



# **Manage SAN vVol bindings**

## **ONTAP 9.15.1 REST API reference**

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# Manage SAN vVol bindings

## Protocols SAN vvol-bindings endpoint overview

### Overview

A VMware virtual volume (vVol) binding is an association between a LUN of class `protocol_endpoint` and a LUN of class `vvol`. Class `protocol_endpoint` LUNs are mapped to igroups and granted access using the same configuration as class `regular` LUNs. When a class `vvol` LUN is bound to a mapped class `protocol_endpoint` LUN, VMware can access the class `vvol` LUN through the class `protocol_endpoint` LUN mapping.

Class `protocol_endpoint` and `vvol` LUNs support many-to-many vVol bindings. A LUN of one class can be bound to zero or more LUNs of the opposite class.

The vVol binding between any two specific LUNs is reference counted. When a REST POST is executed for a vVol binding that already exists, the vVol binding reference count is incremented. When a REST DELETE is executed, the vVol binding reference count is decremented. Only when the vVol binding count reaches zero, or the query parameter `delete_all_references` is supplied, is the vVol binding destroyed.

The vVol binding REST API allows you to create, delete, and discover vVol bindings.

### Examples

#### Creating a vVol binding

```
# The API:
POST /api/protocols/san/vvol-bindings

# The call:
curl -X POST 'https://<mgmt-ip>/api/protocols/san/vvol-bindings' -H
'Accept: application/hal+json' -d '{ "svm": { "name": "svm1" },
"protocol_endpoint": { "name": "/vol/vol1/pe1" }, "vvol" : { "name":
"/vol/vol1/vvol1" } }'
```

#### Retrieving all vVol bindings

```
# The API:
GET /api/protocols/san/vvol-bindings

# The call:
curl -X GET 'https://<mgmt-ip>/api/protocols/san/vvol-bindings' -H
'Accept: application/hal+json'

# The response:
```

```

{
  "records": [
    {
      "protocol_endpoint": {
        "uuid": "2aab57f3-dc5d-491e-80d2-15c7ed5dd5c4",
        "name": "/vol/vol1/pe1",
        "_links": {
          "self": {
            "href": "/api/storage/luns/2aab57f3-dc5d-491e-80d2-15c7ed5dd5c4"
          }
        }
      },
      "vvol": {
        "uuid": "28c02623-42fa-4f5f-a984-a02044bfc005",
        "name": "/vol/vol1/vvol1",
        "_links": {
          "self": {
            "href": "/api/storage/luns/28c02623-42fa-4f5f-a984-a02044bfc005"
          }
        }
      },
      "_links": {
        "self": {
          "href": "/api/protocols/san/vvol-bindings/2aab57f3-dc5d-491e-80d2-15c7ed5dd5c4/28c02623-42fa-4f5f-a984-a02044bfc005"
        }
      }
    },
    {
      "protocol_endpoint": {
        "uuid": "2aab57f3-dc5d-491e-80d2-15c7ed5dd5c4",
        "name": "/vol/vol1/pe1",
        "_links": {
          "self": {
            "href": "/api/storage/luns/2aab57f3-dc5d-491e-80d2-15c7ed5dd5c4"
          }
        }
      },
      "vvol": {
        "uuid": "a8d4ba93-918f-40ad-a1e4-4d7b244bdcdf",
        "name": "/vol/vol1/vvol2",
        "_links": {
          "self": {
            "href": "/api/storage/luns/a8d4ba93-918f-40ad-a1e4-4d7b244bdcdf"
          }
        }
      }
    }
  ]
}

```

```

    },
    "_links": {
      "self": {
        "href": "/api/protocols/san/vvol-bindings/2aab57f3-dc5d-491e-80d2-15c7ed5dd5c4/a8d4ba93-918f-40ad-a1e4-4d7b244bdcdf"
      }
    }
  }
],
"num_records": 2,
"_links": {
  "self": {
    "href": "/api/protocols/san/vvol-bindings"
  }
}
}
}

```

## Retrieving a specific vVol binding

```

# The API:
GET /api/protocols/san/vvol-bindings/{protocol_endpoint.uuid}/{vvol.uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/protocols/san/vvol-bindings/2aab57f3-dc5d-491e-80d2-15c7ed5dd5c4/28c02623-42fa-4f5f-a984-a02044bfc005' -H 'Accept: application/hal+json'

# The response:
{
  "protocol_endpoint": {
    "uuid": "2aab57f3-dc5d-491e-80d2-15c7ed5dd5c4",
    "name": "/vol/vol1/pe1",
    "_links": {
      "self": {
        "href": "/api/storage/luns/2aab57f3-dc5d-491e-80d2-15c7ed5dd5c4"
      }
    }
  },
  "vvol": {
    "uuid": "28c02623-42fa-4f5f-a984-a02044bfc005",
    "name": "/vol/vol1/vvol1",
    "_links": {
      "self": {
        "href": "/api/storage/luns/28c02623-42fa-4f5f-a984-a02044bfc005"
      }
    }
  }
}

```

```

    }
  },
  "svm": {
    "uuid": "bf295ccc-a6bb-11eb-93e8-005056bb470f",
    "name": "svm1",
    "_links": {
      "self": {
        "href": "/api/svm/svms/bf295ccc-a6bb-11eb-93e8-005056bb470f"
      }
    }
  },
  "id": 2411392,
  "is_optimal": true,
  "count": 1,
  "_links": {
    "self": {
      "href": "/api/protocols/san/vvol-bindings/2aab57f3-dc5d-491e-80d2-15c7ed5dd5c4/28c02623-42fa-4f5f-a984-a02044bfc005"
    }
  }
}

```

## Deleting a vVol binding

```

# The API:
DELETE /api/protocols/san/vvol-
bindings/{protocol_endpoint.uuid}/{vvol.uuid}

# The call:
curl -X DELETE 'https://<mgmt-ip>/api/protocols/san/vvol-
bindings/2aab57f3-dc5d-491e-80d2-15c7ed5dd5c4/28c02623-42fa-4f5f-a984-
a02044bfc005' -H 'Accept: application/hal+json'

```

## Retrieve vVol bindings

GET /protocols/san/vvol-bindings

**Introduced In:** 9.10

Retrieves vVol bindings.

## Related ONTAP commands

- `lun bind show`
- [DOC /protocols/san/vvol-bindings](#)

## Parameters

Name	Type	In	Required	Description
protocol_endpoint.uuid	string	query	False	Filter by protocol_endpoint.uuid
protocol_endpoint.name	string	query	False	Filter by protocol_endpoint.name
secondary_id	string	query	False	Filter by secondary_id <ul style="list-style-type: none"><li>• Introduced in: 9.13</li></ul>
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
is_optimal	boolean	query	False	Filter by is_optimal
count	integer	query	False	Filter by count
id	integer	query	False	Filter by id
vvol.uuid	string	query	False	Filter by vvol.uuid
vvol.name	string	query	False	Filter by vvol.name
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.

Name	Type	In	Required	Description
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. <ul style="list-style-type: none"> <li>• Default value: 1</li> </ul>
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. <ul style="list-style-type: none"> <li>• Default value: 1</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul>
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	The number of records in the response.
records	array[ <a href="#">vvol_binding</a> ]	



## Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "count": 1,
      "id": 1,
      "is_optimal": 1,
      "protocol_endpoint": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "/vol/volume1/lun1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "secondary_id": "0000D20000010000h",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "vvol": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      }
    }
  ]
}
```

```
    },
    "name": "/vol/volume1/lun1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  }
}
]
```

## Error

Status: Default, Error

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

\_links

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

protocol\_endpoint

The class `protocol_endpoint` LUN in the vVol binding. Required in POST.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The fully qualified path name of the LUN composed of the "/vol" prefix, the volume name, the (optional) qtree name, and base name of the LUN. Valid in POST and PATCH.
uuid	string	The unique identifier of the LUN.

svm

The SVM in which the vVol binding and its LUNs are located. Required in POST.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.

Name	Type	Description
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vvol

The class `vvol` LUN in the vVol binding. Required in POST.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
name	string	The fully qualified path name of the LUN composed of the "/vol" prefix, the volume name, the (optional) qtree name, and base name of the LUN. Valid in POST and PATCH.
uuid	string	The unique identifier of the LUN.

vvol\_binding

A VMware virtual volume (vVol) binding is an association between a LUN of class `protocol_endpoint` and a LUN of class `vvol`. Class `protocol_endpoint` LUNs are mapped to igroups and granted access using the same configuration as class `regular` LUNs. When a class `vvol` LUN is bound to a mapped class `protocol_endpoint` LUN, VMware can access the class `vvol` LUN through the class `protocol_endpoint` LUN mapping.

Class `protocol_endpoint` and `vvol` LUNs support many-to-many vVol bindings. A LUN of one class can be bound to zero or more LUNs of the opposite class.

The vVol binding between any two specific LUNs is reference counted. When a REST POST is executed for a vVol binding that already exists, the vVol binding reference count is incremented. When a REST DELETE is executed, the vVol binding reference count is decremented. Only when the vVol binding count reaches zero, or the query parameter `delete_all_references` is supplied, is the vVol binding destroyed.

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

Name	Type	Description
count	integer	<p>The vVol binding between any two specific LUNs is reference counted. When a REST POST is executed for a vVol binding that already exists, the vVol binding reference count is incremented. When a REST DELETE is executed, the vVol binding reference count is decremented. Only when the vVol binding count reaches zero, or the query parameter <code>delete_all_references</code> is supplied, is the vVol binding destroyed.</p>
id	integer	<p>The ONTAP internal identifier assigned to the vVol binding. The bind identifier is unique amongst all class <code>vvol</code> LUNs bound to the same class <code>protocol_endpoint</code> LUN.</p> <p>This property was included in early releases of the REST API for vVols and is maintained for backward compatibility. See the <code>secondary_id</code> property, which replaces <code>id</code>.</p> <ul style="list-style-type: none"> <li>• example: 1</li> <li>• readOnly: 1</li> <li>• x-ntap-deprecated: 9.13.1</li> <li>• Introduced in: 9.10</li> <li>• x-nullable: true</li> </ul>
is_optimal	boolean	<p>Indicates if the class <code>protocol_endpoint</code> LUN and the class <code>vvol</code> LUN are on the same cluster node.</p>
protocol_endpoint	<a href="#">protocol_endpoint</a>	<p>The class <code>protocol_endpoint</code> LUN in the vVol binding. Required in POST.</p>

Name	Type	Description
secondary_id	string	The identifier assigned to the vVol binding, known as the secondary LUN ID. The identifier is unique amongst all class <code>vvol</code> LUNs bound to the same class <code>protocol_endpoint</code> LUN.  The format for a secondary LUN ID is 16 hexadecimal digits (zero-filled) followed by a lower case "h".
svm	<a href="#">svm</a>	The SVM in which the vVol binding and its LUNs are located. Required in POST.
vvol	<a href="#">vvol</a>	The class <code>vvol</code> LUN in the vVol binding. Required in POST.

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### returned\_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 a vVol binding

POST `/protocols/san/vvol-bindings`

Introduced In: 9.10

Creates a vVol binding. The binding between any two specific LUNs is reference counted. When a binding is created that already exists, the binding count is incremented.

## Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the vVol binding.
- `protocol_endpoint.uuid` or `protocol_endpoint.name` - Existing class `protocol_endpoint` LUN to bind to the specified class `vvol` LUN.
- `vvol.uuid` or `vvol.name` - Existing class `vvol` LUN to bind to the specified class `protocol_endpoint` LUN.

## Related ONTAP commands

- `lun bind create`

## Learn more

- [DOC /protocols/san/vvol-bindings](#)

## Parameters

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

## Request Body

Name	Type	Description
<code>_links</code>	<a href="#">_links</a>	
<code>count</code>	integer	The vVol binding between any two specific LUNs is reference counted. When a REST POST is executed for a vVol binding that already exists, the vVol binding reference count is incremented. When a REST DELETE is executed, the vVol binding reference count is decremented. Only when the vVol binding count reaches zero, or the query parameter <code>delete_all_references</code> is supplied, is the vVol binding destroyed.

Name	Type	Description
id	integer	<p>The ONTAP internal identifier assigned to the vVol binding. The bind identifier is unique amongst all class <code>vvol</code> LUNs bound to the same class <code>protocol_endpoint</code> LUN.</p> <p>This property was included in early releases of the REST API for vVols and is maintained for backward compatibility. See the <code>secondary_id</code> property, which replaces <code>id</code>.</p> <ul style="list-style-type: none"> <li>• example: 1</li> <li>• readOnly: 1</li> <li>• x-ntap-deprecated: 9.13.1</li> <li>• Introduced in: 9.10</li> <li>• x-nullable: true</li> </ul>
is_optimal	boolean	Indicates if the class <code>protocol_endpoint</code> LUN and the class <code>vvol</code> LUN are on the same cluster node.
protocol_endpoint	<a href="#">protocol_endpoint</a>	The class <code>protocol_endpoint</code> LUN in the vVol binding. Required in POST.
secondary_id	string	<p>The identifier assigned to the vVol binding, known as the secondary LUN ID. The identifier is unique amongst all class <code>vvol</code> LUNs bound to the same class <code>protocol_endpoint</code> LUN.</p> <p>The format for a secondary LUN ID is 16 hexadecimal digits (zero-filled) followed by a lower case "h".</p>
svm	<a href="#">svm</a>	The SVM in which the vVol binding and its LUNs are located. Required in POST.
vvol	<a href="#">vvol</a>	The class <code>vvol</code> LUN in the vVol binding. Required in POST.



## Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "count": 1,
  "id": 1,
  "is_optimal": 1,
  "protocol_endpoint": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "name": "/vol/volume1/lun1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
},
"secondary_id": "0000D20000010000h",
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"vvol": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "/vol/volume1/lun1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
}
```

## Response

Status: 201, Created

Name	Type	Description
_links	<a href="#">_links</a>	
num_records	integer	The number of records in the response.
records	array[ <a href="#">vvol_binding</a> ]	

## Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "count": 1,
      "id": 1,
      "is_optimal": 1,
      "protocol_endpoint": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "/vol/volume1/lun1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "secondary_id": "0000D20000010000h",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "vvol": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      }
    }
  ]
}
```

```

    },
    "name": "/vol/volume1/lun1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  }
}
]
}

```

## Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

## Error

Status: Default

## ONTAP Error Response Codes

Error Code	Description
2621462	The specified SVM does not exist or is not accessible to the caller.
2621706	Both the SVM UUID and SVM name were supplied, but don't refer to the same SVM.
2621707	No SVM was specified. Either <code>svm.name</code> or <code>svm.uuid</code> must be supplied.
5374238	A LUN in a Snapshot copy was specified.
5374323	The LUN specified as the protocol endpoint LUN is not of class <code>protocol_endpoint</code> .
5374325	The LUN specified as the vVol LUN is not of class <code>vvol</code> .
5374874	The UUID and name supplied for the protocol endpoint of Vvol LUN do not refer to the same LUN. Use to the <code>target</code> property of the error object to differentiate between the protocol endpoint LUN and the vVol LUN.
5374875	The protocol endpoint or vVol LUN was not found or is not accessible to the caller. Use to the <code>target</code> property of the error object to differentiate between the protocol endpoint LUN and the vVol LUN.

Error Code	Description
5374876	The protocol endpoint or vVol LUN was not found in the SVM. Use to the <code>target</code> property of the error object to differentiate between the protocol endpoint LUN and the vVol LUN.
5374924	No protocol endpoint LUN was supplied.
5374925	No vVol LUN was supplied.

Also see the table of common errors in the [Response body](#) overview section of this documentation.

Name	Type	Description
error	<code>returned_error</code>	

### 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>	

protocol\_endpoint

The class `protocol_endpoint` LUN in the vVol binding. Required in POST.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The fully qualified path name of the LUN composed of the "/vol" prefix, the volume name, the (optional) qtree name, and base name of the LUN. Valid in POST and PATCH.
uuid	string	The unique identifier of the LUN.

svm

The SVM in which the vVol binding and its LUNs are located. Required in POST.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vvol

The class `vvol` LUN in the vVol binding. Required in POST.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
name	string	The fully qualified path name of the LUN composed of the "/vol" prefix, the volume name, the (optional) qtree name, and base name of the LUN. Valid in POST and PATCH.
uuid	string	The unique identifier of the LUN.

### vvol\_binding

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Class `protocol_endpoint` and `vvol` LUNs support many-to-many vVol bindings. A LUN of one class can be bound to zero or more LUNs of the opposite class.

The vVol binding between any two specific LUNs is reference counted. When a REST POST is executed for a vVol binding that already exists, the vVol binding reference count is incremented. When a REST DELETE is executed, the vVol binding reference count is decremented. Only when the vVol binding count reaches zero, or the query parameter `delete_all_references` is supplied, is the vVol binding destroyed.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
count	integer	The vVol binding between any two specific LUNs is reference counted. When a REST POST is executed for a vVol binding that already exists, the vVol binding reference count is incremented. When a REST DELETE is executed, the vVol binding reference count is decremented. Only when the vVol binding count reaches zero, or the query parameter <code>delete_all_references</code> is supplied, is the vVol binding destroyed.

Name	Type	Description
id	integer	<p>The ONTAP internal identifier assigned to the vVol binding. The bind identifier is unique amongst all class <code>vvol</code> LUNs bound to the same class <code>protocol_endpoint</code> LUN.</p> <p>This property was included in early releases of the REST API for vVols and is maintained for backward compatibility. See the <code>secondary_id</code> property, which replaces <code>id</code>.</p> <ul style="list-style-type: none"> <li>• example: 1</li> <li>• readOnly: 1</li> <li>• x-ntap-deprecated: 9.13.1</li> <li>• Introduced in: 9.10</li> <li>• x-nullable: true</li> </ul>
is_optimal	boolean	Indicates if the class <code>protocol_endpoint</code> LUN and the class <code>vvol</code> LUN are on the same cluster node.
protocol_endpoint	<a href="#">protocol_endpoint</a>	The class <code>protocol_endpoint</code> LUN in the vVol binding. Required in POST.
secondary_id	string	<p>The identifier assigned to the vVol binding, known as the secondary LUN ID. The identifier is unique amongst all class <code>vvol</code> LUNs bound to the same class <code>protocol_endpoint</code> LUN.</p> <p>The format for a secondary LUN ID is 16 hexadecimal digits (zero-filled) followed by a lower case "h".</p>
svm	<a href="#">svm</a>	The SVM in which the vVol binding and its LUNs are located. Required in POST.
vvol	<a href="#">vvol</a>	The class <code>vvol</code> LUN in the vVol binding. Required in POST.



\_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

returned\_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.

## Delete a vVol binding

```
DELETE /protocols/san/vvol-bindings/{protocol_endpoint.uuid}/{vvol.uuid}
```

**Introduced In:** 9.10

Deletes a vVol binding. The binding between any two specific LUNs is reference counted. When a binding is deleted, the binding count is decremented, but the LUNs remain bound if the resultant reference count is greater than zero. When the binding count reaches zero, the binding is destroyed.

### Related ONTAP commands

- `lun bind destroy`

### Learn more

- [DOC /protocols/san/vvol-bindings](#)

## Parameters

Name	Type	In	Required	Description
protocol_endpoint.uuid	string	path	True	The unique identifier of the class protocol_endpoint LUN.
vvol.uuid	string	path	True	The unique identifier of the class vvol LUN.
delete_all_references	boolean	query	False	Forces deletion of the binding regardless of the reference count value.  • Default value:

## Response

Status: 200, Ok

## Error

Status: Default

### ONTAP Error Response Codes

Error Code	Description
5374875	The vVol binding was not found because the protocol endpoint or vVol LUN was not found. Use the target property of the error object to differentiate between the protocol endpoint LUN and the vVol LUN.
5374926	The vVol binding was not found.

Also see the table of common errors in the [Response body](#) overview section of this documentation.

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

#### returned\_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 a vVol binding

GET /protocols/san/vvol-bindings/{protocol\_endpoint.uuid}/{vvol.uuid}

**Introduced In:** 9.10

Retrieves a vVol binding.

## Related ONTAP commands

- `lun bind show`

## Learn more

- [DOC /protocols/san/vvol-bindings](#)

## Parameters

Name	Type	In	Required	Description
protocol_endpoint.uuid	string	path	True	The unique identifier of the class protocol_endpoint LUN.
vvol.uuid	string	path	True	The unique identifier of the class vvol LUN.
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
count	integer	<p>The vVol binding between any two specific LUNs is reference counted. When a REST POST is executed for a vVol binding that already exists, the vVol binding reference count is incremented. When a REST DELETE is executed, the vVol binding reference count is decremented. Only when the vVol binding count reaches zero, or the query parameter <code>delete_all_references</code> is supplied, is the vVol binding destroyed.</p>
id	integer	<p>The ONTAP internal identifier assigned to the vVol binding. The bind identifier is unique amongst all class <code>vvol</code> LUNs bound to the same class <code>protocol_endpoint</code> LUN.</p> <p>This property was included in early releases of the REST API for vVols and is maintained for backward compatibility. See the <code>secondary_id</code> property, which replaces <code>id</code>.</p> <ul style="list-style-type: none"> <li>• example: 1</li> <li>• readOnly: 1</li> <li>• x-ntap-deprecated: 9.13.1</li> <li>• Introduced in: 9.10</li> <li>• x-nullable: true</li> </ul>
is_optimal	boolean	<p>Indicates if the class <code>protocol_endpoint</code> LUN and the class <code>vvol</code> LUN are on the same cluster node.</p>
protocol_endpoint	<a href="#">protocol_endpoint</a>	<p>The class <code>protocol_endpoint</code> LUN in the vVol binding. Required in POST.</p>

Name	Type	Description
secondary_id	string	<p>The identifier assigned to the vVol binding, known as the secondary LUN ID. The identifier is unique amongst all class <code>vvol</code> LUNs bound to the same class <code>protocol_endpoint</code> LUN.</p> <p>The format for a secondary LUN ID is 16 hexadecimal digits (zero-filled) followed by a lower case "h".</p>
svm	<a href="#">svm</a>	The SVM in which the vVol binding and its LUNs are located. Required in POST.
vvol	<a href="#">vvol</a>	The class <code>vvol</code> LUN in the vVol binding. Required in POST.

## Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "count": 1,
  "id": 1,
  "is_optimal": 1,
  "protocol_endpoint": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "/vol/volume1/lun1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "secondary_id": "0000D20000010000h",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "vvol": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "/vol/volume1/lun1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  }
}
```

## Error

Status: Default

## ONTAP Error Response Codes

Error Code	Description
4	The vVol binding was not found.

Also see the table of common errors in the [Response body](#) overview section of this documentation.

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

protocol\_endpoint

The class `protocol_endpoint` LUN in the vVol binding. Required in POST.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The fully qualified path name of the LUN composed of the "/vol" prefix, the volume name, the (optional) qtree name, and base name of the LUN. Valid in POST and PATCH.
uuid	string	The unique identifier of the LUN.

svm

The SVM in which the vVol binding and its LUNs are located. Required in POST.

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	The name of the SVM. This field cannot be specified in a PATCH method.
uuid	string	The unique identifier of the SVM. This field cannot be specified in a PATCH method.

vvol

The class `vvol` LUN in the vVol binding. Required in POST.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
name	string	The fully qualified path name of the LUN composed of the "/vol" prefix, the volume name, the (optional) qtree name, and base name of the LUN. Valid in POST and PATCH.
uuid	string	The unique identifier of the LUN.

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### returned\_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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