



# **SnapMirror**

## REST API reference

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# SnapMirror

## SnapMirror overview

### Overview

SnapMirror technology enables customers to copy and backup their production data. The secondary or destination volume in such a backup relationship can reside anywhere, locally or remotely, and can be used to restore access to the protected data. You can restore access to protected data by drawing upon a vault of backups or, in the event that a primary is unusable, by using a disaster recovery copy that can be activated for clients and applications. SnapMirror periodically updates a replica to create new backups and/or to keep a replica up-to-date with changes that have been written to the primary. The SnapMirror subsystems are designed to keep many pairs of source (primary) and destination (secondary) copies up-to-date in an efficient and scalable manner.

The SnapMirror APIs can be used to create and manage SnapMirror relationships of type "async", and "sync". These APIs can also be used to manage restore-relationships. These APIs allow you to manage the following endpoints:

- SnapMirror policies - When applied to a SnapMirror relationship, the SnapMirror policy controls the behavior of the relationship and specifies the configuration attributes for that relationship.
- SnapMirror relationships - You can create and manage SnapMirror relationships, and you can change the state of the SnapMirror relationship using a PATCH request.
- SnapMirror transfers - You can manage data transfers on the specified SnapMirror relationship.

## Manage SnapMirror policies

### SnapMirror policies endpoint overview

#### Managing SnapMirror policies

This API is used to manage SnapMirror policies of type "async" and "sync". When applied to a SnapMirror relationship, the SnapMirror policy controls the behavior of the relationship and specifies the configuration attributes for that relationship. The policy type "async" can be associated with a SnapMirror relationship that has either a FlexVol volume, FlexGroup volume, or SVM as the endpoint. The policy type "sync" can be associated with a SnapMirror relationship that has a FlexVol volume or a consistency group as the endpoint. The policy type "sync" can have a "sync\_type" of either "sync", "strict\_sync", "automated\_failover" or "automated\_failover\_duplex". If the "sync\_type" is "sync", a write success is returned to the client after writing the data to the primary endpoint and before writing the data to the secondary endpoint. If the "sync\_type" is "strict\_sync", a write success is returned to the client after writing the data to both primary and secondary endpoints. A "sync\_type" of "automated\_failover" can be associated with a SnapMirror relationship that has a consistency group as the endpoint and provides asymmetric active active access to the two storage copies.

A "sync\_type" of "automated\_failover\_duplex" can be associated with a SnapMirror relationship that has a consistency group as the endpoint and provides symmetric active active access to the two storage copies.

Mapping of SnapMirror policies from CLI to REST

CLI	REST
mirror-vault	async

CLI	REST
async-mirror w/	async w/
all_source_snapshots	copy_all_source_snapshots
async-mirror w/o	async w/
all_source_snapshots	copy_latest_source_snapshot
vault	async w/
	create_snapshot_on_source

||| sync\_type ||| -----| sync-mirror | sync | sync | strict-sync-mirror | sync | strict\_sync | automated-failover | sync | automated\_failover | automated-failover-duplex | sync | automated\_failover\_duplex |||

## Retrieve SnapMirror **async** and **sync** policy types

GET /snapmirror/policies

**Introduced In:** 9.6

Retrieves SnapMirror policies of type "async" and "sync".

### Related ONTAP commands

- snapmirror policy show

### Example

The following example shows how to retrieve a collection of SnapMirror policies.

```
GET "/api/snapmirror/policies"
```

### Learn more

- [DOC /snapmirror/policies](#)

### Parameters

Name	Type	In	Required	Description
identity_preservation	string	query	False	Filter by identity_preservation
comment	string	query	False	Filter by comment

Name	Type	In	Required	Description
copy_all_source_sn apshots	boolean	query	False	Filter by copy_all_source_sn apshots <ul style="list-style-type: none"> <li>• Introduced in: 9.10</li> </ul>
copy_latest_source_ snapshot	boolean	query	False	Filter by copy_latest_source_ snapshot <ul style="list-style-type: none"> <li>• Introduced in: 9.11</li> </ul>
throttle	integer	query	False	Filter by throttle
sync_type	string	query	False	Filter by sync_type
create_snapshot_on _source	boolean	query	False	Filter by create_snapshot_on _source <ul style="list-style-type: none"> <li>• Introduced in: 9.11</li> </ul>
uuid	string	query	False	Filter by uuid
retention.label	string	query	False	Filter by retention.label
retention.period	string	query	False	Filter by retention.period <ul style="list-style-type: none"> <li>• Introduced in: 9.11</li> </ul>
retention.creation_sc hedule.uuid	string	query	False	Filter by retention.creation_s chedule.uuid
retention.creation_sc hedule.name	string	query	False	Filter by retention.creation_s chedule.name

Name	Type	In	Required	Description
retention.preserve	boolean	query	False	Filter by retention.preserve <ul style="list-style-type: none"> <li>• Introduced in: 9.13</li> </ul>
retention.warn	integer	query	False	Filter by retention.warn <ul style="list-style-type: none"> <li>• Introduced in: 9.13</li> </ul>
retention.count	integer	query	False	Filter by retention.count
retention.prefix	string	query	False	Filter by retention.prefix
transfer_schedule.uid	string	query	False	Filter by transfer_schedule.uid
transfer_schedule.name	string	query	False	Filter by transfer_schedule.name
type	string	query	False	Filter by type
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
name	string	query	False	Filter by name
rpo	integer	query	False	Filter by rpo <ul style="list-style-type: none"> <li>• Introduced in: 9.10</li> </ul>
network_compression_enabled	boolean	query	False	Filter by network_compression_enabled
scope	string	query	False	Filter by scope

Name	Type	In	Required	Description
sync_common_snapshot_schedule.uuid	string	query	False	Filter by sync_common_snapshot_schedule.uuid
sync_common_snapshot_schedule.name	string	query	False	Filter by sync_common_snapshot_schedule.name
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	<p>The default is true for GET calls. When set to false, only the number of records is returned.</p> <ul style="list-style-type: none"> <li>Default value: 1</li> </ul>
return_timeout	integer	query	False	<p>The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached.</p> <ul style="list-style-type: none"> <li>Default value: 1</li> <li>Max value: 120</li> <li>Min value: 0</li> </ul>
order_by	array[string]	query	False	Order results by specified fields and optional [asc]

## Response

Status: 200, Ok

Name	Type	Description
_links	<a href="#">_links</a>	
num_records	integer	Number of records
records	array[ <a href="#">snapmirror_policy</a> ]	

## Example response

```
{  
  "_links": {  
    "next": {  
      "href": "/api/resourcelink"  
    },  
    "self": {  
      "href": "/api/resourcelink"  
    }  
  },  
  "num_records": 1,  
  "records": [  
    {  
      "_links": {  
        "self": {  
          "href": "/api/resourcelink"  
        }  
      },  
      "comment": "string",  
      "copy_all_source_snapshots": 1,  
      "copy_latest_source_snapshot": 1,  
      "create_snapshot_on_source": "",  
      "identity_preservation": "string",  
      "name": "Asynchronous",  
      "retention": [  
        {  
          "count": 7,  
          "creation_schedule": {  
            "_links": {  
              "self": {  
                "href": "/api/resourcelink"  
              }  
            },  
            "name": "weekly",  
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
          },  
          "label": "hourly",  
          "period": "P30D",  
          "prefix": "string",  
          "preserve": 1,  
          "warn": 4  
        }  
      ],  
      "rpo": 0,  
      "scope": "string",  
    }  
  ]  
}
```

```

"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"sync_common_snapshot_schedule": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "weekly",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"sync_type": "string",
"throttle": 0,
"transfer_schedule": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "weekly",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"type": "string",
"uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}
]
}

```

## Error

Status: Default

## ONTAP Error Response codes

Error code	Description
13303842	SnapMirror policy is not supported.

Name	Type	Description
error	returned_error	

## Example error

```
{  
  "error": {  
    "arguments": [  
      {  
        "code": "string",  
        "message": "string"  
      }  
    ],  
    "code": "4",  
    "message": "entry doesn't exist",  
    "target": "uuid"  
  }  
}
```

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

Name	Type	Description
next	href	
self	href	

\_links

Name	Type	Description
self	href	

creation\_schedule

Schedule used to create snapshots on the destination for long term retention. Only cron schedules are supported for SnapMirror.

Name	Type	Description
_links	_links	
name	string	Job schedule name
uuid	string	Job schedule UUID

snapmirror\_policy\_rule

SnapMirror policy rule for retention.

Name	Type	Description
count	integer	Number of snapshots to be kept for retention. Maximum value will differ based on type of relationship and scaling factor.
creation_schedule	creation_schedule	Schedule used to create snapshots on the destination for long term retention. Only cron schedules are supported for SnapMirror.

Name	Type	Description
label	string	Snapshot label
period	string	Specifies the duration for which the snapshots are locked. The retention period value represents a duration and must be in the ISO-8601 duration format. Years, months, days, hours, minutes, and seconds are represented as "P<num>Y", "P<num>M", "P<num>D", "PT<num>H", "PT<num>M" and "PT<num>S". Value "Infinite" is also a valid input for Flexvol volumes and FlexGroup volumes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. The range of supported retention period values is between 1 second to infinite.</num></num></num></num></num></num>
prefix	string	Specifies the prefix for the snapshot name to be created as per the schedule. If no value is specified, then the label is used as the prefix.
preserve	boolean	Specifies the behavior when the snapshot retention count is reached on the SnapMirror destination for the rule. The default value is false, which means that the oldest snapshot is deleted to make room for new ones but only if the number of snapshots has exceeded the retention count specified in the 'count' property. When set to true and where the snapshots have reached the retention count, an incremental SnapMirror transfer will fail or if the rule has a schedule, snapshots will be no longer be created on the SnapMirror destination.

Name	Type	Description
warn	integer	Specifies the warning threshold count for the rule. The default value is zero. When set to a value greater than zero, an event is generated after the number of snapshots (for the particular rule) retained on a SnapMirror destination reaches the specified warning limit. The preserve property for the rule must be true in order to set the warn property to a value greater than zero.

## svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

## sync\_common\_snapshot\_schedule

Schedule used to create common snapshots for synchronous relationships.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	Job schedule name
uuid	string	Job schedule UUID

## transfer\_schedule

The schedule used to update asynchronous relationships. Only cron schedules are supported for SnapMirror.

Name	Type	Description
_links	<a href="#">_links</a>	

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

### snapmirror\_policy

SnapMirror policy information. SnapMirror policy can either be of type "async", "sync" or "continuous". The policy type "async" can be associated with a SnapMirror relationship that has either a FlexVol volume, FlexGroup volume or SVM as the endpoint. The policy type "sync" along with "sync\_type" as "sync" or "strict\_sync" can be associated with a SnapMirror relationship that has a FlexVol volume as the endpoint. The policy type "sync" can have a "sync\_type" of either "sync", "strict\_sync", "automated\_failover" or "automated\_failover\_duplex". If the "sync\_type" is "sync", a write success is returned to the client after writing the data to the source endpoint and before writing the data to the destination endpoint. If the "sync\_type" is "strict\_sync", a write success is returned to the client after writing the data to both source and destination endpoints. If the "sync\_type" is "automated\_failover", the policy can be associated with a SnapMirror active sync relationship that has a consistency group as the endpoint and provides asymmetric active active access to the two storage copies. If the "sync\_type" is "automated\_failover\_duplex", the policy can be associated with a SnapMirror active sync relationship that has a consistency group as the endpoint and provides symmetric active active access to the two storage copies. Use the "sync" policy with "sync\_type" as "automated\_failover" or "automated\_failover\_duplex" to establish SnapMirror active sync relationships for business continuity use cases. SnapMirror relationships with policy types as "sync" and "sync\_type" as "automated\_failover" or "automated\_failover\_duplex" can be monitored by the Mediator, if configured. If the source Consistency Group endpoint is not reachable, the Mediator might trigger a failover to the destination consistency group endpoint. A policy type of "continuous" can be associated with SnapMirror relationships that have either ONTAP S3 buckets or non-ONTAP object stores as endpoints. This type of policy is used for FabricLink owned targets.

Name	Type	Description
_links	<a href="#">_links</a>	
comment	string	Comment associated with the policy.
copy_all_source_snapshots	boolean	Specifies that all the source snapshots (including the one created by SnapMirror before the transfer begins) should be copied to the destination on a transfer. "Retention" properties cannot be specified along with this property. This is applicable only to async policies. Property can only be set to 'true'.

Name	Type	Description
copy_latest_source_snapshot	boolean	Specifies that the latest source snapshot (created by SnapMirror before the transfer begins) should be copied to the destination on a transfer. "Retention" properties cannot be specified along with this property. This is applicable only to async policies. Property can only be set to 'true'.
create_snapshot_on_source	boolean	Specifies whether a new snapshot should be created on the source at the beginning of an update or resync operation. This is applicable only to async policies. Property can only be set to 'false'.
identity_preservation	string	Specifies which configuration of the source SVM is replicated to the destination SVM. This property is applicable only for SVM data protection with "async" policy type.
name	string	Name of the policy.
network_compression_enabled	boolean	Specifies whether network compression is enabled for transfers. This is applicable only to the policies of type "async".
retention	array[snapmirror_policy_rule]	Rules for snapshot retention.
rpo	integer	Specifies the duration of time for which a change to be propagated to a mirror should be delayed, in seconds. This is an intentional propagation delay between mirrors and is configurable down to zero, which means an immediate propagation. This is supported for policies of type 'continuous'.
scope	string	Set to "svm" for policies owned by an SVM, otherwise set to "cluster".

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.
sync_common_snapshot_schedule	sync_common_snapshot_schedule	Schedule used to create common snapshots for synchronous relationships.
sync_type	string	
throttle	integer	Throttle in KB/s. Default to unlimited.
transfer_schedule	transfer_schedule	The schedule used to update asynchronous relationships. Only cron schedules are supported for SnapMirror.
type	string	
uuid	string	Unique identifier of the SnapMirror policy.

error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned\_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

## Create a SnapMirror policy

POST /snapmirror/policies

## Introduced In: 9.6

Creates a SnapMirror policy. The property "identity\_preservation" is applicable to only SnapMirror relationships with SVM endpoints and it indicates which configuration of the source SVM is replicated to the destination SVM.

It takes the following values:

- `full` - indicates that the source SVM configuration is replicated to the destination SVM endpoint.
- `exclude_network_config` - indicates that the source SVM configuration other than network configuration is replicated to the destination SVM endpoint.
- `exclude_network_and_protocol_config` - indicates that the source SVM configuration is not replicated to the destination SVM endpoint.

## Important notes

- The property "identity\_preservation" is applicable to only SnapMirror relationships with SVM endpoints and it indicates which configuration of the source SVM is replicated to the destination SVM.
- The properties "identity\_preservation" and "transfer\_schedule" are not applicable for "sync" type policies.
- The properties "copy\_all\_source\_snapshots", "copy\_latest\_source\_snapshot", and "create\_snapshot\_on\_source" are mutually exclusive.
- The properties "copy\_all\_source\_snapshots", "copy\_latest\_source\_snapshot", and "create\_snapshot\_on\_source" are not applicable for "sync" type policies.
- No "retention" properties can be specified if "copy\_all\_source\_snapshots" or 'copy\_latest\_source\_snapshot' is specified.
- The properties "retention.creation\_schedule" and "retention.prefix" are not applicable for "sync" type policies.
- The property "retention.creation\_schedule" is not applicable for "async" policies with "create\_snapshot\_on\_source" set to "false".
- The property "sync\_common\_snapshot\_schedule" is not applicable for an "async" type policy.
- The property "retention.count" specifies the maximum number of snapshots that are retained on the SnapMirror destination volume.
- When the property "retention.label" is specified, the snapshots that have a SnapMirror label matching this property is transferred to the SnapMirror destination.
- When the property "retention.creation\_schedule" is specified, snapshots are directly created on the SnapMirror destination. The snapshots created have the same content as the latest snapshot already present on the SnapMirror destination.
- The property "transfer\_schedule" cannot be set to null (no-quotes) during SnapMirror policy POST.
- The properties "retention.label" and "retention.count" must be specified for "async" policies with "create\_snapshot\_on\_source" set to "false".
- The property "retention.warn" is not supported for a policy when the "retention.preserve" property is false.
- The property "retention.warn" value must be less than the property "retention.count" value for a rule in a policy.

## Required properties

- `name` - Name of the new SnapMirror policy.

## Recommended optional properties

- `svm.name` or `svm.uuid` - Name or UUID of the SVM that owns the SnapMirror policy.

## Default property values

If not specified in POST, the following default property values are assigned:

- `type` - `async`
- `sync_type` - `sync` (when `type` is `sync`)
- `network_compression_enabled` - `false`
- `throttle` - `0`
- `identity_preservation` - `exclude_network_and_protocol_config`

## Related ONTAP commands

- `snapmirror policy create`

## Examples

Creating a SnapMirror policy of type "sync"

```
POST "/api/snapmirror/policies/" '{"name": "policy1", "svm.name": "VS0",  
"type": "sync", "sync_type": "sync"}'
```

Creating a SnapMirror policy of type "async" with two sets of retention values, one with a `creation_schedule`

```
POST "/api/snapmirror/policies" '{"name": "policy_ret", "svm": {"name":  
"vs1"}, "retention": [{"label": "weekly", "count": "2",  
"creation_schedule": {"name": "weekly"}}, {"label": "daily",  
"count": "7"}]}'
```

Creating a SnapMirror policy of type "async"

```
POST "/api/snapmirror/policies" '{"name": "newPolicy", "svm": {"name":  
"vs1"}, "type": "async"}'
```

Creating a SnapMirror policy of type "async" which replicates all snapshots

```
POST "/api/snapmirror/policies" '{"name": "newPolicy", "svm": {"name" : "vs1"}, "type": "async", "copy_all_source_snapshots": "true"}'
```

Creating a SnapMirror policy of type "async" which replicates latest snapshot

```
POST "/api/snapmirror/policies" '{"name": "newPolicy2", "svm": {"name" : "vs1"}, "type": "async", "copy_latest_source_snapshot": "true"}'
```

Creating a SnapMirror policy of type "async" which does not create snapshots on source

```
POST "/api/snapmirror/policies" '{"name": "newPolicy", "svm": {"name" : "vs1"}, "type": "async", "create_snapshot_on_source": "false", "retention": [{"label": "daily", "count": 7}]}'
```

Creating a SnapMirror policy of type "sync" with sync\_type as "automated\_failover"

```
POST "/api/snapmirror/policies/" '{"name": "policy1", "svm.name": "VS0", "type": "sync", "sync_type": "automated_failover"}'
```

Creating a SnapMirror policy of type "sync" with sync\_type as "automated\_failover\_duplex"

```
POST "/api/snapmirror/policies/" '{"name": "policy_afd", "svm.name": "VS0", "type": "sync", "sync_type": "automated_failover_duplex"}'
```

Creating a SnapMirror policy of type "async" with two sets of retention values and retention periods

```
POST "/api/snapmirror/policies" '{"name": "policy_ret", "svm": {"name": "vs1"}, "retention": [{"label": "weekly", "count": "2", "period": "P7D"}, {"label": "daily", "count": "7", "period": "PT3H"}]}'
```

Creating a SnapMirror policy of type "async" with retention value as "infinite"

```
POST "/api/snapmirror/policies" '{"name": "policy_ret", "svm": {"name": "vs1"}, "retention": [{"label": "weekly", "count": "5", "period": "infinite"}]}'
```

Creating a SnapMirror policy of type "async" with properties retention preserve as true and retention warn as 3.

```
POST "/api/snapmirror/policies" '{"name": "policy_ret", "svm": {"name": "vs1"}, "retention": [{"label": "weekly", "count": "5", "preserve": true, "warn": 3}]}'
```

## Learn more

- [DOC /snapmirror/policies](#)

## Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	<p>The default is false. If set to true, the records are returned.</p> <ul style="list-style-type: none"><li>• Default value:</li></ul>

Name	Type	In	Required	Description
return_timeout	integer	query	False	<p>The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202.</p> <ul style="list-style-type: none"> <li>• Default value: 1</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul>

## Request Body

Name	Type	Description
comment	string	Comment associated with the policy.

Name	Type	Description
copy_all_source_snapshots	boolean	Specifies that all the source snapshots (including the one created by SnapMirror before the transfer begins) should be copied to the destination on a transfer. "Retention" properties cannot be specified along with this property. This is applicable only to async policies. Property can only be set to 'true'.
copy_latest_source_snapshot	boolean	Specifies that the latest source snapshot (created by SnapMirror before the transfer begins) should be copied to the destination on a transfer. "Retention" properties cannot be specified along with this property. This is applicable only to async policies. Property can only be set to 'true'.
create_snapshot_on_source	boolean	Specifies whether a new snapshot should be created on the source at the beginning of an update or resync operation. This is applicable only to async policies. Property can only be set to 'false'.
identity_preservation	string	Specifies which configuration of the source SVM is replicated to the destination SVM. This property is applicable only for SVM data protection with "async" policy type.
name	string	Name of the policy.
network_compression_enabled	boolean	Specifies whether network compression is enabled for transfers. This is applicable only to the policies of type "async".
retention	array[ <a href="#">snapmirror_policy_rule</a> ]	Rules for snapshot retention.

Name	Type	Description
rpo	integer	Specifies the duration of time for which a change to be propagated to a mirror should be delayed, in seconds. This is an intentional propagation delay between mirrors and is configurable down to zero, which means an immediate propagation. This is supported for policies of type 'continuous'.
scope	string	Set to "svm" for policies owned by an SVM, otherwise set to "cluster".
svm	svm	SVM, applies only to SVM-scoped objects.
sync_common_snapshot_schedule	<a href="#">sync_common_snapshot_schedule</a>	Schedule used to create common snapshots for synchronous relationships.
sync_type	string	
throttle	integer	Throttle in KB/s. Default to unlimited.
transfer_schedule	<a href="#">transfer_schedule</a>	The schedule used to update asynchronous relationships. Only cron schedules are supported for SnapMirror.
type	string	
uuid	string	Unique identifier of the SnapMirror policy.

## Example request

```
{  
    "comment": "string",  
    "copy_all_source_snapshots": 1,  
    "copy_latest_source_snapshot": 1,  
    "create_snapshot_on_source": "",  
    "identity_preservation": "string",  
    "name": "Asynchronous",  
    "retention": [  
        {  
            "count": 7,  
            "creation_schedule": {  
                "name": "weekly",  
                "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
            },  
            "label": "hourly",  
            "period": "P30D",  
            "prefix": "string",  
            "preserve": 1,  
            "warn": 4  
        }  
    ],  
    "rpo": 0,  
    "scope": "string",  
    "svm": {  
        "name": "svml",  
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"  
    },  
    "sync_common_snapshot_schedule": {  
        "name": "weekly",  
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
    },  
    "sync_type": "string",  
    "throttle": 0,  
    "transfer_schedule": {  
        "name": "weekly",  
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
    },  
    "type": "string",  
    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"  
}
```

## Response

Status: 202, Accepted

Name	Type	Description
job	job_link	

## Example response

```
{  
  "job": {  
    "uuid": "string"  
  }  
}
```

## Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

## Response

Status: 201, Created

## Error

Status: Default

## ONTAP Error Response codes

Error code	Description
6619714	Schedule specified is an interval schedule. SnapMirror does not support interval schedules.
13304126	Enter a value for "count" in the range indicated in the error message.
13303887	Failed to create SnapMirror policy. Reason: Maximum number of allowed retention rules reached

Error code	Description
13304083	The specified property is not supported because all nodes in the cluster are not capable of supporting this property.
13304084	Properties specified are mutually exclusive. Provide only one property.
13304085	The specified property does not support the specified value.
13304092	Input value of the retention period property is invalid. For relationships with FlexVol volume or FlexGroup volume destinations, the duration must be in ISO 6801 format or can be infinite. For relationships with object store destinations, only duration values with Y, M or D and supported and must be in the specified range.

| 6621045 | The property retention.warn is not supported for a policy when the retention.preserve property is false. | 13304129 | The property retention.warn value must be less than the property retention.count value for a rule in a policy. | 13304130 | The total retention.count value for all rules in a policy cannot exceed the value indicated in the error message. | 6621060 | Failed to create specified policy. Reason: A policy with this name already exists. || 13304118 | The specified properties cannot be both set at the same time:  
 retention.creation\_schedule and retention.period || 6621972 | Schedule specified is not supported by SnapMirror Synchronous. The allowed time interval for the creation of common snapshots can range between 30 minutes and 24 hours. || 13304011 | Failed to create or modify the specified SnapMirror policy. Reason: The property retention.count cannot have a value greater than 1. || 6621091 | The specified SnapMirror policy cannot have a rule with a preserve value of true. || 6621088 | The specified SnapMirror policy must have at least one rule without a schedule. |

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

creation\_schedule

Schedule used to create snapshots on the destination for long term retention. Only cron schedules are supported for SnapMirror.

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

snapmirror\_policy\_rule

SnapMirror policy rule for retention.

Name	Type	Description
count	integer	Number of snapshots to be kept for retention. Maximum value will differ based on type of relationship and scaling factor.
creation_schedule	creation_schedule	Schedule used to create snapshots on the destination for long term retention. Only cron schedules are supported for SnapMirror.
label	string	Snapshot label

Name	Type	Description
period	string	Specifies the duration for which the snapshots are locked. The retention period value represents a duration and must be in the ISO-8601 duration format. Years, months, days, hours, minutes, and seconds are represented as "P<num>Y", "P<num>M", "P<num>D", "PT<num>H", "PT<num>M" and "PT<num>S". Value "infinite" is also a valid input for Flexvol volumes and FlexGroup volumes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. The range of supported retention period values is between 1 second to infinite.</num></num></num></num></num></num>
prefix	string	Specifies the prefix for the snapshot name to be created as per the schedule. If no value is specified, then the label is used as the prefix.
preserve	boolean	Specifies the behavior when the snapshot retention count is reached on the SnapMirror destination for the rule. The default value is false, which means that the oldest snapshot is deleted to make room for new ones but only if the number of snapshots has exceeded the retention count specified in the 'count' property. When set to true and where the snapshots have reached the retention count, an incremental SnapMirror transfer will fail or if the rule has a schedule, snapshots will be no longer be created on the SnapMirror destination.

Name	Type	Description
warn	integer	Specifies the warning threshold count for the rule. The default value is zero. When set to a value greater than zero, an event is generated after the number of snapshots (for the particular rule) retained on a SnapMirror destination reaches the specified warning limit. The preserve property for the rule must be true in order to set the warn property to a value greater than zero.

## svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

## sync\_common\_snapshot\_schedule

Schedule used to create common snapshots for synchronous relationships.

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

## transfer\_schedule

The schedule used to update asynchronous relationships. Only cron schedules are supported for SnapMirror.

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

## snapmirror\_policy

SnapMirror policy information. SnapMirror policy can either be of type "async", "sync" or "continuous". The policy type "async" can be associated with a SnapMirror relationship that has either a FlexVol volume, FlexGroup volume or SVM as the endpoint. The policy type "sync" along with "sync\_type" as "sync" or "strict\_sync" can be associated with a SnapMirror relationship that has a FlexVol volume as the endpoint. The policy type "sync" can have a "sync\_type" of either "sync", "strict\_sync", "automated\_failover" or "automated\_failover\_duplex". If the "sync\_type" is "sync", a write success is returned to the client after writing the data to the source endpoint and before writing the data to the destination endpoint. If the "sync\_type" is "strict\_sync", a write success is returned to the client after writing the data to both source and destination endpoints. If the "sync\_type" is "automated\_failover", the policy can be associated with a SnapMirror active sync relationship that has a consistency group as the endpoint and provides asymmetric active active access to the two storage copies. If the "sync\_type" is "automated\_failover\_duplex", the policy can be associated with a SnapMirror active sync relationship that has a consistency group as the endpoint and provides symmetric active active access to the two storage copies. Use the "sync" policy with "sync\_type" as "automated\_failover" or "automated\_failover\_duplex" to establish SnapMirror active sync relationships for business continuity use cases. SnapMirror relationships with policy types as "sync" and "sync\_type" as "automated\_failover" or "automated\_failover\_duplex" can be monitored by the Mediator, if configured. If the source Consistency Group endpoint is not reachable, the Mediator might trigger a failover to the destination consistency group endpoint. A policy type of "continuous" can be associated with SnapMirror relationships that have either ONTAP S3 buckets or non-ONTAP object stores as endpoints. This type of policy is used for FabricLink owned targets.

Name	Type	Description
comment	string	Comment associated with the policy.
copy_all_source_snapshots	boolean	Specifies that all the source snapshots (including the one created by SnapMirror before the transfer begins) should be copied to the destination on a transfer. "Retention" properties cannot be specified along with this property. This is applicable only to async policies. Property can only be set to 'true'.
copy_latest_source_snapshot	boolean	Specifies that the latest source snapshot (created by SnapMirror before the transfer begins) should be copied to the destination on a transfer. "Retention" properties cannot be specified along with this property. This is applicable only to async policies. Property can only be set to 'true'.

Name	Type	Description
create_snapshot_on_source	boolean	Specifies whether a new snapshot should be created on the source at the beginning of an update or resync operation. This is applicable only to async policies. Property can only be set to 'false'.
identity_preservation	string	Specifies which configuration of the source SVM is replicated to the destination SVM. This property is applicable only for SVM data protection with "async" policy type.
name	string	Name of the policy.
network_compression_enabled	boolean	Specifies whether network compression is enabled for transfers. This is applicable only to the policies of type "async".
retention	array[snapmirror_policy_rule]	Rules for snapshot retention.
rpo	integer	Specifies the duration of time for which a change to be propagated to a mirror should be delayed, in seconds. This is an intentional propagation delay between mirrors and is configurable down to zero, which means an immediate propagation. This is supported for policies of type 'continuous'.
scope	string	Set to "svm" for policies owned by an SVM, otherwise set to "cluster".
svm	svm	SVM, applies only to SVM-scoped objects.
sync_common_snapshot_schedule	sync_common_snapshot_schedule	Schedule used to create common snapshots for synchronous relationships.
sync_type	string	

Name	Type	Description
throttle	integer	Throttle in KB/s. Default to unlimited.
transfer_schedule	transfer_schedule	The schedule used to update asynchronous relationships. Only cron schedules are supported for SnapMirror.
type	string	
uuid	string	Unique identifier of the SnapMirror policy.

#### job\_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### returned\_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

## Delete a SnapMirror policy

DELETE /snapmirror/policies/{uuid}

**Introduced In:** 9.6

Deletes a SnapMirror policy.

## Related ONTAP commands

- `snapmirror policy delete`

## Example

```
DELETE "/api/snapmirror/policies/510c15d4-f9e6-11e8-bdb5-0050568e12c2"
```

## Learn more

- [DOC /snapmirror/policies](#)

## Parameters

Name	Type	In	Required	Description
uuid	string	path	True	SnapMirror policy UUID

Name	Type	In	Required	Description
return_timeout	integer	query	False	<p>The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202.</p> <ul style="list-style-type: none"> <li>• Default value: 1</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul>

## Response

Status: 200, Ok

Name	Type	Description
job	<a href="#">job_link</a>	

## Example response

```
{  
  "job": {  
    "_links": {  
      "self": {  
        "href": "/api/resourcelink"  
      }  
    },  
    "uuid": "string"  
  }  
}
```

## Response

Status: 202, Accepted

## Error

Status: Default, Error

Name	Type	Description
error	<a href="#">returned_error</a>	

## Example error

```
{  
  "error": {  
    "arguments": [  
      {  
        "code": "string",  
        "message": "string"  
      }  
    ],  
    "code": "4",  
    "message": "entry doesn't exist",  
    "target": "uuid"  
  }  
}
```

## Definitions

### See Definitions

href

Name	Type	Description
href	string	

\_links

Name	Type	Description
self	href	

job\_link

Name	Type	Description
_links	_links	
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned\_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

## Retrieve a specific SnapMirror policy

GET /snapmirror/policies/{uuid}

**Introduced In:** 9.6

Retrieves a specific SnapMirror policy.

### Example

```
GET "/api/snapmirror/policies/567aaac0-f863-11e8-a666-0050568e12c2"
```

### Learn more

- [DOC /snapmirror/policies](#)

### Parameters

Name	Type	In	Required	Description
uuid	string	path	True	SnapMirror policy UUID.
fields	array[string]	query	False	Specify the fields to return.

### Response

```
Status: 200, Ok
```

Name	Type	Description
_links	<a href="#">_links</a>	
comment	string	Comment associated with the policy.
copy_all_source_snapshots	boolean	Specifies that all the source snapshots (including the one created by SnapMirror before the transfer begins) should be copied to the destination on a transfer. "Retention" properties cannot be specified along with this property. This is applicable only to async policies. Property can only be set to 'true'.

Name	Type	Description
copy_latest_source_snapshot	boolean	Specifies that the latest source snapshot (created by SnapMirror before the transfer begins) should be copied to the destination on a transfer. "Retention" properties cannot be specified along with this property. This is applicable only to async policies. Property can only be set to 'true'.
create_snapshot_on_source	boolean	Specifies whether a new snapshot should be created on the source at the beginning of an update or resync operation. This is applicable only to async policies. Property can only be set to 'false'.
identity_preservation	string	Specifies which configuration of the source SVM is replicated to the destination SVM. This property is applicable only for SVM data protection with "async" policy type.
name	string	Name of the policy.
network_compression_enabled	boolean	Specifies whether network compression is enabled for transfers. This is applicable only to the policies of type "async".
retention	array[ <a href="#">snapmirror_policy_rule</a> ]	Rules for snapshot retention.
rpo	integer	Specifies the duration of time for which a change to be propagated to a mirror should be delayed, in seconds. This is an intentional propagation delay between mirrors and is configurable down to zero, which means an immediate propagation. This is supported for policies of type 'continuous'.
scope	string	Set to "svm" for policies owned by an SVM, otherwise set to "cluster".
svm	<a href="#">svm</a>	SVM, applies only to SVM-scoped objects.

Name	Type	Description
sync_common_snapshot_schedule	<a href="#">sync_common_snapshot_schedule</a>	Schedule used to create common snapshots for synchronous relationships.
sync_type	string	
throttle	integer	Throttle in KB/s. Default to unlimited.
transfer_schedule	<a href="#">transfer_schedule</a>	The schedule used to update asynchronous relationships. Only cron schedules are supported for SnapMirror.
type	string	
uuid	string	Unique identifier of the SnapMirror policy.

## Example response

```
{  
  "_links": {  
    "self": {  
      "href": "/api/resourcelink"  
    }  
  },  
  "comment": "string",  
  "copy_all_source_snapshots": 1,  
  "copy_latest_source_snapshot": 1,  
  "create_snapshot_on_source": "",  
  "identity_preservation": "string",  
  "name": "Asynchronous",  
  "retention": [  
    {  
      "count": 7,  
      "creation_schedule": {  
        "_links": {  
          "self": {  
            "href": "/api/resourcelink"  
          }  
        },  
        "name": "weekly",  
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
      },  
      "label": "hourly",  
      "period": "P30D",  
      "prefix": "string",  
      "preserve": 1,  
      "warn": 4  
    }  
  ],  
  "rpo": 0,  
  "scope": "string",  
  "svm": {  
    "_links": {  
      "self": {  
        "href": "/api/resourcelink"  
      }  
    },  
    "name": "svml1",  
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"  
  },  
  "sync_common_snapshot_schedule": {  
    "_links": {  
    }  
  }  
}
```

```

    "self": {
      "href": "/api/resourcelink"
    },
    "name": "weekly",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "sync_type": "string",
  "throttle": 0,
  "transfer_schedule": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "weekly",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "type": "string",
  "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}

```

## Error

Status: Default

### ONTAP Error Response codes

Error code	Description
13303842	SnapMirror policy is not supported.

Name	Type	Description
error	returned_error	

## Example error

```
{  
  "error": {  
    "arguments": [  
      {  
        "code": "string",  
        "message": "string"  
      }  
    ],  
    "code": "4",  
    "message": "entry doesn't exist",  
    "target": "uuid"  
  }  
}
```

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

Name	Type	Description
self	href	

creation\_schedule

Schedule used to create snapshots on the destination for long term retention. Only cron schedules are supported for SnapMirror.

Name	Type	Description
_links	_links	
name	string	Job schedule name
uuid	string	Job schedule UUID

snapmirror\_policy\_rule

SnapMirror policy rule for retention.

Name	Type	Description
count	integer	Number of snapshots to be kept for retention. Maximum value will differ based on type of relationship and scaling factor.
creation_schedule	creation_schedule	Schedule used to create snapshots on the destination for long term retention. Only cron schedules are supported for SnapMirror.
label	string	Snapshot label

Name	Type	Description
period	string	Specifies the duration for which the snapshots are locked. The retention period value represents a duration and must be in the ISO-8601 duration format. Years, months, days, hours, minutes, and seconds are represented as "P<num>Y", "P<num>M", "P<num>D", "PT<num>H", "PT<num>M" and "PT<num>S". Value "infinite" is also a valid input for Flexvol volumes and FlexGroup volumes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. The range of supported retention period values is between 1 second to infinite.</num></num></num></num></num></num>
prefix	string	Specifies the prefix for the snapshot name to be created as per the schedule. If no value is specified, then the label is used as the prefix.
preserve	boolean	Specifies the behavior when the snapshot retention count is reached on the SnapMirror destination for the rule. The default value is false, which means that the oldest snapshot is deleted to make room for new ones but only if the number of snapshots has exceeded the retention count specified in the 'count' property. When set to true and where the snapshots have reached the retention count, an incremental SnapMirror transfer will fail or if the rule has a schedule, snapshots will be no longer be created on the SnapMirror destination.

Name	Type	Description
warn	integer	Specifies the warning threshold count for the rule. The default value is zero. When set to a value greater than zero, an event is generated after the number of snapshots (for the particular rule) retained on a SnapMirror destination reaches the specified warning limit. The preserve property for the rule must be true in order to set the warn property to a value greater than zero.

## svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

## sync\_common\_snapshot\_schedule

Schedule used to create common snapshots for synchronous relationships.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	Job schedule name
uuid	string	Job schedule UUID

## transfer\_schedule

The schedule used to update asynchronous relationships. Only cron schedules are supported for SnapMirror.

Name	Type	Description
_links	<a href="#">_links</a>	

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned\_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

## Update the SnapMirror policy

PATCH /snapmirror/policies/{uuid}

**Introduced In:** 9.6

Updates the SnapMirror policy.

### Important notes

- The properties "retention.label" and "retention.count" are mandatory if "retention" is provided in the input. The provided "retention.label" is the final list and it replaces the existing values.
- The value of the "identity\_preservation" property cannot be changed if the SnapMirror relationships associated with the policy have different identity\_preservation configurations.
- If the SnapMirror policy "identity\_preservation" value matches the "identity\_preservation" value of the associated SnapMirror relationships, then the "identity\_preservation" value can be changed from a higher "identity\_preservation" threshold value to a lower "identity\_preservation" threshold value but not vice-versa. For example, the threshold value of the "identity\_preservation" property can be changed from "full" to "exclude\_network\_config", but cannot be increased from "exclude\_network\_and\_protocol\_config" to "exclude\_network\_config" to "full". The threshold value of the "identity\_preservation" cannot be changed to "exclude\_network\_and\_protocol\_config" for IDP SVMDR.

- The policy properties "copy\_all\_source\_snapshots", "copy\_latest\_source\_snapshot", and "create\_snapshot\_on\_source" cannot be modified.
- No "retention" properties can be modified if the "copy\_all\_source\_snapshots" or "copy\_latest\_source\_snapshot" property is present in the policy.
- Replacing or deleting all retention rules of a policy that has the "create\_snapshot\_on\_source" property set to false in a single API call is not supported.
- Modifying the property "retention.label" for all retention rules of a policy that has the "create\_snapshot\_on\_source" property set to false in a single API call is not supported.
- To remove a transfer\_schedule on a SnapMirror policy set the "transfer\_schedule" to null (no-quotes) during SnapMirror policy PATCH.

## Related ONTAP commands

- snapmirror policy modify

### Example

Updating the "retention" property to add rules to a policy without any rules.

```
PATCH "/api/snapmirror/policies/fe65686d-00dc-11e9-b5fb-0050568e3f83"
'{"retention": [{"label": "newlabel", "count": 2}, {"label": "weekly", "count": 2, "creation_schedule": {"name": "weekly"}}, {"label": "daily", "count": 14}]}'
```

Updating the "retention" property to add rules to a policy with existing rules {"retention": [{"label": "oldLabel1", "count": 2}, {"label": "oldLabel2", "count": 5}]}

```
PATCH "/api/snapmirror/policies/fe65686d-00dc-11e9-b5fb-0050568e3f83"
'{"retention": [{"label": "oldLabel1", "count": 2}, {"label": "oldLabel2", "count": 5}, {"label": "newlabel", "count": 3}, {"label": "weekly", "count": 1}]}'
```

Updating the "retention" property to remove a rule (oldLabel1) and add new rule to a policy with existing rules {"retention": [{"label": "oldLabel1", "count": 2}, {"label": "oldLabel2", "count": 3}]}

```
PATCH "/api/snapmirror/policies/fe65686d-00dc-11e9-b5fb-0050568e3f83"
'{"retention": [{"label": "oldLabel2", "count": 3}, {"label": "newlabel", "count": 2}]}'
```

Updating "transfer\_schedule", "throttle", and "identity\_preservation" properties

```
PATCH "/api/snapmirror/policies/8aef950b-3bef-11e9-80ac-0050568ea591"
'{"transfer_schedule.name" : "weekly", "throttle" : "100",
"identity_preservation":"exclude_network_and_protocol_config"}'
```

Removing the SnapMirror transfer\_schedule for a SnapMirror policy. Transfer\_schedule can be specified as UUID or name or both with the value set to null (no-quotes).

```
PATCH "/api/snapmirror/policies/98bb2608-fc60-11e8-aa13-005056a707ff"
'{"transfer_schedule": {"uuid": null, "name": null}}'
```

Updating the "retention" property to have retention.preserve and retention.warn for existing rule.

```
PATCH "/api/snapmirror/policies/fe65686d-00dc-11e9-b5fb-0050568e3f83"
'{"retention": [{"label": "oldLabel1", "count": 3, "preserve": true,
"warn": 2}]}'
```

## Learn more

- [DOC /snapmirror/policies](#)

## Parameters

Name	Type	In	Required	Description
uuid	string	path	True	SnapMirror policy UUID

Name	Type	In	Required	Description
return_timeout	integer	query	False	<p>The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202.</p> <ul style="list-style-type: none"> <li>• Default value: 1</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul>

## Request Body

Name	Type	Description
comment	string	Comment associated with the policy.
identity_preservation	string	Specifies which configuration of the source SVM is replicated to the destination SVM. This property is applicable only for SVM data protection with "async" policy type.

Name	Type	Description
network_compression_enabled	boolean	Specifies whether network compression is enabled for transfers. This is applicable only to the policies of type "async".
retention	array[ <a href="#">snapmirror_policy_rule</a> ]	Rules for snapshot retention.
rpo	integer	Specifies the duration of time for which a change to be propagated to a mirror should be delayed, in seconds. This is an intentional propagation delay between mirrors and is configurable down to zero, which means an immediate propagation. This is supported for policies of type 'continuous'.
scope	string	Set to "svm" for policies owned by an SVM, otherwise set to "cluster".
sync_common_snapshot_schedule	<a href="#">sync_common_snapshot_schedule</a>	Schedule used to create common snapshots for synchronous relationships.
throttle	integer	Throttle in KB/s. Default to unlimited.
transfer_schedule	<a href="#">transfer_schedule</a>	The schedule used to update asynchronous relationships. Only cron schedules are supported for SnapMirror.
uuid	string	Unique identifier of the SnapMirror policy.

## Example request

```
{  
    "comment": "string",  
    "copy_all_source_snapshots": 1,  
    "copy_latest_source_snapshot": 1,  
    "create_snapshot_on_source": "",  
    "identity_preservation": "string",  
    "retention": [  
        {  
            "count": 7,  
            "creation_schedule": {  
                "name": "weekly",  
                "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
,  
                "label": "hourly",  
                "period": "P30D",  
                "prefix": "string",  
                "preserve": 1,  
                "warn": 4  
            }  
        },  
        "rpo": 0,  
        "scope": "string",  
        "sync_common_snapshot_schedule": {  
            "name": "weekly",  
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
,  
            "throttle": 0,  
            "transfer_schedule": {  
                "name": "weekly",  
                "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
,  
                "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"  
        }  
    }  
}
```

## Response

Status: 200, Ok

Name	Type	Description
job	job_link	

## Example response

```
{  
  "job": {  
    "uuid": "string"  
  }  
}
```

## Response

Status: 202, Accepted

## Error

Status: Default

## ONTAP Error Response codes

Error code	Description
6619714	Schedule specified is an interval schedule. SnapMirror does not support interval schedules.
13303842	SnapMirror policy is not supported.
13303843	Conflicting values between SnapMirror policy and SnapMirror relationships for either 'transfer_schedule', 'throttle' or 'identity_preservation' properties
13303850	Invalid input parameter
13303887	Failed to create SnapMirror policy. Reason: Maximum number of allowed retention rules reached
13304050	Retention cannot be empty for a SnapMirror policy with 'create_snapshot_on_source' set to false.
13304092	Input value of the retention period property is invalid. For relationships with FlexVol volume or FlexGroup volume destinations, the duration must be in ISO 8601 format or can be infinite. For relationships with object store destinations, only duration values with Y, M or D and supported and must be in the specified range.
6621045	The property retention.warn is not supported for a policy when the retention.preserve property is false.
13304129	The property retention.warn value must be less than the property retention.count value for a rule in a policy.

Error code	Description
13304126	Enter a value for "count" in the range indicated in the error message.
13304130	The total retention.count value for all rules in a policy cannot exceed the value indicated in the error message."
13304131	Modifying property "retention.creation_schedule" for the policy is not supported because the policy is associated with a relationship with a FlexGroup volume endpoint.
13304011	Failed to create or modify the specified Snapmirror policy. Reason: The property retention.count cannot have a value greater than 1.
6621091	The specified Snapmirror policy cannot have a rule with a preserve value of true.
6621088	The specified Snapmirror policy must have at least one rule without a schedule.
6621129	Cannot add a snapshot creation schedule to the policy because it is associated with a Consistency Group relationship.

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

creation\_schedule

Schedule used to create snapshots on the destination for long term retention. Only cron schedules are supported for SnapMirror.

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

snapmirror\_policy\_rule

SnapMirror policy rule for retention.

Name	Type	Description
count	integer	Number of snapshots to be kept for retention. Maximum value will differ based on type of relationship and scaling factor.
creation_schedule	creation_schedule	Schedule used to create snapshots on the destination for long term retention. Only cron schedules are supported for SnapMirror.
label	string	Snapshot label

Name	Type	Description
period	string	Specifies the duration for which the snapshots are locked. The retention period value represents a duration and must be in the ISO-8601 duration format. Years, months, days, hours, minutes, and seconds are represented as "P<num>Y", "P<num>M", "P<num>D", "PT<num>H", "PT<num>M" and "PT<num>S". Value "infinite" is also a valid input for Flexvol volumes and FlexGroup volumes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. The range of supported retention period values is between 1 second to infinite.</num></num></num></num></num></num>
prefix	string	Specifies the prefix for the snapshot name to be created as per the schedule. If no value is specified, then the label is used as the prefix.
preserve	boolean	Specifies the behavior when the snapshot retention count is reached on the SnapMirror destination for the rule. The default value is false, which means that the oldest snapshot is deleted to make room for new ones but only if the number of snapshots has exceeded the retention count specified in the 'count' property. When set to true and where the snapshots have reached the retention count, an incremental SnapMirror transfer will fail or if the rule has a schedule, snapshots will be no longer be created on the SnapMirror destination.

Name	Type	Description
warn	integer	Specifies the warning threshold count for the rule. The default value is zero. When set to a value greater than zero, an event is generated after the number of snapshots (for the particular rule) retained on a SnapMirror destination reaches the specified warning limit. The preserve property for the rule must be true in order to set the warn property to a value greater than zero.

## svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

## sync\_common\_snapshot\_schedule

Schedule used to create common snapshots for synchronous relationships.

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

## transfer\_schedule

The schedule used to update asynchronous relationships. Only cron schedules are supported for SnapMirror.

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

## snapmirror\_policy

SnapMirror policy information. SnapMirror policy can either be of type "async", "sync" or "continuous". The policy type "async" can be associated with a SnapMirror relationship that has either a FlexVol volume, FlexGroup volume or SVM as the endpoint. The policy type "sync" along with "sync\_type" as "sync" or "strict\_sync" can be associated with a SnapMirror relationship that has a FlexVol volume as the endpoint. The policy type "sync" can have a "sync\_type" of either "sync", "strict\_sync", "automated\_failover" or "automated\_failover\_duplex". If the "sync\_type" is "sync", a write success is returned to the client after writing the data to the source endpoint and before writing the data to the destination endpoint. If the "sync\_type" is "strict\_sync", a write success is returned to the client after writing the data to both source and destination endpoints. If the "sync\_type" is "automated\_failover", the policy can be associated with a SnapMirror active sync relationship that has a consistency group as the endpoint and provides asymmetric active active access to the two storage copies. If the "sync\_type" is "automated\_failover\_duplex", the policy can be associated with a SnapMirror active sync relationship that has a consistency group as the endpoint and provides symmetric active active access to the two storage copies. Use the "sync" policy with "sync\_type" as "automated\_failover" or "automated\_failover\_duplex" to establish SnapMirror active sync relationships for business continuity use cases. SnapMirror relationships with policy types as "sync" and "sync\_type" as "automated\_failover" or "automated\_failover\_duplex" can be monitored by the Mediator, if configured. If the source Consistency Group endpoint is not reachable, the Mediator might trigger a failover to the destination consistency group endpoint. A policy type of "continuous" can be associated with SnapMirror relationships that have either ONTAP S3 buckets or non-ONTAP object stores as endpoints. This type of policy is used for FabricLink owned targets.

Name	Type	Description
comment	string	Comment associated with the policy.
identity_preservation	string	Specifies which configuration of the source SVM is replicated to the destination SVM. This property is applicable only for SVM data protection with "async" policy type.
network_compression_enabled	boolean	Specifies whether network compression is enabled for transfers. This is applicable only to the policies of type "async".
retention	array[snapmirror_policy_rule]	Rules for snapshot retention.
rpo	integer	Specifies the duration of time for which a change to be propagated to a mirror should be delayed, in seconds. This is an intentional propagation delay between mirrors and is configurable down to zero, which means an immediate propagation. This is supported for policies of type 'continuous'.

Name	Type	Description
scope	string	Set to "svm" for policies owned by an SVM, otherwise set to "cluster".
sync_common_snapshot_schedule	<a href="#">sync_common_snapshot_schedule</a>	Schedule used to create common snapshots for synchronous relationships.
throttle	integer	Throttle in KB/s. Default to unlimited.
transfer_schedule	<a href="#">transfer_schedule</a>	The schedule used to update asynchronous relationships. Only cron schedules are supported for SnapMirror.
uuid	string	Unique identifier of the SnapMirror policy.

#### job\_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### returned\_error

Name	Type	Description
arguments	array[ <a href="#">error_arguments</a> ]	Message arguments
code	string	Error code
message	string	Error message

Name	Type	Description
target	string	The target parameter that caused the error.

# Manage SnapMirror relationships

## SnapMirror relationships endpoint overview

### Overview

This API manages asynchronous extended data protection (XDP) relationships for FlexVol volumes, FlexGroup volumes, or SVMs. It is also used to manage a synchronous relationship between FlexVol volumes, which provides zero RPO data protection and active synchronous relationship with automated failover between Application Consistency Group endpoints which provides zero RTO data protection.

To create an asynchronous extended data protection relationship with FlexVol volumes, FlexGroup volumes, Application Consistency Groups or SVMs, use the policy of type "async".

To create a synchronous relationship between FlexVol volumes, use the policy of type "sync" with sync\_type of either "sync" or "strict\_sync". To create an active synchronous relationship with automated failover between Application Consistency Group endpoints, use the policy of type "sync" with sync\_type "automated\_failover". You can create an asynchronous extended data protection relationship between the source and destination which can be used by the transfer APIs to perform SnapMirror "restore" operations.

To create FlexVol volume or FlexGroup volume SnapMirror relationships, the source volume must be in the "online" state and be a read\_write type; the destination volume must be in the "online" state and be a data protection type.

In the case of an asynchronous or synchronous SnapMirror relationship for an Application Consistency Group of FlexVol volumes, SnapMirror creation results in the creation of an Application Consistency Group on the source cluster if it did not already exist with the exact same name and set of FlexVol volumes specified in the current operation. Additionally, if the specified Application Consistency Group is already present and is already a part of an existing SnapMirror relationship, the process fails. Creating an Application Consistency Group on the destination cluster is part of the SnapMirror creation workflow.

To create SnapMirror relationships between SVMs, the source SVM must be of subtype "default" and the destination SVM of subtype "dp\_destination". Additionally, SVMs must be peered before a relationship can be established between them when the "create\_destination" property is not specified. When the "create\_destination" property is specified, the destination SVM is provisioned on the destination cluster and the SVM peer relationship is established between the source SVM and the new destination SVM, provided that the source SVM has SVM peering permissions for the destination cluster.

Data protection FlexVol volume SnapMirror relationships cannot be created using this API but existing relationships can be listed or managed.

The SnapMirror functionality is subdivided into relationship APIs and transfer APIs:

- SnapMirror relationship APIs are used to create and manage the SnapMirror relationships.
- SnapMirror transfer APIs are used to manage data transfers.

## Retrieve information for SnapMirror relationships

GET /snapmirror/relationships

**Introduced In:** 9.6

Retrieves information for SnapMirror relationships whose destination endpoints are in the current SVM or the current cluster, depending on the cluster context.

### Related ONTAP commands

- snapmirror show
- snapmirror list-destinations

### Expensive properties

- source.consistency\_group\_volumes.name
- destination.consistency\_group\_volumes.name
- svmdr\_volumes.name

### Examples

The following examples show how to retrieve the list of SnapMirror relationships and the list of SnapMirror destinations.

1. Retrieving the list of SnapMirror relationships. This API must be run on the cluster containing the destination endpoint.

```
GET "/api/snapmirror/relationships/"
```

1. Retrieving the list of SnapMirror destinations on source. This must be run on the cluster containing the source endpoint.

```
GET "/api/snapmirror/relationships/?list_destinations_only=true"
```

1. Retrieving the relationship UUID of SnapMirror relationships with lag time greater than 2 days. This API must be run on the cluster containing the destination endpoint.

```
GET "/api/snapmirror/relationships/?fields=uuid&lag_time=>P2DT"
```

1. Retrieving the list of SnapMirror relationships with lag time less than 10 hours. This API must be run on the cluster containing the destination endpoint.

```
GET "/api/snapmirror/relationships/?lag_time=<PT10H"
```

## 1. Retrieving the list of constituent volumes for SVM DR Snapmirror relationships.

```
GET "/api/snapmirror/relationships/?fields=svmdr_volumes.name"
```

</private>

### Learn more

- [DOC /snapmirror/relationships](#)

### Parameters

Name	Type	In	Required	Description
list_destinations_only	boolean	query	False	Set to true to show relationships from the source only.
policy.name	string	query	False	Filter by policy.name
policy.type	string	query	False	Filter by policy.type
policy.uuid	string	query	False	Filter by policy.uuid
unhealthy_reason.message	string	query	False	Filter by unhealthy_reason.message
unhealthy_reason.code	string	query	False	Filter by unhealthy_reason.code
unhealthy_reason.arguments	string	query	False	Filter by unhealthy_reason.arguments <ul style="list-style-type: none"><li>• Introduced in: 9.14</li></ul>
total_transfer_duration	string	query	False	Filter by total_transfer_duration <ul style="list-style-type: none"><li>• Introduced in: 9.13</li></ul>

Name	Type	In	Required	Description
master_bias_activat ed_site	string	query	False	Filter by master_bias_activat ed_site <ul style="list-style-type: none"> <li>• Introduced in: 9.14</li> </ul>
throttle	integer	query	False	Filter by throttle <ul style="list-style-type: none"> <li>• Introduced in: 9.11</li> </ul>
total_transfer_bytes	integer	query	False	Filter by total_transfer_bytes <ul style="list-style-type: none"> <li>• Introduced in: 9.13</li> </ul>
group_type	string	query	False	Filter by group_type <ul style="list-style-type: none"> <li>• Introduced in: 9.11</li> </ul>
transfer.total_duratio n	string	query	False	Filter by transfer.total_duratio n <ul style="list-style-type: none"> <li>• Introduced in: 9.9</li> </ul>
transfer.state	string	query	False	Filter by transfer.state
transfer.type	string	query	False	Filter by transfer.type <ul style="list-style-type: none"> <li>• Introduced in: 9.14</li> </ul>
transfer.last_update d_time	string	query	False	Filter by transfer.last_update d_time <ul style="list-style-type: none"> <li>• Introduced in: 9.14</li> </ul>
transfer.uuid	string	query	False	Filter by transfer.uuid

Name	Type	In	Required	Description
transfer.end_time	string	query	False	Filter by transfer.end_time <ul style="list-style-type: none"> <li>• Introduced in: 9.9</li> </ul>
transfer.bytes_transferred	integer	query	False	Filter by transfer.bytes_transferred
svmdr_volumes.name	string	query	False	Filter by svmdr_volumes.name <ul style="list-style-type: none"> <li>• Introduced in: 9.13</li> </ul>
consistency_group_failover.type	string	query	False	Filter by consistency_group_failover.type <ul style="list-style-type: none"> <li>• Introduced in: 9.14</li> </ul>
consistency_group_failover.status.message	string	query	False	Filter by consistency_group_failover.status.message <ul style="list-style-type: none"> <li>• Introduced in: 9.8</li> </ul>
consistency_group_failover.status.code	string	query	False	Filter by consistency_group_failover.status.code <ul style="list-style-type: none"> <li>• Introduced in: 9.8</li> </ul>
consistency_group_failover.error.arguments.code	string	query	False	Filter by consistency_group_failover.error.arguments.code <ul style="list-style-type: none"> <li>• Introduced in: 9.8</li> </ul>

Name	Type	In	Required	Description
consistency_group_faillover.error.arguments.message	string	query	False	Filter by consistency_group_faillover.error.arguments.message <ul style="list-style-type: none"> <li>• Introduced in: 9.8</li> </ul>
consistency_group_faillover.error.message	string	query	False	Filter by consistency_group_faillover.error.message <ul style="list-style-type: none"> <li>• Introduced in: 9.8</li> </ul>
consistency_group_faillover.error.code	string	query	False	Filter by consistency_group_faillover.error.code <ul style="list-style-type: none"> <li>• Introduced in: 9.8</li> </ul>
consistency_group_faillover.state	string	query	False	Filter by consistency_group_faillover.state <ul style="list-style-type: none"> <li>• Introduced in: 9.14</li> </ul>
last_transfer_network_compression_ratio	string	query	False	Filter by last_transfer_network_compression_ratio <ul style="list-style-type: none"> <li>• Introduced in: 9.13</li> </ul>
backoff_level	string	query	False	Filter by backoff_level <ul style="list-style-type: none"> <li>• Introduced in: 9.14</li> </ul>
exported_snapshot	string	query	False	Filter by exported_snapshot
state	string	query	False	Filter by state
lag_time	string	query	False	Filter by lag_time

Name	Type	In	Required	Description
io_serving_copy	string	query	False	Filter by io_serving_copy <ul style="list-style-type: none"> <li>• Introduced in: 9.14</li> </ul>
uuid	string	query	False	Filter by uuid
transfer_schedule.uid	string	query	False	Filter by transfer_schedule.uid <ul style="list-style-type: none"> <li>• Introduced in: 9.11</li> </ul>
transfer_schedule.name	string	query	False	Filter by transfer_schedule.name <ul style="list-style-type: none"> <li>• Introduced in: 9.11</li> </ul>
identity_preservation	string	query	False	Filter by identity_preservation <ul style="list-style-type: none"> <li>• Introduced in: 9.11</li> </ul>
destination.consistency_group_volumes.name	string	query	False	Filter by destination.consistency_group_volumes.name <ul style="list-style-type: none"> <li>• Introduced in: 9.8</li> </ul>
destination.path	string	query	False	Filter by destination.path
destination.svm.name	string	query	False	Filter by destination.svm.name
destination.svm.uuid	string	query	False	Filter by destination.svm.uuid

Name	Type	In	Required	Description
destination.luns.name	string	query	False	Filter by destination.luns.name <ul style="list-style-type: none"> <li>• Introduced in: 9.16</li> </ul>
destination.luns.uuid	string	query	False	Filter by destination.luns.uuid <ul style="list-style-type: none"> <li>• Introduced in: 9.16</li> </ul>
destination.cluster.name	string	query	False	Filter by destination.cluster.name <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
destination.cluster.uuid	string	query	False	Filter by destination.cluster.uuid <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
restore	boolean	query	False	Filter by restore
source.path	string	query	False	Filter by source.path
source.cluster.name	string	query	False	Filter by source.cluster.name <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
source.cluster.uuid	string	query	False	Filter by source.cluster.uuid <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
source.luns.name	string	query	False	Filter by source.luns.name <ul style="list-style-type: none"> <li>• Introduced in: 9.16</li> </ul>

Name	Type	In	Required	Description
source.luns.uuid	string	query	False	Filter by source.luns.uuid <ul style="list-style-type: none"> <li>• Introduced in: 9.16</li> </ul>
source.svm.name	string	query	False	Filter by source.svm.name
source.svm.uuid	string	query	False	Filter by source.svm.uuid
source.consistency_group_volumes.name	string	query	False	Filter by source.consistency_group_volumes.name <ul style="list-style-type: none"> <li>• Introduced in: 9.8</li> </ul>
healthy	boolean	query	False	Filter by healthy
preferred_site	string	query	False	Filter by preferred_site <ul style="list-style-type: none"> <li>• Introduced in: 9.14</li> </ul>
last_transfer_type	string	query	False	Filter by last_transfer_type <ul style="list-style-type: none"> <li>• Introduced in: 9.11</li> </ul>
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none"> <li>• Default value: 1</li> </ul>

Name	Type	In	Required	Description
return_timeout	integer	query	False	<p>The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached.</p> <ul style="list-style-type: none"> <li>• Default value: 1</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul>
order_by	array[string]	query	False	Order results by specified fields and optional [asc]

## Response

Status: 200, Ok

Name	Type	Description
_links	<a href="#">_links</a>	
num_records	integer	Number of records
records	array[ <a href="#">snapmirror_relationship</a> ]	

## Example response

```
{  
  "_links": {  
    "next": {  
      "href": "/api/resourcelink"  
    },  
    "self": {  
      "href": "/api/resourcelink"  
    }  
  },  
  "num_records": 1,  
  "records": [  
    {  
      "_links": {  
        "self": {  
          "href": "/api/resourcelink"  
        }  
      },  
      "backoff_level": "medium",  
      "consistency_group_failover": {  
        "error": {  
          "arguments": [  
            {  
              "code": "string",  
              "message": "string"  
            }  
          ],  
          "code": "4",  
          "message": "entry doesn't exist"  
        },  
        "state": "string",  
        "status": {  
          "code": "string",  
          "message": "string"  
        },  
        "type": "string"  
      },  
      "destination": {  
        "cluster": {  
          "_links": {  
            "self": {  
              "href": "/api/resourcelink"  
            }  
          },  
          "name": "cluster1",  
          "type": "string"  
        }  
      }  
    }  
  ]  
}
```

```

        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "consistency_group_volumes": [
        {
            "name": "volume1"
        }
    ],
    "luns": {
        "_links": {
            "self": {
                "href": "/api/resourcelink"
            }
        },
        "name": "/vol/volume1/lun1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "path": "svm1:volume1",
    "svm": {
        "_links": {
            "self": {
                "href": "/api/resourcelink"
            }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
},
"exported_snapshot": "string",
"group_type": "consistency_group",
"identity_preservation": "string",
"io_serving_copy": "C1_sti85-vsimm-ucs209a_cluster, C1_sti85-vsimm-ucs209c_cluster",
"lag_time": "PT8H35M42S",
"last_transfer_network_compression_ratio": 61,
"last_transfer_type": "initialize",
"master_bias_activated_site": "C1_sti85-vsimm-ucs209a_cluster",
"policy": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "name": "Asynchronous",
    "type": "string",
    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}

```

```

"preferred_site": "C1_sti85-vsim-ucs209a_cluster",
"restore_to_snapshot": "string",
"source": {
    "cluster": {
        "_links": {
            "self": {
                "href": "/api/resourcelink"
            }
        },
        "name": "cluster1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "consistency_group_volumes": [
        {
            "name": "volumel"
        }
    ],
    "luns": {
        "_links": {
            "self": {
                "href": "/api/resourcelink"
            }
        },
        "name": "/vol/volumel/lun1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "path": "svm1:volumel",
    "svm": {
        "_links": {
            "self": {
                "href": "/api/resourcelink"
            }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
},
"state": "snapmirrored",
"svmdr_volumes": [
    {
        "name": "volumel"
    }
],
"throttle": 0,
"total_transfer_bytes": 1098210312,
"total_transfer_duration": "PT3M21S",

```

```

"transfer": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "end_time": "2020-12-02 21:36:19 -0500",
  "last_updated_time": "2023-09-14 18:39:19 -0400",
  "state": "string",
  "total_duration": "PT28M41S",
  "type": "initialize",
  "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
},
"transfer_schedule": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "weekly",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"unhealthy_reason": [
  {
    "arguments": [],
    "code": "6621444",
    "message": "Failed to complete update operation on one or more item relationships."
  },
  {
    "arguments": [],
    "code": "6621445",
    "message": "Group Update failed"
  }
],
"uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}
]
}

```

## Error

Status: Default

## ONTAP Error Response codes

Error code	Description
13303825	Could not retrieve information for the SnapMirror policy type
13303817	Unknown value for the Snapmirror State

Name	Type	Description
error	<a href="#">returned_error</a>	

### Example error

```
{  
  "error": {  
    "arguments": [  
      {  
        "code": "string",  
        "message": "string"  
      }  
    ],  
    "code": "4",  
    "message": "entry doesn't exist",  
    "target": "uuid"  
  }  
}
```

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

Name	Type	Description
next	href	
self	href	

\_links

Name	Type	Description
self	href	

error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

SnapMirror Consistency Group failover error message.

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

status

Name	Type	Description
code	string	Status code
message	string	SnapMirror Consistency Group failover status.

## snapmirror\_consistency\_group\_failover

SnapMirror Consistency Group failover information. The SnapMirror Consistency Group failover can be a planned or an unplanned operation. Only active SnapMirror Consistency Group failover operation progress can be monitored using this object. In case of an error during the failover operation, the property "consistency\_group\_failover.error" holds the reason for the error. ONTAP automatically retries any failed SnapMirror Consistency Group failover operation.

Name	Type	Description
error	<a href="#">error</a>	SnapMirror Consistency Group failover error message.
state	string	SnapMirror Consistency Group failover state.
status	<a href="#">status</a>	
type	string	SnapMirror Consistency Group failover type.

## bucket\_retention

Specifies the retention-mode and default retention period configured on the destination bucket.

Name	Type	Description
default_period	string	Specifies the default retention period that is applied to objects while committing them to the WORM state without an associated retention period. The retention period can be in years, or days. The retention period value represents a duration and must be specified in the ISO-8601 duration format. A period specified for years and days is represented in the ISO-8601 format as "P<num>Y" and "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. The period string must contain only a single time element that is, either years, or days. A duration which combines different periods is not supported, for example "P1Y10D" is not supported.</num></num>

Name	Type	Description
mode	string	The lock mode of the bucket. compliance – A SnapLock Compliance (SLC) bucket provides the highest level of WORM protection and an administrator cannot destroy a compliance bucket if it contains unexpired WORM objects. governance – An administrator can delete a Governance bucket. no_lock – Indicates the bucket does not support object locking.

#### storage\_service

Name	Type	Description
enabled	boolean	This property indicates whether to create the destination endpoint using storage service.
enforce_performance	boolean	Optional property to enforce storage service performance on the destination endpoint. This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints.

Name	Type	Description
name	string	<p>Optional property to specify the storage service name for the destination endpoint. This property is considered when the property "create_destination.storage_service.enabled" is set to "true". When the property "create_destination.storage_service.enabled" is set to "true" and the "create_destination.storage_service.name" for the endpoint is not specified, then ONTAP selects the highest storage service available on the cluster to provision the destination endpoint. This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints.</p> <ul style="list-style-type: none"> <li>• enum: ["extreme", "performance", "value"]</li> <li>• Introduced in: 9.6</li> <li>• x-nullable: true</li> </ul>

tiering

Name	Type	Description
policy	string	<p>Optional property to specify the destination endpoint's tiering policy when "create_destination.tiering.supported" is set to "true". This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints. This property determines whether the user data blocks of the destination endpoint in a FabricPool will be tiered to the cloud store when they become cold. FabricPool combines flash (performance tier) with a cloud store into a single aggregate. Temperature of the destination endpoint volume blocks increases if they are accessed frequently and decreases when they are not. all – This policy allows tiering of both destination endpoint snapshots and the user transferred data blocks to the cloud store as soon as possible by ignoring the temperature on the volume blocks. This tiering policy is not applicable for Consistency Group destination endpoints or for synchronous relationships. auto – This policy allows tiering of both destination endpoint snapshots and the active file system user data to the cloud store none – Destination endpoint volume blocks will not be tiered to the cloud store. snapshot_only – This policy allows tiering of only the destination endpoint volume snapshots not associated with the active file system. The default tiering policy is "snapshot_only" for a FlexVol volume and "none" for a FlexGroup volume.</p>

Name	Type	Description
supported	boolean	Optional property to enable provisioning of the destination endpoint volumes on FabricPool aggregates. This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints. Only FabricPool aggregates are used if this property is set to "true" and only non FabricPool aggregates are used if this property is set to "false". Tiering support for a FlexGroup volume can be changed by moving all of the constituents to the required aggregates. Note that in order to tier data, not only do the destination endpoint volumes need to support tiering by using FabricPools, the "create_destination.tiering.policy" must not be "none". A destination endpoint that uses FabricPools but has a tiering "policy" of "none" supports tiering but will not tier any data.

#### snapmirror\_destination\_creation

Use this object to provision the destination endpoint when establishing a SnapMirror relationship for a FlexVol volume, FlexGroup volume, SVM, Consistency Group or ONTAP S3 Bucket. Given a source endpoint, the destination endpoint is provisioned in the SVM specified in the "destination.path" property. While protecting an SVM, the SVM destination endpoint can only be provisioned on the local cluster. To provision the SVM destination endpoint use the optional "source.cluster.name" property to specify the remote cluster name or use the optional "source.cluster.uuid" property to specify the remote cluster UUID. When "create\_destination.enabled" option is specified while making a POST for a SnapMirror relationship, the relationship can be automatically initialized by setting the "state" either to "snapmirrored" when the policy is of type "async" or to "in\_sync" when the policy is of type "sync". The "destination.path" property must specify the destination endpoint path. For example, for FlexVol volume and FlexGroup volume, the "destination.path" can be specified as <destination-svm-name:dp-volume-name>, for SVM data protection, the "destination.path" must be specified as &lt;destination-svm-name:&gt;, and for Consistency Group, the "destination.path" must be specified as &lt;destination-svm-name:&gt; along with the "destination.consistency\_group\_volumes" or "destination.luns" property to indicate the list of destination volumes or LUNs of type "DP" in the Consistency Group. For a FlexVol volume, a FlexGroup volume, Consistency Group or a Bucket destination endpoint, the properties in this object can be specified either from the source or the destination cluster. For an SVM destination endpoint, the properties in this object can be specified from the destination cluster only. This object is not supported for non ONTAP endpoints. While protecting a S3 Bucket, the optional "size" property can be used to create ONTAP S3 Bucket destination endpoint of the specified size.&lt;/destination-svm-name:&gt;&lt;/destination-svm-name:&gt;</destination-svm-name:dp-volume-name>

Name	Type	Description
bucket_retention	<a href="#">bucket_retention</a>	Specifies the retention-mode and default retention period configured on the destination bucket.
enabled	boolean	Optional property to create the destination endpoint when establishing a SnapMirror relationship. It is assumed to be "false" if no other property is set and assumed to be "true" if any other property is set.
size	integer	Optional property to specify the size of destination endpoint in bytes. This property is applicable only to ONTAP S3 Bucket endpoints. The minimum size for S3 bucket is 80MB and maximum size is 64TB. If not specified, system will create destination with default size of 800GB. <ul style="list-style-type: none"> <li>• Introduced in: 9.10</li> <li>• x-nullable: true</li> </ul>
snapshot_locking_enabled	boolean	Optional property to create the destination endpoint with snapshot locking enabled when establishing a SnapMirror relationship. This property is applicable to FlexVol volumes and FlexGroup volumes.
storage_service	<a href="#">storage_service</a>	
tiering	<a href="#">tiering</a>	

cluster

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	
uuid	string	

consistency\_group\_volumes

Name	Type	Description
name	string	The name of the volume.

## luns

Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	<p>The name of a LUN. A LUN is located within a volume. Optionally, it can be located within a qtree in a volume.</p> <p>LUN names are paths of the form "/vol/&lt;volume&gt;[/&lt;qtree&gt;]/&lt;namespace&gt;" where the qtree name is optional.</p>
uuid	string	The unique identifier of the LUN.

## svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

## snapmirror\_endpoint

Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
cluster	cluster	
consistency_group_volumes	array[consistency_group_volumes]	This mandatory property specifies the list of FlexVol volumes or LUNs of a Consistency Group.
luns	luns	Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.
path	string	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: ONTAP Consistency Group - svm1:/cg/cg_name ONTAP S3 - svm1:/bucket/bucket1 NON-ONTAP - objstore1:/objstore <ul style="list-style-type: none"> <li>example: svm1:volume1</li> <li>Introduced in: 9.6</li> <li>x-nullable: true</li> </ul>
svm	svm	SVM, applies only to SVM-scoped objects.

## policy

Basic policy information of the relationship.

Name	Type	Description
_links	_links	
name	string	Name of the SnapMirror policy.
type	string	
uuid	string	Unique identifier of the SnapMirror policy.

## snapmirror\_source\_endpoint

Source endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
cluster	<a href="#">cluster</a>	
consistency_group_volumes	<a href="#">array[consistency_group_volumes]</a>	This mandatory property specifies the list of FlexVol volumes or LUNs of a Consistency Group.
luns	<a href="#">luns</a>	Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.
path	<a href="#">string</a>	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: ONTAP Consistency Group - svm1:/cg/cg_name ONTAP S3 - svm1:/bucket/bucket1 NON-ONTAP - objstore1:/objstore <ul style="list-style-type: none"> <li>example: svm1:volume1</li> <li>Introduced in: 9.14</li> <li>x-nullable: true</li> </ul>
svm	<a href="#">svm</a>	SVM, applies only to SVM-scoped objects.

#### svmdr\_volumes

Name	Type	Description
name	<a href="#">string</a>	The name of the volume.

#### transfer

Basic information on the current transfer or the last transfer if there is no active transfer at the time of the request.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
bytes_transferred	<a href="#">integer</a>	Total bytes transferred in the current or last successful transfer.
end_time	<a href="#">string</a>	End time of the last transfer.

Name	Type	Description
last_updated_time	string	Last updated time of the bytes transferred in the current transfer.
state	string	
total_duration	string	Elapsed time to transfer all snapshots for the last successful transfer.
type	string	Specifies the operation type of the current transfer on the relationship. The <i>initialize</i> transfer occurs when the relationship state changes from "uninitialized" to "snapmirrored" or "in_sync". The <i>update</i> transfer occurs when snapshots are being transferred from the source endpoint to the destination endpoint as part of a scheduled or manual update. The <i>resync</i> transfer occurs when the relationship state changes from "broken_off" to "snapmirrored" or "in_sync". The <i>restore</i> transfer occurs when a snapshot is being restored from a destination endpoint to another endpoint.
uuid	string	Transfer UUID. This property is applicable only for active transfers.

#### transfer\_schedule

Schedule used to update asynchronous relationships. This "transfer\_schedule" overrides the "transfer\_schedule" set on the SnapMirror relationship's policy. To remove the "transfer\_schedule", set its value to null (no-quotes). Only cron schedules are supported for SnapMirror.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	Job schedule name
uuid	string	Job schedule UUID

#### snapmirror\_error

SnapMirror error

Name	Type	Description
arguments	array[string]	Arguments present in the error message encountered.
code	string	Error code
message	string	Error message

### snapmirror\_relationship

SnapMirror relationship information. The SnapMirror relationship can be either "async" or "sync" based on the type of SnapMirror policy associated with the relationship. The source and destination endpoints of a SnapMirror relationship must be of the same type, for example, if the source endpoint is a FlexVol volume then the destination endpoint must be a FlexVol volume. The SnapMirror policy type "async" can be used when the SnapMirror relationship has FlexVol volume or FlexGroup volume or SVM as the endpoint. The SnapMirror policy type "sync" can be used when the SnapMirror relationship has FlexVol volume as the endpoint. The SnapMirror policy type "sync" with "sync\_type" as "automated\_failover" can be used when the SnapMirror relationship has Consistency Group as the endpoint.

Name	Type	Description
_links	<a href="#">_links</a>	
backoff_level	string	Specifies the SnapMirror backoff level due to Client Ops for FlexVol SnapMirror relationships.
consistency_group_failover	<a href="#">snapmirror_consistency_group_failover</a>	<p>SnapMirror Consistency Group failover information. The SnapMirror Consistency Group failover can be a planned or an unplanned operation. Only active SnapMirror Consistency Group failover operation progress can be monitored using this object. In case of an error during the failover operation, the property "consistency_group_failover.error" holds the reason for the error. ONTAP automatically retries any failed SnapMirror Consistency Group failover operation.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.8</li> <li>• readOnly: 1</li> </ul>

Name	Type	Description
destination	snapmirror_endpoint	<p>Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.6</li> </ul>
exported_snapshot	string	Snapshot exported to clients on destination.
group_type	string	Specifies the group type of the top level SnapMirror relationship. The volume relationships are shown as <i>none</i> , the SVMDR relationships are shown as <i>svm_dr</i> , the Consistency Group relationships are shown as <i>consistency_group</i> , and the FlexGroup volume relationships are shown as <i>flexgroup</i> .
healthy	boolean	Is the relationship healthy?

Name	Type	Description
identity_preservation	string	Specifies which configuration of the source SVM is replicated to the destination SVM. This property is applicable only for SVM data protection with "async" policy type. This "identity_preservation" overrides the "identity_preservation" set on the SnapMirror relationship's policy.
io_serving_copy	string	Specifies the sites serving I/O for the SnapMirror active sync relationship.
lag_time	string	Time since the exported snapshot was created.
last_transfer_network_compression_ratio	string	Specifies the compression ratio achieved for the data sent over the wire with network compression enabled for the last successful transfer.
last_transfer_type	string	Specifies the operation type of the last transfer that occurred on the relationship. The <i>initialize</i> transfer occurs when the relationship state changes from uninitialized to snapmirrored or in_sync. The <i>update</i> transfer occurs when the snapshots are transferred from the source endpoint to the destination endpoint as part of scheduled or manual update. The <i>resync</i> transfer occurs when the relationship state changes from broken_off to snapmirrored or in_sync. The <i>restore</i> transfer occurs when the snapshot is restored from a destination endpoint to another endpoint.
master_bias_activated_site	string	Specifies the Master Bias Activated Site for the SnapMirror active sync relationship.

Name	Type	Description
policy	policy	Basic policy information of the relationship.
preferred_site	string	Specifies the Primary Site of the SnapMirror active sync relationship.
preserve	boolean	Set to true on resync to preserve snapshots on the destination that are newer than the latest common snapshot. This property is applicable only for relationships with FlexVol volume or FlexGroup volume endpoints and when the PATCH state is being changed to "snapmirrored".
quick_resync	boolean	Set to true to reduce resync time by not preserving storage efficiency. This property is applicable only for relationships with FlexVol volume endpoints and SVMDR relationships when the PATCH state is being changed to "snapmirrored".
recover_after_break	boolean	Set to true to recover from a failed SnapMirror break operation on a FlexGroup volume relationship. This restores all destination FlexGroup constituent volumes to the latest snapshot, and any writes to the read-write constituents are lost. This property is applicable only for SnapMirror relationships with FlexGroup volume endpoints and when the PATCH state is being changed to "broken_off".
restore	boolean	Set to true to create a relationship for restore. To trigger restore-transfer, use transfers POST on the restore relationship. SnapMirror relationships with the policy type "async" can be restored. SnapMirror relationships with the policy type "sync" cannot be restored.

Name	Type	Description
restore_to_snapshot	string	Specifies the snapshot to restore to on the destination during the break operation. This property is applicable only for SnapMirror relationships with FlexVol volume endpoints and when the PATCH state is being changed to "broken_off".
source	<a href="#">snapmirror_source_endpoint</a>	Source endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
state	string	<p>State of the relationship. To initialize the relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". To break the relationship, PATCH the state to "broken_off" for relationships with a policy of type "async" or "sync".</p> <p>SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" cannot be "broken_off". To resync the relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync".</p> <p>SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" can be in "broken_off" state due to a failed attempt of SnapMirror failover. To pause the relationship, suspending further transfers, PATCH the state to "paused" for relationships with a policy of type "async" or "sync". SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" cannot be "paused". To resume transfers for a paused relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". The entries "in_sync", "out_of_sync", "synchronizing", and "expanding" are only applicable to relationships with a policy of type "sync". A PATCH call on the state change only triggers the transition to the specified state. You must poll on the "state", "healthy" and "unhealthy_reason" properties using a GET request to determine if the transition is successful. To automatically initialize the relationship when specifying "create_destination" property, set the state to "snapmirrored" for</p>

Name	Type	Description
svmdr_volumes	array[svmdr_volumes]	Specifies the list of constituent FlexVol volumes and FlexGroup volumes for an SVM DR SnapMirror relationship. FlexGroup constituents are not considered.
throttle	integer	Throttle, in KBs per second. This "throttle" overrides the "throttle" set on the SnapMirror relationship's policy. If neither of these are set, defaults to 0, which is interpreted as unlimited.
total_transfer_bytes	integer	Cumulative bytes transferred for the relationship.
total_transfer_duration	string	Indicates the cumulative duration of all transfers since the last aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship.
transfer	transfer	Basic information on the current transfer or the last transfer if there is no active transfer at the time of the request.
transfer_schedule	transfer_schedule	Schedule used to update asynchronous relationships. This "transfer_schedule" overrides the "transfer_schedule" set on the SnapMirror relationship's policy. To remove the "transfer_schedule", set its value to null (no-quotes). Only cron schedules are supported for SnapMirror.
unhealthy_reason	array[snapmirror_error]	Reason the relationship is not healthy. It is a concatenation of up to four levels of error messages.
uuid	string	Unique identifier of the SnapMirror relationship.

## returned\_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

## Create a SnapMirror relationship

POST /snapmirror/relationships

**Introduced In:** 9.6

Creates a SnapMirror relationship. This API can optionally provision the destination endpoint when it does not exist. This API must be executed on the cluster containing the destination endpoint unless the destination endpoint is being provisioned. When the destination endpoint is being provisioned, this API can also be executed from the cluster containing the source endpoint. Provisioning of the destination endpoint from the source cluster is supported for the FlexVol volume, FlexGroup volume and Application Consistency Group endpoints.

For SVM endpoints, provisioning the destination SVM endpoint is not supported from the source cluster. When the destination endpoint exists, the source SVM and the destination SVM must be in an SVM peer relationship. When provisioning the destination endpoint, the SVM peer relationship between the source SVM and the destination SVM is established as part of the destination provision, provided that the source SVM has SVM peering permissions for the destination cluster.

### Required properties

- `source.path` - Path to the source endpoint of the SnapMirror relationship.
- `destination.path` - Path to the destination endpoint of the SnapMirror relationship.
- `source.consistency_group_volumes` - List of FlexVol volumes of type "RW" that are constituents of an Application Consistency Group.
- `destination.consistency_group_volumes` - List of FlexVol volumes of type "DP" that are constituents of an Application Consistency Group.

### Recommended optional properties

- `policy.name` or `policy.uuid` - Policy governing the SnapMirror relationship.
- `state` - Set the state to "snapmirrored" to automatically initialize the relationship.
- `create_destination.enabled` - Enable this property to provision the destination endpoint.

## Default property values

If not specified in POST, the following default property values are assigned:

- `policy.name` - *Asynchronous*
- `restore` - *false*
- `create_destination.tiering.policy` - *snapshot\_only* (when `create_destination.tiering.supported` is *true* for FlexVol volume)
- `create_destination.tiering.policy` - *none* (when `create_destination.tiering.supported` is *true* for FlexGroup volume)
- `create_destination.storage_service.enforce_performance` - *false*
- `destination.ipspace` - *Default*
- `throttle` - *0*
- `backoff_level` - *high*

## Related ONTAP commands

- `snapmirror create`
- `snapmirror protect`

## Important notes

- The property "transfer\_schedule" if set on a SnapMirror relationship overrides the "transfer\_schedule" set on the policy being used with the SnapMirror relationship.
- The property "throttle" if set on a SnapMirror relationship overrides the "throttle" set on the policy being used with the SnapMirror relationship.
- The properties "transfer\_schedule" and "throttle" are not supported when "restore" is set to "true".
- The property "transfer\_schedule" cannot be set to null (no-quotes) during SnapMirror relationship POST.
- The property "throttle" is not supported when "create\_destination.enabled" is set to "true".
- The property "identity\_preservation" is applicable to only SnapMirror relationships with SVM endpoints and it indicates which configuration of the source SVM is replicated to the destination SVM.
- The property "backoff\_level" is not supported when "create\_destination.enabled" is set to "true".
- The property "backoff\_level" is only applicable for FlexVol SnapMirror relationships.

## Examples

The following examples show how to create FlexVol volumes, FlexGroup volumes, SVM and Application Consistency Group SnapMirror relationships. Note that the source SVM name must be the local name of the peer SVM.

Creating a FlexVol SnapMirror relationship of type XDP.

```
POST "/api/snapmirror/relationships/" '{ "source": { "path": "src_svm:src_vol" }, "destination": { "path": "dst_svm:dst_vol" } }'
```

Creating a FlexGroup SnapMirror relationship of type XDP.

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:source_flexgroup"}, "destination": {"path": "dst_svm:dest_flexgroup"} }'
```

Creating a SVM SnapMirror relationship of type XDP.

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:"}, "destination": {"path": "dst_svm:"} }'
```

Creating a SnapMirror relationship in order to restore from a destination.

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:src_vol"}, "destination": {"path": "dst_svm:dst_vol"}, "restore": "true"}'
```

Provision the destination FlexVol volume endpoint and create a SnapMirror relationship of type XDP.

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:src_vol"}, "destination": {"path": "dst_svm:dst_vol"}, "create_destination": {"enabled": "true"} }'
```

Provision the destination FlexVol volume endpoint on a Fabricpool with a tiering policy and create a SnapMirror relationship of type XDP.

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:src_vol"}, "destination": {"path": "dst_svm:dst_vol"}, "create_destination": {"enabled": "true", "tiering": {"supported": "true", "policy": "auto"} } }'
```

Provision the destination FlexVol volume endpoint using storage service and create a SnapMirror relationship of type XDP.

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:src_vol"}, "destination": {"path": "dst_svm:dst_vol"}, "create_destination": {"enabled": "true", "storage_service": {"enabled": "true", "name": "extreme", "enforce_performance": "true"} } }'
```

Provision the destination SVM endpoint and create a SnapMirror relationship of type XDP.

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:", "cluster": {"name": "cluster_src"}}, "destination": {"path": "dst_svm:"}, "create_destination": {"enabled: "true" }}'
```

Create an asynchronous SnapMirror relationship with Application Consistency Group endpoint.

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:/cg/cg_src_vol"}, "consistency_group_volumes": [{"name": "src_vol_1"}, {"name": "src_vol_2"}], "destination": {"path": "dst_svm:/cg/cg_dst_vol"}, "consistency_group_volumes": [{"name": "dst_vol_1"}, {"name": "dst_vol_2"}], "policy": "Asynchronous"}'
```

Provision the destination Application Consistency Group endpoint on a Fabricpool with a tiering policy, create an asynchronous SnapMirror relationship with a SnapMirror policy of type "async", and initialize the SnapMirror relationship with state as "snapmirrored".

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:/cg/cg_src_vol"}, "consistency_group_volumes": [{"name": "src_vol_1"}, {"name": "src_vol_2"}], "destination": {"path": "dst_svm:/cg/cg_dst_vol"}, "consistency_group_volumes": [{"name": "dst_vol_1"}, {"name": "dst_vol_2"}], "create_destination": {"enabled": "true", "tiering": {"supported": "true"}}, "policy": "Asynchronous", "state": "snapmirrored"}'
```

Create a SnapMirror active sync relationship with the Application Consistency Group endpoint.

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:/cg/cg_src_vol"}, "consistency_group_volumes": [{"name": "src_vol_1"}, {"name": "src_vol_2"}], "destination": {"path": "dst_svm:/cg/cg_dst_vol"}, "consistency_group_volumes": [{"name": "dst_vol_1"}, {"name": "dst_vol_2"}], "policy": "AutomatedFailOver"}'
```

Provision the destination Application Consistency Group endpoint on a Fabricpool with a tiering policy, create a SnapMirror active sync relationship with a SnapMirror policy of type "sync" and sync\_type of "automated\_failover", and initialize the SnapMirror relationship with state as "in\_sync".

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:/cg/cg_src_vol", "consistency_group_volumes": [{"name": "src_vol_1"}, {"name": "src_vol_2"}]}, "destination": {"path": "dst_svm:/cg/cg_dst_vol", "consistency_group_volumes": [{"name": "dst_vol_1"}, {"name": "dst_vol_2"}]}, "create_destination": {"enabled": "true", "tiering": {"supported": "true"}}, "policy": "AutomatedFailOver", "state": "in_sync"}
```

Provision the destination Application Consistency Group endpoint with storage service, create a SnapMirror active sync relationship with a SnapMirror policy of type "sync" and sync\_type of "automated\_failover", and initialize the SnapMirror relationship with state as "in\_sync".

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:/cg/cg_src_vol", "consistency_group_volumes": [{"name": "src_vol_1"}, {"name": "src_vol_2"}]}, "destination": {"path": "dst_svm:/cg/cg_dst_vol", "consistency_group_volumes": [{"name": "dst_vol_1"}, {"name": "dst_vol_2"}]}, "create_destination": {"enabled": "true", "storage_service": {"enabled": "true", "name": "extreme", "enforce_performance": "true"}}, "policy": "AutomatedFailOver", "state": "in_sync"}
```

Provision the destination Application Consistency Group endpoint with storage service, create an asynchronous application consistency group relationship with a SnapMirror policy of type "async" and an async\_type of "XDPDefault", and initialize the SnapMirror relationship with state as "SnapMirrored".

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:/cg/cg_src_vol", "consistency_group_volumes": [{"name": "src_vol_1"}, {"name": "src_vol_2"}]}, "destination": {"path": "dst_svm:/cg/cg_dst_vol", "consistency_group_volumes": [{"name": "dst_vol_1"}, {"name": "dst_vol_2"}]}, "create_destination": {"enabled": "true", "storage_service": {"enabled": "true", "name": "extreme", "enforce_performance": "true"}}, "policy": "XDPDefault", "state": "snapmirrored"}
```

Creating a FlexVol volume SnapMirror relationship of type XDP with transfer\_schedule and throttle.

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:src_vol"}, "destination": {"path": "dst_svm:dst_vol"}, "transfer_schedule": {"uuid": "817500fa-092d-44c5-9c10-7b54f7b2f20a", "name": "5min"}, "throttle": 100}'
```

Creating an asynchronous SnapMirror relationship with backoff\_level set to medium.

```
POST "/api/snapmirror/relationships/" '{"source": {"path": "src_svm:src_vol"}, "destination": {"path": "dst_svm:dst_vol"}, "backoff_level": "medium"}
```

## Learn more

- [DOC /snapmirror/relationships](#)

## Parameters

Name	Type	In	Required	Description
return_records	boolean	query	False	<p>The default is false. If set to true, the records are returned.</p> <ul style="list-style-type: none"><li>• Default value:</li></ul>

Name	Type	In	Required	Description
return_timeout	integer	query	False	<p>The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202.</p> <ul style="list-style-type: none"> <li>• Default value: 1</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul>
validate_only	boolean	query	False	<p>Validate the operation and its parameters, without actually performing the operation.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>

## Request Body

Name	Type	Description
backoff_level	string	Specifies the SnapMirror backoff level due to Client Ops for FlexVol SnapMirror relationships.

Name	Type	Description
create_destination	<a href="#">snapmirror_destination_creation</a>	<p>Use this object to provision the destination endpoint when establishing a SnapMirror relationship for a FlexVol volume, FlexGroup volume, SVM, Consistency Group or ONTAP S3 Bucket. Given a source endpoint, the destination endpoint is provisioned in the SVM specified in the "destination.path" property. While protecting an SVM, the SVM destination endpoint can only be provisioned on the local cluster. To provision the SVM destination endpoint use the optional "source.cluster.name" property to specify the remote cluster name or use the optional "source.cluster.uuid" property to specify the remote cluster UUID. When "create_destination.enabled" option is specified while making a POST for a SnapMirror relationship, the relationship can be automatically initialized by setting the "state" either to "snapmirrored" when the policy is of type "async" or to "in_sync" when the policy is of type "sync". The "destination.path" property must specify the destination endpoint path. For example, for FlexVol volume and FlexGroup volume, the "destination.path" can be specified as &lt;destination-SVM-name:dp-volume-name&gt;, for SVM data protection, the "destination.path" must be specified as &lt;destination-SVM-name:&gt;; and for Consistency Group, the "destination.path" must be specified as &lt;destination-SVM-name:/cg/consistency-group-name&gt; along with the "destination.consistency_group_volumes" or "destination.luns" property to indicate the list of destination volumes or LUNs of type "DP" in the Consistency Group. For a FlexVol volume, a FlexGroup volume, Consistency Group or a Bucket destination endpoint, the properties in this object can be specified either from the source or the destination cluster. For an SVM destination</p>

Name	Type	Description
destination	<a href="#">snapmirror_endpoint</a>	<p>Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.6</li> </ul>
exported_snapshot	string	Snapshot exported to clients on destination.
group_type	string	Specifies the group type of the top level SnapMirror relationship. The volume relationships are shown as <i>none</i> , the SVMDR relationships are shown as <i>svm_dr</i> , the Consistency Group relationships are shown as <i>consistency_group</i> , and the FlexGroup volume relationships are shown as <i>flexgroup</i> .
healthy	boolean	Is the relationship healthy?

Name	Type	Description
identity_preservation	string	Specifies which configuration of the source SVM is replicated to the destination SVM. This property is applicable only for SVM data protection with "async" policy type. This "identity_preservation" overrides the "identity_preservation" set on the SnapMirror relationship's policy.
io_serving_copy	string	Specifies the sites serving I/O for the SnapMirror active sync relationship.
lag_time	string	Time since the exported snapshot was created.
last_transfer_network_compression_ratio	string	Specifies the compression ratio achieved for the data sent over the wire with network compression enabled for the last successful transfer.
last_transfer_type	string	Specifies the operation type of the last transfer that occurred on the relationship. The <i>initialize</i> transfer occurs when the relationship state changes from uninitialized to snapmirrored or in_sync. The <i>update</i> transfer occurs when the snapshots are transferred from the source endpoint to the destination endpoint as part of scheduled or manual update. The <i>resync</i> transfer occurs when the relationship state changes from broken_off to snapmirrored or in_sync. The <i>restore</i> transfer occurs when the snapshot is restored from a destination endpoint to another endpoint.
master_bias_activated_site	string	Specifies the Master Bias Activated Site for the SnapMirror active sync relationship.
policy	policy	Basic policy information of the relationship.

Name	Type	Description
preferred_site	string	Specifies the Primary Site of the SnapMirror active sync relationship.
preserve	boolean	Set to true on resync to preserve snapshots on the destination that are newer than the latest common snapshot. This property is applicable only for relationships with FlexVol volume or FlexGroup volume endpoints and when the PATCH state is being changed to "snapmirrored".
quick_resync	boolean	Set to true to reduce resync time by not preserving storage efficiency. This property is applicable only for relationships with FlexVol volume endpoints and SVMDR relationships when the PATCH state is being changed to "snapmirrored".
recover_after_break	boolean	Set to true to recover from a failed SnapMirror break operation on a FlexGroup volume relationship. This restores all destination FlexGroup constituent volumes to the latest snapshot, and any writes to the read-write constituents are lost. This property is applicable only for SnapMirror relationships with FlexGroup volume endpoints and when the PATCH state is being changed to "broken_off".
restore	boolean	Set to true to create a relationship for restore. To trigger restore-transfer, use transfers POST on the restore relationship. SnapMirror relationships with the policy type "async" can be restored. SnapMirror relationships with the policy type "sync" cannot be restored.

Name	Type	Description
restore_to_snapshot	string	Specifies the snapshot to restore to on the destination during the break operation. This property is applicable only for SnapMirror relationships with FlexVol volume endpoints and when the PATCH state is being changed to "broken_off".
source	<a href="#">snapmirror_source_endpoint</a>	Source endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
state	string	<p>State of the relationship. To initialize the relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". To break the relationship, PATCH the state to "broken_off" for relationships with a policy of type "async" or "sync". SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" cannot be "broken_off". To resync the relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" can be in "broken_off" state due to a failed attempt of SnapMirror failover. To pause the relationship, suspending further transfers, PATCH the state to "paused" for relationships with a policy of type "async" or "sync". SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" cannot be "paused". To resume transfers for a paused relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". The entries "in_sync", "out_of_sync", "synchronizing", and "expanding" are only applicable to relationships with a policy of type "sync". A PATCH call on the state change only triggers the transition to the specified state. You must poll on the "state", "healthy" and "unhealthy_reason" properties using a GET request to determine if the transition is successful. To automatically initialize the relationship when specifying "create_destination" property, set the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for</p>

Name	Type	Description
svmdr_volumes	array[ <a href="#">svmdr_volumes</a> ]	Specifies the list of constituent FlexVol volumes and FlexGroup volumes for an SVM DR SnapMirror relationship. FlexGroup constituents are not considered.
throttle	integer	Throttle, in KBs per second. This "throttle" overrides the "throttle" set on the SnapMirror relationship's policy. If neither of these are set, defaults to 0, which is interpreted as unlimited.
total_transfer_bytes	integer	Cumulative bytes transferred for the relationship.
total_transfer_duration	string	Indicates the cumulative duration of all transfers since the last aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship.
transfer	<a href="#">transfer</a>	Basic information on the current transfer or the last transfer if there is no active transfer at the time of the request.
transfer_schedule	<a href="#">transfer_schedule</a>	Schedule used to update asynchronous relationships. This "transfer_schedule" overrides the "transfer_schedule" set on the SnapMirror relationship's policy. To remove the "transfer_schedule", set its value to null (no-quotes). Only cron schedules are supported for SnapMirror.
unhealthy_reason	array[ <a href="#">snapmirror_error</a> ]	Reason the relationship is not healthy. It is a concatenation of up to four levels of error messages.
uuid	string	Unique identifier of the SnapMirror relationship.

## Example request

```

"master_bias_activated_site": "C1_sti85-vsim-ucs209a_cluster",
"policy": {
    "name": "Asynchronous",
    "type": "string",
    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
},
"preferred_site": "C1_sti85-vsim-ucs209a_cluster",
"restore_to_snapshot": "string",
"source": {
    "cluster": {
        "name": "cluster1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "consistency_group_volumes": [
        {
            "name": "volume1",
            "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
        }
    ],
    "luns": {
        "name": "/vol/volume1/lun1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "path": "svm1:volume1",
    "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
},
"state": "snapmirrored",
"svmdr_volumes": [
    {
        "name": "volume1"
    }
],
"throttle": 0,
"total_transfer_bytes": 1098210312,
"total_transfer_duration": "PT3M21S",
"transfer": {
    "end_time": "2020-12-02 21:36:19 -0500",
    "last_updated_time": "2023-09-14 18:39:19 -0400",
    "state": "string",
    "total_duration": "PT28M41S",
    "type": "initialize",
    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}
}

```

```

"transfer_schedule": {
  "name": "weekly",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"unhealthy_reason": [
  {
    "arguments": [],
    "code": "6621444",
    "message": "Failed to complete update operation on one or more item relationships."
  },
  {
    "arguments": [],
    "code": "6621445",
    "message": "Group Update failed"
  }
],
"uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}

```

## Response

Status: 202, Accepted

Name	Type	Description
job	<a href="#">job_link</a>	

## Example response

```

{
  "job": {
    "uuid": "string"
  }
}

```

## Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

## Response

Status: 201, Created

## Error

Status: Default

### ONTAP Error Response Codes

Error Code	Description
918657	Invalid duration value for the "retention_period" field.
	1115542
Invalid value given for the field.	
6619441	The source volume cannot be the same as the destination volume.
	6619599
Only the "none" tiering policy is supported when creating a destination volume with "snapshot_locking_enabled" set to true or if "snapshot_locking_enabled" is set to true on the source volume.	
6619637	Relationship with specified destination volume already exists.
	6619699
Schedule not found.	
6620374	Internal error. Failed to get SVM information.
	6620478
Internal error. Failed to check SnapMirror capability.	
6620654	Invalid SnapMirror Consistency Group name.
	6621125
The policy is not valid for relationships with FlexGroup volume endpoints. Only policies without snapshot creation schedules are supported for these relationships.	
6621128	Policy is not valid because it has snapshot creation schedules associated with it. Such policies cannot be used for relationships with Consistency Group endpoints.
	6621458

Error Code	Description
The destination Consistency Group is the source of a SnapMirror Synchronous (SM-S) relationship. Sources of SM-S relationships cannot be the destination of any other SnapMirror relationship.	
6621782	A property of the policy is not valid for relationships between these endpoints.
	6621834
Object store configuration does not exist for specified SVM.	
6622088	SnapMirror Asynchronous relationship is not supported on a Consistency Group volume that has snapshot locking enabled.
	13303819
Could not retrieve SnapMirror policy information.	
13303821	Invalid SnapMirror policy UUID.
	13303841
This operation is not supported for SnapMirror relationships between these endpoints.	
13303852	destination.path provided does not contain ":".
	13303853
Restore relationships are not supported for SVM-DR endpoints.	
13303866	Associating the specified SnapMirror policy with this SnapMirror relationship is not supported.
	13303868
Create of destination endpoint and SnapMirror relationship failed.	
13303869	Creating a destination endpoint is not supported for restore relationships.
	13303870
A tiering policy cannot be specified if tiering is not being set to supported.	
13303871	Storage service properties cannot be specified if the storage service is not being enabled.
	13303872
Specified property requires a later effective cluster version.	
13303873	Specifying a state when creating a relationship is only supported when creating a destination endpoint.

Error Code	Description
	13303874
Specified state is not supported when creating this relationship.	
13303875	Destination aggregates do not have sufficient space for hosting copies of source volumes.
	13303876
Destination cluster does not have composite aggregates.	
13303877	Source or destination cluster must be specified.
	13303878
The specified fields do not match.	
13303879	Source cluster name or UUID is needed to provision a destination SVM on the local cluster.
	13303880
Source cluster must be remote for provisioning a destination SVM on the local cluster.	
13303881	Network validation failed.
	13303882
SVM validation failed.	
13303883	Encryption is not enabled on the destination cluster.
	13303886
SVM peer permission not found.	
13303887	Synchronous SnapMirror relationships between FlexGroup volumes are not supported.
	13303888
Synchronous SnapMirror relationships require an effective cluster version of 9.5 or later on both the source and destination clusters.	
13303889	Asynchronous SnapMirror relationships between FlexGroup volumes require an effective cluster version of 9.5 or later on both the source and destination clusters.
	13303890
Asynchronous SnapMirror relationships between FlexVol volumes require an effective cluster version of 9.3, 9.5, or later on both the source and destination clusters.	
13303891	Creating a destination endpoint with storage service requires an effective cluster version of 9.7 or later.

Error Code	Description
	13303892
Fetching remote information from the destination cluster failed.	
13303893	Updating job description failed.
	13303894
Destination volume name is invalid. It must contain the source volume name and have a suffix when creating a destination endpoint on a cluster with an effective cluster version of 9.6 or earlier.	
13303895	Operation on the remote destination cluster is not supported.
	13303916
FlexGroup volumes are not supported on SnapLock aggregates.	
13303918	No suitable destination aggregate type is available.
	13303919
Only FabricPool enabled aggregates are available on the destination.	
13303920	Only SnapLock aggregates are available on the destination. FlexGroup volumes are not supported on SnapLock aggregates.
	13303921
Unable to retrieve the SnapMirror capabilities of the destination cluster.	
13303922	Specified source SVM is not a data SVM.
	13303923
Specified destination SVM is not a data SVM.	
13303924	Source SVM has an invalid snapshot policy.
	13303925
SnapMirror validation has failed.	
13303930	The specified tiering policy is not supported for destination volumes of Synchronous relationships.
	13303938
Fetching information from the local cluster failed.	
13303939	Could not create an SVM peer relationship.
	13303944

Error Code	Description
An SVM-DR relationship is not supported because the source SVM has CIFS configured and the associated SnapMirror policy has either the "identity_preservation" property not set or set to "exclude_network_and_protocol_config".	
13303949	This SnapMirror policy is only supported for relationships with object store destination endpoints.
	13303966
Consistency Group relationships require a policy of type "sync" with a sync_type of "automated_failover".	
13303967	Consistency Group volume is not a FlexVol volume.
	13303968
Unsupported volume type for the Consistency Group.	
13303969	SnapMirror relationships between SVM endpoints and object store endpoints are not supported.
	13303970
Unsupported policy type for the Consistency Group.	
13303971	SnapMirror relationships between Consistency Group endpoints and object store endpoints are not supported.
	13303976
Source or destination SVM is already part of an SVM-DR relation.	
13303977	Destination Consistency Group volume UUIDs are not expected while provisioning the destination volumes.
	13303978
Number of Consistency Group volume names and UUIDs does not match.	
13303979	Number of Consistency Group volumes exceeds the allowed limit.
	13303980
Number of source and destination Consistency Group volumes do not match.	
13303981	iSCSI or FCP protocol is not configured.
	13303982
SAN data interface is not configured on the SVM.	
13304021	No suitable storage can be found meeting the specified requirements. No FabricPool enabled aggregates are available on the destination.

Error Code	Description
13304022	
No suitable storage can be found meeting the specified requirements. No non-root, non-taken-over, non-SnapLock, non-composite aggregates are available on the destination.	
13304032	In an "All SAN Array", an SVM-DR relationship is not supported when the associated SnapMirror policy does not have the "identity_preservation" property set to "exclude_network_and_protocol_config".
13304080	
Specified UUID and name do not match.	
13304082	Specified properties are mutually exclusive.
13304083	
The specified property is not supported because all nodes in the cluster are not capable of supporting the property.	
13304093	The property specified is not supported for the specified relationships.
13304098	
This SnapMirror policy is not supported for SnapMirror relationships with SnapLock volumes.	
13304099	SnapLock Compliance Clock is not running on all nodes in the destination cluster.
13304108	
Schedule not found in the Administrative SVM or the SVM for the relationship.	
13304112	File restore from a Consistency Group asynchronous SnapMirror relationship endpoint is not supported.
13304132	
Creating a destination endpoint is not supported with the "backoff_level" property.	
13304144	SnapLock is not licensed on the destination cluster.
53411897	

Error Code	Description
<p>The specified source volumes do not match the volumes contained in the source consistency group.</p>	<p>Also see the table of common errors in the <a href="#">Response body</a> overview section of this documentation.</p> <p>===== Above error msgs have been added in sorted(ascending) order</p> <p>===== of error codes, for example - 13303945 is error code for</p> <p>=====</p> <p>SM_REST_SCHEDULE_CONFLICT_FOR_SM_OP and for 13303949 is err</p> <p>===== code for</p> <p>SM_REST_POLICY_ONLY_SUPPORTED_FOR_OBJECTSTORE, so</p> <p>=====</p> <p>SM_REST_SCHEDULE_CONFLICT_FOR_SM_OP has been placed before</p> <p>=====</p> <p>SM_REST_POLICY_ONLY_SUPPORTED_FOR_OBJECTSTORE.</p> <p>===== Also for private error msg, add private tags as after adding the error msg at correct place(in sorted order).</p> <p>===== Please make sure new error messages are being put at correct place</p> <p>===== so that order is maintained.</p>

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

SnapMirror Consistency Group failover error message.

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

status

Name	Type	Description
code	string	Status code
message	string	SnapMirror Consistency Group failover status.

snapmirror\_consistency\_group\_failover

SnapMirror Consistency Group failover information. The SnapMirror Consistency Group failover can be a planned or an unplanned operation. Only active SnapMirror Consistency Group failover operation progress can be monitored using this object. In case of an error during the failover operation, the property "consistency\_group\_failover.error" holds the reason for the error. ONTAP automatically retries any failed SnapMirror Consistency Group failover operation.

Name	Type	Description
state	string	SnapMirror Consistency Group failover state.
status	<a href="#">status</a>	
type	string	SnapMirror Consistency Group failover type.

## bucket\_retention

Specifies the retention-mode and default retention period configured on the destination bucket.

Name	Type	Description
default_period	string	Specifies the default retention period that is applied to objects while committing them to the WORM state without an associated retention period. The retention period can be in years, or days. The retention period value represents a duration and must be specified in the ISO-8601 duration format. A period specified for years and days is represented in the ISO-8601 format as "P<num>Y" and "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. The period string must contain only a single time element that is, either years, or days. A duration which combines different periods is not supported, for example "P1Y10D" is not supported.</num></num>
mode	string	The lock mode of the bucket. compliance – A SnapLock Compliance (SLC) bucket provides the highest level of WORM protection and an administrator cannot destroy a compliance bucket if it contains unexpired WORM objects. governance – An administrator can delete a Governance bucket. no_lock – Indicates the bucket does not support object locking.

## storage\_service

Name	Type	Description
enabled	boolean	This property indicates whether to create the destination endpoint using storage service.
enforce_performance	boolean	Optional property to enforce storage service performance on the destination endpoint. This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints.
name	string	<p>Optional property to specify the storage service name for the destination endpoint. This property is considered when the property "create_destination.storage_service.enabled" is set to "true". When the property "create_destination.storage_service.enabled" is set to "true" and the "create_destination.storage_service.name" for the endpoint is not specified, then ONTAP selects the highest storage service available on the cluster to provision the destination endpoint. This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints.</p> <ul style="list-style-type: none"> <li>• enum: ["extreme", "performance", "value"]</li> <li>• Introduced in: 9.6</li> <li>• x-nullable: true</li> </ul>

## tiering

Name	Type	Description
policy	string	<p>Optional property to specify the destination endpoint's tiering policy when "create_destination.tiering.supported" is set to "true". This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints. This property determines whether the user data blocks of the destination endpoint in a FabricPool will be tiered to the cloud store when they become cold. FabricPool combines flash (performance tier) with a cloud store into a single aggregate. Temperature of the destination endpoint volume blocks increases if they are accessed frequently and decreases when they are not. all – This policy allows tiering of both destination endpoint snapshots and the user transferred data blocks to the cloud store as soon as possible by ignoring the temperature on the volume blocks. This tiering policy is not applicable for Consistency Group destination endpoints or for synchronous relationships. auto – This policy allows tiering of both destination endpoint snapshots and the active file system user data to the cloud store none – Destination endpoint volume blocks will not be tiered to the cloud store. snapshot_only – This policy allows tiering of only the destination endpoint volume snapshots not associated with the active file system. The default tiering policy is "snapshot_only" for a FlexVol volume and "none" for a FlexGroup volume.</p>

Name	Type	Description
supported	boolean	Optional property to enable provisioning of the destination endpoint volumes on FabricPool aggregates. This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints. Only FabricPool aggregates are used if this property is set to "true" and only non FabricPool aggregates are used if this property is set to "false". Tiering support for a FlexGroup volume can be changed by moving all of the constituents to the required aggregates. Note that in order to tier data, not only do the destination endpoint volumes need to support tiering by using FabricPools, the "create_destination.tiering.policy" must not be "none". A destination endpoint that uses FabricPools but has a tiering "policy" of "none" supports tiering but will not tier any data.

#### snapmirror\_destination\_creation

Use this object to provision the destination endpoint when establishing a SnapMirror relationship for a FlexVol volume, FlexGroup volume, SVM, Consistency Group or ONTAP S3 Bucket. Given a source endpoint, the destination endpoint is provisioned in the SVM specified in the "destination.path" property. While protecting an SVM, the SVM destination endpoint can only be provisioned on the local cluster. To provision the SVM destination endpoint use the optional "source.cluster.name" property to specify the remote cluster name or use the optional "source.cluster.uuid" property to specify the remote cluster UUID. When "create\_destination.enabled" option is specified while making a POST for a SnapMirror relationship, the relationship can be automatically initialized by setting the "state" either to "snapmirrored" when the policy is of type "async" or to "in\_sync" when the policy is of type "sync". The "destination.path" property must specify the destination endpoint path. For example, for FlexVol volume and FlexGroup volume, the "destination.path" can be specified as <destination-svm-name:dp-volume-name>, for SVM data protection, the "destination.path" must be specified as &lt;destination-svm-name:&gt;, and for Consistency Group, the "destination.path" must be specified as &lt;destination-svm-name:&gt; along with the "destination.consistency\_group\_volumes" or "destination.luns" property to indicate the list of destination volumes or LUNs of type "DP" in the Consistency Group. For a FlexVol volume, a FlexGroup volume, Consistency Group or a Bucket destination endpoint, the properties in this object can be specified either from the source or the destination cluster. For an SVM destination endpoint, the properties in this object can be specified from the destination cluster only. This object is not supported for non ONTAP endpoints. While protecting a S3 Bucket, the optional "size" property can be used to create ONTAP S3 Bucket destination endpoint of the specified size.&lt;/destination-svm-name:&gt;&lt;/destination-svm-name:&gt;</destination-svm-name:dp-volume-name>

Name	Type	Description
bucket_retention	<a href="#">bucket_retention</a>	Specifies the retention-mode and default retention period configured on the destination bucket.
enabled	boolean	Optional property to create the destination endpoint when establishing a SnapMirror relationship. It is assumed to be "false" if no other property is set and assumed to be "true" if any other property is set.
size	integer	Optional property to specify the size of destination endpoint in bytes. This property is applicable only to ONTAP S3 Bucket endpoints. The minimum size for S3 bucket is 80MB and maximum size is 64TB. If not specified, system will create destination with default size of 800GB. <ul style="list-style-type: none"> <li>• Introduced in: 9.10</li> <li>• x-nullable: true</li> </ul>
snapshot_locking_enabled	boolean	Optional property to create the destination endpoint with snapshot locking enabled when establishing a SnapMirror relationship. This property is applicable to FlexVol volumes and FlexGroup volumes.
storage_service	<a href="#">storage_service</a>	
tiering	<a href="#">tiering</a>	

cluster

Name	Type	Description
name	string	
uuid	string	

consistency\_group\_volumes

Name	Type	Description
name	string	The name of the volume.
uuid	string	<p>Unique identifier of the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move.</p> <ul style="list-style-type: none"> <li>example: 028baa66-41bd-11e9-81d5-00a0986138f7</li> <li>x-ntap-createOnly: true</li> <li>Introduced in: 9.8</li> <li>x-nullables: true</li> </ul>

## luns

Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.

Name	Type	Description
name	string	<p>The name of a LUN. A LUN is located within a volume. Optionally, it can be located within a qtree in a volume.</p> <p>LUN names are paths of the form "/vol/&lt;volume&gt;[/&lt;qtree&gt;]/&lt;name&gt;" where the qtree name is optional.</p>
uuid	string	The unique identifier of the LUN.

## svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

## snapmirror\_endpoint

Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
cluster	<a href="#">cluster</a>	
consistency_group_volumes	array[ <a href="#">consistency_group_volume</a> s]	This mandatory property specifies the list of FlexVol volumes or LUNs of a Consistency Group.
ipspace	string	Optional property to specify the IPSpace of the SVM.
luns	<a href="#">luns</a>	Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.
path	string	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: ONTAP Consistency Group - svm1:/cg/cg_name ONTAP S3 - svm1:/bucket/bucket1 NON-ONTAP - objstore1:/objstore <ul style="list-style-type: none"><li>example: svm1:volume1</li><li>Introduced in: 9.6</li><li>x-nullable: true</li></ul>
svm	<a href="#">svm</a>	SVM, applies only to SVM-scoped objects.

## policy

Basic policy information of the relationship.

Name	Type	Description
name	string	Name of the SnapMirror policy.
type	string	
uuid	string	Unique identifier of the SnapMirror policy.

#### snapmirror\_source\_endpoint

Source endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
cluster	cluster	
consistency_group_volumes	array[consistency_group_volumes]	This mandatory property specifies the list of FlexVol volumes or LUNs of a Consistency Group.
luns	luns	Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.
path	string	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: ONTAP Consistency Group - svm1:/cg/cg_name ONTAP S3 - svm1:/bucket/bucket1 NON-ONTAP - objstore1:/objstore <ul style="list-style-type: none"> <li>example: svm1:volume1</li> <li>Introduced in: 9.14</li> <li>x-nullable: true</li> </ul>
svm	svm	SVM, applies only to SVM-scoped objects.

#### svmdr\_volumes

Name	Type	Description
name	string	The name of the volume.

## transfer

Basic information on the current transfer or the last transfer if there is no active transfer at the time of the request.

Name	Type	Description
bytes_transferred	integer	Total bytes transferred in the current or last successful transfer.
end_time	string	End time of the last transfer.
last_updated_time	string	Last updated time of the bytes transferred in the current transfer.
state	string	
total_duration	string	Elapsed time to transfer all snapshots for the last successful transfer.
type	string	Specifies the operation type of the current transfer on the relationship. The <i>initialize</i> transfer occurs when the relationship state changes from "uninitialized" to "snapmirrored" or "in_sync". The <i>update</i> transfer occurs when snapshots are being transferred from the source endpoint to the destination endpoint as part of a scheduled or manual update. The <i>resync</i> transfer occurs when the relationship state changes from "broken_off" to "snapmirrored" or "in_sync". The <i>restore</i> transfer occurs when a snapshot is being restored from a destination endpoint to another endpoint.
uuid	string	Transfer UUID. This property is applicable only for active transfers.

## transfer\_schedule

Schedule used to update asynchronous relationships. This "transfer\_schedule" overrides the

"transfer\_schedule" set on the SnapMirror relationship's policy. To remove the "transfer\_schedule", set its value to null (no-quotes). Only cron schedules are supported for SnapMirror.

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

`snapmirror_error`

SnapMirror error

Name	Type	Description
arguments	array[string]	Arguments present in the error message encountered.
code	string	Error code
message	string	Error message

`snapmirror_relationship`

SnapMirror relationship information. The SnapMirror relationship can be either "async" or "sync" based on the type of SnapMirror policy associated with the relationship. The source and destination endpoints of a SnapMirror relationship must be of the same type, for example, if the source endpoint is a FlexVol volume then the destination endpoint must be a FlexVol volume. The SnapMirror policy type "async" can be used when the SnapMirror relationship has FlexVol volume or FlexGroup volume or SVM as the endpoint. The SnapMirror policy type "sync" can be used when the SnapMirror relationship has FlexVol volume as the endpoint. The SnapMirror policy type "sync" with "sync\_type" as "automated\_failover" can be used when the SnapMirror relationship has Consistency Group as the endpoint.

Name	Type	Description
backoff_level	string	Specifies the SnapMirror backoff level due to Client Ops for FlexVol SnapMirror relationships.

Name	Type	Description
create_destination	<a href="#">snapmirror_destination_creation</a>	<p>Use this object to provision the destination endpoint when establishing a SnapMirror relationship for a FlexVol volume, FlexGroup volume, SVM, Consistency Group or ONTAP S3 Bucket. Given a source endpoint, the destination endpoint is provisioned in the SVM specified in the "destination.path" property. While protecting an SVM, the SVM destination endpoint can only be provisioned on the local cluster. To provision the SVM destination endpoint use the optional "source.cluster.name" property to specify the remote cluster name or use the optional "source.cluster.uuid" property to specify the remote cluster UUID.</p> <p>When "create_destination.enabled" option is specified while making a POST for a SnapMirror relationship, the relationship can be automatically initialized by setting the "state" either to "snapmirrored" when the policy is of type "async" or to "in_sync" when the policy is of type "sync". The "destination.path" property must specify the destination endpoint path. For example, for FlexVol volume and FlexGroup volume, the "destination.path" can be specified as &lt;destination-SVM-name:dp-volume-name&gt;, for SVM data protection, the "destination.path" must be specified as &lt;destination-SVM-name:&gt;, and for Consistency Group, the "destination.path" must be specified as &lt;destination-SVM-name:/cg/consistency-group-name&gt; along with the "destination.consistency_group_volumes" or "destination.luns" property to indicate the list of destination volumes or LUNs of type "DP" in the Consistency Group. For a FlexVol volume, a FlexGroup volume, Consistency Group or a Bucket destination endpoint, the properties in this object can be specified either</p>

Name	Type	Description
destination	snapmirror_endpoint	<p>Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.6</li> </ul>
exported_snapshot	string	Snapshot exported to clients on destination.
group_type	string	Specifies the group type of the top level SnapMirror relationship. The volume relationships are shown as <i>none</i> , the SVMDR relationships are shown as <i>svm_dr</i> , the Consistency Group relationships are shown as <i>consistency_group</i> , and the FlexGroup volume relationships are shown as <i>flexgroup</i> .
healthy	boolean	Is the relationship healthy?

Name	Type	Description
identity_preservation	string	Specifies which configuration of the source SVM is replicated to the destination SVM. This property is applicable only for SVM data protection with "async" policy type. This "identity_preservation" overrides the "identity_preservation" set on the SnapMirror relationship's policy.
io_serving_copy	string	Specifies the sites serving I/O for the SnapMirror active sync relationship.
lag_time	string	Time since the exported snapshot was created.
last_transfer_network_compression_ratio	string	Specifies the compression ratio achieved for the data sent over the wire with network compression enabled for the last successful transfer.
last_transfer_type	string	Specifies the operation type of the last transfer that occurred on the relationship. The <i>initialize</i> transfer occurs when the relationship state changes from uninitialized to snapmirrored or in_sync. The <i>update</i> transfer occurs when the snapshots are transferred from the source endpoint to the destination endpoint as part of scheduled or manual update. The <i>resync</i> transfer occurs when the relationship state changes from broken_off to snapmirrored or in_sync. The <i>restore</i> transfer occurs when the snapshot is restored from a destination endpoint to another endpoint.
master_bias_activated_site	string	Specifies the Master Bias Activated Site for the SnapMirror active sync relationship.

Name	Type	Description
policy	policy	Basic policy information of the relationship.
preferred_site	string	Specifies the Primary Site of the SnapMirror active sync relationship.
preserve	boolean	Set to true on resync to preserve snapshots on the destination that are newer than the latest common snapshot. This property is applicable only for relationships with FlexVol volume or FlexGroup volume endpoints and when the PATCH state is being changed to "snapmirrored".
quick_resync	boolean	Set to true to reduce resync time by not preserving storage efficiency. This property is applicable only for relationships with FlexVol volume endpoints and SVMDR relationships when the PATCH state is being changed to "snapmirrored".
recover_after_break	boolean	Set to true to recover from a failed SnapMirror break operation on a FlexGroup volume relationship. This restores all destination FlexGroup constituent volumes to the latest snapshot, and any writes to the read-write constituents are lost. This property is applicable only for SnapMirror relationships with FlexGroup volume endpoints and when the PATCH state is being changed to "broken_off".
restore	boolean	Set to true to create a relationship for restore. To trigger restore-transfer, use transfers POST on the restore relationship. SnapMirror relationships with the policy type "async" can be restored. SnapMirror relationships with the policy type "sync" cannot be restored.

Name	Type	Description
restore_to_snapshot	string	Specifies the snapshot to restore to on the destination during the break operation. This property is applicable only for SnapMirror relationships with FlexVol volume endpoints and when the PATCH state is being changed to "broken_off".
source	<a href="#">snapmirror_source_endpoint</a>	Source endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
state	string	<p>State of the relationship. To initialize the relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". To break the relationship, PATCH the state to "broken_off" for relationships with a policy of type "async" or "sync".</p> <p>SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" cannot be "broken_off". To resync the relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync".</p> <p>SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" can be in "broken_off" state due to a failed attempt of SnapMirror failover. To pause the relationship, suspending further transfers, PATCH the state to "paused" for relationships with a policy of type "async" or "sync". SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" cannot be "paused". To resume transfers for a paused relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". The entries "in_sync", "out_of_sync", "synchronizing", and "expanding" are only applicable to relationships with a policy of type "sync". A PATCH call on the state change only triggers the transition to the specified state. You must poll on the "state", "healthy" and "unhealthy_reason" properties using a GET request to determine if the transition is successful. To automatically initialize the relationship when specifying "create_destination" property, set the state to "snapmirrored" for</p>

Name	Type	Description
svmdr_volumes	array[svmdr_volumes]	Specifies the list of constituent FlexVol volumes and FlexGroup volumes for an SVM DR SnapMirror relationship. FlexGroup constituents are not considered.
throttle	integer	Throttle, in KBs per second. This "throttle" overrides the "throttle" set on the SnapMirror relationship's policy. If neither of these are set, defaults to 0, which is interpreted as unlimited.
total_transfer_bytes	integer	Cumulative bytes transferred for the relationship.
total_transfer_duration	string	Indicates the cumulative duration of all transfers since the last aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship.
transfer	transfer	Basic information on the current transfer or the last transfer if there is no active transfer at the time of the request.
transfer_schedule	transfer_schedule	Schedule used to update asynchronous relationships. This "transfer_schedule" overrides the "transfer_schedule" set on the SnapMirror relationship's policy. To remove the "transfer_schedule", set its value to null (no-quotes). Only cron schedules are supported for SnapMirror.
unhealthy_reason	array[snapmirror_error]	Reason the relationship is not healthy. It is a concatenation of up to four levels of error messages.
uuid	string	Unique identifier of the SnapMirror relationship.

## job\_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

## returned\_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

## Delete a SnapMirror relationship

`DELETE /snapmirror/relationships/{uuid}`

**Introduced In:** 9.6

Deletes a SnapMirror relationship.

### Important notes

- The "destination\_only", "source\_only", and "source\_info\_only" flags are mutually exclusive. If no flag is specified, the relationship is deleted from both the source and destination and all common snapshots between the source and destination are also deleted.
- For a restore relationship, the call must be executed on the cluster containing the destination endpoint without specifying the destination\_only, source\_only, or source\_info\_only parameters.
- Additionally, ensure that there are no ongoing transfers on a restore relationship before calling this API.
- The "failover", "force-failover" and "fallback" query parameters are only applicable for SVM-DR SnapMirror relationships.
- When a SnapMirror relationship associated with a pair of source and destination Consistency Groups is deleted, the corresponding Consistency Groups on the source and destination clusters are not automatically deleted and remain in place.
- The "delete\_lun\_maps\_in\_destination" query parameter is applicable only for SnapMirror active sync relationships.

## Related ONTAP commands

- `snapmirror delete`
- `snapmirror release`

## Examples

The following examples show how to delete the relationship from both the source and destination, the destination only, and the source only.

Deleting the relationship from both the source and destination. This API must be run on the cluster containing the destination endpoint.

```
DELETE "/api/snapmirror/relationships/4512b2d2-fd60-11e8-8929-005056bbfe52"
```

Deleting the relationship on the destination only. This API must be run on the cluster containing the destination endpoint.

```
DELETE "/api/snapmirror/relationships/fd1e0697-02ba-11e9-acc7-005056a7697f/?destination_only=true"
```

Deleting the relationship on the source only. This API must be run on the cluster containing the source endpoint.

```
DELETE "/api/snapmirror/relationships/93e828ba-02bc-11e9-acc7-005056a7697f/?source_only=true"
```

Deleting the source information only. This API must be run on the cluster containing the source endpoint. This does not delete the common snapshots between the source and destination.

```
DELETE "/api/snapmirror/relationships/caf545a2-fc60-11e8-aa13-005056a707ff/?source_info_only=true"
```

Deleting the relationship from source and destination cluster along with deleting the LUN maps for the volumes of the CG in destination cluster. This API must be run on the cluster containing the destination endpoint.

```
DELETE "/api/snapmirror/relationships/feda8f5e-e29e-11ed-94aa-005056a78ce2/?delete_lun_maps_in_destination=true"
```

## Learn more

- [DOC /snapmirror/relationships](#)

## Parameters

Name	Type	In	Required	Description
uuid	string	path	True	SnapMirror relationship UUID
destination_only	boolean	query	False	Deletes a relationship on the destination only. This parameter is applicable only when the call is executed on the cluster that contains the destination endpoint.
source_only	boolean	query	False	Deletes a relationship on the source only. This parameter is applicable only when the call is executed on the cluster that contains the source endpoint. In the case of a relationship that uses SnapMirror policy of type 'continuous', this parameter is used to delete the source end of the relationship while ignoring errors when the destination endpoint is not reachable.
source_info_only	boolean	query	False	Deletes relationship information on the source only. This parameter is applicable only when the call is executed on the cluster that contains the source endpoint.

Name	Type	In	Required	Description
delete_lun_maps_in_destination	boolean	query	False	<p>Deletes LUN mapping for the volumes of the CG in destination.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.14</li> <li>• Default value:</li> </ul>
return_timeout	integer	query	False	<p>The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202.</p> <ul style="list-style-type: none"> <li>• Default value: 1</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul>

## Response

Status: 200, Ok

Name	Type	Description
job	job_link	

## Example response

```
{
  "job": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uuid": "string"
  }
}
```

## Response

Status: 202, Accepted

## Error

Status: Default

## ONTAP Error Response codes

Error code	Description
13303825	Could not retrieve information for the SnapMirror policy type
13303814	Could not retrieve the source or destination SVM UUID
13303815	Could not retrieve information for the peer cluster
13303822	SnapMirror release has failed
13303813	SnapMirror release was successful but delete has failed
13303854	Cleanup of restore relationship failed
13303855	DELETE call on a restore relationship does not support the given flags
13303865	Deleting the specified SnapMirror policy is not supported.

Error code	Description
6619715	Modification of relationship is in progress. Retry the command after a few minutes.

Name	Type	Description
error	returned_error	

### Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

### Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

Name	Type	Description
self	href	

job\_link

Name	Type	Description
_links	_links	
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

returned\_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

## Retrieve a SnapMirror relationship

GET /snapmirror/relationships/{uuid}

**Introduced In:** 9.6

Retrieves a SnapMirror relationship.

## Related ONTAP commands

- snapmirror show
- snapmirror list-destinations

## Expensive properties

- source.consistency\_group\_volumes.name
- destination.consistency\_group\_volumes.name

## Example

```
GET "/api/snapmirror/relationships/caf545a2-fc60-11e8-aa13-005056a707ff/"
```

## Learn more

- [DOC /snapmirror/relationships](#)

## Parameters

Name	Type	In	Required	Description
uuid	string	path	True	SnapMirror relationship UUID
list_destinations_only	boolean	query	False	Set to true to show relationships from the source only.
fields	array[string]	query	False	Specify the fields to return.

## Response

```
Status: 200, Ok
```

Name	Type	Description
_links	<a href="#">_links</a>	
backoff_level	string	Specifies the SnapMirror backoff level due to Client Ops for FlexVol SnapMirror relationships.

Name	Type	Description
consistency_group_failover	<a href="#">snapmirror_consistency_group_failover</a>	<p>SnapMirror Consistency Group failover information. The SnapMirror Consistency Group failover can be a planned or an unplanned operation. Only active SnapMirror Consistency Group failover operation progress can be monitored using this object. In case of an error during the failover operation, the property "consistency_group_failover.error" holds the reason for the error. ONTAP automatically retries any failed SnapMirror Consistency Group failover operation.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.8</li> <li>• readOnly: 1</li> </ul>
destination	<a href="#">snapmirror_endpoint</a>	<p>Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.6</li> </ul>
exported_snapshot	string	Snapshot exported to clients on destination.

Name	Type	Description
group_type	string	Specifies the group type of the top level SnapMirror relationship. The volume relationships are shown as <i>none</i> , the SVMDR relationships are shown as <i>svm_dr</i> , the Consistency Group relationships are shown as <i>consistency_group</i> , and the FlexGroup volume relationships are shown as <i>flexgroup</i> .
healthy	boolean	Is the relationship healthy?
identity_preservation	string	Specifies which configuration of the source SVM is replicated to the destination SVM. This property is applicable only for SVM data protection with "async" policy type. This "identity_preservation" overrides the "identity_preservation" set on the SnapMirror relationship's policy.
io_serving_copy	string	Specifies the sites serving I/O for the SnapMirror active sync relationship.
lag_time	string	Time since the exported snapshot was created.
last_transfer_network_compression_ratio	string	Specifies the compression ratio achieved for the data sent over the wire with network compression enabled for the last successful transfer.

Name	Type	Description
last_transfer_type	string	Specifies the operation type of the last transfer that occurred on the relationship. The <i>initialize</i> transfer occurs when the relationship state changes from uninitialized to snapmirrored or in_sync. The <i>update</i> transfer occurs when the snapshots are transferred from the source endpoint to the destination endpoint as part of scheduled or manual update. The <i>resync</i> transfer occurs when the relationship state changes from broken_off to snapmirrored or in_sync. The <i>restore</i> transfer occurs when the snapshot is restored from a destination endpoint to another endpoint.
master_bias_activated_site	string	Specifies the Master Bias Activated Site for the SnapMirror active sync relationship.
policy	policy	Basic policy information of the relationship.
preferred_site	string	Specifies the Primary Site of the SnapMirror active sync relationship.
preserve	boolean	Set to true on resync to preserve snapshots on the destination that are newer than the latest common snapshot. This property is applicable only for relationships with FlexVol volume or FlexGroup volume endpoints and when the PATCH state is being changed to "snapmirrored".
quick_resync	boolean	Set to true to reduce resync time by not preserving storage efficiency. This property is applicable only for relationships with FlexVol volume endpoints and SVMDR relationships when the PATCH state is being changed to "snapmirrored".

Name	Type	Description
recover_after_break	boolean	Set to true to recover from a failed SnapMirror break operation on a FlexGroup volume relationship. This restores all destination FlexGroup constituent volumes to the latest snapshot, and any writes to the read-write constituents are lost. This property is applicable only for SnapMirror relationships with FlexGroup volume endpoints and when the PATCH state is being changed to "broken_off".
restore	boolean	Set to true to create a relationship for restore. To trigger restore-transfer, use transfers POST on the restore relationship. SnapMirror relationships with the policy type "async" can be restored. SnapMirror relationships with the policy type "sync" cannot be restored.
restore_to_snapshot	string	Specifies the snapshot to restore to on the destination during the break operation. This property is applicable only for SnapMirror relationships with FlexVol volume endpoints and when the PATCH state is being changed to "broken_off".
source	<a href="#">snapmirror_source_endpoint</a>	Source endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
state	string	<p>State of the relationship. To initialize the relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". To break the relationship, PATCH the state to "broken_off" for relationships with a policy of type "async" or "sync". SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" cannot be "broken_off". To resync the relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" can be in "broken_off" state due to a failed attempt of SnapMirror failover. To pause the relationship, suspending further transfers, PATCH the state to "paused" for relationships with a policy of type "async" or "sync". SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" cannot be "paused". To resume transfers for a paused relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". The entries "in_sync", "out_of_sync", "synchronizing", and "expanding" are only applicable to relationships with a policy of type "sync". A PATCH call on the state change only triggers the transition to the specified state. You must poll on the "state", "healthy" and "unhealthy_reason" properties using a GET request to determine if the transition is successful. To automatically initialize the relationship when specifying "create_destination" property, set the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for</p>

Name	Type	Description
svmdr_volumes	array[ <a href="#">svmdr_volumes</a> ]	Specifies the list of constituent FlexVol volumes and FlexGroup volumes for an SVM DR SnapMirror relationship. FlexGroup constituents are not considered.
throttle	integer	Throttle, in KBs per second. This "throttle" overrides the "throttle" set on the SnapMirror relationship's policy. If neither of these are set, defaults to 0, which is interpreted as unlimited.
total_transfer_bytes	integer	Cumulative bytes transferred for the relationship.
total_transfer_duration	string	Indicates the cumulative duration of all transfers since the last aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship.
transfer	<a href="#">transfer</a>	Basic information on the current transfer or the last transfer if there is no active transfer at the time of the request.
transfer_schedule	<a href="#">transfer_schedule</a>	Schedule used to update asynchronous relationships. This "transfer_schedule" overrides the "transfer_schedule" set on the SnapMirror relationship's policy. To remove the "transfer_schedule", set its value to null (no-quotes). Only cron schedules are supported for SnapMirror.
unhealthy_reason	array[ <a href="#">snapmirror_error</a> ]	Reason the relationship is not healthy. It is a concatenation of up to four levels of error messages.
uuid	string	Unique identifier of the SnapMirror relationship.

## Example response

```
{  
  "_links": {  
    "self": {  
      "href": "/api/resourcelink"  
    }  
  },  
  "backoff_level": "medium",  
  "consistency_group_failover": {  
    "error": {  
      "arguments": [  
        {  
          "code": "string",  
          "message": "string"  
        }  
      ],  
      "code": "4",  
      "message": "entry doesn't exist"  
    },  
    "state": "string",  
    "status": {  
      "code": "string",  
      "message": "string"  
    },  
    "type": "string"  
  },  
  "destination": {  
    "cluster": {  
      "_links": {  
        "self": {  
          "href": "/api/resourcelink"  
        }  
      },  
      "name": "cluster1",  
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
    },  
    "consistency_group_volumes": [  
      {  
        "name": "volume1"  
      }  
    ],  
    "luns": {  
      "_links": {  
        "self": {  
          "href": "/api/resourcelink"  
        }  
      }  
    }  
  }  
}
```

```

        }
    },
    "name": "/vol/volume1/lun1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"path": "svm1:volume1",
"svm": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
},
"exported_snapshot": "string",
"group_type": "consistency_group",
"identity_preservation": "string",
"io_serving_copy": "C1_sti85-vsimg-ucs209a_cluster, C1_sti85-vsimg-ucs209c_cluster",
"lag_time": "PT8H35M42S",
"last_transfer_network_compression_ratio": 61,
"last_transfer_type": "initialize",
"master_bias_activated_site": "C1_sti85-vsimg-ucs209a_cluster",
"policy": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "name": "Asynchronous",
    "type": "string",
    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
},
"preferred_site": "C1_sti85-vsimg-ucs209a_cluster",
"restore_to_snapshot": "string",
"source": {
    "cluster": {
        "_links": {
            "self": {
                "href": "/api/resourcelink"
            }
        },
        "name": "cluster1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
}
}

```

```
},
"consistency_group_volumes": [
  {
    "name": "volume1"
  }
],
"luns": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "/vol/volume1/lun1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"path": "svm1:volume1",
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
},
"state": "snapmirrored",
"svmdr_volumes": [
  {
    "name": "volume1"
  }
],
"throttle": 0,
"total_transfer_bytes": 1098210312,
"total_transfer_duration": "PT3M21S",
"transfer": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "end_time": "2020-12-02 21:36:19 -0500",
  "last_updated_time": "2023-09-14 18:39:19 -0400",
  "state": "string",
  "total_duration": "PT28M41S",
  "type": "initialize",
```

```

    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
},
"transfer_schedule": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "weekly",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"unhealthy_reason": [
  {
    "arguments": [],
    "code": "6621444",
    "message": "Failed to complete update operation on one or more item relationships."
  },
  {
    "arguments": [],
    "code": "6621445",
    "message": "Group Update failed"
  }
],
"uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}

```

## Error

Status: Default

### ONTAP Error Response codes

Error code	Description
13303825	Could not retrieve information for the SnapMirror policy type
13303817	Unknown value for the Snapmirror State

Name	Type	Description
error	returned_error	

## Example error

```
{  
  "error": {  
    "arguments": [  
      {  
        "code": "string",  
        "message": "string"  
      }  
    ],  
    "code": "4",  
    "message": "entry doesn't exist",  
    "target": "uuid"  
  }  
}
```

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

Name	Type	Description
self	href	

error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

SnapMirror Consistency Group failover error message.

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

status

Name	Type	Description
code	string	Status code
message	string	SnapMirror Consistency Group failover status.

snapmirror\_consistency\_group\_failover

SnapMirror Consistency Group failover information. The SnapMirror Consistency Group failover can be a planned or an unplanned operation. Only active SnapMirror Consistency Group failover operation progress can be monitored using this object. In case of an error during the failover operation, the property "consistency\_group\_failover.error" holds the reason for the error. ONTAP automatically retries any failed SnapMirror Consistency Group failover operation.

Name	Type	Description
error	<a href="#">error</a>	SnapMirror Consistency Group failover error message.
state	string	SnapMirror Consistency Group failover state.
status	<a href="#">status</a>	
type	string	SnapMirror Consistency Group failover type.

#### bucket\_retention

Specifies the retention-mode and default retention period configured on the destination bucket.

Name	Type	Description
default_period	string	Specifies the default retention period that is applied to objects while committing them to the WORM state without an associated retention period. The retention period can be in years, or days. The retention period value represents a duration and must be specified in the ISO-8601 duration format. A period specified for years and days is represented in the ISO-8601 format as "P<num>Y" and "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. The period string must contain only a single time element that is, either years, or days. A duration which combines different periods is not supported, for example "P1Y10D" is not supported.</num></num>

Name	Type	Description
mode	string	The lock mode of the bucket. compliance – A SnapLock Compliance (SLC) bucket provides the highest level of WORM protection and an administrator cannot destroy a compliance bucket if it contains unexpired WORM objects. governance – An administrator can delete a Governance bucket. no_lock – Indicates the bucket does not support object locking.

#### storage\_service

Name	Type	Description
enabled	boolean	This property indicates whether to create the destination endpoint using storage service.
enforce_performance	boolean	Optional property to enforce storage service performance on the destination endpoint. This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints.

Name	Type	Description
name	string	<p>Optional property to specify the storage service name for the destination endpoint. This property is considered when the property "create_destination.storage_service.enabled" is set to "true". When the property "create_destination.storage_service.enabled" is set to "true" and the "create_destination.storage_service.name" for the endpoint is not specified, then ONTAP selects the highest storage service available on the cluster to provision the destination endpoint. This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints.</p> <ul style="list-style-type: none"> <li>• enum: ["extreme", "performance", "value"]</li> <li>• Introduced in: 9.6</li> <li>• x-nullable: true</li> </ul>

tiering

Name	Type	Description
policy	string	<p>Optional property to specify the destination endpoint's tiering policy when "create_destination.tiering.supported" is set to "true". This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints. This property determines whether the user data blocks of the destination endpoint in a FabricPool will be tiered to the cloud store when they become cold. FabricPool combines flash (performance tier) with a cloud store into a single aggregate. Temperature of the destination endpoint volume blocks increases if they are accessed frequently and decreases when they are not. all – This policy allows tiering of both destination endpoint snapshots and the user transferred data blocks to the cloud store as soon as possible by ignoring the temperature on the volume blocks. This tiering policy is not applicable for Consistency Group destination endpoints or for synchronous relationships. auto – This policy allows tiering of both destination endpoint snapshots and the active file system user data to the cloud store none – Destination endpoint volume blocks will not be tiered to the cloud store. snapshot_only – This policy allows tiering of only the destination endpoint volume snapshots not associated with the active file system. The default tiering policy is "snapshot_only" for a FlexVol volume and "none" for a FlexGroup volume.</p>

Name	Type	Description
supported	boolean	Optional property to enable provisioning of the destination endpoint volumes on FabricPool aggregates. This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints. Only FabricPool aggregates are used if this property is set to "true" and only non FabricPool aggregates are used if this property is set to "false". Tiering support for a FlexGroup volume can be changed by moving all of the constituents to the required aggregates. Note that in order to tier data, not only do the destination endpoint volumes need to support tiering by using FabricPools, the "create_destination.tiering.policy" must not be "none". A destination endpoint that uses FabricPools but has a tiering "policy" of "none" supports tiering but will not tier any data.

#### snapmirror\_destination\_creation

Use this object to provision the destination endpoint when establishing a SnapMirror relationship for a FlexVol volume, FlexGroup volume, SVM, Consistency Group or ONTAP S3 Bucket. Given a source endpoint, the destination endpoint is provisioned in the SVM specified in the "destination.path" property. While protecting an SVM, the SVM destination endpoint can only be provisioned on the local cluster. To provision the SVM destination endpoint use the optional "source.cluster.name" property to specify the remote cluster name or use the optional "source.cluster.uuid" property to specify the remote cluster UUID. When "create\_destination.enabled" option is specified while making a POST for a SnapMirror relationship, the relationship can be automatically initialized by setting the "state" either to "snapmirrored" when the policy is of type "async" or to "in\_sync" when the policy is of type "sync". The "destination.path" property must specify the destination endpoint path. For example, for FlexVol volume and FlexGroup volume, the "destination.path" can be specified as <destination-svm-name:dp-volume-name>, for SVM data protection, the "destination.path" must be specified as &lt;destination-svm-name:&gt;, and for Consistency Group, the "destination.path" must be specified as &lt;destination-svm-name:&gt; along with the "destination.consistency\_group\_volumes" or "destination.luns" property to indicate the list of destination volumes or LUNs of type "DP" in the Consistency Group. For a FlexVol volume, a FlexGroup volume, Consistency Group or a Bucket destination endpoint, the properties in this object can be specified either from the source or the destination cluster. For an SVM destination endpoint, the properties in this object can be specified from the destination cluster only. This object is not supported for non ONTAP endpoints. While protecting a S3 Bucket, the optional "size" property can be used to create ONTAP S3 Bucket destination endpoint of the specified size.&lt;/destination-svm-name:&gt;&lt;/destination-svm-name:&gt;</destination-svm-name:dp-volume-name>

Name	Type	Description
bucket_retention	<a href="#">bucket_retention</a>	Specifies the retention-mode and default retention period configured on the destination bucket.
enabled	boolean	Optional property to create the destination endpoint when establishing a SnapMirror relationship. It is assumed to be "false" if no other property is set and assumed to be "true" if any other property is set.
size	integer	Optional property to specify the size of destination endpoint in bytes. This property is applicable only to ONTAP S3 Bucket endpoints. The minimum size for S3 bucket is 80MB and maximum size is 64TB. If not specified, system will create destination with default size of 800GB. <ul style="list-style-type: none"> <li>• Introduced in: 9.10</li> <li>• x-nullable: true</li> </ul>
snapshot_locking_enabled	boolean	Optional property to create the destination endpoint with snapshot locking enabled when establishing a SnapMirror relationship. This property is applicable to FlexVol volumes and FlexGroup volumes.
storage_service	<a href="#">storage_service</a>	
tiering	<a href="#">tiering</a>	

cluster

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	
uuid	string	

consistency\_group\_volumes

Name	Type	Description
name	string	The name of the volume.

## luns

Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	<p>The name of a LUN. A LUN is located within a volume. Optionally, it can be located within a qtree in a volume.</p> <p>LUN names are paths of the form "/vol/&lt;volume&gt;[/&lt;qtree&gt;]&lt;name&gt;" where the qtree name is optional.</p>
uuid	string	The unique identifier of the LUN.

## svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

## snapmirror\_endpoint

Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
cluster	cluster	
consistency_group_volumes	array[consistency_group_volumes]	This mandatory property specifies the list of FlexVol volumes or LUNs of a Consistency Group.
luns	luns	Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.
path	string	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: ONTAP Consistency Group - svm1:/cg/cg_name ONTAP S3 - svm1:/bucket/bucket1 NON-ONTAP - objstore1:/objstore <ul style="list-style-type: none"> <li>example: svm1:volume1</li> <li>Introduced in: 9.6</li> <li>x-nullable: true</li> </ul>
svm	svm	SVM, applies only to SVM-scoped objects.

## policy

Basic policy information of the relationship.

Name	Type	Description
_links	_links	
name	string	Name of the SnapMirror policy.
type	string	
uuid	string	Unique identifier of the SnapMirror policy.

## snapmirror\_source\_endpoint

Source endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
cluster	<a href="#">cluster</a>	
consistency_group_volumes	<a href="#">array[consistency_group_volumes]</a>	This mandatory property specifies the list of FlexVol volumes or LUNs of a Consistency Group.
luns	<a href="#">luns</a>	Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.
path	<a href="#">string</a>	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: ONTAP Consistency Group - svm1:/cg/cg_name ONTAP S3 - svm1:/bucket/bucket1 NON-ONTAP - objstore1:/objstore <ul style="list-style-type: none"> <li>example: svm1:volume1</li> <li>Introduced in: 9.14</li> <li>x-nullable: true</li> </ul>
svm	<a href="#">svm</a>	SVM, applies only to SVM-scoped objects.

#### svmdr\_volumes

Name	Type	Description
name	<a href="#">string</a>	The name of the volume.

#### transfer

Basic information on the current transfer or the last transfer if there is no active transfer at the time of the request.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
bytes_transferred	<a href="#">integer</a>	Total bytes transferred in the current or last successful transfer.
end_time	<a href="#">string</a>	End time of the last transfer.

Name	Type	Description
last_updated_time	string	Last updated time of the bytes transferred in the current transfer.
state	string	
total_duration	string	Elapsed time to transfer all snapshots for the last successful transfer.
type	string	Specifies the operation type of the current transfer on the relationship. The <i>initialize</i> transfer occurs when the relationship state changes from "uninitialized" to "snapmirrored" or "in_sync". The <i>update</i> transfer occurs when snapshots are being transferred from the source endpoint to the destination endpoint as part of a scheduled or manual update. The <i>resync</i> transfer occurs when the relationship state changes from "broken_off" to "snapmirrored" or "in_sync". The <i>restore</i> transfer occurs when a snapshot is being restored from a destination endpoint to another endpoint.
uuid	string	Transfer UUID. This property is applicable only for active transfers.

#### transfer\_schedule

Schedule used to update asynchronous relationships. This "transfer\_schedule" overrides the "transfer\_schedule" set on the SnapMirror relationship's policy. To remove the "transfer\_schedule", set its value to null (no-quotes). Only cron schedules are supported for SnapMirror.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	Job schedule name
uuid	string	Job schedule UUID

#### snapmirror\_error

SnapMirror error

Name	Type	Description
arguments	array[string]	Arguments present in the error message encountered.
code	string	Error code
message	string	Error message

returned\_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

## Update a SnapMirror relationship

PATCH /snapmirror/relationships/{uuid}

**Introduced In:** 9.6

Updates a SnapMirror relationship. This API is used to initiate SnapMirror operations such as "initialize", "resync", "break", "quiesce", and "resume" by specifying the appropriate value for the "state" field. It is also used to modify the SnapMirror policy associated with the specified relationship. Additionally, a SnapMirror relationship can be failed over to the destination endpoint or a failed over SnapMirror relationship can be failed back to the original state or a SnapMirror relationship direction can be reversed using this API. This API can also be used to expand the SnapMirror active sync relationship with the specified source and destination volumes.

To initialize the relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or "in\_sync" for relationships with a policy of type "sync".

To break the relationship or to failover to the destination endpoint and start serving data from the destination endpoint, PATCH the state to "broken\_off" for relationships with a policy of type "async" or "sync". SnapMirror relationships with the policy type as "sync" and sync\_type as "automated\_failover" cannot be "broken\_off".

To resync the broken relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or "in\_sync" for relationships with a policy of type "sync".

To failback the failed over relationship and start serving data from the source endpoint, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or "in\_sync" for relationships with a policy of type "sync" and set the query flag "failback" as "true". SnapMirror relationships with the policy type as "sync" and sync\_type as "automated\_failover" can be in "broken\_off" state due to a failed attempt of automated

SnapMirror failover operation.

To pause the relationship, suspending further transfers, PATCH the state to "paused" for relationships with a policy of type "async" or "sync". SnapMirror relationships with the policy type as "sync" and sync\_type as "automated\_failover" cannot be "paused".

To resume transfers for a paused relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or "in\_sync" for relationships with a policy of type "sync".

To reverse the direction of the relationship, PATCH the "source.path" with the destination endpoint and the "destination.path" with the source endpoint and the relationship state to "snapmirrored" for relationships with a policy of type "async" or "in\_sync" for relationships with a policy of type "sync". For relationships with a policy of type "async" and relationship state as "snapmirrored", stop IO on the source endpoint and perform a SnapMirror transfer POST operation before reversing the direction of the relationship to prevent any loss of data.

The values "in\_sync", "out\_of\_sync", and "synchronizing" are only applicable to relationships with a policy of type "sync".

When "transfer\_schedule" is specified along with "state" during PATCH, first the schedule is modified on the relationship and then the respective SnapMirror operation is initiated. The "transfer\_schedule" specified is used to update asynchronous relationships.

When "throttle" is specified along with "state" during PATCH, first the throttle is modified on the relationship, which will be used by any upcoming transfers and then the respective SnapMirror operation is initiated. If the SnapMirror operation initiated a transfer then it will also use the new throttle. If "throttle" needs to be applied for a specific transfer use SnapMirror Transfer REST API.

For SnapMirror active sync relationships, when "consistency\_group\_volumes" is specified during PATCH, first the existing FlexVol volume relationship is deleted and released and then the volumes are added to the SnapMirror active sync relationship.

## Examples

### Related ONTAP commands

- snapmirror modify
- snapmirror initialize
- snapmirror resync
- snapmirror break
- snapmirror quiesce
- snapmirror resume

### Important notes

- The property "transfer\_schedule" if set on a SnapMirror relationship overrides the "transfer\_schedule" set on the policy being used with the SnapMirror relationship.
- The property "throttle" if set on a SnapMirror relationship overrides the "throttle" set on the policy being used with the SnapMirror relationship.
- The properties "transfer\_schedule" and "throttle" are not supported when "failback" is set to "true".

- The properties "transfer\_schedule" and "throttle" are not supported when "failover" is set to "true".
- The properties "transfer\_schedule" and "throttle" are not supported when "force\_failover" is set to "true".
- The properties "transfer\_schedule" and "throttle" are not supported when the direction of the relationship is being reversed.
- To remove a transfer\_schedule on a SnapMirror relationship set the "transfer\_schedule" to null (no-quotes) during SnapMirror relationship PATCH.
- The property "identity\_preservation" value can be changed from a higher "identity\_preservation" threshold value to a lower "identity\_preservation" threshold value but not vice-versa. For example, the threshold value of the "identity\_preservation" property can be changed from "full" to "exclude\_network\_config", but cannot be increased from "exclude\_network\_and\_protocol\_config" to "exclude\_network\_config" to "full". The threshold value of the "identity\_preservation" cannot be changed to "exclude\_network\_and\_protocol\_config" for IDP SVMDR.
- The property "backoff\_level" is only applicable for FlexVol SnapMirror relationships.

## Examples

The following examples show how to perform the SnapMirror "resync", "initialize", "resume", "quiesce", and "break" operations. In addition, a relationship can be failed over to the destination endpoint and start serving data from the destination endpoint. A failed over relationship can be failed back to the source endpoint and serve data from the source endpoint. Also a relationship can be reversed by making the source endpoint as the new destination endpoint and the destination endpoint as the new source endpoint.

To update an associated SnapMirror policy.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"policy": { "name" : "MirrorAndVaultDiscardNetwork" } }'
```

To perform SnapMirror "resync" for an asynchronous SnapMirror relationship.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"state":"snapmirrored"}'
```

To perform SnapMirror "initialize" for an asynchronous SnapMirror relationship.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"state":"snapmirrored"}'
```

To perform SnapMirror "resume" for an asynchronous SnapMirror relationship.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"state":"snapmirrored"}'
```

To perform SnapMirror "quiesce" for an asynchronous SnapMirror relationship.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff" '{"state":"paused"}'
```

To perform SnapMirror "break" for an asynchronous SnapMirror relationship. This operation does a failover to the destination endpoint. After a the failover, data can then be served from the destination endpoint.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff" '{"state":"broken_off"}'
```

To forcefully failover to the destination endpoint and start serving data from the destination endpoint.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/?force=true" '{"state":"broken_off"}'
```

To fallback to the source endpoint and start serving data from the source endpoint for an asynchronous relationship.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/?failback=true" '{"state":"snapmirrored"}'
```

To fallback to the source endpoint and start serving data from the source endpoint for a synchronous relationship.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/?failback=true" '{"state":"in_sync"}'
```

To reverse the direction of an asynchronous relationship, that is, make the source endpoint as the new destination endpoint and make the destination endpoint as the new source endpoint.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"source": {"path": "dst_svm:dst_vol"}, "destination": {"path": "src_svm:src_vol"}, "state": "snapmirrored"}'
```

To reverse the direction of a synchronous relationship, that is, make the source endpoint as the new destination endpoint and make the destination endpoint as the new source endpoint.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"source": {"path": "dst_svm:dst_vol"}, "destination": {"path": "src_svm:src_vol"}, "state": "in_sync"}'
```

Updating SnapMirror transfer\_schedule and throttle for an asynchronous SnapMirror relationship.

Transfer\_schedule can be specified as UUID or name or both.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"transfer_schedule":{"uuid":"817500fa-092d-44c5-9c10-7b54f7b2f20a", "name":"5min"}, "throttle":100}'
```

Removing the SnapMirror transfer\_schedule for an asynchronous SnapMirror relationship.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"transfer_schedule":{"uuid":null, "name":null}}'
```

Removing the SnapMirror throttle for an asynchronous SnapMirror relationship.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"throttle":0}'
```

To perform SnapMirror "resync" and update the SnapMirror transfer\_schedule for an asynchronous SnapMirror relationship. First the transfer\_schedule is modified and then the resync transfer is initiated.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"state":"snapmirrored", "transfer_schedule":{"uuid":"817500fa-092d-44c5-9c10-7b54f7b2f20a", "name":"5min"}}'
```

To perform SnapMirror "initialize" and update the SnapMirror throttle for an asynchronous SnapMirror relationship. First the throttle is modified and then the initialize transfer is initiated. The initialize transfer will use this new throttle.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"state":"snapmirrored", "throttle":100}'
```

To perform SnapMirror "resync" and update the SnapMirror throttle for an asynchronous SnapMirror relationship. First the throttle is modified and then the resync transfer is initiated. The resync transfer will use this new throttle.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"state":"snapmirrored", "throttle":100}'
```

To perform a SnapMirror active sync or Asynchronous Consistency Group expansion.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{ "source" : {"consistency_group_volumes": [{"name": "vol"}]}, "destination" : {"consistency_group_volumes": [{"name": "voldp"}]} }'
```

Updating SnapMirror backoff\_level for an asynchronous SnapMirror relationship.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"backoff_level": "none"}'
```

To perform SnapMirror "initialize" and update the SnapMirror backoff\_level for an asynchronous SnapMirror relationship. First the backoff\_level is modified and then the initialize transfer is initiated. The initialize transfer will use this new backoff\_level.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"state": "snapmirrored", "backoff_level": "medium"}'
```

To perform SnapMirror "resync" and update the SnapMirror backoff\_level for an asynchronous SnapMirror relationship. First the backoff\_level is modified and then the resync transfer is initiated. The resync transfer will use this new backoff\_level.

```
PATCH "/api/snapmirror/relationships/98bb2608-fc60-11e8-aa13-005056a707ff/" '{"state": "snapmirrored", "backoff_level": "medium"}'
```

## Learn more

- [DOC /snapmirror/relationships](#)

## Parameters

Name	Type	In	Required	Description
uuid	string	path	True	SnapMirror relationship UUID

Name	Type	In	Required	Description
failover	boolean	query	False	<p>If this parameter is set, validation and failover will occur to the SVM-DR SnapMirror relationship destination endpoint. Any other fields specified with this parameter will be ignored. This parameter is supported only for SVM-DR SnapMirror relationships.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> <li>• Default value:</li> </ul>
force-failover	boolean	query	False	<p>If this parameter is set, failover will occur to the SVM-DR SnapMirror relationship destination endpoint, overriding the validation errors. Any other fields specified with this parameter will be ignored. This parameter is supported only for SVM-DR SnapMirror relationships.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> <li>• Default value:</li> </ul>

Name	Type	In	Required	Description
force	boolean	query	False	<p>If this parameter is set while specifying the state as "broken_off", indicates a forced failover overriding the validation errors.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.8</li> <li>• Default value:</li> </ul>
fallback	boolean	query	False	<p>If this parameter is set while specifying the state as "snapmirrored", indicates recovery of the failed over SnapMirror relationship by preserving the data written on the destination endpoint when the SnapMirror relationship was in failed over state. This flag is only applicable to SVM-DR SnapMirror relationships.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.8</li> <li>• Default value:</li> </ul>

Name	Type	In	Required	Description
return_timeout	integer	query	False	<p>The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202.</p> <ul style="list-style-type: none"> <li>• Default value: 1</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul>
validate_only	boolean	query	False	<p>Validate the operation and its parameters, without actually performing the operation.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>

## Request Body

Name	Type	Description
backoff_level	string	Specifies the SnapMirror backoff level due to Client Ops for FlexVol SnapMirror relationships.

Name	Type	Description
destination	<a href="#">snapmirror_endpoint</a>	<p>Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.6</li> </ul>
exported_snapshot	string	Snapshot exported to clients on destination.
group_type	string	Specifies the group type of the top level SnapMirror relationship. The volume relationships are shown as <i>none</i> , the SVMDR relationships are shown as <i>svm_dr</i> , the Consistency Group relationships are shown as <i>consistency_group</i> , and the FlexGroup volume relationships are shown as <i>flexgroup</i> .
healthy	boolean	Is the relationship healthy?

Name	Type	Description
identity_preservation	string	Specifies which configuration of the source SVM is replicated to the destination SVM. This property is applicable only for SVM data protection with "async" policy type. This "identity_preservation" overrides the "identity_preservation" set on the SnapMirror relationship's policy.
io_serving_copy	string	Specifies the sites serving I/O for the SnapMirror active sync relationship.
lag_time	string	Time since the exported snapshot was created.
last_transfer_network_compression_ratio	string	Specifies the compression ratio achieved for the data sent over the wire with network compression enabled for the last successful transfer.
last_transfer_type	string	Specifies the operation type of the last transfer that occurred on the relationship. The <i>initialize</i> transfer occurs when the relationship state changes from uninitialized to snapmirrored or in_sync. The <i>update</i> transfer occurs when the snapshots are transferred from the source endpoint to the destination endpoint as part of scheduled or manual update. The <i>resync</i> transfer occurs when the relationship state changes from broken_off to snapmirrored or in_sync. The <i>restore</i> transfer occurs when the snapshot is restored from a destination endpoint to another endpoint.
master_bias_activated_site	string	Specifies the Master Bias Activated Site for the SnapMirror active sync relationship.
policy	policy	Basic policy information of the relationship.

Name	Type	Description
preferred_site	string	Specifies the Primary Site of the SnapMirror active sync relationship.
preserve	boolean	Set to true on resync to preserve snapshots on the destination that are newer than the latest common snapshot. This property is applicable only for relationships with FlexVol volume or FlexGroup volume endpoints and when the PATCH state is being changed to "snapmirrored".
quick_resync	boolean	Set to true to reduce resync time by not preserving storage efficiency. This property is applicable only for relationships with FlexVol volume endpoints and SVMDR relationships when the PATCH state is being changed to "snapmirrored".
recover_after_break	boolean	Set to true to recover from a failed SnapMirror break operation on a FlexGroup volume relationship. This restores all destination FlexGroup constituent volumes to the latest snapshot, and any writes to the read-write constituents are lost. This property is applicable only for SnapMirror relationships with FlexGroup volume endpoints and when the PATCH state is being changed to "broken_off".
restore_to_snapshot	string	Specifies the snapshot to restore to on the destination during the break operation. This property is applicable only for SnapMirror relationships with FlexVol volume endpoints and when the PATCH state is being changed to "broken_off".

Name	Type	Description
source	<a href="#">snapmirror_source_endpoint</a>	Source endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
state	string	<p>State of the relationship. To initialize the relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". To break the relationship, PATCH the state to "broken_off" for relationships with a policy of type "async" or "sync". SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" cannot be "broken_off". To resync the relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" can be in "broken_off" state due to a failed attempt of SnapMirror failover. To pause the relationship, suspending further transfers, PATCH the state to "paused" for relationships with a policy of type "async" or "sync". SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" cannot be "paused". To resume transfers for a paused relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". The entries "in_sync", "out_of_sync", "synchronizing", and "expanding" are only applicable to relationships with a policy of type "sync". A PATCH call on the state change only triggers the transition to the specified state. You must poll on the "state", "healthy" and "unhealthy_reason" properties using a GET request to determine if the transition is successful. To automatically initialize the relationship when specifying "create_destination" property, set the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for</p>

Name	Type	Description
throttle	integer	Throttle, in KBs per second. This "throttle" overrides the "throttle" set on the SnapMirror relationship's policy. If neither of these are set, defaults to 0, which is interpreted as unlimited.
total_transfer_bytes	integer	Cumulative bytes transferred for the relationship.
total_transfer_duration	string	Indicates the cumulative duration of all transfers since the last aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship.
transfer	transfer	Basic information on the current transfer or the last transfer if there is no active transfer at the time of the request.
transfer_schedule	transfer_schedule	Schedule used to update asynchronous relationships. This "transfer_schedule" overrides the "transfer_schedule" set on the SnapMirror relationship's policy. To remove the "transfer_schedule", set its value to null (no-quotes). Only cron schedules are supported for SnapMirror.
unhealthy_reason	array[snapmirror_error]	Reason the relationship is not healthy. It is a concatenation of up to four levels of error messages.
uuid	string	Unique identifier of the SnapMirror relationship.

## Example request

```
{  
    "backoff_level": "medium",  
    "destination": {  
        "cluster": {  
            "name": "cluster1",  
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
        },  
        "luns": {  
            "name": "/vol/volume1/lun1",  
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
        },  
        "path": "svm1:volumel",  
        "svm": {  
            "name": "svm1",  
            "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"  
        }  
    },  
    "exported_snapshot": "string",  
    "group_type": "consistency_group",  
    "identity_preservation": "string",  
    "io_serving_copy": "C1_sti85-vsimg-ucs209a_cluster, C1_sti85-vsimg-ucs209c_cluster",  
    "lag_time": "PT8H35M42S",  
    "last_transfer_network_compression_ratio": 61,  
    "last_transfer_type": "initialize",  
    "master_bias_activated_site": "C1_sti85-vsimg-ucs209a_cluster",  
    "policy": {  
        "name": "Asynchronous",  
        "type": "string",  
        "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"  
    },  
    "preferred_site": "C1_sti85-vsimg-ucs209a_cluster",  
    "restore": true,  
    "restore_to_snapshot": "string",  
    "source": {  
        "cluster": {  
            "name": "cluster1",  
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
        },  
        "luns": {  
            "name": "/vol/volume1/lun1",  
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
        },  
        "path": "svm1:volumel",  
    }  
}
```

```

"svm": {
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"state": "snapmirrored",
"throttle": 0,
"total_transfer_bytes": 1098210312,
"total_transfer_duration": "PT3M21S",
"transfer": {
  "end_time": "2020-12-02 21:36:19 -0500",
  "last_updated_time": "2023-09-14 18:39:19 -0400",
  "state": "string",
  "total_duration": "PT28M41S",
  "type": "initialize",
  "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
},
"transfer_schedule": {
  "name": "weekly",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"unhealthy_reason": [
  {
    "arguments": [],
    "code": "6621444",
    "message": "Failed to complete update operation on one or more item relationships."
  },
  {
    "arguments": [],
    "code": "6621445",
    "message": "Group Update failed"
  }
],
"uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}

```

## Response

Status: 200, Ok

Name	Type	Description
job	job_link	

## Example response

```
{  
  "job": {  
    "uuid": "string"  
  }  
}
```

## Response

Status: 202, Accepted

## Error

Status: Default

## ONTAP Error Response codes

Error code	Description
13303825	Could not retrieve information for the SnapMirror policy type
13303817	Unknown value for the SnapMirror state
13303829	Invalid state
13303830	Transient state
13303831	Invalid state for async SnapMirror relationship
13303834	Given input valid only for FlexGroup SnapMirror relationship
13303835	Given flag is valid only when PATCH state is broken_off
13303836	Given flag is valid only when PATCH state is snapmirrored or in_sync
13303818	Invalid state transition requested
13303828	Given state change is not possible for SVM SnapMirror relationship
13303833	Requested state change is not possible
13303832	SnapMirror relationship is already initialized
13303824	Quiescing the SnapMirror relationship has failed
13303826	Required environment variables are not set

Error code	Description
13303827	Internal Error
13303823	Quiesce operation timed out
13303821	Invalid SnapMirror policy name/UUID
13303819	Could not retrieve SnapMirror policy information
13303851	Cannot modify attributes of SnapMirror restore relationship
13303816	Could not retrieve state or status values
13303837	Given flags are valid only if SnapMirror state change is requested
6619546	Destination must be a dp volume
13303808	Transition to broken_off state failed
13303809	Transition to paused state failed
13303810	Transition to snapmirrored state failed
13303811	Transition from paused state failed
13303820	SnapMirror policy, transfer_schedule, and throttle, if specified were successfully updated, state transition failed
13303856	SVM is not configured with any data protocol
13303857	SVM is not configured with any network interface
13303858	Internal error. Failed to check LIF and protocols details for SVM
13303859	Internal error. SVM Failover operation failed. SVM operational state is unavailable.
13303865	Modifying the specified SnapMirror policy is not supported.
13303866	Cannot use the specified policy to modify the policy of the relationship.
13303867	Modifying the policy of an async-mirror or a vault relationship is not supported.
13303884	LIF and protocols details are configured incorrectly for SVM.
13303996	The source and destination clusters both have a policy with the same name, but they have different properties.
13304062	Cannot reverse the direction of a SnapMirror DP relationship when the source cluster version is earlier than the destination cluster version.

Error code	Description
13304070	Remote peer cluster requires the dp_rest_support capability to support reversing the direction of a DP relationship.
13304071	Failed to access capabilities on remote cluster.
13304080	Specified uuid and name do not match.
13304081	Modifying a property during the operation is not supported.
13304082	The specified properties are mutually exclusive.
13304083	The specified property is not supported because all nodes in the cluster are not capable of supporting the property.
13304086	Reversing the direction of a SnapMirror relationship associated with a policy containing the property create_snapshot_on_source set to false is not supported.
6619715	Modification of relationship is in progress. Retry the command after a few minutes.
6619699	Schedule not found.
13304108	Schedule not found in the Administrative SVM or the SVM for the relationship.
13304111	The SnapMirror active sync relationship consistency groups are nested. Expanding an SnapMirror active sync relationship with a pre-existing DP volume is only supported for flat consistency groups.
6621458	The destination Consistency Group is the source of a SnapMirror Synchronous (SM-S) relationship. Sources of SM-S relationships cannot be the destination of any other SnapMirror relationship.
6621782	A property of the policy is not valid for relationships between these endpoints.

| 13304120 | Values specified for the source.path and destination.path properties do not match the relationship's source.path or destination.path properties. | 13304003 | IntraCluster flip operation is not supported. | | 6621125 | The policy is not valid for relationships with FlexGroup volume endpoints. Only policies without snapshot creation schedules are supported for these relationships. | | 13304093 | The property specified is not supported for the specified relationships. | | 6622077 | The expand operation has failed on the SnapMirror active sync relationship with specified destination path. | | 6619720 | Relationship information has been updated and is being propagated. Wait a few minutes and try the operation again. |

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

SnapMirror Consistency Group failover error message.

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

status

Name	Type	Description
code	string	Status code
message	string	SnapMirror Consistency Group failover status.

snapmirror\_consistency\_group\_failover

SnapMirror Consistency Group failover information. The SnapMirror Consistency Group failover can be a planned or an unplanned operation. Only active SnapMirror Consistency Group failover operation progress can be monitored using this object. In case of an error during the failover operation, the property "consistency\_group\_failover.error" holds the reason for the error. ONTAP automatically retries any failed SnapMirror Consistency Group failover operation.

Name	Type	Description
state	string	SnapMirror Consistency Group failover state.
status	<a href="#">status</a>	
type	string	SnapMirror Consistency Group failover type.

#### bucket\_retention

Specifies the retention-mode and default retention period configured on the destination bucket.

Name	Type	Description
default_period	string	Specifies the default retention period that is applied to objects while committing them to the WORM state without an associated retention period. The retention period can be in years, or days. The retention period value represents a duration and must be specified in the ISO-8601 duration format. A period specified for years and days is represented in the ISO-8601 format as "P<num>Y" and "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. The period string must contain only a single time element that is, either years, or days. A duration which combines different periods is not supported, for example "P1Y10D" is not supported.</num></num>

#### storage\_service

Name	Type	Description
enabled	boolean	This property indicates whether to create the destination endpoint using storage service.

Name	Type	Description
enforce_performance	boolean	Optional property to enforce storage service performance on the destination endpoint. This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints.
name	string	<p>Optional property to specify the storage service name for the destination endpoint. This property is considered when the property "create_destination.storage_service.enabled" is set to "true". When the property "create_destination.storage_service.enabled" is set to "true" and the "create_destination.storage_service.name" for the endpoint is not specified, then ONTAP selects the highest storage service available on the cluster to provision the destination endpoint. This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints.</p> <ul style="list-style-type: none"> <li>• enum: ["extreme", "performance", "value"]</li> <li>• Introduced in: 9.6</li> <li>• x-nullable: true</li> </ul>

tiering

Name	Type	Description
policy	string	<p>Optional property to specify the destination endpoint's tiering policy when "create_destination.tiering.supported" is set to "true". This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints. This property determines whether the user data blocks of the destination endpoint in a FabricPool will be tiered to the cloud store when they become cold. FabricPool combines flash (performance tier) with a cloud store into a single aggregate. Temperature of the destination endpoint volume blocks increases if they are accessed frequently and decreases when they are not. all – This policy allows tiering of both destination endpoint snapshots and the user transferred data blocks to the cloud store as soon as possible by ignoring the temperature on the volume blocks. This tiering policy is not applicable for Consistency Group destination endpoints or for synchronous relationships. auto – This policy allows tiering of both destination endpoint snapshots and the active file system user data to the cloud store none – Destination endpoint volume blocks will not be tiered to the cloud store. snapshot_only – This policy allows tiering of only the destination endpoint volume snapshots not associated with the active file system. The default tiering policy is "snapshot_only" for a FlexVol volume and "none" for a FlexGroup volume.</p>

Name	Type	Description
supported	boolean	Optional property to enable provisioning of the destination endpoint volumes on FabricPool aggregates. This property is applicable to FlexVol volume, FlexGroup volume, and Consistency Group endpoints. Only FabricPool aggregates are used if this property is set to "true" and only non FabricPool aggregates are used if this property is set to "false". Tiering support for a FlexGroup volume can be changed by moving all of the constituents to the required aggregates. Note that in order to tier data, not only do the destination endpoint volumes need to support tiering by using FabricPools, the "create_destination.tiering.policy" must not be "none". A destination endpoint that uses FabricPools but has a tiering "policy" of "none" supports tiering but will not tier any data.

#### snapmirror\_destination\_creation

Use this object to provision the destination endpoint when establishing a SnapMirror relationship for a FlexVol volume, FlexGroup volume, SVM, Consistency Group or ONTAP S3 Bucket. Given a source endpoint, the destination endpoint is provisioned in the SVM specified in the "destination.path" property. While protecting an SVM, the SVM destination endpoint can only be provisioned on the local cluster. To provision the SVM destination endpoint use the optional "source.cluster.name" property to specify the remote cluster name or use the optional "source.cluster.uuid" property to specify the remote cluster UUID. When "create\_destination.enabled" option is specified while making a POST for a SnapMirror relationship, the relationship can be automatically initialized by setting the "state" either to "snapmirrored" when the policy is of type "async" or to "in\_sync" when the policy is of type "sync". The "destination.path" property must specify the destination endpoint path. For example, for FlexVol volume and FlexGroup volume, the "destination.path" can be specified as <destination-svm-name:dp-volume-name>, for SVM data protection, the "destination.path" must be specified as &lt;destination-svm-name:&gt;, and for Consistency Group, the "destination.path" must be specified as &lt;destination-svm-name:&gt; along with the "destination.consistency\_group\_volumes" or "destination.luns" property to indicate the list of destination volumes or LUNs of type "DP" in the Consistency Group. For a FlexVol volume, a FlexGroup volume, Consistency Group or a Bucket destination endpoint, the properties in this object can be specified either from the source or the destination cluster. For an SVM destination endpoint, the properties in this object can be specified from the destination cluster only. This object is not supported for non ONTAP endpoints. While protecting a S3 Bucket, the optional "size" property can be used to create ONTAP S3 Bucket destination endpoint of the specified size.&lt;/destination-svm-name:&gt;&lt;/destination-svm-name:&gt;</destination-svm-name:dp-volume-name>

Name	Type	Description
bucket_retention	<a href="#">bucket_retention</a>	Specifies the retention-mode and default retention period configured on the destination bucket.
enabled	boolean	Optional property to create the destination endpoint when establishing a SnapMirror relationship. It is assumed to be "false" if no other property is set and assumed to be "true" if any other property is set.
size	integer	Optional property to specify the size of destination endpoint in bytes. This property is applicable only to ONTAP S3 Bucket endpoints. The minimum size for S3 bucket is 80MB and maximum size is 64TB. If not specified, system will create destination with default size of 800GB. <ul style="list-style-type: none"> <li>• Introduced in: 9.10</li> <li>• x-nullable: true</li> </ul>
snapshot_locking_enabled	boolean	Optional property to create the destination endpoint with snapshot locking enabled when establishing a SnapMirror relationship. This property is applicable to FlexVol volumes and FlexGroup volumes.
storage_service	<a href="#">storage_service</a>	
tiering	<a href="#">tiering</a>	

cluster

Name	Type	Description
name	string	
uuid	string	

consistency\_group\_volumes

Name	Type	Description
name	string	The name of the volume.

## luns

Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.

Name	Type	Description
name	string	The name of a LUN. A LUN is located within a volume. Optionally, it can be located within a qtree in a volume.
		LUN names are paths of the form "/vol/<volume>[/<qtree>]/<name space>" where the qtree name is optional.
uuid	string	The unique identifier of the LUN.

## svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

## snapmirror\_endpoint

Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
cluster	cluster	

Name	Type	Description
luns	luns	Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.
path	string	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: ONTAP Consistency Group - svm1:/cg/cg_name ONTAP S3 - svm1:/bucket/bucket1 NON-ONTAP - objstore1:/objstore <ul style="list-style-type: none"> <li>example: svm1:volume1</li> <li>Introduced in: 9.6</li> <li>x-nullable: true</li> </ul>
svm	svm	SVM, applies only to SVM-scoped objects.

## policy

Basic policy information of the relationship.

Name	Type	Description
name	string	Name of the SnapMirror policy.
type	string	
uuid	string	Unique identifier of the SnapMirror policy.

## snapmirror\_source\_endpoint

Source endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
cluster	cluster	

Name	Type	Description
luns	<a href="#">luns</a>	Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.
path	string	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: ONTAP Consistency Group - svm1:/cg/cg_name ONTAP S3 - svm1:/bucket/bucket1 NON-ONTAP - objstore1:/objstore <ul style="list-style-type: none"> <li>example: svm1:volume1</li> <li>Introduced in: 9.14</li> <li>x-nullable: true</li> </ul>
svm	<a href="#">svm</a>	SVM, applies only to SVM-scoped objects.

#### svmdr\_volumes

Name	Type	Description
name	string	The name of the volume.

#### transfer

Basic information on the current transfer or the last transfer if there is no active transfer at the time of the request.

Name	Type	Description
bytes_transferred	integer	Total bytes transferred in the current or last successful transfer.
end_time	string	End time of the last transfer.
last_updated_time	string	Last updated time of the bytes transferred in the current transfer.
state	string	

Name	Type	Description
total_duration	string	Elapsed time to transfer all snapshots for the last successful transfer.
type	string	Specifies the operation type of the current transfer on the relationship. The <i>initialize</i> transfer occurs when the relationship state changes from "uninitialized" to "snapmirrored" or "in_sync". The <i>update</i> transfer occurs when snapshots are being transferred from the source endpoint to the destination endpoint as part of a scheduled or manual update. The <i>resync</i> transfer occurs when the relationship state changes from "broken_off" to "snapmirrored" or "in_sync". The <i>restore</i> transfer occurs when a snapshot is being restored from a destination endpoint to another endpoint.
uuid	string	Transfer UUID. This property is applicable only for active transfers.

#### transfer\_schedule

Schedule used to update asynchronous relationships. This "transfer\_schedule" overrides the "transfer\_schedule" set on the SnapMirror relationship's policy. To remove the "transfer\_schedule", set its value to null (no-quotes). Only cron schedules are supported for SnapMirror.

Name	Type	Description
name	string	Job schedule name
uuid	string	Job schedule UUID

#### snapmirror\_error

SnapMirror error

Name	Type	Description
arguments	array[string]	Arguments present in the error message encountered.

Name	Type	Description
code	string	Error code
message	string	Error message

## snapmirror\_relationship

SnapMirror relationship information. The SnapMirror relationship can be either "async" or "sync" based on the type of SnapMirror policy associated with the relationship. The source and destination endpoints of a SnapMirror relationship must be of the same type, for example, if the source endpoint is a FlexVol volume then the destination endpoint must be a FlexVol volume. The SnapMirror policy type "async" can be used when the SnapMirror relationship has FlexVol volume or FlexGroup volume or SVM as the endpoint. The SnapMirror policy type "sync" can be used when the SnapMirror relationship has FlexVol volume as the endpoint. The SnapMirror policy type "sync" with "sync\_type" as "automated\_failover" can be used when the SnapMirror relationship has Consistency Group as the endpoint.

Name	Type	Description
backoff_level	string	Specifies the SnapMirror backoff level due to Client Ops for FlexVol SnapMirror relationships.
destination	<a href="#">snapmirror_endpoint</a>	<p>Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.6</li> </ul>

Name	Type	Description
exported_snapshot	string	Snapshot exported to clients on destination.
group_type	string	Specifies the group type of the top level SnapMirror relationship. The volume relationships are shown as <i>none</i> , the SVM DR relationships are shown as <i>svm_dr</i> , the Consistency Group relationships are shown as <i>consistency_group</i> , and the FlexGroup volume relationships are shown as <i>flexgroup</i> .
healthy	boolean	Is the relationship healthy?
identity_preservation	string	Specifies which configuration of the source SVM is replicated to the destination SVM. This property is applicable only for SVM data protection with "async" policy type. This "identity_preservation" overrides the "identity_preservation" set on the SnapMirror relationship's policy.
io_serving_copy	string	Specifies the sites serving I/O for the SnapMirror active sync relationship.
lag_time	string	Time since the exported snapshot was created.
last_transfer_network_compression_ratio	string	Specifies the compression ratio achieved for the data sent over the wire with network compression enabled for the last successful transfer.

Name	Type	Description
last_transfer_type	string	Specifies the operation type of the last transfer that occurred on the relationship. The <i>initialize</i> transfer occurs when the relationship state changes from uninitialized to snapmirrored or in_sync. The <i>update</i> transfer occurs when the snapshots are transferred from the source endpoint to the destination endpoint as part of scheduled or manual update. The <i>resync</i> transfer occurs when the relationship state changes from broken_off to snapmirrored or in_sync. The <i>restore</i> transfer occurs when the snapshot is restored from a destination endpoint to another endpoint.
master_bias_activated_site	string	Specifies the Master Bias Activated Site for the SnapMirror active sync relationship.
policy	policy	Basic policy information of the relationship.
preferred_site	string	Specifies the Primary Site of the SnapMirror active sync relationship.
preserve	boolean	Set to true on resync to preserve snapshots on the destination that are newer than the latest common snapshot. This property is applicable only for relationships with FlexVol volume or FlexGroup volume endpoints and when the PATCH state is being changed to "snapmirrored".
quick_resync	boolean	Set to true to reduce resync time by not preserving storage efficiency. This property is applicable only for relationships with FlexVol volume endpoints and SVMDR relationships when the PATCH state is being changed to "snapmirrored".

Name	Type	Description
recover_after_break	boolean	Set to true to recover from a failed SnapMirror break operation on a FlexGroup volume relationship. This restores all destination FlexGroup constituent volumes to the latest snapshot, and any writes to the read-write constituents are lost. This property is applicable only for SnapMirror relationships with FlexGroup volume endpoints and when the PATCH state is being changed to "broken_off".
restore_to_snapshot	string	Specifies the snapshot to restore to on the destination during the break operation. This property is applicable only for SnapMirror relationships with FlexVol volume endpoints and when the PATCH state is being changed to "broken_off".
source	<a href="#">snapmirror_source_endpoint</a>	Source endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
state	string	<p>State of the relationship. To initialize the relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". To break the relationship, PATCH the state to "broken_off" for relationships with a policy of type "async" or "sync".</p> <p>SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" cannot be "broken_off". To resync the relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync".</p> <p>SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" can be in "broken_off" state due to a failed attempt of SnapMirror failover. To pause the relationship, suspending further transfers, PATCH the state to "paused" for relationships with a policy of type "async" or "sync". SnapMirror relationships with the policy type as "sync" and "sync_type" as "automated_failover" cannot be "paused". To resume transfers for a paused relationship, PATCH the state to "snapmirrored" for relationships with a policy of type "async" or to state "in_sync" for relationships with a policy of type "sync". The entries "in_sync", "out_of_sync", "synchronizing", and "expanding" are only applicable to relationships with a policy of type "sync". A PATCH call on the state change only triggers the transition to the specified state. You must poll on the "state", "healthy" and "unhealthy_reason" properties using a GET request to determine if the transition is successful. To automatically initialize the relationship when specifying "create_destination" property, set the state to "snapmirrored" for</p>

Name	Type	Description
throttle	integer	Throttle, in KBs per second. This "throttle" overrides the "throttle" set on the SnapMirror relationship's policy. If neither of these are set, defaults to 0, which is interpreted as unlimited.
total_transfer_bytes	integer	Cumulative bytes transferred for the relationship.
total_transfer_duration	string	Indicates the cumulative duration of all transfers since the last aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship.
transfer	transfer	Basic information on the current transfer or the last transfer if there is no active transfer at the time of the request.
transfer_schedule	transfer_schedule	Schedule used to update asynchronous relationships. This "transfer_schedule" overrides the "transfer_schedule" set on the SnapMirror relationship's policy. To remove the "transfer_schedule", set its value to null (no-quotes). Only cron schedules are supported for SnapMirror.
unhealthy_reason	array[snapmirror_error]	Reason the relationship is not healthy. It is a concatenation of up to four levels of error messages.
uuid	string	Unique identifier of the SnapMirror relationship.

job\_link

Name	Type	Description
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

returned\_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

## Manage SnapMirror relationship transfers

### SnapMirror relationships relationship.uuid transfers endpoint overview

#### Overview

This API is used to manage transfers on an existing SnapMirror relationship.

You can initiate SnapMirror operations such as "initialize", "update", "restore-transfer", and "abort" using this API on asynchronous SnapMirror relationship. On a synchronous SnapMirror relationship, you can initiate SnapMirror "initialize" operation. The GET for this API reports the status of both active transfers and transfers that have terminated within the past 24 hours. For the restore relationships, the POST on transfers API triggers "restore-transfer". Successful completion of "restore" also deletes the restore relationship. If the "restore" fails, DELETE on relationships must be called to delete the restore relationship.

A transfer on an asynchronous SnapMirror relationship with Application Consistency Group endpoints expands the destination Application Consistency Group endpoint if the source Application Consistency Group endpoint is already expanded.

#### Retrieve ongoing SnapMirror transfers for a relationship

GET /snapmirror/relationships/{relationship.uuid}/transfers

**Introduced In:** 9.6

Retrieves the list of ongoing SnapMirror transfers for the specified relationship.

#### Related ONTAP commands

- snapmirror show

## Example

```
GET "/api/snapmirror/relationships/293baa53-e63d-11e8-bff1-005056a793dd/transfers"
```

## Learn more

- [DOC /snapmirror/relationships/{relationship.uuid}/transfers](#)

## Parameters

Name	Type	In	Required	Description
relationship.uuid	string	path	True	SnapMirror relationship UUID
on_demand_attrs	string	query	False	Filter by on_demand_attrs <ul style="list-style-type: none"><li>• Introduced in: 9.13</li></ul>
checkpoint_size	integer	query	False	Filter by checkpoint_size
snapshot	string	query	False	Filter by snapshot
relationship.destination.consistency_group_volumes.name	string	query	False	Filter by relationship.destination.consistency_group_volumes.name <ul style="list-style-type: none"><li>• Introduced in: 9.8</li></ul>
relationship.destination.path	string	query	False	Filter by relationship.destination.path
relationship.destination.svm.name	string	query	False	Filter by relationship.destination.svm.name
relationship.destination.svm.uuid	string	query	False	Filter by relationship.destination.svm.uuid

Name	Type	In	Required	Description
relationship.destination.luns.name	string	query	False	Filter by relationship.destination.luns.name <ul style="list-style-type: none"> <li>• Introduced in: 9.16</li> </ul>
relationship.destination.luns.uuid	string	query	False	Filter by relationship.destination.luns.uuid <ul style="list-style-type: none"> <li>• Introduced in: 9.16</li> </ul>
relationship.destination.cluster.name	string	query	False	Filter by relationship.destination.cluster.name <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
relationship.destination.cluster.uuid	string	query	False	Filter by relationship.destination.cluster.uuid <ul style="list-style-type: none"> <li>• Introduced in: 9.7</li> </ul>
relationship.restore	boolean	query	False	Filter by relationship.restore
uuid	string	query	False	Filter by uuid
total_duration	string	query	False	Filter by total_duration <ul style="list-style-type: none"> <li>• Introduced in: 9.10</li> </ul>
throttle	integer	query	False	Filter by throttle <ul style="list-style-type: none"> <li>• Introduced in: 9.9</li> </ul>
state	string	query	False	Filter by state
bytes_transferred	integer	query	False	Filter by bytes_transferred

Name	Type	In	Required	Description
network_compression_ratio	string	query	False	Filter by network_compression_ratio <ul style="list-style-type: none"> <li>• Introduced in: 9.13</li> </ul>
error_info.message	string	query	False	Filter by error_info.message <ul style="list-style-type: none"> <li>• Introduced in: 9.10</li> </ul>
error_info.code	integer	query	False	Filter by error_info.code <ul style="list-style-type: none"> <li>• Introduced in: 9.10</li> </ul>
end_time	string	query	False	Filter by end_time <ul style="list-style-type: none"> <li>• Introduced in: 9.10</li> </ul>
last_updated_time	string	query	False	Filter by last_updated_time <ul style="list-style-type: none"> <li>• Introduced in: 9.14</li> </ul>
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none"> <li>• Default value: 1</li> </ul>

Name	Type	In	Required	Description
return_timeout	integer	query	False	<p>The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached.</p> <ul style="list-style-type: none"> <li>• Default value: 1</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul>
order_by	array[string]	query	False	Order results by specified fields and optional [asc]

## Response

Status: 200, Ok

Name	Type	Description
_links	<a href="#">_links</a>	
num_records	integer	Number of records
records	array[ <a href="#">snapmirror_transfer</a> ]	

## Example response

```
{  
  "_links": {  
    "next": {  
      "href": "/api/resourcelink"  
    },  
    "self": {  
      "href": "/api/resourcelink"  
    }  
  },  
  "num_records": 1,  
  "records": [  
    {  
      "_links": {  
        "self": {  
          "href": "/api/resourcelink"  
        }  
      },  
      "bytes_transferred": 0,  
      "checkpoint_size": 0,  
      "end_time": "2020-12-02 21:36:19 -0500",  
      "error_info": {  
        "code": 6620046,  
        "message": "Transfer aborted"  
      },  
      "last_updated_time": "2023-09-15 19:58:39 -0400",  
      "network_compression_ratio": 61,  
      "on_demand_attrs": "read_write_with_user_data_pull",  
      "relationship": {  
        "destination": {  
          "cluster": {  
            "_links": {  
              "self": {  
                "href": "/api/resourcelink"  
              }  
            },  
            "name": "cluster1",  
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
          },  
          "consistency_group_volumes": [  
            {  
              "name": "volume1"  
            }  
          ],  
          "luns": {  
            "lun": {  
              "name": "lun1"  
            }  
          }  
        }  
      }  
    }  
  ]  
}
```

```

    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "name": "/vol/volume1/lun1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"path": "svm1:volume1",
"svm": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
},
"uuid": "d2d7ceea-ab52-11e8-855e-00505682a4c7"
},
"snapshot": "string",
"state": "string",
"storage_efficiency_enabled": true,
"throttle": 0,
"total_duration": "PT28M41S",
"uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}
]
}

```

## Error

Status: Default, Error

Name	Type	Description
error	returned_error	

## Example error

```
{  
  "error": {  
    "arguments": [  
      {  
        "code": "string",  
        "message": "string"  
      }  
    ],  
    "code": "4",  
    "message": "entry doesn't exist",  
    "target": "uuid"  
  }  
}
```

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

Name	Type	Description
next	<a href="#">href</a>	
self	<a href="#">href</a>	

\_links

Name	Type	Description
self	<a href="#">href</a>	

error\_info

Error information for the transfer.

Name	Type	Description
code	integer	Error code
message	string	Error message

files

Specifies a file or LUN consisting of a source\_path and an optional destination\_path. If not specified, the destination\_path is the same as the source\_path. File restore is not supported if the source\_path or destination\_path contains commas in its directory or file name.

Name	Type	Description
destination_path	string	
source_path	string	

options

cluster

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	
uuid	string	

## consistency\_group\_volumes

Name	Type	Description
name	string	The name of the volume.

## luns

Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	<p>The name of a LUN. A LUN is located within a volume. Optionally, it can be located within a qtree in a volume.</p> <p>LUN names are paths of the form "/vol/&lt;volume&gt;[/&lt;qtree&gt;]/&lt;namespace&gt;" where the qtree name is optional.</p>
uuid	string	The unique identifier of the LUN.

## svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

## snapmirror\_endpoint

Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination

SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
cluster	cluster	
consistency_group_volumes	array[consistency_group_volumes]	This mandatory property specifies the list of FlexVol volumes or LUNs of a Consistency Group.
luns	luns	Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.
path	string	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: ONTAP Consistency Group - svm1:/cg/cg_name ONTAP S3 - svm1:/bucket/bucket1 NON-ONTAP - objstore1:/objstore <ul style="list-style-type: none"> <li>example: svm1:volume1</li> <li>Introduced in: 9.6</li> <li>x-nullable: true</li> </ul>
svm	svm	SVM, applies only to SVM-scoped objects.

relationship

Name	Type	Description
destination	<a href="#">snapmirror_endpoint</a>	<p>Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.6</li> </ul>
restore	boolean	Is the relationship for restore?
uuid	string	Unique identifier of the SnapMirror relationship.

### `snapmirror_transfer`

SnapMirror transfer information

Name	Type	Description
<code>_links</code>	<a href="#">_links</a>	
<code>bytes_transferred</code>	integer	Bytes transferred
<code>checkpoint_size</code>	integer	Amount of data transferred in bytes as recorded in the restart checkpoint.
<code>end_time</code>	string	End time of the transfer.

Name	Type	Description
error_info	<a href="#">error_info</a>	Error information for the transfer.
last_updated_time	string	Last updated time of the bytes transferred in an active transfer.
network_compression_ratio	string	Specifies the compression ratio achieved for the data sent over the wire with network compression enabled. This property is only valid for active transfers.
on_demand_attrs	string	Specifies whether or not an on-demand restore is being carried out. This is only supported for the transfer of restore relationships for entire volumes from the object store. A value for <code>read_write_with_user_data_pull</code> should be provided to start an on-demand restore. A file restore from the object store does not support this option.
relationship	<a href="#">relationship</a>	
snapshot	string	Name of snapshot being transferred.
state	string	Status of the transfer. Set PATCH state to "aborted" to abort the transfer. Set PATCH state to "hard_aborted" to abort the transfer and discard the restart checkpoint. To find "queued" transfers refer to relationships GET API.
throttle	integer	Throttle, in KBs per second. This "throttle" overrides the "throttle" set on the SnapMirror relationship or SnapMirror relationship's policy. If neither of these are set, defaults to 0, which is interpreted as unlimited.
total_duration	string	Elapsed transfer time.

Name	Type	Description
uuid	string	Unique identifier of the SnapMirror transfer.

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### returned\_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

## Start a SnapMirror transfer operation

POST /snapmirror/relationships/{relationship.uuid}/transfers

**Introduced In:** 9.6

Starts a SnapMirror transfer operation. This API initiates a restore operation if the SnapMirror relationship is of type "restore". Otherwise, it initiates a SnapMirror "initialize" operation or "update" operation based on the current SnapMirror state.

### Default property values

- storage\_efficiency\_enabled - *true*

### Related ONTAP commands

- snapmirror update
- snapmirror initialize
- snapmirror restore

## Examples

The following examples show how to perform SnapMirror "initialize", "update", and "restore" operations.

Perform SnapMirror initialize or update

```
POST "/api/snapmirror/relationships/e4e7e130-0279-11e9-b566-0050568e9909/transfers" '{}'
```

Perform SnapMirror initialize, update or restore with throttle value set

```
POST "/api/snapmirror/relationships/e4e7e130-0279-11e9-b566-0050568e9909/transfers" '{"throttle":"100"}'
```

Perform SnapMirror restore transfer of a file

```
POST "/api/snapmirror/relationships/c8c62a90-0fef-11e9-b09e-0050568e7067/transfers" '{"source_snapshot": "src", "files": [{"source_path": "/a1.txt.0", "destination_path": "/a1-renamed.txt.0"}]}'
```

Performing a SnapMirror initialize or update using a particular snapshot.

```
POST "/api/snapmirror/relationships/e4e7e130-0279-11e9-b566-0050568e9909/transfers" '{"source_snapshot": "snap1"}'
```

## Learn more

- [DOC /snapmirror/relationships/{relationship.uuid}/transfers](#)

## Parameters

Name	Type	In	Required	Description
relationship.uuid	string	path	True	SnapMirror relationship UUID
return_records	boolean	query	False	<p>The default is false. If set to true, the records are returned.</p> <ul style="list-style-type: none"><li>• Default value:</li></ul>

Name	Type	In	Required	Description
return_timeout	integer	query	False	<p>The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202.</p> <ul style="list-style-type: none"> <li>• Default value: 1</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul>

## Request Body

Name	Type	Description
bytes_transferred	integer	Bytes transferred
checkpoint_size	integer	Amount of data transferred in bytes as recorded in the restart checkpoint.
end_time	string	End time of the transfer.
error_info	error_info	Error information for the transfer.

Name	Type	Description
files	array[ <a href="#">files</a> ]	This is supported for transfer of restore relationship only. This specifies the list of files or LUNs to be restored. Can contain up to eight files or LUNs.
last_updated_time	string	Last updated time of the bytes transferred in an active transfer.
network_compression_ratio	string	Specifies the compression ratio achieved for the data sent over the wire with network compression enabled. This property is only valid for active transfers.
on_demand_attrs	string	Specifies whether or not an on-demand restore is being carried out. This is only supported for the transfer of restore relationships for entire volumes from the object store. A value for <code>read_write_with_user_data_pull</code> should be provided to start an on-demand restore. A file restore from the object store does not support this option.
options	array[ <a href="#">options</a> ]	Options for snapmirror transfer.
relationship	<a href="#">relationship</a>	
snapshot	string	Name of snapshot being transferred.
source_snapshot	string	Specifies the snapshot on the source to be transferred to the destination.
storage_efficiency_enabled	boolean	This is supported for transfer of restore relationship only. Set this property to "false" to turn off storage efficiency for data transferred over the wire and written to the destination.

Name	Type	Description
throttle	integer	Throttle, in KBs per second. This "throttle" overrides the "throttle" set on the SnapMirror relationship or SnapMirror relationship's policy. If neither of these are set, defaults to 0, which is interpreted as unlimited.
total_duration	string	Elapsed transfer time.
uuid	string	Unique identifier of the SnapMirror transfer.

## Example request

```
{  
    "bytes_transferred": 0,  
    "checkpoint_size": 0,  
    "end_time": "2020-12-02 21:36:19 -0500",  
    "error_info": {  
        "code": 6620046,  
        "message": "Transfer aborted"  
    },  
    "files": [  
        {  
            "destination_path": "/dirb/file2",  
            "source_path": "/dira/file1"  
        }  
    ],  
    "last_updated_time": "2023-09-15 19:58:39 -0400",  
    "network_compression_ratio": 61,  
    "on_demand_attrs": "read_write_with_user_data_pull",  
    "options": [  
        {}  
    ],  
    "relationship": {  
        "destination": {  
            "cluster": {  
                "name": "cluster1",  
                "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
            },  
            "consistency_group_volumes": [  
                {  
                    "name": "volume1",  
                    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"  
                }  
            ],  
            "ipspace": "Default",  
            "luns": {  
                "name": "/vol/volume1/lun1",  
                "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
            },  
            "path": "svm1:volume1",  
            "svm": {  
                "name": "svm1",  
                "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"  
            }  
        },  
        "uuid": "d2d7ceea-ab52-11e8-855e-00505682a4c7"  
    }  
}
```

```

} ,
"snapshot": "string",
"source_snapshot": "string",
"throttle": 0,
"total_duration": "PT28M41S",
"uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}

```

## Response

Status: 201, Created

## Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

## Error

Status: Default

## ONTAP Error Response codes

Error code	Description
13303845	Restore operation failed
13303812	Initialize operation failed
13303844	Update operation failed
13303846	Empty source path file list
13303847	Invalid property
13304040	Throttle not supported for update of Synchronous SnapMirror relationships
6620237	SnapMirror relationship database write failed
6620238	SnapMirror relationship database read failed

13304134	The overwrite property specified does not match the value specified in the previous request.	
----------	--	--

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

error\_info

Error information for the transfer.

Name	Type	Description
code	integer	Error code
message	string	Error message

files

Specifies a file or LUN consisting of a source\_path and an optional destination\_path. If not specified, the destination\_path is the same as the source\_path. File restore is not supported if the source\_path or destination\_path contains commas in its directory or file name.

Name	Type	Description
destination_path	string	
source_path	string	

options

cluster

Name	Type	Description
name	string	
uuid	string	

consistency\_group\_volumes

Name	Type	Description
name	string	The name of the volume.

Name	Type	Description
uuid	string	<p>Unique identifier of the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move.</p> <ul style="list-style-type: none"> <li>example: 028baa66-41bd-11e9-81d5-00a0986138f7</li> <li>x-nitap-createOnly: true</li> <li>Introduced in: 9.8</li> <li>x-nullable: true</li> </ul>

## luns

Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.

Name	Type	Description
name	string	<p>The name of a LUN. A LUN is located within a volume. Optionally, it can be located within a qtree in a volume.</p> <p>LUN names are paths of the form "/vol/&lt;volume&gt;[/&lt;qtree&gt;]/&lt;name&gt;" where the qtree name is optional.</p>
uuid	string	The unique identifier of the LUN.

## svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

## snapmirror\_endpoint

Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the

endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
cluster	cluster	
consistency_group_volumes	array[consistency_group_volumes]	This mandatory property specifies the list of FlexVol volumes or LUNs of a Consistency Group.
ipspace	string	Optional property to specify the IPSpace of the SVM.
luns	luns	Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.
path	string	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: ONTAP Consistency Group - svm1:/cg/cg_name ONTAP S3 - svm1:/bucket/bucket1 NON-ONTAP - objstore1:/objstore <ul style="list-style-type: none"> <li>example: svm1:volume1</li> <li>Introduced in: 9.6</li> <li>x-nullable: true</li> </ul>
svm	svm	SVM, applies only to SVM-scoped objects.

relationship

Name	Type	Description
destination	<a href="#">snapmirror_endpoint</a>	<p>Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.6</li> </ul>
restore	boolean	Is the relationship for restore?
uuid	string	Unique identifier of the SnapMirror relationship.

### `snapmirror_transfer`

SnapMirror transfer information

Name	Type	Description
bytes_transferred	integer	Bytes transferred
checkpoint_size	integer	Amount of data transferred in bytes as recorded in the restart checkpoint.
end_time	string	End time of the transfer.
error_info	<a href="#">error_info</a>	Error information for the transfer.

Name	Type	Description
files	array[ <a href="#">files</a> ]	This is supported for transfer of restore relationship only. This specifies the list of files or LUNs to be restored. Can contain up to eight files or LUNs.
last_updated_time	string	Last updated time of the bytes transferred in an active transfer.
network_compression_ratio	string	Specifies the compression ratio achieved for the data sent over the wire with network compression enabled. This property is only valid for active transfers.
on_demandAttrs	string	Specifies whether or not an on-demand restore is being carried out. This is only supported for the transfer of restore relationships for entire volumes from the object store. A value for <code>read_write_with_user_data_pull</code> should be provided to start an on-demand restore. A file restore from the object store does not support this option.
options	array[ <a href="#">options</a> ]	Options for snapmirror transfer.
relationship	<a href="#">relationship</a>	
snapshot	string	Name of snapshot being transferred.
source_snapshot	string	Specifies the snapshot on the source to be transferred to the destination.
storage_efficiency_enabled	boolean	This is supported for transfer of restore relationship only. Set this property to "false" to turn off storage efficiency for data transferred over the wire and written to the destination.

Name	Type	Description
throttle	integer	Throttle, in KBs per second. This "throttle" overrides the "throttle" set on the SnapMirror relationship or SnapMirror relationship's policy. If neither of these are set, defaults to 0, which is interpreted as unlimited.
total_duration	string	Elapsed transfer time.
uuid	string	Unique identifier of the SnapMirror transfer.

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### returned\_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

## Retrieve attributes of an ongoing SnapMirror transfer

GET /snapmirror/relationships/{relationship.uuid}/transfers/{uuid}

**Introduced In:** 9.6

Retrieves the attributes of a specific ongoing SnapMirror transfer.

### Related ONTAP commands

- snapmirror show

## Example

```
GET "/api/snapmirror/relationships/293baa53-e63d-11e8-bff1-005056a793dd/transfers/293baa53-e63d-11e8-bff1-005056a793dd"
```

## Learn more

- [DOC /snapmirror/relationships/{relationship.uuid}/transfers](#)

## Parameters

Name	Type	In	Required	Description
relationship.uuid	string	path	True	SnapMirror relationship UUID
uuid	string	path	True	SnapMirror transfer UUID
fields	array[string]	query	False	Specify the fields to return.

## Response

```
Status: 200, Ok
```

Name	Type	Description
_links	<a href="#">_links</a>	
bytes_transferred	integer	Bytes transferred
checkpoint_size	integer	Amount of data transferred in bytes as recorded in the restart checkpoint.
end_time	string	End time of the transfer.
error_info	<a href="#">error_info</a>	Error information for the transfer.
last_updated_time	string	Last updated time of the bytes transferred in an active transfer.

Name	Type	Description
network_compression_ratio	string	Specifies the compression ratio achieved for the data sent over the wire with network compression enabled. This property is only valid for active transfers.
on_demand_attrs	string	Specifies whether or not an on-demand restore is being carried out. This is only supported for the transfer of restore relationships for entire volumes from the object store. A value for <code>read_write_with_user_data_pull</code> should be provided to start an on-demand restore. A file restore from the object store does not support this option.
relationship	relationship	
snapshot	string	Name of snapshot being transferred.
state	string	Status of the transfer. Set PATCH state to "aborted" to abort the transfer. Set PATCH state to "hard_aborted" to abort the transfer and discard the restart checkpoint. To find "queued" transfers refer to relationships GET API.
throttle	integer	Throttle, in KBs per second. This "throttle" overrides the "throttle" set on the SnapMirror relationship or SnapMirror relationship's policy. If neither of these are set, defaults to 0, which is interpreted as unlimited.
total_duration	string	Elapsed transfer time.
uuid	string	Unique identifier of the SnapMirror transfer.

## Example response

```
{  
  "_links": {  
    "self": {  
      "href": "/api/resourcelink"  
    }  
  },  
  "bytes_transferred": 0,  
  "checkpoint_size": 0,  
  "end_time": "2020-12-02 21:36:19 -0500",  
  "error_info": {  
    "code": 6620046,  
    "message": "Transfer aborted"  
  },  
  "last_updated_time": "2023-09-15 19:58:39 -0400",  
  "network_compression_ratio": 61,  
  "on_demand_attrs": "read_write_with_user_data_pull",  
  "relationship": {  
    "destination": {  
      "cluster": {  
        "_links": {  
          "self": {  
            "href": "/api/resourcelink"  
          }  
        },  
        "name": "cluster1",  
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
      },  
      "consistency_group_volumes": [  
        {  
          "name": "volume1"  
        }  
      ],  
      "luns": {  
        "_links": {  
          "self": {  
            "href": "/api/resourcelink"  
          }  
        },  
        "name": "/vol/volume1/lun1",  
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
      },  
      "path": "svm1:volume1",  
      "svm": {  
        "_links": {  
          "self": {  
            "href": "/api/resourcelink"  
          }  
        },  
        "name": "svm1",  
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
      }  
    }  
  }  
}
```

```

        "self": {
            "href": "/api/resourcelink"
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    },
    "uuid": "d2d7ceea-ab52-11e8-855e-00505682a4c7"
},
"snapshot": "string",
"state": "string",
"storage_efficiency_enabled": true,
"throttle": 0,
"total_duration": "PT28M41S",
"uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}

```

## Error

Status: Default, Error

Name	Type	Description
error	returned_error	

## Example error

```

{
    "error": {
        "arguments": [
            {
                "code": "string",
                "message": "string"
            }
        ],
        "code": "4",
        "message": "entry doesn't exist",
        "target": "uuid"
    }
}

```

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

Name	Type	Description
self	href	

error\_info

Error information for the transfer.

Name	Type	Description
code	integer	Error code
message	string	Error message

files

Specifies a file or LUN consisting of a source\_path and an optional destination\_path. If not specified, the destination\_path is the same as the source\_path. File restore is not supported if the source\_path or destination\_path contains commas in its directory or file name.

Name	Type	Description
destination_path	string	
source_path	string	

options

cluster

Name	Type	Description
_links	_links	
name	string	
uuid	string	

consistency\_group\_volumes

Name	Type	Description
name	string	The name of the volume.

## luns

Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	<p>The name of a LUN. A LUN is located within a volume. Optionally, it can be located within a qtree in a volume.</p> <p>LUN names are paths of the form "/vol/&lt;volume&gt;[/&lt;qtree&gt;]&lt;name&gt;" where the qtree name is optional.</p>
uuid	string	The unique identifier of the LUN.

## svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

## snapmirror\_endpoint

Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
cluster	<a href="#">cluster</a>	

Name	Type	Description
consistency_group_volumes	array[ <a href="#">consistency_group_volume</a> s]	This mandatory property specifies the list of FlexVol volumes or LUNs of a Consistency Group.
luns	<a href="#">luns</a>	Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.
path	string	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: ONTAP Consistency Group - svm1:/cg/cg_name ONTAP S3 - svm1:/bucket/bucket1 NON-ONTAP - objstore1:/objstore <ul style="list-style-type: none"> <li>example: svm1:volume1</li> <li>Introduced in: 9.6</li> <li>x-nullable: true</li> </ul>
svm	<a href="#">svm</a>	SVM, applies only to SVM-scoped objects.

relationship

Name	Type	Description
destination	<a href="#">snapmirror_endpoint</a>	<p>Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.6</li> </ul>
restore	boolean	Is the relationship for restore?
uuid	string	Unique identifier of the SnapMirror relationship.

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### returned\_error

Name	Type	Description
arguments	<a href="#">array[error_arguments]</a>	Message arguments

Name	Type	Description
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

## Cancel an ongoing SnapMirror transfer

PATCH /snapmirror/relationships/{relationship.uuid}/transfers/{uuid}

**Introduced In:** 9.6

Aborts an ongoing SnapMirror transfer. This operation is applicable on asynchronous SnapMirror relationships.

### Related ONTAP commands

- snapmirror abort

### Example

```
PATCH "/api/snapmirror/relationships/293baa53-e63d-11e8-bff1-005056a793dd/transfers/293baa53-e63d-11e8-bff1-005056a793dd"
'{"state":"aborted"}'
```

### Learn more

- [DOC /snapmirror/relationships/{relationship.uuid}/transfers](#)

### Parameters

Name	Type	In	Required	Description
relationship.uuid	string	path	True	SnapMirror relationship UUID
uuid	string	path	True	SnapMirror transfer UUID

### Request Body

Name	Type	Description
bytes_transferred	integer	Bytes transferred

Name	Type	Description
checkpoint_size	integer	Amount of data transferred in bytes as recorded in the restart checkpoint.
end_time	string	End time of the transfer.
error_info	<a href="#">error_info</a>	Error information for the transfer.
last_updated_time	string	Last updated time of the bytes transferred in an active transfer.
network_compression_ratio	string	Specifies the compression ratio achieved for the data sent over the wire with network compression enabled. This property is only valid for active transfers.
on_demand_attrs	string	Specifies whether or not an on-demand restore is being carried out. This is only supported for the transfer of restore relationships for entire volumes from the object store. A value for <code>read_write_with_user_data_pull</code> should be provided to start an on-demand restore. A file restore from the object store does not support this option.
relationship	<a href="#">relationship</a>	
snapshot	string	Name of snapshot being transferred.
state	string	Status of the transfer. Set PATCH state to "aborted" to abort the transfer. Set PATCH state to "hard_aborted" to abort the transfer and discard the restart checkpoint. To find "queued" transfers refer to relationships GET API.
total_duration	string	Elapsed transfer time.
uuid	string	Unique identifier of the SnapMirror transfer.

## Example request

```
{  
    "bytes_transferred": 0,  
    "checkpoint_size": 0,  
    "end_time": "2020-12-02 21:36:19 -0500",  
    "error_info": {  
        "code": 6620046,  
        "message": "Transfer aborted"  
    },  
    "last_updated_time": "2023-09-15 19:58:39 -0400",  
    "network_compression_ratio": 61,  
    "on_demand_attrs": "read_write_with_user_data_pull",  
    "relationship": {  
        "destination": {  
            "cluster": {  
                "name": "cluster1",  
                "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
            },  
            "luns": {  
                "name": "/vol/volume1/lun1",  
                "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"  
            },  
            "path": "svm1:volume1",  
            "svm": {  
                "name": "svm1",  
                "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"  
            }  
        },  
        "uuid": "d2d7ceea-ab52-11e8-855e-00505682a4c7"  
    },  
    "snapshot": "string",  
    "state": "string",  
    "storage_efficiency_enabled": true,  
    "total_duration": "PT28M41S",  
    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"  
}
```

## Response

```
Status: 200, Ok
```

## Error

Status: Default

### ONTAP Error Response codes

Error code	Description
13303848	Abort of sync SnapMirror is not allowed
13303849	SnapMirror transfer state is invalid

### Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

error\_info

Error information for the transfer.

Name	Type	Description
code	integer	Error code
message	string	Error message

files

Specifies a file or LUN consisting of a source\_path and an optional destination\_path. If not specified, the destination\_path is the same as the source\_path. File restore is not supported if the source\_path or destination\_path contains commas in its directory or file name.

Name	Type	Description
destination_path	string	
source_path	string	

options

cluster

Name	Type	Description
name	string	
uuid	string	

consistency\_group\_volumes

Name	Type	Description
name	string	The name of the volume.

luns

Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.

Name	Type	Description
name	string	<p>The name of a LUN. A LUN is located within a volume. Optionally, it can be located within a qtree in a volume.</p> <p>LUN names are paths of the form "/vol/&lt;volume&gt;[/&lt;qtree&gt;]/&lt;name&gt;" where the qtree name is optional.</p>
uuid	string	The unique identifier of the LUN.

## svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

## snapmirror\_endpoint

Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.

Name	Type	Description
cluster	cluster	
luns	luns	Optional property for a SnapMirror endpoint. Specifies the list of source LUNs and optionally list of destination LUNs during SnapMirror Consistency Group LUN restore operation.

Name	Type	Description
path	string	<p>ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: ONTAP Consistency Group - svm1:/cg/cg_name</p> <p>ONTAP S3 - svm1:/bucket/bucket1 NON-ONTAP - objstore1:/objstore</p> <ul style="list-style-type: none"> <li>• example: svm1:volume1</li> <li>• Introduced in: 9.6</li> <li>• x-nullable: true</li> </ul>
svm	svm	SVM, applies only to SVM-scoped objects.

#### relationship

Name	Type	Description
destination	<a href="#">snapmirror_endpoint</a>	<p>Endpoint of a SnapMirror relationship. For a GET request, the property "cluster" is populated when the endpoint is on a remote cluster. A POST request to create the destination SVM endpoint or to establish an SVM DR relationship must have the property "cluster" populated with the remote cluster details. A POST request to create the destination FlexVol volume, FlexGroup volume, Consistency Group, ONTAP S3 bucket and NON-ONTAP object-store endpoints can optionally specify the "cluster" property when the source SVM and the destination SVM are peered. A POST request to establish a SnapMirror relationship between the source endpoint and destination endpoint and when the source SVM and the destination SVM are not peered, must specify the "cluster" property for the remote endpoint.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.6</li> </ul>
restore	boolean	Is the relationship for restore?

Name	Type	Description
uuid	string	Unique identifier of the SnapMirror relationship.

## snapmirror\_transfer

SnapMirror transfer information

Name	Type	Description
bytes_transferred	integer	Bytes transferred
checkpoint_size	integer	Amount of data transferred in bytes as recorded in the restart checkpoint.
end_time	string	End time of the transfer.
error_info	<a href="#">error_info</a>	Error information for the transfer.
last_updated_time	string	Last updated time of the bytes transferred in an active transfer.
network_compression_ratio	string	Specifies the compression ratio achieved for the data sent over the wire with network compression enabled. This property is only valid for active transfers.
on_demand_attrs	string	Specifies whether or not an on-demand restore is being carried out. This is only supported for the transfer of restore relationships for entire volumes from the object store. A value for <code>read_write_with_user_data_pull</code> should be provided to start an on-demand restore. A file restore from the object store does not support this option.
relationship	<a href="#">relationship</a>	
snapshot	string	Name of snapshot being transferred.

Name	Type	Description
state	string	Status of the transfer. Set PATCH state to "aborted" to abort the transfer. Set PATCH state to "hard_aborted" to abort the transfer and discard the restart checkpoint. To find "queued" transfers refer to relationships GET API.
total_duration	string	Elapsed transfer time.
uuid	string	Unique identifier of the SnapMirror transfer.

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### returned\_error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

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