Manage SAN portsets

REST API reference

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Manage SAN portsets

Protocols SAN portsets endpoint overview

Overview

A portset is a collection of Fibre Channel Protocol and/or iSCSI network interfaces from the portset's SVM.

Portsets are used to limit the network interfaces through which an initiator can connect to mapped LUNs. When a portset is bound to an initiator group (igroup), and the initiator group is mapped to a LUN, the initiators of the initiator group can only reach the LUN through the network interfaces in the portset.

Portsets are not recommended for new configurations. With modern releases of ONTAP, it is recommended to use multiple SVMs and initiator groups with no bound portset to load balance applications over multiple ports on a node. Selective LUN mapping will automatically limit the number of visible paths to a LUN from the client host to those required for efficient access and high availability. The REST portset API is primarily intended for legacy use.

The portset REST API allows you to create, delete, and discover portsets, and to add and remove network interaces from portsets.

A portset can be bound to one or more initiator groups. An initiator group (igroup) can be bound to at most one portset.

When a portset is created, the `protocol` property is used to restrict member network interfaces to Fibre Channel Procotol (*fcp*), iSCSI (*iscsi*), or both (*mixed*).

Zero or more network interfaces can be supplied when the portset is created. After creation, network interfaces can be added to or removed from the portset using the `/protocols/san/portsets/{portset.uuid}/interfaces` endpoint. See DELETE /protocols/san/portsets/{portset.uuid}/interfaces/{name} for more details.

Examples

Creating a portset with no network interfaces

The example portset uses the default `mixed` protocol. Note that the `return_records` query parameter is used to obtain the newly created portset in the response.

```
# The API:
POST /api/protocols/san/portsets

# The call:
curl -X POST 'https://<mgmt-
ip>/api/protocols/san/portsets?return_records=true' -H 'Accept:
application/hal+json' -d '{ "svm" : { "name": "svm1" }, "name": "portset1"
}'

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "5d7b1dfa-1ed7-11eb-8b0f-005056bb3521",
    "svm": {
      "uuid": "31484775-1e23-11eb-b2a8-005056bb3521",
      "name": "svm1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/31484775-1e23-11eb-b2a8-005056bb3521"
        }
      }
    },
    "name": "portset1",
    "protocol": "mixed",
    "_links": {
      "self": {
        "href": "/api/protocols/san/portsets/5d7b1dfa-1ed7-11eb-8b0f-
005056bb3521"
      }
    }
  }
]
}
```

Creating an iSCSI portset with two network interfaces

Note that the `return_records` query parameter is used to obtain the newly created portset in the response.

```
# The API:
POST /api/protocols/san/portsets
```

```
# The call:
curl -X POST 'https://<mgmt-
ip>/api/protocols/san/portsets?return_records=true' -H 'Accept:
application/hal+json' -d '{ "svm" : { "name": "svm1" }, "name":
"portset2", "protocol": "iscsi", "interfaces": [ { "ip": { "name": "lif1"
} }, { "ip": { "name": "lif2" } } ] }'

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "816c0d49-1ed7-11eb-8b0f-005056bb3521",
    "svm": {
      "uuid": "31484775-1e23-11eb-b2a8-005056bb3521",
      "name": "svm1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/31484775-1e23-11eb-b2a8-005056bb3521"
        }
      }
    },
    "name": "portset2",
    "protocol": "iscsi",
    "interfaces": [
      {
        "uuid": "f37bfb01-1e2a-11eb-b2a8-005056bb3521",
        "ip": {
          "uuid": "f37bfb01-1e2a-11eb-b2a8-005056bb3521",
          "name": "lif1",
          "ip": {
            "address": "192.168.1.100"
          },
          "_links": {
            "self": {
              "href": "/api/network/ip/interfaces/f37bfb01-1e2a-11eb-b2a8-
005056bb3521"
            }
          }
        },
        "_links": {
          "self": {
            "href": "/api/protocols/san/portsets/816c0d49-1ed7-11eb-8b0f-
005056bb3521/interfaces/f37bfb01-1e2a-11eb-b2a8-005056bb3521"
          }
        }
```

```
      },
      {
        "uuid": "f92178e7-1e2a-11eb-b2a8-005056bb3521",
        "ip": {
          "uuid": "f92178e7-1e2a-11eb-b2a8-005056bb3521",
          "name": "lif2",
          "ip": {
            "address": "192.168.1.101"
          },
          "_links": {
            "self": {
              "href": "/api/network/ip/interfaces/f92178e7-1e2a-11eb-b2a8-
005056bb3521"
            }
          }
        },
        "_links": {
          "self": {
            "href": "/api/protocols/san/portsets/816c0d49-1ed7-11eb-8b0f-
005056bb3521/interfaces/f92178e7-1e2a-11eb-b2a8-005056bb3521"
          }
        }
      }
    ],
    "_links": {
      "self": {
        "href": "/api/protocols/san/portsets/816c0d49-1ed7-11eb-8b0f-
005056bb3521"
      }
    }
  }
]
}
```

Retrieving a summary of all portsets

```
# The API:
GET /api/protocols/san/portsets

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

# The response:
```

```
{
"records": [
  {
    "uuid": "5d7b1dfa-1ed7-11eb-8b0f-005056bb3521",
    "name": "portset1",
    "_links": {
      "self": {
        "href": "/api/protocols/san/portsets/5d7b1dfa-1ed7-11eb-8b0f-
005056bb3521"
      }
    }
  },
  {
    "uuid": "816c0d49-1ed7-11eb-8b0f-005056bb3521",
    "name": "portset2",
    "_links": {
      "self": {
        "href": "/api/protocols/san/portsets/816c0d49-1ed7-11eb-8b0f-
005056bb3521"
      }
    }
  },
  {
    "uuid": "b716b4d2-1ed7-11eb-8b0f-005056bb3521",
    "name": "portset3",
    "_links": {
      "self": {
        "href": "/api/protocols/san/portsets/b716b4d2-1ed7-11eb-8b0f-
005056bb3521"
      }
    }
  }
],
"num_records": 3,
"_links": {
  "self": {
    "href": "/api/protocols/san/portsets"
  }
}
}
```

Retrieving details for a specific portset

```
# The API:
```

```
GET /api/protocols/san/portsets/{uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/protocols/san/portsets/b716b4d2-1ed7-
11eb-8b0f-005056bb3521' -H 'Accept: application/hal+json'

# The response:
{
"uuid": "b716b4d2-1ed7-11eb-8b0f-005056bb3521",
"svm": {
  "uuid": "31484775-1e23-11eb-b2a8-005056bb3521",
  "name": "svm1",
  "_links": {
    "self": {
      "href": "/api/svm/svms/31484775-1e23-11eb-b2a8-005056bb3521"
    }
  }
},
"name": "portset3",
"protocol": "fcp",
"interfaces": [
  {
    "uuid": "164eb052-1e2b-11eb-b2a8-005056bb3521",
    "fc": {
      "uuid": "164eb052-1e2b-11eb-b2a8-005056bb3521",
      "name": "lif5",
      "wwpn": "20:01:00:50:56:bb:35:21",
      "_links": {
        "self": {
          "href": "/api/network/fc/interfaces/164eb052-1e2b-11eb-b2a8-
005056bb3521"
        }
      }
    },
    "_links": {
      "self": {
        "href": "/api/protocols/san/portsets/b716b4d2-1ed7-11eb-8b0f-
005056bb3521/interfaces/164eb052-1e2b-11eb-b2a8-005056bb3521"
      }
    }
  },
  {
    "uuid": "197ba2b7-1e2b-11eb-b2a8-005056bb3521",
    "fc": {
      "uuid": "197ba2b7-1e2b-11eb-b2a8-005056bb3521",
      "name": "lif6",
```

```
      "wwpn": "20:02:00:50:56:bb:35:21",
      "_links": {
        "self": {
          "href": "/api/network/fc/interfaces/197ba2b7-1e2b-11eb-b2a8-
005056bb3521"
        }
      }
    },
    "_links": {
      "self": {
        "href": "/api/protocols/san/portsets/b716b4d2-1ed7-11eb-8b0f-
005056bb3521/interfaces/197ba2b7-1e2b-11eb-b2a8-005056bb3521"
      }
    }
  }
],
"_links": {
  "self": {
    "href": "/api/protocols/san/portsets/b716b4d2-1ed7-11eb-8b0f-
005056bb3521"
  }
}
}
```

Deleting a portset

```
# The API:
DELETE /api/protocols/san/portsets/{uuid}

# The call:
curl -X DELETE 'https://<mgmt-ip>/api/protocols/san/portsets/b716b4d2-
1ed7-11eb-8b0f-005056bb3521' -H 'Accept: application/hal+json'
```

Adding a network interface to a portset

```
# The API:
POST /api/protocols/san/portsets/{uuid}/interfaces

# The call:
curl -X POST 'https://<mgmt-ip>/api/protocols/san/portsets/5d7b1dfa-1ed7-
11eb-8b0f-005056bb3521/interfaces' -H 'Accept: application/hal+json' -d '{
"fc": { "name": "lif4" } }'
}
```

Adding multiple network interfaces to a portset in a single call

```
# The API:
POST /api/protocols/san/portsets/{uuid}/interfaces

# The call:
curl -X POST 'https://<mgmt-ip>/api/protocols/san/portsets/5d7b1dfa-1ed7-
11eb-8b0f-005056bb3521/interfaces' -H 'Accept: application/hal+json' -d '{
"records": [ { "ip": { "name": "lif1" } },  { "ip": { "name": "lif2" } },
{ "fc": { "name": "lif5" } } ] }'
```

Removing a network interface from a portset

```
# The API:
DELETE /api/protocols/san/portsets/{uuid}/interfaces/f92178e7-1e2a-11eb-
b2a8-005056bb3521

# The call:
curl -X DELETE 'https://<mgmt-ip>/api/protocols/san/portsets/5d7b1dfa-
1ed7-11eb-8b0f-005056bb3521/interfaces/f92178e7-1e2a-11eb-b2a8-
005056bb3521' -H 'Accept: application/hal+json'
```

Retrieve portsets

GET `/protocols/san/portsets`

Introduced In: 9.9

Retrieves portsets.

Related ONTAP commands

- `lun portset show`

Learn more

- DOC /protocols/san/portsets

Parameters

Name	Type	In	Required	Description
uuid	string	query	False	Filter by uuid
interfaces.fc.name	string	query	False	Filter by interfaces.fc.name
interfaces.fc.wwpn	string	query	False	Filter by interfaces.fc.wwpn
interfaces.fc.uuid	string	query	False	Filter by interfaces.fc.uuid
interfaces.uuid	string	query	False	Filter by interfaces.uuid
interfaces.ip.uuid	string	query	False	Filter by interfaces.ip.uuid
interfaces.ip.ip.address	string	query	False	Filter by interfaces.ip.ip.address
interfaces.ip.name	string	query	False	Filter by interfaces.ip.name
name	string	query	False	Filter by name • maxLength: 96 • minLength: 1
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
protocol	string	query	False	Filter by protocol

Name	Type	In	Required	Description
igroups.name	string	query	False	Filter by igroups.name • maxLength: 96 • minLength: 1
igroups.uuid	string	query	False	Filter by igroups.uuid
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 1 • Max value: 120 • Min value: 0
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
num_records	integer	The number of records in the response.
records	array[portset]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "igroups": [
        {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "igroup1",
          "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
        }
      ],
      "interfaces": [
        {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "fc": {
            "_links": {
              "self": {
                "href": "/api/resourcelink"
              }
            },
            "name": "fc_lif1",
            "uuid": "3a09ab42-4da1-32cf-9d35-3385a6101a0b",
            "wwpn": "20:00:00:50:56:b4:13:a8"
```

```
          },
          "ip": {
            "_links": {
              "self": {
                "href": "/api/resourcelink"
              }
            },
            "ip": {
              "address": "10.10.10.7"
            },
            "name": "lif1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          },
          "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
        }
      ],
      "name": "portset1",
      "protocol": "string",
      "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	href	
self	href	

_links

Name	Type	Description
self	href	

igroups

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

fc

An FC interface.

Name	Type	Description
_links	_links	
name	string	The name of the FC interface.
uuid	string	The unique identifier of the FC interface.
wwpn	string	The WWPN of the FC interface.

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

ip

Name	Type	Description
_links	_links	
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

interfaces

A container for either a Fibre Channel network interface or an IP network interface. On POST `fc` and `ip` are mutually exclusive.

Name	Type	Description
_links	_links	
fc	fc	An FC interface.
ip	ip	
uuid	string	The unique identifier of the network interface.

svm

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

portset

Name	Type	Description
_links	_links	

Name	Type	Description
igroups	array[igroups]	An array initiator groups to which the portset is bound.
interfaces	array[interfaces]	An array of network interfaces that are members of the portset. These are the only network interfaces through which the initiators of a bound igroup can access mapped LUNs. Zero or more network interfaces can be supplied when the portset is created. After creation, network interfaces can be added or removed from the portset using the `/protocols/san/portsets/{portset.uuid}/interfaces` endpoint. See DELETE /protocols/san/portsets/{portset.uuid}/interfaces/{uuid} for more details.
name	string	The name of the portset. Required in POST. The name of a portset cannot be changed after creation.
protocol	string	The protocols supported by the portset. This restricts the type of network interfaces that can be added to the portset. Optional in POST; if not supplied, this defaults to *mixed*. The protocol of a portset cannot be changed after creation.
svm	svm	
uuid	string	The unique identifier for a portset.

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

error

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

Create a portset

POST `/protocols/san/portsets`

Introduced In: 9.9

Creates a portset.

Required properties

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

Recommended optional properties

- `protocol` - The network protocol of the interfaces in the portset.
- `interfaces` - Network interfaces to include in the portset. This property can be used to create the portset and populate it with network interfaces in a single request.

Default property values

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

- `protocol` - *mixed* - Data protocol of the portset's network interfaces.

Related ONTAP commands

- `lun portset create`

Learn more

- DOC /protocols/san/portsets

Parameters

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

Request Body

Name	Type	Description
igroups	array[igroups]	An array initiator groups to which the portset is bound.
interfaces	array[interfaces]	An array of network interfaces that are members of the portset. These are the only network interfaces through which the initiators of a bound igroup can access mapped LUNs. Zero or more network interfaces can be supplied when the portset is created. After creation, network interfaces can be added or removed from the portset using the `/protocols/san/portsets/{portset.uuid}/interfaces` endpoint. See DELETE /protocols/san/portsets/{portset.uuid}/interfaces/{uuid} for more details.
name	string	The name of the portset. Required in POST. The name of a portset cannot be changed after creation.

Name	Type	Description
protocol	string	The protocols supported by the portset. This restricts the type of network interfaces that can be added to the portset. Optional in POST; if not supplied, this defaults to *mixed*. The protocol of a portset cannot be changed after creation.
svm	svm	
uuid	string	The unique identifier for a portset.

Example request


```
{
  "igroups": [
    {
      "name": "igroup1",
      "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "interfaces": [
    {
      "fc": {
        "name": "fc_lif1",
        "uuid": "3a09ab42-4da1-32cf-9d35-3385a6101a0b",
        "wwpn": "20:00:00:50:56:b4:13:a8"
      },
      "ip": {
        "name": "lif1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "name": "portset1",
  "protocol": "string",
  "svm": {
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
```


Response

```
Status: 201, Created
```

Name	Type	Description
num_records	integer	The number of records in the response.
records	array[portset]	

Example response


```
{
  "num_records": 1,
  "records": [
    {
      "igroups": [
        {
          "name": "igroup1",
          "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
        }
      ],
      "interfaces": [
        {
          "fc": {
            "name": "fc_lif1",
            "uuid": "3a09ab42-4da1-32cf-9d35-3385a6101a0b",
            "wwpn": "20:00:00:50:56:b4:13:a8"
          },
          "ip": {
            "name": "lif1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          },
          "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
        }
      ],
      "name": "portset1",
      "protocol": "string",
      "svm": {
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ]
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1254259	A portset with the same name already exists in the SVM.
2621462	The specified SVM does not exist.
2621706	The specified `svm.uuid` and `svm.name` do not refer to the same SVM.
2621707	No SVM was specified. Either `svm.name` or `svm.uuid` must be supplied.
5373958	The specified portset name contains invalid characters.
5374905	An invalid interfaces array element was specified.
5374906	A specified network interface was not found.
5374907	The specified network interface UUID and name don’t identify the same network interface.
5374914	An attempt was made to add a network interface of an incompatible protocol to a portset.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

igroups

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

fc

An FC interface.

Name	Type	Description
name	string	The name of the FC interface.
uuid	string	The unique identifier of the FC interface.
wwpn	string	The WWPN of the FC interface.

ip

IP information

ip

Name	Type	Description
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

interfaces

A container for either a Fibre Channel network interface or an IP network interface. On POST `fc` and `ip` are mutually exclusive.

Name	Type	Description
fc	fc	An FC interface.
ip	ip	
uuid	string	The unique identifier of the network interface.

svm

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

portset

Name	Type	Description
igroups	array[igroups]	An array initiator groups to which the portset is bound.
interfaces	array[interfaces]	An array of network interfaces that are members of the portset. These are the only network interfaces through which the initiators of a bound igroup can access mapped LUNs. Zero or more network interfaces can be supplied when the portset is created. After creation, network interfaces can be added or removed from the portset using the `/protocols/san/portsets/{portset.uuid}/interfaces` endpoint. See DELETE /protocols/san/portsets/{portset.uuid}/interfaces/{uuid} for more details.

Name	Type	Description
name	string	The name of the portset. Required in POST. The name of a portset cannot be changed after creation.
protocol	string	The protocols supported by the portset. This restricts the type of network interfaces that can be added to the portset. Optional in POST; if not supplied, this defaults to *mixed*. The protocol of a portset cannot be changed after creation.
svm	svm	
uuid	string	The unique identifier for a portset.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

Retrieve portset network interfaces

GET `/protocols/san/portsets/{portset.uuid}/interfaces`

Introduced In: 9.9

Retrieves interfaces of a portset.

Related ONTAP commands

- `lun portset show`

Learn more

- DOC /protocols/san/portsets

Parameters

Name	Type	In	Required	Description
portset.uuid	string	path	True	The unique identifier of the portset.
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned. • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. • Default value: 1 • Max value: 120 • Min value: 0

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

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
num_records	integer	The number of records in the response.
records	array[portset_interface]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "fc": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "fc_lif1",
        "uuid": "3a09ab42-4da1-32cf-9d35-3385a6101a0b",
        "wwpn": "20:00:00:50:56:b4:13:a8"
      },
      "ip": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "ip": {
          "address": "10.10.10.7"
        },
        "name": "lif1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "portset": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
```

```
        },
        "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
      },
      "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
    }
  ]
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
5374908	The portset specified in the URI does not exist.

Name	Type	Description
error	error	

Example error


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


Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

fc

An FC interface.

Name	Type	Description
_links	_links	
name	string	The name of the FC interface.
uuid	string	The unique identifier of the FC interface.
wwpn	string	The WWPN of the FC interface.

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

ip

Name	Type	Description
_links	_links	
ip	ip	IP information

Name	Type	Description
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

portset

The portset in which the network interface is found.

Note that this does not mean that the network interface cannot also be found in other portsets.

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

records

A container for either a Fibre Channel network interface or an IP network interface. On POST `fc` and `ip` are mutually exclusive.

Name	Type	Description
_links	_links	
fc	fc	An FC interface.
ip	ip	
uuid	string	The unique identifier of the network interface.

portset_interface

Name	Type	Description
_links	_links	
fc	fc	An FC interface.
ip	ip	

Name	Type	Description
portset	portset	The portset in which the network interface is found. Note that this does not mean that the network interface cannot also be found in other portsets.
uuid	string	The unique identifier of the network interface.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

Add portset network interfaces

POST `/protocols/san/portsets/{portset.uuid}/interfaces`

Introduced In: 9.9

Adds one or more interfaces to a portset.

Required properties

- `fc`, `ip` or `records` - Network interface(s) to add to the portset.

Related ONTAP commands

- `lun portset add`

Learn more

- DOC /protocols/san/portsets

Parameters

Name	Type	In	Required	Description
portset.uuid	string	path	True	The unique identifier of the portset.
return_records	boolean	query	False	The default is false. If set to true, the records are returned. • Default value:

Request Body

Name	Type	Description
fc	fc	An FC interface.
ip	ip	
portset	portset	The portset in which the network interface is found. Note that this does not mean that the network interface cannot also be found in other portsets.
records	array[records]	An array of network interfaces specified to add multiple interfaces to a portset in a single API call. Valid in POST only and not allowed when the `fc` or `ip` property is used.
uuid	string	The unique identifier of the network interface.

Example request

```
{
  "fc": {
    "name": "fc_lif1",
    "uuid": "3a09ab42-4da1-32cf-9d35-3385a6101a0b",
    "wwpn": "20:00:00:50:56:b4:13:a8"
  },
  "ip": {
    "name": "lif1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "portset": {
    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
  },
  "records": [
    {
      "fc": {
        "name": "fc_lif1",
        "uuid": "3a09ab42-4da1-32cf-9d35-3385a6101a0b",
        "wwpn": "20:00:00:50:56:b4:13:a8"
      },
      "ip": {
        "name": "lif1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}
```

Response

```
Status: 201, Created
```

Name	Type	Description
num_records	integer	The number of records in the response.
records	array[portset_interface]	

Example response


```
{
  "num_records": 1,
  "records": [
    {
      "fc": {
        "name": "fc_lif1",
        "uuid": "3a09ab42-4da1-32cf-9d35-3385a6101a0b",
        "wwpn": "20:00:00:50:56:b4:13:a8"
      },
      "ip": {
        "name": "lif1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "portset": {
        "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
      },
      "records": [
        {
          "fc": {
            "name": "fc_lif1",
            "uuid": "3a09ab42-4da1-32cf-9d35-3385a6101a0b",
            "wwpn": "20:00:00:50:56:b4:13:a8"
          },
          "ip": {
            "name": "lif1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          },
          "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
        }
      ],
      "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
    }
  ]
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
5374906	A specified network interface was not found.
5374907	The specified network interface UUID and name don’t identify the same network interface.
5374909	An invalid combination of network interface properties was specified.
5374910	An incomplete set of network interface properties was specified.
5374914	An attempt was made to add a network interface of an incompatible protocol to a portset.
5374915	An attempt was made to add a duplicate network interface to a portset.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

fc

An FC interface.

Name	Type	Description
name	string	The name of the FC interface.
uuid	string	The unique identifier of the FC interface.
wwpn	string	The WWPN of the FC interface.

ip

IP information

ip

Name	Type	Description
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

portset

The portset in which the network interface is found.

Note that this does not mean that the network interface cannot also be found in other portsets.

Name	Type	Description
uuid	string	The unique identifier of the portset.

records

A container for either a Fibre Channel network interface or an IP network interface. On POST `fc` and `ip` are mutually exclusive.

Name	Type	Description
fc	fc	An FC interface.
ip	ip	
uuid	string	The unique identifier of the network interface.

portset_interface

Name	Type	Description
fc	fc	An FC interface.
ip	ip	
portset	portset	The portset in which the network interface is found. Note that this does not mean that the network interface cannot also be found in other portsets.
records	array[records]	An array of network interfaces specified to add multiple interfaces to a portset in a single API call. Valid in POST only and not allowed when the `fc` or `ip` property is used.
uuid	string	The unique identifier of the network interface.

error_arguments

Name	Type	Description
code	string	Argument code

Name	Type	Description
message	string	Message argument

error

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

Delete portset network interfaces

DELETE `/protocols/san/portsets/{portset.uuid}/interfaces/{uuid}`

Introduced In: 9.9

Deletes a network interface from a portset.

Related ONTAP commands

- `lun portset remove`

Learn more

- DOC /protocols/san/portsets

Parameters

Name	Type	In	Required	Description
portset.uuid	string	path	True	The unique identifier of the portset.
uuid	string	path	True	The unique identifier of the network interface in the portset.

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
5374906	A specified network interface was not found.
5374908	The portset specified in the URI does not exist.
5374916	The specified network interface is not in the portset.

Name	Type	Description
error	error	

Example error


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


Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

Retrieve specific portset network interfaces

GET `/protocols/san/portsets/{portset.uuid}/interfaces/{uuid}`

Introduced In: 9.9

Retrieves a network interface of a portset.

Related ONTAP commands

- `lun portset show`

Learn more

- DOC /protocols/san/portsets

Parameters

Name	Type	In	Required	Description
portset.uuid	string	path	True	The unique identifier of the portset.

Name	Type	In	Required	Description
uuid	string	path	True	The unique identifier of the network interface in the portset.
fields	array[string]	query	False	Specify the fields to return.

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
fc	fc	An FC interface.
ip	ip	
portset	portset	The portset in which the network interface is found. Note that this does not mean that the network interface cannot also be found in other portsets.
uuid	string	The unique identifier of the network interface.

Example response


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "fc": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "fc_lif1",
    "uuid": "3a09ab42-4da1-32cf-9d35-3385a6101a0b",
    "wwpn": "20:00:00:50:56:b4:13:a8"
  },
  "ip": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "ip": {
      "address": "10.10.10.7"
    },
    "name": "lif1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "portset": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
  },
  "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
4	The interface is not a member of the portset.
5374908	The portset specified in the URI does not exist.

Name	Type	Description
error	error	

Example error

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

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

fc

An FC interface.

Name	Type	Description
_links	_links	
name	string	The name of the FC interface.
uuid	string	The unique identifier of the FC interface.
wwpn	string	The WWPN of the FC interface.

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

ip

Name	Type	Description
_links	_links	
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.

Name	Type	Description
uuid	string	The UUID that uniquely identifies the interface.

portset

The portset in which the network interface is found.

Note that this does not mean that the network interface cannot also be found in other portsets.

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

records

A container for either a Fibre Channel network interface or an IP network interface. On POST `fc` and `ip` are mutually exclusive.

Name	Type	Description
_links	_links	
fc	fc	An FC interface.
ip	ip	
uuid	string	The unique identifier of the network interface.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

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

Delete a portset

DELETE `/protocols/san/portsets/{uuid}`

Introduced In: 9.9

Deletes a portset.

Related ONTAP commands

- `lun portset delete`

Learn more

- DOC /protocols/san/portsets

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	The unique identifier of the portset.
allow_delete_while_bound	boolean	query	False	Allows deletion of a portset that is bound to an igroup. Deleting a portset can expand the set of LIFs through which a LUN is available. • Default value:

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
5374063	An attempt was made to delete a portset that is bound to an initiator group without using query parameter `allow_delete_while_bound`.
5374908	The portset does not exist.

Name	Type	Description
error	error	

Example error

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

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

Retrieve a portset

GET `/protocols/san/portsets/{uuid}`

Introduced In: 9.9

Retrieves a portset.

Related ONTAP commands

- `lun portset show`

Learn more

- DOC /protocols/san/portsets

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	The unique identifier of the portset.

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

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
igroups	array[igroups]	An array initiator groups to which the portset is bound.
interfaces	array[interfaces]	An array of network interfaces that are members of the portset. These are the only network interfaces through which the initiators of a bound igroup can access mapped LUNs. Zero or more network interfaces can be supplied when the portset is created. After creation, network interfaces can be added or removed from the portset using the `/protocols/san/portsets/{portset.uuid}/interfaces` endpoint. See DELETE /protocols/san/portsets/{portset.uuid}/interfaces/{uuid} for more details.
name	string	The name of the portset. Required in POST. The name of a portset cannot be changed after creation.
protocol	string	The protocols supported by the portset. This restricts the type of network interfaces that can be added to the portset. Optional in POST; if not supplied, this defaults to *mixed*. The protocol of a portset cannot be changed after creation.

Name	Type	Description
svm	svm	
uuid	string	The unique identifier for a portset.

Example response


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "igroups": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "igroup1",
      "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "interfaces": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "fc": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "fc_lif1",
        "uuid": "3a09ab42-4da1-32cf-9d35-3385a6101a0b",
        "wwpn": "20:00:00:50:56:b4:13:a8"
      },
      "ip": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "ip": {
          "address": "10.10.10.7"
        },
        "name": "lif1",
```

```
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "name": "portset1",
  "protocol": "string",
  "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
4	The portset does not exist.

Name	Type	Description
error	error	

Example error


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


Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

igroups

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

fc

An FC interface.

Name	Type	Description
_links	_links	
name	string	The name of the FC interface.
uuid	string	The unique identifier of the FC interface.
wwpn	string	The WWPN of the FC interface.

ip

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

ip

Name	Type	Description
_links	_links	
ip	ip	IP information
name	string	The name of the interface. If only the name is provided, the SVM scope must be provided by the object this object is embedded in.
uuid	string	The UUID that uniquely identifies the interface.

interfaces

A container for either a Fibre Channel network interface or an IP network interface. On POST `fc` and `ip` are mutually exclusive.

Name	Type	Description
_links	_links	
fc	fc	An FC interface.
ip	ip	
uuid	string	The unique identifier of the network interface.

svm

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

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

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