



Manage application consistency group Snapshot copies

REST API reference

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Manage application consistency group Snapshot copies

Application consistency-groups consistency_group.uuid snapshots endpoint overview

Overview

Consistency groups support Snapshot copy create, inventory, and restore. Snapshot copies can be created on a specified schedule or on-demand. On-demand Snapshot copies can have a type of application consistent or crash consistent. Crash consistent is the default. Scheduled Snapshot copies are always crash consistent. There is no functional difference in ONTAP between crash consistent or application consistent Snapshot copies.

The functionality provided by these APIs is not integrated with the host application. Snapshot copies have limited value without host coordination, so the use of the SnapCenter Backup Management suite is recommended to ensure correct interaction between host applications and ONTAP.

On-Demand Snapshot Copies

A manual Snapshot copy may be created on-demand for a parent consistency group and for any of the children consistency groups within it.

Scheduled and manual Snapshot copy creation operations are subject to a pre-defined seven second internal timeout. If the Snapshot copy creation operation does not complete within this time, it is aborted.

Individual volume Snapshot copies within a consistency group Snapshot copies can be accessed and used with native volume Snapshot copy operations.

When an individual volume Snapshot copy is deleted that is part of a consistency group Snapshot copy, then that consistency group Snapshot copy becomes invalid and which cannot be used for restoring the consistency group.

Restoring to a Previous Snapshot Copy

A Snapshot copy restores to a parent consistency group from an existing parent consistency group's Snapshot copy. A Snapshot copy restores to any of the children's consistency groups within it from an existing children's consistency group. Granular Snapshot copies are supported. This is performed by a PATCH operation on the specific consistency group for the restore. An example is shown in [PATCH /application/consistency-groups/{uuid}](#).

Any existing Snapshot copies that were created chronologically after the time of the Snapshot copy used in a successful restore operation is deleted, in compliance with existing ONTAP "future-snapshot" handling principles.

On failures during consistency group restores, any volumes that have been restored will remain so and will not be rolled back. The user must retry the failed restore operation until it is successful. The user can retry with consistency group restore or individual volume-granular restore.

Consistency group Snapshot APIs

The following APIs are used to perform operations related to consistency group Snapshot copies:

– GET /api/application/consistency-groups/snapshots

– POST /api/application/consistency-groups/snapshots

– GET /api/application/consistency-groups/snapshots/{uuid}

– DELETE /api/application/consistency-groups/snapshots/{uuid}

Examples

Required properties

- `consistency_group.uuid` - Existing consistency group UUID in which to create the Snapshot copy.

Retrieving the list of existing Snapshot copies for a consistency group

Retrieves the list of consistency group granular Snapshot copies for a specific consistency group.

```
curl -X GET 'https://<mgmt-ip>/api/application/consistency-  
groups/92c6c770-17a1-11eb-b141-005056acd498/snapshots'
```

Response:

```
{  
  "records": [  
    {  
      "uuid": "92c6c770-17a1-11eb-b141-005056acd498",  
      "name": "sa3s1",  
      "_links": {  
        "self": {  
          "href": "/api/application/consistency-groups/a8d0626a-17a0-11eb-  
b141-005056acd498/snapshots/92c6c770-17a1-11eb-b141-005056acd498"  
        }  
      }  
    },  
    {  
      "uuid": "c5a250ba-17a1-11eb-b141-005056acd498",  
      "name": "sa3s2",  
      "_links": {  
        "self": {  
          "href": "/api/application/consistency-groups/a8d0626a-17a0-11eb-  
b141-005056acd498/snapshots/c5a250ba-17a1-11eb-b141-005056acd498"  
        }  
      }  
    }  
  ],  
  "num_records": 2,  
  "_links": {  
    "self": {  
      "href": "/api/application/consistency-groups/a8d0626a-17a0-11eb-b141-  
005056acd498/snapshots"  
    }  
  }  
}
```

Retrieves details of a specific Snapshot copy for a consistency group

Retrieves details for a specific Snapshot copy in a consistency group.

```
curl -X GET 'https://<mgmt-ip>/api/application/consistency-  
groups/92c6c770-17a1-11eb-b141-005056acd498/snapshots/a175c021-4199-11ec-  
8674-005056accf3f'
```

Response:

```
{  
  "consistency_group": {  
    "uuid": "ddabc6a5-4196-11ec-8674-005056accf3f",  
    "name": "CG_1",  
    "_links": {  
      "self": {  
        "href": "/api/application/consistency-groups/ddabc6a5-4196-11ec-  
8674-005056accf3f"  
      }  
    }  
  },  
  "uuid": "a175c021-4199-11ec-8674-005056accf3f",  
  "name": "sa3s2",  
  "consistency_type": "crash",  
  "comment": "manually created snapshot",  
  "create_time": "2021-11-09T15:14:23-05:00",  
  "svm": {  
    "uuid": "7379fecb-4195-11ec-8674-005056accf3f",  
    "name": "vs1",  
    "_links": {  
      "self": {  
        "href": "/api/svm/svms/7379fecb-4195-11ec-8674-005056accf3f"  
      }  
    }  
  },  
  "_links": {  
    "self": {  
      "href": "/api/application/consistency-groups/ddabc6a5-4196-11ec-8674-  
005056accf3f/snapshots/a175c021-4199-11ec-8674-005056accf3f"  
    }  
  }  
}
```

Creating a crash-consistent Snapshot copy of a consistency group

Creates an on-demand crash-consistent Snapshot copy of an existing consistency group.

```
curl -X POST 'https://<mgmt-ip>/api/application/consistency-  
groups/a8d0626a-17a0-11eb-b141-005056acd498/snapshots' -d '{ "name":  
"name_of_this_snapshot", "consistency_type": "crash", "comment": "this is  
a manually created on-demand snapshot", "snapmirror_label":  
"my_special_sm_label" }' -H "accept: application/hal+json"
```

Response:

```
{  
}
```

Creating a app-consistent Snapshot copy of a consistency group

Creates an on-demand crash-consistent Snapshot copy of an existing consistency group.

```
curl -X POST 'https://<mgmt-ip>/api/application/consistency-  
groups/a8d0626a-17a0-11eb-b141-005056acd498/snapshots' -d '{ "name":  
"name_of_this_snapshot", "consistency_type": "application", "comment":  
"this is a manually created on-demand snapshot", "snapmirror_label":  
"my_special_sm_label" }' -H "accept: application/hal+json"
```

Response:

```
{  
}
```

Deleting a Snapshot copy from a consistency group

Deletes an existing Snapshot copy from a consistency group.

```
curl -X DELETE 'https://<mgmt-ip>/api/application/consistency-  
groups/a8d0626a-17a0-11eb-b141-005056acd498/snapshots/92c6c770-17a1-11eb-  
b141-005056acd498'
```

Response:

```
{  
}
```

Retrieve consistency group Snapshot copies

GET /application/consistency-groups/{consistency_group.uuid}/snapshots

Introduced In: 9.10

Retrieves Snapshot copies for a consistency group.

Expensive properties

There is an added cost to retrieving values for these properties. They are not included by default in GET results and must be explicitly requested using the `fields` query parameter. See [DOC Requesting specific fields](#) to learn more.

- `is_partial`
- `missing_volumes.uuid`
- `missing_volumes.name`

Parameters

Name	Type	In	Required	Description
consistency_group.uuid	string	path	True	The unique identifier of the consistency group to retrieve.
comment	string	query	False	Filter by comment
missing_volumes.name	string	query	False	Filter by missing_volumes.name
missing_volumes.uuid	string	query	False	Filter by missing_volumes.uuid
snapmirror_label	string	query	False	Filter by snapmirror_label
name	string	query	False	Filter by name
uuid	string	query	False	Filter by uuid
create_time	string	query	False	Filter by create_time
consistency_group.name	string	query	False	Filter by consistency_group.name
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
consistency_type	string	query	False	Filter by consistency_type

Name	Type	In	Required	Description
is_partial	boolean	query	False	Filter by is_partial
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"> • Default value: 1
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. <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

Status: 200, Ok

Name	Type	Description
_links	collection_links	

Name	Type	Description
num_records	integer	Number of records.
records	array[records]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "comment": "My Snapshot copy comment",
      "consistency_group": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "my_consistency_group",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "consistency_type": "crash",
      "create_time": "2020-10-25T11:20:00Z",
      "is_partial": "",
      "missing_volumes": [
        {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "volume1",
          "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
        }
      ],
      "name": "string",
      "snapmirror_label": "sm_label",
      "svm": {
        "_links": {
```

```

        "self": {
            "href": "/api/resourcelink"
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    },
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
]
}

```

Error

Status: Default, Error

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	

collection_links

Name	Type	Description
next	href	
self	href	

self_link

Name	Type	Description
self	href	

consistency_group

The consistency group of the Snapshot copy.

Name	Type	Description
_links	self_link	
name	string	The name of the consistency group.
uuid	string	The unique identifier of the consistency group.

_links

Name	Type	Description
self	href	

volume_reference

Name	Type	Description
_links	_links	
name	string	The name of the volume.

Name	Type	Description
uuid	string	<p>Unique identifier for 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"> • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6

svm_reference

SVM, applies only to SVM-scoped objects.

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

records

Name	Type	Description
_links	self_link	
comment	string	Comment for the Snapshot copy.
consistency_group	consistency_group	The consistency group of the Snapshot copy.
consistency_type	string	Consistency type. This is for categorization purposes only. A Snapshot copy should not be set to 'application consistent' unless the host application is quiesced for the Snapshot copy. Valid in POST.
create_time	string	Time the snapshot copy was created
is_partial	boolean	Indicates whether the Snapshot copy taken is partial or not.

Name	Type	Description
missing_volumes	array[volume_reference]	List of volumes which are not in the Snapshot copy.
name	string	Name of the Snapshot copy.
snapmirror_label	string	Snapmirror Label for the Snapshot copy.
svm	svm_reference	SVM, applies only to SVM-scoped objects.
uuid	string	<p>The unique identifier of the Snapshot copy. The UUID is generated by ONTAP when the Snapshot copy is created.</p> <ul style="list-style-type: none"> • example: 1cd8a442-86d1-11e0-ae1c-123478563412 • Introduced in: 9.6 • readOnly: 1

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 consistency group Snapshot copy

POST /application/consistency-groups/{consistency_group.uuid}/snapshots

Introduced In: 9.10

Creates a Snapshot copy of an existing consistency group.

Required properties

- `consistency_group.uuid` - Existing consistency group UUID in which to create the Snapshot copy.

Parameters

Name	Type	In	Required	Description
consistency_group.uuid	string	path	True	The unique identifier of the consistency group to retrieve.
action	string	query	False	<p>Initiates the Snapshot copy create operation. The start of the Snapshot copy operation can optionally use a timeout value specified by "action_timeout". The Snapshot copy is committed by calling PATCH on the Snapshot copy href link with action specified as "commit".</p> <ul style="list-style-type: none">• Introduced in: 9.11• enum: ["start"]

Name	Type	In	Required	Description
action_timeout	integer	query	False	<p>Duration to complete the 2-phase Snapshot copy operation. This also specifies the maximum duration that the write-fence remains in effect on the volumes associated with this consistency group. Default is 7 seconds with a valid range of 1 to 90 seconds.</p> <ul style="list-style-type: none"> Introduced in: 9.11
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"> Default value: 1 Max value: 120 Min value: 0

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
comment	string	Comment for the Snapshot copy.
consistency_type	string	Consistency type. This is for categorization purposes only. A Snapshot copy should not be set to 'application consistent' unless the host application is quiesced for the Snapshot copy. Valid in POST.
name	string	Name of the Snapshot copy.
snapmirror_label	string	Snapmirror Label for the Snapshot copy.
svm	svm_reference	SVM, applies only to SVM-scoped objects.

Example request

```
{
  "comment": "My Snapshot copy comment",
  "consistency_type": "crash",
  "is_partial": "",
  "name": "string",
  "snapmirror_label": "sm_label",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  }
}
```

Response

Status: 202, Accepted

Name	Type	Description
job	job_link	

Example response

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

Response

Status: 201, Created

Error

Status: Default, Error

Definitions

See Definitions

href

Name	Type	Description
href	string	

self_link

consistency_group

The consistency group of the Snapshot copy.

Name	Type	Description
name	string	The name of the consistency group.
uuid	string	The unique identifier of the consistency group.

_links

volume_reference

Name	Type	Description
name	string	The name of the volume.
uuid	string	Unique identifier for 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. <ul style="list-style-type: none">• example: 028baa66-41bd-11e9-81d5-00a0986138f7• Introduced in: 9.6

svm_reference

SVM, applies only to SVM-scoped objects.

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

consistency_group_snapshot

Name	Type	Description
comment	string	Comment for the Snapshot copy.
consistency_type	string	Consistency type. This is for categorization purposes only. A Snapshot copy should not be set to 'application consistent' unless the host application is quiesced for the Snapshot copy. Valid in POST.
name	string	Name of the Snapshot copy.
snapmirror_label	string	Snapmirror Label for the Snapshot copy.
svm	svm_reference	SVM, applies only to SVM-scoped objects.

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

error

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

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

Delete a consistency group Snapshot copy

DELETE /application/consistency-groups/{consistency_group.uuid}/snapshots/{uuid}

Introduced In: 9.10

Deletes a Snapshot copy of a consistency group.

Examples

Parameters

Name	Type	In	Required	Description
consistency_group.uuid	string	path	True	The unique identifier of the Snapshot copy of the consistency group to delete.
uuid	string	path	True	Snapshot copy 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"> • Default value: 1 • Max value: 120 • Min value: 0

Response

Status: 200, Ok

Response

Status: 202, Accepted

Error

Status: Default, Error

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

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 consistency group Snapshot copy

GET /application/consistency-groups/{consistency_group.uuid}/snapshots/{uuid}

Introduced In: 9.10

Retrieves details of a specific snapshot for a consistency group.

Expensive properties

There is an added cost to retrieving values for these properties. They are not included by default in GET results and must be explicitly requested using the `fields` query parameter. See [DOC Requesting specific fields](#) to learn more.

- `is_partial`
- `missing_volumes.uuid`
- `missing_volumes.name`

Parameters

Name	Type	In	Required	Description
consistency_group.uuid	string	path	True	The unique identifier of the consistency group to retrieve.
uuid	string	path	True	The unique identifier of the Snapshot copy of the consistency group to retrieve.
comment	string	query	False	Filter by comment
missing_volumes.name	string	query	False	Filter by missing_volumes.name
missing_volumes.uuid	string	query	False	Filter by missing_volumes.uuid
snapmirror_label	string	query	False	Filter by snapmirror_label
name	string	query	False	Filter by name
create_time	string	query	False	Filter by create_time

Name	Type	In	Required	Description
consistency_group.name	string	query	False	Filter by consistency_group.name
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
consistency_type	string	query	False	Filter by consistency_type
is_partial	boolean	query	False	Filter by is_partial
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"> • Default value: 1
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"> • Default value: 1 • Max value: 120 • Min value: 0

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

Response

Status: 200, Ok

Name	Type	Description
_links	self_link	
comment	string	Comment for the Snapshot copy.
consistency_group	consistency_group	The consistency group of the Snapshot copy.
consistency_type	string	Consistency type. This is for categorization purposes only. A Snapshot copy should not be set to 'application consistent' unless the host application is quiesced for the Snapshot copy. Valid in POST.
create_time	string	Time the snapshot copy was created
is_partial	boolean	Indicates whether the Snapshot copy taken is partial or not.
missing_volumes	array[volume_reference]	List of volumes which are not in the Snapshot copy.
name	string	Name of the Snapshot copy.
snapmirror_label	string	Snapmirror Label for the Snapshot copy.
svm	svm_reference	SVM, applies only to SVM-scoped objects.

Name	Type	Description
uuid	string	<p>The unique identifier of the Snapshot copy. The UUID is generated by ONTAP when the Snapshot copy is created.</p> <ul style="list-style-type: none"> • example: 1cd8a442-86d1-11e0-ae1c-123478563412 • Introduced in: 9.10 • readOnly: 1

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "comment": "My Snapshot copy comment",
  "consistency_group": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "my_consistency_group",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "consistency_type": "crash",
  "create_time": "2020-10-25T11:20:00Z",
  "is_partial": "",
  "missing_volumes": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "volume1",
      "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
    }
  ],
  "name": "string",
  "snapmirror_label": "sm_label",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
```

Error

Status: Default, Error

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	

self_link

Name	Type	Description
self	href	

consistency_group

The consistency group of the Snapshot copy.

Name	Type	Description
_links	self_link	
name	string	The name of the consistency group.
uuid	string	The unique identifier of the consistency group.

_links

Name	Type	Description
self	href	

volume_reference

Name	Type	Description
_links	_links	
name	string	The name of the volume.
uuid	string	Unique identifier for 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. <ul style="list-style-type: none">• example: 028baa66-41bd-11e9-81d5-00a0986138f7• Introduced in: 9.6

svm_reference

SVM, applies only to SVM-scoped objects.

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

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.

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