NetApp

Manage SnapMirror relationships

ONTAP 9.6 REST API reference

NetApp
April 02, 2024

Table of Contents

Manage SnapMirror relationships

SnapMirror relationships endpoint overview

Overview

This API manages asynchronous extended data protection (XDP) relationships for FlexVols, FlexGroups, or SVMs. It is also used to create a synchronous relationship between FlexVol volumes, which provides zero RPO data protection. It supports the SnapMirror policy types "mirror-vault", "sync-mirror", and "strict-sync-mirror". You can create a relationship between the source and destination which can be used to transfer APIs to perform SnapMirror "restore" operations.

To create FlexVol or FlexGroup 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. 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. 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`

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`

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"
```

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.
healthy	boolean	query	False	Filter by healthy
source.svm.uuid	string	query	False	Filter by source.svm.uuid
source.svm.name	string	query	False	Filter by source.svm.name
source.path	string	query	False	Filter by source.path
lag_time	string	query	False	Filter by lag_time
exported_snapshot	string	query	False	Filter by exported_snapshot
uuid	string	query	False	Filter by uuid
restore	boolean	query	False	Filter by restore
destination.svm.uuid	string	query	False	Filter by destination.svm.uuid
destination.svm.name	string	query	False	Filter by destination.svm.name
destination.path	string	query	False	Filter by destination.path
transfer.bytes_transferred	integer	query	False	Filter by transfer.bytes_transferred
transfer.uuid	string	query	False	Filter by transfer.uuid

Name	Type	In	Required	Description
transfer.state	string	query	False	Filter by transfer.state
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
state	string	query	False	Filter by state
unhealthy_reason.code	integer	query	False	Filter by unhealthy_reason.code
unhealthy_reason.message	string	query	False	Filter by unhealthy_reason.message
unhealthy_reason.parameters	string	query	False	Filter by unhealthy_reason.parameters
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.

Name	Type	In	Required	Description
return_timeout	integer	query	False	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.
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
num_records	integer	Number of records
records	array[snapmirror_relationship]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": {
    "destination": {
      "path": "svm1:volume1",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      }
    },
    "exported_snapshot": "string",
    "lag_time": "PT8H35M42S",
    "policy": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "MirrorAndVault",
      "type": "async",
      "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
    },
    "source": {
      "path": "svm1:volume1",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
```

```
        }
      },
      "state": "broken_off",
      "transfer": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "state": "aborted",
        "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
      },
      "unhealthy_reason": [
        {
          "code": "6621444",
          "message": "Failed to complete update operation on one or more
  item relationships.",
          "parameters": []
        },
        {
          "code": "6621445",
          "message": "Group Update failed",
          "parameters": []
        }
      ],
      "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	error	

Example error

```json
{
  "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	

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

snapmirror_endpoint

Endpoint of a SnapMirror relationship.

Name	Type	Description
path	string	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: • example: svm1:volume1 • readCreate: 1
svm	svm	

policy

Basic policy information of the relationship.

Name	Type	Description
_links	_links	
name	string	
type	string	
uuid	string	

transfer

Basic information on the current transfer.

Name	Type	Description
_links	_links	
bytes_transferred	integer	Bytes transferred.
state	string	
uuid	string	

snapmirror_error

SnapMirror error

Name	Type	Description
code	integer	Error code
message	string	Error message
parameters	array[string]	Parameters for the error message

snapmirror_relationship

SnapMirror relationship information

Name	Type	Description
destination	snapmirror_endpoint	Endpoint of a SnapMirror relationship.
exported_snapshot	string	Snapshot copy exported to clients on destination.
healthy	boolean	Is the relationship healthy?
lag_time	string	Time since the exported Snapshot copy was created.

Name	Type	Description
policy	policy	Basic policy information of the relationship.
preserve	boolean	Set to true on resync to preserve Snapshot copies on the destination that are newer than the latest common Snapshot copy. This field is applicable only for relationships with FlexGroup or FlexVol endpoints and when the PATCH state is "snapmirrored".
quick_resync	boolean	Set to true to reduce resync time by not preserving storage efficiency. This field is applicable only for relationships with FlexVol endpoints and when the PATCH state is "snapmirrored".
recover_after_break	boolean	Set to true to recover from a failed SnapMirror break operation on a FlexGroup relationship. This restores all destination FlexGroup constituents to the latest Snapshot copy, and any writes to the read-write constituents are lost. This field is applicable only for SnapMirror relationships with FlexGroup endpoints and when the PATCH state is "broken_off".
restore	boolean	Set to true to create a relationship for restore. To trigger restore-transfer, use transfers POST on the restore relationship.
restore_to_snapshot	string	Specifies the Snapshot copy to restore to on the destination after a break operation. This field is applicable only for SnapMirror relationships with FlexVol endpoints and when the PATCH state is "broken_off".
source	snapmirror_endpoint	Endpoint of a SnapMirror relationship.

Name	Type	Description
state	string	State of the relationship. To initialize the relationship, PATCH the state to "snapmirrored". To break the relationship, PATCH the state to "broken_off". To resync the broken relationship, PATCH the state to "snapmirrored" for relationships with async policy type or "in_sync" for relationships with sync policy type. To pause the relationship, suspending further transfers, PATCH the state to "paused". To resume transfers for a paused relationship, PATCH the state to "snapmirrored" or "in_sync". The entries "in_sync", "out_of_sync", and "synchronizing" are only applicable to relationships of the sync policy type. 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" fields using GET to determine if the transition is successful.
transfer	transfer	Basic information on the current transfer.
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	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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`

Creates a SnapMirror relationship. This API must be executed on the cluster containing the destination endpoint.

Required properties

* `source.path` - Path to the source endpoint of the SnapMirror relationship.
* `destination.path` - Path to the destination endpoint of the SnapMirror relationship.

Recommended optional properties

* `policy.name` or `policy.uuid` - Policy governing the SnapMirror relationship.

Default property values

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

* `policy.name` - *MirrorAndVault*
* `restore` - *false*

Related ONTAP commands

* `snapmirror create`

Examples

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

Creating a FlexVol SnapMirror relationship of type XDP.

```
  POST "/api/snapmirror/relationships/" '{"source": {"path":
"test_vserv_src:src_vol_rw"}, "destination": { "path":
"test_vserv_dst:dst_vol_rw"}}'
```

Creating a FlexGroup SnapMirror relationship of type XDP.

```
  POST "/api/snapmirror/relationships/" '{"source": {"path":
"test_vserv_src:source_flexgrp"}, "destination": { "path":
"test_vserv_dst:dest_flexgrp"}}'
```

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":
"test_vserv_src:src_vol_rw"}, "destination": { "path":
"test_vserv_dst:dst_vol_rw"}, "restore": "true"}'
```

Learn more

* DOC /snapmirror/relationships

Parameters
```

| Name | Type | In | Required | Description |
|---|---|---|---|---|
| return_timeout | integer | query | False | 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. |

## Request Body

| Name | Type | Description |
|---|---|---|
| destination | snapmirror_endpoint | Endpoint of a SnapMirror relationship. |
| exported_snapshot | string | Snapshot copy exported to clients on destination. |
| healthy | boolean | Is the relationship healthy? |
| lag_time | string | Time since the exported Snapshot copy was created. |
| policy | policy | Basic policy information of the relationship. |

| Name | Type | Description |
|------|------|-------------|
| preserve | boolean | Set to true on resync to preserve Snapshot copies on the destination that are newer than the latest common Snapshot copy. This field is applicable only for relationships with FlexGroup or FlexVol endpoints and when the PATCH state is "snapmirrored". |
| quick_resync | boolean | Set to true to reduce resync time by not preserving storage efficiency. This field is applicable only for relationships with FlexVol endpoints and when the PATCH state is "snapmirrored". |
| recover_after_break | boolean | Set to true to recover from a failed SnapMirror break operation on a FlexGroup relationship. This restores all destination FlexGroup constituents to the latest Snapshot copy, and any writes to the read-write constituents are lost. This field is applicable only for SnapMirror relationships with FlexGroup endpoints and when the PATCH state is "broken_off". |
| restore | boolean | Set to true to create a relationship for restore. To trigger restore-transfer, use transfers POST on the restore relationship. |
| restore_to_snapshot | string | Specifies the Snapshot copy to restore to on the destination after a break operation. This field is applicable only for SnapMirror relationships with FlexVol endpoints and when the PATCH state is "broken_off". |
| source | snapmirror_endpoint | Endpoint of a SnapMirror relationship. |

| Name | Type | Description |
|------|------|-------------|
| state | string | State of the relationship. To initialize the relationship, PATCH the state to "snapmirrored". To break the relationship, PATCH the state to "broken_off". To resync the broken relationship, PATCH the state to "snapmirrored" for relationships with async policy type or "in_sync" for relationships with sync policy type. To pause the relationship, suspending further transfers, PATCH the state to "paused". To resume transfers for a paused relationship, PATCH the state to "snapmirrored" or "in_sync". The entries "in_sync", "out_of_sync", and "synchronizing" are only applicable to relationships of the sync policy type. 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" fields using GET to determine if the transition is successful. |
| transfer | transfer | Basic information on the current transfer. |
| 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 | |

**Example request**

```json
{
  "destination": {
    "path": "svm1:volume1",
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  },
  "exported_snapshot": "string",
  "lag_time": "PT8H35M42S",
  "policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "MirrorAndVault",
    "type": "async",
    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
  },
  "source": {
    "path": "svm1:volume1",
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  },
  "state": "broken_off",
  "transfer": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
```

```
      "state": "aborted",
      "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
    },
    "unhealthy_reason": [
      {
        "code": "6621444",
        "message": "Failed to complete update operation on one or more
item relationships.",
        "parameters": []
      },
      {
        "code": "6621445",
        "message": "Group Update failed",
        "parameters": []
      }
    ],
    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
  }
```

Response

```
Status: 202, Accepted
```

Name	Type	Description
job	job_link	

Example response

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

Error

```
Status: Default
```

ONTAP Error Response codes

Error code	Description
13303841	Cross platform relationships are not allowed
13303821	Invalid SnapMirror policy UUID
13303819	Could not retrieve SnapMirror policy information
13303852	destination.path provided does not contain \":\"
13303853	Restore relationships are not supported for SVM-DR endpoints

Name	Type	Description
error	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	

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

snapmirror_endpoint

Endpoint of a SnapMirror relationship.

Name	Type	Description
path	string	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: • example: svm1:volume1 • readCreate: 1
svm	svm	

policy

Basic policy information of the relationship.

Name	Type	Description
_links	_links	
name	string	
type	string	
uuid	string	

transfer

Basic information on the current transfer.

Name	Type	Description
_links	_links	
bytes_transferred	integer	Bytes transferred.
state	string	
uuid	string	

snapmirror_error

SnapMirror error

Name	Type	Description
code	integer	Error code
message	string	Error message
parameters	array[string]	Parameters for the error message

snapmirror_relationship

SnapMirror relationship information

Name	Type	Description
destination	snapmirror_endpoint	Endpoint of a SnapMirror relationship.
exported_snapshot	string	Snapshot copy exported to clients on destination.
healthy	boolean	Is the relationship healthy?
lag_time	string	Time since the exported Snapshot copy was created.
policy	policy	Basic policy information of the relationship.

Name	Type	Description
preserve	boolean	Set to true on resync to preserve Snapshot copies on the destination that are newer than the latest common Snapshot copy. This field is applicable only for relationships with FlexGroup or FlexVol endpoints and when the PATCH state is "snapmirrored".
quick_resync	boolean	Set to true to reduce resync time by not preserving storage efficiency. This field is applicable only for relationships with FlexVol endpoints and when the PATCH state is "snapmirrored".
recover_after_break	boolean	Set to true to recover from a failed SnapMirror break operation on a FlexGroup relationship. This restores all destination FlexGroup constituents to the latest Snapshot copy, and any writes to the read-write constituents are lost. This field is applicable only for SnapMirror relationships with FlexGroup endpoints and when the PATCH state is "broken_off".
restore	boolean	Set to true to create a relationship for restore. To trigger restore-transfer, use transfers POST on the restore relationship.
restore_to_snapshot	string	Specifies the Snapshot copy to restore to on the destination after a break operation. This field is applicable only for SnapMirror relationships with FlexVol endpoints and when the PATCH state is "broken_off".
source	snapmirror_endpoint	Endpoint of a SnapMirror relationship.

Name	Type	Description
state	string	State of the relationship. To initialize the relationship, PATCH the state to "snapmirrored". To break the relationship, PATCH the state to "broken_off". To resync the broken relationship, PATCH the state to "snapmirrored" for relationships with async policy type or "in_sync" for relationships with sync policy type. To pause the relationship, suspending further transfers, PATCH the state to "paused". To resume transfers for a paused relationship, PATCH the state to "snapmirrored" or "in_sync". The entries "in_sync", "out_of_sync", and "synchronizing" are only applicable to relationships of the sync policy type. 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" fields using GET to determine if the transition is successful.
transfer	transfer	Basic information on the current transfer.
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	

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

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}

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 Snapshot copies 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.

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 Snapshot copies between the source and destination.

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

Learn more

- DOC /snapmirror/relationships

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	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.

Name	Type	In	Required	Description
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.
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.
return_timeout	integer	query	False	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.

Response

```
Status: 202, Accepted
```

Name	Type	Description
job	job_link	

Example response

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

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

Name	Type	Description
error	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

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}

Retrieves a SnapMirror relationship.

Related ONTAP commands

- `snapmirror show`

- `snapmirror list-destinations`

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	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
destination	snapmirror_endpoint	Endpoint of a SnapMirror relationship.
exported_snapshot	string	Snapshot copy exported to clients on destination.
healthy	boolean	Is the relationship healthy?
lag_time	string	Time since the exported Snapshot copy was created.

Name	Type	Description
policy	policy	Basic policy information of the relationship.
preserve	boolean	Set to true on resync to preserve Snapshot copies on the destination that are newer than the latest common Snapshot copy. This field is applicable only for relationships with FlexGroup or FlexVol endpoints and when the PATCH state is "snapmirrored".
quick_resync	boolean	Set to true to reduce resync time by not preserving storage efficiency. This field is applicable only for relationships with FlexVol endpoints and when the PATCH state is "snapmirrored".
recover_after_break	boolean	Set to true to recover from a failed SnapMirror break operation on a FlexGroup relationship. This restores all destination FlexGroup constituents to the latest Snapshot copy, and any writes to the read-write constituents are lost. This field is applicable only for SnapMirror relationships with FlexGroup endpoints and when the PATCH state is "broken_off".
restore	boolean	Set to true to create a relationship for restore. To trigger restore-transfer, use transfers POST on the restore relationship.
restore_to_snapshot	string	Specifies the Snapshot copy to restore to on the destination after a break operation. This field is applicable only for SnapMirror relationships with FlexVol endpoints and when the PATCH state is "broken_off".
source	snapmirror_endpoint	Endpoint of a SnapMirror relationship.

Name	Type	Description
state	string	State of the relationship. To initialize the relationship, PATCH the state to "snapmirrored". To break the relationship, PATCH the state to "broken_off". To resync the broken relationship, PATCH the state to "snapmirrored" for relationships with async policy type or "in_sync" for relationships with sync policy type. To pause the relationship, suspending further transfers, PATCH the state to "paused". To resume transfers for a paused relationship, PATCH the state to "snapmirrored" or "in_sync". The entries "in_sync", "out_of_sync", and "synchronizing" are only applicable to relationships of the sync policy type. 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" fields using GET to determine if the transition is successful.
transfer	transfer	Basic information on the current transfer.
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	

Example response

```json
{
  "destination": {
    "path": "svm1:volume1",
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  },
  "exported_snapshot": "string",
  "lag_time": "PT8H35M42S",
  "policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "MirrorAndVault",
    "type": "async",
    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
  },
  "source": {
    "path": "svm1:volume1",
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  },
  "state": "broken_off",
  "transfer": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
```

```
      "state": "aborted",
      "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
    },
    "unhealthy_reason": [
      {
        "code": "6621444",
        "message": "Failed to complete update operation on one or more
  item relationships.",
        "parameters": []
      },
      {
        "code": "6621445",
        "message": "Group Update failed",
        "parameters": []
      }
    ],
    "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	error	

Example error

```json
{
  "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	

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

snapmirror_endpoint

Endpoint of a SnapMirror relationship.

Name	Type	Description
path	string	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: • example: svm1:volume1 • readCreate: 1
svm	svm	

policy

Basic policy information of the relationship.

Name	Type	Description
_links	_links	
name	string	
type	string	
uuid	string	

transfer

Basic information on the current transfer.

Name	Type	Description
_links	_links	
bytes_transferred	integer	Bytes transferred.
state	string	
uuid	string	

snapmirror_error

SnapMirror error

Name	Type	Description
code	integer	Error code
message	string	Error message
parameters	array[string]	Parameters for the error message

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

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}

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.

Related ONTAP commands

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

Examples

The following examples show how to perform the SnapMirror "resync", "initialize", "resume", "quiesce", and "break" operations.

Performing a SnapMirror "resync"

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

Performing a SnapMirror "initialize"

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

Performing a SnapMirror "resume"

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

Performing a SnapMirror "quiesce"

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

Performing a SnapMirror "break"

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

Updating an associated SnapMirror policy

```
  PATCH "/api/snapmirror/relationships/9e922e65-1818-11e9-8b22-
005056bbee73/" '{"policy": { "name" : "MirrorAndVaultDiscardNetwork"}}'
```

Learn more

- DOC /snapmirror/relationships

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Relationship UUID

Request Body

Name	Type	Description
destination	snapmirror_endpoint	Endpoint of a SnapMirror relationship.
exported_snapshot	string	Snapshot copy exported to clients on destination.
healthy	boolean	Is the relationship healthy?
lag_time	string	Time since the exported Snapshot copy was created.
policy	policy	Basic policy information of the relationship.
preserve	boolean	Set to true on resync to preserve Snapshot copies on the destination that are newer than the latest common Snapshot copy. This field is applicable only for relationships with FlexGroup or FlexVol endpoints and when the PATCH state is "snapmirrored".

Name	Type	Description
quick_resync	boolean	Set to true to reduce resync time by not preserving storage efficiency. This field is applicable only for relationships with FlexVol endpoints and when the PATCH state is "snapmirrored".
recover_after_break	boolean	Set to true to recover from a failed SnapMirror break operation on a FlexGroup relationship. This restores all destination FlexGroup constituents to the latest Snapshot copy, and any writes to the read-write constituents are lost. This field is applicable only for SnapMirror relationships with FlexGroup endpoints and when the PATCH state is "broken_off".
restore	boolean	Set to true to create a relationship for restore. To trigger restore-transfer, use transfers POST on the restore relationship.
restore_to_snapshot	string	Specifies the Snapshot copy to restore to on the destination after a break operation. This field is applicable only for SnapMirror relationships with FlexVol endpoints and when the PATCH state is "broken_off".
source	snapmirror_endpoint	Endpoint of a SnapMirror relationship.

Name	Type	Description
state	string	State of the relationship. To initialize the relationship, PATCH the state to "snapmirrored". To break the relationship, PATCH the state to "broken_off". To resync the broken relationship, PATCH the state to "snapmirrored" for relationships with async policy type or "in_sync" for relationships with sync policy type. To pause the relationship, suspending further transfers, PATCH the state to "paused". To resume transfers for a paused relationship, PATCH the state to "snapmirrored" or "in_sync". The entries "in_sync", "out_of_sync", and "synchronizing" are only applicable to relationships of the sync policy type. 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" fields using GET to determine if the transition is successful.
transfer	transfer	Basic information on the current transfer.
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	

Example request

```json
{
  "destination": {
    "path": "svm1:volume1",
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  },
  "exported_snapshot": "string",
  "lag_time": "PT8H35M42S",
  "policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "MirrorAndVault",
    "type": "async",
    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
  },
  "source": {
    "path": "svm1:volume1",
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    }
  },
  "state": "broken_off",
  "transfer": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
```

```
      "state": "aborted",
      "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
    },
    "unhealthy_reason": [
      {
        "code": "6621444",
        "message": "Failed to complete update operation on one or more
item relationships.",
        "parameters": []
      },
      {
        "code": "6621445",
        "message": "Group Update failed",
        "parameters": []
      }
    ],
    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
  }
```

Response

```
Status: 202, Accepted
```

Name	Type	Description
job	job_link	

Example response

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

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
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

Error code	Description
13303810	Transition to snapmirrored state failed
13303811	Transition from paused state failed
13303820	SnapMirror policy was successfully updated, state transition failed

Name	Type	Description
error	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	

svm

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

snapmirror_endpoint

Endpoint of a SnapMirror relationship.

Name	Type	Description
path	string	ONTAP FlexVol/FlexGroup - svm1:volume1 ONTAP SVM - svm1: • example: svm1:volume1 • readCreate: 1
svm	svm	

policy

Basic policy information of the relationship.

Name	Type	Description
_links	_links	
name	string	
type	string	
uuid	string	

transfer

Basic information on the current transfer.

Name	Type	Description
_links	_links	
bytes_transferred	integer	Bytes transferred.
state	string	
uuid	string	

snapmirror_error

SnapMirror error

Name	Type	Description
code	integer	Error code
message	string	Error message
parameters	array[string]	Parameters for the error message

snapmirror_relationship

SnapMirror relationship information

Name	Type	Description
destination	snapmirror_endpoint	Endpoint of a SnapMirror relationship.
exported_snapshot	string	Snapshot copy exported to clients on destination.
healthy	boolean	Is the relationship healthy?
lag_time	string	Time since the exported Snapshot copy was created.
policy	policy	Basic policy information of the relationship.

Name	Type	Description
preserve	boolean	Set to true on resync to preserve Snapshot copies on the destination that are newer than the latest common Snapshot copy. This field is applicable only for relationships with FlexGroup or FlexVol endpoints and when the PATCH state is "snapmirrored".
quick_resync	boolean	Set to true to reduce resync time by not preserving storage efficiency. This field is applicable only for relationships with FlexVol endpoints and when the PATCH state is "snapmirrored".
recover_after_break	boolean	Set to true to recover from a failed SnapMirror break operation on a FlexGroup relationship. This restores all destination FlexGroup constituents to the latest Snapshot copy, and any writes to the read-write constituents are lost. This field is applicable only for SnapMirror relationships with FlexGroup endpoints and when the PATCH state is "broken_off".
restore	boolean	Set to true to create a relationship for restore. To trigger restore-transfer, use transfers POST on the restore relationship.
restore_to_snapshot	string	Specifies the Snapshot copy to restore to on the destination after a break operation. This field is applicable only for SnapMirror relationships with FlexVol endpoints and when the PATCH state is "broken_off".
source	snapmirror_endpoint	Endpoint of a SnapMirror relationship.

Name	Type	Description
state	string	State of the relationship. To initialize the relationship, PATCH the state to "snapmirrored". To break the relationship, PATCH the state to "broken_off". To resync the broken relationship, PATCH the state to "snapmirrored" for relationships with async policy type or "in_sync" for relationships with sync policy type. To pause the relationship, suspending further transfers, PATCH the state to "paused". To resume transfers for a paused relationship, PATCH the state to "snapmirrored" or "in_sync". The entries "in_sync", "out_of_sync", and "synchronizing" are only applicable to relationships of the sync policy type. 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" fields using GET to determine if the transition is successful.
transfer	transfer	Basic information on the current transfer.
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	

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

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.