



# Manage NVMe namespaces

## ONTAP 9.6 REST API reference

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# Manage NVMe namespaces

## Storage namespaces endpoint overview

### Overview

An NVMe namespace is a collection of addressable logical blocks presented to hosts connected to the storage virtual machine using the NVMe over Fabrics protocol.

The NVMe namespace REST API allows you to create, update, delete and discover NVMe namespaces.

In ONTAP, an NVMe namespace is located within a volume. Optionally, it can be located within a qtree in a volume.

An NVMe namespace is created to a specified size using thin or thick provisioning as determined by the volume on which it is created. NVMe namespaces support being cloned. An NVMe namespace cannot be renamed, resized, or moved to a different volume. NVMe namespaces do not support the assignment of a QoS policy for performance management, but a QoS policy can be assigned to the volume containing the namespace. See the NVMe namespace object model to learn more about each of the properties supported by the NVMe namespace REST API.

An NVMe namespace must be mapped to an NVMe subsystem to grant access to the subsystem's hosts. Hosts can then access the NVMe namespace and perform I/O using the NVMe over Fabrics protocol.

### Examples

#### Creating an NVMe namespace

This example creates a 300 gigabyte NVMe namespace, with 4096-byte blocks, in SVM *svm1*, volume *vol1*, configured for use by *linux* hosts. The `return_records` query parameter is used to retrieve properties of the newly created NVMe namespace in the POST response.

```
# The API:
POST /api/storage/namespaces

# The call:
curl -X POST 'https://<mgmt-
ip>/api/storage/namespaces?return_records=true' -H 'accept:
application/hal+json' -d '{ "svm": { "name": "svm1" }, "os_type": "linux",
"space": { "block_size": "4096", "size": "300G" }, "name" :
"/vol/vol1/namespacel" }'

# The response:
{
  "num_records": 1,
  "records": [
    {
      "uuid": "dccc3e6-cf4e-498f-bec6-f7897f945669",
      "svm": {
```

```
"uuid": "6bf967fd-2a1c-11e9-b682-005056bbc17d",
"name": "svm1",
"_links": {
  "self": {
    "href": "/api/svm/svms/6bf967fd-2a1c-11e9-b682-005056bbc17d"
  }
},
"name": "/vol/vol1/namespace1",
"location": {
  "namespace": "namespace1",
  "volume": {
    "uuid": "71cd0dba-2a1c-11e9-b682-005056bbc17d",
    "name": "vol1",
    "_links": {
      "self": {
        "href": "/api/storage/volumes/71cd0dba-2a1c-11e9-b682-005056bbc17d"
      }
    }
  }
},
"enabled": true,
"os_type": "linux",
"space": {
  "block_size": 4096,
  "size": 322122547200,
  "used": 0,
  "guarantee": {
    "requested": false,
    "reserved": false
  }
},
"status": {
  "container_state": "online",
  "read_only": false,
  "state": "online"
},
"_links": {
  "self": {
    "href": "/api/storage/namespaces/dccdc3e6-cf4e-498f-bec6-f7897f945669"
  }
}
]
```

```
}
```

## Updating an NVMe namespace

This example sets the `comment` property of an NVMe namespace.

```
# The API:
PATCH /api/storage/namespaces/{uuid}

# The call:
curl -X PATCH 'https://<mgmt-ip>/api/storage/namespaces/dccdc3e6-cf4e-498f-bec6-f7897f945669' -H 'accept: application/hal+json' -d '{ "comment": "Data for the research department." }'
```

## Retrieving NVMe namespaces

This example retrieves summary information for all online NVMe namespaces in SVM `svm1`. The `svm.name` and `status.state` query parameters are to find the desired NVMe namespaces.

```
# The API:
GET /api/storage/namespaces

# The call:
curl -X GET 'https://<mgmt-ip>/api/storage/namespaces?svm.name=svm1&status.state=online' -H 'accept: application/hal+json'

# The response:
{
  "records": [
    {
      "uuid": "5c254d22-96a6-42ac-aad8-0cd9ebd126b6",
      "svm": {
        "name": "svm1"
      },
      "name": "/vol/vol1/namespace2",
      "status": {
        "state": "online"
      },
      "_links": {
        "self": {
          "href": "/api/storage/namespaces/5c254d22-96a6-42ac-aad8-
```

```
0cd9ebd126b6"
  }
}
},
{
  "uuid": "dccdc3e6-cf4e-498f-bec6-f7897f945669",
  "svm": {
    "name": "svm1"
  },
  "name": "/vol/vol1/namespace1",
  "status": {
    "state": "online"
  },
  "_links": {
    "self": {
      "href": "/api/storage/namespaces/dccdc3e6-cf4e-498f-bec6-
f7897f945669"
    }
  }
},
{
  "uuid": "be732687-20cf-47d2-a0e2-2a989d15661d",
  "svm": {
    "name": "svm1"
  },
  "name": "/vol/vol2/namespace3",
  "status": {
    "state": "online"
  },
  "_links": {
    "self": {
      "href": "/api/storage/namespaces/be732687-20cf-47d2-a0e2-
2a989d15661d"
    }
  }
},
],
"num_records": 3,
"_links": {
  "self": {
    "href": "/api/storage/namespaces?svm.name=svm1&status.state=online"
  }
}
}
```

## Retrieving details for a specific NVMe namespace

In this example, the `fields` query parameter is used to request all fields, including advanced fields, that would not otherwise be returned by default for the NVMe namespace.

```
# The API:
GET /api/storage/namespaces/{uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/storage/namespaces/dccdc3e6-cf4e-498f-
bec6-f7897f945669?fields=**' -H 'accept: application/hal+json'

# The response:
{
  "uuid": "dccdc3e6-cf4e-498f-bec6-f7897f945669",
  "svm": {
    "uuid": "6bf967fd-2a1c-11e9-b682-005056bbc17d",
    "name": "svm1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/6bf967fd-2a1c-11e9-b682-005056bbc17d"
      }
    }
  },
  "name": "/vol/vol1/namespacel",
  "location": {
    "namespace": "namespacel",
    "volume": {
      "uuid": "71cd0dba-2a1c-11e9-b682-005056bbc17d",
      "name": "vol1",
      "_links": {
        "self": {
          "href": "/api/storage/volumes/71cd0dba-2a1c-11e9-b682-
005056bbc17d"
        }
      }
    }
  },
  "auto_delete": false,
  "enabled": true,
  "comment": "Data for the research department.",
  "os_type": "linux",
  "space": {
    "block_size": 4096,
    "size": 322122547200,
    "used": 0,
```

```

    "guarantee": {
      "requested": false,
      "reserved": false
    }
  },
  "status": {
    "container_state": "online",
    "mapped": true,
    "read_only": false,
    "state": "online"
  },
  "subsystem_map": {
    "nsid": "00000001h",
    "anagrpid": "00000001h",
    "subsystem": {
      "uuid": "01f17d05-2be9-11e9-bed2-005056bbc17d",
      "name": "subsystem1",
      "_links": {
        "self": {
          "href": "/api/protocols/nvme/subsystems/01f17d05-2be9-11e9-bed2-005056bbc17d"
        }
      }
    },
    "_links": {
      "self": {
        "href": "/api/protocols/nvme/subsystem-maps/dccdc3e6-cf4e-498f-bec6-f7897f945669/01f17d05-2be9-11e9-bed2-005056bbc17d"
      }
    }
  },
  "_links": {
    "self": {
      "href": "/api/storage/namespaces/dccdc3e6-cf4e-498f-bec6-f7897f945669?fields=**"
    }
  }
}

```

## Cloning NVMe namespaces

A clone of an NVMe namespace is an independent "copy" of the namespace that shares unchanged data blocks with the original. As blocks of the source and clone are modified, unique blocks are written for each. NVMe namespace clones can be created quickly and consume very little space initially. They can be created for the purpose of back-up, or to replicate data for multiple consumers.



An NVMe namespace clone can also be set to auto-delete by setting the `auto_delete` property. If the namespace's volume is configured for automatic deletion, NVMe namespaces that have auto-delete enabled are deleted when a volume is nearly full to reclaim a target amount of free space in the volume.

### Creating a new NVMe namespace clone

You create an NVMe namespace clone as you create any NVMe namespace — a POST to [/storage/namespaces](#). Set `clone.source.uuid` or `clone.source.name` to identify the source NVMe namespace from which the clone is created. The NVMe namespace clone and its source must reside in the same volume.

The source NVMe namespace can reside in a Snapshot copy, in which case, the `clone.source.name` field must be used to identify it. Add `/.snapshot/<snapshot_name>` to the path after the volume name to identify the Snapshot copy. For example `/vol/vol1/.snapshot/snap1/namespace1`.

```
# The API:
POST /api/storage/namespaces

# The call:
curl -X POST 'https://<mgmt-ip>/api/storage/namespaces' -H 'accept:
application/hal+json' -d '{ "svm": { "name": "svm1" }, "name":
"/vol/vol1/namespace2clone1", "clone": { "source": { "name":
"/vol/vol1/namespace2" } } }'
```

### Over-writing an existing NVMe namespace's data as a clone of another

You can over-write an existing NVMe namespace as a clone of another. You do this as a PATCH on the NVMe namespace to overwrite — a PATCH to [/storage/namespaces/{uuid}](#). Set the `clone.source.uuid` or `clone.source.name` property to identify the source NVMe namespace from which the clone data is taken. The NVMe namespace clone and its source must reside in the same volume.

When used in a PATCH, the patched NVMe namespace's data is over-written as a clone of the source and the following properties are preserved from the patched namespace unless otherwise specified as part of the PATCH: `auto_delete`, `subsystem_map`, `status.state`, and `uuid`.

```
# The API:
PATCH /api/storage/namespaces/{uuid}

# The call:
curl -X PATCH 'https://<mgmt-ip>/api/storage/namespaces/dccdc3e6-cf4e-
498f-bec6-f7897f945669' -H 'accept: application/hal+json' -d '{ "clone": {
"source": { "name": "/vol/vol1/namespace2" } } }'
```

## Deleting an NVMe namespace

```
# The API:
DELETE /api/storage/namespaces/{uuid}

# The call:
curl -X DELETE 'https://<mgmt-ip>/api/storage/namespaces/5c254d22-96a6-42ac-aad8-0cd9ebd126b6' -H 'accept: application/hal+json'
```

## Retrieve NVMe namespaces

GET /storage/namespaces

Retrieves NVMe namespaces.

### Expensive properties

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

- `auto_delete`
- `subsystem_map.*`
- `status.mapped`

### Related ONTAP commands

- `vserver nvme namespace show`
- `vserver nvme subsystem map show`

### Learn more

- [DOC /storage/namespaces](#) to learn more and examples.

### Parameters

Name	Type	In	Required	Description
<code>status.container_state</code>	string	query	False	Filter by <code>status.container_state</code>
<code>status.state</code>	string	query	False	Filter by <code>status.state</code>

Name	Type	In	Required	Description
status.read_only	boolean	query	False	Filter by status.read_only
status.mapped	boolean	query	False	Filter by status.mapped
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
name	string	query	False	Filter by name
space.size	integer	query	False	Filter by space.size
space.used	integer	query	False	Filter by space.used
space.guarantee.reserved	boolean	query	False	Filter by space.guarantee.reserved
space.guarantee.requested	boolean	query	False	Filter by space.guarantee.requested
space.block_size	integer	query	False	Filter by space.block_size
subsystem_map.nsid	string	query	False	Filter by subsystem_map.nsid
subsystem_map.anagrp_id	string	query	False	Filter by subsystem_map.anagrp_id
subsystem_map.subsystem.name	string	query	False	Filter by subsystem_map.subsystem.name
subsystem_map.subsystem.uuid	string	query	False	Filter by subsystem_map.subsystem.uuid
enabled	boolean	query	False	Filter by enabled

<b>Name</b>	<b>Type</b>	<b>In</b>	<b>Required</b>	<b>Description</b>
auto_delete	boolean	query	False	Filter by auto_delete
os_type	string	query	False	Filter by os_type
location.namespace	string	query	False	Filter by location.namespace
location.volume.name	string	query	False	Filter by location.volume.name
location.volume.uuid	string	query	False	Filter by location.volume.uuid
location.qtree.id	integer	query	False	Filter by location.qtree.id
location.qtree.name	string	query	False	Filter by location.qtree.name
uuid	string	query	False	Filter by uuid
comment	string	query	False	Filter by comment
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned.

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached.
order_by	array[string]	query	False	Order results by specified fields and optional [asc

## Response

Status: 200, Ok

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

## Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "clone": {
      "source": {
        "name": "/vol/volume1/namespace1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    },
    "comment": "string",
    "location": {
      "namespace": "namespace1",
      "qtree": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "id": 1,
        "name": "qt1"
      },
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "volume1",
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
      }
    },
    "name": "/vol/volume1/qtree1/namespace1",
  }
}
```

```
"os_type": "hyper_v",
"space": {
  "block_size": 512,
  "size": 1073741824,
  "used": 0
},
"status": {
  "container_state": "online",
  "state": "online"
},
"subsystem_map": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "anagrpid": "00103050h",
  "nsid": "00000001h",
  "subsystem": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
}
```

## Error

Status: Default, Error

Name	Type	Description
error	error	

### Example error

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

### Definitions



## See Definitions

href

Name	Type	Description
href	string	

\_links

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

\_links

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

source

The source NVMe namespace for a namespace clone operation. This can be specified using property `clone.source.uuid` or `clone.source.name`. If both properties are supplied, they must refer to the same namespace.

Valid in POST to create a new NVMe namespace as a clone of the source.

Valid in PATCH to overwrite an existing NVMe namespace's data as a clone of another.

Name	Type	Description
name	string	The fully qualified path name of the clone source NVMe namespace composed of a "/vol" prefix, the volume name, the (optional) qtree name and base name of the namespace. Valid in POST and PATCH.
uuid	string	The unique identifier of the clone source NVMe namespace. Valid in POST and PATCH.

clone

This sub-object is used in POST to create a new NVMe namespace as a clone of an existing namespace, or PATCH to overwrite an existing namespace as a clone of another. Setting a property in this sub-object indicates that a namespace clone is desired.

When used in a PATCH, the patched NVMe namespace's data is over-written as a clone of the source and the following properties are preserved from the patched namespace unless otherwise specified as

part of the PATCH: `auto_delete` (unless specified in the request), `subsystem_map`, `status.state`, and `uuid`.

Name	Type	Description
<code>source</code>	<a href="#">source</a>	<p>The source NVMe namespace for a namespace clone operation. This can be specified using property <code>clone.source.uuid</code> or <code>clone.source.name</code>. If both properties are supplied, they must refer to the same namespace.</p> <p>Valid in POST to create a new NVMe namespace as a clone of the source.</p> <p>Valid in PATCH to overwrite an existing NVMe namespace's data as a clone of another.</p>

#### qtree

The qtree in which the NVMe namespace is optionally located. Valid in POST.

If properties `name` and `location.qtree.name` and/or `location.qtree.uuid` are specified in the same request, they must refer to the same qtree.

NVMe namespaces do not support rename.

Name	Type	Description
<code>_links</code>	<a href="#">_links</a>	
<code>id</code>	integer	The identifier for the qtree, unique within the qtree's volume.
<code>name</code>	string	The name of the qtree.

#### volume

The volume in which the NVMe namespace is located. Valid in POST.

If properties `name` and `location.volume.name` and/or `location.volume.uuid` are specified in the same request, they must refer to the same volume.

NVMe namespaces do not support movement between volumes.

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

Name	Type	Description
name	string	The name of the volume.
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"> <li>example: 028baa66-41bd-11e9-81d5-00a0986138f7</li> </ul>

#### location

The location of the NVMe namespace within the ONTAP cluster. Valid in POST.

NVMe namespaces do not support rename, or movement between volumes.

Name	Type	Description
namespace	string	<p>The base name component of the NVMe namespace. Valid in POST.</p> <p>If properties <code>name</code> and <code>location.namespace</code> are specified in the same request, they must refer to the base name.</p> <p>NVMe namespaces do not support rename.</p>
qtree	qtree	<p>The qtree in which the NVMe namespace is optionally located. Valid in POST.</p> <p>If properties <code>name</code> and <code>location.qtree.name</code> and/or <code>location.qtree.uuid</code> are specified in the same request, they must refer to the same qtree.</p> <p>NVMe namespaces do not support rename.</p>

Name	Type	Description
volume	volume	<p>The volume in which the NVMe namespace is located. Valid in POST.</p> <p>If properties <code>name</code> and <code>location.volume.name</code> and/or <code>location.volume.uuid</code> are specified in the same request, they must refer to the same volume.</p> <p>NVMe namespaces do not support movement between volumes.</p>

guarantee

Properties that request and report the space guarantee for the NVMe namespace.

Name	Type	Description
requested	boolean	<p>The requested space reservation policy for the NVMe namespace. If <i>true</i>, a space reservation is requested for the namespace; if <i>false</i>, the namespace is thin provisioned. Guaranteeing a space reservation request for a namespace requires that the volume in which the namespace resides also be space reserved and that the fractional reserve for the volume be 100%.</p> <p>The space reservation policy for an NVMe namespace is determined by ONTAP.</p> <ul style="list-style-type: none"> <li>• readOnly: 1</li> </ul>

Name	Type	Description
reserved	boolean	<p>Reports if the NVMe namespace is space guaranteed.</p> <p>This property is <i>true</i> if a space guarantee is requested and the containing volume and aggregate support the request. This property is <i>false</i> if a space guarantee is not requested or if a space guarantee is requested and either the containing volume and aggregate do not support the request.</p>

space

The storage space related properties of the NVMe namespace.

Name	Type	Description
block_size	integer	<p>The size of blocks in the namespace in bytes.</p> <p>Valid in POST when creating an NVMe namespace that is not a clone of another. Disallowed in POST when creating a namespace clone. Valid in POST.</p>
guarantee	<a href="#">guarantee</a>	Properties that request and report the space guarantee for the NVMe namespace.
size	integer	<p>The total provisioned size of the NVMe namespace.</p> <p>NVMe namespaces do not support resize.</p> <p>For more information, see <i>Size properties</i> in the <i>docs</i> section of the ONTAP REST API documentation.</p> <ul style="list-style-type: none"> <li>• example: 1073741824</li> <li>• readCreate: 1</li> </ul>

Name	Type	Description
used	integer	<p>The amount of space consumed by the main data stream of the NVMe namespace.</p> <p>This value is the total space consumed in the volume by the NVMe namespace, including filesystem overhead, but excluding prefix and suffix streams. Due to internal filesystem overhead and the many ways NVMe filesystems and applications utilize blocks within a namespace, this value does not necessarily reflect actual consumption/availability from the perspective of the filesystem or application. Without specific knowledge of how the namespace blocks are utilized outside of ONTAP, this property should not be used and an indicator for an out-of-space condition.</p> <p>For more information, see <i>Size properties</i> in the <i>docs</i> section of the ONTAP REST API documentation.</p> <ul style="list-style-type: none"> <li>• readOnly: 1</li> </ul>

#### status

Status information about the NVMe namespace.

Name	Type	Description
container_state	string	The state of the volume and aggregate that contain the NVMe namespace. Namespaces are only available when their containers are available.

Name	Type	Description
mapped	boolean	Reports if the NVMe namespace is mapped to an NVMe subsystem.  There is an added cost to retrieving this property's value. It is not populated for either a collection GET or an instance GET unless it is explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.
read_only	boolean	Reports if the NVMe namespace allows only read access.
state	string	The state of the NVMe namespace. Normal states for a namespace are <i>online</i> and <i>offline</i> . Other states indicate errors.

#### subsystem

An NVMe subsystem maintains configuration state and NVMe namespace access control for a set of NVMe-connected hosts.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
name	string	The name of the NVMe subsystem.
uuid	string	The unique identifier of the NVMe subsystem.

#### subsystem\_map

The NVMe subsystem with which the NVMe namespace is associated. A namespace can be mapped to zero (0) or one (1) subsystems.

There is an added cost to retrieving property values for `subsystem_map`. They are not populated for either a collection GET or an instance GET unless explicitly requested using the `fields` query parameter. See [DOC Requesting specific fields](#) to learn more.

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

Name	Type	Description
anagrpId	string	The Asymmetric Namespace Access Group ID (ANAGRPID) of the NVMe namespace.  The format for an ANAGRPID is 8 hexadecimal digits (zero-filled) followed by a lower case "h".
nsid	string	The NVMe namespace identifier. This is an identifier used by an NVMe controller to provide access to the NVMe namespace.  The format for an NVMe namespace identifier is 8 hexadecimal digits (zero-filled) followed by a lower case "h".
subsystem	<a href="#">subsystem</a>	An NVMe subsystem maintains configuration state and NVMe namespace access control for a set of NVMe-connected hosts.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

nvme\_namespace

An NVMe namespace is a collection of addressable logical blocks presented to hosts connected to the storage virtual machine using the NVMe over Fabrics protocol.

In ONTAP, an NVMe namespace is located within a volume. Optionally, it can be located within a qtree in a volume.

An NVMe namespace is created to a specified size using thin or thick provisioning as determined by the volume on which it is created. NVMe namespaces support being cloned. An NVMe namespace cannot be renamed, resized, or moved to a different volume. NVMe namespaces do not support the assignment of a QoS policy for performance management, but a QoS policy can be assigned to the volume containing the namespace. See the NVMe namespace object model to learn more about each of the properties supported by the NVMe namespace REST API.



An NVMe namespace must be mapped to an NVMe subsystem to grant access to the subsystem's hosts. Hosts can then access the NVMe namespace and perform I/O using the NVMe over Fabrics protocol.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
auto_delete	boolean	<p>This property marks the NVMe namespace for auto deletion when the volume containing the namespace runs out of space. This is most commonly set on namespace clones.</p> <p>When set to <i>true</i>, the NVMe namespace becomes eligible for automatic deletion when the volume runs out of space. Auto deletion only occurs when the volume containing the namespace is also configured for auto deletion and free space in the volume decreases below a particular threshold.</p> <p>This property is optional in POST and PATCH. The default value for a new NVMe namespace is <i>false</i>.</p> <p>There is an added cost to retrieving this property's value. It is not populated for either a collection GET or an instance GET unless it is explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.</p>

Name	Type	Description
clone	clone	<p>This sub-object is used in POST to create a new NVMe namespace as a clone of an existing namespace, or PATCH to overwrite an existing namespace as a clone of another. Setting a property in this sub-object indicates that a namespace clone is desired.</p> <p>When used in a PATCH, the patched NVMe namespace's data is over-written as a clone of the source and the following properties are preserved from the patched namespace unless otherwise specified as part of the PATCH: <code>auto_delete</code> (unless specified in the request), <code>subsystem_map</code>, <code>status.state</code>, and <code>uuid</code>.</p>
comment	string	A configurable comment available for use by the administrator. Valid in POST and PATCH.
enabled	boolean	<p>The enabled state of the NVMe namespace. Namespaces can be disabled to prevent access to the namespace. Certain error conditions also cause the namespace to become disabled. If the namespace is disabled, you can consult the <code>state</code> property to determine if the namespace is administratively disabled (<i>offline</i>) or has become disabled as a result of an error. A namespace in an error condition can be brought online by setting the <code>enabled</code> property to <i>true</i> or brought administratively offline by setting the <code>enabled</code> property to <i>false</i>. Upon creation, an NVMe namespace is enabled by default. Valid in PATCH.</p>

Name	Type	Description
location	<a href="#">location</a>	<p>The location of the NVMe namespace within the ONTAP cluster. Valid in POST.</p> <p>NVMe namespaces do not support rename, or movement between volumes.</p> <ul style="list-style-type: none"> <li>• readCreate: 1</li> </ul>
name	string	<p>The fully qualified path name of the NVMe namespace composed of a "/vol" prefix, the volume name, the (optional) qtree name and base name of the namespace. Valid in POST.</p> <p>NVMe namespaces do not support rename, or movement between volumes.</p>
os_type	string	<p>The operating system type of the NVMe namespace.</p> <p>Required in POST when creating an NVMe namespace that is not a clone of another. Disallowed in POST when creating a namespace clone.</p>
space	<a href="#">space</a>	<p>The storage space related properties of the NVMe namespace.</p>
status	<a href="#">status</a>	<p>Status information about the NVMe namespace.</p>

Name	Type	Description
subsystem_map	<a href="#">subsystem_map</a>	<p>The NVMe subsystem with which the NVMe namespace is associated. A namespace can be mapped to zero (0) or one (1) subsystems.</p> <p>There is an added cost to retrieving property values for <code>subsystem_map</code>. They are not populated for either a collection GET or an instance GET unless explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.</p>
svm	<a href="#">svm</a>	SVM, applies only to SVM-scoped objects.
uuid	string	The unique identifier of the NVMe namespace.

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### error

Name	Type	Description
arguments	array[ <a href="#">error_arguments</a> ]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

# Create an NVMe namespace

POST /storage/namespaces

Creates an NVMe namespace.

## Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the NVMe namespace.
- `name`, `location.volume.name` or `location.volume.uuid` - Existing volume in which to create the NVMe namespace.
- `name` or `location.namespace` - Base name for the NVMe namespace.
- `os_type` - Operating system from which the NVMe namespace will be accessed. (Not used for clones, which are created based on the `os_type` of the source NVMe namespace.)
- `space.size` - Size for the NVMe namespace. (Not used for clones, which are created based on the size of the source NVMe namespace.)

## Default property values

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

- `auto_delete` - *false*
- `space.block_size` - *4096*

## Related ONTAP commands

- `volume file clone autodelete`
- `volume file clone create`
- `vserver nvme namespace create`

## Learn more

- [DOC /storage/namespaces](#)

## Request Body

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

Name	Type	Description
auto_delete	boolean	<p>This property marks the NVMe namespace for auto deletion when the volume containing the namespace runs out of space. This is most commonly set on namespace clones.</p> <p>When set to <i>true</i>, the NVMe namespace becomes eligible for automatic deletion when the volume runs out of space. Auto deletion only occurs when the volume containing the namespace is also configured for auto deletion and free space in the volume decreases below a particular threshold.</p> <p>This property is optional in POST and PATCH. The default value for a new NVMe namespace is <i>false</i>.</p> <p>There is an added cost to retrieving this property's value. It is not populated for either a collection GET or an instance GET unless it is explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.</p>
clone	<a href="#">clone</a>	<p>This sub-object is used in POST to create a new NVMe namespace as a clone of an existing namespace, or PATCH to overwrite an existing namespace as a clone of another. Setting a property in this sub-object indicates that a namespace clone is desired.</p> <p>When used in a PATCH, the patched NVMe namespace's data is over-written as a clone of the source and the following properties are preserved from the patched namespace unless otherwise specified as part of the PATCH: <code>auto_delete</code> (unless specified in the request), <code>subsystem_map</code>, <code>status.state</code>, and <code>uuid</code>.</p>

Name	Type	Description
comment	string	A configurable comment available for use by the administrator. Valid in POST and PATCH.
enabled	boolean	The enabled state of the NVMe namespace. Namespaces can be disabled to prevent access to the namespace. Certain error conditions also cause the namespace to become disabled. If the namespace is disabled, you can consult the <code>state</code> property to determine if the namespace is administratively disabled ( <i>offline</i> ) or has become disabled as a result of an error. A namespace in an error condition can be brought online by setting the <code>enabled</code> property to <i>true</i> or brought administratively offline by setting the <code>enabled</code> property to <i>false</i> . Upon creation, an NVMe namespace is enabled by default. Valid in PATCH.
location	location	<p>The location of the NVMe namespace within the ONTAP cluster. Valid in POST.</p> <p>NVMe namespaces do not support rename, or movement between volumes.</p> <ul style="list-style-type: none"> <li>• readCreate: 1</li> </ul>
name	string	<p>The fully qualified path name of the NVMe namespace composed of a <code>"/vol"</code> prefix, the volume name, the (optional) <code>qtree</code> name and base name of the namespace. Valid in POST.</p> <p>NVMe namespaces do not support rename, or movement between volumes.</p>

Name	Type	Description
os_type	string	The operating system type of the NVMe namespace.  Required in POST when creating an NVMe namespace that is not a clone of another. Disallowed in POST when creating a namespace clone.
space	<a href="#">space</a>	The storage space related properties of the NVMe namespace.
status	<a href="#">status</a>	Status information about the NVMe namespace.
subsystem_map	<a href="#">subsystem_map</a>	The NVMe subsystem with which the NVMe namespace is associated. A namespace can be mapped to zero (0) or one (1) subsystems.  There is an added cost to retrieving property values for <code>subsystem_map</code> . They are not populated for either a collection GET or an instance GET unless explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.
svm	<a href="#">svm</a>	SVM, applies only to SVM-scoped objects.
uuid	string	The unique identifier of the NVMe namespace.



## Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "clone": {
    "source": {
      "name": "/vol/volume1/namespace1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "comment": "string",
  "location": {
    "namespace": "namespace1",
    "qtree": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "id": 1,
      "name": "qt1"
    },
    "volume": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "volume1",
      "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
    }
  },
  "name": "/vol/volume1/qtree1/namespace1",
  "os_type": "hyper_v",
  "space": {
    "block_size": 512,
    "size": 1073741824,
    "used": 0
  },
  "status": {
    "container_state": "online",
    "state": "online"
  }
}
```

```

},
"subsystem_map": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
},
"anagrpId": "00103050h",
"nsid": "00000001h",
"subsystem": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
},
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
},
"name": "svm1",
"uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}

```

## Response

Status: 201, Created

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

## Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "clone": {
      "source": {
        "name": "/vol/volume1/namespace1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    },
    "comment": "string",
    "location": {
      "namespace": "namespace1",
      "qtree": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "id": 1,
        "name": "qt1"
      },
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "volume1",
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
      }
    },
    "name": "/vol/volume1/qtree1/namespace1",
  }
}
```

```
"os_type": "hyper_v",
"space": {
  "block_size": 512,
  "size": 1073741824,
  "used": 0
},
"status": {
  "container_state": "online",
  "state": "online"
},
"subsystem_map": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "anagrpid": "00103050h",
  "nsid": "00000001h",
  "subsystem": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
}
```

## Error

Status: Default

## ONTAP Error Response Codes

Error Code	Description
2621462	The supplied SVM does not exist.
2621706	The specified <code>svm.uuid</code> and <code>svm.name</code> do not refer to the same SVM.
2621707	No SVM was specified. Either <code>svm.name</code> or <code>svm.uuid</code> must be supplied.
72090009	An error occurred after successfully creating the NVMe namespace. Some properties were not set.
72090015	An error occurred after successfully creating the NVMe namespace preventing the retrieval of its properties.
72090005	The specified <code>clone.source.uuid</code> and <code>clone.source.name</code> do not refer to the same NVMe namespace.
72090006	The specified <code>clone.source</code> was not found.
72090007	The specified <code>clone.source</code> was not found.
917927	The specified volume was not found.
918236	The specified <code>location.volume.uuid</code> and <code>location.volume.name</code> do not refer to the same volume.
5374858	The volume specified by name is not the same as that specified by <code>location.volume</code> .
5242927	The specified <code>qtree</code> was not found.
5242950	The specified <code>location.qtree.id</code> and <code>location.qtree.name</code> do not refer to the same <code>qtree</code> .
5374860	The <code>qtree</code> specified by name is not the same as that specified by <code>location.qtree</code> .
5374861	The NVMe namespace base name specified by name is not the same as that specified by <code>location.name</code> .
13565952	The NVMe namespace clone request failed.
72090012	The property cannot be specified when creating an NVMe namespace clone. The <code>target</code> property of the error object identifies the property.
72090014	No volume was specified for the NVMe namespace.
72089721	The volume specified is in a load sharing mirror relationship. Namespaces are not supported in load sharing mirrors.

Error Code	Description
72090013	The property is required except when creating an NVMe namespace clone. The <code>target</code> property of the error object identifies the property.
5374862	No NVMe namespace path base name was provided for the namespace.
72089722	A negative size was provided for the NVMe namespace.
72089723	The specified size is too small for the NVMe namespace.
72089724	The specified size is too large for the NVMe namespace.
5374352	An invalid name was provided for the NVMe namespace.
72089725	A LUN or NVMe namespace already exists at the specified path.
72089727	NVMe namespaces cannot be created on an SVM root volume.
72089728	NVMe namespaces cannot be created on a FlexGroup volume.
72089732	An NVMe namespace name can only contain characters A-Z, a-z, 0-9, "-", ".", "_", "{" and "}".
72089720	NVMe namespaces cannot be created in Snapshot copies.
72090033	The <code>clone.source.uuid</code> property is not supported when specifying a source NVMe namespace from a Snapshot copy.

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

## Example error

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

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

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

source

The source NVMe namespace for a namespace clone operation. This can be specified using property `clone.source.uuid` or `clone.source.name`. If both properties are supplied, they must refer to the same namespace.

Valid in POST to create a new NVMe namespace as a clone of the source.

Valid in PATCH to overwrite an existing NVMe namespace's data as a clone of another.

Name	Type	Description
name	string	The fully qualified path name of the clone source NVMe namespace composed of a "/vol" prefix, the volume name, the (optional) qtree name and base name of the namespace. Valid in POST and PATCH.
uuid	string	The unique identifier of the clone source NVMe namespace. Valid in POST and PATCH.

clone

This sub-object is used in POST to create a new NVMe namespace as a clone of an existing namespace, or PATCH to overwrite an existing namespace as a clone of another. Setting a property in this sub-object indicates that a namespace clone is desired.

When used in a PATCH, the patched NVMe namespace's data is over-written as a clone of the source and the following properties are preserved from the patched namespace unless otherwise specified as part of the PATCH: `auto_delete` (unless specified in the request), `subsystem_map`, `status.state`, and `uuid`.



Name	Type	Description
source	source	<p>The source NVMe namespace for a namespace clone operation. This can be specified using property <code>clone.source.uuid</code> or <code>clone.source.name</code>. If both properties are supplied, they must refer to the same namespace.</p> <p>Valid in POST to create a new NVMe namespace as a clone of the source.</p> <p>Valid in PATCH to overwrite an existing NVMe namespace's data as a clone of another.</p>

#### qtree

The qtree in which the NVMe namespace is optionally located. Valid in POST.

If properties `name` and `location.qtree.name` and/or `location.qtree.uuid` are specified in the same request, they must refer to the same qtree.

NVMe namespaces do not support rename.

Name	Type	Description
_links	_links	
id	integer	The identifier for the qtree, unique within the qtree's volume.
name	string	The name of the qtree.

#### volume

The volume in which the NVMe namespace is located. Valid in POST.

If properties `name` and `location.volume.name` and/or `location.volume.uuid` are specified in the same request, they must refer to the same volume.

NVMe namespaces do not support movement between volumes.

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"> <li>• example: 028baa66-41bd-11e9-81d5-00a0986138f7</li> </ul>

location

The location of the NVMe namespace within the ONTAP cluster. Valid in POST.

NVMe namespaces do not support rename, or movement between volumes.

Name	Type	Description
namespace	string	<p>The base name component of the NVMe namespace. Valid in POST.</p> <p>If properties <code>name</code> and <code>location.namespace</code> are specified in the same request, they must refer to the base name.</p> <p>NVMe namespaces do not support rename.</p>
qtree	qtree	<p>The qtree in which the NVMe namespace is optionally located. Valid in POST.</p> <p>If properties <code>name</code> and <code>location.qtree.name</code> and/or <code>location.qtree.uuid</code> are specified in the same request, they must refer to the same qtree.</p> <p>NVMe namespaces do not support rename.</p>

Name	Type	Description
volume	volume	<p>The volume in which the NVMe namespace is located. Valid in POST.</p> <p>If properties <code>name</code> and <code>location.volume.name</code> and/or <code>location.volume.uuid</code> are specified in the same request, they must refer to the same volume.</p> <p>NVMe namespaces do not support movement between volumes.</p>

guarantee

Properties that request and report the space guarantee for the NVMe namespace.

Name	Type	Description
requested	boolean	<p>The requested space reservation policy for the NVMe namespace. If <i>true</i>, a space reservation is requested for the namespace; if <i>false</i>, the namespace is thin provisioned. Guaranteeing a space reservation request for a namespace requires that the volume in which the namespace resides also be space reserved and that the fractional reserve for the volume be 100%.</p> <p>The space reservation policy for an NVMe namespace is determined by ONTAP.</p> <ul style="list-style-type: none"> <li>• readOnly: 1</li> </ul>

Name	Type	Description
reserved	boolean	<p>Reports if the NVMe namespace is space guaranteed.</p> <p>This property is <i>true</i> if a space guarantee is requested and the containing volume and aggregate support the request. This property is <i>false</i> if a space guarantee is not requested or if a space guarantee is requested and either the containing volume and aggregate do not support the request.</p>

space

The storage space related properties of the NVMe namespace.

Name	Type	Description
block_size	integer	<p>The size of blocks in the namespace in bytes.</p> <p>Valid in POST when creating an NVMe namespace that is not a clone of another. Disallowed in POST when creating a namespace clone. Valid in POST.</p>
guarantee	<a href="#">guarantee</a>	Properties that request and report the space guarantee for the NVMe namespace.
size	integer	<p>The total provisioned size of the NVMe namespace.</p> <p>NVMe namespaces do not support resize.</p> <p>For more information, see <i>Size properties</i> in the <i>docs</i> section of the ONTAP REST API documentation.</p> <ul style="list-style-type: none"> <li>• example: 1073741824</li> <li>• readCreate: 1</li> </ul>

Name	Type	Description
used	integer	<p>The amount of space consumed by the main data stream of the NVMe namespace.</p> <p>This value is the total space consumed in the volume by the NVMe namespace, including filesystem overhead, but excluding prefix and suffix streams. Due to internal filesystem overhead and the many ways NVMe filesystems and applications utilize blocks within a namespace, this value does not necessarily reflect actual consumption/availability from the perspective of the filesystem or application. Without specific knowledge of how the namespace blocks are utilized outside of ONTAP, this property should not be used and an indicator for an out-of-space condition.</p> <p>For more information, see <i>Size properties</i> in the <i>docs</i> section of the ONTAP REST API documentation.</p> <ul style="list-style-type: none"> <li>• readOnly: 1</li> </ul>

#### status

Status information about the NVMe namespace.

Name	Type	Description
container_state	string	The state of the volume and aggregate that contain the NVMe namespace. Namespaces are only available when their containers are available.

Name	Type	Description
mapped	boolean	Reports if the NVMe namespace is mapped to an NVMe subsystem.  There is an added cost to retrieving this property's value. It is not populated for either a collection GET or an instance GET unless it is explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.
read_only	boolean	Reports if the NVMe namespace allows only read access.
state	string	The state of the NVMe namespace. Normal states for a namespace are <i>online</i> and <i>offline</i> . Other states indicate errors.

#### subsystem

An NVMe subsystem maintains configuration state and NVMe namespace access control for a set of NVMe-connected hosts.

Name	Type	Description
<code>_links</code>	<a href="#">_links</a>	
name	string	The name of the NVMe subsystem.
uuid	string	The unique identifier of the NVMe subsystem.

#### subsystem\_map

The NVMe subsystem with which the NVMe namespace is associated. A namespace can be mapped to zero (0) or one (1) subsystems.

There is an added cost to retrieving property values for `subsystem_map`. They are not populated for either a collection GET or an instance GET unless explicitly requested using the `fields` query parameter. See [DOC Requesting specific fields](#) to learn more.

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

Name	Type	Description
anagrpid	string	The Asymmetric Namespace Access Group ID (ANAGRPID) of the NVMe namespace.  The format for an ANAGRPID is 8 hexadecimal digits (zero-filled) followed by a lower case "h".
nsid	string	The NVMe namespace identifier. This is an identifier used by an NVMe controller to provide access to the NVMe namespace.  The format for an NVMe namespace identifier is 8 hexadecimal digits (zero-filled) followed by a lower case "h".
subsystem	<a href="#">subsystem</a>	An NVMe subsystem maintains configuration state and NVMe namespace access control for a set of NVMe-connected hosts.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

nvme\_namespace

An NVMe namespace is a collection of addressable logical blocks presented to hosts connected to the storage virtual machine using the NVMe over Fabrics protocol.

In ONTAP, an NVMe namespace is located within a volume. Optionally, it can be located within a qtree in a volume.

An NVMe namespace is created to a specified size using thin or thick provisioning as determined by the volume on which it is created. NVMe namespaces support being cloned. An NVMe namespace cannot be renamed, resized, or moved to a different volume. NVMe namespaces do not support the assignment of a QoS policy for performance management, but a QoS policy can be assigned to the volume containing the namespace. See the NVMe namespace object model to learn more about each of the properties supported by the NVMe namespace REST API.

An NVMe namespace must be mapped to an NVMe subsystem to grant access to the subsystem's hosts. Hosts can then access the NVMe namespace and perform I/O using the NVMe over Fabrics protocol.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
auto_delete	boolean	<p>This property marks the NVMe namespace for auto deletion when the volume containing the namespace runs out of space. This is most commonly set on namespace clones.</p> <p>When set to <i>true</i>, the NVMe namespace becomes eligible for automatic deletion when the volume runs out of space. Auto deletion only occurs when the volume containing the namespace is also configured for auto deletion and free space in the volume decreases below a particular threshold.</p> <p>This property is optional in POST and PATCH. The default value for a new NVMe namespace is <i>false</i>.</p> <p>There is an added cost to retrieving this property's value. It is not populated for either a collection GET or an instance GET unless it is explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.</p>



Name	Type	Description
clone	clone	<p>This sub-object is used in POST to create a new NVMe namespace as a clone of an existing namespace, or PATCH to overwrite an existing namespace as a clone of another. Setting a property in this sub-object indicates that a namespace clone is desired.</p> <p>When used in a PATCH, the patched NVMe namespace's data is over-written as a clone of the source and the following properties are preserved from the patched namespace unless otherwise specified as part of the PATCH: <code>auto_delete</code> (unless specified in the request), <code>subsystem_map</code>, <code>status.state</code>, and <code>uuid</code>.</p>
comment	string	A configurable comment available for use by the administrator. Valid in POST and PATCH.
enabled	boolean	<p>The enabled state of the NVMe namespace. Namespaces can be disabled to prevent access to the namespace. Certain error conditions also cause the namespace to become disabled. If the namespace is disabled, you can consult the <code>state</code> property to determine if the namespace is administratively disabled (<i>offline</i>) or has become disabled as a result of an error. A namespace in an error condition can be brought online by setting the <code>enabled</code> property to <i>true</i> or brought administratively offline by setting the <code>enabled</code> property to <i>false</i>. Upon creation, an NVMe namespace is enabled by default. Valid in PATCH.</p>

Name	Type	Description
location	location	<p>The location of the NVMe namespace within the ONTAP cluster. Valid in POST.</p> <p>NVMe namespaces do not support rename, or movement between volumes.</p> <ul style="list-style-type: none"> <li>• readCreate: 1</li> </ul>
name	string	<p>The fully qualified path name of the NVMe namespace composed of a "/vol" prefix, the volume name, the (optional) qtree name and base name of the namespace. Valid in POST.</p> <p>NVMe namespaces do not support rename, or movement between volumes.</p>
os_type	string	<p>The operating system type of the NVMe namespace.</p> <p>Required in POST when creating an NVMe namespace that is not a clone of another. Disallowed in POST when creating a namespace clone.</p>
space	space	<p>The storage space related properties of the NVMe namespace.</p>
status	status	<p>Status information about the NVMe namespace.</p>

Name	Type	Description
subsystem_map	<a href="#">subsystem_map</a>	The NVMe subsystem with which the NVMe namespace is associated. A namespace can be mapped to zero (0) or one (1) subsystems.  There is an added cost to retrieving property values for <code>subsystem_map</code> . They are not populated for either a collection GET or an instance GET unless explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.
svm	<a href="#">svm</a>	SVM, applies only to SVM-scoped objects.
uuid	string	The unique identifier of the NVMe namespace.

#### \_links

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

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### error

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

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

## Delete an NVMe namespace

```
DELETE /storage/namespaces/{uuid}
```

Deletes an NVMe namespace.

### Related ONTAP commands

- `vserver nvme namespace delete`

### Learn more

- [DOC /storage/namespaces](#)

### Parameters

Name	Type	In	Required	Description
uuid	string	path	True	The unique identifier of the NVMe namespace to delete.
allow_delete_while_mapped	boolean	query	False	Allows deletion of a mapped NVMe namespace. A mapped NVMe namespace might be in use. Deleting a mapped namespace also deletes the namespace map and makes the data no longer available, possibly causing a disruption in the availability of data. <b>This parameter should be used with caution.</b> <ul style="list-style-type: none"> <li>• Default value:</li> </ul>

## Response

Status: 200, Ok

## Error

Status: Default

### ONTAP Error Response Codes

Error Code	Description
72090016	The namespace's aggregate is offline. The aggregate must be online to modify or remove the namespace.
72090017	The namespace's volume is offline. The volume must be online to modify or remove the namespace.
72090006	The specified namespace was not found.
72090007	The specified namespace was not found.

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

### Example error

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

## Definitions

## See Definitions

### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

### error

Name	Type	Description
arguments	array[ <a href="#">error_arguments</a> ]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

## Retrieve an NVMe namespace

GET /storage/namespaces/{uuid}

Retrieves an NVMe namespace.

### Expensive properties

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

- `auto_delete`
- `subsystem_map.*`
- `status.mapped`

### Related ONTAP commands

- `vserver nvme namespace show`
- `vserver nvme subsystem map show`

## Learn more

- [DOC /storage/namespaces](#)

## Parameters

Name	Type	In	Required	Description
uuid	string	path	True	The unique identifier of the NVMe namespace to retrieve.
fields	array[string]	query	False	Specify the fields to return.

## Response

Status: 200, Ok

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

Name	Type	Description
auto_delete	boolean	<p>This property marks the NVMe namespace for auto deletion when the volume containing the namespace runs out of space. This is most commonly set on namespace clones.</p> <p>When set to <i>true</i>, the NVMe namespace becomes eligible for automatic deletion when the volume runs out of space. Auto deletion only occurs when the volume containing the namespace is also configured for auto deletion and free space in the volume decreases below a particular threshold.</p> <p>This property is optional in POST and PATCH. The default value for a new NVMe namespace is <i>false</i>.</p> <p>There is an added cost to retrieving this property's value. It is not populated for either a collection GET or an instance GET unless it is explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.</p>
clone	<a href="#">clone</a>	<p>This sub-object is used in POST to create a new NVMe namespace as a clone of an existing namespace, or PATCH to overwrite an existing namespace as a clone of another. Setting a property in this sub-object indicates that a namespace clone is desired.</p> <p>When used in a PATCH, the patched NVMe namespace's data is over-written as a clone of the source and the following properties are preserved from the patched namespace unless otherwise specified as part of the PATCH: <code>auto_delete</code> (unless specified in the request), <code>subsystem_map</code>, <code>status.state</code>, and <code>uuid</code>.</p>



Name	Type	Description
comment	string	A configurable comment available for use by the administrator. Valid in POST and PATCH.
enabled	boolean	The enabled state of the NVMe namespace. Namespaces can be disabled to prevent access to the namespace. Certain error conditions also cause the namespace to become disabled. If the namespace is disabled, you can consult the <code>state</code> property to determine if the namespace is administratively disabled ( <i>offline</i> ) or has become disabled as a result of an error. A namespace in an error condition can be brought online by setting the <code>enabled</code> property to <i>true</i> or brought administratively offline by setting the <code>enabled</code> property to <i>false</i> . Upon creation, an NVMe namespace is enabled by default. Valid in PATCH.
location	location	<p>The location of the NVMe namespace within the ONTAP cluster. Valid in POST.</p> <p>NVMe namespaces do not support rename, or movement between volumes.</p> <ul style="list-style-type: none"> <li>• readCreate: 1</li> </ul>
name	string	<p>The fully qualified path name of the NVMe namespace composed of a <code>"/vol"</code> prefix, the volume name, the (optional) qtree name and base name of the namespace. Valid in POST.</p> <p>NVMe namespaces do not support rename, or movement between volumes.</p>

Name	Type	Description
os_type	string	<p>The operating system type of the NVMe namespace.</p> <p>Required in POST when creating an NVMe namespace that is not a clone of another. Disallowed in POST when creating a namespace clone.</p>
space	<a href="#">space</a>	The storage space related properties of the NVMe namespace.
status	<a href="#">status</a>	Status information about the NVMe namespace.
subsystem_map	<a href="#">subsystem_map</a>	<p>The NVMe subsystem with which the NVMe namespace is associated. A namespace can be mapped to zero (0) or one (1) subsystems.</p> <p>There is an added cost to retrieving property values for <code>subsystem_map</code>. They are not populated for either a collection GET or an instance GET unless explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.</p>
svm	<a href="#">svm</a>	SVM, applies only to SVM-scoped objects.
uuid	string	The unique identifier of the NVMe namespace.

## Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "clone": {
    "source": {
      "name": "/vol/volume1/namespace1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "comment": "string",
  "location": {
    "namespace": "namespace1",
    "qtree": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "id": 1,
      "name": "qt1"
    },
    "volume": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "volume1",
      "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
    }
  },
  "name": "/vol/volume1/qtree1/namespace1",
  "os_type": "hyper_v",
  "space": {
    "block_size": 512,
    "size": 1073741824,
    "used": 0
  },
  "status": {
    "container_state": "online",
    "state": "online"
  }
}
```

```

},
"subsystem_map": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
},
"anagrpId": "00103050h",
"nsid": "00000001h",
"subsystem": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
},
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
},
"name": "svm1",
"uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}

```

## Error

Status: Default

### ONTAP Error Response Codes

Error Code	Description
72090006	The specified namespace was not found.
72090007	The specified namespace was not found.

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	<a href="#">href</a>	

source

The source NVMe namespace for a namespace clone operation. This can be specified using property `clone.source.uuid` or `clone.source.name`. If both properties are supplied, they must refer to the same namespace.

Valid in POST to create a new NVMe namespace as a clone of the source.

Valid in PATCH to overwrite an existing NVMe namespace's data as a clone of another.

Name	Type	Description
name	string	The fully qualified path name of the clone source NVMe namespace composed of a "/vol" prefix, the volume name, the (optional) qtree name and base name of the namespace. Valid in POST and PATCH.
uuid	string	The unique identifier of the clone source NVMe namespace. Valid in POST and PATCH.

clone

This sub-object is used in POST to create a new NVMe namespace as a clone of an existing namespace, or PATCH to overwrite an existing namespace as a clone of another. Setting a property in this sub-object indicates that a namespace clone is desired.

When used in a PATCH, the patched NVMe namespace's data is over-written as a clone of the source and the following properties are preserved from the patched namespace unless otherwise specified as part of the PATCH: `auto_delete` (unless specified in the request), `subsystem_map`, `status.state`, and `uuid`.

Name	Type	Description
source	source	<p>The source NVMe namespace for a namespace clone operation. This can be specified using property <code>clone.source.uuid</code> or <code>clone.source.name</code>. If both properties are supplied, they must refer to the same namespace.</p> <p>Valid in POST to create a new NVMe namespace as a clone of the source.</p> <p>Valid in PATCH to overwrite an existing NVMe namespace's data as a clone of another.</p>

#### qtree

The qtree in which the NVMe namespace is optionally located. Valid in POST.

If properties `name` and `location.qtree.name` and/or `location.qtree.uuid` are specified in the same request, they must refer to the same qtree.

NVMe namespaces do not support rename.

Name	Type	Description
_links	_links	
id	integer	The identifier for the qtree, unique within the qtree's volume.
name	string	The name of the qtree.

#### volume

The volume in which the NVMe namespace is located. Valid in POST.

If properties `name` and `location.volume.name` and/or `location.volume.uuid` are specified in the same request, they must refer to the same volume.

NVMe namespaces do not support movement between volumes.

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"> <li>• example: 028baa66-41bd-11e9-81d5-00a0986138f7</li> </ul>

location

The location of the NVMe namespace within the ONTAP cluster. Valid in POST.

NVMe namespaces do not support rename, or movement between volumes.

Name	Type	Description
namespace	string	<p>The base name component of the NVMe namespace. Valid in POST.</p> <p>If properties <code>name</code> and <code>location.namespace</code> are specified in the same request, they must refer to the base name.</p> <p>NVMe namespaces do not support rename.</p>
qtree	qtree	<p>The qtree in which the NVMe namespace is optionally located. Valid in POST.</p> <p>If properties <code>name</code> and <code>location.qtree.name</code> and/or <code>location.qtree.uuid</code> are specified in the same request, they must refer to the same qtree.</p> <p>NVMe namespaces do not support rename.</p>



Name	Type	Description
volume	volume	<p>The volume in which the NVMe namespace is located. Valid in POST.</p> <p>If properties <code>name</code> and <code>location.volume.name</code> and/or <code>location.volume.uuid</code> are specified in the same request, they must refer to the same volume.</p> <p>NVMe namespaces do not support movement between volumes.</p>

guarantee

Properties that request and report the space guarantee for the NVMe namespace.

Name	Type	Description
requested	boolean	<p>The requested space reservation policy for the NVMe namespace. If <i>true</i>, a space reservation is requested for the namespace; if <i>false</i>, the namespace is thin provisioned. Guaranteeing a space reservation request for a namespace requires that the volume in which the namespace resides also be space reserved and that the fractional reserve for the volume be 100%.</p> <p>The space reservation policy for an NVMe namespace is determined by ONTAP.</p> <ul style="list-style-type: none"> <li>• readOnly: 1</li> </ul>

Name	Type	Description
reserved	boolean	<p>Reports if the NVMe namespace is space guaranteed.</p> <p>This property is <i>true</i> if a space guarantee is requested and the containing volume and aggregate support the request. This property is <i>false</i> if a space guarantee is not requested or if a space guarantee is requested and either the containing volume and aggregate do not support the request.</p>

space

The storage space related properties of the NVMe namespace.

Name	Type	Description
block_size	integer	<p>The size of blocks in the namespace in bytes.</p> <p>Valid in POST when creating an NVMe namespace that is not a clone of another. Disallowed in POST when creating a namespace clone. Valid in POST.</p>
guarantee	<a href="#">guarantee</a>	Properties that request and report the space guarantee for the NVMe namespace.
size	integer	<p>The total provisioned size of the NVMe namespace.</p> <p>NVMe namespaces do not support resize.</p> <p>For more information, see <i>Size properties</i> in the <i>docs</i> section of the ONTAP REST API documentation.</p> <ul style="list-style-type: none"> <li>• example: 1073741824</li> <li>• readCreate: 1</li> </ul>

Name	Type	Description
used	integer	<p>The amount of space consumed by the main data stream of the NVMe namespace.</p> <p>This value is the total space consumed in the volume by the NVMe namespace, including filesystem overhead, but excluding prefix and suffix streams. Due to internal filesystem overhead and the many ways NVMe filesystems and applications utilize blocks within a namespace, this value does not necessarily reflect actual consumption/availability from the perspective of the filesystem or application. Without specific knowledge of how the namespace blocks are utilized outside of ONTAP, this property should not be used and an indicator for an out-of-space condition.</p> <p>For more information, see <i>Size properties</i> in the <i>docs</i> section of the ONTAP REST API documentation.</p> <ul style="list-style-type: none"> <li>• readOnly: 1</li> </ul>

#### status

Status information about the NVMe namespace.

Name	Type	Description
container_state	string	The state of the volume and aggregate that contain the NVMe namespace. Namespaces are only available when their containers are available.

Name	Type	Description
mapped	boolean	Reports if the NVMe namespace is mapped to an NVMe subsystem.  There is an added cost to retrieving this property's value. It is not populated for either a collection GET or an instance GET unless it is explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.
read_only	boolean	Reports if the NVMe namespace allows only read access.
state	string	The state of the NVMe namespace. Normal states for a namespace are <i>online</i> and <i>offline</i> . Other states indicate errors.

#### subsystem

An NVMe subsystem maintains configuration state and NVMe namespace access control for a set of NVMe-connected hosts.

Name	Type	Description
<code>_links</code>	<a href="#">_links</a>	
name	string	The name of the NVMe subsystem.
uuid	string	The unique identifier of the NVMe subsystem.

#### subsystem\_map

The NVMe subsystem with which the NVMe namespace is associated. A namespace can be mapped to zero (0) or one (1) subsystems.

There is an added cost to retrieving property values for `subsystem_map`. They are not populated for either a collection GET or an instance GET unless explicitly requested using the `fields` query parameter. See [DOC Requesting specific fields](#) to learn more.

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

Name	Type	Description
anagrpId	string	The Asymmetric Namespace Access Group ID (ANAGRPID) of the NVMe namespace.  The format for an ANAGRPID is 8 hexadecimal digits (zero-filled) followed by a lower case "h".
nsid	string	The NVMe namespace identifier. This is an identifier used by an NVMe controller to provide access to the NVMe namespace.  The format for an NVMe namespace identifier is 8 hexadecimal digits (zero-filled) followed by a lower case "h".
subsystem	<a href="#">subsystem</a>	An NVMe subsystem maintains configuration state and NVMe namespace access control for a set of NVMe-connected hosts.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

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

## Update an NVMe namespace

PATCH `/storage/namespaces/{uuid}`

Updates an NVMe namespace.

### Related ONTAP commands

- `volume file clone autodelete`
- `vserver nvme namespace modify`

### Learn more

- [DOC /storage/namespaces](#)

### Parameters

Name	Type	In	Required	Description
uuid	string	path	True	The unique identifier of the NVMe namespace to update.

### Request Body

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

Name	Type	Description
auto_delete	boolean	<p>This property marks the NVMe namespace for auto deletion when the volume containing the namespace runs out of space. This is most commonly set on namespace clones.</p> <p>When set to <i>true</i>, the NVMe namespace becomes eligible for automatic deletion when the volume runs out of space. Auto deletion only occurs when the volume containing the namespace is also configured for auto deletion and free space in the volume decreases below a particular threshold.</p> <p>This property is optional in POST and PATCH. The default value for a new NVMe namespace is <i>false</i>.</p> <p>There is an added cost to retrieving this property's value. It is not populated for either a collection GET or an instance GET unless it is explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.</p>
clone	<a href="#">clone</a>	<p>This sub-object is used in POST to create a new NVMe namespace as a clone of an existing namespace, or PATCH to overwrite an existing namespace as a clone of another. Setting a property in this sub-object indicates that a namespace clone is desired.</p> <p>When used in a PATCH, the patched NVMe namespace's data is over-written as a clone of the source and the following properties are preserved from the patched namespace unless otherwise specified as part of the PATCH: <code>auto_delete</code> (unless specified in the request), <code>subsystem_map</code>, <code>status.state</code>, and <code>uuid</code>.</p>

Name	Type	Description
comment	string	A configurable comment available for use by the administrator. Valid in POST and PATCH.
enabled	boolean	The enabled state of the NVMe namespace. Namespaces can be disabled to prevent access to the namespace. Certain error conditions also cause the namespace to become disabled. If the namespace is disabled, you can consult the <code>state</code> property to determine if the namespace is administratively disabled ( <i>offline</i> ) or has become disabled as a result of an error. A namespace in an error condition can be brought online by setting the <code>enabled</code> property to <i>true</i> or brought administratively offline by setting the <code>enabled</code> property to <i>false</i> . Upon creation, an NVMe namespace is enabled by default. Valid in PATCH.
location	location	<p>The location of the NVMe namespace within the ONTAP cluster. Valid in POST.</p> <p>NVMe namespaces do not support rename, or movement between volumes.</p> <ul style="list-style-type: none"> <li>• readCreate: 1</li> </ul>
name	string	<p>The fully qualified path name of the NVMe namespace composed of a <code>"/vol"</code> prefix, the volume name, the (optional) <code>qtree</code> name and base name of the namespace. Valid in POST.</p> <p>NVMe namespaces do not support rename, or movement between volumes.</p>



Name	Type	Description
os_type	string	<p>The operating system type of the NVMe namespace.</p> <p>Required in POST when creating an NVMe namespace that is not a clone of another. Disallowed in POST when creating a namespace clone.</p>
space	<a href="#">space</a>	The storage space related properties of the NVMe namespace.
status	<a href="#">status</a>	Status information about the NVMe namespace.
subsystem_map	<a href="#">subsystem_map</a>	<p>The NVMe subsystem with which the NVMe namespace is associated. A namespace can be mapped to zero (0) or one (1) subsystems.</p> <p>There is an added cost to retrieving property values for <code>subsystem_map</code>. They are not populated for either a collection GET or an instance GET unless explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.</p>
svm	<a href="#">svm</a>	SVM, applies only to SVM-scoped objects.
uuid	string	The unique identifier of the NVMe namespace.

## Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "clone": {
    "source": {
      "name": "/vol/volume1/namespace1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "comment": "string",
  "location": {
    "namespace": "namespace1",
    "qtree": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "id": 1,
      "name": "qt1"
    },
    "volume": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "volume1",
      "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
    }
  },
  "name": "/vol/volume1/qtree1/namespace1",
  "os_type": "hyper_v",
  "space": {
    "block_size": 512,
    "size": 1073741824,
    "used": 0
  },
  "status": {
    "container_state": "online",
    "state": "online"
  }
}
```

```
},
"subsystem_map": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
},
"anagrpid": "00103050h",
"nsid": "00000001h",
"subsystem": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
},
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
},
"name": "svm1",
"uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
```

## Response

Status: 200, Ok

## Error

Status: Default

ONTAP Error Response Codes

Error Code	Description
72090010	An error occurred after successfully overwriting data for the namespace as a clone. Some properties were not modified.
72090011	An error occurred after successfully modifying some of the properties of the namespace. Some properties were not modified.
72090016	The namespace's aggregate is offline. The aggregate must be online to modify or remove the namespace.
72090017	The namespace's volume is offline. The volume must be online to modify or remove the namespace.
72090005	The specified <code>clone.source.uuid</code> and <code>clone.source.name</code> do not refer to the same LUN.
72090006	The specified namespace was not found. This can apply to <code>clone.source</code> or the target namespace. The <code>target</code> property of the error object identifies the property.
72090007	The specified namespace was not found. This can apply to <code>clone.source</code> or the target namespace. The <code>target</code> property of the error object identifies the property.
13565952	The namespace clone request failed.

Name	Type	Description
error	error	

### Example error

```

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

```

# Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

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

source

The source NVMe namespace for a namespace clone operation. This can be specified using property `clone.source.uuid` or `clone.source.name`. If both properties are supplied, they must refer to the same namespace.

Valid in POST to create a new NVMe namespace as a clone of the source.

Valid in PATCH to overwrite an existing NVMe namespace's data as a clone of another.

Name	Type	Description
name	string	The fully qualified path name of the clone source NVMe namespace composed of a "/vol" prefix, the volume name, the (optional) qtree name and base name of the namespace. Valid in POST and PATCH.
uuid	string	The unique identifier of the clone source NVMe namespace. Valid in POST and PATCH.

clone

This sub-object is used in POST to create a new NVMe namespace as a clone of an existing namespace, or PATCH to overwrite an existing namespace as a clone of another. Setting a property in this sub-object indicates that a namespace clone is desired.

When used in a PATCH, the patched NVMe namespace's data is over-written as a clone of the source and the following properties are preserved from the patched namespace unless otherwise specified as part of the PATCH: `auto_delete` (unless specified in the request), `subsystem_map`, `status.state`, and `uuid`.

Name	Type	Description
source	source	<p>The source NVMe namespace for a namespace clone operation. This can be specified using property <code>clone.source.uuid</code> or <code>clone.source.name</code>. If both properties are supplied, they must refer to the same namespace.</p> <p>Valid in POST to create a new NVMe namespace as a clone of the source.</p> <p>Valid in PATCH to overwrite an existing NVMe namespace's data as a clone of another.</p>

#### qtree

The qtree in which the NVMe namespace is optionally located. Valid in POST.

If properties `name` and `location.qtree.name` and/or `location.qtree.uuid` are specified in the same request, they must refer to the same qtree.

NVMe namespaces do not support rename.

Name	Type	Description
_links	<a href="#">_links</a>	
id	integer	The identifier for the qtree, unique within the qtree's volume.
name	string	The name of the qtree.

#### volume

The volume in which the NVMe namespace is located. Valid in POST.

If properties `name` and `location.volume.name` and/or `location.volume.uuid` are specified in the same request, they must refer to the same volume.

NVMe namespaces do not support movement between volumes.

Name	Type	Description
_links	<a href="#">_links</a>	
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"> <li>example: 028baa66-41bd-11e9-81d5-00a0986138f7</li> </ul>

location

The location of the NVMe namespace within the ONTAP cluster. Valid in POST.

NVMe namespaces do not support rename, or movement between volumes.

Name	Type	Description
namespace	string	<p>The base name component of the NVMe namespace. Valid in POST.</p> <p>If properties <code>name</code> and <code>location.namespace</code> are specified in the same request, they must refer to the base name.</p> <p>NVMe namespaces do not support rename.</p>
qtree	qtree	<p>The qtree in which the NVMe namespace is optionally located. Valid in POST.</p> <p>If properties <code>name</code> and <code>location.qtree.name</code> and/or <code>location.qtree.uuid</code> are specified in the same request, they must refer to the same qtree.</p> <p>NVMe namespaces do not support rename.</p>



Name	Type	Description
volume	volume	<p>The volume in which the NVMe namespace is located. Valid in POST.</p> <p>If properties <code>name</code> and <code>location.volume.name</code> and/or <code>location.volume.uuid</code> are specified in the same request, they must refer to the same volume.</p> <p>NVMe namespaces do not support movement between volumes.</p>

guarantee

Properties that request and report the space guarantee for the NVMe namespace.

Name	Type	Description
requested	boolean	<p>The requested space reservation policy for the NVMe namespace. If <i>true</i>, a space reservation is requested for the namespace; if <i>false</i>, the namespace is thin provisioned. Guaranteeing a space reservation request for a namespace requires that the volume in which the namespace resides also be space reserved and that the fractional reserve for the volume be 100%.</p> <p>The space reservation policy for an NVMe namespace is determined by ONTAP.</p> <ul style="list-style-type: none"> <li>• readOnly: 1</li> </ul>

Name	Type	Description
reserved	boolean	<p>Reports if the NVMe namespace is space guaranteed.</p> <p>This property is <i>true</i> if a space guarantee is requested and the containing volume and aggregate support the request. This property is <i>false</i> if a space guarantee is not requested or if a space guarantee is requested and either the containing volume and aggregate do not support the request.</p>

space

The storage space related properties of the NVMe namespace.

Name	Type	Description
block_size	integer	<p>The size of blocks in the namespace in bytes.</p> <p>Valid in POST when creating an NVMe namespace that is not a clone of another. Disallowed in POST when creating a namespace clone. Valid in POST.</p>
guarantee	<a href="#">guarantee</a>	Properties that request and report the space guarantee for the NVMe namespace.
size	integer	<p>The total provisioned size of the NVMe namespace.</p> <p>NVMe namespaces do not support resize.</p> <p>For more information, see <i>Size properties</i> in the <i>docs</i> section of the ONTAP REST API documentation.</p> <ul style="list-style-type: none"> <li>• example: 1073741824</li> <li>• readCreate: 1</li> </ul>

Name	Type	Description
used	integer	<p>The amount of space consumed by the main data stream of the NVMe namespace.</p> <p>This value is the total space consumed in the volume by the NVMe namespace, including filesystem overhead, but excluding prefix and suffix streams. Due to internal filesystem overhead and the many ways NVMe filesystems and applications utilize blocks within a namespace, this value does not necessarily reflect actual consumption/availability from the perspective of the filesystem or application. Without specific knowledge of how the namespace blocks are utilized outside of ONTAP, this property should not be used and an indicator for an out-of-space condition.</p> <p>For more information, see <i>Size properties</i> in the <i>docs</i> section of the ONTAP REST API documentation.</p> <ul style="list-style-type: none"> <li>• readOnly: 1</li> </ul>

status

Status information about the NVMe namespace.

Name	Type	Description
container_state	string	The state of the volume and aggregate that contain the NVMe namespace. Namespaces are only available when their containers are available.

Name	Type	Description
mapped	boolean	Reports if the NVMe namespace is mapped to an NVMe subsystem.  There is an added cost to retrieving this property's value. It is not populated for either a collection GET or an instance GET unless it is explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.
read_only	boolean	Reports if the NVMe namespace allows only read access.
state	string	The state of the NVMe namespace. Normal states for a namespace are <i>online</i> and <i>offline</i> . Other states indicate errors.

#### subsystem

An NVMe subsystem maintains configuration state and NVMe namespace access control for a set of NVMe-connected hosts.

Name	Type	Description
<code>_links</code>	<a href="#">_links</a>	
name	string	The name of the NVMe subsystem.
uuid	string	The unique identifier of the NVMe subsystem.

#### subsystem\_map

The NVMe subsystem with which the NVMe namespace is associated. A namespace can be mapped to zero (0) or one (1) subsystems.

There is an added cost to retrieving property values for `subsystem_map`. They are not populated for either a collection GET or an instance GET unless explicitly requested using the `fields` query parameter. See [DOC Requesting specific fields](#) to learn more.

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

Name	Type	Description
anagrpId	string	The Asymmetric Namespace Access Group ID (ANAGRPID) of the NVMe namespace.  The format for an ANAGRPID is 8 hexadecimal digits (zero-filled) followed by a lower case "h".
nsid	string	The NVMe namespace identifier. This is an identifier used by an NVMe controller to provide access to the NVMe namespace.  The format for an NVMe namespace identifier is 8 hexadecimal digits (zero-filled) followed by a lower case "h".
subsystem	<a href="#">subsystem</a>	An NVMe subsystem maintains configuration state and NVMe namespace access control for a set of NVMe-connected hosts.

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

nvme\_namespace

An NVMe namespace is a collection of addressable logical blocks presented to hosts connected to the storage virtual machine using the NVMe over Fabrics protocol.

In ONTAP, an NVMe namespace is located within a volume. Optionally, it can be located within a qtree in a volume.

An NVMe namespace is created to a specified size using thin or thick provisioning as determined by the volume on which it is created. NVMe namespaces support being cloned. An NVMe namespace cannot be renamed, resized, or moved to a different volume. NVMe namespaces do not support the assignment of a QoS policy for performance management, but a QoS policy can be assigned to the volume containing the namespace. See the NVMe namespace object model to learn more about each of the properties supported by the NVMe namespace REST API.

An NVMe namespace must be mapped to an NVMe subsystem to grant access to the subsystem's hosts. Hosts can then access the NVMe namespace and perform I/O using the NVMe over Fabrics protocol.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
auto_delete	boolean	<p>This property marks the NVMe namespace for auto deletion when the volume containing the namespace runs out of space. This is most commonly set on namespace clones.</p> <p>When set to <i>true</i>, the NVMe namespace becomes eligible for automatic deletion when the volume runs out of space. Auto deletion only occurs when the volume containing the namespace is also configured for auto deletion and free space in the volume decreases below a particular threshold.</p> <p>This property is optional in POST and PATCH. The default value for a new NVMe namespace is <i>false</i>.</p> <p>There is an added cost to retrieving this property's value. It is not populated for either a collection GET or an instance GET unless it is explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.</p>

Name	Type	Description
clone	clone	<p>This sub-object is used in POST to create a new NVMe namespace as a clone of an existing namespace, or PATCH to overwrite an existing namespace as a clone of another. Setting a property in this sub-object indicates that a namespace clone is desired.</p> <p>When used in a PATCH, the patched NVMe namespace's data is over-written as a clone of the source and the following properties are preserved from the patched namespace unless otherwise specified as part of the PATCH: <code>auto_delete</code> (unless specified in the request), <code>subsystem_map</code>, <code>status.state</code>, and <code>uuid</code>.</p>
comment	string	A configurable comment available for use by the administrator. Valid in POST and PATCH.
enabled	boolean	<p>The enabled state of the NVMe namespace. Namespaces can be disabled to prevent access to the namespace. Certain error conditions also cause the namespace to become disabled. If the namespace is disabled, you can consult the <code>state</code> property to determine if the namespace is administratively disabled (<i>offline</i>) or has become disabled as a result of an error. A namespace in an error condition can be brought online by setting the <code>enabled</code> property to <i>true</i> or brought administratively offline by setting the <code>enabled</code> property to <i>false</i>. Upon creation, an NVMe namespace is enabled by default. Valid in PATCH.</p>

Name	Type	Description
location	location	<p>The location of the NVMe namespace within the ONTAP cluster. Valid in POST.</p> <p>NVMe namespaces do not support rename, or movement between volumes.</p> <ul style="list-style-type: none"> <li>• readCreate: 1</li> </ul>
name	string	<p>The fully qualified path name of the NVMe namespace composed of a "/vol" prefix, the volume name, the (optional) qtree name and base name of the namespace. Valid in POST.</p> <p>NVMe namespaces do not support rename, or movement between volumes.</p>
os_type	string	<p>The operating system type of the NVMe namespace.</p> <p>Required in POST when creating an NVMe namespace that is not a clone of another. Disallowed in POST when creating a namespace clone.</p>
space	space	<p>The storage space related properties of the NVMe namespace.</p>
status	status	<p>Status information about the NVMe namespace.</p>



Name	Type	Description
subsystem_map	<a href="#">subsystem_map</a>	<p>The NVMe subsystem with which the NVMe namespace is associated. A namespace can be mapped to zero (0) or one (1) subsystems.</p> <p>There is an added cost to retrieving property values for <code>subsystem_map</code>. They are not populated for either a collection GET or an instance GET unless explicitly requested using the <code>fields</code> query parameter. See <a href="#">DOC Requesting specific fields</a> to learn more.</p>
svm	<a href="#">svm</a>	SVM, applies only to SVM-scoped objects.
uuid	string	The unique identifier of the NVMe namespace.

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### error

Name	Type	Description
arguments	array[ <a href="#">error_arguments</a> ]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

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