volume clone commands

Command reference

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volume clone commands

volume clone create

Create a FlexClone volume

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

Description

The `volume clone create` command creates a FlexClone volume on the aggregate containing the specified parent volume. This command is supported for flexible volumes or FlexGroup volumes. The maximum volume clone hierarchy depth is 500 and the default depth is 60. You can optionally specify the following attributes for the new FlexClone volume:

- Vserver on which the parent volume resides
- Name of the FlexClone parent snapshot
- Junction path where FlexClone volume should be mounted
- State of the junction path
- Space guarantee style (none, volume or file)
- Comment
- Whether the `volume clone create` command runs as a foreground or background process
- Key manager attribute
- Qtree name
- LUN name

Parameters

`-vserver <vserver name>` - Vserver Name

This parameter specifies the Vserver on which the FlexClone volume is to be created. If only one data Vserver exists, you do not need to specify this parameter.

`-flexclone <volume name>` - FlexClone Volume

This parameter specifies the name of the FlexClone volume. The name must be unique within the hosting Vserver.

`[-type {RW|DP}]` - FlexClone Type

This parameter specifies the type of FlexClone volume. A read-only FlexClone volume is created if you specify the *`type`* as DP; otherwise a read-write FlexClone volume is created.

`[-parent-vserver <vserver name>]` - FlexClone Parent Vserver

This parameter specifies the name of the Vserver to which the FlexClone parent volume belongs. If it is different from the Vserver on which the FlexClone volume is to be created, then the FlexClone volume inherits the export policies from the residing Vserver, and not from the FlexClone parent volume.

-b, -parent-volume <volume name> - FlexClone Parent Volume

This parameter specifies the name of parent volume from which the FlexClone clone volume is derived.

[-parent-snapshot <snapshot name>] - FlexClone Parent Snapshot

This specifies the name of the parent snapshot from which the FlexClone clone volume is derived.

[-junction-path <junction path>] - Junction Path

This specifies the junction path at which the new FlexClone clone volume should be mounted.

[-junction-active {true|false}] - Junction Active

This optionally specifies whether the volume's junction path is active. The default setting is `true` . If the junction path is inactive, the volume does not appear in the Vserver's namespace. This parameter is available only at the advanced privilege level and higher.

[-s, -space-guarantee {none|volume}] - Space Guarantee Style

This optionally specifies the space guarantee style for the FlexClone volume. A value of *`volume`* reserves space on the aggregate for the entire volume. A value of *`none`* reserves no space on the aggregate, meaning that writes can fail if the aggregate runs out of space. The default setting is inherited from the parent volume.

[-comment <text>] - Comment

This optionally specifies a comment for the FlexClone volume.

[-foreground {true|false}] - Foreground Process

This optionally specifies whether the FlexClone volume create operation runs as a foreground process. The default setting is `true` (that is, the operation runs in the foreground).

{ [-qos-policy-group <text>] - QoS Policy Group Name

This parameter optionally specifies which QoS policy group to apply to the FlexClone volume. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to the FlexClone volume, the system does not monitor and control the traffic to the volume.

| [-qos-adaptive-policy-group <text>] - QoS Adaptive Policy Group Name }

This optionally specifies which QoS adaptive policy group to apply to the volume. This policy group defines measurable service level objectives (SLOs) and Service Level Agreements (SLAs) that adjust based on the volume allocated space or used space. This parameter is not supported on FlexGroup volumes.

[-caching-policy <text>] - Caching Policy Name

This optionally specifies the caching policy to apply to the volume. A caching policy defines how the system caches this volume's data in Flash Cache modules. If a caching policy is not assigned to this volume, the system uses the caching policy that is assigned to the containing Vserver. If a caching policy is not assigned to the containing Vserver, the system uses the default cluster-wide policy. The available caching policies are:

- none - Does not cache any user data or metadata blocks.
- auto - Read caches all metadata and randomly read user data blocks, and write caches all randomly overwritten user data blocks.
- meta - Read caches only metadata blocks.

- random_read - Read caches all metadata and randomly read user data blocks.
- random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.
- all_read - Read caches all metadata, randomly read, and sequentially read user data blocks.
- all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.
- all - Read caches all data blocks read and written. It does not do any write caching.
- noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching.
- meta-random_write - Read caches all metadata and write caches randomly overwritten user data blocks.
- random_read_write-random_write - Read caches all metadata, randomly read and randomly written user data blocks. It also write caches randomly overwritten user data blocks.
- all_read-random_write - Read caches all metadata, randomly read, and sequentially read user data blocks. It also write caches randomly overwritten user data blocks.
- all_read_random_write-random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. It also write caches randomly overwritten user data blocks.
- all-random_write - Read caches all data blocks read and written. It also write caches randomly overwritten user data blocks.

Note that in a caching-policy name, a hyphen (-) separates read and write policies. Default caching-policy is auto.

[-vserver-dr-protection {protected|unprotected}] - Vserver DR Protection

This optionally specifies whether the volume should be protected by Vserver level SnapMirror. This parameter is applicable only if the Vserver is the source of a Vserver level SnapMirror relationship. By default the clone volume will inherit this value from the parent volume.

[-uid <integer>] - Volume-Level UID

This parameter optionally specifies a volume-level user ID (UID). All files and directories in a FlexClone volume will inherit this UID. By default the clone volume will inherit this value from the parent volume.

[-gid <integer>] - Volume-Level GID

This parameter optionally specifies a volume-level group ID (GID). All files and directories in a FlexClone volume will inherit this GID. By default the clone volume will inherit this value from the parent volume.

[-snaplock-type {non-snaplock|compliance|enterprise}] - SnapLock Type

This parameter optionally specifies the SnapLock type for the FlexClone volume. The `snaplock-type` can be `compliance` , `enterprise` or `non-snaplock` . By default, the `snaplock-type` will be same as the parent volume.

[-key-manager-attribute <text>] - Key Manager Attribute

This optional parameter specifies an additional key manager attribute that should be an identifier-value pair separated by '=', ex. CRN=my-unique-value

The following identifiers are currently supported:

- CRN

Examples

The following command creates a FlexClone volume *fc_vol_1* from parent volume *fv2* on Vserver *vs1* and the job runs as a foreground process.

```
cluster1::> volume clone create -vserver vs1 -flexclone fc_vol_1 -parent
-volume fv2 -junction-active true -foreground true -comment "Testing
FlexClone creation"
cluster1::> volume clone show fc_vol_1 -vserver vs1
Vserver Name: vs1
            FlexClone Volume: fc_vol_1
     FlexClone Parent Volume: fv2
   FlexClone Parent Snapshot: clone_fc_vol_1.0
               Junction Path: -
             Junction Active: -
       Space Guarantee Style: volume
   Space Guarantee In Effect: true
         FlexClone Aggregate: test_aggr
       FlexClone Data Set ID: 1046
FlexClone Master Data Set ID: 2147484694
              FlexClone Size: 19MB
                   Used Size: 108KB
              Split Estimate: 0.00B
            Inodes processed: -
                Total Inodes: -
          Percentage complete: -
               Blocks Scanned: -
               Blocks Updated: -
                      Comment: Testing FlexClone creation
```

volume clone show

Display a list of FlexClones

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

Description

The `volume clone show` command displays information about FlexClone clone volumes. This command is only supported for flexible volumes. By default, the command displays the following information about all FlexClone volume clones:

- Vserver name
- FlexClone volume name
- Parent volume name
- Parent snapshot name

- Whether a FlexClone volume is online or offline

To display detailed information about all FlexClone volumes, run the command with the `-instance` parameter.

Parameters

{ [-fields <fieldname>,…]

Selects the fields to be displayed.

| [-estimate]

Displays an estimate of the free disk space required in the aggregate to split the indicated clone volume from its underlying parent volume. The value reported may differ from the space actually required to perform the split, especially if the clone volume is changing when the split is being performed.

| [-instance] }

Displays detailed information about FlexClone volumes. If `-flexclone` is also specified, the command displays detailed information about the FlexClone volume.

[-vserver <vserver name>] - Vserver Name

Selects summary information for the FlexClone volumes on the specified Vserver. If `-flexclone` is also specified, the command displays detailed information about the specified FlexClone volume.

[-flexclone <volume name>] - FlexClone Volume

Selects summary information for the specified FlexClone volume. If `-vserver` is also specified, the command displays detailed information about the specified FlexClone volume.

[-type {RW|DP}] - FlexClone Type

Selects information for the specified type of FlexClone volume. The type can be specified as either read-only (DP) or read-write (RW).

[-parent-vserver <vserver name>] - FlexClone Parent Vserver

Selects summary information for the FlexClone volumes that are clone volumes in the specified parent Vserver.

[-b, -parent-volume <volume name>] - FlexClone Parent Volume

Selects summary information for the FlexClone volumes that are clones of the specified parent volume.

[-parent-snapshot <snapshot name>] - FlexClone Parent Snapshot

Selects summary information for the FlexClone volumes that are clones of the parent volume to which the specified snapshot belongs.

[-state {online|restricted|offline|force-online|force-offline|mixed}] - FlexClone Volume State

Selects summary information for the FlexClone volumes that are in the specified state.

[-junction-path <junction path>] - Junction Path

Selects summary information for the FlexClone volumes that have the specified junction path.

[-junction-active {true|false}] - Junction Active

Selects summary information for the FlexClone volumes that have the specified junction path status.

[-s, -space-guarantee {none|volume}] - Space Guarantee Style

If this parameter is specified, the command displays information only about the volumes that have the specified space guarantee style.

[-space-guarantee-enabled {true|false}] - Space Guarantee In Effect

Selects summary information for the FlexClone volumes that have the specified space-guarantee setting.

[-aggregate <aggregate name>] - FlexClone Aggregate

Selects summary information for the FlexClone volumes that reside on the specified storage aggregate.

[-dsid <integer>] - FlexClone Data Set ID

Selects summary information for the FlexClone volumes that have the specified Data Set ID.

[-msid <integer>] - FlexClone Master Data Set ID

Selects summary information for the FlexClone volumes that have the specified Master Data Set ID.

[-size {<integer>[KB|MB|GB|TB|PB]}] - FlexClone Size

Selects summary information for the FlexClone volumes that have the specified size.

[-used {<integer>[KB|MB|GB|TB|PB]}] - Used Size

Selects summary information for the FlexClone volumes that have the specified amount of used space.

[-split-estimate {<integer>[KB|MB|GB|TB|PB]}] - Split Estimate

Selects summary information for the FlexClone volumes that require the specified amount of free disk space for splitting from the parent.

[-blocks-scanned <integer>] - Blocks Scanned

Selects summary information for the FlexClone volumes that have the specified number of blocks scanned for splitting the FlexClone volume from its parent volume.

[-blocks-updated <integer>] - Blocks Updated

Selects summary information for the FlexClone volumes that have the specified number of blocks updated for after splitting the FlexClone volume from its parent volume.

[-comment <text>] - Comment

Selects summary information for the FlexClone volumes that have the specified comment.

[-qos-policy-group <text>] - QoS Policy Group Name

Selects summary information for the FlexClone volumes that have the specified QoS policy group.

[-qos-adaptive-policy-group <text>] - QoS Adaptive Policy Group Name

Selects summary information for the FlexClone volumes that have the specified QoS adaptive policy group.

[-caching-policy <text>] - Caching Policy Name

This optionally specifies the caching policy to apply to the volume. A caching policy defines how the system caches this volume’s data in Flash Cache modules. If a caching policy is not assigned to this volume, the system uses the caching policy that is assigned to the containing Vserver. If a caching policy is not

assigned to the containing Vserver, the system uses the default cluster-wide policy. The available caching policies are:

- none - Does not cache any user data or metadata blocks.
- auto - Read caches all metadata and randomly read user data blocks, and write caches all randomly overwritten user data blocks.
- meta - Read caches only metadata blocks.
- random_read - Read caches all metadata and randomly read user data blocks.
- random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.
- all_read - Read caches all metadata, randomly read, and sequentially read user data blocks.
- all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.
- all - Read caches all data blocks read and written. It does not do any write caching.
- noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching.
- meta-random_write - Read caches all metadata and write caches randomly overwritten user data blocks.
- random_read_write-random_write - Read caches all metadata, randomly read and randomly written user data blocks. It also write caches randomly overwritten user data blocks.
- all_read-random_write - Read caches all metadata, randomly read, and sequentially read user data blocks. It also write caches randomly overwritten user data blocks.
- all_read_random_write-random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. It also write caches randomly overwritten user data blocks.
- all-random_write - Read caches all data blocks read and written. It also write caches randomly overwritten user data blocks.

Note that in a caching-policy name, a hyphen (-) separates read and write policies. Default caching-policy is auto.

[-parent-vol-type <volAccessType>] - Parent volume type (privilege: advanced)

Selects summary information for the FlexClone volumes that are clones of the parent volumes with the specified type.

[-flexclone-used-percent <percent>] - FlexClone Used Percentage

Selects summary information for the FlexClone volumes that have the specified percentage of used space.

[-vserver-dr-protection {protected|unprotected}] - Vserver DR Protection

Selects summary information for the FlexClone volumes that have the specified type of Vserver SnapMirror protection. This parameter is applicable only if the Vserver is the source of a Vserver level SnapMirror relationship.

[-block-percentage-complete <integer>] - Percentage Complete

Selects summary information for the FlexClone volumes that have specified percentage of Blocks processed for splitting the FlexClone volume from its parent volume.

[-uid <integer>] - Volume-Level UID

Selects summary information for the FlexClone volumes that are created with the specified volume-level UID.

[-gid <integer>] - Volume-Level GID

Selects summary information for the FlexClone volumes that are created with the specified volume-level GID.

[-flexgroup-uuid <UUID>] - UUID of the FlexGroup

If this parameter is specified, the command displays information only about the FlexGroup volume or FlexGroup volume constituents that have the specified FlexGroup volume UUID. This parameter applies to FlexGroup volumes and FlexGroup volume constituents only.

[-flexgroup-msid <integer>] - FlexGroup Master Data Set ID

If this parameter is specified, the command displays information only about the FlexGroup volume or FlexGroup volume constituents that have the specified FlexGroup volume master data-set ID. This parameter applies to FlexGroup volumes and FlexGroup volume constituents only.

[-flexgroup-index <integer>] - FlexGroup Index

If this parameter is specified, the command displays information only about the FlexGroup volume constituents that have the specified FlexGroup volume index. This parameter applies to FlexGroup volume constituents only.

[-max-constituent-size {<integer>[KB|MB|GB|TB|PB]}] - Maximum size of a FlexGroup Constituent

If this parameter is specified, the command displays information only about the FlexGroup volume or FlexGroup volumes that have the specified maximum constituent size. This parameter applies to FlexGroup volumes only.

[-constituent-role <Constituent Roles>] - Constituent Volume Role

If this parameter is specified, the command displays information only about the constituent volume or volumes that are of the specified role. This parameter applies to FlexGroup volumes only.

[-is-flexgroup-constituent-active {true|false}] - Is Active FlexGroup Constituent

If this parameter is specified, the command displays information only about the volume or volumes that are either active constituent of the FlexGroup or not, depending on the value provided.

[-is-constituent {true|false}] - Is Constituent Volume

If this parameter is specified, the command displays information only about volumes that either are or are not constituents of a FlexGroup, depending on the value provided.

[-is-flexgroup {true|false}] - Is Volume a FlexGroup

If this parameter is specified, the command displays information only about the volume or volumes that are either FlexGroup volumes or not, depending on the value provided.

[-volume-style-extended {flexvol|flexgroup|flexgroup-constituent}] - Extended Volume Style

If this parameter is specified, the command displays information only about the volumes that are configured with the specified extended style. Possible values are *flexvol* for FlexVol volumes, *flexgroup* for FlexGroup volumes and *flexgroup-constituent* for FlexGroup constituents.

[-snaplock-type {non-snaplock|compliance|enterprise}] - SnapLock Type

Selects summary information for the FlexClone volumes that are created with the specified SnapLock type.

[-is-sharing-by-split {true|false}] - Sharing by Split

This flag represent whether the clone split is sharing by physical block or not.

Examples

The following example displays detailed information about all FlexClone volumes on Vserver *vs0* :

```
cluster1::> volume clone show -vserver vs0
  (volume clone show)
Vserver   FlexClone      Parent-Volume   Parent-Snapshot
--------- -------------- --------------- ---------------
vs0       fc_vol_1       test_vol        clone_fc_vol_1.0
          fc_vol_2       test_vol2       clone_fc_vol_2.0
          fc_vol_3       tv9             clone_fc_vol_3.0
          tv8            tv7             clone_tv8.0
          tv9            test_vol2       clone_tv9.0
5 entries were displayed.
```

The following example displays detailed information about FlexClone volume *fc_vol_2* on Vserver *vs0* :

```
cluster1::> volume clone show -vserver vs0 -flexclone fc_vol_2
Vserver Name: vs0
            FlexClone Volume: fc_vol_2
     FlexClone Parent Volume: test_vol2
   FlexClone Parent Snapshot: clone_fc_vol_2.0
               Junction Path: -
            Junction Active: -
       Space Guarantee Style: volume
   Space Guarantee In Effect: true
         FlexClone Aggregate: test_aggr
       FlexClone Data Set ID: 1038
FlexClone Master Data Set ID: 2147484686
              FlexClone Size: 47.50MB
                   Used Size: 128KB
              Split Estimate: 0.00B
           Inodes processed: -
               Total Inodes: -
   Inode Percentage complete: -
              Blocks Scanned: -
              Blocks Updated: -
                     Comment:
       Qos Policy Group Name: pg1
FlexClone Parent Volume Type: RW
   Block Percentage complete: -
```

The following example displays summary information about all FlexClone volumes residing on Vserver *vs0* along with the fields `msid` , `dsid` , `state` and `parent-volume` .

```
cluster1::> volume clone show -vserver vs0 -fields msid, dsid, state,
parent-volume
vserver flexclone parent-volume state  dsid msid
------- --------- ------------- ------ ---- ----------
vs0     fc_vol_1  test_vol      online 1037 2147484685
vs0     fc_vol_3  tv9           online 1039 2147484687
vs0     flex_clone1
                  fc_vol_1      online 1041 2147484689
vs0     fv_2      fc_vol_1      online 1043 2147484691
vs0     tv9       test_vol2     online 1036 2147484684
5 entries were displayed.
```

The following example displays summary information about all FlexClone volumes residing on Vserver *vs0* along with `space-guarantee-enabled` and `space-guarantee` information about each FlexClone volume.

```
cluster1::> vol clone show -vserver vs0 -fields space-guarantee-enabled,
space-guarantee
  (volume clone show)
vserver flexclone space-guarantee space-guarantee-enabled
------- --------- -------------- ----------------------
vs0     fc_vol_1  volume         true
vs0     fc_vol_3  volume         true
vs0     flex_clone1
                  volume         true
vs0     fv_2      volume         true
vs0     tv9       volume         true
5 entries were displayed.
```

volume clone quiesce-lun show

Show the quiesced state of the LUN

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

Description

The `volume clone quiesce-lun show` command reports the quiescence state of the LUN. By default, this command displays the following information:

- Vserver Name
- Volume Name
- LUN Name
- LUN Quiesced State

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] (privilege: advanced) }

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

[-vserver <Vserver Name>] - Vserver Name (privilege: advanced)

This parameter shows the Vserver name on which the volume resides.

{ [-path <path>] - LUN Path (privilege: advanced)

Specifies the path of the LUN. The LUN path cannot contain any files.

| **[-volume <volume name>] - Volume Name (privilege: advanced)**

This parameter shows the volume name on which the LUN resides.

[-qtree <qtree name>] - Qtree Name (privilege: advanced)

Specifies the qtree that contains the LUN.

[-lun <text>] - LUN Name (privilege: advanced) }

This parameter shows the LUN name which is being processed for data migration.

[-state <text>] - LUN Quiesced State (privilege: advanced)

This parameter specifies the quiesced state of the LUN.

Examples

The following example displays information about the state of the LUN:

```
cluster1::> volume clone quiesce-lun show
Vserver       LUN Path                      LUN Quiesced State
------------- ----------------------------- ------------------
vs1           /vol/vol1/lun1                Quiesced
```

The following example displays information about LUN *lun1* residing on Vserver *vs1* :

```
cluster1::> volume clone quiesce-lun show -vserver vs1 -path
/vol/vol1/lun1 -instance
Vserver Name: vs1
               Volume Name: vol1
                  LUN Path: /vol/vol1/lun1
        LUN Quiesced State: Quiesced
                Qtree Name: ""
                  LUN Name: lun1
```

volume clone quiesce-lun start

Quiesce a LUN during non-disruptive data migration

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

Description

The `volume clone quiesce-lun start` command initiates LUN quiescence for the specified LUN. To end the quiescence process, use the volume clone quiesce-lun stop command. You can monitor the current status using the volume clone quiesce-lun show command.

Parameters

`-vserver <Vserver Name>` - Vserver Name (privilege: advanced)

This parameter specifies the Vserver that the volume exists on.

{ `-path <path>` - LUN Path (privilege: advanced)

Specifies the path of the LUN. The LUN path cannot contain any files.

| `-volume <volume name>` - Volume Name (privilege: advanced)

This parameter specifies the volume that the LUN exists on.

`[-qtree <qtree name>]` - Qtree Name (privilege: advanced)

Specifies the qtree that contains the LUN.

`-lun <text>` - LUN Name (privilege: advanced) }

This parameter specifies the LUN name which will be quiesced during data migration.

Examples

The following example starts to quiesce the LUN *`lun1`* on Vserver *`vs1`* :

```
cluster1::> volume clone quiesce-lun start -vserver vs1 -path /vol/v1/lun1
```

Related Links

- volume clone quiesce-lun stop
- volume clone quiesce-lun show

volume clone quiesce-lun stop

Unquiesce a LUN to restore I/O operations if a failure occurs during non-disruptive data migration

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

Description

The `volume clone quiesce-lun stop` command stops the quiescence process for the specified LUN. Quiesce and unquiesce operations are typically used during data migration to pause and resume I/O activity on the LUN and its associated metadata.

Parameters

`-vserver <Vserver Name>` - Vserver Name (privilege: advanced)

This parameter specifies the Vserver that the volume exists on.

{ -path <path> - LUN Path (privilege: advanced)

Specifies the path of the LUN. The LUN path cannot contain any files.

| -volume <volume name> - Volume Name (privilege: advanced)

This parameter specifies the volume that the LUN exists on.

[-qtree <qtree name>] - Qtree Name (privilege: advanced)

Specifies the qtree that contains the LUN.

-lun <text> - LUN Name (privilege: advanced) }

This parameter specifies the LUN name which will be unquiesce during data migration.

Examples

The following example starts to unquiesce the LUN *lun1* on Vserver *vs1* :

```
cluster1::> volume clone quiesce-lun stop -vserver vs1 -path lun1
```

volume clone sharing-by-split show

Show the split flexclone volumes with shared physical blocks

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

Description

The `volume clone sharing-by-split show` command displays the split volumes with shared physical blocks. This command is only supported for flexible volumes. By default, this command displays the following information:

- Node Name
- Vserver Name
- Volume Name
- Aggregate Name
- Volume State

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] (privilege: advanced) }

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

[-node {<nodename>|local}] - Node Name (privilege: advanced)

This parameter selects information about the split volumes with shared physical blocks on this node.

[-vserver <Vserver Name>] - Vserver Name (privilege: advanced)

This parameter selects information about the split volumes with shared physical blocks on this Vserver.

[-volume <volume name>] - Volume Name (privilege: advanced)

This parameter selects information about shared physical blocks for this volume.

[-aggregate <aggregate name>] - Aggregate Name (privilege: advanced)

This parameter specifies the aggregate associated with the given volume.

Examples

The following example displays the split volumes with shared physical blocks in the node:

```
cluster1::> volume clone sharing-by-split show -node node1
Node            Vserver   Volume        Aggregate
--------------- --------- ------------- -------------
node1           vs1       vol_clone1    aggr1
```

The following example displays information about volume *vol_clone1* residing on vserver *vs1* :

```
cluster1::> volume clone sharing-by-split show -node node1 -vserver vs1
-volume vol_clone1 -instance
Node Name: node1
             Vserver Name: vs1
              Volume Name: vol_clone1
           Aggregate Name: aggr1
```

volume clone sharing-by-split undo show

Show the status of volume clone undo-sharing operations in-progress

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

Description

The `volume clone sharing-by-split undo show` command displays the progress information of undo-sharing in the split volumes with shared physical blocks. This command is only supported for flexible volumes. By default, the command displays the following information:

- Vserver name
- Volume name
- Total number of blocks scanned for undo sharing

- Total number of blocks present
- Percentage of blocks processed

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] (privilege: advanced) }

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

[-vserver <Vserver Name>] - Vserver Name (privilege: advanced)

This parameter selects information about the ongoing undo-sharing scan for all volumes on this Vserver.

[-volume <volume name>] - Volume Name (privilege: advanced)

This parameter selects information about the ongoing undo-sharing scan on this volume.

[-blocks-scanned <integer>] - Scanned Blocks (privilege: advanced)

This parameter selects information about the total number of blocks scanned by undo-sharing in the given volume.

[-blocks-total <integer>] - Total Blocks (privilege: advanced)

This parameter selects information about the total number of blocks for the undo-sharing to scan in the given volume.

[-blocks-percentage-complete <integer>] - Blocks Percentage Complete (privilege: advanced)

This parameter selects information about the percentage of block processing completed by undo-sharing in the given volume.

Examples

The following example displays information about all the ongoing undo-sharing scan in the cluster:

```
cluster1::> volume clone sharing-by-split undo show
                             Blocks     Blocks      Blocks
Vserver   Volume           Scanned      Total  % Complete
--------- ------------- ---------- ---------- -----------
vs1       vol_clone1             0       1260           0
```

The following example displays information about volume *vol_clone1* residing on vserver *vs1* :

```
cluster1::> volume clone sharing-by-split undo show -vserver vs1 -volume
vol_clone1 -instance
Vserver Name: vs1
        Volume Name: vol_clone1
           Blocks Scanned: 0
             Blocks Total: 1260
Block Percentage complete: 0
```

volume clone sharing-by-split undo start-all

Undo the physical block sharing in split FlexClone volumes across the cluster

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

Description

The `volume clone sharing-by-split undo start-all` command starts a scan to undo the shrared physical blocks in all the relevant volumes across the cluster. The volumes will be available for the duration of the undo-sharing operation. You can monitor the current progress of the scan using the volume clone sharing-by-split undo show command. This command is supported for flexible volumes that were split from their parent volumes.

Examples

The following example starts the scan to undo the physical block sharing in all volumes across the cluster:

```
cluster1::> volume clone sharing-by-split undo start-all
```

Related Links

- volume clone sharing-by-split undo show

volume clone sharing-by-split undo start

Undo the physical block sharing in split FlexClone volumes

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

Description

The `volume clone sharing-by-split undo start` command starts a scan to undo the shrared physical blocks in the given volume. The volume will be available for the duration of the undo-sharing operation. After the scan starts, you can stop it using the volume clone sharing-by-split undo stop command. You can monitor the current progress of the scan using the volume clone sharing-by-split undo show command. This command is supported for flexible volumes that were split from their parent volumes.

Parameters

`-vserver <Vserver Name>` - Vserver Name (privilege: advanced)

This parameter specifies the vserver that the volume exists on.

`-volume <volume name>` - Volume Name (privilege: advanced)

This parameter specifies the split volume with shared physical blocks, in which the sharing will be undone.

Examples

The following example starts the scan to undo the physical block sharing in volume *vol_clone1* on vserver *vs1* :

```
cluster1::> volume clone sharing-by-split undo start -vserver vs1 -volume
vol_clone1
```

Related Links

- volume clone sharing-by-split undo stop
- volume clone sharing-by-split undo show

volume clone sharing-by-split undo stop

Stop an ongoing undo-sharing operation

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

Description

The `volume clone sharing-by-split undo stop` command stops the process of reverting the shared physical blocks from the split volume. If you restart the undo-sharing operation, scan begins from the beginning because no information about previously achieved progress is saved, but previously unshared blocks are not processed again. This command is only supported for flexible volumes.

Parameters

`-vserver <Vserver Name>` - Vserver Name (privilege: advanced)

This parameter specifies the vserver that the volume exists on.

`-volume <volume name>` - Volume Name (privilege: advanced)

This parameter specifies the volume whose unsharing of blocks will be stopped.

Examples

The following example stops an ongoing undo-sharing scan for volume *vol_clone1* on vserver *vs1* :

```
cluster1::> volume clone sharing-by-split undo stop -vserver vs1 -volume
vol_clone1
```

volume clone split estimate

Estimates the space required by the containing-aggregate to split the FlexClone volume

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

Description

The `volume clone split estimate` command displays an estimate of the free disk space required in the aggregate to split the indicated clone volume from its underlying parent volume. The value reported might differ from the space actually required to perform the split, especially if the clone volume is changing when the split is being performed. This command is only supported for flexible volumes.

Parameters

`[-vserver <vserver name>]` - Vserver Name

This specifies the estimates for free disk space required for splitting FlexClone volumes residing on this Vserver. If the `-flexclone` option is also specified, then the command displays the free disk space estimate only for the specified FlexClone volume residing on the specified Vserver.

`[-flexclone <volume name>]` - FlexClone Volume

This specifies the free disk space estimate for splitting this FlexClone volume.

`[-type {RW|DP}]` - FlexClone Type

This parameter specifies the type of FlexClone volume. A read-only FlexClone volume is created if you specify the *`type`* as DP; otherwise a read-write FlexClone volume is created.

`[-parent-vserver <vserver name>]` - FlexClone Parent Vserver

This specifies the free disk space estimates for splitting the FlexClone volumes that are clones in the specified parent Vserver.

`[-b, -parent-volume <volume name>]` - FlexClone Parent Volume

This specifies the free disk space estimates for splitting the FlexClone volumes cloned off this parent volume.

`[-parent-snapshot <snapshot name>]` - FlexClone Parent Snapshot

This specifies the free disk space estimates for splitting the FlexClone volumes cloned off this parent snapshot.

`[-state {online|restricted|offline|force-online|force-offline|mixed}]` - FlexClone Volume State

This specifies the free disk space estimates for splitting the FlexClone volumes with the specified state.

`[-junction-path <junction path>]` - Junction Path

This specifies the free disk space estimates for splitting the FlexClone volumes mounted at this junction

path.

[-junction-active {true|false}] - Junction Active

If this specified, the command displays the free disk space estimate for splitting the FlexClone volumes with the specified junction path status.

[-s, -space-guarantee {none|volume}] - Space Guarantee Style

This specifies the free disk space estimates for splitting the FlexClone volumes with the specified type of space guarantee.

[-space-guarantee-enabled {true|false}] - Space Guarantee In Effect

This specifies the free disk space estimates for splitting the FlexClone volumes with the specified state of space guarantee.

[-aggregate <aggregate name>] - FlexClone Aggregate

This specifies the free disk space estimates for splitting the FlexClone volumes residing on the specified aggregate.

[-dsid <integer>] - FlexClone Data Set ID

This specifies the free disk space estimates for splitting the FlexClone volume with the specified DSID (data set ID).

[-msid <integer>] - FlexClone Master Data Set ID

This specifies the free disk space estimates for splitting the FlexClone volumes with the specified MSID (master data set ID).

[-size {<integer>[KB|MB|GB|TB|PB]}] - FlexClone Size

This specifies the free disk space estimates for splitting FlexClone volumes with the specified size.

[-used {<integer>[KB|MB|GB|TB|PB]}] - Used Size

This specifies the free disk space estimates for splitting the FlexClone volumes with the specified amount of used disk space.

[-split-estimate {<integer>[KB|MB|GB|TB|PB]}] - Split Estimate

This specifies the free disk space estimates for splitting the FlexClone volumes which match with the specified free disk space estimate for splitting.

[-blocks-scanned <integer>] - Blocks Scanned

This specifies the free disk space estimates for splitting the FlexClone volumes for which the specified number of blocks have been scanned.

[-blocks-updated <integer>] - Blocks Updated

This specifies the free disk space estimates for splitting the FlexClone volumes for which the specified number of blocks have been updated.

[-comment <text>] - Comment

This specifies the free disk space estimates for splitting the FlexClone volumes that have the specified value for the comment field.

[-qos-policy-group <text>] - QoS Policy Group Name

This parameter optionally specifies which QoS policy group to apply to the FlexClone volume. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to the FlexClone volume, the system does not monitor and control the traffic to the volume.

[-qos-adaptive-policy-group <text>] - QoS Adaptive Policy Group Name

This optionally specifies which QoS adaptive policy group to apply to the volume. This policy group defines measurable service level objectives (SLOs) and Service Level agreements (SLAs) that adjust based on the volume allocated space or used space. This parameter is not supported on FlexGroup volumes.

[-caching-policy <text>] - Caching Policy Name

This specifies the free disk space estimates for splitting the FlexClone volumes that are clones with the specified caching policy.

[-parent-vol-type <volAccessType>] - Parent volume type (privilege: advanced)

This specifies the free disk space estimates for splitting the FlexClone volumes that are clones of the parent volumes with the specified type.

[-flexclone-used-percent <percent>] - FlexClone Used Percentage

This specifies the free disk space estimates for splitting the FlexClone volumes that are clones with the specified percentage of used space.

[-vserver-dr-protection {protected|unprotected}] - Vserver DR Protection

This specifies the free disk space estimates for splitting the FlexClone volumes that are clones with the specified Vserver SnapMirror protection.

[-block-percentage-complete <integer>] - Percentage Complete

This specifies the free disk space estimates for splitting the FlexClone volumes for which the specified percentage of Block processing has been completed.

[-uid <integer>] - Volume-Level UID

This specifies the free disk space estimates for splitting the FlexClone volumes that are clones with the specified volume-level UID.

[-gid <integer>] - Volume-Level GID

This specifies the free disk space estimates for splitting the FlexClone volumes that are clones with the specified volume-level GID.

[-flexgroup-uuid <UUID>] - UUID of the FlexGroup

If this parameter is specified, the command displays information only about the FlexGroup volume or FlexGroup volume constituents that have the specified FlexGroup volume UUID. This parameter applies to FlexGroup volumes and FlexGroup volume constituents only.

[-flexgroup-msid <integer>] - FlexGroup Master Data Set ID

If this parameter is specified, the command displays information only about the FlexGroup volume or FlexGroup volume constituents that have the specified FlexGroup volume master data-set ID. This parameter applies to FlexGroup volumes and FlexGroup volume constituents only.

[-flexgroup-index <integer>] - FlexGroup Index

If this parameter is specified, the command displays information only about the FlexGroup volume constituents that have the specified FlexGroup volume index. This parameter applies to FlexGroup volume constituents only.

[-max-constituent-size {<integer>[KB|MB|GB|TB|PB]}] - Maximum size of a FlexGroup Constituent

If this parameter is specified, the command displays information only about the FlexGroup volume or FlexGroup volumes that have the specified maximum constituent size. This parameter applies to FlexGroup volumes only.

[-constituent-role <Constituent Roles>] - Constituent Volume Role

If this parameter is specified, the command displays information only about the constituent volume or volumes that are of the specified role. This parameter applies to FlexGroup volumes only.

[-is-flexgroup-constituent-active {true|false}] - Is Active FlexGroup Constituent

If this parameter is specified, the command displays information only about the volume or volumes that are either active constituent of the FlexGroup or not, depending on the value provided.

[-is-constituent {true|false}] - Is Constituent Volume

If this parameter is specified, the command displays information only about volumes that either are or are not constituents of a FlexGroup, depending on the value provided.

[-is-flexgroup {true|false}] - Is Volume a FlexGroup

If this parameter is specified, the command displays information only about the volume or volumes that are either FlexGroup volumes or not, depending on the value provided.

[-volume-style-extended {flexvol|flexgroup|flexgroup-constituent}] - Extended Volume Style

If this parameter is specified, the command displays information only about the volumes that are configured with the specified extended style. Possible values are *flexvol* for FlexVol volumes, *flexgroup* for FlexGroup volumes and *flexgroup-constituent* for FlexGroup constituents.

[-snaplock-type {non-snaplock|compliance|enterprise}] - SnapLock Type

If this parameter is specified, the command displays information only about the volumes that are configured with the specified SnapLock type. Possible values are *compliance* for SnapLock Compliance volumes, *enterprise* for SnapLock Enterprise volumes and *non-snaplock* for non-SnapLock volumes.

[-is-sharing-by-split {true|false}] - Sharing by Split

This flag represent whether clone split is sharing by physical block or not.

Examples

The following example displays the FlexClone split free disk space estimates for the FlexClone volumes residing on Vserver *vs0* .

```
cluster1::> volume clone split estimate -vserver vs0
  (volume clone split estimate)
                             Split
Vserver   FlexClone       Estimate
--------- ------------- ----------
vs0       fc_vol_1         851.5MB
          fc_vol_3           0.00B
          flex_clone1      350.3MB
          fv_2             47.00MB
          tv9                0.00B
5 entries were displayed.
```

volume clone split show

Show the status of FlexClone split operations in-progress

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

Description

The `volume clone split show` command displays the progress information of all the active FlexClone volume splitting jobs. This command is only supported for flexible volumes. By default, this command displays the following information:

- Vserver name
- FlexClone volume name
- Percentage of blocks processed
- Total number of blocks scanned for clone splitting
- Total number of blocks updated for clone splitting

If the -instance option is also specified, detailed information about all splitting jobs is displayed.

Parameters

{ [-fields <fieldname>,…]

This specifies the fields to be displayed, for all the ongoing FlexClone splitting jobs.

| [-instance] }

This specifies the command to display detailed information about the ongoing FlexClone volume splitting jobs.

[-vserver <vserver name>] - Vserver Name

Selects information about the ongoing FlexClone volume splitting jobs for all FlexClone volumes on this Vserver.

[-flexclone <volume name>] - FlexClone Volume

Selects information about ongoing FlexClone volume splitting jobs for this FlexClone volume.

[-block-percentage-complete <integer>] - Percentage Complete

Selects information about all the ongoing FlexClone splitting jobs that have the specified percentage of Block processing completed.

[-blocks-scanned <integer>] - Blocks Scanned

Selects information about all the ongoing FlexClone splitting jobs that have the specified number of blocks scanned.

[-blocks-updated <integer>] - Blocks Updated

Selects information about all the ongoing FlexClone splitting jobs that have the specified number of blocks updated.

[-is-sharing-by-split {true|false}] - Sharing by Split

This flag represent whether the split type is sharing by physical block or not.

Examples

The following example displays information about all the ongoing FlexClone splitting jobs in the cluster.

```
cluster1::> volume clone split show
  (volume clone split show)
                               Blocks
                          ------------------
Vserver   FlexClone       Scanned  Updated     % Complete

--------- -------------  -------- --------      --------
vs1       fc_vol_1          229        2             0
```

The following example displays information about FlexClone volume *fc_vol_2* residing on Vserver *vs0* .

```
cluster1::> volume clone split show -vserver vs0 -flexclone fc_vol_2
-instance
  (volume clone split show)
Vserver Name: vs0
   FlexClone Volume: fc_vol_2
Percentage Complete: 0
     Blocks Scanned: 229
     Blocks Updated: 2
```

volume clone split start

Split a FlexClone from the parent volume

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

Description

The `volume clone split start` command starts a job to separate the FlexClone volume from the underlying parent volume. Both, the parent and the FlexClone volumes will be available for the duration of the split operation. After the job starts, you can stop it using the volume clone split stop command. You can also stop the job using the job stop command. You can monitor the current progress of the job using the volume clone split show and job show commands. This command is only supported for flexible volumes. This command is not supported on volumes that are being protected as part of a Vserver level SnapMirror.

Parameters

`-vserver <vserver name>` - Vserver Name

This specifies the Vserver that the FlexClone volume exists on.

`-flexclone <volume name>` - FlexClone Volume

This specifies the FlexClone volume that will be split from its parent volume.

`[-foreground <true>]` - Foreground Process

This specifies whether the clone splitting job will run as a foreground job. The default value of this option is `true` .

`[-match-parent-storage-tier {true|false}]` - Match Split Data to Parent Storage Tier

This specifies whether the FlexClone volume splits the data blocks by matching its parent storage tier. This option is applicable only if the tiering policy and the tiering minimum cooling days of the parent volume and the FlexClone volume are the same. The default value of this option is `false` .

Examples

The following example starts splitting FlexClone volume *`fc_vol_1`* on Vserver *`vs1`* as a foreground job.

```
cluster1::> volume clone split start -vserver vs1 -flexclone fc_vol_1
-foreground true
```

Related Links

- volume clone split stop
- job stop
- volume clone split show
- job show

volume clone split stop

Stop an ongoing FlexClone split job

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

Description

The `volume clone split stop` command stops the process of separating the FlexClone volume from its underlying parent volume, but does not lose any of the progress achieved while the split process was active. That is, all the clone volume blocks already separated from the parent volume remain separated. If you restart the split operation, splitting process begins from the beginning because no information about previously achieved progress is saved, but previously split blocks are not re-split. This command is only supported for flexible volumes.

Parameters

`-vserver <vserver name>` - Vserver Name

This specifies the Vserver that the FlexClone volume exists on.

`-flexclone <volume name>` - FlexClone Volume

This specifies the FlexClone volume whose separation from the parent volume will be stopped.

Examples

The following example stops an ongoing clone splitting job for FlexClone volume *`fc_vol_1`* on Vserver *`vs1`* .

```
cluster1::> volume clone split stop -vserver vs1 -flexclone fc_vol_1
```

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