

- [qos policy-group rename](#)

## qos policy-group delete

Delete an existing QoS Policy Group

**Availability:** This command is available to *cluster* administrators at the *admin* privilege level.

## Description

The `qos policy-group delete` command deletes a policy group from a cluster. You cannot delete a policy group if a qos workload associated with storage object is assigned to it unless you use "-force". Using "-force"

will delete all the qos workloads for storage objects associated with the specified policy groups .

You can only delete user-defined policy groups. You cannot delete preset policy groups.

## Parameters

### **-policy-group <text> - Policy Group Name**

Specifies the name of the policy group that you want to delete.

### **[-force <true>] - Force Delete Workloads for the QoS Policy Group (privilege: advanced)**

Specifies whether to delete a policy group along with any underlying workloads.

## Examples

```
cluster1::> qos policy-group delete p1
```

Deletes the "p1" policy group.

```
cluster1::> qos policy-group delete p1 -force
```

Deletes the "p1" policy group along with any underlying qos workloads.

## qos policy-group modify

Modify a policy group

**Availability:** This command is available to *cluster* administrators at the *admin* privilege level.

## Description

The `qos policy-group modify` command modifies a user-created policy group.

## Parameters

### **-policy-group <text> - Policy Group Name**

Specifies the name of the policy group that you want to modify.

### **[-max-throughput <qos\_tput>] - Maximum Throughput**

Specifies the maximum throughput for the policy group. A maximum throughput limit specifies the throughput that the policy group must not exceed. It is specified in terms of IOPS or MB/s, or a combination of comma separated IOPS and MB/s. The range is one to infinity. A value of zero is accepted but is internally treated as infinity.

The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity, which can be specified by the special value "INF". Note there is no default unit - all numbers except zero require explicit specification of the units.

Two reserved keywords, "none" and "INF", are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value.

Examples of valid throughput specifications are: "100B/s", "10KB/s", "1gb/s", "500MB/s", "1tb/s", and "100iops".

### **[`-min-throughput <qos_tput>`] - Minimum Throughput**

Specifies the minimum throughput for the policy group. A minimum throughput specifies the desired performance level for a policy group. It is specified in terms of IOPS or MB/s, or a combination of comma separated IOPS and MB/s.

The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is "0". The default unit is IOPS.

One reserved keyword, 'none' is available for the situation that requires removal of a value.

Examples of valid throughput specifications are: "100B/s", "10KB/s", "1gb/s", "500MB/s", "1tb/s", "100iops", "100iops,400KB/s", and "800KB/s,100iops"

## **Examples**

```
cluster1::> qos policy-group modify p1 -max-throughput 10IOPS
```

Modifies the "p1" policy group and sets its max throughput value to 10 IOPS.

## **qos policy-group rename**

Rename a policy group

**Availability:** This command is available to *cluster* administrators at the *admin* privilege level.

### **Description**

The `qos policy-group rename` command changes the name of an existing policy group.

### **Parameters**

#### **`-policy-group <text>` - Policy Group Name**

Specifies the existing name of the policy group that you want to rename.

#### **`-new-name <text>` - New Policy Group Name**

Specifies the new name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters including underscores "\_" and hyphens "-". Policy group names must start with an alphanumeric character.

## **Examples**

```
cluster1::> qos policy-group rename -policy-group p1 -new-name p1_new
```

Renames the policy group from "p1" to "p1\_new".

## qos policy-group show

Display a list of policy groups

**Availability:** This command is available to *cluster* administrators at the *admin* privilege level.

### Description

The `qos policy-group show` command shows the current settings of the policy groups on a cluster. You can display a list of the policy groups and you can view detailed information about a specific policy group.

### Parameters

**{ [-fields <fieldname>,...]**

If you specify the `-fields <fieldname>, ...` parameter, the command output also includes the specified field or fields. You can use `'-fields ?'` to display the fields to specify.

**| [-instance ] }**

If you specify the `-instance` parameter, the command displays detailed information about all fields.

**[-policy-group <text>] - Policy Group Name**

Selects the policy groups that match this parameter value

Policy groups define measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated.

**[-vserver <vserver name>] - Vserver**

Selects the policy groups that match this parameter value

**[-uuid <UUID>] - Uuid**

Selects the policy groups that match this parameter value

**[-class <QoS Configuration Class>] - Policy Group Class**

Selects the policy groups that match this parameter value

**[-pgid <integer>] - Policy Group ID**

Selects the policy groups that match this parameter value

This uniquely identifies the policy group

**[-max-throughput <qos\_tput>] - Maximum Throughput**

Selects the policy groups that match this parameter value

A maximum throughput limit specifies the throughput (in IOPS or MB/s) that the policy group must not exceed.

### **[-min-throughput <qos\_tput>] - Minimum Throughput**

Selects the policy groups that match this parameter value

A minimum throughput specifies the desired performance level for a policy group.

### **[-num-workloads <integer>] - Number of Workloads**

Selects the policy groups that match this parameter value.

### **[-throughput-policy <text>] - Throughput Policy**

Selects the policy groups that match this parameter value. You can specify the throughput range in terms of IOPS or data rate. For example, 0-INF, 0-400IOPS, 0-200KB/s, 0-400MB/s .

### **[-is-shared {true|false}] - Is Shared**

Selects the policy groups that match this parameter value.

The shared value specifies whether the policy group is a shared policy group or not.

### **[-is-auto-generated {true|false}] - Is Policy Auto Generated**

Selects the policy groups that match this parameter value.

The auto-generated value specifies whether the policy group is an automatically generated policy group or not.

## **Examples**

```
cluster1::> qos policy-group show
Name           Vserver      Class           Wklds Throughput
-----
pg1            vs4          user-defined 0      0-200IOPS
pg2            vs0          user-defined 0      0-500IOPS
pg5            vs0          user-defined 0      0-300IOPS
pg6            vs0          user-defined 0      0-INF
4 entries were displayed.
```

The example above displays all policy groups on the cluster.



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