



snapmirror policy commands

ONTAP 9.3 commands

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snapmirror policy commands

snapmirror policy add-rule

Add a new rule to SnapMirror policy

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

Description

The `snapmirror policy add-rule` command adds a rule to a SnapMirror policy. Rules define which Snapshot copies are protected by vault relationships or define the schedule at which Snapshot copies are created on the SnapMirror destination. Rules which do not include a schedule are rules for protecting Snapshot copies. Rules which include a schedule are rules for creating Snapshot copies on the SnapMirror destination. A rule with a schedule can only be added to SnapMirror policies of type *vault* or *mirror-vault*. A rule must not be added to a policy that will be associated with a SnapMirror data protection relationship. A policy that will be associated with a SnapMirror vault relationship must have at least one rule and at most ten rules. A SnapMirror policy with rules must have at least one rule without a schedule.

Parameters

-vserver <vserver name> - Vserver Name

Specifies the Vserver for the SnapMirror policy.

-policy <sm_policy> - SnapMirror Policy Name

Specifies the SnapMirror policy name.

-snapmirror-label <text> - Snapshot Copy Label

This parameter is primarily used for the purpose of Snapshot copy selection for extended data protection (XDP) relationships. Only Snapshot copies that have a SnapMirror label that matches this parameter will be transferred to the SnapMirror destination. However, when this parameter is associated with a rule containing a schedule, Snapshot copies will be created on the SnapMirror destination using this `snapmirror-label` parameter. The label can be 31 or fewer characters in length. SnapMirror policies of type *async-mirror* and *mirror-vault* have a rule added for label `sm_created` at the time of policy creation. This rule cannot be removed or modified by the user. This rule when coupled with `create-snapshot` field set to `true` indicates that the SnapMirror relationship using this policy shall create a new Snapshot copy and transfer it as part of a [snapmirror update](#) operation. SnapMirror policies of type *async-mirror* support one additional rule with SnapMirror label `all_source_snapshots`. This rule along with the rule for SnapMirror label `sm_created` indicates that *all* new Snapshot copies on the primary volume along with the newly created Snapshot copy are transferred as a part of a [snapmirror update](#) or [snapmirror initialize](#) operation. Rules with any other SnapMirror labels cannot be added to SnapMirror policies of type *async-mirror*. The rule for label `sm_created` when added to a `snapmirror policy` of type *vault* indicates that all SnapMirror created Snapshot copies of the primary volume are selected for transfer.

-keep <text> - Snapshot Copy Retention Count

Specifies the maximum number of Snapshot copies that are retained on the SnapMirror destination volume for a rule. The total number of Snapshot copies retained for all the rules in a policy cannot exceed 251. For all the rules in SnapMirror policies of type *async-mirror*, this parameter must be set to value `1`.

[`-preserve {true|false}`] - Snapshot Copy Preserve Enabled

Specifies the behavior when the Snapshot copy retention count is reached on the SnapMirror vault destination for the rule. The default value is `false`, which means that the oldest Snapshot copy will be deleted to make room for new ones only if the number of Snapshot copies has exceeded the retention count specified in the "keep" parameter. When set to `true`, and when the Snapshot copies have reached the retention count, then an incremental SnapMirror vault update transfer will fail or if the rule has a schedule, Snapshot copies will no longer be created on the SnapMirror destination. For all the rules in SnapMirror policies of type `async-mirror` this parameter must be set to value `false`.

[`-warn <integer>`] - Warning Threshold Count

Specifies the warning threshold count for the rule. The default value is `0`. When set to a value greater than zero, an event is generated after the number of Snapshot copies (for the particular rule) retained on a SnapMirror vault destination reaches the specified warn limit. The preserve parameter for the rule must be `true` to set the warn parameter to a value greater than zero.

[`-schedule <text>`] - Snapshot Copy Creation Schedule

This optional parameter specifies the name of the schedule associated with a rule. This parameter is allowed only for rules associated with SnapMirror policies of type `vault` or `mirror-vault`. When this parameter is specified, Snapshot copies are directly created on the SnapMirror destination. The Snapshot copies created will have the same content as the latest Snapshot copy already present on the SnapMirror destination. Snapshot copies on the source that have a SnapMirror label matching this rule will not be selected for transfer. The default value is `-`.



You define and name a schedule using the [job schedule cron create](#) command.

[`-prefix <text>`] - Snapshot Copy Creation Prefix

This optional parameter specifies the prefix for the Snapshot copy name to be created as per the schedule. If no value is specified, then the `snapmirror-label` will be used as the prefix. The prefix parameter can only be specified for rules which have a schedule.

Examples

The following example adds a rule named `nightly` to the SnapMirror policy named `TieredBackup` on Vserver `vs0.example.com`. The rule will retain a maximum of 5 `nightly` Snapshot copies.

```
vs0.example.com::> snapmirror policy add-rule -vserver vs0.example.com
                    -policy TieredBackup -snapmirror-label nightly -keep 5
```

Related Links

- [snapmirror update](#)
- [snapmirror initialize](#)
- [job schedule cron create](#)

snapmirror policy create

Create a new SnapMirror policy

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

Description

The `snapmirror policy create` command creates a SnapMirror policy. When applied to a SnapMirror relationship, the SnapMirror policy controls the behavior of the relationship and specifies the configuration attributes for that relationship. The policies *DPDefault*, *MirrorAllSnapshots*, *MirrorAndVault*, *MirrorLatest*, *Unified7year* and *XDPDefault* are created by the system.



All SnapMirror policies have a field `create-snapshot`. This field specifies whether SnapMirror creates a new Snapshot copy on the primary volume at the beginning of a [snapmirror update](#) or [snapmirror resync](#) operation. Currently this field cannot be set or modified by the user. It is set to `true` for SnapMirror policies of type *async-mirror* and *mirror-vault* at the time of creation. SnapMirror policies of type *vault* have `create-snapshot` set to `false` at the time of creation.



Use the [snapmirror policy add-rule](#) command to add a rule to a policy.

Parameters

-vserver <vserver name> - Vserver Name

Specifies the Vserver for the SnapMirror policy.

-policy <sm_policy> - SnapMirror Policy Name

This parameter specifies the SnapMirror policy name. A policy name can be made up of the characters A to Z, a to z, 0 to 9, ".", "-", and "_". The name can be up to 256 characters in length.

[-type {vault|async-mirror|mirror-vault}] - Snapmirror Policy Type

This parameter specifies the SnapMirror policy type. The supported values are *async-mirror*, *vault* and *mirror-vault*. Data protection (DP) relationships support only *async-mirror* policy type, while extended data protection (XDP) relationships support all three policy types.

If the type is set to *async-mirror* then the policy is for Disaster Recovery. When the policy type is associated with extended data protection (XDP) relationships, [snapmirror update](#) and [snapmirror resync](#) operations transfer selected Snapshot copies from the primary volume to the secondary volume. The selection of Snapshot copies is governed by the rules in the policy. However [snapmirror initialize](#) and [snapmirror update](#) operations on data protection (DP) relationships ignore the rules in the policy and transfer *all* Snapshot copies of the primary volume which are newer than the common Snapshot copy on the destination. For both data protection (DP) and extended data protection (XDP) relationships, the Snapshot copies are kept on the secondary volume as long as they exist on the primary volume. Once a protected Snapshot copy is deleted from the primary volume, it is deleted from the secondary volume as part of the next transfer. The policy type supports rules with certain pre-defined label names only. Refer to the man page for the [snapmirror policy add-rule](#) command for the details.

If the type is set to *vault* then the policy is used for Backup and Archive. The rules in this policy type determine which Snapshot copies are protected and how long they are retained on the secondary volume. This policy type is supported by extended data protection (XDP) relationships only.

If the type is set to *mirror-vault* then the policy is used for unified data protection which provides both Disaster Recovery and Backup using the same secondary volume. This policy type is supported by extended data protection (XDP) relationships only.

[-comment <text>] - Comment

Specifies a text comment for the SnapMirror policy. If the comment contains spaces, it must be enclosed within quotes.

[-tries <unsigned32_or_unlimited>] - Tries Limit

Determines the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The value of this parameter must be a positive integer or *unlimited*. The default value is *8*.

[-transfer-priority {low|normal}] - Transfer Scheduling Priority

Specifies the priority at which a transfer runs. The supported values are *normal* or *low*. The *normal* transfers are scheduled before the *low* priority transfers. The default is *normal*.

[-ignore-atime {true|false}] - Ignore File Access Time

This parameter applies only to extended data protection (XDP) relationships. It specifies whether incremental transfers will ignore files which have only their access time changed. The supported values are *true* or *false*. The default is *false*.

[-restart {always|never|default}] - Restart Behavior

This parameter applies only to data protection relationships. It defines the behavior of SnapMirror if an interrupted transfer exists. The supported values are *always*, *never*, or *default*. If the value is set to *always*, an interrupted SnapMirror transfer always restarts provided it has a restart checkpoint and the conditions are the same as they were before the transfer was interrupted. In addition, a new SnapMirror Snapshot copy is created which will then be transferred. If the value is set to *never*, an interrupted SnapMirror transfer will never restart, even if a restart checkpoint exists. A new SnapMirror Snapshot copy will still be created and transferred. Data ONTAP version 8.2 will interpret a value of *default* as being the same as *always*. Vault transfers will always resume based on a restart checkpoint, provided the Snapshot copy still exists on the source volume.

[-is-network-compression-enabled {true|false}] - Is Network Compression Enabled

Specifies whether network compression is enabled for transfers. The supported values are *true* or *false*. The default is *false*.

[-discard-configs <network>, ...] - Configurations Not Replicated During Identity Preserve Vserver DR

Specifies the configuration to be dropped during replication. The supported values are:

- *network* - Drops network interfaces, routes, and kerberos configuration.

This parameter is supported only for policies of type *async-mirror* and applicable only for identity-preserve Vserver SnapMirror relationships.

Examples

The following example creates a SnapMirror policy named *TieredBackup* on a Vserver named *vs0.example.com*.

```
vs0.example.com::> snapmirror policy create -vserver vs0.example.com
  -policy TieredBackup -type vault -tries 10 -restart never
```

Related Links

- [snapmirror update](#)
- [snapmirror resync](#)
- [snapmirror policy add-rule](#)
- [snapmirror initialize](#)

snapmirror policy delete

Delete a SnapMirror policy

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

Description

The `snapmirror policy delete` command deletes a SnapMirror policy. A policy that is to be deleted must not be associated with any SnapMirror relationship. The built-in policies cannot be deleted.

Parameters

-vserver <vserver name> - Vserver Name

Specifies the Vserver for the SnapMirror policy.

-policy <sm_policy> - SnapMirror Policy Name

Specifies the SnapMirror policy name.

Examples

The following example deletes a SnapMirror policy named *TieredBackup* on Vserver *vs0.example.com*:

```
vs0.example.com::> snapmirror policy delete -vserver vs0.example.com
-policy TieredBackup
```

snapmirror policy modify-rule

Modify an existing rule in SnapMirror policy

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

Description

The `snapmirror policy modify-rule` command can be used to modify the retention count, preserve setting, warning threshold count, schedule, and prefix for a rule in a SnapMirror policy. Reducing the retention count or disabling the preserve setting for a rule in a SnapMirror policy might result in the deletion of Snapshot copies on the vault destination when the next transfer by the [snapmirror update](#) command occurs or when the next scheduled Snapshot copy creation on the destination for the rule occurs. Modifying a rule to add a schedule will enable creation of Snapshot copies on the SnapMirror destination. Snapshot copies on the

source that have a SnapMirror label matching this rule will not be selected for transfer. Schedule and prefix can only be modified for rules associated with SnapMirror policies of type *vault* or *mirror-vault*. A SnapMirror policy with rules must have at least one rule without a schedule.



The rules in SnapMirror policies of type *async-mirror* cannot be modified.

Parameters

-vserver <vserver name> - Vserver Name

Specifies the Vserver for the SnapMirror policy.

-policy <sm_policy> - SnapMirror Policy Name

Specifies the SnapMirror policy name.

-snapmirror-label <text> - Snapshot Copy Label

This parameter specifies the rule that is to be modified in a SnapMirror policy.

[-keep <text>] - Snapshot Copy Retention Count

Specifies the maximum number of Snapshot copies that are retained on the SnapMirror destination volume for a rule. The total number of Snapshot copies retained for all the rules in a policy cannot exceed 251. For all the rules in SnapMirror policies of type *async-mirror*, this parameter must be set to value *1*.

[-preserve {true|false}] - Snapshot Copy Preserve Enabled

Specifies the behavior when the Snapshot copy retention count is reached on the SnapMirror vault destination for the rule. The default value is *false*, which means that the oldest Snapshot copy will be deleted to make room for new ones only if the number of Snapshot copies has exceeded the retention count specified in the "keep" parameter. When set to *true*, and when the Snapshot copies have reached the retention count, then an incremental SnapMirror vault update transfer will fail or if the rule has a schedule, Snapshot copies will no longer be created on the SnapMirror destination. For all the rules in SnapMirror policies of type *async-mirror* this parameter must be set to value *false*.

[-warn <integer>] - Warning Threshold Count

Specifies the warning threshold count for the rule. The default value is *0*. When set to a value greater than zero, an event is generated after the number of Snapshot copies (for the particular rule) retained on a SnapMirror vault destination reaches the specified warn limit. The preserve parameter for the rule must be *true* to set the warn parameter to a value greater than zero.

[-schedule <text>] - Snapshot Copy Creation Schedule

This optional parameter specifies the name of the schedule associated with a rule. This parameter is allowed only for rules associated with SnapMirror policies of type *vault* or *mirror-vault*. When this parameter is specified, Snapshot copies are directly created on the SnapMirror destination. The Snapshot copies created will have the same content as the latest Snapshot copy already present on the SnapMirror destination. Snapshot copies on the source that have a SnapMirror label matching this rule will not be selected for transfer. The default value is *-*.



You define and name a schedule using the [job schedule cron create](#) command.

[-prefix <text>] - Snapshot Copy Creation Prefix

This optional parameter specifies the prefix for the Snapshot copy name to be created as per the schedule. If no value is specified, then the *snapmirror-label* will be used as the prefix. The prefix parameter can

only be specified for rules which have a schedule.

Examples

The following example changes the retention count for *nightly* Snapshot copies to *6* for a rule named *nightly* on a SnapMirror policy named *TieredBackup* on Vserver *vs0.example.com*:

```
vs0.example.com::> snapmirror policy modify-rule -vserver vs0.example.com
                    -policy TieredBackup -snapmirror-label nightly -keep 6
```

Related Links

- [snapmirror update](#)
- [job schedule cron create](#)

snapmirror policy modify

Modify a SnapMirror policy

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

Description

The `snapmirror policy modify` command can be used to modify the policy attributes.



Use the [snapmirror policy modify-rule](#) command to modify a rule in a SnapMirror policy.

Parameters

-vserver <vserver name> - Vserver Name

Specifies the Vserver for the SnapMirror policy.

-policy <sm_policy> - SnapMirror Policy Name

Specifies the SnapMirror policy name.

[-comment <text>] - Comment

Specifies a text comment for the SnapMirror policy. If the comment contains spaces, it must be enclosed within quotes.

[-tries <unsigned32_or_unlimited>] - Tries Limit

Determines the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The value of this parameter must be a positive integer or *unlimited*. The default value is *8*.

[-transfer-priority {low|normal}] - Transfer Scheduling Priority

Specifies the priority at which a transfer runs. The supported values are *normal* or *low*. The *normal* transfers are scheduled before the *low* priority transfers. The default is *normal*.

[`-ignore-atime {true|false}`] - Ignore File Access Time

This parameter applies only to extended data protection (XDP) relationships. It specifies whether incremental transfers will ignore files which have only their access time changed. The supported values are *true* or *false*. The default is *false*.

[`-restart {always|never|default}`] - Restart Behavior

This parameter applies only to data protection relationships. It defines the behavior of SnapMirror if an interrupted transfer exists. The supported values are *always*, *never*, or *default*. If the value is set to *always*, an interrupted SnapMirror transfer always restarts provided it has a restart checkpoint and the conditions are the same as they were before the transfer was interrupted. In addition, a new SnapMirror Snapshot copy is created which will then be transferred. If the value is set to *never*, an interrupted SnapMirror transfer will never restart, even if a restart checkpoint exists. A new SnapMirror Snapshot copy will still be created and transferred. Data ONTAP version 8.2 will interpret a value of *default* as being the same as *always*. Vault transfers will always resume based on a restart checkpoint, provided the Snapshot copy still exists on the source volume.

[`-is-network-compression-enabled {true|false}`] - Is Network Compression Enabled

Specifies whether network compression is enabled for transfers. The supported values are *true* or *false*. The default is *false*.

[`-discard-configs <network>,...`] - Configurations Not Replicated During Identity Preserve Vserver DR

Specifies the configuration to be dropped during replication. The supported values are:

- *network* - Drops network interfaces, routes, and kerberos configuration.

This parameter is supported only for policies of type *async-mirror* and applicable only for identity-preserve Vserver SnapMirror relationships.

Examples

The following example changes the "transfer-priority" and the "comment" text of a snapmirror policy named *TieredBackup* on Vserver *vs0.example.com*:

```
vs0.example.com::> snapmirror policy modify -vserver vs0.example.com
-policy TieredBackup -transfer-priority low -comment "Use for tiered
backups"
```

Related Links

- [snapmirror policy modify-rule](#)

snapmirror policy remove-rule

Remove a rule from SnapMirror policy

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

Description

The `snapmirror policy remove-rule` command removes a rule from a SnapMirror policy. On the destination of a SnapMirror relationship with `snapmirror policy` of type `vault` or `mirror-vault`, all Snapshot copies with a SnapMirror label matching the rule being removed are no longer processed by SnapMirror and might need to be deleted manually. A `snapmirror policy` of type `vault` must have at least one rule if that policy is associated with a SnapMirror relationship. A SnapMirror policy with rules must have at least one rule without a schedule.

Parameters

-vserver <vserver name> - Vserver Name

Specifies the Vserver for the SnapMirror policy.

-policy <sm_policy> - SnapMirror Policy Name

Specifies the SnapMirror policy name.

-snapmirror-label <text> - Snapshot Copy Label

This parameter specifies the rule that is removed from the SnapMirror policy.

The rule for SnapMirror label `sm_created` cannot be removed from SnapMirror policies of type `async-mirror` or `mirror-vault`.

Examples

The following example removes a rule named `nightly` from a SnapMirror policy named `TieredBackup` on Vserver `vs0.example.com`:

```
vs0.example.com::> snapmirror policy remove-rule -vserver vs0.example.com
-policy TieredBackup -snapmirror-label nightly
```

snapmirror policy show

Show SnapMirror policies

Availability: This command is available to `cluster` and `Vserver` administrators at the `admin` privilege level.

Description

The `snapmirror policy show` command displays the following information about SnapMirror policies:

- Vserver Name
- SnapMirror Policy Name
- SnapMirror Policy Type
- Number of Rules in the policy
- Tries
- Transfer Priority

- Comment for the policy
- Individual Rule Names
- Keep value for the Rule
- Total of Keep values across all Rules in the policy

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.

[-vserver <vserver name>] - Vserver Name

Selects the policies that match this parameter value.

[-policy <sm_policy>] - SnapMirror Policy Name

Selects the policies that match this parameter value.

[-type {vault|async-mirror|mirror-vault}] - Snapmirror Policy Type

Selects the policies that match this parameter value. A policy can be of type `async-mirror`, `vault` or `mirror-vault`.

[-owner {cluster-admin|vserver-admin}] - Owner of the Policy

Selects the policies that match this parameter value. A policy can be owned by either the `"Cluster Admin"` or a `"Vserver Admin"`.

[-comment <text>] - Comment

Selects the policies that match this parameter value.

[-tries <unsigned32_or_unlimited>] - Tries Limit

Selects the policies that match this parameter value.

[-transfer-priority {low|normal}] - Transfer Scheduling Priority

Selects the policies that match this parameter value.

[-ignore-atime {true|false}] - Ignore File Access Time

Selects the policies that match this parameter value.

[-restart {always|never|default}] - Restart Behavior

Selects the policies that match this parameter value.

[-is-network-compression-enabled {true|false}] - Is Network Compression Enabled

Selects the policies that match this parameter value.

[-create-snapshot {true|false}] - Create a New Snapshot Copy

Selects the policies that match this parameter value.

[-snapmirror-label <text>,...] - Snapshot Copy Label

Selects the policies that match this parameter value.

[-keep <text>,...] - Snapshot Copy Retention Count

Selects the policies that match this parameter value.

[-preserve {true|false}] - Snapshot Copy Preserve Enabled

Selects the policies that match this parameter value.

[-warn <integer>,...] - Warning Threshold Count

Selects the policies that match this parameter value.

[-schedule <text>,...] - Snapshot Copy Creation Schedule

Selects the policies that match this parameter value.

[-prefix <text>,...] - Snapshot Copy Creation Prefix

Selects the policies that match this parameter value.

[-total-rules <integer>] - Total Rules in the Policy

Selects the policies that match this parameter value.

[-total-keep <integer>] - Total Retention Count for All Rules in the Policy

Selects the policies that match this parameter value.

[-discard-configs <network>,...] - Configurations Not Replicated During Identity Preserve Vserver DR

Selects the policies that match this parameter value.

Examples

The following example displays information about all SnapMirror policies:

```

cs::> snapmirror policy show
Vserver Policy          Policy Number          Transfer
Name      Name              Type   Of Rules  Tries  Priority Comment
-----
cs      DPDefault      async-mirror  2      8  normal  Asynchronous
SnapMirror policy for mirroring all Snapshot copies and the latest active
file system.
  SnapMirror Label: sm_created              Keep:      1
                  all_source_snapshots    1
                  Total Keep:      2

cs      MirrorAllSnapshots async-mirror  2      8  normal  Asynchronous
SnapMirror policy for mirroring all Snapshot copies and the latest active

```

```

file system.
  SnapMirror Label: sm_created                Keep:      1
                    all_source_snapshots      1
                                          Total Keep: 2

cs      MirrorAndVault      mirror-vault  3      8  normal  A unified
Asynchronous SnapMirror and SnapVault policy for mirroring the latest
active file system and daily and weekly Snapshot copies.
  SnapMirror Label: sm_created                Keep:      1
                    daily                    7
                    weekly                   52
                                          Total Keep: 60

cs      MirrorLatest        async-mirror  1      8  normal  Asynchronous
SnapMirror policy for mirroring the latest active file system.
  SnapMirror Label: sm_created                Keep:      1
                                          Total Keep: 1

vs0.example.com
  TieredBackup      vault          0      8  normal  Use for tiered
backups
  Snapmirror-label: -                        Keep:      -
                                          Total Keep: 0

cs      Unified7year        mirror-vault  4      8  normal  Unified SnapMirror
policy with 7year retention.
  SnapMirror Label: sm_created                Keep:      1
                    daily                    7
                    weekly                   52
                    monthly                  84
                                          Total Keep: 144

cs      XDPDefault          vault          2      8  normal  Vault policy
with daily and weekly rules.
  SnapMirror Label: daily                    Keep:      7
                    weekly                   52
                                          Total Keep: 59

7 entries were displayed.

```

The following example shows all the policies with the following fields - vserver (default), policy (default) and transfer-priority:

```
cs::> snapmirror policy show -fields transfer-priority
vserver      policy      transfer-priority
-----
cs           DPDefault  normal
cs           MirrorAllSnapshots
              normal
cs           MirrorAndVault
              normal
cs           MirrorLatest
              normal
vs0.example.com
  TieredBackup
              normal
cs           Unified7year
              normal
cs           XDPDefault
              normal
7 entries were displayed.
```

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