



Manage storage volumes

ONTAP REST API reference

NetApp

February 27, 2025

This PDF was generated from https://docs.netapp.com/us-en/ontap-restapi-9101/ontap/storage_volumes_endpoint_overview.html on February 27, 2025. Always check docs.netapp.com for the latest.

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Manage storage volumes

Storage volumes endpoint overview

Overview

FlexVol volumes are logical containers used by ONTAP to serve data to clients. They contain file systems in a NAS environment and LUNs in a SAN environment.

A FlexGroup volume is a scale-out NAS container that provides high performance along with automatic load distribution and scalability. A FlexGroup volume contains several constituents that automatically and transparently share the traffic.

FlexClone volumes are writable, point-in-time copies of a FlexVol volume. At this time, FlexClones of FlexGroups are not supported.

Volumes with SnapLock type Compliance or Enterprise, are referred to as SnapLock volumes. Volumes with SnapLock type cannot be of FlexGroup style. Once a SnapLock aggregate is created, by default, volumes created inside the aggregate inherit the "snaplock" property from the aggregate. It is possible to create a SnapLock volume by specifying SnapLock parameters. SnapLock parameters are only available at the "advanced" privilege level.

ONTAP storage APIs allow you to create, modify, and monitor volumes and aggregates.

Storage efficiency

Storage efficiency is used to remove duplicate blocks in the data and to compress the data. Efficiency has deduplication, compression, cross volume deduplication, and compaction options. On All Flash systems, all efficiencies are enabled by default on volume creation. Options such as "background/inline/both" are treated as both, which means both background and inline are enabled for any efficiency option. The option "none" disables both background and inline efficiency.

To enable any efficiency option on all-flash or FAS systems, background deduplication is always enabled.

Quotas

Quotas provide a way to restrict or track the files and space usage by a user, group, or qtree. Quotas are enabled for a specific FlexVol or a FlexGroup volume.

The following APIs can be used to enable or disable and obtain quota state for a FlexVol or a FlexGroup volume:

– PATCH /api/storage/volumes/{uuid} -d '{"quota.enabled":"true"}

– PATCH /api/storage/volumes/{uuid} -d '{"quota.enabled":"false"}

– GET /api/storage/volumes/{uuid}?fields=quota.state

File System Analytics

File system analytics provide a quick method for obtaining information summarizing properties of all files within any directory tree of a volume. For more information on file system analytics, see [DOC](#) [/storage/volumes{volume.uuid}/files/{path}](#) . Analytics can be enabled or disabled on individual volumes.

The following APIs can be used to enable or disable and obtain analytics state for a FlexVol volume or a FlexGroup volume:

– PATCH /api/storage/volumes/{uuid} -d '{"analytics.state":"on"}'

– PATCH /api/storage/volumes/{uuid} -d '{"analytics.state":"off"}'

– GET /api/storage/volumes/{uuid}?fields=analytics

QoS

QoS policy and settings enforce Service Level Objectives (SLO) on a volume. SLO can be set by specifying `qos.max_throughput_iops` and/or `qos.max_throughput_mbps` or `qos.min_throughput_iops` and/or `qos.min_throughput_mbps`. Specifying `min_throughput_iops` or `min_throughput_mbps` is only supported on volumes hosted on a node that is flash optimized. A pre-created QoS policy can also be used by specifying `qos.name` or `qos.uuid` property.

Performance monitoring

Performance of a volume can be monitored by the `metric.*` and `statistics.*` fields. These show the performance of the volume in terms of IOPS, latency and throughput. The `metric.*` fields denote an average whereas `statistics.*` fields denote a real-time monotonically increasing value aggregated across all nodes.

Volume APIs

The following APIs are used to perform operations related with FlexVol volumes and FlexGroup volumes:

– POST /api/storage/volumes

– GET /api/storage/volumes

– GET /api/storage/volumes/{uuid}

– PATCH /api/storage/volumes/{uuid}

– DELETE /api/storage/volumes/{uuid}

Examples

Creating a volume

The POST request is used to create a new volume and to specify its properties.

```
# The API:
/api/storage/volumes

# The call:
curl -X POST "https://<mgmt-ip>/api/storage/volumes" -H "accept:
application/hal+json" -d '{"name": "vol1",
"aggregates":[{"name":"aggr1"}], "svm":{"name" : "vs1"}}'

# The response:
{
  "job": {
    "uuid": "b89bc5dd-94a3-11e8-a7a3-0050568edf84",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/b89bc5dd-94a3-11e8-a7a3-0050568edf84"
      }
    }
  }
}
```

Creating a SnapLock volume and specifying its properties using POST

```
# The API:
/api/storage/volumes

# The call:
curl -X POST "https://<mgmt-ip>/api/storage/volumes" -H "accept:
application/hal+json" -d '{"name": "vol1", "aggregates":[{"name":
"aggr1"}], "svm":{"name" : "vs1"}, "snaplock":{"retention":{"default":
"P20Y"}, "type": "compliance"}}'

# The response:
{
  "job": {
    "uuid": "e45b123b-c228-11e8-aa20-0050568e36bb",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/e45b123b-c228-11e8-aa20-0050568e36bb"
      }
    }
  }
}
```

Creating a FlexGroup volume and specifying its properties using POST

```
# The API:
/api/storage/volumes

# The call:
curl -X POST "https://<mgmt-ip>/api/storage/volumes" -H "accept:
application/hal+json" -d '{"name" : "vol1", "state" : "online", "type" :
"RW", "aggregates" : [{"name" : "aggr1"}, {"name" : "aggr2"},
{"name":"aggr3"}], "constituents_per_aggregate" : "1", "svm" : {"name" :
"vs1"}, "size" : "240MB", "encryption" : {"enabled" : "False"},
"efficiency" : {"compression" : "both"}, "autosize" : {"maximum" :
"500MB", "minimum" : "240MB"}}'
```

```
# The response:
{
  "job": {
    "uuid": "3cfa38bd-3a78-11e9-ae39-0050568ed7dd",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/3cfa38bd-3a78-11e9-ae39-0050568ed7dd"
      }
    }
  }
}
```

Creating a FlexClone and specifying its properties using POST

```
# The API:
/api/storage/volumes

# The call:
curl -X POST "https://<mgmt-ip>/api/storage/volumes" -H "accept:
application/hal+json" -d '{"name":"voll_clone", "clone": {"parent_volume":
{"name": "voll"}, "is_flexclone": "true"},"svm":{"name": "vs0"}}'

# The response:
HTTP/1.1 202 Accepted
Date: Tue, 26 Feb 2019 09:06:22 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Location: /api/storage/volumes/?name=voll_clone
Content-Length: 189
Content-Type: application/hal+json
{
  "job": {
    "uuid": "c9ee0040-39a5-11e9-9b24-00a098439a83",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/c9ee0040-39a5-11e9-9b24-00a098439a83"
      }
    }
  }
}
```

Volumes reported in the GET REST API

The following types of volumes are reported:

- – RW, DP and LS volumes
- – FlexGroup volume
- – FlexCache volume
- – FlexClone volume
- – FlexGroup constituent

The following volumes are not reported:

- – DEL and TMP type volume
- – Node Root volume

– System Vserver volume

– FlexCache constituent

Examples

Retrieving the list of volumes

```
# The API:
/api/storage/volumes

# The call:
curl -X GET "https://<mgmt-ip>/api/storage/volumes" -H "accept:
application/hal+json"

# The response:
{
  "records": [
    {
      "uuid": "2d1167cc-c3f2-495a-a23f-8f50b071b9b8",
      "name": "vsdata_root",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/2d1167cc-c3f2-495a-a23f-
8f50b071b9b8"
        }
      }
    },
    {
      "uuid": "3969be7e-78b4-4b4c-82a4-fa86331f03df",
      "name": "vsfg_root",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/3969be7e-78b4-4b4c-82a4-
fa86331f03df"
        }
      }
    },
    {
      "uuid": "59c03ac5-e708-4ce8-a676-278dc249fda2",
      "name": "svm_root",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/59c03ac5-e708-4ce8-a676-
278dc249fda2"
        }
      }
    }
  ]
}
```

```

    },
    {
      "uuid": "6802635b-8036-11e8-aae5-0050569503ac",
      "name": "fgvol",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/6802635b-8036-11e8-aae5-0050569503ac"
        }
      }
    },
    {
      "uuid": "d0c3359c-5448-4a9b-a077-e3295a7e9057",
      "name": "datavol",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/d0c3359c-5448-4a9b-a077-e3295a7e9057"
        }
      }
    }
  ],
  "num_records": 5,
  "_links": {
    "self": {
      "href": "/api/storage/volumes"
    }
  }
}

```

Retrieving the attributes of a volume

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

```

# The API:
/api/storage/volumes/{uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/storage/volumes/d0c3359c-5448-4a9b-a077-e3295a7e9057" -H "accept: application/hal+json"

# The response:
{
  "uuid": "d0c3359c-5448-4a9b-a077-e3295a7e9057",
  "comment": "This is a data volume",
  "create_time": "2018-07-05T14:56:44+05:30",

```

```

"language": "en_us",
"name": "datavol",
"size": 20971520,
"state": "online",
"style": "flexvol",
"tiering_policy": "auto",
"type": "rw",
"aggregates": [
  {
    "name": "data",
    "uuid": "aa742322-36bc-4d98-bbc4-0a827534c035",
    "_links": {
      "self": {
        "href": "/api/cluster/aggregates/data"
      }
    }
  }
],
"encryption": {
  "enabled": false,
  "state": "none",
  "key_id": "",
  "type": "none"
},
"error_state": {
  "has_bad_blocks": false,
  "is_inconsistent": false
},
"files": {
  "maximum": 566,
  "used": 96
},
"nas": {
  "gid": 2468,
  "security_style": "unix",
  "uid": 1357,
  "unix_permissions": 4755,
  "export_policy": {
    "name": "default",
    "id": 8589934593
  }
},
"junction_parent": {
  "name": "vol1",
  "uuid": "a2564f80-25fb-41e8-9b49-44de2600991f",
  "_links": {
    "self": {

```

```

    "href": "/api/storage/volumes/a2564f80-25fb-41e8-9b49-44de2600991f"
  }
}
},
"metric": {
  "timestamp": "2019-04-09T05:50:15Z",
  "status": "ok",
  "duration": "PT15S",
  "latency": {
    "other": 0,
    "total": 0,
    "read": 0,
    "write": 0
  },
  "iops": {
    "read": 0,
    "write": 0,
    "other": 0,
    "total": 0
  },
  "throughput": {
    "read": 0,
    "write": 0,
    "other": 0,
    "total": 0
  },
  "cloud": {
    "timestamp": "2019-04-09T05:50:15Z",
    "status": "ok",
    "duration": "PT15S",
    "iops" : {
      "read": 0,
      "write": 0,
      "other": 0,
      "total": 0
    },
    "latency": {
      "read": 0,
      "write": 0,
      "other": 0,
      "total": 0
    }
  },
  "flexcache": {

```

```

    "timestamp": "2019-04-09T05:50:15Z",
    "status": "ok",
    "duration": "PT1D",
    "cache_miss_percent": 0,
    "bandwidth_savings": 0
  }
},
"statistics": {
  "timestamp": "2019-04-09T05:50:42Z",
  "status": "ok",
  "latency_raw": {
    "other": 38298,
    "total": 38298,
    "read": 0,
    "write": 0
  },
  "iops_raw": {
    "read": 0,
    "write": 0,
    "other": 3,
    "total": 3
  },
  "throughput_raw": {
    "read": 0,
    "write": 0,
    "other": 0,
    "total": 0
  },
  "cloud": {
    "timestamp": "2019-04-09T05:50:42Z",
    "status": "ok",
    "iops_raw" : {
      "read": 0,
      "write": 0,
      "other": 0,
      "total": 0
    },
    "latency_raw": {
      "read": 0,
      "write": 0,
      "other": 0,
      "total": 0
    }
  },
  "flexcache_raw": {
    "timestamp": "2019-04-09T05:50:15Z",

```

```

    "status": "ok",
    "cache_miss_blocks": 0,
    "client_requested_blocks": 0
  }
},
"qos": {
  "policy": {
    "min_throughput_iops": 0,
    "min_throughput_mbps": 0,
    "max_throughput_iops": 1000,
    "max_throughput_mbps": 0,
    "uuid": "228454af-5a8b-11e9-bd5b-005056ac6f1f",
    "name": "pg1"
  }
},
"snaplock": {
  "append_mode_enabled": false,
  "autocommit_period": "none",
  "compliance_clock_time": "2019-05-24T10:59:00+05:30",
  "expiry_time": "2038-01-19T08:44:28+05:30",
  "is_audit_log": false,
  "litigation_count": 0,
  "privileged_delete": "disabled",
  "type": "enterprise",
  "retention": {
    "default": "P0Y",
    "minimum": "P0Y",
    "maximum": "P30Y"
  }
},
"snapshot_policy": {
  "name": "default"
},
"svm": {
  "name": "vsdata",
  "uuid": "d61b69f5-7458-11e8-ad3f-0050569503ac"
},
"anti_ransomware_state": "disabled",
"_links": {
  "self": {
    "href": "/api/storage/volumes/d0c3359c-5448-4a9b-a077-e3295a7e9057"
  }
}
}

```

Retrieving the quota state of a FlexVol or a FlexGroup volume

```
# The API:
/api/storage/volumes/{uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/storage/volumes/cb20da45-4f6b-11e9-9a71-005056a7f717/?fields=quota.state" -H "accept: application/hal+json"

# The response:
{
  "uuid": "cb20da45-4f6b-11e9-9a71-005056a7f717",
  "name": "fv",
  "quota": {
    "state": "on"
  },
  "_links": {
    "self": {
      "href": "/api/storage/volumes/cb20da45-4f6b-11e9-9a71-005056a7f717/"
    }
  }
}
```

Retrieving the constituents of a FlexGroup volume

```
# The API:
/api/storage/volumes/{uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/storage/volumes/d0c3359c-5448-4a9b-a077-e3295a7e9057/?fields=constituents" -H "accept: application/hal+json"

# The response:
{
  "uuid": "d0c3359c-5448-4a9b-a077-e3295a7e9057",
  "name": "fg",
  "constituents": [
    {
      "name": "fg__0001",
      "space": {
        "size": 536870912,
        "available": 479756288,
        "used": 30273536,
        "local_tier_footprint": 540958720,
        "footprint": 389120,

```

```

    "over_provisioned": 0,
    "metadata": 4087808,
    "total_footprint": 540958720,
    "logical_space": {
      "reporting": false,
      "enforcement": false,
      "used_by_afs": 30273536
    },
    "snapshot": {
      "reserve_percent": 5,
      "autodelete_enabled": false
    }
  },
  "aggregates": {
    "name": "vs_aggr",
    "uuid": "2e00716c-eb54-45a9-8ca5-be50ccd40708",
    "_links": {
      "self": {
        "href": "/api/storage/aggregates/2e00716c-eb54-45a9-8ca5-
be50ccd40708"
      }
    }
  }
},
{
  "name": "fg__0002",
  "space": {
    "size": 536870912,
    "available": 479756288,
    "used": 30273536,
    "local_tier_footprint": 540958720,
    "footprint": 389120,
    "over_provisioned": 0,
    "metadata": 4087808,
    "total_footprint": 540958720,
    "logical_space": {
      "reporting": false,
      "enforcement": false,
      "used_by_afs": 30273536
    },
    "snapshot": {
      "reserve_percent": 5,
      "autodelete_enabled": false
    }
  },
  "aggregates": {

```



```

    "name": "aggr1",
    "uuid": "f655cf4f-8208-4fc8-bfc8-4f238d434402",
    "_links": {
      "self": {
        "href": "/api/storage/aggregates/f655cf4f-8208-4fc8-bfc8-4f238d434402"
      }
    }
  },
  {
    "name": "fg__0003",
    "space": {
      "size": 536870912,
      "available": 479756288,
      "used": 30273536,
      "local_tier_footprint": 540958720,
      "footprint": 389120,
      "over_provisioned": 0,
      "metadata": 4087808,
      "total_footprint": 540958720,
      "logical_space": {
        "reporting": false,
        "enforcement": false,
        "used_by_afs": 30273536
      },
      "snapshot": {
        "reserve_percent": 5,
        "autodelete_enabled": false
      }
    },
    "aggregates": {
      "name": "aggr2",
      "uuid": "c7239f14-b861-46fc-b406-70fe13c1a4fb",
      "_links": {
        "self": {
          "href": "/api/storage/aggregates/c7239f14-b861-46fc-b406-70fe13c1a4fb"
        }
      }
    }
  },
  {
    "name": "fg__0004",
    "space": {
      "size": 536870912,

```

```

    "available": 479756288,
    "used": 30273536,
    "local_tier_footprint": 540958720,
    "footprint": 389120,
    "over_provisioned": 0,
    "metadata": 4087808,
    "total_footprint": 540958720,
    "logical_space": {
      "reporting": false,
      "enforcement": false,
      "used_by_afs": 30273536
    },
    "snapshot": {
      "reserve_percent": 5,
      "autodelete_enabled": false
    }
  },
  "aggregates": {
    "name": "aggr3",
    "uuid": "4c86137a-06af-482d-a41c-d64acc5dcea4",
    "_links": {
      "self": {
        "href": "/api/storage/aggregates/4c86137a-06af-482d-a41c-
d64acc5dcea4"
      }
    }
  }
},
"_links": {
  "self": {
    "href": "/api/storage/volumes/d0c3359c-5448-4a9b-a077-e3295a7e9057"
  }
}
}

```

Updating the attributes of a volume

Examples

Updating the attributes of a volume

The PATCH request is used to update the attributes of a volume.

```
# The API:
/api/storage/volumes/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/storage/volumes/d0c3359c-5448-4a9b-
a077-e3295a7e9057" -d '{ "size": 26214400, "nas": {"security_style":
"mixed"}, "comment": "This is a data volume" }' -H "accept:
application/hal+json"

# The response:
HTTP/1.1 202 Accepted
Date: Tue, 31 Jul 2018 09:36:43 GMT
Server: libzapid-httpd
Cache-Control: no-cache,no-store,must-revalidate
Content-Length: 189
Content-Type: application/hal+json
{
  "job": {
    "uuid": "3c5be5a6-94a5-11e8-8ca3-00505695c11b",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/3c5be5a6-94a5-11e8-8ca3-00505695c11b"
      }
    }
  }
}
```

Updating the attributes of a FlexClone using PATCH

```
# The API:
/api/storage/volumes/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/storage/volumes/d0c3359c-5448-4a9b-a077-e3295a7e9057" -d '{"clone":{"split_initiated":"true"}}' -H "accept: application/hal+json"

# The response:
HTTP/1.1 202 Accepted
Date: Mon, 25 Feb 2019 10:10:19 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Length: 189
Content-Type: application/hal+json
{
  "job": {
    "uuid": "8e01747f-38e5-11e9-8a3a-00a09843994b",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/8e01747f-38e5-11e9-8a3a-00a09843994b"
      }
    }
  }
}
```

Enabling quotas for a FlexVol or a FlexGroup volume using PATCH

```
# The API:
/api/storage/volumes/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/storage/volumes/d0c3359c-5448-4a9b-
a077-e3295a7e9057" -d '{"quota":{"enabled":"true"}}' -H "accept:
application/hal+json"

# The response:
HTTP/1.1 202 Accepted
Date: Mon, 25 Feb 2019 10:10:19 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Length: 189
Content-Type: application/hal+json
{
  "job": {
    "uuid": "d2fe7299-57d0-11e9-a2dc-005056a7f717",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/d2fe7299-57d0-11e9-a2dc-005056a7f717"
      }
    }
  }
}
```

Disabling quotas for a FlexVol or a FlexGroup volume using PATCH

```
# The API:
/api/storage/volumes/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/storage/volumes/d0c3359c-5448-4a9b-
a077-e3295a7e9057" -d '{"quota":{"enabled":"false"}}' -H "accept:
application/hal+json"

# The response:
HTTP/1.1 202 Accepted
Date: Mon, 25 Feb 2019 10:10:19 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Length: 189
Content-Type: application/hal+json
{
  "job": {
    "uuid": "0c8f6bea-57d1-11e9-a2dc-005056a7f717",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/0c8f6bea-57d1-11e9-a2dc-005056a7f717"
      }
    }
  }
}
```

Add tiering object tags for a FlexVol using PATCH

```
# The API:
/api/storage/volumes/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/storage/volumes/d0c3359c-5448-4a9b-
a077-e3295a7e9057" -d '{"tiering.object_tags": [ "key1=val1", "key2=val2"
]}' -H "accept: application/hal+json"

# The response:
HTTP/1.1 202 Accepted
Date: Tue, 11 Feb 2020 19:29:25 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Length: 189
Content-Type: application/hal+json
{
  "job": {
    "uuid": "d05012de-4d04-11ea-836b-005056bb6f9d",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/d05012de-4d04-11ea-836b-005056bb6f9d"
      }
    }
  }
}
```

Remove tiering object tags for a FlexVol using PATCH

```
# The API:
/api/storage/volumes/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/storage/volumes/d0c3359c-5448-4a9b-
a077-e3295a7e9057" -d '{"tiering.object_tags": []}' -H "accept:
application/hal+json"

# The response:
HTTP/1.1 202 Accepted
Date: Fri, 24 Jan 2020 22:28:04 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Length: 189
Content-Type: application/hal+json
{
  "job": {
    "uuid": "ca234df1-3ef8-11ea-9a56-005056bb69a1",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/ca234df1-3ef8-11ea-9a56-005056bb69a1"
      }
    }
  }
}
```

Deleting a volume

Example

Deleting a volume

The DELETE request is used to delete a volume.


```
# The API:
/api/storage/volumes

# The call:
curl -X DELETE "https://<mgmt-ip>/api/storage/volumes/{uuid}" -H
"accept: application/hal+json"

# The response:
HTTP/1.1 202 Accepted
cache-control: no-cache,no-store,must-revalidate
connection: Keep-Alive
content-length: 189
content-type: application/json
date: Wed, 01 Aug 2018 09:40:36 GMT
keep-alive: timeout=5, max=100
server: libzapid-httpd
{
  "job": {
    "uuid": "f1aa3eb8-956e-11e8-86bf-0050568e2249",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/f1aa3eb8-956e-11e8-86bf-0050568e2249"
      }
    }
  }
}
```

Retrieve volumes

GET /storage/volumes

Introduced In: 9.6

Retrieves volumes.

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 [Requesting specific fields](#) to learn more.

- `is_svm_root`
- `analytics.*`
- `anti_ransomware.*`
- `application.*`

- encryption.*
- queue_for_encryption
- convert_unicode
- clone.parent_snapshot.name
- clone.parent_snapshot.uuid
- clone.parent_svm.name
- clone.parent_svm.uuid
- clone.parent_volume.name
- clone.parent_volume.uuid
- clone.split_complete_percent
- clone.split_estimate
- clone.split_initiated
- efficiency.*
- error_state.*
- files.*
- max_dir_size
- nas.export_policy.id
- nas.gid
- nas.path
- nas.security_style
- nas.uid
- nas.unix_permissions
- nas.junction_parent.name
- nas.junction_parent.uuid
- snaplock.*
- restore_to.*
- snapshot_policy.uuid
- quota.*
- qos.*
- flexcache_endpoint_type
- space.block_storage_inactive_user_data
- space.capacity_tier_footprint
- space.performance_tier_footprint
- space.local_tier_footprint

- space.footprint
- space.over_provisioned
- space.metadata
- space.total_footprint
- space.dedupe_metafiles_footprint
- space.dedupe_metafiles_temporary_footprint
- space.delayed_free_footprint
- space.file_operation_metadata
- space.snapmirror_destination_footprint
- space.volume_guarantee_footprint
- space.cross_volume_dedupe_metafiles_footprint
- space.cross_volume_dedupe_metafiles_temporary_footprint
- space.snapshot_reserve_unusable
- space.snapshot_spill
- space.user_data
- space.logical_space.*
- space.snapshot.*
- space.used_by_afs
- space.afs_total
- space.available_percent
- space.full_threshold_percent
- space.nearly_full_threshold_percent
- space.overwrite_reserve
- space.overwrite_reserve_used
- space.size_available_for_snapshots
- space.percent_used
- space.fractional_reserve
- space.block_storage_inactive_user_data_percent
- space.physical_used
- space.physical_used_percent
- space.expected_available
- space.filesystem_size
- space.filesystem_size_fixed
- guarantee.*

- autosize.*
- movement.*
- statistics.*
- constituents.name
- constituents.space.size
- constituents.space.available
- constituents.space.used
- constituents.space.available_percent
- constituents.space.used_percent
- constituents.space.block_storage_inactive_user_data
- constituents.space.capacity_tier_footprint
- constituents.space.performance_tier_footprint
- constituents.space.local_tier_footprint
- constituents.space.footprint
- constituents.space.over_provisioned
- constituents.space.metadata
- constituents.space.total_footprint
- constituents.space.logical_space.reporting
- constituents.space.logical_space.enforcement
- constituents.space.logical_space.used_by_afs
- constituents.space.logical_space.available
- constituents.space.snapshot.used
- constituents.space.snapshot.reserve_percent
- constituents.space.snapshot.autodelete_enabled
- constituents.aggregates.name
- constituents.aggregates.uuid
- constituents.movement.destination_aggregate.name
- constituents.movement.destination_aggregate.uuid
- constituents.movement.state
- constituents.movement.percent_complete
- constituents.movement.cutover_window
- constituents.movement.tiering_policy

Related ONTAP commands

- `volume show`
- `volume clone show`
- `volume efficiency show`
- `volume encryption show`
- `volume flexcache show`
- `volume flexgroup show`
- `volume move show`
- `volume quota show`
- `volume show-space`
- `volume snaplock show`
- `security anti-ransomware volume show`
- `security anti-ransomware volume space show`

Parameters

Name	Type	In	Required	Description
is_constituent	boolean	query	False	When set to false, only FlexVol and FlexGroup volumes are returned. When set to true, only FlexGroup constituent volumes are returned. Default for GET calls is false. <ul style="list-style-type: none">• Default value:• Introduced in: 9.10
nas.unix_permissions	integer	query	False	Filter by nas.unix_permissions
nas.security_style	string	query	False	Filter by nas.security_style
nas.export_policy.name	string	query	False	Filter by nas.export_policy.name

Name	Type	In	Required	Description
nas.export_policy.id	integer	query	False	Filter by nas.export_policy.id
nas.junction_parent.uuid	string	query	False	Filter by nas.junction_parent.uuid • Introduced in: 9.9
nas.junction_parent.name	string	query	False	Filter by nas.junction_parent.name • Introduced in: 9.9
nas.uid	integer	query	False	Filter by nas.uid
nas.path	string	query	False	Filter by nas.path
nas.gid	integer	query	False	Filter by nas.gid
movement.start_time	string	query	False	Filter by movement.start_time • Introduced in: 9.9
movement.cutover_window	integer	query	False	Filter by movement.cutover_window
movement.percent_complete	integer	query	False	Filter by movement.percent_complete
movement.state	string	query	False	Filter by movement.state
movement.destination_aggregate.uuid	string	query	False	Filter by movement.destination_aggregate.uuid

Name	Type	In	Required	Description
movement.destination_aggregate.name	string	query	False	Filter by movement.destination_aggregate.name
is_svm_root	boolean	query	False	Filter by is_svm_root <ul style="list-style-type: none"> Introduced in: 9.7
uuid	string	query	False	Filter by uuid
flexcache_endpoint_type	string	query	False	Filter by flexcache_endpoint_type
status	string	query	False	Filter by status <ul style="list-style-type: none"> Introduced in: 9.9
error_state.is_inconsistent	boolean	query	False	Filter by error_state.is_inconsistent
error_state.has_bad_blocks	boolean	query	False	Filter by error_state.has_bad_blocks
constituents.space.performance_tier_footprint	integer	query	False	Filter by constituents.space.performance_tier_footprint <ul style="list-style-type: none"> Introduced in: 9.9
constituents.space.available_percent	integer	query	False	Filter by constituents.space.available_percent <ul style="list-style-type: none"> Introduced in: 9.9

Name	Type	In	Required	Description
constituents.space.capacity_tier_footprint	integer	query	False	Filter by constituents.space.capacity_tier_footprint • Introduced in: 9.9
constituents.space.used_percent	integer	query	False	Filter by constituents.space.used_percent • Introduced in: 9.10
constituents.space.used_by_afs	integer	query	False	Filter by constituents.space.used_by_afs • Introduced in: 9.9
constituents.space.available	integer	query	False	Filter by constituents.space.available • Introduced in: 9.9
constituents.space.size	integer	query	False	Filter by constituents.space.size • Introduced in: 9.9
constituents.space.metadata	integer	query	False	Filter by constituents.space.metadata • Introduced in: 9.9

Name	Type	In	Required	Description
constituents.space.block_storage_inactive_user_data	integer	query	False	Filter by constituents.space.block_storage_inactive_user_data • Introduced in: 9.9
constituents.space.footprint	integer	query	False	Filter by constituents.space.footprint • Introduced in: 9.9
constituents.space.over_provisioned	integer	query	False	Filter by constituents.space.over_provisioned • Introduced in: 9.9
constituents.space.total_footprint	integer	query	False	Filter by constituents.space.total_footprint • Introduced in: 9.9
constituents.space.local_tier_footprint	integer	query	False	Filter by constituents.space.local_tier_footprint • Introduced in: 9.9
constituents.space.afs_total	integer	query	False	Filter by constituents.space.afs_total • Introduced in: 9.9
constituents.space.used	integer	query	False	Filter by constituents.space.used • Introduced in: 9.9

Name	Type	In	Required	Description
constituents.space.logical_space.enforcement	boolean	query	False	Filter by constituents.space.logical_space.enforcement • Introduced in: 9.9
constituents.space.logical_space.reporting	boolean	query	False	Filter by constituents.space.logical_space.reporting • Introduced in: 9.9
constituents.space.logical_space.available	integer	query	False	Filter by constituents.space.logical_space.available • Introduced in: 9.9
constituents.space.logical_space.used_by_afs	integer	query	False	Filter by constituents.space.logical_space.used_by_afs • Introduced in: 9.9
constituents.space.snapshot.reserve_percent	integer	query	False	Filter by constituents.space.snapshot.reserve_percent • Introduced in: 9.9
constituents.space.snapshot.used	integer	query	False	Filter by constituents.space.snapshot.used • Introduced in: 9.9

Name	Type	In	Required	Description
constituents.aggregates.uuid	string	query	False	Filter by constituents.aggregates.uuid • Introduced in: 9.9
constituents.aggregates.name	string	query	False	Filter by constituents.aggregates.name • Introduced in: 9.9
constituents.movement.cutover_window	integer	query	False	Filter by constituents.movement.cutover_window • Introduced in: 9.9
constituents.movement.state	string	query	False	Filter by constituents.movement.state • Introduced in: 9.9
constituents.movement.destination_aggregate.uuid	string	query	False	Filter by constituents.movement.destination_aggregate.uuid • Introduced in: 9.9
constituents.movement.destination_aggregate.name	string	query	False	Filter by constituents.movement.destination_aggregate.name • Introduced in: 9.9

Name	Type	In	Required	Description
constituents.movement.percent_complete	integer	query	False	Filter by constituents.movement.percent_complete • Introduced in: 9.9
constituents.name	string	query	False	Filter by constituents.name • Introduced in: 9.9
access_time_enabled	boolean	query	False	Filter by access_time_enabled • Introduced in: 9.8
comment	string	query	False	Filter by comment
snaplock.litigation_count	integer	query	False	Filter by snaplock.litigation_count
snaplock.unspecified_retention_file_count	integer	query	False	Filter by snaplock.unspecified_retention_file_count • Introduced in: 9.8
snaplock.is_audit_log	boolean	query	False	Filter by snaplock.is_audit_log
snaplock.type	string	query	False	Filter by snaplock.type
snaplock.append_mode_enabled	boolean	query	False	Filter by snaplock.append_mode_enabled

Name	Type	In	Required	Description
snaplock.compliance_clock_time	string	query	False	Filter by snaplock.compliance_clock_time
snaplock.expiry_time	string	query	False	Filter by snaplock.expiry_time
snaplock.privileged_delete	string	query	False	Filter by snaplock.privileged_delete
snaplock.retention.maximum	string	query	False	Filter by snaplock.retention.maximum
snaplock.retention.default	string	query	False	Filter by snaplock.retention.default
snaplock.retention.minimum	string	query	False	Filter by snaplock.retention.minimum
snaplock.autocommit_period	string	query	False	Filter by snaplock.autocommit_period
scheduled_snapshot_naming_scheme	string	query	False	Filter by scheduled_snapshot_naming_scheme <ul style="list-style-type: none"> Introduced in: 9.10
style	string	query	False	Filter by style
type	string	query	False	Filter by type
create_time	string	query	False	Filter by create_time
clone.parent_svm.uuid	string	query	False	Filter by clone.parent_svm.uuid

Name	Type	In	Required	Description
clone.parent_svm.name	string	query	False	Filter by clone.parent_svm.name
clone.parent_snapshot.name	string	query	False	Filter by clone.parent_snapshot.name
clone.parent_snapshot.uuid	string	query	False	Filter by clone.parent_snapshot.uuid
clone.split_initiated	boolean	query	False	Filter by clone.split_initiated
clone.split_estimate	integer	query	False	Filter by clone.split_estimate
clone.parent_volume.uuid	string	query	False	Filter by clone.parent_volume.uuid
clone.parent_volume.name	string	query	False	Filter by clone.parent_volume.name
clone.is_flexclone	boolean	query	False	Filter by clone.is_flexclone
clone.split_complete_percent	integer	query	False	Filter by clone.split_complete_percent
guarantee.honored	boolean	query	False	Filter by guarantee.honored
guarantee.type	string	query	False	Filter by guarantee.type
convert_unicode	boolean	query	False	Filter by convert_unicode <ul style="list-style-type: none"> Introduced in: 9.10
state	string	query	False	Filter by state

Name	Type	In	Required	Description
consistency_group.name	string	query	False	Filter by consistency_group.name • Introduced in: 9.7
consistency_group.uuid	string	query	False	Filter by consistency_group.uuid • Introduced in: 9.10
statistics.status	string	query	False	Filter by statistics.status
statistics.iops_raw.total	integer	query	False	Filter by statistics.iops_raw.total
statistics.iops_raw.write	integer	query	False	Filter by statistics.iops_raw.write
statistics.iops_raw.other	integer	query	False	Filter by statistics.iops_raw.other
statistics.iops_raw.read	integer	query	False	Filter by statistics.iops_raw.read
statistics.latency_raw.total	integer	query	False	Filter by statistics.latency_raw.total
statistics.latency_raw.write	integer	query	False	Filter by statistics.latency_raw.write
statistics.latency_raw.other	integer	query	False	Filter by statistics.latency_raw.other
statistics.latency_raw.read	integer	query	False	Filter by statistics.latency_raw.read

Name	Type	In	Required	Description
statistics.throughput_raw.total	integer	query	False	Filter by statistics.throughput_raw.total
statistics.throughput_raw.write	integer	query	False	Filter by statistics.throughput_raw.write
statistics.throughput_raw.other	integer	query	False	Filter by statistics.throughput_raw.other
statistics.throughput_raw.read	integer	query	False	Filter by statistics.throughput_raw.read
statistics.cloud.latency_raw.total	integer	query	False	Filter by statistics.cloud.latency_raw.total • Introduced in: 9.7
statistics.cloud.latency_raw.write	integer	query	False	Filter by statistics.cloud.latency_raw.write • Introduced in: 9.7
statistics.cloud.latency_raw.other	integer	query	False	Filter by statistics.cloud.latency_raw.other • Introduced in: 9.7
statistics.cloud.latency_raw.read	integer	query	False	Filter by statistics.cloud.latency_raw.read • Introduced in: 9.7

Name	Type	In	Required	Description
statistics.cloud.iops_raw.total	integer	query	False	Filter by statistics.cloud.iops_raw.total • Introduced in: 9.7
statistics.cloud.iops_raw.write	integer	query	False	Filter by statistics.cloud.iops_raw.write • Introduced in: 9.7
statistics.cloud.iops_raw.other	integer	query	False	Filter by statistics.cloud.iops_raw.other • Introduced in: 9.7
statistics.cloud.iops_raw.read	integer	query	False	Filter by statistics.cloud.iops_raw.read • Introduced in: 9.7
statistics.cloud.status	string	query	False	Filter by statistics.cloud.status • Introduced in: 9.7
statistics.cloud.timestamp	string	query	False	Filter by statistics.cloud.timestamp • Introduced in: 9.7
statistics.flexcache_raw.timestamp	string	query	False	Filter by statistics.flexcache_raw.timestamp • Introduced in: 9.8

Name	Type	In	Required	Description
statistics.flexcache_raw.client_requested_blocks	integer	query	False	Filter by statistics.flexcache_raw.client_requested_blocks • Introduced in: 9.8
statistics.flexcache_raw.cache_miss_blocks	integer	query	False	Filter by statistics.flexcache_raw.cache_miss_blocks • Introduced in: 9.8
statistics.flexcache_raw.status	string	query	False	Filter by statistics.flexcache_raw.status • Introduced in: 9.8
statistics.timestamp	string	query	False	Filter by statistics.timestamp
queue_for_encryption	boolean	query	False	Filter by queue_for_encryption • Introduced in: 9.8
autosize.grow_threshold	integer	query	False	Filter by autosize.grow_threshold
autosize.shrink_threshold	integer	query	False	Filter by autosize.shrink_threshold
autosize.minimum	integer	query	False	Filter by autosize.minimum
autosize.mode	string	query	False	Filter by autosize.mode

Name	Type	In	Required	Description
autosize.maximum	integer	query	False	Filter by autosize.maximum
snapmirror.destinations.is_cloud	boolean	query	False	Filter by snapmirror.destinations.is_cloud <ul style="list-style-type: none"> Introduced in: 9.9
snapmirror.destinations.is_ontap	boolean	query	False	Filter by snapmirror.destinations.is_ontap <ul style="list-style-type: none"> Introduced in: 9.9
snapmirror.is_protected	boolean	query	False	Filter by snapmirror.is_protected <ul style="list-style-type: none"> Introduced in: 9.7
snapshot_count	integer	query	False	Filter by snapshot_count <ul style="list-style-type: none"> Introduced in: 9.10
language	string	query	False	Filter by language
metric.iops.total	integer	query	False	Filter by metric.iops.total
metric.iops.write	integer	query	False	Filter by metric.iops.write
metric.iops.other	integer	query	False	Filter by metric.iops.other
metric.iops.read	integer	query	False	Filter by metric.iops.read
metric.throughput.total	integer	query	False	Filter by metric.throughput.total

Name	Type	In	Required	Description
metric.throughput.write	integer	query	False	Filter by metric.throughput.write
metric.throughput.other	integer	query	False	Filter by metric.throughput.other
metric.throughput.read	integer	query	False	Filter by metric.throughput.read
metric.duration	string	query	False	Filter by metric.duration
metric.cloud.iops.total	integer	query	False	Filter by metric.cloud.iops.total • Introduced in: 9.7
metric.cloud.iops.write	integer	query	False	Filter by metric.cloud.iops.write • Introduced in: 9.7
metric.cloud.iops.other	integer	query	False	Filter by metric.cloud.iops.other • Introduced in: 9.7
metric.cloud.iops.read	integer	query	False	Filter by metric.cloud.iops.read • Introduced in: 9.7
metric.cloud.status	string	query	False	Filter by metric.cloud.status • Introduced in: 9.7

Name	Type	In	Required	Description
metric.cloud.duration	string	query	False	Filter by metric.cloud.duration • Introduced in: 9.7
metric.cloud.latency.total	integer	query	False	Filter by metric.cloud.latency.total • Introduced in: 9.7
metric.cloud.latency.write	integer	query	False	Filter by metric.cloud.latency.write • Introduced in: 9.7
metric.cloud.latency.other	integer	query	False	Filter by metric.cloud.latency.other • Introduced in: 9.7
metric.cloud.latency.read	integer	query	False	Filter by metric.cloud.latency.read • Introduced in: 9.7
metric.cloud.timestamp	string	query	False	Filter by metric.cloud.timestamp • Introduced in: 9.7
metric.status	string	query	False	Filter by metric.status

Name	Type	In	Required	Description
metric.flexcache.timestamp	string	query	False	Filter by metric.flexcache.timestamp • Introduced in: 9.8
metric.flexcache.duration	string	query	False	Filter by metric.flexcache.duration • Introduced in: 9.8
metric.flexcache.cache_miss_percent	integer	query	False	Filter by metric.flexcache.cache_miss_percent • Introduced in: 9.8
metric.flexcache.status	string	query	False	Filter by metric.flexcache.status • Introduced in: 9.8
metric.flexcache.bandwidth_savings	integer	query	False	Filter by metric.flexcache.bandwidth_savings • Introduced in: 9.9
metric.latency.total	integer	query	False	Filter by metric.latency.total
metric.latency.write	integer	query	False	Filter by metric.latency.write
metric.latency.other	integer	query	False	Filter by metric.latency.other
metric.latency.read	integer	query	False	Filter by metric.latency.read

Name	Type	In	Required	Description
metric.timestamp	string	query	False	Filter by metric.timestamp
files.maximum	integer	query	False	Filter by files.maximum
files.used	integer	query	False	Filter by files.used
size	integer	query	False	Filter by size
name	string	query	False	Filter by name
flash_pool.caching_policy	string	query	False	Filter by flash_pool.caching_policy • Introduced in: 9.10
flash_pool.cache_eligibility	string	query	False	Filter by flash_pool.cache_eligibility • Introduced in: 9.10
flash_pool.cache_retention_priority	string	query	False	Filter by flash_pool.cache_retention_priority • Introduced in: 9.10
application.uuid	string	query	False	Filter by application.uuid
application.name	string	query	False	Filter by application.name
snapshot_policy.uuid	string	query	False	Filter by snapshot_policy.uuid
snapshot_policy.name	string	query	False	Filter by snapshot_policy.name

Name	Type	In	Required	Description
tiering.object_tags	string	query	False	Filter by tiering.object_tags • Introduced in: 9.8
tiering.policy	string	query	False	Filter by tiering.policy
tiering.min_cooling_days	integer	query	False	Filter by tiering.min_cooling_days • Introduced in: 9.8
encryption.type	string	query	False	Filter by encryption.type
encryption.enabled	boolean	query	False	Filter by encryption.enabled
encryption.key_id	string	query	False	Filter by encryption.key_id
encryption.state	string	query	False	Filter by encryption.state
encryption.rekey	boolean	query	False	Filter by encryption.rekey
encryption.status.code	string	query	False	Filter by encryption.status.code
encryption.status.message	string	query	False	Filter by encryption.status.message
flexgroup.uuid	string	query	False	Filter by flexgroup.uuid • Introduced in: 9.10

Name	Type	In	Required	Description
flexgroup.name	string	query	False	Filter by flexgroup.name • Introduced in: 9.10
space.physical_used	integer	query	False	Filter by space.physical_used • Introduced in: 9.10
space.snapshot.space_used_percent	integer	query	False	Filter by space.snapshot.space_used_percent • Introduced in: 9.9
space.snapshot.reserve_size	integer	query	False	Filter by space.snapshot.reserve_size • Introduced in: 9.9
space.snapshot.reserve_percent	integer	query	False	Filter by space.snapshot.reserve_percent
space.snapshot.used	integer	query	False	Filter by space.snapshot.used
space.snapshot.auto_delete_trigger	string	query	False	Filter by space.snapshot.auto_delete_trigger • Introduced in: 9.10
space.snapshot.reserve_available	integer	query	False	Filter by space.snapshot.reserve_available • Introduced in: 9.10

Name	Type	In	Required	Description
space.full_threshold_percent	integer	query	False	Filter by space.full_threshold_percent • Introduced in: 9.9
space.filesystem_size	integer	query	False	Filter by space.filesystem_size • Introduced in: 9.10
space.available	integer	query	False	Filter by space.available
space.used_by_afs	integer	query	False	Filter by space.used_by_afs • Introduced in: 9.9
space.physical_used_percent	integer	query	False	Filter by space.physical_used_percent • Introduced in: 9.10
space.user_data	integer	query	False	Filter by space.user_data • Introduced in: 9.10
space.cross_volume_dedupe_metafiles_footprint	integer	query	False	Filter by space.cross_volume_dedupe_metafiles_footprint • Introduced in: 9.10
space.metadata	integer	query	False	Filter by space.metadata

Name	Type	In	Required	Description
space.block_storage_inactive_user_data	integer	query	False	Filter by space.block_storage_inactive_user_data
space.size_available_for_snapshots	integer	query	False	Filter by space.size_available_for_snapshots • Introduced in: 9.9
space.percent_used	integer	query	False	Filter by space.percent_used • Introduced in: 9.9
space.performance_tier_footprint	integer	query	False	Filter by space.performance_tier_footprint • Introduced in: 9.8
space.overwrite_reserve	integer	query	False	Filter by space.overwrite_reserve • Introduced in: 9.9
space.total_footprint	integer	query	False	Filter by space.total_footprint • Introduced in: 9.8
space.over_provisioned	integer	query	False	Filter by space.over_provisioned
space.dedupe_metafiles_temporary_footprint	integer	query	False	Filter by space.dedupe_metafiles_temporary_footprint • Introduced in: 9.10

Name	Type	In	Required	Description
space.afs_total	integer	query	False	Filter by space.afs_total • Introduced in: 9.9
space.local_tier_footprint	integer	query	False	Filter by space.local_tier_footprint • Introduced in: 9.8
space.block_storage_inactive_user_data_percent	integer	query	False	Filter by space.block_storage_inactive_user_data_percent • Introduced in: 9.9
space.logical_space.available	integer	query	False	Filter by space.logical_space.available
space.logical_space.used_by_snapshots	integer	query	False	Filter by space.logical_space.used_by_snapshots • Introduced in: 9.10
space.logical_space.used_by_afs	integer	query	False	Filter by space.logical_space.used_by_afs
space.logical_space.enforcement	boolean	query	False	Filter by space.logical_space.enforcement
space.logical_space.used_percent	integer	query	False	Filter by space.logical_space.used_percent • Introduced in: 9.9

Name	Type	In	Required	Description
space.logical_space.reporting	boolean	query	False	Filter by space.logical_space.reporting
space.logical_space.used	integer	query	False	Filter by space.logical_space.used • Introduced in: 9.9
space.used	integer	query	False	Filter by space.used
space.delayed_free_footprint	integer	query	False	Filter by space.delayed_free_footprint • Introduced in: 9.10
space.snapshot_spill	integer	query	False	Filter by space.snapshot_spill • Introduced in: 9.10
space.fractional_reserve	integer	query	False	Filter by space.fractional_reserve • Introduced in: 9.9
space.cross_volume_dedupe_metafiles_temporary_footprint	integer	query	False	Filter by space.cross_volume_dedupe_metafiles_temporary_footprint • Introduced in: 9.10
space.size	integer	query	False	Filter by space.size

Name	Type	In	Required	Description
space.nearly_full_threshold_percent	integer	query	False	Filter by space.nearly_full_threshold_percent • Introduced in: 9.9
space.snapmirror_destination_footprint	integer	query	False	Filter by space.snapmirror_destination_footprint • Introduced in: 9.10
space.footprint	integer	query	False	Filter by space.footprint
space.filesystem_size_fixed	boolean	query	False	Filter by space.filesystem_size_fixed • Introduced in: 9.10
space.dedupe_metadata_files_footprint	integer	query	False	Filter by space.dedupe_metadata_files_footprint • Introduced in: 9.10
space.available_percent	integer	query	False	Filter by space.available_percent • Introduced in: 9.9
space.overwrite_reserve_used	integer	query	False	Filter by space.overwrite_reserve_used • Introduced in: 9.9

Name	Type	In	Required	Description
space.snapshot_reserve_unusable	integer	query	False	Filter by space.snapshot_reserve_unusable • Introduced in: 9.10
space.volume_guarantee_footprint	integer	query	False	Filter by space.volume_guarantee_footprint • Introduced in: 9.10
space.capacity_tier_footprint	integer	query	False	Filter by space.capacity_tier_footprint
space.expected_available	integer	query	False	Filter by space.expected_available • Introduced in: 9.10
space.file_operation_metadata	integer	query	False	Filter by space.file_operation_metadata • Introduced in: 9.10
quota.state	string	query	False	Filter by quota.state
aggregates.uuid	string	query	False	Filter by aggregates.uuid
aggregates.name	string	query	False	Filter by aggregates.name
is_object_store	boolean	query	False	Filter by is_object_store • Introduced in: 9.8

Name	Type	In	Required	Description
efficiency.last_op_size	integer	query	False	Filter by efficiency.last_op_size • Introduced in: 9.9
efficiency.cross_volume_dedupe	string	query	False	Filter by efficiency.cross_volume_dedupe
efficiency.compaction	string	query	False	Filter by efficiency.compaction
efficiency.op_state	string	query	False	Filter by efficiency.op_state • Introduced in: 9.9
efficiency.schedule	string	query	False	Filter by efficiency.schedule • Introduced in: 9.8
efficiency.last_op_state	string	query	False	Filter by efficiency.last_op_state • Introduced in: 9.9
efficiency.policy.name	string	query	False	Filter by efficiency.policy.name • Introduced in: 9.7
efficiency.dedupe	string	query	False	Filter by efficiency.dedupe

Name	Type	In	Required	Description
efficiency.last_op_err	string	query	False	Filter by efficiency.last_op_err • Introduced in: 9.9
efficiency.state	string	query	False	Filter by efficiency.state • Introduced in: 9.9
efficiency.last_op_end	string	query	False	Filter by efficiency.last_op_end • Introduced in: 9.9
efficiency.last_op_begin	string	query	False	Filter by efficiency.last_op_begin • Introduced in: 9.9
efficiency.path	string	query	False	Filter by efficiency.path • Introduced in: 9.9
efficiency.progress	string	query	False	Filter by efficiency.progress • Introduced in: 9.9
efficiency.type	string	query	False	Filter by efficiency.type • Introduced in: 9.9
efficiency.compression	string	query	False	Filter by efficiency.compression

Name	Type	In	Required	Description
efficiency.storage_efficiency_mode	string	query	False	Filter by efficiency.storage_efficiency_mode • Introduced in: 9.10
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
analytics.state	string	query	False	Filter by analytics.state • Introduced in: 9.8
analytics.supported	boolean	query	False	Filter by analytics.supported • Introduced in: 9.8
analytics.scan_progress	integer	query	False	Filter by analytics.scan_progress • Introduced in: 9.8
analytics.unsupported_reason.code	string	query	False	Filter by analytics.unsupported_reason.code • Introduced in: 9.8
analytics.unsupported_reason.message	string	query	False	Filter by analytics.unsupported_reason.message • Introduced in: 9.8
max_dir_size	integer	query	False	Filter by max_dir_size • Introduced in: 9.10

Name	Type	In	Required	Description
qos.policy.uuid	string	query	False	Filter by qos.policy.uuid
qos.policy.min_throughput_iops	integer	query	False	Filter by qos.policy.min_throughput_iops
qos.policy.max_throughput_iops	integer	query	False	Filter by qos.policy.max_throughput_iops
qos.policy.min_throughput_mbps	integer	query	False	Filter by qos.policy.min_throughput_mbps • Introduced in: 9.8
qos.policy.name	string	query	False	Filter by qos.policy.name
qos.policy.max_throughput_mbps	integer	query	False	Filter by qos.policy.max_throughput_mbps
cloud_retrieval_policy	string	query	False	Filter by cloud_retrieval_policy • Introduced in: 9.8
anti_ransomware_state	string	query	False	Filter by anti_ransomware_state • Introduced in: 9.10
activity_tracking_supported	boolean	query	False	Filter by activity_tracking_supported • Introduced in: 9.10

Name	Type	In	Required	Description
activity_tracking.state	string	query	False	Filter by activity_tracking.state • Introduced in: 9.10
activity_tracking.unsupported_reason.code	string	query	False	Filter by activity_tracking.unsupported_reason.code • Introduced in: 9.10
activity_tracking.unsupported_reason.message	string	query	False	Filter by activity_tracking.unsupported_reason.message • Introduced in: 9.10
anti_ransomware.suspect_files.count	integer	query	False	Filter by anti_ransomware.suspect_files.count • Introduced in: 9.10
anti_ransomware.suspect_files.format	string	query	False	Filter by anti_ransomware.suspect_files.format • Introduced in: 9.10
anti_ransomware.attack_probability	string	query	False	Filter by anti_ransomware.attack_probability • Introduced in: 9.10

Name	Type	In	Required	Description
anti_ransomware.state	string	query	False	Filter by anti_ransomware.state • Introduced in: 9.10
anti_ransomware.dry_run_start_time	string	query	False	Filter by anti_ransomware.dry_run_start_time • Introduced in: 9.10
anti_ransomware.space.used_by_logs	integer	query	False	Filter by anti_ransomware.space.used_by_logs • Introduced in: 9.10
anti_ransomware.space.snapshot_count	integer	query	False	Filter by anti_ransomware.space.snapshot_count • Introduced in: 9.10
anti_ransomware.space.used	integer	query	False	Filter by anti_ransomware.space.used • Introduced in: 9.10
anti_ransomware.space.used_by_snapshots	integer	query	False	Filter by anti_ransomware.space.used_by_snapshots • Introduced in: 9.10
anti_ransomware.attack_reports.time	string	query	False	Filter by anti_ransomware.attack_reports.time • Introduced in: 9.10

Name	Type	In	Required	Description
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. • 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. • 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	_links	
num_records	integer	Number of records
records	array[volume]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "activity_tracking": {
        "state": "string",
        "unsupported_reason": {
          "code": "124518405",
          "message": "Volume activity tracking cannot be enabled on
volumes that contain LUNs."
        }
      },
      "aggregates": [
        {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "aggr1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      ],
      "analytics": {
        "scan_progress": 17,
        "state": "string",
        "unsupported_reason": {
          "code": "111411207",
          "message": "File system analytics cannot be enabled on
volumes that contain LUNs."
        }
      }
    },
  ],
}
```

```

"anti_ransomware": {
  "attack_probability": "string",
  "attack_reports": [
    {
      "_links": {
        "suspects": {
          "href": "/api/resourcelink"
        }
      },
      "time": "2021-06-01T20:36:41+05:30"
    }
  ],
  "dry_run_start_time": "string",
  "space": {
    "snapshot_count": 0,
    "used": 0,
    "used_by_logs": 0,
    "used_by_snapshots": 0
  },
  "state": "string",
  "suspect_files": [
    {
      "count": 0,
      "format": "string"
    }
  ]
},
"anti_ransomware_state": "string",
"application": {
  "name": "string",
  "uuid": "1cd8a442-86d1-11e0-ae1d-123478563412"
},
"autosize": {
  "mode": "string"
},
"clone": {
  "parent_snapshot": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "name": "this_snapshot",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"parent_svm": {

```



```

    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "parent_volume": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  },
  "split_complete_percent": 0,
  "split_estimate": 0
},
"cloud_retrieval_policy": "string",
"comment": "string",
"consistency_group": {
  "name": "consistency_group_1",
  "uuid": "1cd8a442-86d1-11e0-ae1d-123478563412"
},
"constituents": [
  {
    "aggregates": {
      "name": "string",
      "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
    },
    "movement": {
      "cutover_window": 30,
      "destination_aggregate": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "aggr1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "percent_complete": 0,
      "state": "replicating",
      "tiering_policy": "string"
    }
  }
]

```

```

    },
    "name": "string",
    "space": {
        "available": 0,
        "block_storage_inactive_user_data": 0,
        "capacity_tier_footprint": 0,
        "footprint": 0,
        "local_tier_footprint": 0,
        "logical_space": {
            "available": 0,
            "used_by_afs": 0
        },
        "metadata": 0,
        "over_provisioned": 0,
        "performance_tier_footprint": 0,
        "snapshot": {
            "used": 0
        },
        "total_footprint": 0,
        "used": 0
    }
},
],
"create_time": "2018-06-04T19:00:00Z",
"efficiency": {
    "application_io_size": "string",
    "compaction": "string",
    "compression": "string",
    "cross_volume_dedupe": "string",
    "dedupe": "string",
    "last_op_begin": "string",
    "last_op_end": "string",
    "last_op_err": "string",
    "last_op_size": 0,
    "last_op_state": "string",
    "op_state": "string",
    "path": "string",
    "policy": {
        "name": "string"
    },
    "progress": "string",
    "schedule": "string",
    "state": "string",
    "storage_efficiency_mode": "string",
    "type": "string"
},

```

```

"encryption": {
  "key_id": "string",
  "key_manager_attribute": "CRN=v1:bluemix:public:containers-
kubernetes:us-south:a/asdfghjkl1234:asdfghjkl1234:worker:kubernetes-
asdfghjkl-worker1",
  "state": "string",
  "status": {
    "code": "string",
    "message": "string"
  },
  "type": "string"
},
"files": {
  "used": 0
},
"flash_pool": {
  "cache_eligibility": "string",
  "cache_retention_priority": "string",
  "caching_policy": "string"
},
"flexcache_endpoint_type": "string",
"flexgroup": {
  "name": "my_flexgroup",
  "uuid": "75c9cfb0-3eb4-11eb-9fb4-005056bb088a"
},
"guarantee": {
  "type": "string"
},
"language": "string",
"metric": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "cloud": {
    "duration": "PT15S",
    "iops": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency": {
      "read": 200,
      "total": 1000,
      "write": 100
    }
  }
}

```

```

    },
    "status": "ok",
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "duration": "PT15S",
  "flexcache": {
    "bandwidth_savings": 4096,
    "cache_miss_percent": 20,
    "duration": "PT1D",
    "status": "ok",
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "iops": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "status": "ok",
  "throughput": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "timestamp": "2017-01-25T11:20:13Z"
},
"movement": {
  "cutover_window": 30,
  "destination_aggregate": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "name": "aggr1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"percent_complete": 0,
"start_time": "2020-12-07T03:45:12-05:00",
"state": "replicating",
"tiering_policy": "string"
},

```

```

"name": "vol_cs_dept",
"nas": {
  "export_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "id": 100,
    "name": "default"
  },
  "junction_parent": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "vs1_root",
    "uuid": "75c9cfb0-3eb4-11eb-9fb4-005056bb088a"
  },
  "path": "/user/my_volume",
  "security_style": "string",
  "unix_permissions": 755
},
"qos": {
  "policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "max_throughput_iops": 10000,
    "max_throughput_mbps": 500,
    "min_throughput_iops": 2000,
    "min_throughput_mbps": 500,
    "name": "performance",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "quota": {
    "state": "string"
  },
  "scheduled_snapshot_naming_scheme": "string",
  "snaplock": {
    "append_mode_enabled": "",
    "autocommit_period": "P30M",

```

```

    "compliance_clock_time": "2018-06-04T19:00:00Z",
    "expiry_time": "Wed Sep  5 11:02:42 GMT 2018",
    "is_audit_log": 1,
    "litigation_count": 10,
    "privileged_delete": "enabled",
    "retention": {
      "default": "P30Y",
      "maximum": "P30Y",
      "minimum": "P30Y"
    },
    "type": "enterprise",
    "unspecified_retention_file_count": 10
  },
  "snapshot_count": 0,
  "snapshot_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "default",
    "uuid": "1cd8a442-86d1-11e0-aelc-123478563412"
  },
  "space": {
    "available": 0,
    "block_storage_inactive_user_data": 0,
    "block_storage_inactive_user_data_percent": 0,
    "capacity_tier_footprint": 0,
    "cross_volume_dedupe_metafiles_footprint": 0,
    "cross_volume_dedupe_metafiles_temporary_footprint": 0,
    "dedupe_metafiles_footprint": 0,
    "dedupe_metafiles_temporary_footprint": 0,
    "delayed_free_footprint": 0,
    "file_operation_metadata": 0,
    "filesystem_size": 0,
    "footprint": 0,
    "local_tier_footprint": 0,
    "logical_space": {
      "available": 0,
      "used": 0,
      "used_by_afs": 0,
      "used_by_snapshots": 0,
      "used_percent": 0
    },
    "metadata": 0,
    "over_provisioned": 0,

```

```

"overwrite_reserve": 0,
"overwrite_reserve_used": 0,
"percent_used": 0,
"performance_tier_footprint": 0,
"size_available_for_snapshots": 0,
"snapmirror_destination_footprint": 0,
"snapshot": {
  "autodelete_trigger": "string",
  "reserve_available": 0,
  "reserve_size": 0,
  "space_used_percent": 0,
  "used": 0
},
"snapshot_reserve_unusable": 0,
"snapshot_spill": 0,
"total_footprint": 0,
"used": 0,
"user_data": 0,
"volume_guarantee_footprint": 0
},
"state": "string",
"statistics": {
  "cloud": {
    "iops_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "flexcache_raw": {
    "cache_miss_blocks": 10,
    "client_requested_blocks": 500,
    "status": "ok",
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "iops_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  }
}

```

```

    },
    "latency_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "throughput_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "status": [
    "string"
  ],
  "style": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "tiering": {
    "object_tags": [
      "string"
    ],
    "policy": "string"
  },
  "type": "string",
  "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
}
]
}

```

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	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

unsupported_reason

Name	Type	Description
code	string	If volume activity tracking is not supported on the volume, this field provides an appropriate error code.
message	string	If volume activity tracking is not supported on the volume, this field provides an error message detailing why this is the case.

activity_tracking

Name	Type	Description
state	string	Activity tracking state of the volume. If this value is "on", ONTAP collects top metrics information for the volume in real time. There is a slight impact to I/O performance in order to collect this information. If this value is "off", no activity tracking information is collected or available to view. <ul style="list-style-type: none"> enum: ["off", "on"] Introduced in: 9.10
supported	boolean	This field indicates whether or not volume activity tracking is supported on the volume. If volume activity tracking is not supported, the reason why is provided in the "activity_tracking.unsupported_reason" field.
unsupported_reason	unsupported_reason	

aggregates

Aggregate

Name	Type	Description
_links	_links	
name	string	
uuid	string	

unsupported_reason

Name	Type	Description
code	string	If file system analytics is not supported on the volume, this field provides the error code explaining why.
message	string	If file system analytics is not supported on the volume, this field provides the error message explaining why.

analytics

Name	Type	Description
scan_progress	integer	Percentage of files in the volume that the file system analytics initialization scan has processed. Only returned when the state is <code>initializing</code> .
state	string	<p>File system analytics state of the volume. If this value is "on", ONTAP collects extra file system analytics information for all directories on the volume. There will be a slight impact to I/O performance to collect this information. If this value is "off", file system analytics information is not collected and not available to be viewed. If this value is "initializing", that means file system analytics was recently turned on, and the initialization scan to gather information all existing files and directories is currently running. If this value is 'unknown' that means there was an internal error when determining the file system analytics state for the volume.</p> <ul style="list-style-type: none">enum: ["unknown", "initializing", "off", "on"]Introduced in: 9.8
supported	boolean	This field indicates whether or not file system analytics is supported on the volume. If file system analytics is not supported, the reason will be specified in the "analytics.unsupported_reason" field.
unsupported_reason	unsupported_reason	

_links

Name	Type	Description
suspects	href	

anti_ransomware_attack_report

Name	Type	Description
_links	_links	
time	string	Timestamp at which ransomware attack is observed.

space

Name	Type	Description
snapshot_count	integer	Total number of Anti-ransomware backup Snapshot copies.
used	integer	Total space in bytes used by the Anti-ransomware feature.
used_by_logs	integer	Space in bytes used by the Anti-ransomware analytics logs.
used_by_snapshots	integer	Space in bytes used by the Anti-ransomware backup Snapshot copies.

suspect_files

Name	Type	Description
count	integer	Total number of <code>suspect_files.format</code> files observed by the Anti-ransomware analytics engine on the volume.
format	string	File formats observed by the Anti-ransomware analytics engine on the volume.

anti_ransomware

Anti-ransomware related information of the volume.

Name	Type	Description
attack_probability	string	Probability of a ransomware attack. <code>none</code> No files are suspected of ransomware activity. <code>low</code> A number of files are suspected of ransomware activity. <code>moderate</code> A moderate number of files are suspected of ransomware activity. <code>high</code> A large number of files are suspected of ransomware activity.
attack_reports	array[anti_ransomware_attack_report]	
dry_run_start_time	string	Time when Anti-ransomware monitoring state is set to dry-run value for starting evaluation mode.
space	space	

Name	Type	Description
state	string	<p>Anti-ransomware state.</p> <p><code>disabled</code> Anti-ransomware monitoring is disabled on the volume. This is the default state in a POST operation.</p> <p><code>disable_in_progress</code> Anti-ransomware monitoring is being disabled and a cleanup operation is in effect. Valid in GET operation.</p> <p><code>dry_run</code> Anti-ransomware monitoring is enabled in the evaluation mode.</p> <p><code>enabled</code> Anti-ransomware monitoring is active on the volume.</p> <p><code>paused</code> Anti-ransomware monitoring is paused on the volume.</p> <p><code>enable_paused</code> Anti-ransomware monitoring is paused on the volume from its earlier enabled state. Valid in GET operation.</p> <p><code>dry_run_paused</code> Anti-ransomware monitoring is paused on the volume from its earlier <code>dry_run</code> state. Valid in GET operation. For POST, the valid Anti-ransomware states are only <code>disabled</code>, <code>enabled</code> and <code>dry_run</code>, whereas for PATCH, <code>paused</code> is also valid along with the three valid states for POST.</p>
suspect_files	array[suspect_files]	

application

Name	Type	Description
name	string	Name of the application to which the volume belongs. Available only when the volume is part of an application.
uuid	string	UUID of the application to which the volume belongs. Available only when the volume is part of an application.

autosize

Name	Type	Description
grow_threshold	integer	Used space threshold size, in percentage, for the automatic growth of the volume. When the amount of used space in the volume becomes greater than this threshold, the volume automatically grows unless it has reached the maximum size. The volume grows when 'space.used' is greater than this percent of 'space.size'. The 'grow_threshold' size cannot be less than or equal to the 'shrink_threshold' size..
maximum	integer	Maximum size in bytes up to which a volume grows automatically. This size cannot be less than the current volume size, or less than or equal to the minimum size of volume.
minimum	integer	Minimum size in bytes up to which the volume shrinks automatically. This size cannot be greater than or equal to the maximum size of volume.
mode	string	Autosize mode for the volume. grow ‐ Volume automatically grows when the amount of used space is above the 'grow_threshold' value. grow_shrink ‐ Volume grows or shrinks in response to the amount of space used. off ‐ Autosizing of the volume is disabled.

Name	Type	Description
shrink_threshold	integer	Used space threshold size, in percentage, for the automatic shrinkage of the volume. When the amount of used space in the volume drops below this threshold, the volume automatically shrinks unless it has reached the minimum size. The volume shrinks when the 'space.used' is less than the 'shrink_threshold' percent of 'space.size'. The 'shrink_threshold' size cannot be greater than or equal to the 'grow_threshold' size.

snapshot_reference

Name	Type	Description
_links	_links	
name	string	
uuid	string	

parent_svm

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

parent_volume

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

clone

Name	Type	Description
is_flexclone	boolean	Specifies if this volume is a normal FlexVol or FlexClone. This field needs to be set when creating a FlexClone. Valid in POST.
parent_snapshot	snapshot_reference	
parent_svm	parent_svm	
parent_volume	parent_volume	
split_complete_percent	integer	Percentage of FlexClone blocks split from its parent volume.
split_estimate	integer	Space required by the containing-aggregate to split the FlexClone volume.
split_initiated	boolean	This field is set when split is executed on any FlexClone, that is when the FlexClone volume is split from its parent FlexVol. This field needs to be set for splitting a FlexClone form FlexVol. Valid in PATCH.

consistency_group

Consistency group the volume is part of.

Name	Type	Description
name	string	The name of the consistency group to which the volume belongs. Available only when the volume is part of a consistency group. If this volume belongs to a child consistency group, then this will be the UUID of the parent consistency group.
uuid	string	The UUID of the consistency group to which the volume belongs. Available only when the volume is part of a consistency group. If this volume belongs to a child consistency group, then this will be the UUID of the parent consistency group.

aggregates

Name	Type	Description
name	string	Name of the aggregate hosting the FlexGroup Constituent.
uuid	string	Unique identifier for the aggregate.

destination_aggregate

Aggregate

Name	Type	Description
_links	_links	
name	string	
uuid	string	

movement

Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.

Name	Type	Description
cutover_window	integer	Time window in seconds for cutover. The allowed range is between 30 to 300 seconds.
destination_aggregate	destination_aggregate	Aggregate
percent_complete	integer	Completion percentage
state	string	State of volume move operation. PATCH the state to "aborted" to abort the move operation. PATCH the state to "cutover" to trigger cutover. PATCH the state to "paused" to pause the volume move operation in progress. PATCH the state to "replicating" to resume the paused volume move operation. PATCH the state to "cutover_wait" to go into cutover manually. When volume move operation is waiting to go into "cutover" state, this is indicated by the "cutover_pending" state. A change of state is only supported if volume movement is in progress.
tiering_policy	string	Tiering policy for FabricPool

logical_space

Name	Type	Description
available	integer	The amount of space available in this volume with storage efficiency space considered used, in bytes.
enforcement	boolean	Specifies whether space accounting for operations on the volume is done along with storage efficiency.
reporting	boolean	Specifies whether space reporting on the volume is done along with storage efficiency.

Name	Type	Description
used_by_afs	integer	The virtual space used by AFS alone (includes volume reserves) and along with storage efficiency, in bytes.

snapshot

Name	Type	Description
autodelete_enabled	boolean	Specifies whether Snapshot copy autodelete is currently enabled on this volume.
reserve_percent	integer	The space that has been set aside as a reserve for Snapshot copy usage, in percent.
used	integer	The total space used by Snapshot copies in the volume, in bytes.

space

Name	Type	Description
afs_total	integer	Total size of AFS, excluding snap-reserve, in bytes.
available	integer	The available space, in bytes.
available_percent	integer	The space available, as a percent.
block_storage_inactive_user_data	integer	The size that is physically used in the block storage of the volume and has a cold temperature. In bytes. This parameter is only supported if the volume is in an aggregate that is either attached to a cloud store or could be attached to a cloud store.
capacity_tier_footprint	integer	Space used by capacity tier for this volume in the FabricPool aggregate, in bytes.

Name	Type	Description
footprint	integer	Data used for this volume in the aggregate, in bytes.
local_tier_footprint	integer	Space used by the local tier for this volume in the aggregate, in bytes.
logical_space	logical_space	
metadata	integer	Space used by the volume metadata in the aggregate, in bytes.
over_provisioned	integer	The amount of space not available for this volume in the aggregate, in bytes.
performance_tier_footprint	integer	Space used by the performance tier for this volume in the FabricPool aggregate, in bytes.
size	integer	Total provisioned size. The default size is equal to the minimum size of 20MB, in bytes.
snapshot	snapshot	
total_footprint	integer	Data and metadata used for this volume in the aggregate, in bytes.
used	integer	The virtual space used (includes volume reserves) before storage efficiency, in bytes.
used_by_afs	integer	The space used by Active Filesystem, in bytes.
used_percent	integer	The virtual space used (includes volume reserves) before storage efficiency, as a percent.

constituents

Name	Type	Description
aggregates	aggregates	

Name	Type	Description
movement	movement	Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.
name	string	FlexGroup Constituents name
space	space	

policy

Name	Type	Description
name	string	Specifies the name of the efficiency policy. Valid for PATCH.

efficiency

Name	Type	Description
application_io_size	string	Block size to use by compression. Valid for POST.
compaction	string	The system can be enabled/disabled compaction. inline ‐ Data will be compacted first and written to the volume. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are compaction enabled and some are disabled.

Name	Type	Description
compression	string	The system can be enabled/disabled compression. inline ‐ Data will be compressed first and written to the volume. background ‐ Data will be written to the volume and compressed later. both ‐ Inline compression compresses the data and write to the volume, background compression compresses only the blocks on which inline compression is not run. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are compression enabled and some are disabled.
cross_volume_dedupe	string	The system can be enabled/disabled cross volume dedupe. it can be enabled only when dedupe is enabled. inline ‐ Data will be cross volume deduped first and written to the volume. background ‐ Data will be written to the volume and cross volume deduped later. both ‐ Inline cross volume dedupe dedupes the data and write to the volume, background cross volume dedupe dedupes only the blocks on which inline dedupe is not run. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are cross volume dedupe enabled and some are disabled.

Name	Type	Description
dedupe	string	The system can be enabled/disabled dedupe. inline ‐ Data will be deduped first and written to the volume. background ‐ Data will be written to the volume and deduped later. both ‐ Inline dedupe dedupes the data and write to the volume, background dedupe dedupes only the blocks on which inline dedupe is not run. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are dedupe enabled and some are disabled.
last_op_begin	string	Last sis operation begin timestamp.
last_op_end	string	Last sis operation end timestamp.
last_op_err	string	Last sis operation error text.
last_op_size	integer	Last sis operation size.
last_op_state	string	Last sis operation state.
op_state	string	Sis status of the volume.
path	string	Absolute volume path of the volume.
policy	policy	
progress	string	Sis progress of the volume.
schedule	string	Schedule associated with volume.

Name	Type	Description
state	string	<p>Storage efficiency state of the volume. Currently, this field supports POST/PATCH only for RW (Read-Write) volumes on FSx for ONTAP. disabled &dash; All storage efficiency features are disabled. mixed &dash; Read-only field for FlexGroup volumes, storage efficiency is enabled on certain constituents and disabled on others. On FSx for ONTAP &dash; &emsp; enabled &dash; All supported storage efficiency features for the volume are enabled. &emsp; custom &dash; Read-only field currently only supported for the FSx for ONTAP, user-defined storage efficiency features are enabled. For other platforms &dash; &emsp; enabled &dash; At least one storage efficiency feature for the volume is enabled.</p> <ul style="list-style-type: none"> enum: ["disabled", "enabled", "mixed", "custom"] Introduced in: 9.9
storage_efficiency_mode	string	Storage efficiency mode used by volume. This parameter is supported only on AFF platform.
type	string	Sis Type of the volume.

status

Name	Type	Description
code	string	Encryption progress message code.
message	string	Encryption progress message.

encryption

Name	Type	Description
enabled	boolean	Creates an encrypted or an unencrypted volume. For POST, when set to 'true', a new key is generated and used to encrypt the given volume. In that case, the underlying SVM must be configured with the key manager. When set to 'false', the volume created will be unencrypted. For PATCH, when set to 'true', it encrypts an unencrypted volume. Specifying the parameter as 'false' in a PATCH operation for an encrypted volume is only supported when moving the volume to another aggregate.
key_id	string	The key ID used for creating encrypted volume. A new key-id is generated for creating an encrypted volume. This key-id is associated with the generated key.
key_manager_attribute	string	Specifies an additional key manager attribute that is an identifier-value pair, separated by '='. For example, CRN=unique-value. This parameter is required when using the POST method and an IBM Key Lore key manager is configured on the SVM.
rekey	boolean	If set to 'true', re-encrypts the volume with a new key. Valid in PATCH.
state	string	Volume encryption state. encrypted ‐ The volume is completely encrypted. encrypting ‐ Encryption operation is in progress. partial ‐ Some constituents are encrypted and some are not. Applicable only for FlexGroup volume. rekeying. Encryption of volume with a new key is in progress. unencrypted ‐ The volume is a plain-text one.

Name	Type	Description
status	status	
type	string	Volume encryption type. none ‐ The volume is a plain-text one. volume ‐ The volume is encrypted with NVE (NetApp Volume Encryption). aggregate ‐ The volume is encrypted with NAE (NetApp Aggregate Encryption).

error_state

Name	Type	Description
has_bad_blocks	boolean	Indicates whether the volume has any corrupt data blocks. If the damaged data block is accessed, an IO error, such as EIO for NFS or STATUS_FILE_CORRUPT for CIFS, is returned.
is_inconsistent	boolean	Indicates whether the file system has any inconsistencies. true ‐ File system is inconsistent. false ‐ File system is not inconsistent.

files

Name	Type	Description
maximum	integer	The maximum number of files (inodes) for user-visible data allowed on the volume. This value can be increased or decreased. Increasing the maximum number of files does not immediately cause additional disk space to be used to track files. Instead, as more files are created on the volume, the system dynamically increases the number of disk blocks that are used to track files. The space assigned to track files is never freed, and this value cannot be decreased below the current number of files that can be tracked within the assigned space for the volume. Valid in PATCH.
used	integer	Number of files (inodes) used for user-visible data permitted on the volume. This field is valid only when the volume is online.

flash_pool

Name	Type	Description
cache_eligibility	string	If this parameter is specified, the command displays information only about the volume or volumes with the specified Flash Pool caching attributes.
cache_retention_priority	string	If this parameter is specified, the command displays the volumes that match the specified cache retention priority policy. A cache retention priority defines how long the blocks of a volume will be cached in the Flash Pool once they become cold.

Name	Type	Description
cacheing_policy	string	This optionally specifies the caching policy to apply to the volume. A caching policy defines how the system caches a volume's data in Flash Cache modules. If a caching policy is not assigned to a volume, the system uses the caching policy that is assigned to the containing SVM. If a caching policy is not assigned to the containing SVM, the system uses the default cluster-wide policy.

flexgroup

Name	Type	Description
name	string	Name of the FlexGroup volume that the constituent is part of.
uuid	string	Unique identifier for the FlexGroup volume that the constituent is part of.

guarantee

Name	Type	Description
honored	boolean	Is the space guarantee of this volume honored in the aggregate?
type	string	The type of space guarantee of this volume in the aggregate.

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

cloud

Performance numbers (IOPS and latency) for cloud store. These numbers are relevant only for volumes hosted on FabricPools.

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.

Name	Type	Description
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

flexcache

Performance number for FlexCache used to measure cache effectiveness.

Name	Type	Description
bandwidth_savings	integer	Bandwidth savings denoting the amount of data served locally by the cache, in bytes.
cache_miss_percent	integer	Cache miss percentage.

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.

Name	Type	Description
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

metric

Performance numbers, such as IOPS, latency and throughput.

Name	Type	Description
_links	_links	
cloud	cloud	Performance numbers (IOPS and latency) for cloud store. These numbers are relevant only for volumes hosted on FabricPools.
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
flexcache	flexcache	Performance number for FlexCache used to measure cache effectiveness.
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.

Name	Type	Description
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

movement

Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.

Name	Type	Description
cutover_window	integer	Time window in seconds for cutover. The allowed range is between 30 to 300 seconds.
destination_aggregate	destination_aggregate	Aggregate
percent_complete	integer	Completion percentage
start_time	string	Start time of volume move.

Name	Type	Description
state	string	State of volume move operation. PATCH the state to "aborted" to abort the move operation. PATCH the state to "cutover" to trigger cutover. PATCH the state to "paused" to pause the volume move operation in progress. PATCH the state to "replicating" to resume the paused volume move operation. PATCH the state to "cutover_wait" to go into cutover manually. When volume move operation is waiting to go into "cutover" state, this is indicated by the "cutover_pending" state. A change of state is only supported if volume movement is in progress.
tiering_policy	string	Tiering policy for FabricPool

export_policy

Export Policy

Name	Type	Description
_links	_links	
id	integer	
name	string	

junction_parent

Name	Type	Description
_links	_links	
name	string	The name of the parent volume that contains the junction inode of this volume. The junction parent volume must belong to the same SVM that owns this volume.
uuid	string	Unique identifier for the parent volume.

nas

Name	Type	Description
export_policy	export_policy	Export Policy
gid	integer	The UNIX group ID of the volume. Valid in POST or PATCH.
junction_parent	junction_parent	
path	string	The fully-qualified path in the owning SVM's namespace at which the volume is mounted. The path is case insensitive and must be unique within a SVM's namespace. Path must begin with '/' and must not end with '/'. Only one volume can be mounted at any given junction path. An empty path in POST creates an unmounted volume. An empty path in PATCH deactivates and unmounts the volume. Taking a volume offline or restricted state removes its junction path. This attribute is reported in GET only when the volume is mounted.
security_style	string	Security style associated with the volume. Valid in POST or PATCH. mixed ‐ Mixed-style security ntfs ‐ NTFS/Windows-style security unified ‐ Unified-style security, unified UNIX, NFS and CIFS permissions unix ‐ Unix-style security.
uid	integer	The UNIX user ID of the volume. Valid in POST or PATCH.

Name	Type	Description
unix_permissions	integer	UNIX permissions to be viewed as an octal number. It consists of 4 digits derived by adding up bits 4 (read), 2 (write) and 1 (execute). First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file; the third selects permissions for other users in the same group; the fourth for other users not in the group. Valid in POST or PATCH. For security style "mixed" or "unix", the default setting is 0755 in octal (493 in decimal) and for security style "ntfs", the default setting is 0000. In cases where only owner, group and other permissions are given (as in 755, representing the second, third and fourth digit), first digit is assumed to be zero.

policy

Name	Type	Description
_links	_links	
max_throughput_iops	integer	Specifies the maximum throughput in IOPS, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
max_throughput_mbps	integer	Specifies the maximum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
min_throughput_iops	integer	Specifies the minimum throughput in IOPS, 0 means none. Setting "min_throughput" is supported on AFF platforms only, unless FabricPool tiering policies are set. This is mutually exclusive with name and UUID during POST and PATCH.

Name	Type	Description
min_throughput_mbps	integer	Specifies the minimum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
name	string	The QoS policy group name. This is mutually exclusive with UUID and other QoS attributes during POST and PATCH.
uuid	string	The QoS policy group UUID. This is mutually exclusive with name and other QoS attributes during POST and PATCH.

qos

QoS information

Name	Type	Description
policy	policy	

quota

Quotas track the space or file usage of a user, group, or qtree in a FlexVol or a FlexGroup volume.

Name	Type	Description
enabled	boolean	This option is used to enable or disable the quota for the volume. This option is valid only in PATCH. Quotas are enabled for FlexVols or FlexGroup volumes when the quota state is "on". Quotas are disabled for FlexVols or FlexGroup volumes when the quota state is "off".
state	string	Quota state of the volume

retention

Name	Type	Description
default	string	<p>Specifies the default retention period that is applied to files while committing them to the WORM state without an associated retention period. The retention value represents a duration and must be specified in the ISO-8601 duration format. The retention period can be in years, months, days, hours, and minutes. A duration specified for years, months, and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The retention string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the duration field also accepts the string "infinite" to set an infinite retention period and the string "unspecified" to set an unspecified retention period.</p>

Name	Type	Description
maximum	string	<p>Specifies the maximum allowed retention period for files committed to the WORM state on the volume. The retention value represents a duration and must be specified in the ISO-8601 duration format. The retention period can be in years, months, days, hours, and minutes. A duration specified for years, months, and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The retention string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the duration field also accepts the string "infinite" to set an infinite retention period.</p>

Name	Type	Description
minimum	string	Specifies the minimum allowed retention period for files committed to the WORM state on the volume. The retention value represents a duration and must be specified in the ISO-8601 duration format. The retention period can be in years, months, days, hours, and minutes. A duration specified for years, month,s and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The retention string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the duration field also accepts the string "infinite" to set an infinite retention period.</num></num></num></num></num>

snaplock

Name	Type	Description
append_mode_enabled	boolean	Specifies if the volume append mode is enabled or disabled. When it is enabled, all the files created with write permissions on the volume are, by default, WORM appendable files. The user can append the data to a WORM appendable file but cannot modify the existing contents of the file nor delete the file until it expires.

Name	Type	Description
autocommit_period	string	Specifies the autocommit period for SnapLock volume. All files which are not modified for a period greater than the autocommit period of the volume are committed to the WORM state. The autocommit period value represents a duration and must be specified in the ISO-8601 duration format. The autocommit period can be in years, months, days, hours, and minutes. A period specified for years, months, and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The period string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the autocommit field also accepts the string "none".
compliance_clock_time	string	This is the volume compliance clock time which is used to manage the SnapLock objects in the volume.
expiry_time	string	Expiry time of the volume.
is_audit_log	boolean	Indicates if this volume has been configured as SnapLock audit log volume for the SVM .
litigation_count	integer	Litigation count indicates the number of active legal-holds on the volume.

Name	Type	Description
privileged_delete	string	Specifies the privileged-delete attribute of a SnapLock volume. On a SnapLock Enterprise (SLE) volume, a designated privileged user can selectively delete files irrespective of the retention time of the file. SLE volumes can have privileged delete as disabled, enabled or permanently_disabled and for SnapLock Compliance (SLC) volumes it is always permanently_disabled.
retention	retention	
type	string	The SnapLock type of the volume. compliance ‐ A SnapLock Compliance(SLC) volume provides the highest level of WORM protection and an administrator cannot destroy a SLC volume if it contains unexpired WORM files. enterprise ‐ An administrator can delete a SnapLock Enterprise(SLE) volume. non_snaplock ‐ Indicates the volume is non-snaplock.
unspecified_retention_file_count	integer	Indicates the number of files with an unspecified retention time in the volume.

destinations

Name	Type	Description
is_cloud	boolean	Specifies whether a volume is a SnapMirror source volume, using SnapMirror to protect its data to a cloud destination.
is_ontap	boolean	Specifies whether a volume is a SnapMirror source volume, using SnapMirror to protect its data to an ONTAP destination. <ul style="list-style-type: none"> • readOnly: 1 • Introduced in: 9.9

snapmirror

Specifies attributes for SnapMirror protection.

Name	Type	Description
destinations	destinations	
is_protected	boolean	Specifies whether a volume is a SnapMirror source volume, using SnapMirror to protect its data.

snapshot_policy

This is a reference to the Snapshot copy policy.

Name	Type	Description
_links	_links	
name	string	
uuid	string	

logical_space

Name	Type	Description
available	integer	The amount of space available in this volume with storage efficiency space considered used, in bytes.
enforcement	boolean	Specifies whether space accounting for operations on the volume is done along with storage efficiency.
reporting	boolean	Specifies whether space reporting on the volume is done along with storage efficiency.
used	integer	SUM of (physical-used, shared_refs, compression_saved_in_plane0, vbn_zero, future_blk_cnt), in bytes.
used_by_afs	integer	The virtual space used by AFS alone (includes volume reserves) and along with storage efficiency, in bytes.

Name	Type	Description
used_by_snapshots	integer	Size that is logically used across all Snapshot copies in the volume, in bytes.
used_percent	integer	SUM of (physical-used, shared_refs, compression_saved_in_plane0, vbn_zero, future_blk_cnt), as a percentage.

snapshot

Name	Type	Description
autodelete_enabled	boolean	Specifies whether Snapshot copy autodelete is currently enabled on this volume.
autodelete_trigger	string	Specifies when the system should trigger an autodelete of Snapshot copies. When set to <i>volume</i> , autodelete is triggered based on volume fullness. When set to <i>snap_reserve</i> , autodelete is triggered based on Snapshot reserve fullness. The default value is <i>volume</i> .
reserve_available	integer	Size available for Snapshot copies within the Snapshot copy reserve, in bytes.
reserve_percent	integer	The space that has been set aside as a reserve for Snapshot copy usage, in percent.
reserve_size	integer	Size in the volume that has been set aside as a reserve for Snapshot copy usage, in bytes.
space_used_percent	integer	Percentage of snapshot reserve size that has been used.
used	integer	The total space used by Snapshot copies in the volume, in bytes.

space

Name	Type	Description
afs_total	integer	Total size of AFS, excluding snap-reserve, in bytes.
available	integer	The available space, in bytes.
available_percent	integer	The space available, as a percent.
block_storage_inactive_user_data	integer	The size that is physically used in the block storage of the volume and has a cold temperature. In bytes. This parameter is only supported if the volume is in an aggregate that is either attached to a cloud store or could be attached to a cloud store.
block_storage_inactive_user_data_percent	integer	Percentage of size that is physically used in the performance tier of the volume.
capacity_tier_footprint	integer	Space used by capacity tier for this volume in the FabricPool aggregate, in bytes.
cross_volume_dedupe_metafiles_footprint	integer	Cross volume deduplication metadata footprint, in bytes.
cross_volume_dedupe_metafiles_temporary_footprint	integer	Cross volume temporary deduplication metadata footprint, in bytes.
dedupe_metafiles_footprint	integer	Deduplication metadata footprint, in bytes.
dedupe_metafiles_temporary_footprint	integer	Temporary deduplication metadata footprint, in bytes.
delayed_free_footprint	integer	Delayed free blocks footprint, in bytes.
expected_available	integer	Size that should be available for the volume, irrespective of available size in the aggregate, in bytes.

Name	Type	Description
file_operation_metadata	integer	File operation metadata footprint, in bytes.
filesystem_size	integer	Total usable size of the volume, in bytes.
filesystem_size_fixed	boolean	Specifies whether the file system is to remain of the same size when set to true or to grow when set to false. This option is automatically set to true when a volume becomes SnapMirrored.
footprint	integer	Data used for this volume in the aggregate, in bytes.
fractional_reserve	integer	Used to change the amount of space reserved for overwrites of reserved objects in a volume.
full_threshold_percent	integer	Volume full threshold percentage at which EMS warnings can be sent.
local_tier_footprint	integer	Space used by the local tier for this volume in the aggregate, in bytes.
logical_space	logical_space	
metadata	integer	Space used by the volume metadata in the aggregate, in bytes.
nearly_full_threshold_percent	integer	Volume nearly full threshold percentage at which EMS warnings can be sent.
over_provisioned	integer	The amount of space not available for this volume in the aggregate, in bytes.
overwrite_reserve	integer	Reserved space for overwrites, in bytes.
overwrite_reserve_used	integer	Overwrite logical reserve space used, in bytes.

Name	Type	Description
percent_used	integer	Percentage of the volume size that is used.
performance_tier_footprint	integer	Space used by the performance tier for this volume in the FabricPool aggregate, in bytes.
physical_used	integer	Size that is physically used in the volume, in bytes.
physical_used_percent	integer	Size that is physically used in the volume, as a percentage.
size	integer	Total provisioned size. The default size is equal to the minimum size of 20MB, in bytes.
size_available_for_snapshots	integer	Available space for Snapshot copies from snap-reserve, in bytes.
snapmirror_destination_footprint	integer	SnapMirror destination footprint, in bytes.
snapshot	snapshot	
snapshot_reserve_unusable	integer	Snapshot reserve that is not available for Snapshot copy creation, in bytes.
snapshot_spill	integer	Space used by the snapshot copies beyond the snap-reserve, in bytes.
total_footprint	integer	Data and metadata used for this volume in the aggregate, in bytes.
used	integer	The virtual space used (includes volume reserves) before storage efficiency, in bytes.
used_by_afs	integer	The space used by Active Filesystem, in bytes.
user_data	integer	User data, in bytes.

Name	Type	Description
volume_guarantee_footprint	integer	Space reserved for future writes in the volume, in bytes.

iops_raw

The number of I/O operations observed at the storage object. This can be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency_raw

The raw latency in microseconds observed at the storage object. This can be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

cloud

These are raw performance numbers (IOPS and latency) for the cloud store. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster. These numbers are relevant only for volumes hosted on FabricPools.

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This can be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This can be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

flexcache_raw

Performance numbers for FlexCache used to measure cache effectiveness.

Name	Type	Description
cache_miss_blocks	integer	Blocks retrieved from origin in case of a cache miss. This can be divided by the raw client_requested_blocks and multiplied by 100 to calculate the cache miss percentage.
client_requested_blocks	integer	Total blocks requested by the client.
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

throughput_raw

Throughput bytes observed at the storage object. This can be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

statistics

These are raw performance numbers, such as IOPS latency and throughput. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.

Name	Type	Description
cloud	cloud	These are raw performance numbers (IOPS and latency) for the cloud store. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster. These numbers are relevant only for volumes hosted on FabricPools.
flexcache_raw	flexcache_raw	Performance numbers for FlexCache used to measure cache effectiveness.
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This can be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This can be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This can be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

svm

SVM containing the volume. Required on POST.

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

tiering

Name	Type	Description
min_cooling_days	integer	<p>This parameter specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the cloud tier. Note that this parameter is only used for tiering purposes and does not affect the reporting of inactive data. The value specified should be greater than the frequency with which applications in the volume shift between different sets of data. This parameter cannot be set when volume tiering policy is either "none" or "all". The default value of this parameter depends on the volume's tiering policy. See the tiering policy section of this documentation for corresponding default values. If the tiering policy on the volume gets changed, then this parameter will be reset to the default value corresponding to the new tiering policy.</p>
object_tags	array[string]	<p>This parameter specifies tags of a volume for objects stored on a FabricPool-enabled aggregate. Each tag is a key,value pair and should be in the format "key=value".</p>

Name	Type	Description
policy	string	<p>Policy that determines whether the user data blocks of a volume in a FabricPool will be tiered to the cloud store when they become cold. FabricPool combines flash (performance tier) with a cloud store into a single aggregate. Temperature of a volume block increases if it is accessed frequently and decreases when it is not. Valid in POST or PATCH. all &dash; This policy allows tiering of both Snapshot copies and active file system user data to the cloud store as soon as possible by ignoring the temperature on the volume blocks. auto &dash; This policy allows tiering of both snapshot and active file system user data to the cloud store none &dash; Volume blocks will not be tiered to the cloud store. snapshot_only &dash; This policy allows tiering of only the volume Snapshot copies not associated with the active file system. The default tiering policy is "snapshot-only" for a FlexVol and "none" for a FlexGroup. The default minimum cooling period for the "snapshot-only" tiering policy is 2 days and for the "auto" tiering policy is 31 days.</p>

Name	Type	Description
supported	boolean	This parameter specifies whether or not FabricPools are selected when provisioning a FlexGroup without specifying "aggregates.name" or "aggregates.uuid". Only FabricPool aggregates are used if this parameter is set to true and only non FabricPool aggregates are used if this parameter is set to false. Tiering support for a FlexGroup can be changed by moving all of the constituents to the required aggregates. Note that in order to tier data, not only does the volume need to support tiering by using FabricPools, the tiering "policy" must not be 'none'. A volume that uses FabricPools but has a tiering "policy" of 'none' supports tiering, but will not tier any data.

volume

Name	Type	Description
_links	_links	
access_time_enabled	boolean	Indicates whether or not access time updates are enabled on the volume.
activity_tracking	activity_tracking	
aggregates	array[aggregates]	Aggregate hosting the volume. Required on POST.
analytics	analytics	
anti_ransomware	anti_ransomware	Anti-ransomware related information of the volume.

Name	Type	Description
anti_ransomware_state	string	<p>The Anti-ransomware state of the volume. If no "anti_ransomware_state" property is specified, the volume inherits the value from its parent SVM's "anti_ransomware_default_volume_state" property. If this value is "disabled", Anti-ransomware is disabled on the volume. If this value is "enabled", Anti-ransomware is enabled on the volume and alerts are raised if any suspect is detected for those volumes. If this value is "dry_run", Anti-ransomware is enabled in the dry-run or learning mode on the volume. The "dry_run" state is same as the "enabled" state except that the analytics data is used here for learning. No alerts are raised for any detections or violations. If this value is "paused", Anti-ransomware is paused on the volume. Additionally, three more states are available, which are only valid for GET. If this value is "disable_in_progress", Anti-ransomware monitoring is being disabled and a cleanup operation is in effect. If this value is "enable_paused", Anti-ransomware is paused on the volume from its earlier enabled state. If this value is "dry_run_paused", Anti-ransomware monitoring is paused on the volume from its earlier dry_run state. For POST, the valid Anti-ransomware states are only "disabled", "enabled" and "dry_run", whereas for PATCH, "paused" is also valid along with the three valid states for POST.</p>
application	application	
autosize	autosize	
clone	clone	

Name	Type	Description
cloud_retrieval_policy	string	This parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are "default" policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot_only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved. "on_read" policy retrieves tiered data for all client driven data reads. "never" policy never retrieves tiered data. "promote" policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot_only'. If the tiering policy is 'snapshot_only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud and if tiering policy is 'none' then all data is retrieved.
comment	string	A comment for the volume. Valid in POST or PATCH.
consistency_group	consistency_group	Consistency group the volume is part of.
constituents	array[constituents]	

Name	Type	Description
constituents_per_aggregate	integer	Specifies the number of times to iterate over the aggregates listed with the "aggregates.name" or "aggregates.uuid" when creating or expanding a FlexGroup volume. If a volume is being created on a single aggregate, the system creates a flexible volume if the "constituents_per_aggregate" field is not specified, or a FlexGroup volume if it is specified. If a volume is being created on multiple aggregates, the system always creates a FlexGroup volume. The root constituent of a FlexGroup volume is always placed on the first aggregate in the list.
convert_unicode	boolean	Specifies whether directory Unicode format conversion is enabled when directories are accessed by NFS clients.
create_time	string	Creation time of the volume. This field is generated when the volume is created.
efficiency	efficiency	
encryption	encryption	
error_state	error_state	
files	files	
flash_pool	flash_pool	
flexcache_endpoint_type	string	FlexCache endpoint type. none ‐ The volume is neither a FlexCache nor origin of any FlexCache. cache ‐ The volume is a FlexCache volume. origin ‐ The volume is origin of a FlexCache volume.
flexgroup	flexgroup	
guarantee	guarantee	

Name	Type	Description
is_object_store	boolean	Specifies whether the volume is provisioned for an object store server.
is_svm_root	boolean	Specifies whether the volume is a root volume of the SVM it belongs to.
language	string	Language encoding setting for volume. If no language is specified, the volume inherits its SVM language encoding setting.
max_dir_size	integer	Maximum directory size. This value sets maximum size, in bytes, to which a directory can grow. The default maximum directory size for FlexVol volumes is model-dependent, and optimized for the size of system memory. Before increasing the maximum directory size, involve technical support.
metric	metric	Performance numbers, such as IOPS, latency and throughput.
movement	movement	Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.
name	string	Volume name. The name of volume must start with an alphabetic character (a to z or A to Z) or an underscore (_). The name must be 197 or fewer characters in length for FlexGroups, and 203 or fewer characters in length for all other types of volumes. Volume names must be unique within an SVM. Required on POST.
nas	nas	

Name	Type	Description
qos	qos	QoS information
queue_for_encryption	boolean	Specifies whether the volume is queued for encryption.
quota	quota	Quotas track the space or file usage of a user, group, or qtree in a FlexVol or a FlexGroup volume.
scheduled_snapshot_naming_scheme	string	<p>Naming Scheme for automatic Snapshot copies:</p> <ul style="list-style-type: none"> • create_time - Automatic Snapshot copies are saved as per the start of their current date and time. • ordinal - Latest automatic snapshot copy is saved as <scheduled_frequency>.0 and subsequent copies will follow the create_time naming convention.</scheduled_frequency>
size	integer	Physical size of the volume, in bytes. The minimum size for a FlexVol volume is 20MB and the minimum size for a FlexGroup volume is 200MB per constituent. The recommended size for a FlexGroup volume is a minimum of 100GB per constituent. For all volumes, the default size is equal to the minimum size.
snaplock	snaplock	
snapmirror	snapmirror	Specifies attributes for SnapMirror protection.
snapshot_count	integer	Number of Snapshot copies in the volume.
snapshot_policy	snapshot_policy	This is a reference to the Snapshot copy policy.
space	space	

Name	Type	Description
state	string	Volume state. Client access is supported only when volume is online and junctioned. Taking volume to offline or restricted state removes its junction path and blocks client access. When volume is in restricted state some operations like parity reconstruction and iron on commit are allowed. The 'mixed' state applies to FlexGroup volumes only and cannot be specified as a target state. An 'error' state implies that the volume is not in a state to serve data.
statistics	statistics	These are raw performance numbers, such as IOPS latency and throughput. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.
status	array[string]	Describes the current status of a volume.

Name	Type	Description
style	string	The style of the volume. If "style" is not specified, the volume type is determined based on the specified aggregates. Specifying a single aggregate, without "constituents_per_aggregate", creates a flexible volume. Specifying multiple aggregates, or a single aggregate with "constituents_per_aggregate", creates a FlexGroup. Specifying a volume "style" creates a volume of that type. For example, if the style is "flexvol" you must specify a single aggregate. If the style is "flexgroup", the system either uses the specified aggregates or automatically provisions aggregates if there are no specified aggregates. The style "flexgroup_constituent" is not supported when creating a volume. flexvol ‐ flexible volumes and FlexClone volumes flexgroup ‐ FlexGroup volumes flexgroup_constituent ‐ FlexGroup constituents.
svm	svm	SVM containing the volume. Required on POST.
tiering	tiering	
type	string	Type of the volume. rw ‐ read-write volume. dp ‐ data-protection volume. ls ‐ load-sharing <code>dp</code> volume. Valid in GET.

Name	Type	Description
use_mirrored_aggregates	boolean	Specifies whether mirrored aggregates are selected when provisioning a FlexGroup without specifying "aggregates.name" or "aggregates.uuid". Only mirrored aggregates are used if this parameter is set to 'true' and only unmirrored aggregates are used if this parameter is set to 'false'. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is 'true' for a MetroCluster configuration and is 'false' for a non-MetroCluster configuration.
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 • readOnly: 1 • Introduced in: 9.6

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.

Create a volume on an SVM and storage aggregates

POST /storage/volumes

Introduced In: 9.6

Creates a volume on a specified SVM and storage aggregates.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the volume.
- `name` - Name of the volume.
- `aggregates.name` or `aggregates.uuid` - Existing aggregates in which to create the volume.

Default property values

- `state` - *online*
- `size` - *20MB*
- `style` - *flexvol*
- `type` - *rw*
- `encryption.enabled` - *false*
- `snapshot_policy.name` - *default*
- `guarantee.type` - *volume*
- `anti_ransomware.state` - *default*

Related ONTAP commands

- `volume create`
- `volume clone create`

Parameters

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

Request Body

Name	Type	Description
_links	_links	
access_time_enabled	boolean	Indicates whether or not access time updates are enabled on the volume.

Name	Type	Description
activity_tracking	activity_tracking	
aggregates	array[aggregates]	Aggregate hosting the volume. Required on POST.
analytics	analytics	
anti_ransomware	anti_ransomware	Anti-ransomware related information of the volume.

Name	Type	Description
anti_ransomware_state	string	<p>The Anti-ransomware state of the volume. If no "anti_ransomware_state" property is specified, the volume inherits the value from its parent SVM's "anti_ransomware_default_volume_state" property. If this value is "disabled", Anti-ransomware is disabled on the volume. If this value is "enabled", Anti-ransomware is enabled on the volume and alerts are raised if any suspect is detected for those volumes. If this value is "dry_run", Anti-ransomware is enabled in the dry-run or learning mode on the volume. The "dry_run" state is same as the "enabled" state except that the analytics data is used here for learning. No alerts are raised for any detections or violations. If this value is "paused", Anti-ransomware is paused on the volume. Additionally, three more states are available, which are only valid for GET. If this value is "disable_in_progress", Anti-ransomware monitoring is being disabled and a cleanup operation is in effect. If this value is "enable_paused", Anti-ransomware is paused on the volume from its earlier enabled state. If this value is "dry_run_paused", Anti-ransomware monitoring is paused on the volume from its earlier dry_run state. For POST, the valid Anti-ransomware states are only "disabled", "enabled" and "dry_run", whereas for PATCH, "paused" is also valid along with the three valid states for POST.</p>
application	application	
autosize	autosize	
clone	clone	

Name	Type	Description
cloud_retrieval_policy	string	This parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are "default" policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot_only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved. "on_read" policy retrieves tiered data for all client driven data reads. "never" policy never retrieves tiered data. "promote" policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot_only'. If the tiering policy is 'snapshot_only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud and if tiering policy is 'none' then all data is retrieved.
comment	string	A comment for the volume. Valid in POST or PATCH.
consistency_group	consistency_group	Consistency group the volume is part of.
constituents	array[constituents]	

Name	Type	Description
constituents_per_aggregate	integer	Specifies the number of times to iterate over the aggregates listed with the "aggregates.name" or "aggregates.uuid" when creating or expanding a FlexGroup volume. If a volume is being created on a single aggregate, the system creates a flexible volume if the "constituents_per_aggregate" field is not specified, or a FlexGroup volume if it is specified. If a volume is being created on multiple aggregates, the system always creates a FlexGroup volume. The root constituent of a FlexGroup volume is always placed on the first aggregate in the list.
convert_unicode	boolean	Specifies whether directory Unicode format conversion is enabled when directories are accessed by NFS clients.
create_time	string	Creation time of the volume. This field is generated when the volume is created.
efficiency	efficiency	
encryption	encryption	
error_state	error_state	
files	files	
flash_pool	flash_pool	
flexcache_endpoint_type	string	FlexCache endpoint type. none ‐ The volume is neither a FlexCache nor origin of any FlexCache. cache ‐ The volume is a FlexCache volume. origin ‐ The volume is origin of a FlexCache volume.
flexgroup	flexgroup	
guarantee	guarantee	
is_object_store	boolean	Specifies whether the volume is provisioned for an object store server.

Name	Type	Description
is_svm_root	boolean	Specifies whether the volume is a root volume of the SVM it belongs to.
language	string	Language encoding setting for volume. If no language is specified, the volume inherits its SVM language encoding setting.
max_dir_size	integer	Maximum directory size. This value sets maximum size, in bytes, to which a directory can grow. The default maximum directory size for FlexVol volumes is model-dependent, and optimized for the size of system memory. Before increasing the maximum directory size, involve technical support.
metric	metric	Performance numbers, such as IOPS, latency and throughput.
movement	movement	Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.
name	string	Volume name. The name of volume must start with an alphabetic character (a to z or A to Z) or an underscore (_). The name must be 197 or fewer characters in length for FlexGroups, and 203 or fewer characters in length for all other types of volumes. Volume names must be unique within an SVM. Required on POST.
nas	nas	
qos	qos	QoS information
queue_for_encryption	boolean	Specifies whether the volume is queued for encryption.

Name	Type	Description
quota	quota	Quotas track the space or file usage of a user, group, or qtree in a FlexVol or a FlexGroup volume.
scheduled_snapshot_naming_scheme	string	<p>Naming Scheme for automatic Snapshot copies:</p> <ul style="list-style-type: none"> • create_time - Automatic Snapshot copies are saved as per the start of their current date and time. • ordinal - Latest automatic snapshot copy is saved as <scheduled_frequency>.0 and subsequent copies will follow the create_time naming convention.</scheduled_frequency>
size	integer	Physical size of the volume, in bytes. The minimum size for a FlexVol volume is 20MB and the minimum size for a FlexGroup volume is 200MB per constituent. The recommended size for a FlexGroup volume is a minimum of 100GB per constituent. For all volumes, the default size is equal to the minimum size.
snaplock	snaplock	
snapmirror	snapmirror	Specifies attributes for SnapMirror protection.
snapshot_count	integer	Number of Snapshot copies in the volume.
snapshot_policy	snapshot_policy	This is a reference to the Snapshot copy policy.
space	space	

Name	Type	Description
state	string	Volume state. Client access is supported only when volume is online and junctioned. Taking volume to offline or restricted state removes its junction path and blocks client access. When volume is in restricted state some operations like parity reconstruction and iron on commit are allowed. The 'mixed' state applies to FlexGroup volumes only and cannot be specified as a target state. An 'error' state implies that the volume is not in a state to serve data.
statistics	statistics	These are raw performance numbers, such as IOPS latency and throughput. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.
status	array[string]	Describes the current status of a volume.

Name	Type	Description
style	string	The style of the volume. If "style" is not specified, the volume type is determined based on the specified aggregates. Specifying a single aggregate, without "constituents_per_aggregate", creates a flexible volume. Specifying multiple aggregates, or a single aggregate with "constituents_per_aggregate", creates a FlexGroup. Specifying a volume "style" creates a volume of that type. For example, if the style is "flexvol" you must specify a single aggregate. If the style is "flexgroup", the system either uses the specified aggregates or automatically provisions aggregates if there are no specified aggregates. The style "flexgroup_constituent" is not supported when creating a volume. flexvol ‐ flexible volumes and FlexClone volumes flexgroup ‐ FlexGroup volumes flexgroup_constituent ‐ FlexGroup constituents.
svm	svm	SVM containing the volume. Required on POST.
tiering	tiering	
type	string	Type of the volume. rw ‐ read-write volume. dp ‐ data-protection volume. ls ‐ load-sharing <code>dp</code> volume. Valid in GET.

Name	Type	Description
use_mirrored_aggregates	boolean	Specifies whether mirrored aggregates are selected when provisioning a FlexGroup without specifying "aggregates.name" or "aggregates.uuid". Only mirrored aggregates are used if this parameter is set to 'true' and only unmirrored aggregates are used if this parameter is set to 'false'. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is 'true' for a MetroCluster configuration and is 'false' for a non-MetroCluster configuration.
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 • readOnly: 1 • Introduced in: 9.6

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "activity_tracking": {
    "state": "string",
    "unsupported_reason": {
      "code": "124518405",
      "message": "Volume activity tracking cannot be enabled on volumes
that contain LUNs."
    }
  },
  "aggregates": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "aggr1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "analytics": {
    "scan_progress": 17,
    "state": "string",
    "unsupported_reason": {
      "code": "111411207",
      "message": "File system analytics cannot be enabled on volumes
that contain LUNs."
    }
  },
  "anti_ransomware": {
    "attack_probability": "string",
    "attack_reports": [
      {
        "_links": {
          "suspects": {
            "href": "/api/resourcelink"
          }
        }
      }
    ],
    "time": "2021-06-01T20:36:41+05:30"
  }
}
```

```

    }
  ],
  "dry_run_start_time": "string",
  "space": {
    "snapshot_count": 0,
    "used": 0,
    "used_by_logs": 0,
    "used_by_snapshots": 0
  },
  "state": "string",
  "suspect_files": [
    {
      "count": 0,
      "format": "string"
    }
  ]
},
"anti_ransomware_state": "string",
"application": {
  "name": "string",
  "uuid": "1cd8a442-86d1-11e0-ae1d-123478563412"
},
"autosize": {
  "mode": "string"
},
"clone": {
  "parent_snapshot": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "this_snapshot",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "parent_svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "parent_volume": {
    "_links": {

```

```

        "self": {
            "href": "/api/resourcelink"
        },
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
},
"split_complete_percent": 0,
"split_estimate": 0
},
"cloud_retrieval_policy": "string",
"comment": "string",
"consistency_group": {
    "name": "consistency_group_1",
    "uuid": "1cd8a442-86d1-11e0-ae1d-123478563412"
},
"constituents": [
    {
        "aggregates": {
            "name": "string",
            "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
        },
        "movement": {
            "cutover_window": 30,
            "destination_aggregate": {
                "_links": {
                    "self": {
                        "href": "/api/resourcelink"
                    }
                },
            },
            "name": "aggr1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "percent_complete": 0,
        "state": "replicating",
        "tiering_policy": "string"
    },
    {
        "name": "string",
        "space": {
            "available": 0,
            "block_storage_inactive_user_data": 0,
            "capacity_tier_footprint": 0,
            "footprint": 0,
            "local_tier_footprint": 0,
            "logical_space": {
                "available": 0,

```

```

        "used_by_afs": 0
    },
    "metadata": 0,
    "over_provisioned": 0,
    "performance_tier_footprint": 0,
    "snapshot": {
        "used": 0
    },
    "total_footprint": 0,
    "used": 0
}
},
"create_time": "2018-06-04T19:00:00Z",
"efficiency": {
    "application_io_size": "string",
    "compaction": "string",
    "compression": "string",
    "cross_volume_dedupe": "string",
    "dedupe": "string",
    "last_op_begin": "string",
    "last_op_end": "string",
    "last_op_err": "string",
    "last_op_size": 0,
    "last_op_state": "string",
    "op_state": "string",
    "path": "string",
    "policy": {
        "name": "string"
    },
    "progress": "string",
    "schedule": "string",
    "state": "string",
    "storage_efficiency_mode": "string",
    "type": "string"
},
"encryption": {
    "key_id": "string",
    "key_manager_attribute": "CRN=v1:bluemix:public:containers-
kubernetes:us-south:a/asdfghjkl1234:asdfghjkl1234:worker:kubernetes-
asdfghjkl-worker1",
    "state": "string",
    "status": {
        "code": "string",
        "message": "string"
    }
},

```



```

    "type": "string"
  },
  "files": {
    "used": 0
  },
  "flash_pool": {
    "cache_eligibility": "string",
    "cache_retention_priority": "string",
    "caching_policy": "string"
  },
  "flexcache_endpoint_type": "string",
  "flexgroup": {
    "name": "my_flexgroup",
    "uuid": "75c9cfb0-3eb4-11eb-9fb4-005056bb088a"
  },
  "guarantee": {
    "type": "string"
  },
  "language": "string",
  "metric": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "cloud": {
    "duration": "PT15S",
    "iops": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "duration": "PT15S",
  "flexcache": {
    "bandwidth_savings": 4096,
    "cache_miss_percent": 20,
    "duration": "PT1D",
    "status": "ok",

```

```

    "timestamp": "2017-01-25T11:20:13Z"
  },
  "iops": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "status": "ok",
  "throughput": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "timestamp": "2017-01-25T11:20:13Z"
},
"movement": {
  "cutover_window": 30,
  "destination_aggregate": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "aggr1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "percent_complete": 0,
  "start_time": "2020-12-07T03:45:12-05:00",
  "state": "replicating",
  "tiering_policy": "string"
},
"name": "vol_cs_dept",
"nas": {
  "export_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "id": 100,
    "name": "default"
  }
}

```

```

    },
    "junction_parent": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "vsl_root",
      "uuid": "75c9cfb0-3eb4-11eb-9fb4-005056bb088a"
    },
    "path": "/user/my_volume",
    "security_style": "string",
    "unix_permissions": 755
  },
  "qos": {
    "policy": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "max_throughput_iops": 10000,
      "max_throughput_mbps": 500,
      "min_throughput_iops": 2000,
      "min_throughput_mbps": 500,
      "name": "performance",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "quota": {
    "state": "string"
  },
  "scheduled_snapshot_naming_scheme": "string",
  "snaplock": {
    "append_mode_enabled": "",
    "autocommit_period": "P30M",
    "compliance_clock_time": "2018-06-04T19:00:00Z",
    "expiry_time": "Wed Sep 5 11:02:42 GMT 2018",
    "is_audit_log": 1,
    "litigation_count": 10,
    "privileged_delete": "enabled",
    "retention": {
      "default": "P30Y",
      "maximum": "P30Y",
      "minimum": "P30Y"
    }
  },

```

```

    "type": "enterprise",
    "unspecified_retention_file_count": 10
  },
  "snapshot_count": 0,
  "snapshot_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "default",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "space": {
    "available": 0,
    "block_storage_inactive_user_data": 0,
    "block_storage_inactive_user_data_percent": 0,
    "capacity_tier_footprint": 0,
    "cross_volume_dedupe_metafiles_footprint": 0,
    "cross_volume_dedupe_metafiles_temporary_footprint": 0,
    "dedupe_metafiles_footprint": 0,
    "dedupe_metafiles_temporary_footprint": 0,
    "delayed_free_footprint": 0,
    "file_operation_metadata": 0,
    "filesystem_size": 0,
    "footprint": 0,
    "local_tier_footprint": 0,
    "logical_space": {
      "available": 0,
      "used": 0,
      "used_by_afs": 0,
      "used_by_snapshots": 0,
      "used_percent": 0
    },
    "metadata": 0,
    "over_provisioned": 0,
    "overwrite_reserve": 0,
    "overwrite_reserve_used": 0,
    "percent_used": 0,
    "performance_tier_footprint": 0,
    "size_available_for_snapshots": 0,
    "snapmirror_destination_footprint": 0,
    "snapshot": {
      "autodelete_trigger": "string",
      "reserve_available": 0,
      "reserve_size": 0,

```

```

    "space_used_percent": 0,
    "used": 0
  },
  "snapshot_reserve_unusable": 0,
  "snapshot_spill": 0,
  "total_footprint": 0,
  "used": 0,
  "user_data": 0,
  "volume_guarantee_footprint": 0
},
"state": "string",
"statistics": {
  "cloud": {
    "iops_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "flexcache_raw": {
    "cache_miss_blocks": 10,
    "client_requested_blocks": 500,
    "status": "ok",
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "iops_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "status": "ok",
  "throughput_raw": {
    "read": 200,
    "total": 1000,

```

```

    "write": 100
  },
  "timestamp": "2017-01-25T11:20:13Z"
},
"status": [
  "string"
],
"style": "string",
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"tiering": {
  "object_tags": [
    "string"
  ],
  "policy": "string"
},
"type": "string",
"uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
}

```

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
787140	One of "aggregates.uuid", "aggregates.name", or "style" must be provided.
787141	The specified "aggregates.name" and "aggregates.uuid" refer to different aggregates.
917526	The volume name specified is a duplicate.
917829	Volume autosize grow threshold must be larger than autosize shrink threshold.
917831	Volume minimum autosize must be smaller than the maximum autosize.
917835	Maximum allowed snapshot.reserve_percent value during a volume creation is 90. Use PATCH to set it to a higher value after the volume has been created.
918191	Flexvol tiering min cooling days requires an effective cluster version of ONTAP 9.4 or later.
918194	Tiering min cooling days not supported for SVMDR.
918195	Tiering min cooling days not supported for non data volumes.
918196	Tiering min cooling days not allowed for the provided tiering policy.
918215	FlexGroup tiering min cooling days requires an effective cluster version of ONTAP 9.5 or later.

Error Code	Description
918233	The target field cannot be specified for this operation.
918236	The specified "parent_volume.uuid" and "parent_volume.name" do not refer to the same volume.
918240	The target style is an invalid volume style.
918241	The target style is an unsupported volume style for volume creation.
918242	When creating a flexible volume, exactly one aggregate must be specified via either "aggregates.name" or "aggregates.uuid".
918243	The specified Snapshot copy UUID is not correct for the specified Snapshot copy name.
918244	Invalid "volume.type" for clone volume.
918246	"volume.clone.parent_volume.name" or "volume.clone.parent_volume.uuid" must be provided.
918247	Specifying a value is not valid for a volume FlexClone creation.
918252	"nas.path" is invalid.
918290	cloud retrieval policy requires an effective cluster version of 9.8 or later.
918291	Invalid volume cloud retrieval policy for the provided tiering policy.
918292	cloud retrieval policy not supported for non data volume.
918521	The volume maximum autosize must be smaller than or equal to the maximum volume size.
918524	Volume minimum autosize must be less than or equal to the current volume size.
2621706	The specified "svm.uuid" and "svm.name" do not refer to the same SVM.
2621707	No SVM was specified. Either "svm.name" or "svm.uuid" must be supplied.
111411205	File system analytics requires an effective cluster version of 9.8 or later.
111411206	The specified "analytics.state" is invalid.
111411207	File system analytics cannot be enabled on volumes that contain LUNs.

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	

unsupported_reason

Name	Type	Description
code	string	If volume activity tracking is not supported on the volume, this field provides an appropriate error code.
message	string	If volume activity tracking is not supported on the volume, this field provides an error message detailing why this is the case.

activity_tracking

Name	Type	Description
state	string	<p>Activity tracking state of the volume. If this value is "on", ONTAP collects top metrics information for the volume in real time. There is a slight impact to I/O performance in order to collect this information. If this value is "off", no activity tracking information is collected or available to view.</p> <ul style="list-style-type: none">• enum: ["off", "on"]• Introduced in: 9.10

Name	Type	Description
supported	boolean	This field indicates whether or not volume activity tracking is supported on the volume. If volume activity tracking is not supported, the reason why is provided in the "activity_tracking.unsupported_reason" field.
unsupported_reason	unsupported_reason	

aggregates

Aggregate

Name	Type	Description
_links	_links	
name	string	
uuid	string	

unsupported_reason

Name	Type	Description
code	string	If file system analytics is not supported on the volume, this field provides the error code explaining why.
message	string	If file system analytics is not supported on the volume, this field provides the error message explaining why.

analytics

Name	Type	Description
scan_progress	integer	Percentage of files in the volume that the file system analytics initialization scan has processed. Only returned when the state is initializing.

Name	Type	Description
state	string	<p>File system analytics state of the volume. If this value is "on", ONTAP collects extra file system analytics information for all directories on the volume. There will be a slight impact to I/O performance to collect this information. If this value is "off", file system analytics information is not collected and not available to be viewed. If this value is "initializing", that means file system analytics was recently turned on, and the initialization scan to gather information all existing files and directories is currently running. If this value is 'unknown' that means there was an internal error when determining the file system analytics state for the volume.</p> <ul style="list-style-type: none"> enum: ["unknown", "initializing", "off", "on"] Introduced in: 9.8
supported	boolean	This field indicates whether or not file system analytics is supported on the volume. If file system analytics is not supported, the reason will be specified in the "analytics.unsupported_reason" field.
unsupported_reason	unsupported_reason	

_links

Name	Type	Description
suspects	href	

anti_ransomware_attack_report

Name	Type	Description
_links	_links	
time	string	Timestamp at which ransomware attack is observed.

space

Name	Type	Description
snapshot_count	integer	Total number of Anti-ransomware backup Snapshot copies.
used	integer	Total space in bytes used by the Anti-ransomware feature.
used_by_logs	integer	Space in bytes used by the Anti-ransomware analytics logs.
used_by_snapshots	integer	Space in bytes used by the Anti-ransomware backup Snapshot copies.

suspect_files

Name	Type	Description
count	integer	Total number of <code>suspect_files.format</code> files observed by the Anti-ransomware analytics engine on the volume.
format	string	File formats observed by the Anti-ransomware analytics engine on the volume.

anti_ransomware

Anti-ransomware related information of the volume.

Name	Type	Description
attack_probability	string	Probability of a ransomware attack. <code>none</code> No files are suspected of ransomware activity. <code>low</code> A number of files are suspected of ransomware activity. <code>moderate</code> A moderate number of files are suspected of ransomware activity. <code>high</code> A large number of files are suspected of ransomware activity.
attack_reports	array[anti_ransomware_attack_report]	

Name	Type	Description
dry_run_start_time	string	Time when Anti-ransomware monitoring state is set to dry-run value for starting evaluation mode.
space	space	
state	string	<p>Anti-ransomware state.</p> <p><code>disabled</code> Anti-ransomware monitoring is disabled on the volume. This is the default state in a POST operation.</p> <p><code>disable_in_progress</code> Anti-ransomware monitoring is being disabled and a cleanup operation is in effect. Valid in GET operation.</p> <p><code>dry_run</code> Anti-ransomware monitoring is enabled in the evaluation mode.</p> <p><code>enabled</code> Anti-ransomware monitoring is active on the volume.</p> <p><code>paused</code> Anti-ransomware monitoring is paused on the volume.</p> <p><code>enable_paused</code> Anti-ransomware monitoring is paused on the volume from its earlier enabled state. Valid in GET operation.</p> <p><code>dry_run_paused</code> Anti-ransomware monitoring is paused on the volume from its earlier <code>dry_run</code> state. Valid in GET operation. For POST, the valid Anti-ransomware states are only <code>disabled</code>, <code>enabled</code> and <code>dry_run</code>, whereas for PATCH, <code>paused</code> is also valid along with the three valid states for POST.</p>
suspect_files	array[suspect_files]	

application

Name	Type	Description
name	string	Name of the application to which the volume belongs. Available only when the volume is part of an application.

Name	Type	Description
uuid	string	UUID of the application to which the volume belongs. Available only when the volume is part of an application.

autosize

Name	Type	Description
grow_threshold	integer	Used space threshold size, in percentage, for the automatic growth of the volume. When the amount of used space in the volume becomes greater than this threshold, the volume automatically grows unless it has reached the maximum size. The volume grows when 'space.used' is greater than this percent of 'space.size'. The 'grow_threshold' size cannot be less than or equal to the 'shrink_threshold' size..
maximum	integer	Maximum size in bytes up to which a volume grows automatically. This size cannot be less than the current volume size, or less than or equal to the minimum size of volume.
minimum	integer	Minimum size in bytes up to which the volume shrinks automatically. This size cannot be greater than or equal to the maximum size of volume.
mode	string	Autosize mode for the volume. grow ‐ Volume automatically grows when the amount of used space is above the 'grow_threshold' value. grow_shrink ‐ Volume grows or shrinks in response to the amount of space used. off ‐ Autosizing of the volume is disabled.

Name	Type	Description
shrink_threshold	integer	Used space threshold size, in percentage, for the automatic shrinkage of the volume. When the amount of used space in the volume drops below this threshold, the volume automatically shrinks unless it has reached the minimum size. The volume shrinks when the 'space.used' is less than the 'shrink_threshold' percent of 'space.size'. The 'shrink_threshold' size cannot be greater than or equal to the 'grow_threshold' size.

snapshot_reference

Name	Type	Description
_links	_links	
name	string	
uuid	string	

parent_svm

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

parent_volume

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

clone

Name	Type	Description
is_flexclone	boolean	Specifies if this volume is a normal FlexVol or FlexClone. This field needs to be set when creating a FlexClone. Valid in POST.
parent_snapshot	snapshot_reference	
parent_svm	parent_svm	
parent_volume	parent_volume	
split_complete_percent	integer	Percentage of FlexClone blocks split from its parent volume.
split_estimate	integer	Space required by the containing-aggregate to split the FlexClone volume.
split_initiated	boolean	This field is set when split is executed on any FlexClone, that is when the FlexClone volume is split from its parent FlexVol. This field needs to be set for splitting a FlexClone form FlexVol. Valid in PATCH.

consistency_group

Consistency group the volume is part of.

Name	Type	Description
name	string	The name of the consistency group to which the volume belongs. Available only when the volume is part of a consistency group. If this volume belongs to a child consistency group, then this will be the UUID of the parent consistency group.
uuid	string	The UUID of the consistency group to which the volume belongs. Available only when the volume is part of a consistency group. If this volume belongs to a child consistency group, then this will be the UUID of the parent consistency group.

aggregates

Name	Type	Description
name	string	Name of the aggregate hosting the FlexGroup Constituent.
uuid	string	Unique identifier for the aggregate.

destination_aggregate

Aggregate

Name	Type	Description
_links	_links	
name	string	
uuid	string	

movement

Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.

Name	Type	Description
cutover_window	integer	Time window in seconds for cutover. The allowed range is between 30 to 300 seconds.
destination_aggregate	destination_aggregate	Aggregate
percent_complete	integer	Completion percentage
state	string	State of volume move operation. PATCH the state to "aborted" to abort the move operation. PATCH the state to "cutover" to trigger cutover. PATCH the state to "paused" to pause the volume move operation in progress. PATCH the state to "replicating" to resume the paused volume move operation. PATCH the state to "cutover_wait" to go into cutover manually. When volume move operation is waiting to go into "cutover" state, this is indicated by the "cutover_pending" state. A change of state is only supported if volume movement is in progress.
tiering_policy	string	Tiering policy for FabricPool

logical_space

Name	Type	Description
available	integer	The amount of space available in this volume with storage efficiency space considered used, in bytes.
enforcement	boolean	Specifies whether space accounting for operations on the volume is done along with storage efficiency.
reporting	boolean	Specifies whether space reporting on the volume is done along with storage efficiency.

Name	Type	Description
used_by_afs	integer	The virtual space used by AFS alone (includes volume reserves) and along with storage efficiency, in bytes.

snapshot

Name	Type	Description
autodelete_enabled	boolean	Specifies whether Snapshot copy autodelete is currently enabled on this volume.
reserve_percent	integer	The space that has been set aside as a reserve for Snapshot copy usage, in percent.
used	integer	The total space used by Snapshot copies in the volume, in bytes.

space

Name	Type	Description
afs_total	integer	Total size of AFS, excluding snap-reserve, in bytes.
available	integer	The available space, in bytes.
available_percent	integer	The space available, as a percent.
block_storage_inactive_user_data	integer	The size that is physically used in the block storage of the volume and has a cold temperature. In bytes. This parameter is only supported if the volume is in an aggregate that is either attached to a cloud store or could be attached to a cloud store.
capacity_tier_footprint	integer	Space used by capacity tier for this volume in the FabricPool aggregate, in bytes.

Name	Type	Description
footprint	integer	Data used for this volume in the aggregate, in bytes.
local_tier_footprint	integer	Space used by the local tier for this volume in the aggregate, in bytes.
logical_space	logical_space	
metadata	integer	Space used by the volume metadata in the aggregate, in bytes.
over_provisioned	integer	The amount of space not available for this volume in the aggregate, in bytes.
performance_tier_footprint	integer	Space used by the performance tier for this volume in the FabricPool aggregate, in bytes.
size	integer	Total provisioned size. The default size is equal to the minimum size of 20MB, in bytes.
snapshot	snapshot	
total_footprint	integer	Data and metadata used for this volume in the aggregate, in bytes.
used	integer	The virtual space used (includes volume reserves) before storage efficiency, in bytes.
used_by_afs	integer	The space used by Active Filesystem, in bytes.
used_percent	integer	The virtual space used (includes volume reserves) before storage efficiency, as a percent.

constituents

Name	Type	Description
aggregates	aggregates	

Name	Type	Description
movement	movement	Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.
name	string	FlexGroup Constituents name
space	space	

policy

Name	Type	Description
name	string	Specifies the name of the efficiency policy. Valid for PATCH.

efficiency

Name	Type	Description
application_io_size	string	Block size to use by compression. Valid for POST.
compaction	string	The system can be enabled/disabled compaction. inline ‐ Data will be compacted first and written to the volume. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are compaction enabled and some are disabled.

Name	Type	Description
compression	string	The system can be enabled/disabled compression. inline ‐ Data will be compressed first and written to the volume. background ‐ Data will be written to the volume and compressed later. both ‐ Inline compression compresses the data and write to the volume, background compression compresses only the blocks on which inline compression is not run. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are compression enabled and some are disabled.
cross_volume_dedupe	string	The system can be enabled/disabled cross volume dedupe. it can be enabled only when dedupe is enabled. inline ‐ Data will be cross volume deduped first and written to the volume. background ‐ Data will be written to the volume and cross volume deduped later. both ‐ Inline cross volume dedupe dedupes the data and write to the volume, background cross volume dedupe dedupes only the blocks on which inline dedupe is not run. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are cross volume dedupe enabled and some are disabled.

Name	Type	Description
dedupe	string	The system can be enabled/disabled dedupe. inline ‐ Data will be deduped first and written to the volume. background ‐ Data will be written to the volume and deduped later. both ‐ Inline dedupe dedupes the data and write to the volume, background dedupe dedupes only the blocks on which inline dedupe is not run. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are dedupe enabled and some are disabled.
last_op_begin	string	Last sis operation begin timestamp.
last_op_end	string	Last sis operation end timestamp.
last_op_err	string	Last sis operation error text.
last_op_size	integer	Last sis operation size.
last_op_state	string	Last sis operation state.
op_state	string	Sis status of the volume.
path	string	Absolute volume path of the volume.
policy	policy	
progress	string	Sis progress of the volume.
schedule	string	Schedule associated with volume.

Name	Type	Description
state	string	<p>Storage efficiency state of the volume. Currently, this field supports POST/PATCH only for RW (Read-Write) volumes on FSx for ONTAP. disabled &dash; All storage efficiency features are disabled. mixed &dash; Read-only field for FlexGroup volumes, storage efficiency is enabled on certain constituents and disabled on others. On FSx for ONTAP &dash; &emsp; enabled &dash; All supported storage efficiency features for the volume are enabled. &emsp; custom &dash; Read-only field currently only supported for the FSx for ONTAP, user-defined storage efficiency features are enabled. For other platforms &dash; &emsp; enabled &dash; At least one storage efficiency feature for the volume is enabled.</p> <ul style="list-style-type: none"> enum: ["disabled", "enabled", "mixed", "custom"] Introduced in: 9.9
storage_efficiency_mode	string	Storage efficiency mode used by volume. This parameter is supported only on AFF platform.
type	string	Sis Type of the volume.

status

Name	Type	Description
code	string	Encryption progress message code.
message	string	Encryption progress message.

encryption

Name	Type	Description
enabled	boolean	Creates an encrypted or an unencrypted volume. For POST, when set to 'true', a new key is generated and used to encrypt the given volume. In that case, the underlying SVM must be configured with the key manager. When set to 'false', the volume created will be unencrypted. For PATCH, when set to 'true', it encrypts an unencrypted volume. Specifying the parameter as 'false' in a PATCH operation for an encrypted volume is only supported when moving the volume to another aggregate.
key_id	string	The key ID used for creating encrypted volume. A new key-id is generated for creating an encrypted volume. This key-id is associated with the generated key.
key_manager_attribute	string	Specifies an additional key manager attribute that is an identifier-value pair, separated by '='. For example, CRN=unique-value. This parameter is required when using the POST method and an IBM Key Lore key manager is configured on the SVM.
rekey	boolean	If set to 'true', re-encrypts the volume with a new key. Valid in PATCH.
state	string	Volume encryption state. encrypted ‐ The volume is completely encrypted. encrypting ‐ Encryption operation is in progress. partial ‐ Some constituents are encrypted and some are not. Applicable only for FlexGroup volume. rekeying. Encryption of volume with a new key is in progress. unencrypted ‐ The volume is a plain-text one.

Name	Type	Description
status	status	
type	string	Volume encryption type. none ‐ The volume is a plain-text one. volume ‐ The volume is encrypted with NVE (NetApp Volume Encryption). aggregate ‐ The volume is encrypted with NAE (NetApp Aggregate Encryption).

error_state

Name	Type	Description
has_bad_blocks	boolean	Indicates whether the volume has any corrupt data blocks. If the damaged data block is accessed, an IO error, such as EIO for NFS or STATUS_FILE_CORRUPT for CIFS, is returned.
is_inconsistent	boolean	Indicates whether the file system has any inconsistencies. true ‐ File system is inconsistent. false ‐ File system is not inconsistent.

files

Name	Type	Description
maximum	integer	The maximum number of files (inodes) for user-visible data allowed on the volume. This value can be increased or decreased. Increasing the maximum number of files does not immediately cause additional disk space to be used to track files. Instead, as more files are created on the volume, the system dynamically increases the number of disk blocks that are used to track files. The space assigned to track files is never freed, and this value cannot be decreased below the current number of files that can be tracked within the assigned space for the volume. Valid in PATCH.
used	integer	Number of files (inodes) used for user-visible data permitted on the volume. This field is valid only when the volume is online.

flash_pool

Name	Type	Description
cache_eligibility	string	If this parameter is specified, the command displays information only about the volume or volumes with the specified Flash Pool caching attributes.
cache_retention_priority	string	If this parameter is specified, the command displays the volumes that match the specified cache retention priority policy. A cache retention priority defines how long the blocks of a volume will be cached in the Flash Pool once they become cold.

Name	Type	Description
cacheing_policy	string	This optionally specifies the caching policy to apply to the volume. A caching policy defines how the system caches a volume's data in Flash Cache modules. If a caching policy is not assigned to a volume, the system uses the caching policy that is assigned to the containing SVM. If a caching policy is not assigned to the containing SVM, the system uses the default cluster-wide policy.

flexgroup

Name	Type	Description
name	string	Name of the FlexGroup volume that the constituent is part of.
uuid	string	Unique identifier for the FlexGroup volume that the constituent is part of.

guarantee

Name	Type	Description
honored	boolean	Is the space guarantee of this volume honored in the aggregate?
type	string	The type of space guarantee of this volume in the aggregate.

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

cloud

Performance numbers (IOPS and latency) for cloud store. These numbers are relevant only for volumes hosted on FabricPools.

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.

Name	Type	Description
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

flexcache

Performance number for FlexCache used to measure cache effectiveness.

Name	Type	Description
bandwidth_savings	integer	Bandwidth savings denoting the amount of data served locally by the cache, in bytes.
cache_miss_percent	integer	Cache miss percentage.

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.

Name	Type	Description
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

metric

Performance numbers, such as IOPS, latency and throughput.

Name	Type	Description
_links	_links	
cloud	cloud	Performance numbers (IOPS and latency) for cloud store. These numbers are relevant only for volumes hosted on FabricPools.
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
flexcache	flexcache	Performance number for FlexCache used to measure cache effectiveness.
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.

Name	Type	Description
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

movement

Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.

Name	Type	Description
cutover_window	integer	Time window in seconds for cutover. The allowed range is between 30 to 300 seconds.
destination_aggregate	destination_aggregate	Aggregate
percent_complete	integer	Completion percentage
start_time	string	Start time of volume move.

Name	Type	Description
state	string	State of volume move operation. PATCH the state to "aborted" to abort the move operation. PATCH the state to "cutover" to trigger cutover. PATCH the state to "paused" to pause the volume move operation in progress. PATCH the state to "replicating" to resume the paused volume move operation. PATCH the state to "cutover_wait" to go into cutover manually. When volume move operation is waiting to go into "cutover" state, this is indicated by the "cutover_pending" state. A change of state is only supported if volume movement is in progress.
tiering_policy	string	Tiering policy for FabricPool

export_policy

Export Policy

Name	Type	Description
_links	_links	
id	integer	
name	string	

junction_parent

Name	Type	Description
_links	_links	
name	string	The name of the parent volume that contains the junction inode of this volume. The junction parent volume must belong to the same SVM that owns this volume.
uuid	string	Unique identifier for the parent volume.

nas

Name	Type	Description
export_policy	export_policy	Export Policy
gid	integer	The UNIX group ID of the volume. Valid in POST or PATCH.
junction_parent	junction_parent	
path	string	The fully-qualified path in the owning SVM's namespace at which the volume is mounted. The path is case insensitive and must be unique within a SVM's namespace. Path must begin with '/' and must not end with '/'. Only one volume can be mounted at any given junction path. An empty path in POST creates an unmounted volume. An empty path in PATCH deactivates and unmounts the volume. Taking a volume offline or restricted state removes its junction path. This attribute is reported in GET only when the volume is mounted.
security_style	string	Security style associated with the volume. Valid in POST or PATCH. mixed ‐ Mixed-style security ntfs ‐ NTFS/Windows-style security unified ‐ Unified-style security, unified UNIX, NFS and CIFS permissions unix ‐ Unix-style security.
uid	integer	The UNIX user ID of the volume. Valid in POST or PATCH.

Name	Type	Description
unix_permissions	integer	UNIX permissions to be viewed as an octal number. It consists of 4 digits derived by adding up bits 4 (read), 2 (write) and 1 (execute). First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file; the third selects permissions for other users in the same group; the fourth for other users not in the group. Valid in POST or PATCH. For security style "mixed" or "unix", the default setting is 0755 in octal (493 in decimal) and for security style "ntfs", the default setting is 0000. In cases where only owner, group and other permissions are given (as in 755, representing the second, third and fourth digit), first digit is assumed to be zero.

policy

Name	Type	Description
_links	_links	
max_throughput_iops	integer	Specifies the maximum throughput in IOPS, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
max_throughput_mbps	integer	Specifies the maximum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
min_throughput_iops	integer	Specifies the minimum throughput in IOPS, 0 means none. Setting "min_throughput" is supported on AFF platforms only, unless FabricPool tiering policies are set. This is mutually exclusive with name and UUID during POST and PATCH.

Name	Type	Description
min_throughput_mbps	integer	Specifies the minimum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
name	string	The QoS policy group name. This is mutually exclusive with UUID and other QoS attributes during POST and PATCH.
uuid	string	The QoS policy group UUID. This is mutually exclusive with name and other QoS attributes during POST and PATCH.

qos

QoS information

Name	Type	Description
policy	policy	

quota

Quotas track the space or file usage of a user, group, or qtree in a FlexVol or a FlexGroup volume.

Name	Type	Description
enabled	boolean	This option is used to enable or disable the quota for the volume. This option is valid only in PATCH. Quotas are enabled for FlexVols or FlexGroup volumes when the quota state is "on". Quotas are disabled for FlexVols or FlexGroup volumes when the quota state is "off".
state	string	Quota state of the volume

retention

Name	Type	Description
default	string	<p>Specifies the default retention period that is applied to files while committing them to the WORM state without an associated retention period. The retention value represents a duration and must be specified in the ISO-8601 duration format. The retention period can be in years, months, days, hours, and minutes. A duration specified for years, months, and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The retention string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the duration field also accepts the string "infinite" to set an infinite retention period and the string "unspecified" to set an unspecified retention period.</p>

Name	Type	Description
maximum	string	<p>Specifies the maximum allowed retention period for files committed to the WORM state on the volume. The retention value represents a duration and must be specified in the ISO-8601 duration format. The retention period can be in years, months, days, hours, and minutes. A duration specified for years, months, and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The retention string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the duration field also accepts the string "infinite" to set an infinite retention period.</p>

Name	Type	Description
minimum	string	Specifies the minimum allowed retention period for files committed to the WORM state on the volume. The retention value represents a duration and must be specified in the ISO-8601 duration format. The retention period can be in years, months, days, hours, and minutes. A duration specified for years, month,s and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The retention string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the duration field also accepts the string "infinite" to set an infinite retention period.</num></num></num></num></num>

snaplock

Name	Type	Description
append_mode_enabled	boolean	Specifies if the volume append mode is enabled or disabled. When it is enabled, all the files created with write permissions on the volume are, by default, WORM appendable files. The user can append the data to a WORM appendable file but cannot modify the existing contents of the file nor delete the file until it expires.

Name	Type	Description
autocommit_period	string	Specifies the autocommit period for SnapLock volume. All files which are not modified for a period greater than the autocommit period of the volume are committed to the WORM state. The autocommit period value represents a duration and must be specified in the ISO-8601 duration format. The autocommit period can be in years, months, days, hours, and minutes. A period specified for years, months, and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The period string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the autocommit field also accepts the string "none".
compliance_clock_time	string	This is the volume compliance clock time which is used to manage the SnapLock objects in the volume.
expiry_time	string	Expiry time of the volume.
is_audit_log	boolean	Indicates if this volume has been configured as SnapLock audit log volume for the SVM .
litigation_count	integer	Litigation count indicates the number of active legal-holds on the volume.

Name	Type	Description
privileged_delete	string	Specifies the privileged-delete attribute of a SnapLock volume. On a SnapLock Enterprise (SLE) volume, a designated privileged user can selectively delete files irrespective of the retention time of the file. SLE volumes can have privileged delete as disabled, enabled or permanently_disabled and for SnapLock Compliance (SLC) volumes it is always permanently_disabled.
retention	retention	
type	string	The SnapLock type of the volume. compliance ‐ A SnapLock Compliance(SLC) volume provides the highest level of WORM protection and an administrator cannot destroy a SLC volume if it contains unexpired WORM files. enterprise ‐ An administrator can delete a SnapLock Enterprise(SLE) volume. non_snaplock ‐ Indicates the volume is non-snaplock.
unspecified_retention_file_count	integer	Indicates the number of files with an unspecified retention time in the volume.

destinations

Name	Type	Description
is_cloud	boolean	Specifies whether a volume is a SnapMirror source volume, using SnapMirror to protect its data to a cloud destination.
is_ontap	boolean	Specifies whether a volume is a SnapMirror source volume, using SnapMirror to protect its data to an ONTAP destination. <ul style="list-style-type: none"> • readOnly: 1 • Introduced in: 9.9

snapmirror

Specifies attributes for SnapMirror protection.

Name	Type	Description
destinations	destinations	
is_protected	boolean	Specifies whether a volume is a SnapMirror source volume, using SnapMirror to protect its data.

snapshot_policy

This is a reference to the Snapshot copy policy.

Name	Type	Description
_links	_links	
name	string	
uuid	string	

logical_space

Name	Type	Description
available	integer	The amount of space available in this volume with storage efficiency space considered used, in bytes.
enforcement	boolean	Specifies whether space accounting for operations on the volume is done along with storage efficiency.
reporting	boolean	Specifies whether space reporting on the volume is done along with storage efficiency.
used	integer	SUM of (physical-used, shared_refs, compression_saved_in_plane0, vbn_zero, future_blk_cnt), in bytes.
used_by_afs	integer	The virtual space used by AFS alone (includes volume reserves) and along with storage efficiency, in bytes.

Name	Type	Description
used_by_snapshots	integer	Size that is logically used across all Snapshot copies in the volume, in bytes.
used_percent	integer	SUM of (physical-used, shared_refs, compression_saved_in_plane0, vbn_zero, future_blk_cnt), as a percentage.

snapshot

Name	Type	Description
autodelete_enabled	boolean	Specifies whether Snapshot copy autodelete is currently enabled on this volume.
autodelete_trigger	string	Specifies when the system should trigger an autodelete of Snapshot copies. When set to <i>volume</i> , autodelete is triggered based on volume fullness. When set to <i>snap_reserve</i> , autodelete is triggered based on Snapshot reserve fullness. The default value is <i>volume</i> .
reserve_available	integer	Size available for Snapshot copies within the Snapshot copy reserve, in bytes.
reserve_percent	integer	The space that has been set aside as a reserve for Snapshot copy usage, in percent.
reserve_size	integer	Size in the volume that has been set aside as a reserve for Snapshot copy usage, in bytes.
space_used_percent	integer	Percentage of snapshot reserve size that has been used.
used	integer	The total space used by Snapshot copies in the volume, in bytes.

space

Name	Type	Description
afs_total	integer	Total size of AFS, excluding snap-reserve, in bytes.
available	integer	The available space, in bytes.
available_percent	integer	The space available, as a percent.
block_storage_inactive_user_data	integer	The size that is physically used in the block storage of the volume and has a cold temperature. In bytes. This parameter is only supported if the volume is in an aggregate that is either attached to a cloud store or could be attached to a cloud store.
block_storage_inactive_user_data_percent	integer	Percentage of size that is physically used in the performance tier of the volume.
capacity_tier_footprint	integer	Space used by capacity tier for this volume in the FabricPool aggregate, in bytes.
cross_volume_dedupe_metafiles_footprint	integer	Cross volume deduplication metadata footprint, in bytes.
cross_volume_dedupe_metafiles_temporary_footprint	integer	Cross volume temporary deduplication metadata footprint, in bytes.
dedupe_metafiles_footprint	integer	Deduplication metadata footprint, in bytes.
dedupe_metafiles_temporary_footprint	integer	Temporary deduplication metadata footprint, in bytes.
delayed_free_footprint	integer	Delayed free blocks footprint, in bytes.
expected_available	integer	Size that should be available for the volume, irrespective of available size in the aggregate, in bytes.

Name	Type	Description
file_operation_metadata	integer	File operation metadata footprint, in bytes.
filesystem_size	integer	Total usable size of the volume, in bytes.
filesystem_size_fixed	boolean	Specifies whether the file system is to remain of the same size when set to true or to grow when set to false. This option is automatically set to true when a volume becomes SnapMirrored.
footprint	integer	Data used for this volume in the aggregate, in bytes.
fractional_reserve	integer	Used to change the amount of space reserved for overwrites of reserved objects in a volume.
full_threshold_percent	integer	Volume full threshold percentage at which EMS warnings can be sent.
local_tier_footprint	integer	Space used by the local tier for this volume in the aggregate, in bytes.
logical_space	logical_space	
metadata	integer	Space used by the volume metadata in the aggregate, in bytes.
nearly_full_threshold_percent	integer	Volume nearly full threshold percentage at which EMS warnings can be sent.
over_provisioned	integer	The amount of space not available for this volume in the aggregate, in bytes.
overwrite_reserve	integer	Reserved space for overwrites, in bytes.
overwrite_reserve_used	integer	Overwrite logical reserve space used, in bytes.

Name	Type	Description
percent_used	integer	Percentage of the volume size that is used.
performance_tier_footprint	integer	Space used by the performance tier for this volume in the FabricPool aggregate, in bytes.
physical_used	integer	Size that is physically used in the volume, in bytes.
physical_used_percent	integer	Size that is physically used in the volume, as a percentage.
size	integer	Total provisioned size. The default size is equal to the minimum size of 20MB, in bytes.
size_available_for_snapshots	integer	Available space for Snapshot copies from snap-reserve, in bytes.
snapmirror_destination_footprint	integer	SnapMirror destination footprint, in bytes.
snapshot	snapshot	
snapshot_reserve_unusable	integer	Snapshot reserve that is not available for Snapshot copy creation, in bytes.
snapshot_spill	integer	Space used by the snapshot copies beyond the snap-reserve, in bytes.
total_footprint	integer	Data and metadata used for this volume in the aggregate, in bytes.
used	integer	The virtual space used (includes volume reserves) before storage efficiency, in bytes.
used_by_afs	integer	The space used by Active Filesystem, in bytes.
user_data	integer	User data, in bytes.

Name	Type	Description
volume_guarantee_footprint	integer	Space reserved for future writes in the volume, in bytes.

iops_raw

The number of I/O operations observed at the storage object. This can be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency_raw

The raw latency in microseconds observed at the storage object. This can be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

cloud

These are raw performance numbers (IOPS and latency) for the cloud store. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster. These numbers are relevant only for volumes hosted on FabricPools.

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This can be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This can be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

flexcache_raw

Performance numbers for FlexCache used to measure cache effectiveness.

Name	Type	Description
cache_miss_blocks	integer	Blocks retrieved from origin in case of a cache miss. This can be divided by the raw client_requested_blocks and multiplied by 100 to calculate the cache miss percentage.
client_requested_blocks	integer	Total blocks requested by the client.
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

throughput_raw

Throughput bytes observed at the storage object. This can be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

statistics

These are raw performance numbers, such as IOPS latency and throughput. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.

Name	Type	Description
cloud	cloud	These are raw performance numbers (IOPS and latency) for the cloud store. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster. These numbers are relevant only for volumes hosted on FabricPools.
flexcache_raw	flexcache_raw	Performance numbers for FlexCache used to measure cache effectiveness.
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This can be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This can be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This can be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

svm

SVM containing the volume. Required on POST.

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

tiering

Name	Type	Description
min_cooling_days	integer	<p>This parameter specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the cloud tier. Note that this parameter is only used for tiering purposes and does not affect the reporting of inactive data. The value specified should be greater than the frequency with which applications in the volume shift between different sets of data.</p> <p>This parameter cannot be set when volume tiering policy is either "none" or "all". The default value of this parameter depends on the volume's tiering policy. See the tiering policy section of this documentation for corresponding default values. If the tiering policy on the volume gets changed, then this parameter will be reset to the default value corresponding to the new tiering policy.</p>
object_tags	array[string]	<p>This parameter specifies tags of a volume for objects stored on a FabricPool-enabled aggregate. Each tag is a key,value pair and should be in the format "key=value".</p>

Name	Type	Description
policy	string	<p>Policy that determines whether the user data blocks of a volume in a FabricPool will be tiered to the cloud store when they become cold. FabricPool combines flash (performance tier) with a cloud store into a single aggregate. Temperature of a volume block increases if it is accessed frequently and decreases when it is not. Valid in POST or PATCH. all &dash; This policy allows tiering of both Snapshot copies and active file system user data to the cloud store as soon as possible by ignoring the temperature on the volume blocks. auto &dash; This policy allows tiering of both snapshot and active file system user data to the cloud store none &dash; Volume blocks will not be tiered to the cloud store. snapshot_only &dash; This policy allows tiering of only the volume Snapshot copies not associated with the active file system. The default tiering policy is "snapshot-only" for a FlexVol and "none" for a FlexGroup. The default minimum cooling period for the "snapshot-only" tiering policy is 2 days and for the "auto" tiering policy is 31 days.</p>

Name	Type	Description
supported	boolean	This parameter specifies whether or not FabricPools are selected when provisioning a FlexGroup without specifying "aggregates.name" or "aggregates.uuid". Only FabricPool aggregates are used if this parameter is set to true and only non FabricPool aggregates are used if this parameter is set to false. Tiering support for a FlexGroup can be changed by moving all of the constituents to the required aggregates. Note that in order to tier data, not only does the volume need to support tiering by using FabricPools, the tiering "policy" must not be 'none'. A volume that uses FabricPools but has a tiering "policy" of 'none' supports tiering, but will not tier any data.

volume

Name	Type	Description
_links	_links	
access_time_enabled	boolean	Indicates whether or not access time updates are enabled on the volume.
activity_tracking	activity_tracking	
aggregates	array[aggregates]	Aggregate hosting the volume. Required on POST.
analytics	analytics	
anti_ransomware	anti_ransomware	Anti-ransomware related information of the volume.

Name	Type	Description
anti_ransomware_state	string	<p>The Anti-ransomware state of the volume. If no "anti_ransomware_state" property is specified, the volume inherits the value from its parent SVM's "anti_ransomware_default_volume_state" property. If this value is "disabled", Anti-ransomware is disabled on the volume. If this value is "enabled", Anti-ransomware is enabled on the volume and alerts are raised if any suspect is detected for those volumes. If this value is "dry_run", Anti-ransomware is enabled in the dry-run or learning mode on the volume. The "dry_run" state is same as the "enabled" state except that the analytics data is used here for learning. No alerts are raised for any detections or violations. If this value is "paused", Anti-ransomware is paused on the volume. Additionally, three more states are available, which are only valid for GET. If this value is "disable_in_progress", Anti-ransomware monitoring is being disabled and a cleanup operation is in effect. If this value is "enable_paused", Anti-ransomware is paused on the volume from its earlier enabled state. If this value is "dry_run_paused", Anti-ransomware monitoring is paused on the volume from its earlier dry_run state. For POST, the valid Anti-ransomware states are only "disabled", "enabled" and "dry_run", whereas for PATCH, "paused" is also valid along with the three valid states for POST.</p>
application	application	
autosize	autosize	
clone	clone	

Name	Type	Description
cloud_retrieval_policy	string	This parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are "default" policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot_only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved. "on_read" policy retrieves tiered data for all client driven data reads. "never" policy never retrieves tiered data. "promote" policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot_only'. If the tiering policy is 'snapshot_only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud and if tiering policy is 'none' then all data is retrieved.
comment	string	A comment for the volume. Valid in POST or PATCH.
consistency_group	consistency_group	Consistency group the volume is part of.
constituents	array[constituents]	

Name	Type	Description
constituents_per_aggregate	integer	Specifies the number of times to iterate over the aggregates listed with the "aggregates.name" or "aggregates.uuid" when creating or expanding a FlexGroup volume. If a volume is being created on a single aggregate, the system creates a flexible volume if the "constituents_per_aggregate" field is not specified, or a FlexGroup volume if it is specified. If a volume is being created on multiple aggregates, the system always creates a FlexGroup volume. The root constituent of a FlexGroup volume is always placed on the first aggregate in the list.
convert_unicode	boolean	Specifies whether directory Unicode format conversion is enabled when directories are accessed by NFS clients.
create_time	string	Creation time of the volume. This field is generated when the volume is created.
efficiency	efficiency	
encryption	encryption	
error_state	error_state	
files	files	
flash_pool	flash_pool	
flexcache_endpoint_type	string	FlexCache endpoint type. none ‐ The volume is neither a FlexCache nor origin of any FlexCache. cache ‐ The volume is a FlexCache volume. origin ‐ The volume is origin of a FlexCache volume.
flexgroup	flexgroup	
guarantee	guarantee	

Name	Type	Description
is_object_store	boolean	Specifies whether the volume is provisioned for an object store server.
is_svm_root	boolean	Specifies whether the volume is a root volume of the SVM it belongs to.
language	string	Language encoding setting for volume. If no language is specified, the volume inherits its SVM language encoding setting.
max_dir_size	integer	Maximum directory size. This value sets maximum size, in bytes, to which a directory can grow. The default maximum directory size for FlexVol volumes is model-dependent, and optimized for the size of system memory. Before increasing the maximum directory size, involve technical support.
metric	metric	Performance numbers, such as IOPS, latency and throughput.
movement	movement	Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.
name	string	Volume name. The name of volume must start with an alphabetic character (a to z or A to Z) or an underscore (_). The name must be 197 or fewer characters in length for FlexGroups, and 203 or fewer characters in length for all other types of volumes. Volume names must be unique within an SVM. Required on POST.
nas	nas	

Name	Type	Description
qos	qos	QoS information
queue_for_encryption	boolean	Specifies whether the volume is queued for encryption.
quota	quota	Quotas track the space or file usage of a user, group, or qtree in a FlexVol or a FlexGroup volume.
scheduled_snapshot_naming_scheme	string	<p>Naming Scheme for automatic Snapshot copies:</p> <ul style="list-style-type: none"> • create_time - Automatic Snapshot copies are saved as per the start of their current date and time. • ordinal - Latest automatic snapshot copy is saved as <scheduled_frequency>.0 and subsequent copies will follow the create_time naming convention.</scheduled_frequency>
size	integer	Physical size of the volume, in bytes. The minimum size for a FlexVol volume is 20MB and the minimum size for a FlexGroup volume is 200MB per constituent. The recommended size for a FlexGroup volume is a minimum of 100GB per constituent. For all volumes, the default size is equal to the minimum size.
snaplock	snaplock	
snapmirror	snapmirror	Specifies attributes for SnapMirror protection.
snapshot_count	integer	Number of Snapshot copies in the volume.
snapshot_policy	snapshot_policy	This is a reference to the Snapshot copy policy.
space	space	

Name	Type	Description
state	string	Volume state. Client access is supported only when volume is online and junctioned. Taking volume to offline or restricted state removes its junction path and blocks client access. When volume is in restricted state some operations like parity reconstruction and iron on commit are allowed. The 'mixed' state applies to FlexGroup volumes only and cannot be specified as a target state. An 'error' state implies that the volume is not in a state to serve data.
statistics	statistics	These are raw performance numbers, such as IOPS latency and throughput. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.
status	array[string]	Describes the current status of a volume.

Name	Type	Description
style	string	The style of the volume. If "style" is not specified, the volume type is determined based on the specified aggregates. Specifying a single aggregate, without "constituents_per_aggregate", creates a flexible volume. Specifying multiple aggregates, or a single aggregate with "constituents_per_aggregate", creates a FlexGroup. Specifying a volume "style" creates a volume of that type. For example, if the style is "flexvol" you must specify a single aggregate. If the style is "flexgroup", the system either uses the specified aggregates or automatically provisions aggregates if there are no specified aggregates. The style "flexgroup_constituent" is not supported when creating a volume. flexvol ‐ flexible volumes and FlexClone volumes flexgroup ‐ FlexGroup volumes flexgroup_constituent ‐ FlexGroup constituents.
svm	svm	SVM containing the volume. Required on POST.
tiering	tiering	
type	string	Type of the volume. rw ‐ read-write volume. dp ‐ data-protection volume. ls ‐ load-sharing <code>dp</code> volume. Valid in GET.

Name	Type	Description
use_mirrored_aggregates	boolean	Specifies whether mirrored aggregates are selected when provisioning a FlexGroup without specifying "aggregates.name" or "aggregates.uuid". Only mirrored aggregates are used if this parameter is set to 'true' and only unmirrored aggregates are used if this parameter is set to 'false'. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is 'true' for a MetroCluster configuration and is 'false' for a non-MetroCluster configuration.
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 • readOnly: 1 • Introduced in: 9.6

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 volume

DELETE /storage/volumes/{uuid}

Introduced In: 9.6

Deletes a volume. If the UUID belongs to a volume, all of its blocks are freed and returned to its containing aggregate. If a volume is online, it is offlined before deletion. If a volume is mounted, unmount the volume by specifying the nas.path as empty before deleting it using the DELETE operation.

Related ONTAP commands

- `volume delete`
- `volume clone delete`

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Unique identifier of the volume.

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: 202, Accepted

Name	Type	Description
job	job_link	

Example response

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

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	

_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 volume

GET /storage/volumes/{uuid}

Introduced In: 9.6

Retrieves a volume. The GET API can be used to retrieve the quota state for a FlexVol or a FlexGroup volume.

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 [Requesting specific fields](#) to learn more.

- `is_svm_root`
- `analytics.*`
- `anti_ransomware.*`
- `application.*`
- `encryption.*`
- `convert_unicode`
- `clone.parent_snapshot.name`
- `clone.parent_snapshot.uuid`
- `clone.parent_svm.name`
- `clone.parent_svm.uuid`
- `clone.parent_volume.name`
- `clone.parent_volume.uuid`
- `clone.split_complete_percent`
- `clone.split_estimate`
- `clone.split_initiated`
- `efficiency.*`
- `error_state.*`
- `files.*`
- `max_dir_size`
- `nas.export_policy.id`
- `nas.gid`
- `nas.path`
- `nas.security_style`
- `nas.uid`
- `nas.unix_permissions`
- `nas.junction_parent.name`
- `nas.junction_parent.uuid`

- snaplock.*
- restore_to.*
- snapshot_policy.uuid
- quota.*
- qos.*
- flexcache_endpoint_type
- space.block_storage_inactive_user_data
- space.capacity_tier_footprint
- space.performance_tier_footprint
- space.local_tier_footprint
- space.footprint
- space.over_provisioned
- space.metadata
- space.total_footprint
- space.dedupe_metafiles_footprint
- space.dedupe_metafiles_temporary_footprint
- space.delayed_free_footprint
- space.file_operation_metadata
- space.snapmirror_destination_footprint
- space.volume_guarantee_footprint
- space.cross_volume_dedupe_metafiles_footprint
- space.cross_volume_dedupe_metafiles_temporary_footprint
- space.snapshot_reserve_unusable
- space.snapshot_spill
- space.user_data
- space.logical_space.*
- space.snapshot.*
- space.used_by_afs
- space.afs_total
- space.available_percent
- space.full_threshold_percent
- space.nearly_full_threshold_percent
- space.overwrite_reserve
- space.overwrite_reserve_used

- `space.size_available_for_snapshots`
- `space.percent_used`
- `space.fractional_reserve`
- `space.block_storage_inactive_user_data_percent`
- `space.physical_used`
- `space.physical_used_percent`
- `space.expected_available`
- `space.filesystem_size`
- `space.filesystem_size_fixed`
- `guarantee.*`
- `autosize.*`
- `movement.*`
- `statistics.*`

Related ONTAP commands

- `volume show`
- `volume clone show`
- `volume efficiency show`
- `volume encryption show`
- `volume flexcache show`
- `volume flexgroup show`
- `volume move show`
- `volume quota show`
- `volume show-space`
- `volume snaplock show`
- `security anti-ransomware volume show`
- `security anti-ransomware volume attack generate-report`
- `security anti-ransomware volume space show`

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Unique identifier of the volume.

Name	Type	In	Required	Description
is_constituent	boolean	query	False	When set to false, only FlexVol and FlexGroup volumes are returned. When set to true, only FlexGroup constituent volumes are returned. Default for GET calls is false. <ul style="list-style-type: none"> • Introduced in: 9.10 • Default value:
fields	array[string]	query	False	Specify the fields to return.

Response

Status: 200, Ok

Name	Type	Description
_links	_links	
access_time_enabled	boolean	Indicates whether or not access time updates are enabled on the volume.
activity_tracking	activity_tracking	
aggregates	array[aggregates]	Aggregate hosting the volume. Required on POST.
analytics	analytics	
anti_ransomware	anti_ransomware	Anti-ransomware related information of the volume.

Name	Type	Description
anti_ransomware_state	string	<p>The Anti-ransomware state of the volume. If no "anti_ransomware_state" property is specified, the volume inherits the value from its parent SVM's "anti_ransomware_default_volume_state" property. If this value is "disabled", Anti-ransomware is disabled on the volume. If this value is "enabled", Anti-ransomware is enabled on the volume and alerts are raised if any suspect is detected for those volumes. If this value is "dry_run", Anti-ransomware is enabled in the dry-run or learning mode on the volume. The "dry_run" state is same as the "enabled" state except that the analytics data is used here for learning. No alerts are raised for any detections or violations. If this value is "paused", Anti-ransomware is paused on the volume. Additionally, three more states are available, which are only valid for GET. If this value is "disable_in_progress", Anti-ransomware monitoring is being disabled and a cleanup operation is in effect. If this value is "enable_paused", Anti-ransomware is paused on the volume from its earlier enabled state. If this value is "dry_run_paused", Anti-ransomware monitoring is paused on the volume from its earlier dry_run state. For POST, the valid Anti-ransomware states are only "disabled", "enabled" and "dry_run", whereas for PATCH, "paused" is also valid along with the three valid states for POST.</p>
application	application	
autosize	autosize	
clone	clone	

Name	Type	Description
cloud_retrieval_policy	string	This parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are "default" policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot_only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved. "on_read" policy retrieves tiered data for all client driven data reads. "never" policy never retrieves tiered data. "promote" policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot_only'. If the tiering policy is 'snapshot_only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud and if tiering policy is 'none' then all data is retrieved.
comment	string	A comment for the volume. Valid in POST or PATCH.
consistency_group	consistency_group	Consistency group the volume is part of.
constituents	array[constituents]	

Name	Type	Description
constituents_per_aggregate	integer	Specifies the number of times to iterate over the aggregates listed with the "aggregates.name" or "aggregates.uuid" when creating or expanding a FlexGroup volume. If a volume is being created on a single aggregate, the system creates a flexible volume if the "constituents_per_aggregate" field is not specified, or a FlexGroup volume if it is specified. If a volume is being created on multiple aggregates, the system always creates a FlexGroup volume. The root constituent of a FlexGroup volume is always placed on the first aggregate in the list.
convert_unicode	boolean	Specifies whether directory Unicode format conversion is enabled when directories are accessed by NFS clients.
create_time	string	Creation time of the volume. This field is generated when the volume is created.
efficiency	efficiency	
encryption	encryption	
error_state	error_state	
files	files	
flash_pool	flash_pool	
flexcache_endpoint_type	string	FlexCache endpoint type. none ‐ The volume is neither a FlexCache nor origin of any FlexCache. cache ‐ The volume is a FlexCache volume. origin ‐ The volume is origin of a FlexCache volume.
flexgroup	flexgroup	
guarantee	guarantee	
is_object_store	boolean	Specifies whether the volume is provisioned for an object store server.

Name	Type	Description
is_svm_root	boolean	Specifies whether the volume is a root volume of the SVM it belongs to.
language	string	Language encoding setting for volume. If no language is specified, the volume inherits its SVM language encoding setting.
max_dir_size	integer	Maximum directory size. This value sets maximum size, in bytes, to which a directory can grow. The default maximum directory size for FlexVol volumes is model-dependent, and optimized for the size of system memory. Before increasing the maximum directory size, involve technical support.
metric	metric	Performance numbers, such as IOPS, latency and throughput.
movement	movement	Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.
name	string	Volume name. The name of volume must start with an alphabetic character (a to z or A to Z) or an underscore (_). The name must be 197 or fewer characters in length for FlexGroups, and 203 or fewer characters in length for all other types of volumes. Volume names must be unique within an SVM. Required on POST.
nas	nas	
qos	qos	QoS information
queue_for_encryption	boolean	Specifies whether the volume is queued for encryption.

Name	Type	Description
quota	quota	Quotas track the space or file usage of a user, group, or qtree in a FlexVol or a FlexGroup volume.
scheduled_snapshot_naming_scheme	string	<p>Naming Scheme for automatic Snapshot copies:</p> <ul style="list-style-type: none"> • create_time - Automatic Snapshot copies are saved as per the start of their current date and time. • ordinal - Latest automatic snapshot copy is saved as <scheduled_frequency>.0 and subsequent copies will follow the create_time naming convention.</scheduled_frequency>
size	integer	Physical size of the volume, in bytes. The minimum size for a FlexVol volume is 20MB and the minimum size for a FlexGroup volume is 200MB per constituent. The recommended size for a FlexGroup volume is a minimum of 100GB per constituent. For all volumes, the default size is equal to the minimum size.
snaplock	snaplock	
snapmirror	snapmirror	Specifies attributes for SnapMirror protection.
snapshot_count	integer	Number of Snapshot copies in the volume.
snapshot_policy	snapshot_policy	This is a reference to the Snapshot copy policy.
space	space	

Name	Type	Description
state	string	Volume state. Client access is supported only when volume is online and junctioned. Taking volume to offline or restricted state removes its junction path and blocks client access. When volume is in restricted state some operations like parity reconstruction and iron on commit are allowed. The 'mixed' state applies to FlexGroup volumes only and cannot be specified as a target state. An 'error' state implies that the volume is not in a state to serve data.
statistics	statistics	These are raw performance numbers, such as IOPS latency and throughput. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.
status	array[string]	Describes the current status of a volume.

Name	Type	Description
style	string	The style of the volume. If "style" is not specified, the volume type is determined based on the specified aggregates. Specifying a single aggregate, without "constituents_per_aggregate", creates a flexible volume. Specifying multiple aggregates, or a single aggregate with "constituents_per_aggregate", creates a FlexGroup. Specifying a volume "style" creates a volume of that type. For example, if the style is "flexvol" you must specify a single aggregate. If the style is "flexgroup", the system either uses the specified aggregates or automatically provisions aggregates if there are no specified aggregates. The style "flexgroup_constituent" is not supported when creating a volume. flexvol ‐ flexible volumes and FlexClone volumes flexgroup ‐ FlexGroup volumes flexgroup_constituent ‐ FlexGroup constituents.
svm	svm	SVM containing the volume. Required on POST.
tiering	tiering	
type	string	Type of the volume. rw ‐ read-write volume. dp ‐ data-protection volume. ls ‐ load-sharing <code>dp</code> volume. Valid in GET.

Name	Type	Description
use_mirrored_aggregates	boolean	Specifies whether mirrored aggregates are selected when provisioning a FlexGroup without specifying "aggregates.name" or "aggregates.uuid". Only mirrored aggregates are used if this parameter is set to 'true' and only unmirrored aggregates are used if this parameter is set to 'false'. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is 'true' for a MetroCluster configuration and is 'false' for a non-MetroCluster configuration.
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 • readOnly: 1 • Introduced in: 9.6

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourceLink"
    }
  },
  "activity_tracking": {
    "state": "string",
    "unsupported_reason": {
      "code": "124518405",
      "message": "Volume activity tracking cannot be enabled on volumes
that contain LUNs."
    }
  },
  "aggregates": [
    {
      "_links": {
        "self": {
          "href": "/api/resourceLink"
        }
      },
      "name": "aggr1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "analytics": {
    "scan_progress": 17,
    "state": "string",
    "unsupported_reason": {
      "code": "111411207",
      "message": "File system analytics cannot be enabled on volumes
that contain LUNs."
    }
  },
  "anti_ransomware": {
    "attack_probability": "string",
    "attack_reports": [
      {
        "_links": {
          "suspects": {
            "href": "/api/resourceLink"
          }
        }
      }
    ],
    "time": "2021-06-01T20:36:41+05:30"
  }
}
```

```

    }
  ],
  "dry_run_start_time": "string",
  "space": {
    "snapshot_count": 0,
    "used": 0,
    "used_by_logs": 0,
    "used_by_snapshots": 0
  },
  "state": "string",
  "suspect_files": [
    {
      "count": 0,
      "format": "string"
    }
  ]
},
"anti_ransomware_state": "string",
"application": {
  "name": "string",
  "uuid": "1cd8a442-86d1-11e0-ae1d-123478563412"
},
"autosize": {
  "mode": "string"
},
"clone": {
  "parent_snapshot": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "this_snapshot",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "parent_svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "parent_volume": {
    "_links": {

```

```

        "self": {
            "href": "/api/resourcelink"
        },
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
},
"split_complete_percent": 0,
"split_estimate": 0
},
"cloud_retrieval_policy": "string",
"comment": "string",
"consistency_group": {
    "name": "consistency_group_1",
    "uuid": "1cd8a442-86d1-11e0-ae1d-123478563412"
},
"constituents": [
    {
        "aggregates": {
            "name": "string",
            "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
        },
        "movement": {
            "cutover_window": 30,
            "destination_aggregate": {
                "_links": {
                    "self": {
                        "href": "/api/resourcelink"
                    }
                },
            },
            "name": "aggr1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "percent_complete": 0,
        "state": "replicating",
        "tiering_policy": "string"
    },
    {
        "name": "string",
        "space": {
            "available": 0,
            "block_storage_inactive_user_data": 0,
            "capacity_tier_footprint": 0,
            "footprint": 0,
            "local_tier_footprint": 0,
            "logical_space": {
                "available": 0,

```

```

        "used_by_afs": 0
    },
    "metadata": 0,
    "over_provisioned": 0,
    "performance_tier_footprint": 0,
    "snapshot": {
        "used": 0
    },
    "total_footprint": 0,
    "used": 0
}
},
"create_time": "2018-06-04T19:00:00Z",
"efficiency": {
    "application_io_size": "string",
    "compaction": "string",
    "compression": "string",
    "cross_volume_dedupe": "string",
    "dedupe": "string",
    "last_op_begin": "string",
    "last_op_end": "string",
    "last_op_err": "string",
    "last_op_size": 0,
    "last_op_state": "string",
    "op_state": "string",
    "path": "string",
    "policy": {
        "name": "string"
    },
    "progress": "string",
    "schedule": "string",
    "state": "string",
    "storage_efficiency_mode": "string",
    "type": "string"
},
"encryption": {
    "key_id": "string",
    "key_manager_attribute": "CRN=v1:bluemix:public:containers-
kubernetes:us-south:a/asdfghjkl1234:asdfghjkl1234:worker:kubernetes-
asdfghjkl-worker1",
    "state": "string",
    "status": {
        "code": "string",
        "message": "string"
    }
},

```

```

    "type": "string"
  },
  "files": {
    "used": 0
  },
  "flash_pool": {
    "cache_eligibility": "string",
    "cache_retention_priority": "string",
    "caching_policy": "string"
  },
  "flexcache_endpoint_type": "string",
  "flexgroup": {
    "name": "my_flexgroup",
    "uuid": "75c9cfb0-3eb4-11eb-9fb4-005056bb088a"
  },
  "guarantee": {
    "type": "string"
  },
  "language": "string",
  "metric": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "cloud": {
    "duration": "PT15S",
    "iops": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "duration": "PT15S",
  "flexcache": {
    "bandwidth_savings": 4096,
    "cache_miss_percent": 20,
    "duration": "PT1D",
    "status": "ok",

```

```

    "timestamp": "2017-01-25T11:20:13Z"
  },
  "iops": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "status": "ok",
  "throughput": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "timestamp": "2017-01-25T11:20:13Z"
},
"movement": {
  "cutover_window": 30,
  "destination_aggregate": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "aggr1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "percent_complete": 0,
  "start_time": "2020-12-07T03:45:12-05:00",
  "state": "replicating",
  "tiering_policy": "string"
},
"name": "vol_cs_dept",
"nas": {
  "export_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "id": 100,
    "name": "default"
  }
}

```

```

    },
    "junction_parent": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "vs1_root",
      "uuid": "75c9cfb0-3eb4-11eb-9fb4-005056bb088a"
    },
    "path": "/user/my_volume",
    "security_style": "string",
    "unix_permissions": 755
  },
  "qos": {
    "policy": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "max_throughput_iops": 10000,
      "max_throughput_mbps": 500,
      "min_throughput_iops": 2000,
      "min_throughput_mbps": 500,
      "name": "performance",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "quota": {
    "state": "string"
  },
  "scheduled_snapshot_naming_scheme": "string",
  "snaplock": {
    "append_mode_enabled": "",
    "autocommit_period": "P30M",
    "compliance_clock_time": "2018-06-04T19:00:00Z",
    "expiry_time": "Wed Sep 5 11:02:42 GMT 2018",
    "is_audit_log": 1,
    "litigation_count": 10,
    "privileged_delete": "enabled",
    "retention": {
      "default": "P30Y",
      "maximum": "P30Y",
      "minimum": "P30Y"
    }
  },

```

```

    "type": "enterprise",
    "unspecified_retention_file_count": 10
  },
  "snapshot_count": 0,
  "snapshot_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "default",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "space": {
    "available": 0,
    "block_storage_inactive_user_data": 0,
    "block_storage_inactive_user_data_percent": 0,
    "capacity_tier_footprint": 0,
    "cross_volume_dedupe_metafiles_footprint": 0,
    "cross_volume_dedupe_metafiles_temporary_footprint": 0,
    "dedupe_metafiles_footprint": 0,
    "dedupe_metafiles_temporary_footprint": 0,
    "delayed_free_footprint": 0,
    "file_operation_metadata": 0,
    "filesystem_size": 0,
    "footprint": 0,
    "local_tier_footprint": 0,
    "logical_space": {
      "available": 0,
      "used": 0,
      "used_by_afs": 0,
      "used_by_snapshots": 0,
      "used_percent": 0
    },
    "metadata": 0,
    "over_provisioned": 0,
    "overwrite_reserve": 0,
    "overwrite_reserve_used": 0,
    "percent_used": 0,
    "performance_tier_footprint": 0,
    "size_available_for_snapshots": 0,
    "snapmirror_destination_footprint": 0,
    "snapshot": {
      "autodelete_trigger": "string",
      "reserve_available": 0,
      "reserve_size": 0,

```



```

    "space_used_percent": 0,
    "used": 0
  },
  "snapshot_reserve_unusable": 0,
  "snapshot_spill": 0,
  "total_footprint": 0,
  "used": 0,
  "user_data": 0,
  "volume_guarantee_footprint": 0
},
"state": "string",
"statistics": {
  "cloud": {
    "iops_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "flexcache_raw": {
    "cache_miss_blocks": 10,
    "client_requested_blocks": 500,
    "status": "ok",
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "iops_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "status": "ok",
  "throughput_raw": {
    "read": 200,
    "total": 1000,

```

```

    "write": 100
  },
  "timestamp": "2017-01-25T11:20:13Z"
},
"status": [
  "string"
],
"style": "string",
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"tiering": {
  "object_tags": [
    "string"
  ],
  "policy": "string"
},
"type": "string",
"uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
}

```

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	

_links

Name	Type	Description
self	href	

unsupported_reason

Name	Type	Description
code	string	If volume activity tracking is not supported on the volume, this field provides an appropriate error code.
message	string	If volume activity tracking is not supported on the volume, this field provides an error message detailing why this is the case.

activity_tracking

Name	Type	Description
state	string	<p>Activity tracking state of the volume. If this value is "on", ONTAP collects top metrics information for the volume in real time. There is a slight impact to I/O performance in order to collect this information. If this value is "off", no activity tracking information is collected or available to view.</p> <ul style="list-style-type: none">• enum: ["off", "on"]• Introduced in: 9.10

Name	Type	Description
supported	boolean	This field indicates whether or not volume activity tracking is supported on the volume. If volume activity tracking is not supported, the reason why is provided in the "activity_tracking.unsupported_reason" field.
unsupported_reason	unsupported_reason	

aggregates

Aggregate

Name	Type	Description
_links	_links	
name	string	
uuid	string	

unsupported_reason

Name	Type	Description
code	string	If file system analytics is not supported on the volume, this field provides the error code explaining why.
message	string	If file system analytics is not supported on the volume, this field provides the error message explaining why.

analytics

Name	Type	Description
scan_progress	integer	Percentage of files in the volume that the file system analytics initialization scan has processed. Only returned when the state is initializing.

Name	Type	Description
state	string	<p>File system analytics state of the volume. If this value is "on", ONTAP collects extra file system analytics information for all directories on the volume. There will be a slight impact to I/O performance to collect this information. If this value is "off", file system analytics information is not collected and not available to be viewed. If this value is "initializing", that means file system analytics was recently turned on, and the initialization scan to gather information all existing files and directories is currently running. If this value is 'unknown' that means there was an internal error when determining the file system analytics state for the volume.</p> <ul style="list-style-type: none"> enum: ["unknown", "initializing", "off", "on"] Introduced in: 9.8
supported	boolean	This field indicates whether or not file system analytics is supported on the volume. If file system analytics is not supported, the reason will be specified in the "analytics.unsupported_reason" field.
unsupported_reason	unsupported_reason	

_links

Name	Type	Description
suspects	href	

anti_ransomware_attack_report

Name	Type	Description
_links	_links	
time	string	Timestamp at which ransomware attack is observed.

space

Name	Type	Description
snapshot_count	integer	Total number of Anti-ransomware backup Snapshot copies.
used	integer	Total space in bytes used by the Anti-ransomware feature.
used_by_logs	integer	Space in bytes used by the Anti-ransomware analytics logs.
used_by_snapshots	integer	Space in bytes used by the Anti-ransomware backup Snapshot copies.

suspect_files

Name	Type	Description
count	integer	Total number of <code>suspect_files.format</code> files observed by the Anti-ransomware analytics engine on the volume.
format	string	File formats observed by the Anti-ransomware analytics engine on the volume.

anti_ransomware

Anti-ransomware related information of the volume.

Name	Type	Description
attack_probability	string	Probability of a ransomware attack. <code>none</code> No files are suspected of ransomware activity. <code>low</code> A number of files are suspected of ransomware activity. <code>moderate</code> A moderate number of files are suspected of ransomware activity. <code>high</code> A large number of files are suspected of ransomware activity.
attack_reports	array[anti_ransomware_attack_report]	

Name	Type	Description
dry_run_start_time	string	Time when Anti-ransomware monitoring state is set to dry-run value for starting evaluation mode.
space	space	
state	string	<p>Anti-ransomware state.</p> <p><code>disabled</code> Anti-ransomware monitoring is disabled on the volume. This is the default state in a POST operation.</p> <p><code>disable_in_progress</code> Anti-ransomware monitoring is being disabled and a cleanup operation is in effect. Valid in GET operation.</p> <p><code>dry_run</code> Anti-ransomware monitoring is enabled in the evaluation mode.</p> <p><code>enabled</code> Anti-ransomware monitoring is active on the volume.</p> <p><code>paused</code> Anti-ransomware monitoring is paused on the volume.</p> <p><code>enable_paused</code> Anti-ransomware monitoring is paused on the volume from its earlier enabled state. Valid in GET operation.</p> <p><code>dry_run_paused</code> Anti-ransomware monitoring is paused on the volume from its earlier <code>dry_run</code> state. Valid in GET operation. For POST, the valid Anti-ransomware states are only <code>disabled</code>, <code>enabled</code> and <code>dry_run</code>, whereas for PATCH, <code>paused</code> is also valid along with the three valid states for POST.</p>
suspect_files	array[suspect_files]	

application

Name	Type	Description
name	string	Name of the application to which the volume belongs. Available only when the volume is part of an application.

Name	Type	Description
uuid	string	UUID of the application to which the volume belongs. Available only when the volume is part of an application.

autosize

Name	Type	Description
grow_threshold	integer	Used space threshold size, in percentage, for the automatic growth of the volume. When the amount of used space in the volume becomes greater than this threshold, the volume automatically grows unless it has reached the maximum size. The volume grows when 'space.used' is greater than this percent of 'space.size'. The 'grow_threshold' size cannot be less than or equal to the 'shrink_threshold' size..
maximum	integer	Maximum size in bytes up to which a volume grows automatically. This size cannot be less than the current volume size, or less than or equal to the minimum size of volume.
minimum	integer	Minimum size in bytes up to which the volume shrinks automatically. This size cannot be greater than or equal to the maximum size of volume.
mode	string	Autosize mode for the volume. grow ‐ Volume automatically grows when the amount of used space is above the 'grow_threshold' value. grow_shrink ‐ Volume grows or shrinks in response to the amount of space used. off ‐ Autosizing of the volume is disabled.

Name	Type	Description
shrink_threshold	integer	Used space threshold size, in percentage, for the automatic shrinkage of the volume. When the amount of used space in the volume drops below this threshold, the volume automatically shrinks unless it has reached the minimum size. The volume shrinks when the 'space.used' is less than the 'shrink_threshold' percent of 'space.size'. The 'shrink_threshold' size cannot be greater than or equal to the 'grow_threshold' size.

snapshot_reference

Name	Type	Description
_links	_links	
name	string	
uuid	string	

parent_svm

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

parent_volume

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

clone

Name	Type	Description
is_flexclone	boolean	Specifies if this volume is a normal FlexVol or FlexClone. This field needs to be set when creating a FlexClone. Valid in POST.
parent_snapshot	snapshot_reference	
parent_svm	parent_svm	
parent_volume	parent_volume	
split_complete_percent	integer	Percentage of FlexClone blocks split from its parent volume.
split_estimate	integer	Space required by the containing-aggregate to split the FlexClone volume.
split_initiated	boolean	This field is set when split is executed on any FlexClone, that is when the FlexClone volume is split from its parent FlexVol. This field needs to be set for splitting a FlexClone form FlexVol. Valid in PATCH.

consistency_group

Consistency group the volume is part of.

Name	Type	Description
name	string	The name of the consistency group to which the volume belongs. Available only when the volume is part of a consistency group. If this volume belongs to a child consistency group, then this will be the UUID of the parent consistency group.
uuid	string	The UUID of the consistency group to which the volume belongs. Available only when the volume is part of a consistency group. If this volume belongs to a child consistency group, then this will be the UUID of the parent consistency group.

aggregates

Name	Type	Description
name	string	Name of the aggregate hosting the FlexGroup Constituent.
uuid	string	Unique identifier for the aggregate.

destination_aggregate

Aggregate

Name	Type	Description
_links	_links	
name	string	
uuid	string	

movement

Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.

Name	Type	Description
cutover_window	integer	Time window in seconds for cutover. The allowed range is between 30 to 300 seconds.
destination_aggregate	destination_aggregate	Aggregate
percent_complete	integer	Completion percentage
state	string	State of volume move operation. PATCH the state to "aborted" to abort the move operation. PATCH the state to "cutover" to trigger cutover. PATCH the state to "paused" to pause the volume move operation in progress. PATCH the state to "replicating" to resume the paused volume move operation. PATCH the state to "cutover_wait" to go into cutover manually. When volume move operation is waiting to go into "cutover" state, this is indicated by the "cutover_pending" state. A change of state is only supported if volume movement is in progress.
tiering_policy	string	Tiering policy for FabricPool

logical_space

Name	Type	Description
available	integer	The amount of space available in this volume with storage efficiency space considered used, in bytes.
enforcement	boolean	Specifies whether space accounting for operations on the volume is done along with storage efficiency.
reporting	boolean	Specifies whether space reporting on the volume is done along with storage efficiency.

Name	Type	Description
used_by_afs	integer	The virtual space used by AFS alone (includes volume reserves) and along with storage efficiency, in bytes.

snapshot

Name	Type	Description
autodelete_enabled	boolean	Specifies whether Snapshot copy autodelete is currently enabled on this volume.
reserve_percent	integer	The space that has been set aside as a reserve for Snapshot copy usage, in percent.
used	integer	The total space used by Snapshot copies in the volume, in bytes.

space

Name	Type	Description
afs_total	integer	Total size of AFS, excluding snap-reserve, in bytes.
available	integer	The available space, in bytes.
available_percent	integer	The space available, as a percent.
block_storage_inactive_user_data	integer	The size that is physically used in the block storage of the volume and has a cold temperature. In bytes. This parameter is only supported if the volume is in an aggregate that is either attached to a cloud store or could be attached to a cloud store.
capacity_tier_footprint	integer	Space used by capacity tier for this volume in the FabricPool aggregate, in bytes.

Name	Type	Description
footprint	integer	Data used for this volume in the aggregate, in bytes.
local_tier_footprint	integer	Space used by the local tier for this volume in the aggregate, in bytes.
logical_space	logical_space	
metadata	integer	Space used by the volume metadata in the aggregate, in bytes.
over_provisioned	integer	The amount of space not available for this volume in the aggregate, in bytes.
performance_tier_footprint	integer	Space used by the performance tier for this volume in the FabricPool aggregate, in bytes.
size	integer	Total provisioned size. The default size is equal to the minimum size of 20MB, in bytes.
snapshot	snapshot	
total_footprint	integer	Data and metadata used for this volume in the aggregate, in bytes.
used	integer	The virtual space used (includes volume reserves) before storage efficiency, in bytes.
used_by_afs	integer	The space used by Active Filesystem, in bytes.
used_percent	integer	The virtual space used (includes volume reserves) before storage efficiency, as a percent.

constituents

Name	Type	Description
aggregates	aggregates	

Name	Type	Description
movement	movement	Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.
name	string	FlexGroup Constituents name
space	space	

policy

Name	Type	Description
name	string	Specifies the name of the efficiency policy. Valid for PATCH.

efficiency

Name	Type	Description
application_io_size	string	Block size to use by compression. Valid for POST.
compaction	string	The system can be enabled/disabled compaction. inline ‐ Data will be compacted first and written to the volume. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are compaction enabled and some are disabled.

Name	Type	Description
compression	string	The system can be enabled/disabled compression. inline ‐ Data will be compressed first and written to the volume. background ‐ Data will be written to the volume and compressed later. both ‐ Inline compression compresses the data and write to the volume, background compression compresses only the blocks on which inline compression is not run. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are compression enabled and some are disabled.
cross_volume_dedupe	string	The system can be enabled/disabled cross volume dedupe. it can be enabled only when dedupe is enabled. inline ‐ Data will be cross volume deduped first and written to the volume. background ‐ Data will be written to the volume and cross volume deduped later. both ‐ Inline cross volume dedupe dedupes the data and write to the volume, background cross volume dedupe dedupes only the blocks on which inline dedupe is not run. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are cross volume dedupe enabled and some are disabled.

Name	Type	Description
dedupe	string	The system can be enabled/disabled dedupe. inline ‐ Data will be deduped first and written to the volume. background ‐ Data will be written to the volume and deduped later. both ‐ Inline dedupe dedupes the data and write to the volume, background dedupe dedupes only the blocks on which inline dedupe is not run. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are dedupe enabled and some are disabled.
last_op_begin	string	Last sis operation begin timestamp.
last_op_end	string	Last sis operation end timestamp.
last_op_err	string	Last sis operation error text.
last_op_size	integer	Last sis operation size.
last_op_state	string	Last sis operation state.
op_state	string	Sis status of the volume.
path	string	Absolute volume path of the volume.
policy	policy	
progress	string	Sis progress of the volume.
schedule	string	Schedule associated with volume.

Name	Type	Description
state	string	<p>Storage efficiency state of the volume. Currently, this field supports POST/PATCH only for RW (Read-Write) volumes on FSx for ONTAP. disabled &dash; All storage efficiency features are disabled. mixed &dash; Read-only field for FlexGroup volumes, storage efficiency is enabled on certain constituents and disabled on others. On FSx for ONTAP &dash; &emsp; enabled &dash; All supported storage efficiency features for the volume are enabled. &emsp; custom &dash; Read-only field currently only supported for the FSx for ONTAP, user-defined storage efficiency features are enabled. For other platforms &dash; &emsp; enabled &dash; At least one storage efficiency feature for the volume is enabled.</p> <ul style="list-style-type: none"> enum: ["disabled", "enabled", "mixed", "custom"] Introduced in: 9.9
storage_efficiency_mode	string	Storage efficiency mode used by volume. This parameter is supported only on AFF platform.
type	string	Sis Type of the volume.

status

Name	Type	Description
code	string	Encryption progress message code.
message	string	Encryption progress message.

encryption

Name	Type	Description
enabled	boolean	Creates an encrypted or an unencrypted volume. For POST, when set to 'true', a new key is generated and used to encrypt the given volume. In that case, the underlying SVM must be configured with the key manager. When set to 'false', the volume created will be unencrypted. For PATCH, when set to 'true', it encrypts an unencrypted volume. Specifying the parameter as 'false' in a PATCH operation for an encrypted volume is only supported when moving the volume to another aggregate.
key_id	string	The key ID used for creating encrypted volume. A new key-id is generated for creating an encrypted volume. This key-id is associated with the generated key.
key_manager_attribute	string	Specifies an additional key manager attribute that is an identifier-value pair, separated by '='. For example, CRN=unique-value. This parameter is required when using the POST method and an IBM Key Lore key manager is configured on the SVM.
rekey	boolean	If set to 'true', re-encrypts the volume with a new key. Valid in PATCH.
state	string	Volume encryption state. encrypted ‐ The volume is completely encrypted. encrypting ‐ Encryption operation is in progress. partial ‐ Some constituents are encrypted and some are not. Applicable only for FlexGroup volume. rekeying. Encryption of volume with a new key is in progress. unencrypted ‐ The volume is a plain-text one.

Name	Type	Description
status	status	
type	string	Volume encryption type. none ‐ The volume is a plain-text one. volume ‐ The volume is encrypted with NVE (NetApp Volume Encryption). aggregate ‐ The volume is encrypted with NAE (NetApp Aggregate Encryption).

error_state

Name	Type	Description
has_bad_blocks	boolean	Indicates whether the volume has any corrupt data blocks. If the damaged data block is accessed, an IO error, such as EIO for NFS or STATUS_FILE_CORRUPT for CIFS, is returned.
is_inconsistent	boolean	Indicates whether the file system has any inconsistencies. true ‐ File system is inconsistent. false ‐ File system is not inconsistent.

files

Name	Type	Description
maximum	integer	The maximum number of files (inodes) for user-visible data allowed on the volume. This value can be increased or decreased. Increasing the maximum number of files does not immediately cause additional disk space to be used to track files. Instead, as more files are created on the volume, the system dynamically increases the number of disk blocks that are used to track files. The space assigned to track files is never freed, and this value cannot be decreased below the current number of files that can be tracked within the assigned space for the volume. Valid in PATCH.
used	integer	Number of files (inodes) used for user-visible data permitted on the volume. This field is valid only when the volume is online.

flash_pool

Name	Type	Description
cache_eligibility	string	If this parameter is specified, the command displays information only about the volume or volumes with the specified Flash Pool caching attributes.
cache_retention_priority	string	If this parameter is specified, the command displays the volumes that match the specified cache retention priority policy. A cache retention priority defines how long the blocks of a volume will be cached in the Flash Pool once they become cold.

Name	Type	Description
cacheing_policy	string	This optionally specifies the caching policy to apply to the volume. A caching policy defines how the system caches a volume's data in Flash Cache modules. If a caching policy is not assigned to a volume, the system uses the caching policy that is assigned to the containing SVM. If a caching policy is not assigned to the containing SVM, the system uses the default cluster-wide policy.

flexgroup

Name	Type	Description
name	string	Name of the FlexGroup volume that the constituent is part of.
uuid	string	Unique identifier for the FlexGroup volume that the constituent is part of.

guarantee

Name	Type	Description
honored	boolean	Is the space guarantee of this volume honored in the aggregate?
type	string	The type of space guarantee of this volume in the aggregate.

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

cloud

Performance numbers (IOPS and latency) for cloud store. These numbers are relevant only for volumes hosted on FabricPools.

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.

Name	Type	Description
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

flexcache

Performance number for FlexCache used to measure cache effectiveness.

Name	Type	Description
bandwidth_savings	integer	Bandwidth savings denoting the amount of data served locally by the cache, in bytes.
cache_miss_percent	integer	Cache miss percentage.

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.

Name	Type	Description
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

metric

Performance numbers, such as IOPS, latency and throughput.

Name	Type	Description
_links	_links	
cloud	cloud	Performance numbers (IOPS and latency) for cloud store. These numbers are relevant only for volumes hosted on FabricPools.
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
flexcache	flexcache	Performance number for FlexCache used to measure cache effectiveness.
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.

Name	Type	Description
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

movement

Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.

Name	Type	Description
cutover_window	integer	Time window in seconds for cutover. The allowed range is between 30 to 300 seconds.
destination_aggregate	destination_aggregate	Aggregate
percent_complete	integer	Completion percentage
start_time	string	Start time of volume move.

Name	Type	Description
state	string	State of volume move operation. PATCH the state to "aborted" to abort the move operation. PATCH the state to "cutover" to trigger cutover. PATCH the state to "paused" to pause the volume move operation in progress. PATCH the state to "replicating" to resume the paused volume move operation. PATCH the state to "cutover_wait" to go into cutover manually. When volume move operation is waiting to go into "cutover" state, this is indicated by the "cutover_pending" state. A change of state is only supported if volume movement is in progress.
tiering_policy	string	Tiering policy for FabricPool

export_policy

Export Policy

Name	Type	Description
_links	_links	
id	integer	
name	string	

junction_parent

Name	Type	Description
_links	_links	
name	string	The name of the parent volume that contains the junction inode of this volume. The junction parent volume must belong to the same SVM that owns this volume.
uuid	string	Unique identifier for the parent volume.

nas

Name	Type	Description
export_policy	export_policy	Export Policy
gid	integer	The UNIX group ID of the volume. Valid in POST or PATCH.
junction_parent	junction_parent	
path	string	The fully-qualified path in the owning SVM's namespace at which the volume is mounted. The path is case insensitive and must be unique within a SVM's namespace. Path must begin with '/' and must not end with '/'. Only one volume can be mounted at any given junction path. An empty path in POST creates an unmounted volume. An empty path in PATCH deactivates and unmounts the volume. Taking a volume offline or restricted state removes its junction path. This attribute is reported in GET only when the volume is mounted.
security_style	string	Security style associated with the volume. Valid in POST or PATCH. mixed ‐ Mixed-style security ntfs ‐ NTFS/Windows-style security unified ‐ Unified-style security, unified UNIX, NFS and CIFS permissions unix ‐ Unix-style security.
uid	integer	The UNIX user ID of the volume. Valid in POST or PATCH.

Name	Type	Description
unix_permissions	integer	UNIX permissions to be viewed as an octal number. It consists of 4 digits derived by adding up bits 4 (read), 2 (write) and 1 (execute). First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file; the third selects permissions for other users in the same group; the fourth for other users not in the group. Valid in POST or PATCH. For security style "mixed" or "unix", the default setting is 0755 in octal (493 in decimal) and for security style "ntfs", the default setting is 0000. In cases where only owner, group and other permissions are given (as in 755, representing the second, third and fourth digit), first digit is assumed to be zero.

policy

Name	Type	Description
_links	_links	
max_throughput_iops	integer	Specifies the maximum throughput in IOPS, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
max_throughput_mbps	integer	Specifies the maximum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
min_throughput_iops	integer	Specifies the minimum throughput in IOPS, 0 means none. Setting "min_throughput" is supported on AFF platforms only, unless FabricPool tiering policies are set. This is mutually exclusive with name and UUID during POST and PATCH.

Name	Type	Description
min_throughput_mbps	integer	Specifies the minimum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
name	string	The QoS policy group name. This is mutually exclusive with UUID and other QoS attributes during POST and PATCH.
uuid	string	The QoS policy group UUID. This is mutually exclusive with name and other QoS attributes during POST and PATCH.

qos

QoS information

Name	Type	Description
policy	policy	

quota

Quotas track the space or file usage of a user, group, or qtree in a FlexVol or a FlexGroup volume.

Name	Type	Description
enabled	boolean	This option is used to enable or disable the quota for the volume. This option is valid only in PATCH. Quotas are enabled for FlexVols or FlexGroup volumes when the quota state is "on". Quotas are disabled for FlexVols or FlexGroup volumes when the quota state is "off".
state	string	Quota state of the volume

retention

Name	Type	Description
default	string	<p>Specifies the default retention period that is applied to files while committing them to the WORM state without an associated retention period. The retention value represents a duration and must be specified in the ISO-8601 duration format. The retention period can be in years, months, days, hours, and minutes. A duration specified for years, months, and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The retention string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the duration field also accepts the string "infinite" to set an infinite retention period and the string "unspecified" to set an unspecified retention period.</p>

Name	Type	Description
maximum	string	Specifies the maximum allowed retention period for files committed to the WORM state on the volume. The retention value represents a duration and must be specified in the ISO-8601 duration format. The retention period can be in years, months, days, hours, and minutes. A duration specified for years, months, and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The retention string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the duration field also accepts the string "infinite" to set an infinite retention period.

Name	Type	Description
minimum	string	Specifies the minimum allowed retention period for files committed to the WORM state on the volume. The retention value represents a duration and must be specified in the ISO-8601 duration format. The retention period can be in years, months, days, hours, and minutes. A duration specified for years, month,s and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The retention string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the duration field also accepts the string "infinite" to set an infinite retention period.</num></num></num></num></num>

snaplock

Name	Type	Description
append_mode_enabled	boolean	Specifies if the volume append mode is enabled or disabled. When it is enabled, all the files created with write permissions on the volume are, by default, WORM appendable files. The user can append the data to a WORM appendable file but cannot modify the existing contents of the file nor delete the file until it expires.

Name	Type	Description
autocommit_period	string	Specifies the autocommit period for SnapLock volume. All files which are not modified for a period greater than the autocommit period of the volume are committed to the WORM state. The autocommit period value represents a duration and must be specified in the ISO-8601 duration format. The autocommit period can be in years, months, days, hours, and minutes. A period specified for years, months, and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The period string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the autocommit field also accepts the string "none".
compliance_clock_time	string	This is the volume compliance clock time which is used to manage the SnapLock objects in the volume.
expiry_time	string	Expiry time of the volume.
is_audit_log	boolean	Indicates if this volume has been configured as SnapLock audit log volume for the SVM .
litigation_count	integer	Litigation count indicates the number of active legal-holds on the volume.

Name	Type	Description
privileged_delete	string	Specifies the privileged-delete attribute of a SnapLock volume. On a SnapLock Enterprise (SLE) volume, a designated privileged user can selectively delete files irrespective of the retention time of the file. SLE volumes can have privileged delete as disabled, enabled or permanently_disabled and for SnapLock Compliance (SLC) volumes it is always permanently_disabled.
retention	retention	
type	string	The SnapLock type of the volume. compliance ‐ A SnapLock Compliance(SLC) volume provides the highest level of WORM protection and an administrator cannot destroy a SLC volume if it contains unexpired WORM files. enterprise ‐ An administrator can delete a SnapLock Enterprise(SLE) volume. non_snaplock ‐ Indicates the volume is non-snaplock.
unspecified_retention_file_count	integer	Indicates the number of files with an unspecified retention time in the volume.

destinations

Name	Type	Description
is_cloud	boolean	Specifies whether a volume is a SnapMirror source volume, using SnapMirror to protect its data to a cloud destination.
is_ontap	boolean	Specifies whether a volume is a SnapMirror source volume, using SnapMirror to protect its data to an ONTAP destination. <ul style="list-style-type: none"> readOnly: 1 Introduced in: 9.9

snapmirror

Specifies attributes for SnapMirror protection.

Name	Type	Description
destinations	destinations	
is_protected	boolean	Specifies whether a volume is a SnapMirror source volume, using SnapMirror to protect its data.

snapshot_policy

This is a reference to the Snapshot copy policy.

Name	Type	Description
_links	_links	
name	string	
uuid	string	

logical_space

Name	Type	Description
available	integer	The amount of space available in this volume with storage efficiency space considered used, in bytes.
enforcement	boolean	Specifies whether space accounting for operations on the volume is done along with storage efficiency.
reporting	boolean	Specifies whether space reporting on the volume is done along with storage efficiency.
used	integer	SUM of (physical-used, shared_refs, compression_saved_in_plane0, vbn_zero, future_blk_cnt), in bytes.
used_by_afs	integer	The virtual space used by AFS alone (includes volume reserves) and along with storage efficiency, in bytes.

Name	Type	Description
used_by_snapshots	integer	Size that is logically used across all Snapshot copies in the volume, in bytes.
used_percent	integer	SUM of (physical-used, shared_refs, compression_saved_in_plane0, vbn_zero, future_blk_cnt), as a percentage.

snapshot

Name	Type	Description
autodelete_enabled	boolean	Specifies whether Snapshot copy autodelete is currently enabled on this volume.
autodelete_trigger	string	Specifies when the system should trigger an autodelete of Snapshot copies. When set to <i>volume</i> , autodelete is triggered based on volume fullness. When set to <i>snap_reserve</i> , autodelete is triggered based on Snapshot reserve fullness. The default value is <i>volume</i> .
reserve_available	integer	Size available for Snapshot copies within the Snapshot copy reserve, in bytes.
reserve_percent	integer	The space that has been set aside as a reserve for Snapshot copy usage, in percent.
reserve_size	integer	Size in the volume that has been set aside as a reserve for Snapshot copy usage, in bytes.
space_used_percent	integer	Percentage of snapshot reserve size that has been used.
used	integer	The total space used by Snapshot copies in the volume, in bytes.

space

Name	Type	Description
afs_total	integer	Total size of AFS, excluding snap-reserve, in bytes.
available	integer	The available space, in bytes.
available_percent	integer	The space available, as a percent.
block_storage_inactive_user_data	integer	The size that is physically used in the block storage of the volume and has a cold temperature. In bytes. This parameter is only supported if the volume is in an aggregate that is either attached to a cloud store or could be attached to a cloud store.
block_storage_inactive_user_data_percent	integer	Percentage of size that is physically used in the performance tier of the volume.
capacity_tier_footprint	integer	Space used by capacity tier for this volume in the FabricPool aggregate, in bytes.
cross_volume_dedupe_metafiles_footprint	integer	Cross volume deduplication metadata footprint, in bytes.
cross_volume_dedupe_metafiles_temporary_footprint	integer	Cross volume temporary deduplication metadata footprint, in bytes.
dedupe_metafiles_footprint	integer	Deduplication metadata footprint, in bytes.
dedupe_metafiles_temporary_footprint	integer	Temporary deduplication metadata footprint, in bytes.
delayed_free_footprint	integer	Delayed free blocks footprint, in bytes.
expected_available	integer	Size that should be available for the volume, irrespective of available size in the aggregate, in bytes.

Name	Type	Description
file_operation_metadata	integer	File operation metadata footprint, in bytes.
filesystem_size	integer	Total usable size of the volume, in bytes.
filesystem_size_fixed	boolean	Specifies whether the file system is to remain of the same size when set to true or to grow when set to false. This option is automatically set to true when a volume becomes SnapMirrored.
footprint	integer	Data used for this volume in the aggregate, in bytes.
fractional_reserve	integer	Used to change the amount of space reserved for overwrites of reserved objects in a volume.
full_threshold_percent	integer	Volume full threshold percentage at which EMS warnings can be sent.
local_tier_footprint	integer	Space used by the local tier for this volume in the aggregate, in bytes.
logical_space	logical_space	
metadata	integer	Space used by the volume metadata in the aggregate, in bytes.
nearly_full_threshold_percent	integer	Volume nearly full threshold percentage at which EMS warnings can be sent.
over_provisioned	integer	The amount of space not available for this volume in the aggregate, in bytes.
overwrite_reserve	integer	Reserved space for overwrites, in bytes.
overwrite_reserve_used	integer	Overwrite logical reserve space used, in bytes.

Name	Type	Description
percent_used	integer	Percentage of the volume size that is used.
performance_tier_footprint	integer	Space used by the performance tier for this volume in the FabricPool aggregate, in bytes.
physical_used	integer	Size that is physically used in the volume, in bytes.
physical_used_percent	integer	Size that is physically used in the volume, as a percentage.
size	integer	Total provisioned size. The default size is equal to the minimum size of 20MB, in bytes.
size_available_for_snapshots	integer	Available space for Snapshot copies from snap-reserve, in bytes.
snapmirror_destination_footprint	integer	SnapMirror destination footprint, in bytes.
snapshot	snapshot	
snapshot_reserve_unusable	integer	Snapshot reserve that is not available for Snapshot copy creation, in bytes.
snapshot_spill	integer	Space used by the snapshot copies beyond the snap-reserve, in bytes.
total_footprint	integer	Data and metadata used for this volume in the aggregate, in bytes.
used	integer	The virtual space used (includes volume reserves) before storage efficiency, in bytes.
used_by_afs	integer	The space used by Active Filesystem, in bytes.
user_data	integer	User data, in bytes.

Name	Type	Description
volume_guarantee_footprint	integer	Space reserved for future writes in the volume, in bytes.

iops_raw

The number of I/O operations observed at the storage object. This can be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency_raw

The raw latency in microseconds observed at the storage object. This can be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

cloud

These are raw performance numbers (IOPS and latency) for the cloud store. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster. These numbers are relevant only for volumes hosted on FabricPools.

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This can be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This can be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

flexcache_raw

Performance numbers for FlexCache used to measure cache effectiveness.

Name	Type	Description
cache_miss_blocks	integer	Blocks retrieved from origin in case of a cache miss. This can be divided by the raw client_requested_blocks and multiplied by 100 to calculate the cache miss percentage.
client_requested_blocks	integer	Total blocks requested by the client.
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

throughput_raw

Throughput bytes observed at the storage object. This can be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

statistics

These are raw performance numbers, such as IOPS latency and throughput. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.

Name	Type	Description
cloud	cloud	These are raw performance numbers (IOPS and latency) for the cloud store. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster. These numbers are relevant only for volumes hosted on FabricPools.
flexcache_raw	flexcache_raw	Performance numbers for FlexCache used to measure cache effectiveness.
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This can be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This can be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This can be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

svm

SVM containing the volume. Required on POST.

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

tiering

Name	Type	Description
min_cooling_days	integer	<p>This parameter specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the cloud tier. Note that this parameter is only used for tiering purposes and does not affect the reporting of inactive data. The value specified should be greater than the frequency with which applications in the volume shift between different sets of data. This parameter cannot be set when volume tiering policy is either "none" or "all". The default value of this parameter depends on the volume's tiering policy. See the tiering policy section of this documentation for corresponding default values. If the tiering policy on the volume gets changed, then this parameter will be reset to the default value corresponding to the new tiering policy.</p>
object_tags	array[string]	<p>This parameter specifies tags of a volume for objects stored on a FabricPool-enabled aggregate. Each tag is a key,value pair and should be in the format "key=value".</p>

Name	Type	Description
policy	string	<p>Policy that determines whether the user data blocks of a volume in a FabricPool will be tiered to the cloud store when they become cold. FabricPool combines flash (performance tier) with a cloud store into a single aggregate. Temperature of a volume block increases if it is accessed frequently and decreases when it is not. Valid in POST or PATCH. all &dash; This policy allows tiering of both Snapshot copies and active file system user data to the cloud store as soon as possible by ignoring the temperature on the volume blocks. auto &dash; This policy allows tiering of both snapshot and active file system user data to the cloud store none &dash; Volume blocks will not be tiered to the cloud store. snapshot_only &dash; This policy allows tiering of only the volume Snapshot copies not associated with the active file system. The default tiering policy is "snapshot-only" for a FlexVol and "none" for a FlexGroup. The default minimum cooling period for the "snapshot-only" tiering policy is 2 days and for the "auto" tiering policy is 31 days.</p>

Name	Type	Description
supported	boolean	This parameter specifies whether or not FabricPools are selected when provisioning a FlexGroup without specifying "aggregates.name" or "aggregates.uuid". Only FabricPool aggregates are used if this parameter is set to true and only non FabricPool aggregates are used if this parameter is set to false. Tiering support for a FlexGroup can be changed by moving all of the constituents to the required aggregates. Note that in order to tier data, not only does the volume need to support tiering by using FabricPools, the tiering "policy" must not be 'none'. A volume that uses FabricPools but has a tiering "policy" of 'none' supports tiering, but will not tier any data.

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 volume attributes

PATCH /storage/volumes/{uuid}

Introduced In: 9.6

Updates the attributes of a volume. For movement, use the "validate_only" field on the request to validate but not perform the operation. The PATCH API can be used to enable or disable quotas for a FlexVol or a FlexGroup volume. An empty path in PATCH deactivates and unmounts the volume. Taking a volume offline removes its junction path.

A PATCH request for volume encryption performs conversion/rekey operations asynchronously. You can retrieve the conversion/rekey progress details by calling a GET request on the corresponding volume endpoint.

Optional properties

- `queue_for_encryption` - Queue volumes for encryption when `encryption.enabled=true`. If this option is not provided or is false, conversion of volumes starts immediately. When there are volumes in the queue and less than four encryptions are running, volumes are encrypted in the order in which they are queued.
- `encryption.action` - You can pause an ongoing rekey/conversion operation or resume a paused rekey/conversion operation using this field. The following actions are supported for this field:
 - ‐ `conversion_pause` - Pause an encryption conversion operation currently in progress
 - ‐ `conversion_resume` - Resume a paused encryption conversion operation
 - ‐ `rekey_pause` - Pause an encryption rekey operation currently in progress
 - ‐ `rekey_resume` - Resume a paused encryption rekey operation

Related ONTAP commands

- `volume unmount`
- `volume mount`
- `volume online`
- `volume offline`
- `volume modify`
- `volume clone modify`
- `volume efficiency modify`
- `volume quota on`
- `volume quota off`
- `volume snaplock modify`
- `volume encryption conversion start`
- `volume encryption rekey start`
- `security anti-ransomware volume enable`
- `security anti-ransomware volume disable`
- `security anti-ransomware volume dry-run`

- security anti-ransomware volume pause
- security anti-ransomware volume resume

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Unique identifier of the volume.
restore_to.snapshot.uuid	string	query	False	UUID of the Snapshot copy to restore volume to the point in time the Snapshot copy was taken.
restore_to.snapshot.name	string	query	False	Name of the Snapshot copy to restore volume to the point in time the Snapshot copy was taken.
restore_to.path	string	query	False	Path to the file which is restored from the Snapshot copy. • Introduced in: 9.10
restore_to.restore_path	string	query	False	Specifies the destination location inside the volume where the file is restored. • Introduced in: 9.10
restore_to.start_byte	number	query	False	Starting byte offset of the source file, in multiples of 4096. • Introduced in: 9.10

Name	Type	In	Required	Description
restore_to.byte_count	number	query	False	<p>Number of bytes to restore from the source file, in multiples of 4096.</p> <ul style="list-style-type: none"> • Introduced in: 9.10
preserve_lun_ids	boolean	query	False	<p>Specifies whether LUN IDs need to be preserved during a Snapshot copy restore operation.</p> <ul style="list-style-type: none"> • Introduced in: 9.10 • Default value:

Name	Type	In	Required	Description
nvfail	string	query	False	<p>When this option is "on", the filer performs additional work at boot time if it finds that there has been any potential data loss due to an NVRAM failure. In such situations, it causes the invalidation of all NFS file handles on all volumes affected by the problem so that client-side users are forced to remount the affected file system (and thus not continue to use potentially incorrect data). It is also possible to specify a set of files per volume that are renamed in such cases. The filer sends error messages to the console whenever such problems are found.</p> <ul style="list-style-type: none"> • Introduced in: 9.10 • enum: ["off", "on"]
snapshot_directory_access_enabled	boolean	query	False	<p>This field, if true, enables the visible ".snapshot" directory from the client. The ".snapshot" directory will be available in every directory on the volume.</p> <ul style="list-style-type: none"> • Introduced in: 9.10 • Default value: 1

Name	Type	In	Required	Description
sizing_method	string	query	False	<p>Represents the method to modify the size of a Flexgroup. The following methods are supported:</p> <ul style="list-style-type: none"> • use_existing_resources - Increases or decreases the size of the FlexGroup by increasing or decreasing the size of the current FlexGroup resources • add_new_resources - Increases the size of the FlexGroup by adding new resources. This is limited to two new resources per available aggregate. • Default value: 1 • enum: ["use_existing_resources", "add_new_resources"]

Name	Type	In	Required	Description
scheduled_snapshot_naming_scheme	string	query	False	<p>Naming Scheme for automatic Snapshot copies:</p> <ul style="list-style-type: none"> • create_time - Automatic Snapshot copies are saved as per the start of their current date and time. • ordinal - Latest automatic snapshot copy is saved as <scheduled_frequency>.0 and subsequent copies will follow the create_time naming convention.</scheduled_frequency> • Introduced in: 9.10 • Default value: 1 • enum: ["create_time", "ordinal"] <p></scheduled_frequency></p>

Name	Type	In	Required	Description
clone.match_parent_storage_tier	boolean	query	False	<p>Specifies whether the FlexClone volume splits the data blocks by matching its parent storage tier. This option is applicable only if the tiering policy and the tiering minimum cooling days of the parent volume and the FlexClone volume are the same.</p> <ul style="list-style-type: none"> Introduced in: 9.9
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
validate_only	boolean	query	False	Validate the operation and its parameters, without actually performing the operation.

Request Body

Name	Type	Description
_links	_links	
access_time_enabled	boolean	Indicates whether or not access time updates are enabled on the volume.
activity_tracking	activity_tracking	
aggregates	array[aggregates]	Aggregate hosting the volume. Required on POST.
analytics	analytics	
anti_ransomware	anti_ransomware	Anti-ransomware related information of the volume.

Name	Type	Description
anti_ransomware_state	string	<p>The Anti-ransomware state of the volume. If no "anti_ransomware_state" property is specified, the volume inherits the value from its parent SVM's "anti_ransomware_default_volume_state" property. If this value is "disabled", Anti-ransomware is disabled on the volume. If this value is "enabled", Anti-ransomware is enabled on the volume and alerts are raised if any suspect is detected for those volumes. If this value is "dry_run", Anti-ransomware is enabled in the dry-run or learning mode on the volume. The "dry_run" state is same as the "enabled" state except that the analytics data is used here for learning. No alerts are raised for any detections or violations. If this value is "paused", Anti-ransomware is paused on the volume. Additionally, three more states are available, which are only valid for GET. If this value is "disable_in_progress", Anti-ransomware monitoring is being disabled and a cleanup operation is in effect. If this value is "enable_paused", Anti-ransomware is paused on the volume from its earlier enabled state. If this value is "dry_run_paused", Anti-ransomware monitoring is paused on the volume from its earlier dry_run state. For POST, the valid Anti-ransomware states are only "disabled", "enabled" and "dry_run", whereas for PATCH, "paused" is also valid along with the three valid states for POST.</p>
application	application	
autosize	autosize	
clone	clone	

Name	Type	Description
cloud_retrieval_policy	string	This parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are "default" policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot_only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved. "on_read" policy retrieves tiered data for all client driven data reads. "never" policy never retrieves tiered data. "promote" policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot_only'. If the tiering policy is 'snapshot_only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud and if tiering policy is 'none' then all data is retrieved.
comment	string	A comment for the volume. Valid in POST or PATCH.
consistency_group	consistency_group	Consistency group the volume is part of.
constituents	array[constituents]	

Name	Type	Description
constituents_per_aggregate	integer	Specifies the number of times to iterate over the aggregates listed with the "aggregates.name" or "aggregates.uuid" when creating or expanding a FlexGroup volume. If a volume is being created on a single aggregate, the system creates a flexible volume if the "constituents_per_aggregate" field is not specified, or a FlexGroup volume if it is specified. If a volume is being created on multiple aggregates, the system always creates a FlexGroup volume. The root constituent of a FlexGroup volume is always placed on the first aggregate in the list.
convert_unicode	boolean	Specifies whether directory Unicode format conversion is enabled when directories are accessed by NFS clients.
create_time	string	Creation time of the volume. This field is generated when the volume is created.
efficiency	efficiency	
encryption	encryption	
error_state	error_state	
files	files	
flash_pool	flash_pool	
flexcache_endpoint_type	string	FlexCache endpoint type. none ‐ The volume is neither a FlexCache nor origin of any FlexCache. cache ‐ The volume is a FlexCache volume. origin ‐ The volume is origin of a FlexCache volume.
flexgroup	flexgroup	
guarantee	guarantee	
is_object_store	boolean	Specifies whether the volume is provisioned for an object store server.

Name	Type	Description
is_svm_root	boolean	Specifies whether the volume is a root volume of the SVM it belongs to.
language	string	Language encoding setting for volume. If no language is specified, the volume inherits its SVM language encoding setting.
max_dir_size	integer	Maximum directory size. This value sets maximum size, in bytes, to which a directory can grow. The default maximum directory size for FlexVol volumes is model-dependent, and optimized for the size of system memory. Before increasing the maximum directory size, involve technical support.
metric	metric	Performance numbers, such as IOPS, latency and throughput.
movement	movement	Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.
name	string	Volume name. The name of volume must start with an alphabetic character (a to z or A to Z) or an underscore (_). The name must be 197 or fewer characters in length for FlexGroups, and 203 or fewer characters in length for all other types of volumes. Volume names must be unique within an SVM. Required on POST.
nas	nas	
qos	qos	QoS information
queue_for_encryption	boolean	Specifies whether the volume is queued for encryption.

Name	Type	Description
quota	quota	Quotas track the space or file usage of a user, group, or qtree in a FlexVol or a FlexGroup volume.
scheduled_snapshot_naming_scheme	string	<p>Naming Scheme for automatic Snapshot copies:</p> <ul style="list-style-type: none"> • create_time - Automatic Snapshot copies are saved as per the start of their current date and time. • ordinal - Latest automatic snapshot copy is saved as <scheduled_frequency>.0 and subsequent copies will follow the create_time naming convention.</scheduled_frequency>
size	integer	Physical size of the volume, in bytes. The minimum size for a FlexVol volume is 20MB and the minimum size for a FlexGroup volume is 200MB per constituent. The recommended size for a FlexGroup volume is a minimum of 100GB per constituent. For all volumes, the default size is equal to the minimum size.
snaplock	snaplock	
snapmirror	snapmirror	Specifies attributes for SnapMirror protection.
snapshot_count	integer	Number of Snapshot copies in the volume.
snapshot_policy	snapshot_policy	This is a reference to the Snapshot copy policy.
space	space	

Name	Type	Description
state	string	Volume state. Client access is supported only when volume is online and junctioned. Taking volume to offline or restricted state removes its junction path and blocks client access. When volume is in restricted state some operations like parity reconstruction and iron on commit are allowed. The 'mixed' state applies to FlexGroup volumes only and cannot be specified as a target state. An 'error' state implies that the volume is not in a state to serve data.
statistics	statistics	These are raw performance numbers, such as IOPS latency and throughput. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.
status	array[string]	Describes the current status of a volume.

Name	Type	Description
style	string	The style of the volume. If "style" is not specified, the volume type is determined based on the specified aggregates. Specifying a single aggregate, without "constituents_per_aggregate", creates a flexible volume. Specifying multiple aggregates, or a single aggregate with "constituents_per_aggregate", creates a FlexGroup. Specifying a volume "style" creates a volume of that type. For example, if the style is "flexvol" you must specify a single aggregate. If the style is "flexgroup", the system either uses the specified aggregates or automatically provisions aggregates if there are no specified aggregates. The style "flexgroup_constituent" is not supported when creating a volume. flexvol ‐ flexible volumes and FlexClone volumes flexgroup ‐ FlexGroup volumes flexgroup_constituent ‐ FlexGroup constituents.
svm	svm	SVM containing the volume. Required on POST.
tiering	tiering	
type	string	Type of the volume. rw ‐ read-write volume. dp ‐ data-protection volume. ls ‐ load-sharing <code>dp</code> volume. Valid in GET.

Name	Type	Description
use_mirrored_aggregates	boolean	Specifies whether mirrored aggregates are selected when provisioning a FlexGroup without specifying "aggregates.name" or "aggregates.uuid". Only mirrored aggregates are used if this parameter is set to 'true' and only unmirrored aggregates are used if this parameter is set to 'false'. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is 'true' for a MetroCluster configuration and is 'false' for a non-MetroCluster configuration.
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 • readOnly: 1 • Introduced in: 9.6

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourceLink"
    }
  },
  "activity_tracking": {
    "state": "string",
    "unsupported_reason": {
      "code": "124518405",
      "message": "Volume activity tracking cannot be enabled on volumes
that contain LUNs."
    }
  },
  "aggregates": [
    {
      "_links": {
        "self": {
          "href": "/api/resourceLink"
        }
      },
      "name": "aggr1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "analytics": {
    "scan_progress": 17,
    "state": "string",
    "unsupported_reason": {
      "code": "111411207",
      "message": "File system analytics cannot be enabled on volumes
that contain LUNs."
    }
  },
  "anti_ransomware": {
    "attack_probability": "string",
    "attack_reports": [
      {
        "_links": {
          "suspects": {
            "href": "/api/resourceLink"
          }
        }
      }
    ],
    "time": "2021-06-01T20:36:41+05:30"
  }
}
```

```

    }
  ],
  "dry_run_start_time": "string",
  "space": {
    "snapshot_count": 0,
    "used": 0,
    "used_by_logs": 0,
    "used_by_snapshots": 0
  },
  "state": "string",
  "suspect_files": [
    {
      "count": 0,
      "format": "string"
    }
  ]
},
"anti_ransomware_state": "string",
"application": {
  "name": "string",
  "uuid": "1cd8a442-86d1-11e0-ae1d-123478563412"
},
"autosize": {
  "mode": "string"
},
"clone": {
  "parent_snapshot": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "this_snapshot",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "parent_svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "parent_volume": {
    "_links": {

```

```

    "self": {
      "href": "/api/resourcelink"
    },
    "name": "volume1",
    "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
  },
  "split_complete_percent": 0,
  "split_estimate": 0
},
"cloud_retrieval_policy": "string",
"comment": "string",
"consistency_group": {
  "name": "consistency_group_1",
  "uuid": "1cd8a442-86d1-11e0-ae1d-123478563412"
},
"constituents": [
  {
    "aggregates": {
      "name": "string",
      "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
    },
    "movement": {
      "cutover_window": 30,
      "destination_aggregate": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "aggr1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "percent_complete": 0,
      "state": "replicating",
      "tiering_policy": "string"
    },
    "name": "string",
    "space": {
      "available": 0,
      "block_storage_inactive_user_data": 0,
      "capacity_tier_footprint": 0,
      "footprint": 0,
      "local_tier_footprint": 0,
      "logical_space": {
        "available": 0,

```

```

        "used_by_afs": 0
    },
    "metadata": 0,
    "over_provisioned": 0,
    "performance_tier_footprint": 0,
    "snapshot": {
        "used": 0
    },
    "total_footprint": 0,
    "used": 0
}
},
"create_time": "2018-06-04T19:00:00Z",
"efficiency": {
    "application_io_size": "string",
    "compaction": "string",
    "compression": "string",
    "cross_volume_dedupe": "string",
    "dedupe": "string",
    "last_op_begin": "string",
    "last_op_end": "string",
    "last_op_err": "string",
    "last_op_size": 0,
    "last_op_state": "string",
    "op_state": "string",
    "path": "string",
    "policy": {
        "name": "string"
    },
    "progress": "string",
    "schedule": "string",
    "state": "string",
    "storage_efficiency_mode": "string",
    "type": "string"
},
"encryption": {
    "key_id": "string",
    "key_manager_attribute": "CRN=v1:bluemix:public:containers-
kubernetes:us-south:a/asdfghjkl1234:asdfghjkl1234:worker:kubernetes-
asdfghjkl-worker1",
    "state": "string",
    "status": {
        "code": "string",
        "message": "string"
    }
},

```

```

    "type": "string"
  },
  "files": {
    "used": 0
  },
  "flash_pool": {
    "cache_eligibility": "string",
    "cache_retention_priority": "string",
    "caching_policy": "string"
  },
  "flexcache_endpoint_type": "string",
  "flexgroup": {
    "name": "my_flexgroup",
    "uuid": "75c9cfb0-3eb4-11eb-9fb4-005056bb088a"
  },
  "guarantee": {
    "type": "string"
  },
  "language": "string",
  "metric": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "cloud": {
    "duration": "PT15S",
    "iops": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "duration": "PT15S",
  "flexcache": {
    "bandwidth_savings": 4096,
    "cache_miss_percent": 20,
    "duration": "PT1D",
    "status": "ok",

```

```

    "timestamp": "2017-01-25T11:20:13Z"
  },
  "iops": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "status": "ok",
  "throughput": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "timestamp": "2017-01-25T11:20:13Z"
},
"movement": {
  "cutover_window": 30,
  "destination_aggregate": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "aggr1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "percent_complete": 0,
  "start_time": "2020-12-07T03:45:12-05:00",
  "state": "replicating",
  "tiering_policy": "string"
},
"name": "vol_cs_dept",
"nas": {
  "export_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "id": 100,
    "name": "default"
  }
}

```



```

    },
    "junction_parent": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "vsl_root",
      "uuid": "75c9cfb0-3eb4-11eb-9fb4-005056bb088a"
    },
    "path": "/user/my_volume",
    "security_style": "string",
    "unix_permissions": 755
  },
  "qos": {
    "policy": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "max_throughput_iops": 10000,
      "max_throughput_mbps": 500,
      "min_throughput_iops": 2000,
      "min_throughput_mbps": 500,
      "name": "performance",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "quota": {
    "state": "string"
  },
  "scheduled_snapshot_naming_scheme": "string",
  "snaplock": {
    "append_mode_enabled": "",
    "autocommit_period": "P30M",
    "compliance_clock_time": "2018-06-04T19:00:00Z",
    "expiry_time": "Wed Sep 5 11:02:42 GMT 2018",
    "is_audit_log": 1,
    "litigation_count": 10,
    "privileged_delete": "enabled",
    "retention": {
      "default": "P30Y",
      "maximum": "P30Y",
      "minimum": "P30Y"
    }
  },

```

```

    "type": "enterprise",
    "unspecified_retention_file_count": 10
  },
  "snapshot_count": 0,
  "snapshot_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "default",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "space": {
    "available": 0,
    "block_storage_inactive_user_data": 0,
    "block_storage_inactive_user_data_percent": 0,
    "capacity_tier_footprint": 0,
    "cross_volume_dedupe_metafiles_footprint": 0,
    "cross_volume_dedupe_metafiles_temporary_footprint": 0,
    "dedupe_metafiles_footprint": 0,
    "dedupe_metafiles_temporary_footprint": 0,
    "delayed_free_footprint": 0,
    "file_operation_metadata": 0,
    "filesystem_size": 0,
    "footprint": 0,
    "local_tier_footprint": 0,
    "logical_space": {
      "available": 0,
      "used": 0,
      "used_by_afs": 0,
      "used_by_snapshots": 0,
      "used_percent": 0
    },
    "metadata": 0,
    "over_provisioned": 0,
    "overwrite_reserve": 0,
    "overwrite_reserve_used": 0,
    "percent_used": 0,
    "performance_tier_footprint": 0,
    "size_available_for_snapshots": 0,
    "snapmirror_destination_footprint": 0,
    "snapshot": {
      "autodelete_trigger": "string",
      "reserve_available": 0,
      "reserve_size": 0,

```

```

    "space_used_percent": 0,
    "used": 0
  },
  "snapshot_reserve_unusable": 0,
  "snapshot_spill": 0,
  "total_footprint": 0,
  "used": 0,
  "user_data": 0,
  "volume_guarantee_footprint": 0
},
"state": "string",
"statistics": {
  "cloud": {
    "iops_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "flexcache_raw": {
    "cache_miss_blocks": 10,
    "client_requested_blocks": 500,
    "status": "ok",
    "timestamp": "2017-01-25T11:20:13Z"
  },
  "iops_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "status": "ok",
  "throughput_raw": {
    "read": 200,
    "total": 1000,

```

```

    "write": 100
  },
  "timestamp": "2017-01-25T11:20:13Z"
},
"status": [
  "string"
],
"style": "string",
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"tiering": {
  "object_tags": [
    "string"
  ],
  "policy": "string"
},
"type": "string",
"uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
}

```

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
787141	The specified "aggregates.name" and "aggregates.uuid" refer to different aggregates.
917829	Volume autosize grow threshold must be larger than autosize shrink threshold.
917831	Volume minimum autosize must be smaller than the maximum autosize.
918193	Cannot modify tiering min cooling days when vol move is in progress.
918194	Tiering min cooling days not supported for SVMMDR.
918195	Tiering min cooling days not supported for non data volumes.
918196	Tiering min cooling days not allowed for the provided tiering policy.
918248	Specifying a value is not valid for initiating volume FlexClone split operation.
918251	Specifying a value is not valid for a Snapshot copy restore operation.
918252	specified "nas.path" is invalid.
918265	Volume is on the same aggregate.

Error Code	Description
918266	"movement.destination_aggregate" and "movement.state" are mutually exclusive, unless the state is "cutover-wait".
918267	The specified "movement.destination_aggregate" does not exist.
918291	Invalid volume cloud retrieval policy for the provided tiering policy.
918292	cloud retrieval policy not supported for non data volume.
918293	Cannot modify cloud retrieval policy when vol move is in progress.
918521	The volume maximum autosize must be smaller than or equal to the maximum volume size.
918532	The FlexClone match-parent-storage-tier option requires an effective cluster version of 9.9.1 or later.
918533	The FlexClone match-parent-storage-tier option not applicable for FlexClone volumes hosted on non-FabricPool storage.
918534	The tiering policy values are different for the FlexClone volume and its parent volume. The match-parent-storage-tier option cannot be set to true.
918535	The tiering minimum cooling day values are different for the FlexClone volume and its parent volume. The match-parent-storage-tier option cannot be set to true.
918537	Could not get the FlexClone volume tiering policy or its parent volume tiering policy. Wait a minute and try again.
918538	The match-parent-storage-tier option is not supported for clone creation.
13107404	When adding new resources to a FlexGroup by specifying "aggregates.name" or "aggregates.uuid", the FlexGroup cannot be resized using "size". These operations must be done separately.
13109187	When adding new resources to a FlexGroup using "sizing_method", "size" must be specified. Neither "aggregates.name" nor "aggregates.uuid" are allowed to be specified, as the aggregates are selected automatically by the system.
13109198	Resizing by adding new resources is only supported for FlexGroups.
111411201	File system analytics cannot be enabled on the target volume because of the specified reason.

Error Code	Description
111411202	File system analytics cannot be disabled on the target volume because of the specified reason.
111411205	File system analytics requires an effective cluster version of 9.8 or later.
111411206	The specified "analytics.state" is invalid.
111411207	File system analytics cannot be enabled on volumes that contain LUNs.

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	

unsupported_reason

Name	Type	Description
code	string	If volume activity tracking is not supported on the volume, this field provides an appropriate error code.
message	string	If volume activity tracking is not supported on the volume, this field provides an error message detailing why this is the case.

activity_tracking

Name	Type	Description
state	string	<p>Activity tracking state of the volume. If this value is "on", ONTAP collects top metrics information for the volume in real time. There is a slight impact to I/O performance in order to collect this information. If this value is "off", no activity tracking information is collected or available to view.</p> <ul style="list-style-type: none">• enum: ["off", "on"]• Introduced in: 9.10

Name	Type	Description
supported	boolean	This field indicates whether or not volume activity tracking is supported on the volume. If volume activity tracking is not supported, the reason why is provided in the "activity_tracking.unsupported_reason" field.
unsupported_reason	unsupported_reason	

aggregates

Aggregate

Name	Type	Description
_links	_links	
name	string	
uuid	string	

unsupported_reason

Name	Type	Description
code	string	If file system analytics is not supported on the volume, this field provides the error code explaining why.
message	string	If file system analytics is not supported on the volume, this field provides the error message explaining why.

analytics

Name	Type	Description
scan_progress	integer	Percentage of files in the volume that the file system analytics initialization scan has processed. Only returned when the state is initializing.

Name	Type	Description
state	string	<p>File system analytics state of the volume. If this value is "on", ONTAP collects extra file system analytics information for all directories on the volume. There will be a slight impact to I/O performance to collect this information. If this value is "off", file system analytics information is not collected and not available to be viewed. If this value is "initializing", that means file system analytics was recently turned on, and the initialization scan to gather information all existing files and directories is currently running. If this value is 'unknown' that means there was an internal error when determining the file system analytics state for the volume.</p> <ul style="list-style-type: none"> enum: ["unknown", "initializing", "off", "on"] Introduced in: 9.8
supported	boolean	This field indicates whether or not file system analytics is supported on the volume. If file system analytics is not supported, the reason will be specified in the "analytics.unsupported_reason" field.
unsupported_reason	unsupported_reason	

_links

Name	Type	Description
suspects	href	

anti_ransomware_attack_report

Name	Type	Description
_links	_links	
time	string	Timestamp at which ransomware attack is observed.

space

Name	Type	Description
snapshot_count	integer	Total number of Anti-ransomware backup Snapshot copies.
used	integer	Total space in bytes used by the Anti-ransomware feature.
used_by_logs	integer	Space in bytes used by the Anti-ransomware analytics logs.
used_by_snapshots	integer	Space in bytes used by the Anti-ransomware backup Snapshot copies.

suspect_files

Name	Type	Description
count	integer	Total number of <code>suspect_files.format</code> files observed by the Anti-ransomware analytics engine on the volume.
format	string	File formats observed by the Anti-ransomware analytics engine on the volume.

anti_ransomware

Anti-ransomware related information of the volume.

Name	Type	Description
attack_probability	string	Probability of a ransomware attack. <code>none</code> No files are suspected of ransomware activity. <code>low</code> A number of files are suspected of ransomware activity. <code>moderate</code> A moderate number of files are suspected of ransomware activity. <code>high</code> A large number of files are suspected of ransomware activity.
attack_reports	array[anti_ransomware_attack_report]	

Name	Type	Description
dry_run_start_time	string	Time when Anti-ransomware monitoring state is set to dry-run value for starting evaluation mode.
space	space	
state	string	<p>Anti-ransomware state.</p> <p><code>disabled</code> Anti-ransomware monitoring is disabled on the volume. This is the default state in a POST operation.</p> <p><code>disable_in_progress</code> Anti-ransomware monitoring is being disabled and a cleanup operation is in effect. Valid in GET operation.</p> <p><code>dry_run</code> Anti-ransomware monitoring is enabled in the evaluation mode.</p> <p><code>enabled</code> Anti-ransomware monitoring is active on the volume.</p> <p><code>paused</code> Anti-ransomware monitoring is paused on the volume.</p> <p><code>enable_paused</code> Anti-ransomware monitoring is paused on the volume from its earlier enabled state. Valid in GET operation.</p> <p><code>dry_run_paused</code> Anti-ransomware monitoring is paused on the volume from its earlier <code>dry_run</code> state. Valid in GET operation. For POST, the valid Anti-ransomware states are only <code>disabled</code>, <code>enabled</code> and <code>dry_run</code>, whereas for PATCH, <code>paused</code> is also valid along with the three valid states for POST.</p>
suspect_files	array[suspect_files]	

application

Name	Type	Description
name	string	Name of the application to which the volume belongs. Available only when the volume is part of an application.

Name	Type	Description
uuid	string	UUID of the application to which the volume belongs. Available only when the volume is part of an application.

autosize

Name	Type	Description
grow_threshold	integer	Used space threshold size, in percentage, for the automatic growth of the volume. When the amount of used space in the volume becomes greater than this threshold, the volume automatically grows unless it has reached the maximum size. The volume grows when 'space.used' is greater than this percent of 'space.size'. The 'grow_threshold' size cannot be less than or equal to the 'shrink_threshold' size..
maximum	integer	Maximum size in bytes up to which a volume grows automatically. This size cannot be less than the current volume size, or less than or equal to the minimum size of volume.
minimum	integer	Minimum size in bytes up to which the volume shrinks automatically. This size cannot be greater than or equal to the maximum size of volume.
mode	string	Autosize mode for the volume. grow ‐ Volume automatically grows when the amount of used space is above the 'grow_threshold' value. grow_shrink ‐ Volume grows or shrinks in response to the amount of space used. off ‐ Autosizing of the volume is disabled.

Name	Type	Description
shrink_threshold	integer	Used space threshold size, in percentage, for the automatic shrinkage of the volume. When the amount of used space in the volume drops below this threshold, the volume automatically shrinks unless it has reached the minimum size. The volume shrinks when the 'space.used' is less than the 'shrink_threshold' percent of 'space.size'. The 'shrink_threshold' size cannot be greater than or equal to the 'grow_threshold' size.

snapshot_reference

Name	Type	Description
_links	_links	
name	string	
uuid	string	

parent_svm

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

parent_volume

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

clone

Name	Type	Description
is_flexclone	boolean	Specifies if this volume is a normal FlexVol or FlexClone. This field needs to be set when creating a FlexClone. Valid in POST.
parent_snapshot	snapshot_reference	
parent_svm	parent_svm	
parent_volume	parent_volume	
split_complete_percent	integer	Percentage of FlexClone blocks split from its parent volume.
split_estimate	integer	Space required by the containing-aggregate to split the FlexClone volume.
split_initiated	boolean	This field is set when split is executed on any FlexClone, that is when the FlexClone volume is split from its parent FlexVol. This field needs to be set for splitting a FlexClone form FlexVol. Valid in PATCH.

consistency_group

Consistency group the volume is part of.

Name	Type	Description
name	string	The name of the consistency group to which the volume belongs. Available only when the volume is part of a consistency group. If this volume belongs to a child consistency group, then this will be the UUID of the parent consistency group.
uuid	string	The UUID of the consistency group to which the volume belongs. Available only when the volume is part of a consistency group. If this volume belongs to a child consistency group, then this will be the UUID of the parent consistency group.

aggregates

Name	Type	Description
name	string	Name of the aggregate hosting the FlexGroup Constituent.
uuid	string	Unique identifier for the aggregate.

destination_aggregate

Aggregate

Name	Type	Description
_links	_links	
name	string	
uuid	string	

movement

Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.

Name	Type	Description
cutover_window	integer	Time window in seconds for cutover. The allowed range is between 30 to 300 seconds.
destination_aggregate	destination_aggregate	Aggregate
percent_complete	integer	Completion percentage
state	string	State of volume move operation. PATCH the state to "aborted" to abort the move operation. PATCH the state to "cutover" to trigger cutover. PATCH the state to "paused" to pause the volume move operation in progress. PATCH the state to "replicating" to resume the paused volume move operation. PATCH the state to "cutover_wait" to go into cutover manually. When volume move operation is waiting to go into "cutover" state, this is indicated by the "cutover_pending" state. A change of state is only supported if volume movement is in progress.
tiering_policy	string	Tiering policy for FabricPool

logical_space

Name	Type	Description
available	integer	The amount of space available in this volume with storage efficiency space considered used, in bytes.
enforcement	boolean	Specifies whether space accounting for operations on the volume is done along with storage efficiency.
reporting	boolean	Specifies whether space reporting on the volume is done along with storage efficiency.

Name	Type	Description
used_by_afs	integer	The virtual space used by AFS alone (includes volume reserves) and along with storage efficiency, in bytes.

snapshot

Name	Type	Description
autodelete_enabled	boolean	Specifies whether Snapshot copy autodelete is currently enabled on this volume.
reserve_percent	integer	The space that has been set aside as a reserve for Snapshot copy usage, in percent.
used	integer	The total space used by Snapshot copies in the volume, in bytes.

space

Name	Type	Description
afs_total	integer	Total size of AFS, excluding snap-reserve, in bytes.
available	integer	The available space, in bytes.
available_percent	integer	The space available, as a percent.
block_storage_inactive_user_data	integer	The size that is physically used in the block storage of the volume and has a cold temperature. In bytes. This parameter is only supported if the volume is in an aggregate that is either attached to a cloud store or could be attached to a cloud store.
capacity_tier_footprint	integer	Space used by capacity tier for this volume in the FabricPool aggregate, in bytes.

Name	Type	Description
footprint	integer	Data used for this volume in the aggregate, in bytes.
local_tier_footprint	integer	Space used by the local tier for this volume in the aggregate, in bytes.
logical_space	logical_space	
metadata	integer	Space used by the volume metadata in the aggregate, in bytes.
over_provisioned	integer	The amount of space not available for this volume in the aggregate, in bytes.
performance_tier_footprint	integer	Space used by the performance tier for this volume in the FabricPool aggregate, in bytes.
size	integer	Total provisioned size. The default size is equal to the minimum size of 20MB, in bytes.
snapshot	snapshot	
total_footprint	integer	Data and metadata used for this volume in the aggregate, in bytes.
used	integer	The virtual space used (includes volume reserves) before storage efficiency, in bytes.
used_by_afs	integer	The space used by Active Filesystem, in bytes.
used_percent	integer	The virtual space used (includes volume reserves) before storage efficiency, as a percent.

constituents

Name	Type	Description
aggregates	aggregates	

Name	Type	Description
movement	movement	Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.
name	string	FlexGroup Constituents name
space	space	

policy

Name	Type	Description
name	string	Specifies the name of the efficiency policy. Valid for PATCH.

efficiency

Name	Type	Description
application_io_size	string	Block size to use by compression. Valid for POST.
compaction	string	The system can be enabled/disabled compaction. inline ‐ Data will be compacted first and written to the volume. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are compaction enabled and some are disabled.

Name	Type	Description
compression	string	The system can be enabled/disabled compression. inline ‐ Data will be compressed first and written to the volume. background ‐ Data will be written to the volume and compressed later. both ‐ Inline compression compresses the data and write to the volume, background compression compresses only the blocks on which inline compression is not run. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are compression enabled and some are disabled.
cross_volume_dedupe	string	The system can be enabled/disabled cross volume dedupe. it can be enabled only when dedupe is enabled. inline ‐ Data will be cross volume deduped first and written to the volume. background ‐ Data will be written to the volume and cross volume deduped later. both ‐ Inline cross volume dedupe dedupes the data and write to the volume, background cross volume dedupe dedupes only the blocks on which inline dedupe is not run. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are cross volume dedupe enabled and some are disabled.

Name	Type	Description
dedupe	string	The system can be enabled/disabled dedupe. inline ‐ Data will be deduped first and written to the volume. background ‐ Data will be written to the volume and deduped later. both ‐ Inline dedupe dedupes the data and write to the volume, background dedupe dedupes only the blocks on which inline dedupe is not run. none ‐ None mixed ‐ Read only field for FlexGroups, where some of the constituent volumes are dedupe enabled and some are disabled.
last_op_begin	string	Last sis operation begin timestamp.
last_op_end	string	Last sis operation end timestamp.
last_op_err	string	Last sis operation error text.
last_op_size	integer	Last sis operation size.
last_op_state	string	Last sis operation state.
op_state	string	Sis status of the volume.
path	string	Absolute volume path of the volume.
policy	policy	
progress	string	Sis progress of the volume.
schedule	string	Schedule associated with volume.

Name	Type	Description
state	string	<p>Storage efficiency state of the volume. Currently, this field supports POST/PATCH only for RW (Read-Write) volumes on FSx for ONTAP. disabled &dash; All storage efficiency features are disabled. mixed &dash; Read-only field for FlexGroup volumes, storage efficiency is enabled on certain constituents and disabled on others. On FSx for ONTAP &dash; &emsp; enabled &dash; All supported storage efficiency features for the volume are enabled. &emsp; custom &dash; Read-only field currently only supported for the FSx for ONTAP, user-defined storage efficiency features are enabled. For other platforms &dash; &emsp; enabled &dash; At least one storage efficiency feature for the volume is enabled.</p> <ul style="list-style-type: none"> enum: ["disabled", "enabled", "mixed", "custom"] Introduced in: 9.9
storage_efficiency_mode	string	Storage efficiency mode used by volume. This parameter is supported only on AFF platform.
type	string	Sis Type of the volume.

status

Name	Type	Description
code	string	Encryption progress message code.
message	string	Encryption progress message.

encryption

Name	Type	Description
enabled	boolean	Creates an encrypted or an unencrypted volume. For POST, when set to 'true', a new key is generated and used to encrypt the given volume. In that case, the underlying SVM must be configured with the key manager. When set to 'false', the volume created will be unencrypted. For PATCH, when set to 'true', it encrypts an unencrypted volume. Specifying the parameter as 'false' in a PATCH operation for an encrypted volume is only supported when moving the volume to another aggregate.
key_id	string	The key ID used for creating encrypted volume. A new key-id is generated for creating an encrypted volume. This key-id is associated with the generated key.
key_manager_attribute	string	Specifies an additional key manager attribute that is an identifier-value pair, separated by '='. For example, CRN=unique-value. This parameter is required when using the POST method and an IBM Key Lore key manager is configured on the SVM.
rekey	boolean	If set to 'true', re-encrypts the volume with a new key. Valid in PATCH.
state	string	Volume encryption state. encrypted ‐ The volume is completely encrypted. encrypting ‐ Encryption operation is in progress. partial ‐ Some constituents are encrypted and some are not. Applicable only for FlexGroup volume. rekeying. Encryption of volume with a new key is in progress. unencrypted ‐ The volume is a plain-text one.

Name	Type	Description
status	status	
type	string	Volume encryption type. none ‐ The volume is a plain-text one. volume ‐ The volume is encrypted with NVE (NetApp Volume Encryption). aggregate ‐ The volume is encrypted with NAE (NetApp Aggregate Encryption).

error_state

Name	Type	Description
has_bad_blocks	boolean	Indicates whether the volume has any corrupt data blocks. If the damaged data block is accessed, an IO error, such as EIO for NFS or STATUS_FILE_CORRUPT for CIFS, is returned.
is_inconsistent	boolean	Indicates whether the file system has any inconsistencies. true ‐ File system is inconsistent. false ‐ File system is not inconsistent.

files

Name	Type	Description
maximum	integer	The maximum number of files (inodes) for user-visible data allowed on the volume. This value can be increased or decreased. Increasing the maximum number of files does not immediately cause additional disk space to be used to track files. Instead, as more files are created on the volume, the system dynamically increases the number of disk blocks that are used to track files. The space assigned to track files is never freed, and this value cannot be decreased below the current number of files that can be tracked within the assigned space for the volume. Valid in PATCH.
used	integer	Number of files (inodes) used for user-visible data permitted on the volume. This field is valid only when the volume is online.

flash_pool

Name	Type	Description
cache_eligibility	string	If this parameter is specified, the command displays information only about the volume or volumes with the specified Flash Pool caching attributes.
cache_retention_priority	string	If this parameter is specified, the command displays the volumes that match the specified cache retention priority policy. A cache retention priority defines how long the blocks of a volume will be cached in the Flash Pool once they become cold.

Name	Type	Description
cacheing_policy	string	This optionally specifies the caching policy to apply to the volume. A caching policy defines how the system caches a volume's data in Flash Cache modules. If a caching policy is not assigned to a volume, the system uses the caching policy that is assigned to the containing SVM. If a caching policy is not assigned to the containing SVM, the system uses the default cluster-wide policy.

flexgroup

Name	Type	Description
name	string	Name of the FlexGroup volume that the constituent is part of.
uuid	string	Unique identifier for the FlexGroup volume that the constituent is part of.

guarantee

Name	Type	Description
honored	boolean	Is the space guarantee of this volume honored in the aggregate?
type	string	The type of space guarantee of this volume in the aggregate.

iops

The rate of I/O operations observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.

Name	Type	Description
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency

The round trip latency in microseconds observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

cloud

Performance numbers (IOPS and latency) for cloud store. These numbers are relevant only for volumes hosted on FabricPools.

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
iops	iops	The rate of I/O operations observed at the storage object.

Name	Type	Description
latency	latency	The round trip latency in microseconds observed at the storage object.
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

flexcache

Performance number for FlexCache used to measure cache effectiveness.

Name	Type	Description
bandwidth_savings	integer	Bandwidth savings denoting the amount of data served locally by the cache, in bytes.
cache_miss_percent	integer	Cache miss percentage.

Name	Type	Description
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

throughput

The rate of throughput bytes per second observed at the storage object.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.

Name	Type	Description
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

metric

Performance numbers, such as IOPS, latency and throughput.

Name	Type	Description
_links	_links	
cloud	cloud	Performance numbers (IOPS and latency) for cloud store. These numbers are relevant only for volumes hosted on FabricPools.
duration	string	The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:
flexcache	flexcache	Performance number for FlexCache used to measure cache effectiveness.
iops	iops	The rate of I/O operations observed at the storage object.
latency	latency	The round trip latency in microseconds observed at the storage object.

Name	Type	Description
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput	throughput	The rate of throughput bytes per second observed at the storage object.
timestamp	string	The timestamp of the performance data.

movement

Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.

Name	Type	Description
cutover_window	integer	Time window in seconds for cutover. The allowed range is between 30 to 300 seconds.
destination_aggregate	destination_aggregate	Aggregate
percent_complete	integer	Completion percentage
start_time	string	Start time of volume move.

Name	Type	Description
state	string	State of volume move operation. PATCH the state to "aborted" to abort the move operation. PATCH the state to "cutover" to trigger cutover. PATCH the state to "paused" to pause the volume move operation in progress. PATCH the state to "replicating" to resume the paused volume move operation. PATCH the state to "cutover_wait" to go into cutover manually. When volume move operation is waiting to go into "cutover" state, this is indicated by the "cutover_pending" state. A change of state is only supported if volume movement is in progress.
tiering_policy	string	Tiering policy for FabricPool

export_policy

Export Policy

Name	Type	Description
_links	_links	
id	integer	
name	string	

junction_parent

Name	Type	Description
_links	_links	
name	string	The name of the parent volume that contains the junction inode of this volume. The junction parent volume must belong to the same SVM that owns this volume.
uuid	string	Unique identifier for the parent volume.

nas

Name	Type	Description
export_policy	export_policy	Export Policy
gid	integer	The UNIX group ID of the volume. Valid in POST or PATCH.
junction_parent	junction_parent	
path	string	The fully-qualified path in the owning SVM's namespace at which the volume is mounted. The path is case insensitive and must be unique within a SVM's namespace. Path must begin with '/' and must not end with '/'. Only one volume can be mounted at any given junction path. An empty path in POST creates an unmounted volume. An empty path in PATCH deactivates and unmounts the volume. Taking a volume offline or restricted state removes its junction path. This attribute is reported in GET only when the volume is mounted.
security_style	string	Security style associated with the volume. Valid in POST or PATCH. mixed ‐ Mixed-style security ntfs ‐ NTFS/Windows-style security unified ‐ Unified-style security, unified UNIX, NFS and CIFS permissions unix ‐ Unix-style security.
uid	integer	The UNIX user ID of the volume. Valid in POST or PATCH.

Name	Type	Description
unix_permissions	integer	UNIX permissions to be viewed as an octal number. It consists of 4 digits derived by adding up bits 4 (read), 2 (write) and 1 (execute). First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file; the third selects permissions for other users in the same group; the fourth for other users not in the group. Valid in POST or PATCH. For security style "mixed" or "unix", the default setting is 0755 in octal (493 in decimal) and for security style "ntfs", the default setting is 0000. In cases where only owner, group and other permissions are given (as in 755, representing the second, third and fourth digit), first digit is assumed to be zero.

policy

Name	Type	Description
_links	_links	
max_throughput_iops	integer	Specifies the maximum throughput in IOPS, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
max_throughput_mbps	integer	Specifies the maximum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
min_throughput_iops	integer	Specifies the minimum throughput in IOPS, 0 means none. Setting "min_throughput" is supported on AFF platforms only, unless FabricPool tiering policies are set. This is mutually exclusive with name and UUID during POST and PATCH.

Name	Type	Description
min_throughput_mbps	integer	Specifies the minimum throughput in Megabytes per sec, 0 means none. This is mutually exclusive with name and UUID during POST and PATCH.
name	string	The QoS policy group name. This is mutually exclusive with UUID and other QoS attributes during POST and PATCH.
uuid	string	The QoS policy group UUID. This is mutually exclusive with name and other QoS attributes during POST and PATCH.

qos

QoS information

Name	Type	Description
policy	policy	

quota

Quotas track the space or file usage of a user, group, or qtree in a FlexVol or a FlexGroup volume.

Name	Type	Description
enabled	boolean	This option is used to enable or disable the quota for the volume. This option is valid only in PATCH. Quotas are enabled for FlexVols or FlexGroup volumes when the quota state is "on". Quotas are disabled for FlexVols or FlexGroup volumes when the quota state is "off".
state	string	Quota state of the volume

retention

Name	Type	Description
default	string	<p>Specifies the default retention period that is applied to files while committing them to the WORM state without an associated retention period. The retention value represents a duration and must be specified in the ISO-8601 duration format. The retention period can be in years, months, days, hours, and minutes. A duration specified for years, months, and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The retention string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the duration field also accepts the string "infinite" to set an infinite retention period and the string "unspecified" to set an unspecified retention period.</p>

Name	Type	Description
maximum	string	Specifies the maximum allowed retention period for files committed to the WORM state on the volume. The retention value represents a duration and must be specified in the ISO-8601 duration format. The retention period can be in years, months, days, hours, and minutes. A duration specified for years, months, and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The retention string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the duration field also accepts the string "infinite" to set an infinite retention period.

Name	Type	Description
minimum	string	Specifies the minimum allowed retention period for files committed to the WORM state on the volume. The retention value represents a duration and must be specified in the ISO-8601 duration format. The retention period can be in years, months, days, hours, and minutes. A duration specified for years, month,s and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The retention string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the duration field also accepts the string "infinite" to set an infinite retention period.</num></num></num></num></num>

snaplock

Name	Type	Description
append_mode_enabled	boolean	Specifies if the volume append mode is enabled or disabled. When it is enabled, all the files created with write permissions on the volume are, by default, WORM appendable files. The user can append the data to a WORM appendable file but cannot modify the existing contents of the file nor delete the file until it expires.

Name	Type	Description
autocommit_period	string	Specifies the autocommit period for SnapLock volume. All files which are not modified for a period greater than the autocommit period of the volume are committed to the WORM state. The autocommit period value represents a duration and must be specified in the ISO-8601 duration format. The autocommit period can be in years, months, days, hours, and minutes. A period specified for years, months, and days is represented in the ISO-8601 format as "P<num>Y", "P<num>M", "P<num>D" respectively, for example "P10Y" represents a duration of 10 years. A duration in hours and minutes is represented by "PT<num>H" and "PT<num>M" respectively. The period string must contain only a single time element that is, either years, months, days, hours, or minutes. A duration which combines different periods is not supported, for example "P1Y10M" is not supported. Apart from the duration specified in the ISO-8601 format, the autocommit field also accepts the string "none".
compliance_clock_time	string	This is the volume compliance clock time which is used to manage the SnapLock objects in the volume.
expiry_time	string	Expiry time of the volume.
is_audit_log	boolean	Indicates if this volume has been configured as SnapLock audit log volume for the SVM .
litigation_count	integer	Litigation count indicates the number of active legal-holds on the volume.

Name	Type	Description
privileged_delete	string	Specifies the privileged-delete attribute of a SnapLock volume. On a SnapLock Enterprise (SLE) volume, a designated privileged user can selectively delete files irrespective of the retention time of the file. SLE volumes can have privileged delete as disabled, enabled or permanently_disabled and for SnapLock Compliance (SLC) volumes it is always permanently_disabled.
retention	retention	
type	string	The SnapLock type of the volume. compliance ‐ A SnapLock Compliance(SLC) volume provides the highest level of WORM protection and an administrator cannot destroy a SLC volume if it contains unexpired WORM files. enterprise ‐ An administrator can delete a SnapLock Enterprise(SLE) volume. non_snaplock ‐ Indicates the volume is non-snaplock.
unspecified_retention_file_count	integer	Indicates the number of files with an unspecified retention time in the volume.

destinations

Name	Type	Description
is_cloud	boolean	Specifies whether a volume is a SnapMirror source volume, using SnapMirror to protect its data to a cloud destination.
is_ontap	boolean	Specifies whether a volume is a SnapMirror source volume, using SnapMirror to protect its data to an ONTAP destination. <ul style="list-style-type: none"> • readOnly: 1 • Introduced in: 9.9

snapmirror

Specifies attributes for SnapMirror protection.

Name	Type	Description
destinations	destinations	
is_protected	boolean	Specifies whether a volume is a SnapMirror source volume, using SnapMirror to protect its data.

snapshot_policy

This is a reference to the Snapshot copy policy.

Name	Type	Description
_links	_links	
name	string	
uuid	string	

logical_space

Name	Type	Description
available	integer	The amount of space available in this volume with storage efficiency space considered used, in bytes.
enforcement	boolean	Specifies whether space accounting for operations on the volume is done along with storage efficiency.
reporting	boolean	Specifies whether space reporting on the volume is done along with storage efficiency.
used	integer	SUM of (physical-used, shared_refs, compression_saved_in_plane0, vbn_zero, future_blk_cnt), in bytes.
used_by_afs	integer	The virtual space used by AFS alone (includes volume reserves) and along with storage efficiency, in bytes.

Name	Type	Description
used_by_snapshots	integer	Size that is logically used across all Snapshot copies in the volume, in bytes.
used_percent	integer	SUM of (physical-used, shared_refs, compression_saved_in_plane0, vbn_zero, future_blk_cnt), as a percentage.

snapshot

Name	Type	Description
autodelete_enabled	boolean	Specifies whether Snapshot copy autodelete is currently enabled on this volume.
autodelete_trigger	string	Specifies when the system should trigger an autodelete of Snapshot copies. When set to <i>volume</i> , autodelete is triggered based on volume fullness. When set to <i>snap_reserve</i> , autodelete is triggered based on Snapshot reserve fullness. The default value is <i>volume</i> .
reserve_available	integer	Size available for Snapshot copies within the Snapshot copy reserve, in bytes.
reserve_percent	integer	The space that has been set aside as a reserve for Snapshot copy usage, in percent.
reserve_size	integer	Size in the volume that has been set aside as a reserve for Snapshot copy usage, in bytes.
space_used_percent	integer	Percentage of snapshot reserve size that has been used.
used	integer	The total space used by Snapshot copies in the volume, in bytes.

space

Name	Type	Description
afs_total	integer	Total size of AFS, excluding snap-reserve, in bytes.
available	integer	The available space, in bytes.
available_percent	integer	The space available, as a percent.
block_storage_inactive_user_data	integer	The size that is physically used in the block storage of the volume and has a cold temperature. In bytes. This parameter is only supported if the volume is in an aggregate that is either attached to a cloud store or could be attached to a cloud store.
block_storage_inactive_user_data_percent	integer	Percentage of size that is physically used in the performance tier of the volume.
capacity_tier_footprint	integer	Space used by capacity tier for this volume in the FabricPool aggregate, in bytes.
cross_volume_dedupe_metafiles_footprint	integer	Cross volume deduplication metadata footprint, in bytes.
cross_volume_dedupe_metafiles_temporary_footprint	integer	Cross volume temporary deduplication metadata footprint, in bytes.
dedupe_metafiles_footprint	integer	Deduplication metadata footprint, in bytes.
dedupe_metafiles_temporary_footprint	integer	Temporary deduplication metadata footprint, in bytes.
delayed_free_footprint	integer	Delayed free blocks footprint, in bytes.
expected_available	integer	Size that should be available for the volume, irrespective of available size in the aggregate, in bytes.

Name	Type	Description
file_operation_metadata	integer	File operation metadata footprint, in bytes.
filesystem_size	integer	Total usable size of the volume, in bytes.
filesystem_size_fixed	boolean	Specifies whether the file system is to remain of the same size when set to true or to grow when set to false. This option is automatically set to true when a volume becomes SnapMirrored.
footprint	integer	Data used for this volume in the aggregate, in bytes.
fractional_reserve	integer	Used to change the amount of space reserved for overwrites of reserved objects in a volume.
full_threshold_percent	integer	Volume full threshold percentage at which EMS warnings can be sent.
local_tier_footprint	integer	Space used by the local tier for this volume in the aggregate, in bytes.
logical_space	logical_space	
metadata	integer	Space used by the volume metadata in the aggregate, in bytes.
nearly_full_threshold_percent	integer	Volume nearly full threshold percentage at which EMS warnings can be sent.
over_provisioned	integer	The amount of space not available for this volume in the aggregate, in bytes.
overwrite_reserve	integer	Reserved space for overwrites, in bytes.
overwrite_reserve_used	integer	Overwrite logical reserve space used, in bytes.

Name	Type	Description
percent_used	integer	Percentage of the volume size that is used.
performance_tier_footprint	integer	Space used by the performance tier for this volume in the FabricPool aggregate, in bytes.
physical_used	integer	Size that is physically used in the volume, in bytes.
physical_used_percent	integer	Size that is physically used in the volume, as a percentage.
size	integer	Total provisioned size. The default size is equal to the minimum size of 20MB, in bytes.
size_available_for_snapshots	integer	Available space for Snapshot copies from snap-reserve, in bytes.
snapmirror_destination_footprint	integer	SnapMirror destination footprint, in bytes.
snapshot	snapshot	
snapshot_reserve_unusable	integer	Snapshot reserve that is not available for Snapshot copy creation, in bytes.
snapshot_spill	integer	Space used by the snapshot copies beyond the snap-reserve, in bytes.
total_footprint	integer	Data and metadata used for this volume in the aggregate, in bytes.
used	integer	The virtual space used (includes volume reserves) before storage efficiency, in bytes.
used_by_afs	integer	The space used by Active Filesystem, in bytes.
user_data	integer	User data, in bytes.

Name	Type	Description
volume_guarantee_footprint	integer	Space reserved for future writes in the volume, in bytes.

iops_raw

The number of I/O operations observed at the storage object. This can be used along with delta time to calculate the rate of I/O operations per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

latency_raw

The raw latency in microseconds observed at the storage object. This can be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

cloud

These are raw performance numbers (IOPS and latency) for the cloud store. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster. These numbers are relevant only for volumes hosted on FabricPools.

Name	Type	Description
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This can be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This can be divided by the raw IOPS value to calculate the average latency per I/O operation.
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

flexcache_raw

Performance numbers for FlexCache used to measure cache effectiveness.

Name	Type	Description
cache_miss_blocks	integer	Blocks retrieved from origin in case of a cache miss. This can be divided by the raw client_requested_blocks and multiplied by 100 to calculate the cache miss percentage.
client_requested_blocks	integer	Total blocks requested by the client.
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
timestamp	string	The timestamp of the performance data.

throughput_raw

Throughput bytes observed at the storage object. This can be used along with delta time to calculate the rate of throughput bytes per unit of time.

Name	Type	Description
other	integer	Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on.
read	integer	Performance metric for read I/O operations.
total	integer	Performance metric aggregated over all types of I/O operations.
write	integer	Performance metric for write I/O operations.

statistics

These are raw performance numbers, such as IOPS latency and throughput. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.

Name	Type	Description
cloud	cloud	These are raw performance numbers (IOPS and latency) for the cloud store. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster. These numbers are relevant only for volumes hosted on FabricPools.
flexcache_raw	flexcache_raw	Performance numbers for FlexCache used to measure cache effectiveness.
iops_raw	iops_raw	The number of I/O operations observed at the storage object. This can be used along with delta time to calculate the rate of I/O operations per unit of time.
latency_raw	latency_raw	The raw latency in microseconds observed at the storage object. This can be divided by the raw IOPS value to calculate the average latency per I/O operation.

Name	Type	Description
status	string	Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data.
throughput_raw	throughput_raw	Throughput bytes observed at the storage object. This can be used along with delta time to calculate the rate of throughput bytes per unit of time.
timestamp	string	The timestamp of the performance data.

svm

SVM containing the volume. Required on POST.

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

tiering

Name	Type	Description
min_cooling_days	integer	<p>This parameter specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the cloud tier. Note that this parameter is only used for tiering purposes and does not affect the reporting of inactive data. The value specified should be greater than the frequency with which applications in the volume shift between different sets of data. This parameter cannot be set when volume tiering policy is either "none" or "all". The default value of this parameter depends on the volume's tiering policy. See the tiering policy section of this documentation for corresponding default values. If the tiering policy on the volume gets changed, then this parameter will be reset to the default value corresponding to the new tiering policy.</p>
object_tags	array[string]	<p>This parameter specifies tags of a volume for objects stored on a FabricPool-enabled aggregate. Each tag is a key,value pair and should be in the format "key=value".</p>

Name	Type	Description
policy	string	<p>Policy that determines whether the user data blocks of a volume in a FabricPool will be tiered to the cloud store when they become cold. FabricPool combines flash (performance tier) with a cloud store into a single aggregate. Temperature of a volume block increases if it is accessed frequently and decreases when it is not. Valid in POST or PATCH. all &dash; This policy allows tiering of both Snapshot copies and active file system user data to the cloud store as soon as possible by ignoring the temperature on the volume blocks. auto &dash; This policy allows tiering of both snapshot and active file system user data to the cloud store none &dash; Volume blocks will not be tiered to the cloud store. snapshot_only &dash; This policy allows tiering of only the volume Snapshot copies not associated with the active file system. The default tiering policy is "snapshot-only" for a FlexVol and "none" for a FlexGroup. The default minimum cooling period for the "snapshot-only" tiering policy is 2 days and for the "auto" tiering policy is 31 days.</p>

Name	Type	Description
supported	boolean	This parameter specifies whether or not FabricPools are selected when provisioning a FlexGroup without specifying "aggregates.name" or "aggregates.uuid". Only FabricPool aggregates are used if this parameter is set to true and only non FabricPool aggregates are used if this parameter is set to false. Tiering support for a FlexGroup can be changed by moving all of the constituents to the required aggregates. Note that in order to tier data, not only does the volume need to support tiering by using FabricPools, the tiering "policy" must not be 'none'. A volume that uses FabricPools but has a tiering "policy" of 'none' supports tiering, but will not tier any data.

volume

Name	Type	Description
_links	_links	
access_time_enabled	boolean	Indicates whether or not access time updates are enabled on the volume.
activity_tracking	activity_tracking	
aggregates	array[aggregates]	Aggregate hosting the volume. Required on POST.
analytics	analytics	
anti_ransomware	anti_ransomware	Anti-ransomware related information of the volume.

Name	Type	Description
anti_ransomware_state	string	<p>The Anti-ransomware state of the volume. If no "anti_ransomware_state" property is specified, the volume inherits the value from its parent SVM's "anti_ransomware_default_volume_state" property. If this value is "disabled", Anti-ransomware is disabled on the volume. If this value is "enabled", Anti-ransomware is enabled on the volume and alerts are raised if any suspect is detected for those volumes. If this value is "dry_run", Anti-ransomware is enabled in the dry-run or learning mode on the volume. The "dry_run" state is same as the "enabled" state except that the analytics data is used here for learning. No alerts are raised for any detections or violations. If this value is "paused", Anti-ransomware is paused on the volume. Additionally, three more states are available, which are only valid for GET. If this value is "disable_in_progress", Anti-ransomware monitoring is being disabled and a cleanup operation is in effect. If this value is "enable_paused", Anti-ransomware is paused on the volume from its earlier enabled state. If this value is "dry_run_paused", Anti-ransomware monitoring is paused on the volume from its earlier dry_run state. For POST, the valid Anti-ransomware states are only "disabled", "enabled" and "dry_run", whereas for PATCH, "paused" is also valid along with the three valid states for POST.</p>
application	application	
autosize	autosize	
clone	clone	

Name	Type	Description
cloud_retrieval_policy	string	This parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are "default" policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot_only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved. "on_read" policy retrieves tiered data for all client driven data reads. "never" policy never retrieves tiered data. "promote" policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot_only'. If the tiering policy is 'snapshot_only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud and if tiering policy is 'none' then all data is retrieved.
comment	string	A comment for the volume. Valid in POST or PATCH.
consistency_group	consistency_group	Consistency group the volume is part of.
constituents	array[constituents]	

Name	Type	Description
constituents_per_aggregate	integer	Specifies the number of times to iterate over the aggregates listed with the "aggregates.name" or "aggregates.uuid" when creating or expanding a FlexGroup volume. If a volume is being created on a single aggregate, the system creates a flexible volume if the "constituents_per_aggregate" field is not specified, or a FlexGroup volume if it is specified. If a volume is being created on multiple aggregates, the system always creates a FlexGroup volume. The root constituent of a FlexGroup volume is always placed on the first aggregate in the list.
convert_unicode	boolean	Specifies whether directory Unicode format conversion is enabled when directories are accessed by NFS clients.
create_time	string	Creation time of the volume. This field is generated when the volume is created.
efficiency	efficiency	
encryption	encryption	
error_state	error_state	
files	files	
flash_pool	flash_pool	
flexcache_endpoint_type	string	FlexCache endpoint type. none ‐ The volume is neither a FlexCache nor origin of any FlexCache. cache ‐ The volume is a FlexCache volume. origin ‐ The volume is origin of a FlexCache volume.
flexgroup	flexgroup	
guarantee	guarantee	

Name	Type	Description
is_object_store	boolean	Specifies whether the volume is provisioned for an object store server.
is_svm_root	boolean	Specifies whether the volume is a root volume of the SVM it belongs to.
language	string	Language encoding setting for volume. If no language is specified, the volume inherits its SVM language encoding setting.
max_dir_size	integer	Maximum directory size. This value sets maximum size, in bytes, to which a directory can grow. The default maximum directory size for FlexVol volumes is model-dependent, and optimized for the size of system memory. Before increasing the maximum directory size, involve technical support.
metric	metric	Performance numbers, such as IOPS, latency and throughput.
movement	movement	Volume movement. All attributes are modify, that is, not writable through POST. Set PATCH state to destination_aggregate to initiate a volume move operation. Volume movement on FlexGroup constituents are not supported.
name	string	Volume name. The name of volume must start with an alphabetic character (a to z or A to Z) or an underscore (_). The name must be 197 or fewer characters in length for FlexGroups, and 203 or fewer characters in length for all other types of volumes. Volume names must be unique within an SVM. Required on POST.
nas	nas	

Name	Type	Description
qos	qos	QoS information
queue_for_encryption	boolean	Specifies whether the volume is queued for encryption.
quota	quota	Quotas track the space or file usage of a user, group, or qtree in a FlexVol or a FlexGroup volume.
scheduled_snapshot_naming_scheme	string	<p>Naming Scheme for automatic Snapshot copies:</p> <ul style="list-style-type: none"> • create_time - Automatic Snapshot copies are saved as per the start of their current date and time. • ordinal - Latest automatic snapshot copy is saved as <scheduled_frequency>.0 and subsequent copies will follow the create_time naming convention.</scheduled_frequency>
size	integer	Physical size of the volume, in bytes. The minimum size for a FlexVol volume is 20MB and the minimum size for a FlexGroup volume is 200MB per constituent. The recommended size for a FlexGroup volume is a minimum of 100GB per constituent. For all volumes, the default size is equal to the minimum size.
snaplock	snaplock	
snapmirror	snapmirror	Specifies attributes for SnapMirror protection.
snapshot_count	integer	Number of Snapshot copies in the volume.
snapshot_policy	snapshot_policy	This is a reference to the Snapshot copy policy.
space	space	

Name	Type	Description
state	string	Volume state. Client access is supported only when volume is online and junctioned. Taking volume to offline or restricted state removes its junction path and blocks client access. When volume is in restricted state some operations like parity reconstruction and iron on commit are allowed. The 'mixed' state applies to FlexGroup volumes only and cannot be specified as a target state. An 'error' state implies that the volume is not in a state to serve data.
statistics	statistics	These are raw performance numbers, such as IOPS latency and throughput. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.
status	array[string]	Describes the current status of a volume.

Name	Type	Description
style	string	The style of the volume. If "style" is not specified, the volume type is determined based on the specified aggregates. Specifying a single aggregate, without "constituents_per_aggregate", creates a flexible volume. Specifying multiple aggregates, or a single aggregate with "constituents_per_aggregate", creates a FlexGroup. Specifying a volume "style" creates a volume of that type. For example, if the style is "flexvol" you must specify a single aggregate. If the style is "flexgroup", the system either uses the specified aggregates or automatically provisions aggregates if there are no specified aggregates. The style "flexgroup_constituent" is not supported when creating a volume. flexvol ‐ flexible volumes and FlexClone volumes flexgroup ‐ FlexGroup volumes flexgroup_constituent ‐ FlexGroup constituents.
svm	svm	SVM containing the volume. Required on POST.
tiering	tiering	
type	string	Type of the volume. rw ‐ read-write volume. dp ‐ data-protection volume. ls ‐ load-sharing <code>dp</code> volume. Valid in GET.

Name	Type	Description
use_mirrored_aggregates	boolean	Specifies whether mirrored aggregates are selected when provisioning a FlexGroup without specifying "aggregates.name" or "aggregates.uuid". Only mirrored aggregates are used if this parameter is set to 'true' and only unmirrored aggregates are used if this parameter is set to 'false'. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is 'true' for a MetroCluster configuration and is 'false' for a non-MetroCluster configuration.
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 • readOnly: 1 • Introduced in: 9.6

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.

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