

Manage storage FlexCache origin volumes

ONTAP 9.12.1 REST API reference

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Manage storage FlexCache origin volumes

Storage flexcache origins endpoint overview

Overview

FlexCache is a persistent cache of an origin volume. An origin volume can only be a FlexVol while a FlexCache is always a FlexGroup.

The following relationship configurations are supported:

– Intra-Vserver where FlexCache and the corresponding origin volume reside in the same Vserver.

– Cross-Vserver but intra-cluster where FlexCache and the origin volume reside in the same cluster but belong to different Vservers.

– Cross-cluster where FlexCache and the origin volume reside in different clusters.

FlexCache supports fan-out and more than one FlexCache can be created from one origin volume. This API retrieves the origin of FlexCache onfigurations in the origin cluster.

FlexCache APIs

The following APIs can be used to perform operations related to the origin of a FlexCache:

– GET /api/storage/flexcache/origins

– GET /api/storage/flexcache/origins/{uuid}

– PATCH /api/storage/flexcache/origins/{uuid}

Examples

Retrieving origins of FlexCache attributes

The GET request is used to retrieve the origins of FlexCache attributes.

```
# The API:
/api/storage/flexcache/origins
# The call:
curl -X GET "https://<mgmt-ip>/api/storage/flexcache/origins?" -H
"accept: application/json"
# The response:
{
  "records": [
      "uuid": "2bc957dd-2617-4afb-8d2f-66ac6070d313",
      "name": "vol o1",
      " links": {
        "self": {
          "href": "/api/storage/flexcache/origins/2bc957dd-2617-4afb-8d2f-
66ac6070d313"
    },
      "uuid": "80fcaee4-0dc2-488b-afb8-86d28a34cda8",
      "name": "vol 1",
      " links": {
        "self": {
          "href": "/api/storage/flexcache/origins/80fcaee4-0dc2-488b-afb8-
86d28a34cda8"
      }
   }
 1,
 "num records": 2,
  " links": {
    "self": {
      "href": "/api/storage/flexcache/origins?"
  }
}
```

Retrieving the attributes of an origin volume

The GET request is used to retrieve the attributes of an origin volume.

```
# The API:
/api/storage/flexcache/origins/{uuid}
```

```
# The call:
curl -X GET "https://<mgmt-ip>/api/storage/flexcache/origins/80fcaee4-
Odc2-488b-afb8-86d28a34cda8" -H "accept: application/json"
# The response:
 "uuid": "80fcaee4-0dc2-488b-afb8-86d28a34cda8",
 "name": "vol 1",
 "svm": {
   "name": "vs 3",
   "uuid": "8aa2cd28-0e92-11e9-b391-0050568e4115"
 "block level invalidation": "false",
 "global file locking enabled": "true",
  "flexcaches": [
      "ip address": "10.140.103.183",
      "create time": "2019-01-02T19:27:22+05:30",
      "volume": {
        "name": "fc 42",
        "uuid": "4e7f9d49-0e96-11e9-aed0-0050568eddbe"
      },
      "svm": {
        "name": "vs 1 4",
        "uuid": "36f68322-0e93-11e9-aed0-0050568eddbe"
      "cluster": {
        "name": "node4",
       "uuid": "c32f16b8-0e90-11e9-aed0-0050568eddbe"
     }
    },
      "ip address": "10.140.103.183",
     "create time": "2019-01-02T21:08:34+05:30",
      "volume": {
        "name": "fc 421",
        "uuid": "71ee8f36-0ea4-11e9-aed0-0050568eddbe"
      },
      "svm": {
        "name": "vs 1 4",
        "uuid": "36f68322-0e93-11e9-aed0-0050568eddbe"
      "cluster": {
        "name": "node4",
        "uuid": "c32f16b8-0e90-11e9-aed0-0050568eddbe"
```

```
},
  "ip address": "10.140.103.183",
  "create time": "2019-01-03T11:14:38+05:30",
  "volume": {
    "name": "fc 422"
  } ,
  "svm": {
    "name": "vs 1 4",
    "uuid": "36f68322-0e93-11e9-aed0-0050568eddbe"
  },
  "cluster": {
    "name": "node4",
    "uuid": "c32f16b8-0e90-11e9-aed0-0050568eddbe"
  }
} ,
  "ip address": "10.140.103.179",
  "size": 4294967296,
  "create time": "2019-01-02T19:24:14+05:30",
  "state": "online",
  "volume": {
    "name": "fc 32",
    "uuid": "ddb42bbc-0e95-11e9-8180-0050568e0b79"
  } ,
  "svm": {
    "name": "vs 1",
    "uuid": "e708fbe2-0e92-11e9-8180-0050568e0b79"
  },
  "cluster": {
    "name": "node3",
    "uuid": "8eb21b3b-0e90-11e9-8180-0050568e0b79"
},
  "ip address": "10.140.103.179",
  "size": 4294967296,
  "create time": "2019-01-02T21:07:23+05:30",
  "state": "online",
  "volume": {
    "name": "fc_321",
    "uuid": "47902654-0ea4-11e9-8180-0050568e0b79"
  },
  "svm": {
    "name": "vs 1",
```

```
"uuid": "e708fbe2-0e92-11e9-8180-0050568e0b79"
    },
    "cluster": {
      "name": "node3",
      "uuid": "8eb21b3b-0e90-11e9-8180-0050568e0b79"
    }
  },
    "ip address": "10.140.103.179",
    "size": 4294967296,
    "create time": "2019-01-03T00:11:38+05:30",
    "state": "online",
    "volume": {
      "name": "fc 322",
      "uuid": "04d5e07b-0ebe-11e9-8180-0050568e0b79"
    },
    "svm": {
      "name": "vs 1",
     "uuid": "e708fbe2-0e92-11e9-8180-0050568e0b79"
    },
    "cluster": {
      "name": "node3",
      "uuid": "8eb21b3b-0e90-11e9-8180-0050568e0b79"
    }
  },
    "ip address": "10.140.103.179",
    "size": 4294967296,
    "create time": "2019-01-03T00:14:52+05:30",
    "state": "online",
    "volume": {
      "name": "fc 323",
     "uuid": "77e911ff-0ebe-11e9-8180-0050568e0b79"
    },
    "svm": {
      "name": "vs 1",
      "uuid": "e708fbe2-0e92-11e9-8180-0050568e0b79"
    },
    "cluster": {
      "name": "node3",
      "uuid": "8eb21b3b-0e90-11e9-8180-0050568e0b79"
],
" links": {
  "self": {
```

```
"href": "/api/storage/flexcache/origins/80fcaee4-0dc2-488b-afb8-
86d28a34cda8"
     }
}
```

Modifying origin options of an origin volume

Use the PATCH request to update options of an origin volume.

Retrieve the origin of a FlexCache volume in the cluster

GET /storage/flexcache/origins

Introduced In: 9.6

Retrieves origin of FlexCache in the cluster.

Expensive properties

There is an added computational 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 Requesting specific fields to learn more.

- flexcaches.ip_address IP address of FlexCache.
- flexcaches.size Physical size of FlexCache.

- flexcaches.guarantee.type Space guarantee style of FlexCache.
- flexcaches.state State of FlexCache.

Related ONTAP commands

• volume flexcache origin show-caches

Learn more

• DOC /storage/flexcache/origins

Parameters

Name	Туре	In	Required	Description
global_file_locking_e nabled	boolean	query	False	Filter by global_file_locking_ enabled • Introduced in: 9.9
block_level_invalidat ion	boolean	query	False	Filter by block_level_invalidat ion • Introduced in: 9.9
flexcaches.create_ti me	string	query	False	Filter by flexcaches.create_ti me
flexcaches.state	string	query	False	Filter by flexcaches.state
flexcaches.size	integer	query	False	Filter by flexcaches.size
flexcaches.cluster.na me	string	query	False	Filter by flexcaches.cluster.n ame
flexcaches.cluster.uu id	string	query	False	Filter by flexcaches.cluster.u uid

Name	Туре	In	Required	Description
flexcaches.ip_addre ss	string	query	False	Filter by flexcaches.ip_addre ss
flexcaches.volume.u uid	string	query	False	Filter by flexcaches.volume.u uid
flexcaches.volume.n ame	string	query	False	Filter by flexcaches.volume.n ame
flexcaches.svm.uuid	string	query	False	Filter by flexcaches.svm.uuid
flexcaches.svm.nam e	string	query	False	Filter by flexcaches.svm.nam e
name	string	query	False	Filter by namemaxLength: 203minLength: 1
uuid	string	query	False	Filter by uuid
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
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. • Default value: 1 • Max value: 120 • Min value: 0

Name	Туре	In	Required	Description
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
order_by	array[string]	query	False	Order results by specified fields and optional [asc
desc] direction. Default direction is 'asc' for ascending.	return_records	boolean	query	False

Response

Status: 200, Ok

Name	Туре	Description
_links	_links	
num_records	integer	Number of records
records	array[flexcache_origin]	

```
" links": {
  "next": {
   "href": "/api/resourcelink"
 },
 "self": {
   "href": "/api/resourcelink"
 }
},
"num records": 1,
"records": {
  " links": {
   "self": {
     "href": "/api/resourcelink"
  },
  "flexcaches": {
   "cluster": {
      " links": {
       "self": {
         "href": "/api/resourcelink"
       }
      },
     "name": "cluster1",
     "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "create time": "2018-06-04T19:00:00Z",
    "ip address": "10.10.10.7",
    "size": 0,
    "state": "error",
    "svm": {
      " links": {
       "self": {
         "href": "/api/resourcelink"
       }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    },
    "volume": {
      " links": {
       "self": {
         "href": "/api/resourcelink"
```

```
"name": "volume1",
       "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
     }
    } ,
    "name": "vol1, vol 2",
    "svm": {
     " links": {
       "self": {
         "href": "/api/resourcelink"
       }
     },
     "name": "svm1",
     "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
   },
   "uuid": "1cd8a442-86d1-11e0-ae1c-123478563512"
 }
}
```

Error

```
Status: Default, Error
```

Name	Туре	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	Туре	Description
href	string	

_links

Name	Туре	Description
next	href	
self	href	

_links

Name	Туре	Description
self	href	

cluster

Name	Туре	Description
_links	_links	
name	string	
uuid	string	

svm

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

volume

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

Name	Туре	Description
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. • example: 028baa66-41bd- 11e9-81d5-00a0986138f7 • Introduced in: 9.6

flexcache_relationship

Name	Туре	Description
cluster	cluster	
create_time	string	Creation time of the relationship.
ip_address	string	Cluster managerment IP of the remote cluster.
size	integer	Size of the remote volume.
state	string	Volume state
svm	svm	
volume	volume	

svm

Origin volume SVM

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

flexcache_origin

Defines the origin endpoint of FlexCache.

Name	Туре	Description
_links	_links	

Name	Туре	Description
block_level_invalidation	boolean	Block level invalidation enables the FlexCache volume to retain blocks that are not changed at the FlexCache volume without having to evict them. This means that the FlexCache volume does not have to again incur the computational cost of fetching blocks over the WAN from the FlexCache volume origin on the next client access. Block level invalidation is a property of the origin volume. Without block level invalidation, any write at the origin volume would evict the whole file at the FlexCache volume, since by default, origin volume does a file level invalidation.
flexcaches	array[flexcache_relationship]	
global_file_locking_enabled	boolean	Specifies whether a global file locking option is enabled for an origin volume of a FlexCache volume.
name	string	Origin volume name
svm	svm	Origin volume SVM
uuid	string	Origin volume UUID. Unique identifier for origin of FlexCache.

error_arguments

Name	Туре	Description
code	string	Argument code
message	string	Message argument

error

Name	Туре	Description
arguments	array[error_arguments]	Message arguments

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

Retrieve attributes of the origin of a FlexCache volume in the cluster

GET /storage/flexcache/origins/{uuid}

Introduced In: 9.6

Retrieves attributes of the origin of a FlexCache in the cluster.

Expensive properties

There is an added computational cost to retrieving values for these properties. They are included by default in GET results. The recommended method to use this API is to filter and retrieve only the required fields. See Requesting specific fields to learn more.

- flexcaches.ip address IP address of FlexCache.
- flexcaches.size Physical size of FlexCache.
- flexcaches.guarantee.type Space guarantee style of FlexCache.
- flexcaches.state State of FlexCache.
- flexcaches.dr cache True if the cache is a DR cache.

Related ONTAP commands

• volume flexcache origin show-caches

Learn more

• DOC /storage/flexcache/origins

Parameters

Name	Туре	In	Required	Description
uuid	string	path		Unique identifier of origin of FlexCache.

Name	Туре	In	Required	Description
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Туре	Description
_links	_links	
block_level_invalidation	boolean	Block level invalidation enables the FlexCache volume to retain blocks that are not changed at the FlexCache volume without having to evict them. This means that the FlexCache volume does not have to again incur the computational cost of fetching blocks over the WAN from the FlexCache volume origin on the next client access. Block level invalidation is a property of the origin volume. Without block level invalidation, any write at the origin volume would evict the whole file at the FlexCache volume, since by default, origin volume does a file level invalidation.
flexcaches	array[flexcache_relationship]	
global_file_locking_enabled	boolean	Specifies whether a global file locking option is enabled for an origin volume of a FlexCache volume.
name	string	Origin volume name
svm	svm	Origin volume SVM
uuid	string	Origin volume UUID. Unique identifier for origin of FlexCache.

```
" links": {
 "self": {
   "href": "/api/resourcelink"
 }
},
"flexcaches": {
 "cluster": {
   " links": {
     "self": {
        "href": "/api/resourcelink"
     }
    },
    "name": "cluster1",
   "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  "create time": "2018-06-04T19:00:00Z",
  "ip address": "10.10.10.7",
  "size": 0,
  "state": "error",
  "svm": {
    " links": {
     "self": {
       "href": "/api/resourcelink"
     }
    },
   "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "volume": {
    " links": {
     "self": {
       "href": "/api/resourcelink"
     }
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
 }
},
"name": "vol1, vol_2",
"svm": {
 " links": {
   "self": {
      "href": "/api/resourcelink"
```

```
}
},
"name": "svm1",
"uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563512"
}
```

Error

```
Status: Default, Error
```

Name	Туре	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	Туре	Description
href	string	

_links

Name	Туре	Description
self	href	

cluster

Name	Туре	Description
_links	_links	
name	string	
uuid	string	

svm

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

volume

Name	Туре	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. • example: 028baa66-41bd- 11e9-81d5-00a0986138f7 • Introduced in: 9.6

flexcache_relationship

Name	Туре	Description
cluster	cluster	
create_time	string	Creation time of the relationship.
ip_address	string	Cluster managerment IP of the remote cluster.
size	integer	Size of the remote volume.
state	string	Volume state
svm	svm	
volume	volume	

svm

Origin volume SVM

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

error_arguments

Name	Туре	Description
code	string	Argument code
message	string	Message argument

error

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

Modify origin options for a Flexcache origin volume in the cluster

PATCH /storage/flexcache/origins/{uuid}

Introduced In: 9.9

Modifies origin options for a origin volume in the cluster.

Required properties

- uuid Origin volume UUID.
- block_level_invalidation Value for the Block Level Invalidation flag options {true\|false}.

Related ONTAP commands

volume flexcache origin config modify

Learn more

• DOC /storage/flexcache/origins

Parameters

Name	Туре	In	Required	Description
uuid	string	path	True	Unique identifier of the origin of the FlexCache volume.

Request Body

Name	Туре	Description
_links	_links	

Name	Туре	Description
block_level_invalidation	boolean	Block level invalidation enables the FlexCache volume to retain blocks that are not changed at the FlexCache volume without having to evict them. This means that the FlexCache volume does not have to again incur the computational cost of fetching blocks over the WAN from the FlexCache volume origin on the next client access. Block level invalidation is a property of the origin volume. Without block level invalidation, any write at the origin volume would evict the whole file at the FlexCache volume, since by default, origin volume does a file level invalidation.
flexcaches	array[flexcache_relationship]	
global_file_locking_enabled	boolean	Specifies whether a global file locking option is enabled for an origin volume of a FlexCache volume.
name	string	Origin volume name
svm	svm	Origin volume SVM
uuid	string	Origin volume UUID. Unique identifier for origin of FlexCache.

```
" links": {
  "self": {
   "href": "/api/resourcelink"
 }
} ,
"flexcaches": {
  "cluster": {
   " links": {
     "self": {
        "href": "/api/resourcelink"
     }
    },
    "name": "cluster1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  "create time": "2018-06-04T19:00:00Z",
  "ip address": "10.10.10.7",
  "size": 0,
  "state": "error",
  "svm": {
    " links": {
     "self": {
       "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "volume": {
    " links": {
     "self": {
       "href": "/api/resourcelink"
     }
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
 }
},
"name": "vol1, vol_2",
"svm": {
  " links": {
    "self": {
      "href": "/api/resourcelink"
```

```
}
},
"name": "svm1",
"uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563512"
}
```

Response

```
Status: 200, Ok
```

Name	Туре	Description
job	job_link	

Example response

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
66846870	Either origin volume uuid or BLI option value is missing
66847020	Failed to get origin volume details using volume uuid
66847021	Failed to modify origin volume options

Name	Туре	Description
error	error	

Example error

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

Definitions

See Definitions

Name	Туре	Description
href	string	

_links

Name	Туре	Description
self	href	

cluster

Name	Туре	Description
_links	_links	
name	string	
uuid	string	

svm

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

volume

Name	Туре	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. • example: 028baa66-41bd- 11e9-81d5-00a0986138f7 • Introduced in: 9.6

flexcache_relationship

Name	Туре	Description
cluster	cluster	
create_time	string	Creation time of the relationship.
ip_address	string	Cluster managerment IP of the remote cluster.
size	integer	Size of the remote volume.
state	string	Volume state
svm	svm	
volume	volume	

svm

Origin volume SVM

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

flexcache_origin

Defines the origin endpoint of FlexCache.

Name	Туре	Description
_links	_links	

Name	Туре	Description
block_level_invalidation	boolean	Block level invalidation enables the FlexCache volume to retain blocks that are not changed at the FlexCache volume without having to evict them. This means that the FlexCache volume does not have to again incur the computational cost of fetching blocks over the WAN from the FlexCache volume origin on the next client access. Block level invalidation is a property of the origin volume. Without block level invalidation, any write at the origin volume would evict the whole file at the FlexCache volume, since by default, origin volume does a file level invalidation.
flexcaches	array[flexcache_relationship]	
global_file_locking_enabled	boolean	Specifies whether a global file locking option is enabled for an origin volume of a FlexCache volume.
name	string	Origin volume name
svm	svm	Origin volume SVM
uuid	string	Origin volume UUID. Unique identifier for origin of FlexCache.

job_link

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

error_arguments

Name	Туре	Description
code	string	Argument code

Name	Туре	Description
message	string	Message argument

error

Name	Туре	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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