Networking

REST API reference

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Networking

Networking overview

Overview

The ONTAP networking APIs enable reporting on networking information, such as IPspaces, interfaces, routes, ports, service policies and broadcast domains. Some can also be used to manage networking.

IPspaces

IPspaces enable you to configure a single ONTAP cluster so that it can be accessed by clients from more than one administratively separate network domain, even if those clients are using the same IP address subnet range. This allows for separation of client traffic for privacy and security.

An IPspace defines a distinct IP address space in which storage virtual machines (SVMs) reside. Ports and IP addresses defined for an IPspace are applicable only within that IPspace. A distinct routing table is maintained for each SVM within an IPspace, so that no cross-SVM or cross-IPspace traffic routing occurs.

Ethernet

Broadcast Domains

A broadcast domain is a set of ports which would all receive a broadcast packet that is sent from any of the ports.

By accurately representing the physical network with an ONTAP broadcast domain, ONTAP ensures that IP interfaces are able to migrate to appropriate ports in case of failure. ONTAP also ensures that characteristics, such as MTU, stay matched across all ports of the broadcast domain.

A broadcast domain resides in an IPspace, and can be used by cluster-scoped or SVM-scoped IP interfaces in that IPspace. The scope of the broadcast domain’s uniqueness is the IPspace it is in. You must create as many broadcast domains in an IPspace as there are IP subnets with interfaces in that IPspace.

Ports are mapped to an IPspace by assigning the port’s broadcast domain.

Ports

A port is a physical or virtual Ethernet network device. Physical ports may be combined into Link Aggregation Groups (LAGs, or ifgrps), or divided into Virtual LANs (VLANs).

The GET and PATCH APIs are available for all port types. The POST and DELETE APIs are available for "lag" and "vlan" port types.

A given port can host zero or more IP interfaces.

A port exists in a broadcast domain and all ports within the same broadcast domain must have layer 2 network connectivity to one another. If a port within a broadcast domain goes down, any IP interfaces hosted by that port can fail over to other ports in the same broadcast domain.

Fibre Channel

Interfaces

Fibre Channel (FC) interfaces are the logical endpoints for Fibre Channel network connections to an SVM. A Fibre Channel interface provides Fibre Channel access to storage within the interface's SVM using either Fibre Channel Protocol (FCP) or Non-Volatile Memory Express over Fibre Channel (NVMe over FC).

The Fibre Channel interface REST API allows you to create, delete, update and discover Fibre Channel interfaces and obtain status information for Fibre Channel interfaces.

A Fibre Channel interface is created on a Fibre Channel port that is located on a cluster node. The Fibre Channel port must be specified to identify the location of the interface for a POST or PATCH that relocates an interface. You can identify the port by either supplying the node and port names or the port UUID.

Ports

Fibre Channel ports are the physical ports of Fibre Channel adapters on ONTAP cluster nodes that can be connected to Fibre Channel networks to provide Fibre Channel network connectivity. A Fibre Channel port defines the location of a Fibre Channel interface within the ONTAP cluster.

The Fibre Channel port REST API allows you to discover Fibre Channel ports, obtain status information for Fibre Channel ports, and configure Fibre Channel port properties.

Learn More

- *Fibre Channel Logins* found in both the *SAN* and *NVMe* sections. Fibre Channel logins represent connections formed by Fibre Channel initiators that have successfully logged in to ONTAP.

IP

Interfaces

An interface (also referred to as a *LIF* in ONTAP documentation) represents a network access point to a node in a cluster. In other words, an interface is essentially an IPv4 or IPv6 address with associated attributes.

IP interfaces are configured on ports to send and receive communications over the network. The port that will host the interface can either be explicitly specified using node and/or port fields or implicitly specified using a broadcast domain.

The IPspace of the interface is required for cluster-scoped interfaces. The SVM owning the interface is required for SVM-scoped interfaces. These interfaces are in the SVM's IPspace.

The service policy of an interface defines what network services are provided by the interface.

Routes

Routes indicate which IPv4 or IPv6 gateway to use to communicate with hosts that are not on the local subnet. Typically, an IP interface (or LIF) can only use a gateway if it has the same address family and is in the LIF's subnet.

It is important that every gateway address belongs to a physical or virtual router that has connectivity to the specified destination network.

SVM-scoped routes can only be used by IP interfaces of the specified SVM. Likewise, cluster-scoped routes can only be used by cluster-scoped IP interfaces in the specified IPspace.

Service Policies

Service policies are named groupings that define what services are supported by an IP interface. These include both built-in service policies (for example: default-data-files or default-management) and custom service policies.

Service policies are scoped to either an SVM or IPspace.

Manage broadcast domains

Network Ethernet broadcast-domains endpoint overview

Overview

A broadcast domain is a collection of Ethernet ports that have layer2 connectivity. They are used to determine which Ethernet ports can host interfaces of various types. The broadcast domain REST API allows you to retrieve, create, modify, and delete broadcast domains. The broadcast domain APIs do not manage port membership. To add a port to a broadcast domain or to move a port to a different broadcast domain, use PATCH /network/ethernet/ports/<uuid>.</uuid>

Retrieving network Ethernet broadcast domain information

The broadcast domains GET API retrieves and displays relevant information pertaining to the broadcast domains configured in the cluster. The API retrieves the list of all broadcast domains configured in the cluster, or a specific broadcast domain.

Examples

Retrieving all broadcast domains in the cluster

The following output shows the list of all broadcast domains configured in a cluster.

```
# The API:
/api/network/ethernet/broadcast-domains

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ethernet/broadcast-domains" -H
"accept: application/hal+json"

# The response:
{
"records": [
```

```
  {
    "uuid": "6970c2a9-f34f-11e8-8373-005056bb6b85",
    "name": "Cluster",
    "ipspace": {
      "uuid": "6267eff8-f34f-11e8-8373-005056bb6b85",
      "name": "Cluster",
      "_links": {
        "self": {
          "href": "/api/network/ipspaces/6267eff8-f34f-11e8-8373-
005056bb6b85"
        }
      }
    },
    "ports": [
      {
        "uuid": "626b4d19-f34f-11e8-8373-005056bb6b85",
        "name": "e0a",
        "node": {
          "name": "examplecluster-node01"
        },
        "_links": {
          "self": {
            "href": "/api/network/ethernet/ports/626b4d19-f34f-11e8-8373-
005056bb6b85"
          }
        }
      },
      {
        "uuid": "626b77b9-f34f-11e8-8373-005056bb6b85",
        "name": "e0b",
        "node": {
          "name": "examplecluster-node01"
        },
        "_links": {
          "self": {
            "href": "/api/network/ethernet/ports/626b77b9-f34f-11e8-8373-
005056bb6b85"
          }
        }
      }
    ],
    "mtu": 9000,
    "_links": {
      "self": {
        "href": "/api/network/ethernet/broadcast-domains/6970c2a9-f34f-
11e8-8373-005056bb6b85"
```

```
      }
    }
  },
  {
    "uuid": "6972416c-f34f-11e8-8373-005056bb6b85",
    "name": "Default",
    "ipspace": {
      "uuid": "5f650349-f34f-11e8-8373-005056bb6b85",
      "name": "Default",
      "_links": {
        "self": {
          "href": "/api/network/ipspaces/5f650349-f34f-11e8-8373-
005056bb6b85"
        }
      }
    },
    "ports": [
      {
        "uuid": "626bae19-f34f-11e8-8373-005056bb6b85",
        "name": "e0c",
        "node": {
          "name": "examplecluster-node01"
        },
        "_links": {
          "self": {
            "href": "/api/network/ethernet/ports/626bae19-f34f-11e8-8373-
005056bb6b85"
          }
        }
      },
      {
        "uuid": "626bd677-f34f-11e8-8373-005056bb6b85",
        "name": "e0d",
        "node": {
          "name": "examplecluster-node01"
        },
        "_links": {
          "self": {
            "href": "/api/network/ethernet/ports/626bd677-f34f-11e8-8373-
005056bb6b85"
          }
        }
      }
    ],
    "mtu": 1500,
    "_links": {
```

```
      "self": {
        "href": "/api/network/ethernet/broadcast-domains/6972416c-f34f-
11e8-8373-005056bb6b85"
      }
    }
  }
],
"num_records": 2,
"_links": {
  "self": {
    "href": "/api/network/ethernet/broadcast-domains?fields=*"
  }
}
}
```

Retrieving a specific broadcast domain

The following output shows the response returned when a specific broadcast domain is requested. The system returns an error if there is no broadcast domain with the requested UUID.

```
# The API:
/api/network/ethernet/broadcast-domains/{uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ethernet/broadcast-
domains/4475a2c8-f8a0-11e8-8d33-005056bb986f/?fields=*" -H "accept:
application/hal+json"

# The response:
{
"uuid": "4475a2c8-f8a0-11e8-8d33-005056bb986f",
"name": "Cluster",
"ipspace": {
  "uuid": "3e518ed5-f8a0-11e8-8d33-005056bb986f",
  "name": "Cluster",
  "_links": {
    "self": {
      "href": "/api/network/ipspaces/3e518ed5-f8a0-11e8-8d33-005056bb986f"
    }
  }
},
"ports": [
  {
```

```
    "uuid": "3e539a62-f8a0-11e8-8d33-005056bb986f",
    "name": "e0a",
    "node": {
      "name": "examplecluster-node01"
    },
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/3e539a62-f8a0-11e8-8d33-
005056bb986f"
      }
    }
  },
  {
    "uuid": "3e53c94a-f8a0-11e8-8d33-005056bb986f",
    "name": "e0b",
    "node": {
      "name": "examplecluster-node01"
    },
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/3e53c94a-f8a0-11e8-8d33-
005056bb986f"
      }
    }
  }
],
"mtu": 9000,
"_links": {
  "self": {
    "href": "/api/network/ethernet/broadcast-domains/4475a2c8-f8a0-11e8-
8d33-005056bb986f/"
  }
}
}
```

Retrieving all broadcast domains with a specific name

The following output shows the response returned when broadcast domains with a specific name in any IPspace are requested.

```
# The API:
/api/network/ethernet/broadcast-domains

# The call:
curl -X GET "https://10.224.87.121/api/network/ethernet/broadcast-
domains/?name=bd1" -H "accept: application/hal+json"

# The response:
{
"records": [
  {
    "uuid": "66b607e5-4bee-11e9-af6a-005056bb13c0",
    "name": "bd1",
    "_links": {
      "self": {
        "href": "/api/network/ethernet/broadcast-domains/66b607e5-4bee-
11e9-af6a-005056bb13c0"
      }
    }
  }
],
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/network/ethernet/broadcast-domains/?name=bd1"
  }
}
}
```

Retrieving the broadcast domains for an IPspace

The following output shows the response returned when the broadcast domains for a specified IPspace are requested.

```
# The API:
/api/network/ethernet/broadcast-domains

# The call:
curl -X GET "https://10.224.87.121/api/network/ethernet/broadcast-
domains/?ipspace.name=Cluster&fields=*" -H "accept: application/hal+json"

# The response:
```

```
{
"records": [
  {
    "uuid": "ae69070c-4bed-11e9-af6a-005056bb13c0",
    "name": "Cluster",
    "ipspace": {
      "uuid": "ac466a88-4bed-11e9-af6a-005056bb13c0",
      "name": "Cluster",
      "_links": {
        "self": {
          "href": "/api/network/ipspaces/ac466a88-4bed-11e9-af6a-
005056bb13c0"
        }
      }
    },
    "ports": [
      {
        "uuid": "acd67884-4bed-11e9-af6a-005056bb13c0",
        "name": "e0a",
        "node": {
          "name": "examplecluster-node-1"
        },
        "_links": {
          "self": {
            "href": "/api/network/ethernet/ports/acd67884-4bed-11e9-af6a-
005056bb13c0"
          }
        }
      },
      {
        "uuid": "ace1a36f-4bed-11e9-af6a-005056bb13c0",
        "name": "e0b",
        "node": {
          "name": "examplecluster-node-1"
        },
        "_links": {
          "self": {
            "href": "/api/network/ethernet/ports/ace1a36f-4bed-11e9-af6a-
005056bb13c0"
          }
        }
      }
    ],
    "mtu": 1500,
    "_links": {
      "self": {
```

```
        "href": "/api/network/ethernet/broadcast-domains/ae69070c-4bed-
11e9-af6a-005056bb13c0"
      }
    }
  }
],
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/network/ethernet/broadcast-
domains/?ipspace.name=Cluster&fields=*"
  }
}
}
```

Creating network Ethernet broadcast domains

The broadcast domains POST API is used to create broadcast domains.

Example

Creating a new broadcast domain

The following example shows how to create a broadcast domain with a name of 'bd1' and an MTU of 1500.

```
# The API:
/api/network/ethernet/broadcast-domains

# The call:
curl -X POST "https://<mgmt-ip>/api/network/ethernet/broadcast-
domains?return_records=true" -H "accept: application/hal+json" -d '{
"name": "bd1", "mtu": 1500 }'

# The response:
{
"num_records": 1,
"records": [
  {
    "name": "bd1",
    "mtu": 1500,
    "_links": {
      "self": {
        "href": "/api/network/ethernet/broadcast-domains/"
      }
    }
  }
]
}
```

Updating network Ethernet broadcast domains

The broadcast domain PATCH API is used to update attributes of broadcast domains.

Example

Updating the name and MTU of a specific broadcast domain

The following example shows how the PATCH request changes the broadcast domain name to 'bd2' and the broadcast domain MTU to 9000.

```
# The API:
/api/network/ethernet/broadcast-domains/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/network/ethernet/broadcast-
domains/6cde03b2-f8a2-11e8-8d33-005056bb986f/" -d '{ "name": "bd2", "mtu":
9000 }'
{
}
```

Deleting network Ethernet broadcast domains

The broadcast domain DELETE API is used to delete a broadcast domain from the cluster configuration.

Example

Deleting a specific broadcast domain

The following DELETE request deletes a broadcast domain.

```
# The API:
/api/network/ethernet/broadcast-domains/{uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/network/ethernet/broadcast-
domains/6cde03b2-f8a2-11e8-8d33-005056bb986f/"
```

Retrieve broadcast domains for the entire cluster

GET `/network/ethernet/broadcast-domains`

Retrieves a collection of broadcast domains for the entire cluster.

Related ONTAP commands

- `network port broadcast-domain show`

Learn more

- DOC /network/ethernet/broadcast-domains

Parameters

Name	Type	In	Required	Description
ports.node.name	string	query	False	Filter by ports.node.name
ports.name	string	query	False	Filter by ports.name
ports.uuid	string	query	False	Filter by ports.uuid
name	string	query	False	Filter by name
mtu	integer	query	False	Filter by mtu
uuid	string	query	False	Filter by uuid
ipspace.uuid	string	query	False	Filter by ipspace.uuid
ipspace.name	string	query	False	Filter by ipspace.name
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.
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.

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	
records	array[broadcast_domain]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ipspace": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "exchange",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "mtu": 1500,
      "name": "bd1",
      "ports": [
        {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "e1b",
          "node": {
            "name": "node1"
          },
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      ],
      "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	

ipspace

Applies to both SVM and cluster-scoped objects. Either the UUID or name is supplied on input.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

node

Name	Type	Description
name	string	Name of node on which the port is located.

ports

Port UUID along with readable names

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

broadcast_domain

Set of ports that will receive a broadcast Ethernet packet from any of them

Name	Type	Description
_links	_links	
ipspace	ipspace	Applies to both SVM and cluster-scoped objects. Either the UUID or name is supplied on input.
mtu	integer	Maximum transmission unit, largest packet size on this network
name	string	Name of the broadcast domain, scoped to its IPspace
ports	array[ports]	Ports that belong to the broadcast domain
uuid	string	Broadcast domain UUID

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.

Create a new broadcast domain

POST `/network/ethernet/broadcast-domains`

Creates a new broadcast domain.

Required properties

- `name` - Name of the broadcast-domain to create.
- `mtu` - Maximum transmission unit of the broadcast domain.

Recommended optional properties

- `ipspace.name` or `ipspace.uuid` - IPspace the broadcast domain belongs to.

Default property values

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

- `ipspace` - *Default*

Related ONTAP commands

- `network port broadcast-domain create`

Learn more

- DOC /network/ethernet/broadcast-domains

Request Body

Name	Type	Description
_links	_links	
ipspace	ipspace	Applies to both SVM and cluster-scoped objects. Either the UUID or name is supplied on input.
mtu	integer	Maximum transmission unit, largest packet size on this network
name	string	Name of the broadcast domain, scoped to its IPspace
ports	array[ports]	Ports that belong to the broadcast domain
uuid	string	Broadcast domain UUID

Example request


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ipspace": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "exchange",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "mtu": 1500,
  "name": "bd1",
  "ports": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "e1b",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
```


Response

```
Status: 201, Created
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1967082	The specified ipspace.name does not match the IPspace name of ipspace.uuid.
1967102	POST operation might have left the configuration in an inconsistent state. Check the configuration.
1377267	The specified IPspace 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	

ipspace

Applies to both SVM and cluster-scoped objects. Either the UUID or name is supplied on input.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

node

Name	Type	Description
name	string	Name of node on which the port is located.

ports

Port UUID along with readable names

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

broadcast_domain

Set of ports that will receive a broadcast Ethernet packet from any of them

Name	Type	Description
_links	_links	

Name	Type	Description
ipspace	ipspace	Applies to both SVM and cluster-scoped objects. Either the UUID or name is supplied on input.
mtu	integer	Maximum transmission unit, largest packet size on this network
name	string	Name of the broadcast domain, scoped to its IPspace
ports	array[ports]	Ports that belong to the broadcast domain
uuid	string	Broadcast domain UUID

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

Delete a broadcast domain

DELETE `/network/ethernet/broadcast-domains/{uuid}`

Deletes a broadcast domain.

Related ONTAP commands

- `network port broadcast-domain delete`

Learn more

- DOC /network/ethernet/broadcast-domains

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1967103	A broadcast domain with ports cannot be deleted.

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 broadcast domain details

GET `/network/ethernet/broadcast-domains/{uuid}`

Retrieves details of a broadcast domain.

Related ONTAP commands

- `network port broadcast-domain show`

Learn more

- DOC /network/ethernet/broadcast-domains

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Broadcast domain UUID
fields	array[string]	query	False	Specify the fields to return.

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
ipspace	ipspace	Applies to both SVM and cluster-scoped objects. Either the UUID or name is supplied on input.
mtu	integer	Maximum transmission unit, largest packet size on this network
name	string	Name of the broadcast domain, scoped to its IPspace
ports	array[ports]	Ports that belong to the broadcast domain
uuid	string	Broadcast domain UUID

Example response


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ipspace": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "exchange",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "mtu": 1500,
  "name": "bd1",
  "ports": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "e1b",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "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
self	href	

ipspace

Applies to both SVM and cluster-scoped objects. Either the UUID or name is supplied on input.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

node

Name	Type	Description
name	string	Name of node on which the port is located.

ports

Port UUID along with readable names

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

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.

Update broadcast domain properties

PATCH `/network/ethernet/broadcast-domains/{uuid}`

Updates the properties of a broadcast domain.

Related ONTAP commands

- `network port broadcast-domain modify`
- `network port broadcast-domain rename`

Learn more

- DOC /network/ethernet/broadcast-domains

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Broadcast domain UUID

Request Body

Name	Type	Description
_links	_links	
ipspace	ipspace	Applies to both SVM and cluster-scoped objects. Either the UUID or name is supplied on input.

Name	Type	Description
mtu	integer	Maximum transmission unit, largest packet size on this network
name	string	Name of the broadcast domain, scoped to its IPspace
ports	array[ports]	Ports that belong to the broadcast domain
uuid	string	Broadcast domain UUID

Example request


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ipspace": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "exchange",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "mtu": 1500,
  "name": "bd1",
  "ports": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "e1b",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  ],
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
```


Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1967082	The specified ipspace.name does not match the IPspace name of ipspace.uuid.
1377267	The specified IPspace 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	

ipspace

Applies to both SVM and cluster-scoped objects. Either the UUID or name is supplied on input.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

node

Name	Type	Description
name	string	Name of node on which the port is located.

ports

Port UUID along with readable names

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

broadcast_domain

Set of ports that will receive a broadcast Ethernet packet from any of them

Name	Type	Description
_links	_links	

Name	Type	Description
ipspace	ipspace	Applies to both SVM and cluster-scoped objects. Either the UUID or name is supplied on input.
mtu	integer	Maximum transmission unit, largest packet size on this network
name	string	Name of the broadcast domain, scoped to its IPspace
ports	array[ports]	Ports that belong to the broadcast domain
uuid	string	Broadcast domain UUID

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.

Manage network Ethernet ports

Network Ethernet ports endpoint overview

Overview

A port is a physical or virtual Ethernet network device. Physical ports may be combined into Link Aggregation Groups (LAGs or ifgrps), or divided into Virtual LANs (VLANs).

The GET (collection), GET (instance) and PATCH APIs are available for all port types. The POST and DELETE APIs are available for "lag" (ifgrp) and "vlan" port types.

Retrieving network port information

The network ports GET API retrieves and displays relevant information pertaining to the ports configured in the cluster. The API retrieves the list of all ports configured in the cluster, or specifically requested ports. The fields returned in the response vary for different ports and configurations.

Examples

Retrieving all ports in the cluster

The following output displays the UUID, name, and port type for all ports configured in a 2-node cluster. The port types are physical, vlan, and lag (ifgrp).

```
# The API:
/api/network/ethernet/ports

# The call:
curl -X GET "https://<mgmt-
ip>/api/network/ethernet/ports?fields=uuid,name,type" -H "accept:
application/hal+json"

# The response:
{
"records": [
  {
    "uuid": "2d2c90c0-f70d-11e8-b145-005056bb5b8e",
    "name": "e0a",
    "type": "physical",
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/2d2c90c0-f70d-11e8-b145-
005056bb5b8e"
      }
    }
  },
  {
    "uuid": "2d3004da-f70d-11e8-b145-005056bb5b8e",
    "name": "e0b",
    "type": "physical",
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/2d3004da-f70d-11e8-b145-
005056bb5b8e"
```

```
      }
    }
  },
  {
    "uuid": "2d34a2cb-f70d-11e8-b145-005056bb5b8e",
    "name": "e0c",
    "type": "physical",
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/2d34a2cb-f70d-11e8-b145-
005056bb5b8e"
      }
    }
  },
  {
    "uuid": "2d37189f-f70d-11e8-b145-005056bb5b8e",
    "name": "e0d",
    "type": "physical",
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/2d37189f-f70d-11e8-b145-
005056bb5b8e"
      }
    }
  },
  {
    "uuid": "35de5d8b-f70d-11e8-abdf-005056bb7fc8",
    "name": "e0a",
    "type": "physical",
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/35de5d8b-f70d-11e8-abdf-
005056bb7fc8"
      }
    }
  },
  {
    "uuid": "35de78cc-f70d-11e8-abdf-005056bb7fc8",
    "name": "e0b",
    "type": "physical",
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/35de78cc-f70d-11e8-abdf-
005056bb7fc8"
      }
    }
```

```
  },
  {
    "uuid": "35dead3c-f70d-11e8-abdf-005056bb7fc8",
    "name": "e0c",
    "type": "physical",
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/35dead3c-f70d-11e8-abdf-
005056bb7fc8"
      }
    }
  },
  {
    "uuid": "35deda90-f70d-11e8-abdf-005056bb7fc8",
    "name": "e0d",
    "type": "physical",
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/35deda90-f70d-11e8-abdf-
005056bb7fc8"
      }
    }
  },
  {
    "uuid": "42e25145-f97d-11e8-ade9-005056bb7fc8",
    "name": "e0c-100",
    "type": "vlan",
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/42e25145-f97d-11e8-ade9-
005056bb7fc8"
      }
    }
  },
  {
    "uuid": "569e0abd-f97d-11e8-ade9-005056bb7fc8",
    "name": "a0a",
    "type": "lag",
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/569e0abd-f97d-11e8-ade9-
005056bb7fc8"
      }
    }
  }
],
```

```
"num_records": 10,
"_links": {
  "self": {
    "href": "/api/network/ethernet/ports?fields=uuid,name,type"
  }
}
}
```

Retrieving a specific physical port

The following output displays the response when a specific physical port is requested. The system returns an error when there is no port with the requested UUID. Also, the speed field is set only if the state of the port is up.

```
# The API:
/api/network/ethernet/ports/{uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ethernet/ports/2d37189f-f70d-
11e8-b145-005056bb5b8e?fields=*" -H "accept: application/hal+json"

# The response:
{
"uuid": "2d37189f-f70d-11e8-b145-005056bb5b8e",
"name": "e0d",
"mac_address": "00:50:56:bb:62:2d",
"type": "physical",
"node": {
  "uuid": "faa56898-f70c-11e8-b145-005056bb5b8e",
  "name": "user-cluster-01",
  "_links": {
    "self": {
      "href": "/api/cluster/nodes/faa56898-f70c-11e8-b145-005056bb5b8e"
    }
  }
},
"broadcast_domain": {
  "uuid": "36434bec-f70d-11e8-b145-005056bb5b8e",
  "name": "Default",
  "ipspace": {
    "name": "Default"
  },
  "_links": {
```

```
    "self": {
      "href": "/api/network/ethernet/broadcast-domains/36434bec-f70d-11e8-
b145-005056bb5b8e"
    }
  }
},
"enabled": true,
"state": "up",
"mtu": 1500,
"speed": "1000",
"_links": {
  "self": {
    "href": "/api/network/ethernet/ports/2d37189f-f70d-11e8-b145-
005056bb5b8e"
  }
}
}
```

Retrieving a specific VLAN port

The following output displays the response when a specific VLAN port is requested. The system returns an error when there is no port with the requested UUID. Also, the speed field is set only if the state of the port is up.

```
# The API:
/api/network/ethernet/ports/{uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ethernet/ports/42e25145-f97d-
11e8-ade9-005056bb7fc8?fields=*" -H "accept: application/hal+json"

# The response:
{
"uuid": "42e25145-f97d-11e8-ade9-005056bb7fc8",
"name": "e0e-100",
"mac_address": "00:50:56:bb:52:2f",
"type": "vlan",
"node": {
  "uuid": "6042cf47-f70c-11e8-abdf-005056bb7fc8",
  "name": "user-cluster-02",
  "_links": {
    "self": {
      "href": "/api/cluster/nodes/6042cf47-f70c-11e8-abdf-005056bb7fc8"
```

```
    }
  }
},
"enabled": true,
"state": "up",
"mtu": 1500,
"speed": "1000",
"vlan": {
  "tag": 100,
  "base_port": {
    "uuid": "35deff03-f70d-11e8-abdf-005056bb7fc8",
    "name": "e0e",
    "node": {
      "name": "user-cluster-02"
    },
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/35deff03-f70d-11e8-abdf-
005056bb7fc8"
      }
    }
  }
},
"_links": {
  "self": {
    "href": "/api/network/ethernet/ports/42e25145-f97d-11e8-ade9-
005056bb7fc8"
  }
}
}
```

Retrieving a specific LAG port

The following output displays the response when a specific LAG port is requested. The system returns an error when there is no port with the requested UUID. Also, the speed and lag.active_ports fields are set only if the state of the port is up.

```
# The API:
/api/network/ethernet/ports/{uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ethernet/ports/569e0abd-f97d-
11e8-ade9-005056bb7fc8?fields=*" -H "accept: application/hal+json"
```

```
# The response:
{
"uuid": "569e0abd-f97d-11e8-ade9-005056bb7fc8",
"name": "a0a",
"mac_address": "02:50:56:bb:7f:c8",
"type": "lag",
"node": {
  "uuid": "6042cf47-f70c-11e8-abdf-005056bb7fc8",
  "name": "user-cluster-02",
  "_links": {
    "self": {
      "href": "/api/cluster/nodes/6042cf47-f70c-11e8-abdf-005056bb7fc8"
    }
  }
},
"enabled": true,
"state": "up",
"mtu": 1500,
"speed": "1000",
"lag": {
  "mode": "singlemode",
  "distribution_policy": "mac",
  "member_ports": [
    {
      "uuid": "35df318d-f70d-11e8-abdf-005056bb7fc8",
      "name": "e0f",
      "node": {
        "name": "user-cluster-02"
      },
      "_links": {
        "self": {
          "href": "/api/network/ethernet/ports/35df318d-f70d-11e8-abdf-
005056bb7fc8"
        }
      }
    },
    {
      "uuid": "35df5bad-f70d-11e8-abdf-005056bb7fc8",
      "name": "e0g",
      "node": {
        "name": "user-cluster-02"
      },
      "_links": {
        "self": {
          "href": "/api/network/ethernet/ports/35df5bad-f70d-11e8-abdf-
```

```
005056bb7fc8"
        }
      }
    },
    {
      "uuid": "35df9926-f70d-11e8-abdf-005056bb7fc8",
      "name": "e0h",
      "node": {
        "name": "user-cluster-02"
      },
      "_links": {
        "self": {
          "href": "/api/network/ethernet/ports/35df9926-f70d-11e8-abdf-
005056bb7fc8"
        }
      }
    }
  ],
  "active_ports": [
    {
      "uuid": "35df318d-f70d-11e8-abdf-005056bb7fc8",
      "name": "e0f",
      "_links": {
        "self": {
          "href": "/api/network/ethernet/ports/35df318d-f70d-11e8-abdf-
005056bb7fc8"
        }
      }
    }
  ]
},
"_links": {
  "self": {
    "href": "/api/network/ethernet/ports/569e0abd-f97d-11e8-ade9-
005056bb7fc8"
  }
}
}
```

Retrieving all LAG (ifgrp) ports in the cluster

This command retrieves all LAG ports in the cluster (that is, all ports with type=LAG). The example shows how to filter a GET collection based on type.

```
# The API:
/api/network/ethernet/ports

# The call:
curl -X GET "https://<mgmt-
ip>/api/network/ethernet/ports?type=lag&node.name=user-cluster-
01&fields=name,enabled,speed,mtu" -H  "accept: application/hal+json"

# The response:
{
"records": [
  {
    "uuid": "0c226db0-4b63-11e9-8113-005056bbe040",
    "name": "a0b",
    "type": "lag",
    "node": {
      "name": "user-cluster-01"
    },
    "enabled": true,
    "mtu": 1500,
    "speed": "1000",
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/0c226db0-4b63-11e9-8113-
005056bbe040"
      }
    }
  },
  {
    "uuid": "d3a84153-4b3f-11e9-a00d-005056bbe040",
    "name": "a0a",
    "type": "lag",
    "node": {
      "name": "user-cluster-01"
    },
    "enabled": true,
    "mtu": 1500,
    "speed": "1000",
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/d3a84153-4b3f-11e9-a00d-
005056bbe040"
      }
    }
  }
```

```
],
"num_records": 2,
"_links": {
  "self": {
    "href":
"/api/network/ethernet/ports?fields=name,enabled,speed,mtu&type=lag&node.n
ame=user-cluster-01"
  }
}
}
```

Creating VLAN and LAG ports

The network ports POST API is used to create VLAN and LAG ports.

Examples

Creating a VLAN port

The following output displays the record returned after the creation of a VLAN port on "e0e" and VLAN tag "100". Also, the VLAN port is added to the "Default" broadcast domain in the "Default" IPspace.

```
# The API:
/api/network/ethernet/ports

# The call:
curl -X POST "https://<mgmt-
ip>/api/network/ethernet/ports?return_records=true" -H "accept:
application/hal+json" -H "Content-Type: application/json" -d "{
\"type\": \"vlan\", \"node\": { \"name\": \"user-cluster-01\" },
\"broadcast_domain\": { \"name\": \"Default\", \"ipspace\": { \"name\":
\"Default    \" } }, \"enabled\": true, \"vlan\": { \"tag\": 100,
\"base_port\": { \"name\": \"e0e\", \"node\": { \"name\": \"user-cluster-
01\" } } }}"

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "88b2f682-fa42-11e8-a6d7-005056bb5b8e",
    "type": "vlan",
```

```
    "node": {
      "uuid": "faa56898-f70c-11e8-b145-005056bb5b8e",
      "name": "user-cluster-01",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/faa56898-f70c-11e8-b145-
005056bb5b8e"
        }
      }
    },
    "broadcast_domain": {
      "uuid": "36434bec-f70d-11e8-b145-005056bb5b8e",
      "name": "Default",
      "ipspace": {
        "name": "Default"
      },
      "_links": {
        "self": {
          "href": "/api/network/ethernet/broadcast-domains/36434bec-f70d-
11e8-b145-005056bb5b8e"
        }
      }
    },
    "enabled": true,
    "vlan": {
      "tag": 100,
      "base_port": {
        "uuid": "2d39df72-f70d-11e8-b145-005056bb5b8e",
        "name": "e0e",
        "node": {
          "name": "user-cluster-01"
        },
        "_links": {
          "self": {
            "href": "/api/network/ethernet/ports/2d39df72-f70d-11e8-b145-
005056bb5b8e"
          }
        }
      }
    },
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/88b2f682-fa42-11e8-a6d7-
005056bb5b8e"
      }
    }
```

```
  }
]
}
```

Creating a LAG (ifgrp) port

The following output displays the record returned after the creation of a LAG port with "e0f", "e0g" and "e0h" as member ports.

```
# The API:
/api/network/ethernet/ports

# The call:
curl -X POST "https://<mgmt-
ip>/api/network/ethernet/ports?return_records=true" -H  "accept:
application/json" -H  "Content-Type: application/json" -d "{  \"type\":
\"lag\",  \"node\": { \"name\": \"user-cluster-01\"  },
\"broadcast_domain\": { \"name\": \"Default\", \"ipspace\": { \"name\":
\"Default\" } }, \"enabled\": true, \"lag\": { \"mode\": \"singlemode\",
\"distribution_policy\": \"mac\", \"member_ports\": [ { \"name\": \"e0f\",
\"node\": { \"name\": \"user-cluster-01\" } }, { \"name\": \"e0g\",
\"node\": { \"name\": \"user-cluster-01\" }}, { \"name\": \"e0h\",
\"node\": { \"name\": \"user-cluster-01\" } } ]  } }" -u admin:netapp1! -k

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "1807772a-fa4d-11e8-a6d7-005056bb5b8e",
    "type": "lag",
    "node": {
      "uuid": "faa56898-f70c-11e8-b145-005056bb5b8e",
      "name": "user-cluster-01"
    },
    "broadcast_domain": {
      "uuid": "36434bec-f70d-11e8-b145-005056bb5b8e",
      "name": "Default",
      "ipspace": {
        "name": "Default"
      }
    },
    "enabled": true,
```

```
    "lag": {
      "mode": "singlemode",
      "distribution_policy": "mac",
      "member_ports": [
        {
          "uuid": "2d3c9adc-f70d-11e8-b145-005056bb5b8e",
          "name": "e0f",
          "node": {
            "name": "user-cluster-01"
          }
        },
        {
          "uuid": "2d40b097-f70d-11e8-b145-005056bb5b8e",
          "name": "e0g",
          "node": {
            "name": "user-cluster-01"
          }
        },
        {
          "uuid": "2d46d01e-f70d-11e8-b145-005056bb5b8e",
          "name": "e0h",
          "node": {
            "name": "user-cluster-01"
          }
        }
      ]
    }
  }
]
}
```

Updating ports

The network ports PATCH API is used to modify attributes of ports.

Examples

Updating the broadcast domain of a port

The following PATCH request removes the port from the current broadcast domain and adds it to the specified broadcast domain.

```
# The API:
/api/network/ethernet/ports/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/network/ethernet/ports/6867efaf-d702-
11e8-994f-005056bbc994" -H  "accept: application/hal+json" -H  "Content-
Type: application/json" -d "{ \"broadcast_domain\": { \"name\":
\"Default\", \"ipspace\": { \"name\": \"Default\" }}}"
```

Updating the admin status of a port

The following PATCH request brings the specified port down.

```
# The API:
/api/network/ethernet/ports/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/network/ethernet/ports/51d3ab39-d86d-
11e8-aca6-005056bbc994" -H  "accept: application/hal+json" -H  "Content-
Type: application/json" -d "{ \"enabled\": \"false\" }"
```

Deleting ports

The network ports DELETE API is used to delete VLAN and LAG ports in the cluster. Note that physical ports cannot be deleted. Deleting a port also removes the port from the broadcast domain.

Example

Deleting a VLAN port

The network ports DELETE API is used to delete a VLAN port.

```
# The API:
/api/network/ethernet/ports/{uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/network/ethernet/ports/6867efaf-
d702-11e8-994f-005056bbc994" -H  "accept: application/hal+json" -H
"Content-Type: application/json"
```

Retrieve ports

GET `/network/ethernet/ports`

Retrieves a collection of ports (physical, VLAN and LAG) for an entire cluster.

Related ONTAP commands

- `network port show`
- `network port ifgrp show`
- `network port vlan show`

Learn more

- DOC /network/ethernet/ports

Parameters

Name	Type	In	Required	Description
name	string	query	False	Filter by name
state	string	query	False	Filter by state
node.name	string	query	False	Filter by node.name
node.uuid	string	query	False	Filter by node.uuid
type	string	query	False	Filter by type
broadcast_domain.name	string	query	False	Filter by broadcast_domain.name

Name	Type	In	Required	Description
broadcast_domain.ipspace.name	string	query	False	Filter by broadcast_domain.ipspace.name
broadcast_domain.uuid	string	query	False	Filter by broadcast_domain.uuid
speed	integer	query	False	Filter by speed
enabled	boolean	query	False	Filter by enabled
lag.active_ports.node.name	string	query	False	Filter by lag.active_ports.node.name
lag.active_ports.name	string	query	False	Filter by lag.active_ports.name
lag.active_ports.uuid	string	query	False	Filter by lag.active_ports.uuid
lag.distribution_policy	string	query	False	Filter by lag.distribution_policy
lag.mode	string	query	False	Filter by lag.mode
lag.member_ports.node.name	string	query	False	Filter by lag.member_ports.node.name
lag.member_ports.name	string	query	False	Filter by lag.member_ports.name
lag.member_ports.uuid	string	query	False	Filter by lag.member_ports.uuid
mtu	integer	query	False	Filter by mtu
uuid	string	query	False	Filter by uuid

Name	Type	In	Required	Description
mac_address	string	query	False	Filter by mac_address
vlan.base_port.node.name	string	query	False	Filter by vlan.base_port.node.name
vlan.base_port.name	string	query	False	Filter by vlan.base_port.name
vlan.base_port.uuid	string	query	False	Filter by vlan.base_port.uuid
vlan.tag	integer	query	False	Filter by vlan.tag
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.
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	_links	
num_records	integer	
records	array[port]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "broadcast_domain": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "ipspace": {
          "name": "ipspace1"
        },
        "name": "bd1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "lag": {
        "active_ports": [
          {
            "_links": {
              "self": {
                "href": "/api/resourcelink"
              }
            },
            "name": "e1b",
            "node": {
              "name": "node1"
            },
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          }
        ],
        "distribution_policy": "string",
```

```
      "member_ports": [
        {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "e1b",
          "node": {
            "name": "node1"
          },
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      ],
      "mode": "string"
    },
    "mac_address": "01:02:03:04:05:06",
    "mtu": 1500,
    "name": "e1b",
    "node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "speed": 1000,
    "state": "string",
    "type": "string",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412",
    "vlan": {
      "base_port": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "e1b",
        "node": {
          "name": "node1"
        },
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "tag": 100
```

```
        }
      }
    ]
}
```

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	

ipspace

Name	Type	Description
name	string	Name of the broadcast domain's IPspace

broadcast_domain

Broadcast domain UUID along with a readable name. Either the UUID or both names may be provided on input.

Name	Type	Description
_links	_links	
ipspace	ipspace	
name	string	Name of the broadcast domain, scoped to its IPspace
uuid	string	Broadcast domain UUID

node

Name	Type	Description
name	string	Name of node on which the port is located.

active_ports

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

member_ports

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

lag

Name	Type	Description
active_ports	array[active_ports]	Active ports of a LAG (ifgrp). (Some member ports may be inactive.)
distribution_policy	string	Policy for mapping flows to ports for outbound packets through a LAG (ifgrp).
member_ports	array[member_ports]	
mode	string	Determines how the ports interact with the switch.

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

base_port

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

vlan

Name	Type	Description
base_port	base_port	Port UUID along with readable names. Either the UUID or both names may be supplied on input.
tag	integer	VLAN ID

port

Name	Type	Description
_links	_links	
broadcast_domain	broadcast_domain	Broadcast domain UUID along with a readable name. Either the UUID or both names may be provided on input.
enabled	boolean	
lag	lag	
mac_address	string	
mtu	integer	MTU of the port in bytes. Set by broadcast domain.
name	string	Portname, such as e0a, e1b-100 (VLAN on ethernet), a0c (LAG/ifgrp), a0d-200 (vlan on LAG/ifgrp)
node	node	
speed	integer	Link speed in Mbps
state	string	Operational state of the port.
type	string	Type of physical or virtual port

Name	Type	Description
uuid	string	Port UUID
vlan	vlan	

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.

Create a new VLAN or LAG

POST `/network/ethernet/ports`

Creates a new VLAN (such as node1:e0a-100) or LAG (ifgrp, such as node2:a0a).

Required properties

- `node` - Node the port will be created on.
- `broadcast_domain` - Broadcast domain the port is associated with.
- `type` - Defines if a VLAN or LAG will be created:
  - VLAN
    - `vlan.base_port` - Physical port or LAG the VLAN will be created on.
    - `vlan.tag` - Tag used to identify VLAN on the base port.
  - LAG
    - `lag.mode` - Policy for the LAG that will be created.
    - `lag.distribution_policy` - Indicates how the packets are distributed between ports.

- `lag.member_ports` - Set of ports the LAG consists of.

Related ONTAP commands

- `network port ifgrp create`
- `network port vlan create`

Learn more

- DOC /network/ethernet/ports

Request Body

Name	Type	Description
_links	_links	
broadcast_domain	broadcast_domain	Broadcast domain UUID along with a readable name. Either the UUID or both names may be provided on input.
enabled	boolean	
lag	lag	
mac_address	string	
mtu	integer	MTU of the port in bytes. Set by broadcast domain.
name	string	Portname, such as e0a, e1b-100 (VLAN on ethernet), a0c (LAG/ifgrp), a0d-200 (vlan on LAG/ifgrp)
node	node	
speed	integer	Link speed in Mbps
state	string	Operational state of the port.
type	string	Type of physical or virtual port
uuid	string	Port UUID
vlan	vlan	

Example request


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "broadcast_domain": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "ipspace": {
      "name": "ipspace1"
    },
    "name": "bd1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "lag": {
    "active_ports": [
      {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "e1b",
        "node": {
          "name": "node1"
        },
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    ],
    "distribution_policy": "string",
    "member_ports": [
      {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "e1b",
        "node": {
          "name": "node1"
```

```
        },
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    ],
    "mode": "string"
  },
  "mac_address": "01:02:03:04:05:06",
  "mtu": 1500,
  "name": "e1b",
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "speed": 1000,
  "state": "string",
  "type": "string",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412",
  "vlan": {
    "base_port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "e1b",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "tag": 100
  }
}
```


Response

```
Status: 201, Created
```

Name	Type	Description
_links	_links	
num_records	integer	
records	array[port]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "broadcast_domain": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "ipspace": {
          "name": "ipspace1"
        },
        "name": "bd1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "lag": {
        "active_ports": [
          {
            "_links": {
              "self": {
                "href": "/api/resourcelink"
              }
            },
            "name": "e1b",
            "node": {
              "name": "node1"
            },
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          }
        ],
        "distribution_policy": "string",
```

```
      "member_ports": [
        {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "e1b",
          "node": {
            "name": "node1"
          },
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      ],
      "mode": "string"
    },
    "mac_address": "01:02:03:04:05:06",
    "mtu": 1500,
    "name": "e1b",
    "node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "speed": 1000,
    "state": "string",
    "type": "string",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412",
    "vlan": {
      "base_port": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "e1b",
        "node": {
          "name": "node1"
        },
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "tag": 100
```

```
        }
      }
    ]
}
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1967083	The specified type is invalid.
1967084	The specified node UUID is invalid.
1967085	The specified node name is invalid.
1967086	Node name and UUID must match if both are provided.
1967087	The specified broadcast domain UUID is invalid.
1967088	The specified broadcast domain name does not exist in the specified IPspace.
1967089	The specified broadcast domain UUID, name and IPspace name do not match.
1967090	The specified VLAN base port UUID is invalid.
1967091	The specified VLAN base port name and node name is invalid.
1967092	The specified node does not match the node specified for the VLAN base port.
1967093	The specified VLAN base port UUID, name, and VLAN base port node name do not match.
1967094	The specified LAG member port UUID is invalid.
1967095	The specified LAG member port name and node name combination is invalid.
1967096	The specified node does not match the specified LAG member port node.
1967097	The specified LAG member ports UUID, name, and node name do not match.
1967098	VLAN POST operation has failed because admin status could not be set for the specified port.
1967099	Partial success of the VLAN POST operation. Verify the state of the created VLAN for more information.

Error Code	Description
1967100	LAG POST operation failed because admin status could not be set.
1967101	Partial success of the LAG POST operation. Verify the state of the created LAG for more information.
1967102	POST operation might have left the configuration in an inconsistent state. Check the configuration.
1967148	Failure to remove port from broadcast domain.
1967149	Failure to add port to broadcast domain.
1376361	Port is already a member of a LAG (ifgrp).
1966189	Port is the home port or current port of a LIF.

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	

ipspace

Name	Type	Description
name	string	Name of the broadcast domain's IPspace

broadcast_domain

Broadcast domain UUID along with a readable name. Either the UUID or both names may be provided on input.

Name	Type	Description
_links	_links	
ipspace	ipspace	
name	string	Name of the broadcast domain, scoped to its IPspace
uuid	string	Broadcast domain UUID

node

Name	Type	Description
name	string	Name of node on which the port is located.

active_ports

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	
node	node	
uuid	string	

member_ports

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

lag

Name	Type	Description
active_ports	array[active_ports]	Active ports of a LAG (ifgrp). (Some member ports may be inactive.)
distribution_policy	string	Policy for mapping flows to ports for outbound packets through a LAG (ifgrp).
member_ports	array[member_ports]	
mode	string	Determines how the ports interact with the switch.

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

base_port

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	
node	node	
uuid	string	

vlan

Name	Type	Description
base_port	base_port	Port UUID along with readable names. Either the UUID or both names may be supplied on input.
tag	integer	VLAN ID

port

Name	Type	Description
_links	_links	
broadcast_domain	broadcast_domain	Broadcast domain UUID along with a readable name. Either the UUID or both names may be provided on input.
enabled	boolean	
lag	lag	
mac_address	string	
mtu	integer	MTU of the port in bytes. Set by broadcast domain.
name	string	Portname, such as e0a, e1b-100 (VLAN on ethernet), a0c (LAG/ifgrp), a0d-200 (vlan on LAG/ifgrp)
node	node	
speed	integer	Link speed in Mbps
state	string	Operational state of the port.
type	string	Type of physical or virtual port
uuid	string	Port UUID

Name	Type	Description
vlan	vlan	

_links

Name	Type	Description
next	href	
self	href	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

Delete a VLAN or LAG

DELETE `/network/ethernet/ports/{uuid}`

Deletes a VLAN or LAG (ifgrp).

Related ONTAP commands

- `network port ifgrp delete`
- `network port vlan delete`

Learn more

- DOC /network/ethernet/ports

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1966189	Port is the home port or current port of a LIF.
1376858	Port already has a LIF bound.

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 physical port, VLAN, or LAG details

GET `/network/ethernet/ports/{uuid}`

Retrieves the details of a physical port, VLAN, or LAG.

Related ONTAP commands

- `network port show`
- `network port ifgrp show`
- `network port vlan show`

Learn more

- DOC /network/ethernet/ports

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Port UUID
fields	array[string]	query	False	Specify the fields to return.

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
broadcast_domain	broadcast_domain	Broadcast domain UUID along with a readable name. Either the UUID or both names may be provided on input.
enabled	boolean	
lag	lag	
mac_address	string	
mtu	integer	MTU of the port in bytes. Set by broadcast domain.
name	string	Portname, such as e0a, e1b-100 (VLAN on ethernet), a0c (LAG/ifgrp), a0d-200 (vlan on LAG/ifgrp)
node	node	
speed	integer	Link speed in Mbps
state	string	Operational state of the port.
type	string	Type of physical or virtual port
uuid	string	Port UUID
vlan	vlan	

Example response


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "broadcast_domain": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "ipspace": {
      "name": "ipspace1"
    },
    "name": "bd1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "lag": {
    "active_ports": [
      {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "e1b",
        "node": {
          "name": "node1"
        },
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    ],
    "distribution_policy": "string",
    "member_ports": [
      {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "e1b",
        "node": {
          "name": "node1"
```

```
        },
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    ],
    "mode": "string"
  },
  "mac_address": "01:02:03:04:05:06",
  "mtu": 1500,
  "name": "e1b",
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "speed": 1000,
  "state": "string",
  "type": "string",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412",
  "vlan": {
    "base_port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "e1b",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "tag": 100
  }
}
```


Error

```
Status: Default, Error
```

Name	Type	Description
error	error	

Example error


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


Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

ipspace

Name	Type	Description
name	string	Name of the broadcast domain's IPspace

broadcast_domain

Broadcast domain UUID along with a readable name. Either the UUID or both names may be provided on input.

Name	Type	Description
_links	_links	
ipspace	ipspace	
name	string	Name of the broadcast domain, scoped to its IPspace
uuid	string	Broadcast domain UUID

node

Name	Type	Description
name	string	Name of node on which the port is located.

active_ports

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	
node	node	
uuid	string	

member_ports

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

lag

Name	Type	Description
active_ports	array[active_ports]	Active ports of a LAG (ifgrp). (Some member ports may be inactive.)
distribution_policy	string	Policy for mapping flows to ports for outbound packets through a LAG (ifgrp).
member_ports	array[member_ports]	
mode	string	Determines how the ports interact with the switch.

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

base_port

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	
node	node	
uuid	string	

vlan

Name	Type	Description
base_port	base_port	Port UUID along with readable names. Either the UUID or both names may be supplied on input.
tag	integer	VLAN ID

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

Update a port

PATCH `/network/ethernet/ports/{uuid}`

Updates a port.

Related ONTAP commands

- `network port broadcast-domain add-ports`

- `network port broadcast-domain remove-ports`
- `network port ifgrp modify`
- `network port modify`
- `network port vlan modify`

Learn more

- DOC /network/ethernet/ports

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Port UUID

Request Body

Name	Type	Description
_links	_links	
broadcast_domain	broadcast_domain	Broadcast domain UUID along with a readable name. Either the UUID or both names may be provided on input.
enabled	boolean	
lag	lag	
mac_address	string	
mtu	integer	MTU of the port in bytes. Set by broadcast domain.
name	string	Portname, such as e0a, e1b-100 (VLAN on ethernet), a0c (LAG/ifgrp), a0d-200 (vlan on LAG/ifgrp)
speed	integer	Link speed in Mbps
state	string	Operational state of the port.
uuid	string	Port UUID

Example request


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "broadcast_domain": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "ipspace": {
      "name": "ipspace1"
    },
    "name": "bd1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "lag": {
    "active_ports": [
      {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "e1b",
        "node": {
          "name": "node1"
        },
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    ],
    "member_ports": [
      {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "e1b",
        "node": {
          "name": "node1"
        },
```

```
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    ]
  },
  "mac_address": "01:02:03:04:05:06",
  "mtu": 1500,
  "name": "e1b",
  "speed": 1000,
  "state": "string",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
```


Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1967087	The specified broadcast domain UUID is invalid.
1967088	The specified broadcast domain name does not exist in the specified IPspace.
1967089	The specified broadcast domain UUID, name and IPspace name do not match.
1967094	The specified LAG member port UUID is invalid.
1967095	The specified LAG member port name and node name combination is invalid.
1967096	The specified node does not match the specified LAG member port node.
1967097	The specified LAG member ports UUID, name, and node name do not match.
1967148	Failure to remove port from broadcast domain.
1967149	Failure to add port to broadcast domain.
1376361	Port is already a member of a LAG (ifgrp).
1377563	Port is already a member of a LAG (ifgrp).

Error Code	Description
1377562	Port cannot be used because it is currently the home port or current port of a LIF.

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	

ipspace

Name	Type	Description
name	string	Name of the broadcast domain's IPspace

broadcast_domain

Broadcast domain UUID along with a readable name. Either the UUID or both names may be provided on input.

Name	Type	Description
_links	_links	
ipspace	ipspace	
name	string	Name of the broadcast domain, scoped to its IPspace
uuid	string	Broadcast domain UUID

node

Name	Type	Description
name	string	Name of node on which the port is located.

active_ports

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	
node	node	
uuid	string	

member_ports

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

lag

Name	Type	Description
active_ports	array[active_ports]	Active ports of a LAG (ifgrp). (Some member ports may be inactive.)
member_ports	array[member_ports]	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

base_port

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

vlan

Name	Type	Description
base_port	base_port	Port UUID along with readable names. Either the UUID or both names may be supplied on input.
tag	integer	VLAN ID

port

Name	Type	Description
_links	_links	
broadcast_domain	broadcast_domain	Broadcast domain UUID along with a readable name. Either the UUID or both names may be provided on input.
enabled	boolean	
lag	lag	
mac_address	string	
mtu	integer	MTU of the port in bytes. Set by broadcast domain.
name	string	Portname, such as e0a, e1b-100 (VLAN on ethernet), a0c (LAG/ifgrp), a0d-200 (vlan on LAG/ifgrp)
speed	integer	Link speed in Mbps
state	string	Operational state of the port.
uuid	string	Port UUID

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.

Manage FC network interfaces

Network FC interfaces endpoint overview

Overview

Fibre Channel (FC) interfaces are the logical endpoints for FC network connections to an SVM. An FC interface provides FC access to storage within the interface SVM using either Fibre Channel Protocol or NVMe over FC (NVMe/FC).

The Fibre Channel interface REST API allows you to create, delete, update, and discover FC interfaces, and obtain status information for FC interfaces.

An FC interface is created on an FC port which is located on a cluster node. The FC port must be specified to identify the location of the interface for a POST or PATCH request that relocates an interface. You can identify the port by supplying either the node and port names or the port UUID.

Examples

Creating an FC interface using the port node and name to identify the location

This example uses the `return_records` query parameter to retrieve the newly created FC interface in the POST response.

```
# The API:
POST /api/network/fc/interfaces

# The call:
curl -X POST 'https://<mgmt-
ip>/api/network/fc/interfaces?return_records=true' -H 'accept:
application/hal+json' -d '{ "svm": { "name": "svm1" }, "name": "lif1",
"location": { "port": { "name": "0a", "node": { "name": "node1" } } },
"data_protocol": "fcp" }'

# The response:
{
```

```
"num_records": 1,
"records": [
  {
    "svm": {
      "uuid": "cf300f5c-db83-11e8-bd46-005056bba0e0",
      "name": "svm1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/cf300f5c-db83-11e8-bd46-005056bba0e0"
        }
      }
    },
    "uuid": "f6045b92-dec7-11e8-a733-005056bba0e0",
    "name": "lif1",
    "location": {
      "node": {
        "uuid": "bafe9b9f-db81-11e8-bd46-005056bba0e0",
        "name": "node1",
        "_links": {
          "self": {
            "href": "/api/cluster/nodes/bafe9b9f-db81-11e8-bd46-
005056bba0e0"
          }
        }
      },
      "port": {
        "uuid": "300c1ae3-db82-11e8-bd46-005056bba0e0",
        "name": "0a",
        "node": {
          "name": "node1"
        },
        "_links": {
          "self": {
            "href": "/api/network/fc/ports/300c1ae3-db82-11e8-bd46-
005056bba0e0"
          }
        }
      }
    },
    "enabled": true,
    "state": "down",
    "data_protocol": "fcp",
    "wwpn": "20:04:00:50:56:bb:a0:e0",
    "wwnn": "20:00:00:50:56:bb:a0:e0",
    "port_address": "9da2cb1",
    "_links": {
```

```
      "self": {
        "href": "/api/network/fc/interfaces/f6045b92-dec7-11e8-a733-
005056bba0e0"
      }
    }
  }
]
}
```

Creating an FC interface using the port UUID to identify the location

This example uses the `return_records` query parameter to retrieve the newly created FC interface in the POST response.

```
# The API:
POST /api/network/fc/interfaces

# The call:
curl -X POST 'https://<mgmt-
ip>/api/network/fc/interfaces?return_records=true' -H 'accept:
application/hal+json' -d '{ "svm": { "name": "svm3" }, "name": "lif2",
"location": { "port": { "uuid": "24bb636a-db83-11e8-9a49-005056bb1ec6" }
}, "data_protocol": "fc_nvme" }'

# The response:
{
"num_records": 1,
"records": [
  {
    "svm": {
      "uuid": "a5060466-dbab-11e8-bd46-005056bba0e0",
      "name": "svm3",
      "_links": {
        "self": {
          "href": "/api/svm/svms/a5060466-dbab-11e8-bd46-005056bba0e0"
        }
      }
    },
    "uuid": "cdeb5591-dec9-11e8-a733-005056bba0e0",
    "name": "lif2",
    "location": {
      "node": {
        "uuid": "e85aa147-db83-11e8-9a48-005056bb1ec6",
        "name": "node3",
```

```
        "_links": {
          "self": {
            "href": "/api/cluster/nodes/e85aa147-db83-11e8-9a48-
005056bb1ec6"
          }
        }
      },
      "port": {
        "uuid": "24bb636a-db83-11e8-9a49-005056bb1ec6",
        "name": "1b",
        "node": {
          "name": "node3"
        },
        "_links": {
          "self": {
            "href": "/api/network/fc/ports/24bb636a-db83-11e8-9a49-
005056bb1ec6"
          }
        }
      }
    },
    "enabled": true,
    "state": "down",
    "data_protocol": "fc_nvme",
    "wwpn": "20:05:00:50:56:bb:a0:e0",
    "wwnn": "20:02:00:50:56:bb:a0:e0",
    "port_address": "612e202b",
    "_links": {
      "self": {
        "href": "/api/network/fc/interfaces/cdeb5591-dec9-11e8-a733-
005056bba0e0"
      }
    }
  }
]
}
```

Retrieving all properties for all FC interfaces

This example uses the `fields` query parameter to retrieve all properties.

```
# The API:
GET /api/network/fc/interfaces
```

```
# The call:
curl -X GET 'https://<mgmt-ip>/api/network/fc/interfaces?fields=*' -H
'accept: application/hal+json'

# The response:
{
"records": [
  {
    "svm": {
      "uuid": "a5060466-dbab-11e8-bd46-005056bba0e0",
      "name": "svm3",
      "_links": {
        "self": {
          "href": "/api/svm/svms/a5060466-dbab-11e8-bd46-005056bba0e0"
        }
      }
    },
    "uuid": "cdeb5591-dec9-11e8-a733-005056bba0e0",
    "name": "lif2",
    "location": {
      "node": {
        "uuid": "e85aa147-db83-11e8-9a48-005056bb1ec6",
        "name": "node3",
        "_links": {
          "self": {
            "href": "/api/cluster/nodes/e85aa147-db83-11e8-9a48-
005056bb1ec6"
          }
        }
      },
      "port": {
        "uuid": "24bb636a-db83-11e8-9a49-005056bb1ec6",
        "name": "1b",
        "node": {
          "name": "node3"
        },
        "_links": {
          "self": {
            "href": "/api/network/fc/ports/24bb636a-db83-11e8-9a49-
005056bb1ec6"
          }
        }
      }
    },
    "enabled": true,
    "state": "down",
```

```
    "data_protocol": "fc_nvme",
    "wwpn": "20:05:00:50:56:bb:a0:e0",
    "wwnn": "20:02:00:50:56:bb:a0:e0",
    "port_address": "612e202b",
    "_links": {
      "self": {
        "href": "/api/network/fc/interfaces/cdeb5591-dec9-11e8-a733-
005056bba0e0"
      }
    }
  },
  {
    "svm": {
      "uuid": "cf300f5c-db83-11e8-bd46-005056bba0e0",
      "name": "svm1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/cf300f5c-db83-11e8-bd46-005056bba0e0"
        }
      }
    },
    "uuid": "f6045b92-dec7-11e8-a733-005056bba0e0",
    "name": "lif1",
    "location": {
      "node": {
        "uuid": "bafe9b9f-db81-11e8-bd46-005056bba0e0",
        "name": "node1",
        "_links": {
          "self": {
            "href": "/api/cluster/nodes/bafe9b9f-db81-11e8-bd46-
005056bba0e0"
          }
        }
      },
      "port": {
        "uuid": "300c1ae3-db82-11e8-bd46-005056bba0e0",
        "name": "0a",
        "node": {
          "name": "node1"
        },
        "_links": {
          "self": {
            "href": "/api/network/fc/ports/300c1ae3-db82-11e8-bd46-
005056bba0e0"
          }
        }
```

```
      }
    },
    "enabled": true,
    "state": "down",
    "data_protocol": "fcp",
    "wwpn": "20:04:00:50:56:bb:a0:e0",
    "wwnn": "20:00:00:50:56:bb:a0:e0",
    "port_address": "9da2cb1",
    "_links": {
      "self": {
        "href": "/api/network/fc/interfaces/f6045b92-dec7-11e8-a733-
005056bba0e0"
      }
    }
  }
],
"num_records": 2,
"_links": {
  "self": {
    "href": "/api/network/fc/interfaces?fields=*"
  }
}
}
```


Retrieving a list of selected FC interfaces

This example uses property query parameters to retrieve FC interfaces configured for the FC Protocol that are set to *up*.

```
# The API:
GET /api/network/fc/interfaces

# The call:
curl -X GET 'https://<mgmt-
ip>/api/network/fc/interfaces?data_protocol=fcp&state=up' -H 'accept:
application/hal+json'

# The response:
{
"records": [
  {
    "svm": {
      "uuid": "cf300f5c-db83-11e8-bd46-005056bba0e0",
      "name": "svm1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/cf300f5c-db83-11e8-bd46-005056bba0e0"
        }
      }
    },
    "uuid": "f6045b92-dec7-11e8-a733-005056bba0e0",
    "name": "lif1",
    "state": "up",
    "data_protocol": "fcp",
    "_links": {
      "self": {
        "href": "/api/network/fc/interfaces/f6045b92-dec7-11e8-a733-
005056bba0e0"
      }
    }
  }
],
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/network/fc/interfaces?data_protocol=fcp&state=up"
  }
}
}
```

Retrieving a specific FC interface

```
# The API:
GET /api/network/fc/interfaces/{uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/network/fc/interfaces/cdeb5591-dec9-
11e8-a733-005056bba0e0' -H 'accept: application/hal+json'

# The response:
{
"svm": {
  "uuid": "a5060466-dbab-11e8-bd46-005056bba0e0",
  "name": "svm3",
  "_links": {
    "self": {
      "href": "/api/svm/svms/a5060466-dbab-11e8-bd46-005056bba0e0"
    }
  }
},
"uuid": "cdeb5591-dec9-11e8-a733-005056bba0e0",
"name": "lif2",
"location": {
  "node": {
    "uuid": "e85aa147-db83-11e8-9a48-005056bb1ec6",
    "name": "node3",
    "_links": {
      "self": {
        "href": "/api/cluster/nodes/e85aa147-db83-11e8-9a48-005056bb1ec6"
      }
    }
  },
  "port": {
    "uuid": "24bb636a-db83-11e8-9a49-005056bb1ec6",
    "name": "1b",
    "node": {
      "name": "node3"
    },
    "_links": {
      "self": {
        "href": "/api/network/fc/ports/24bb636a-db83-11e8-9a49-
005056bb1ec6"
      }
    }
  }
},
```

```
"enabled": true,
"state": "down",
"data_protocol": "fc_nvme",
"wwpn": "20:05:00:50:56:bb:a0:e0",
"wwnn": "20:02:00:50:56:bb:a0:e0",
"port_address": "612e202b",
"_links": {
  "self": {
    "href": "/api/network/fc/interfaces/cdeb5591-dec9-11e8-a733-
005056bba0e0"
  }
}
}
```

Disabling an FC interface

When updating certain properties or deleting an FC interface, the interface must first be disabled using the following:

```
# The API:
PATCH /api/network/fc/interfaces/{uuid}

# The call:
curl -X PATCH 'https://<mgmt-ip>/api/network/fc/interfaces/f6045b92-dec7-
11e8-a733-005056bba0e0' -H 'accept: application/hal+json' -d '{ "enabled":
false }'
```

Moving the FC interface to a new node and port

To move an FC interface to another node or port, the destination FC port must be specified in a PATCH request. Either the port UUID or node and port names can be used to identify the port.

Note that only FC interfaces configured for the FC Protocol can be moved. FC interfaces configured for NVMe/FC cannot be moved. The interface must also be set to the disabled state before being moved.

```
# The API:
PATCH /api/network/fc/interfaces/{uuid}

# The call:
curl -X PATCH 'https://<mgmt-ip>/api/network/fc/interfaces/f6045b92-dec7-
11e8-a733-005056bba0e0' -H 'accept: application/hal+json' -d '{
"location": { "port": { "uuid": "a1dc7aa5-db83-11e8-9ef7-005056bbbbcc" } }
}'
```

Deleting an FC interface

An FC interface must be disabled before being deleted.

```
# The API:
DELETE /api/network/fc/interfaces/{uuid}

# The call:
curl -X DELETE 'https://<mgmt-ip>/api/network/fc/interfaces/f6045b92-dec7-
11e8-a733-005056bba0e0' -H 'accept: application/hal+json'
```

Retrieve FC interfaces

GET `/network/fc/interfaces`

Retrieves FC interfaces.

Related ONTAP commands

- `network interface show`
- `vserver fcp interface show`

Learn more

- DOC /network/fc/interfaces

Parameters

Name	Type	In	Required	Description
wwpn	string	query	False	Filter by wwpn
uuid	string	query	False	Filter by uuid
comment	string	query	False	Filter by comment

Name	Type	In	Required	Description
location.port.name	string	query	False	Filter by location.port.name
location.port.node.name	string	query	False	Filter by location.port.node.name
location.port.uuid	string	query	False	Filter by location.port.uuid
location.node.name	string	query	False	Filter by location.node.name
location.node.uuid	string	query	False	Filter by location.node.uuid
port_address	string	query	False	Filter by port_address
wwnn	string	query	False	Filter by wwnn
enabled	boolean	query	False	Filter by enabled
state	string	query	False	Filter by state
name	string	query	False	Filter by name
data_protocol	string	query	False	Filter by data_protocol
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
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	_links	
num_records	integer	Number of records.
records	array[fc_interface]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "comment": "string",
      "data_protocol": "string",
      "location": {
        "node": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "node1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "port": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "0a",
          "node": {
            "name": "node1"
          },
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      },
      "name": "lif1",
      "port_address": "5060F",
      "state": "string",
```

```
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412",
      "wwnn": "20:00:00:50:56:b4:13:01",
      "wwpn": "20:00:00:50:56:b4:13:a8"
    }
  ]
}
```


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	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

node

The node on which the FC port is located.

Name	Type	Description
name	string	The name of the node on which the FC port is located.

fc_port_reference

An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

Name	Type	Description
_links	_links	
name	string	The name of the FC port.
node	node	The node on which the FC port is located.

Name	Type	Description
uuid	string	The unique identifier of the FC port.

location

The location of the FC interface is defined by the location of its port. An FC port is identified by its UUID, or a combination of its node name and port name. Either the UUID or the node name and port name are required for POST. To move an interface, supply either the UUID or the node name and port name in a PATCH.

Name	Type	Description
node	node	
port	fc_port_reference	An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

svm

SVM, applies only to SVM-scoped objects.

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

fc_interface

A Fibre Channel (FC) interface is the logical endpoint for FC network connections to an SVM. An FC interface provides FC access to storage within the interface SVM using either Fibre Channel Protocol or NVMe over Fibre Channel (NVMe/FC).

An FC interface is created on an FC port which is located on a cluster node. The FC port must be specified to identify the location of the interface for a POST or PATCH operation that relocates an interface. You can identify the port by supplying either the node and port names or the port UUID.

Name	Type	Description
_links	_links	
comment	string	A user configurable comment. Optional in POST; valid in PATCH. To clear a prior comment, set the property to an empty string in PATCH.

Name	Type	Description
data_protocol	string	The data protocol for which the FC interface is configured. Required in POST.
enabled	boolean	The administrative state of the FC interface. The FC interface can be disabled to block all FC communication with the SVM through this interface. Optional in POST and PATCH; defaults to *true* (enabled) in POST.
location	location	The location of the FC interface is defined by the location of its port. An FC port is identified by its UUID, or a combination of its node name and port name. Either the UUID or the node name and port name are required for POST. To move an interface, supply either the UUID or the node name and port name in a PATCH.
name	string	The name of the FC interface. Required in POST; optional in PATCH.
port_address	string	The port address of the FC interface. Each FC port in an FC switched fabric has its own unique FC port address for routing purposes. The FC port address is assigned by a switch in the fabric when that port logs in to the fabric. This property refers to the address given by a switch to the FC interface when the SVM performs a port login (PLOGI). This is useful for obtaining statistics and diagnostic information from FC switches. This is a hexadecimal encoded numeric value.

Name	Type	Description
state	string	The current operational state of the FC interface. The state is set to *down* if the interface is not enabled. If the node hosting the port is down or unavailable, no state value is returned.
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The unique identifier of the FC interface. Required in the URL.
wwnn	string	The world wide node name (WWNN) of the FC interface SVM. The WWNN is generated by ONTAP when Fibre Channel Protocol or the NVMe service is created for the FC interface SVM. • example: 20:00:00:50:56:b4:13:01 • readOnly: 1
wwpn	string	The world wide port name (WWPN) of the FC interface. The WWPN is generated by ONTAP when the FC interface is created. • example: 20:00:00:50:56:b4:13:a8 • readOnly: 1

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.

Create an FC interface

POST `/network/fc/interfaces`

Creates an FC interface.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the FC interface.
- `name` - Name of the FC interface.
- `location.port.uuid` or both `location.port.name` and `location.port.node.name` - FC port on which to create the FC interface.
- `data_protocol` - Data protocol for the FC interface.

Default property values

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

- `enabled` - *true*

Related ONTAP commands

- `network interface create`

Learn more

- DOC /network/fc/interfaces

Request Body

Name	Type	Description
_links	_links	

Name	Type	Description
comment	string	A user configurable comment. Optional in POST; valid in PATCH. To clear a prior comment, set the property to an empty string in PATCH.
data_protocol	string	The data protocol for which the FC interface is configured. Required in POST.
enabled	boolean	The administrative state of the FC interface. The FC interface can be disabled to block all FC communication with the SVM through this interface. Optional in POST and PATCH; defaults to *true* (enabled) in POST.
location	location	The location of the FC interface is defined by the location of its port. An FC port is identified by its UUID, or a combination of its node name and port name. Either the UUID or the node name and port name are required for POST. To move an interface, supply either the UUID or the node name and port name in a PATCH.
name	string	The name of the FC interface. Required in POST; optional in PATCH.

Name	Type	Description
port_address	string	The port address of the FC interface. Each FC port in an FC switched fabric has its own unique FC port address for routing purposes. The FC port address is assigned by a switch in the fabric when that port logs in to the fabric. This property refers to the address given by a switch to the FC interface when the SVM performs a port login (PLOGI). This is useful for obtaining statistics and diagnostic information from FC switches. This is a hexadecimal encoded numeric value.
state	string	The current operational state of the FC interface. The state is set to *down* if the interface is not enabled. If the node hosting the port is down or unavailable, no state value is returned.
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The unique identifier of the FC interface. Required in the URL.
wwnn	string	The world wide node name (WWNN) of the FC interface SVM. The WWNN is generated by ONTAP when Fibre Channel Protocol or the NVMe service is created for the FC interface SVM. • example: 20:00:00:50:56:b4:13:01 • readOnly: 1

Name	Type	Description
wwpn	string	The world wide port name (WWPN) of the FC interface. The WWPN is generated by ONTAP when the FC interface is created. • example: 20:00:00:50:56:b4:13:a8 • readOnly: 1

Example request


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "comment": "string",
  "data_protocol": "string",
  "location": {
    "node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "0a",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "name": "lif1",
  "port_address": "5060F",
  "state": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412",
```

```
  "wwnn": "20:00:00:50:56:b4:13:01",
  "wwpn": "20:00:00:50:56:b4:13:a8"
}
```

Response

```
Status: 201, Created
```

Name	Type	Description
_links	_links	
num_records	integer	Number of records.
records	array[fc_interface]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "comment": "string",
      "data_protocol": "string",
      "location": {
        "node": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "node1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "port": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "0a",
          "node": {
            "name": "node1"
          },
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      },
      "name": "lif1",
      "port_address": "5060F",
      "state": "string",
```

```
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412",
      "wwnn": "20:00:00:50:56:b4:13:01",
      "wwpn": "20:00:00:50:56:b4:13:a8"
    }
  ]
}
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1966140	A LIF with the same name already exists.
1966217	The specified port is not valid on the node provided.
2621462	The supplied 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.
5374102	The specified FC LIF cannot be created because the Fibre Channel adapter is down. Bring the adapter up and try again.
5374871	The Fibre Channel port identified by the specified UUID does not refer to the same port as that identified by the specified node name and/or port name.
5374872	If either `location.port.node.name` or `location.port.name` is supplied, both properties must be supplied.

Error Code	Description
5374873	The Fibre Channel port must be specified using either `location.port.uuid` or `location.port.node.name` and `location.port.name`.
72089652	An NVMe service must be created before creating a Fibre Channel interface using the NVMe over Fibre Channel data protocol.
72089672	The specified Fibre Channel port does not support the NVMe over Fibre Channel data protocol.
72089900	A Fibre Channel interface with the *fc_nvme* protocol cannot be creating in an SVM that is configured for a SAN protocol.
5373966	A Fibre Channel interface with the *fcp* protocol cannot be creating in an SVM that is configured for NVMe.

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	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

node

The node on which the FC port is located.

Name	Type	Description
name	string	The name of the node on which the FC port is located.

fc_port_reference

An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

Name	Type	Description
_links	_links	
name	string	The name of the FC port.
node	node	The node on which the FC port is located.
uuid	string	The unique identifier of the FC port.

location

The location of the FC interface is defined by the location of its port. An FC port is identified by its UUID,

or a combination of its node name and port name. Either the UUID or the node name and port name are required for POST. To move an interface, supply either the UUID or the node name and port name in a PATCH.

Name	Type	Description
node	node	
port	fc_port_reference	An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

svm

SVM, applies only to SVM-scoped objects.

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

fc_interface

A Fibre Channel (FC) interface is the logical endpoint for FC network connections to an SVM. An FC interface provides FC access to storage within the interface SVM using either Fibre Channel Protocol or NVMe over Fibre Channel (NVMe/FC).

An FC interface is created on an FC port which is located on a cluster node. The FC port must be specified to identify the location of the interface for a POST or PATCH operation that relocates an interface. You can identify the port by supplying either the node and port names or the port UUID.

Name	Type	Description
_links	_links	
comment	string	A user configurable comment. Optional in POST; valid in PATCH. To clear a prior comment, set the property to an empty string in PATCH.
data_protocol	string	The data protocol for which the FC interface is configured. Required in POST.

Name	Type	Description
enabled	boolean	The administrative state of the FC interface. The FC interface can be disabled to block all FC communication with the SVM through this interface. Optional in POST and PATCH; defaults to *true* (enabled) in POST.
location	location	The location of the FC interface is defined by the location of its port. An FC port is identified by its UUID, or a combination of its node name and port name. Either the UUID or the node name and port name are required for POST. To move an interface, supply either the UUID or the node name and port name in a PATCH.
name	string	The name of the FC interface. Required in POST; optional in PATCH.
port_address	string	The port address of the FC interface. Each FC port in an FC switched fabric has its own unique FC port address for routing purposes. The FC port address is assigned by a switch in the fabric when that port logs in to the fabric. This property refers to the address given by a switch to the FC interface when the SVM performs a port login (PLOGI). This is useful for obtaining statistics and diagnostic information from FC switches. This is a hexadecimal encoded numeric value.
state	string	The current operational state of the FC interface. The state is set to *down* if the interface is not enabled. If the node hosting the port is down or unavailable, no state value is returned.

Name	Type	Description
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The unique identifier of the FC interface. Required in the URL.
wwnn	string	The world wide node name (WWNN) of the FC interface SVM. The WWNN is generated by ONTAP when Fibre Channel Protocol or the NVMe service is created for the FC interface SVM. • example: 20:00:00:50:56:b4:13:01 • readOnly: 1
wwpn	string	The world wide port name (WWPN) of the FC interface. The WWPN is generated by ONTAP when the FC interface is created. • example: 20:00:00:50:56:b4:13:a8 • readOnly: 1

_links

Name	Type	Description
next	href	
self	href	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

Name	Type	Description
arguments	array[error_arguments]	Message arguments

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

Delete an FC interface

DELETE `/network/fc/interfaces/{uuid}`

Deletes an FC interface.

Related ONTAP commands

- `network interface delete`

Learn more

- DOC /network/fc/interfaces

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
53280992	The FC interface could not be deleted because it is enabled.

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 an FC interface

GET `/network/fc/interfaces/{uuid}`

Retrieves a Fibre Channel interface.

Related ONTAP commands

- `network interface show`
- `vserver fcp interface show`

Learn more

- DOC /network/fc/interfaces

Parameters

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

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
comment	string	A user configurable comment. Optional in POST; valid in PATCH. To clear a prior comment, set the property to an empty string in PATCH.
data_protocol	string	The data protocol for which the FC interface is configured. Required in POST.
enabled	boolean	The administrative state of the FC interface. The FC interface can be disabled to block all FC communication with the SVM through this interface. Optional in POST and PATCH; defaults to *true* (enabled) in POST.

Name	Type	Description
location	location	The location of the FC interface is defined by the location of its port. An FC port is identified by its UUID, or a combination of its node name and port name. Either the UUID or the node name and port name are required for POST. To move an interface, supply either the UUID or the node name and port name in a PATCH.
name	string	The name of the FC interface. Required in POST; optional in PATCH.
port_address	string	The port address of the FC interface. Each FC port in an FC switched fabric has its own unique FC port address for routing purposes. The FC port address is assigned by a switch in the fabric when that port logs in to the fabric. This property refers to the address given by a switch to the FC interface when the SVM performs a port login (PLOGI). This is useful for obtaining statistics and diagnostic information from FC switches. This is a hexadecimal encoded numeric value.
state	string	The current operational state of the FC interface. The state is set to *down* if the interface is not enabled. If the node hosting the port is down or unavailable, no state value is returned.
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The unique identifier of the FC interface. Required in the URL.

Name	Type	Description
wwnn	string	The world wide node name (WWNN) of the FC interface SVM. The WWNN is generated by ONTAP when Fibre Channel Protocol or the NVMe service is created for the FC interface SVM. • example: 20:00:00:50:56:b4:13:01 • readOnly: 1
wwpn	string	The world wide port name (WWPN) of the FC interface. The WWPN is generated by ONTAP when the FC interface is created. • example: 20:00:00:50:56:b4:13:a8 • readOnly: 1

Example response


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "comment": "string",
  "data_protocol": "string",
  "location": {
    "node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "0a",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "name": "lif1",
  "port_address": "5060F",
  "state": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412",
```

```
  "wwnn": "20:00:00:50:56:b4:13:01",
  "wwpn": "20:00:00:50:56:b4:13:a8"
}
```

Error

```
Status: Default, Error
```

Name	Type	Description
error	error	

Example error

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

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

node

The node on which the FC port is located.

Name	Type	Description
name	string	The name of the node on which the FC port is located.

fc_port_reference

An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

Name	Type	Description
_links	_links	
name	string	The name of the FC port.
node	node	The node on which the FC port is located.
uuid	string	The unique identifier of the FC port.

location

The location of the FC interface is defined by the location of its port. An FC port is identified by its UUID,

or a combination of its node name and port name. Either the UUID or the node name and port name are required for POST. To move an interface, supply either the UUID or the node name and port name in a PATCH.

Name	Type	Description
node	node	
port	fc_port_reference	An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

svm

SVM, applies only to SVM-scoped objects.

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.

Update an FC interface

PATCH `/network/fc/interfaces/{uuid}`

Updates an FC interface.

Related ONTAP commands

- `network interface modify`

Learn more

- DOC /network/fc/interfaces

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	The unique identifier for the FC interface.

Request Body

Name	Type	Description
_links	_links	
comment	string	A user configurable comment. Optional in POST; valid in PATCH. To clear a prior comment, set the property to an empty string in PATCH.
enabled	boolean	The administrative state of the FC interface. The FC interface can be disabled to block all FC communication with the SVM through this interface. Optional in POST and PATCH; defaults to *true* (enabled) in POST.
location	location	The location of the FC interface is defined by the location of its port. An FC port is identified by its UUID, or a combination of its node name and port name. Either the UUID or the node name and port name are required for POST. To move an interface, supply either the UUID or the node name and port name in a PATCH.

Name	Type	Description
name	string	The name of the FC interface. Required in POST; optional in PATCH.
port_address	string	The port address of the FC interface. Each FC port in an FC switched fabric has its own unique FC port address for routing purposes. The FC port address is assigned by a switch in the fabric when that port logs in to the fabric. This property refers to the address given by a switch to the FC interface when the SVM performs a port login (PLOGI). This is useful for obtaining statistics and diagnostic information from FC switches. This is a hexadecimal encoded numeric value.
state	string	The current operational state of the FC interface. The state is set to *down* if the interface is not enabled. If the node hosting the port is down or unavailable, no state value is returned.
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The unique identifier of the FC interface. Required in the URL.
wwnn	string	The world wide node name (WWNN) of the FC interface SVM. The WWNN is generated by ONTAP when Fibre Channel Protocol or the NVMe service is created for the FC interface SVM. • example: 20:00:00:50:56:b4:13:01 • readOnly: 1

Name	Type	Description
wwpn	string	The world wide port name (WWPN) of the FC interface. The WWPN is generated by ONTAP when the FC interface is created. • example: 20:00:00:50:56:b4:13:a8 • readOnly: 1

Example request


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "comment": "string",
  "location": {
    "node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "0a",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "name": "lif1",
  "port_address": "5060F",
  "state": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412",
  "wwnn": "20:00:00:50:56:b4:13:01",
```

```
  "wwpn": "20:00:00:50:56:b4:13:a8"
}
```

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1966140	A LIF with the same name already exists.
1966217	The specified port is not valid on the node provided.
1966238	The node or port of an active SAN data LIF cannot be changed.
1966702	The destination node is not healthy.
5374579	The SAN Kernel Agent on the node is unavailable.
5374870	A partial failure occurred; renaming the LIF failed. Correct the error and resubmit the request.
5374871	The Fibre Channel port identified by the specified UUID does not refer to the same port as that identified by the specified node name and/or port name.
5374872	If either `location.port.node.name` or `location.port.name` is supplied, both properties must be supplied.
72089674	You cannot move a Fibre Channel interface configured for the NVMe over FC data protocol.

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	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

node

The node on which the FC port is located.

Name	Type	Description
name	string	The name of the node on which the FC port is located.

fc_port_reference

An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

Name	Type	Description
_links	_links	
name	string	The name of the FC port.
node	node	The node on which the FC port is located.
uuid	string	The unique identifier of the FC port.

location

The location of the FC interface is defined by the location of its port. An FC port is identified by its UUID,

or a combination of its node name and port name. Either the UUID or the node name and port name are required for POST. To move an interface, supply either the UUID or the node name and port name in a PATCH.

Name	Type	Description
node	node	
port	fc_port_reference	An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.

svm

SVM, applies only to SVM-scoped objects.

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

fc_interface

A Fibre Channel (FC) interface is the logical endpoint for FC network connections to an SVM. An FC interface provides FC access to storage within the interface SVM using either Fibre Channel Protocol or NVMe over Fibre Channel (NVMe/FC).

An FC interface is created on an FC port which is located on a cluster node. The FC port must be specified to identify the location of the interface for a POST or PATCH operation that relocates an interface. You can identify the port by supplying either the node and port names or the port UUID.

Name	Type	Description
_links	_links	
comment	string	A user configurable comment. Optional in POST; valid in PATCH. To clear a prior comment, set the property to an empty string in PATCH.
enabled	boolean	The administrative state of the FC interface. The FC interface can be disabled to block all FC communication with the SVM through this interface. Optional in POST and PATCH; defaults to *true* (enabled) in POST.

Name	Type	Description
location	location	The location of the FC interface is defined by the location of its port. An FC port is identified by its UUID, or a combination of its node name and port name. Either the UUID or the node name and port name are required for POST. To move an interface, supply either the UUID or the node name and port name in a PATCH.
name	string	The name of the FC interface. Required in POST; optional in PATCH.
port_address	string	The port address of the FC interface. Each FC port in an FC switched fabric has its own unique FC port address for routing purposes. The FC port address is assigned by a switch in the fabric when that port logs in to the fabric. This property refers to the address given by a switch to the FC interface when the SVM performs a port login (PLOGI). This is useful for obtaining statistics and diagnostic information from FC switches. This is a hexadecimal encoded numeric value.
state	string	The current operational state of the FC interface. The state is set to *down* if the interface is not enabled. If the node hosting the port is down or unavailable, no state value is returned.
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The unique identifier of the FC interface. Required in the URL.

Name	Type	Description
wwnn	string	The world wide node name (WWNN) of the FC interface SVM. The WWNN is generated by ONTAP when Fibre Channel Protocol or the NVMe service is created for the FC interface SVM. • example: 20:00:00:50:56:b4:13:01 • readOnly: 1
wwpn	string	The world wide port name (WWPN) of the FC interface. The WWPN is generated by ONTAP when the FC interface is created. • example: 20:00:00:50:56:b4:13:a8 • readOnly: 1

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 FC port information

Network FC ports endpoint overview

Overview

Fibre Channel (FC) ports are the physical ports of FC adapters on ONTAP cluster nodes that can be connected to FC networks to provide FC network connectivity. An FC port defines the location of an FC interface within the ONTAP cluster.

The Fibre Channel port REST API allows you to discover FC ports, obtain status information for FC ports, and configure FC port properties. POST and DELETE are not supported. You must physically add and remove FC adapters to ONTAP nodes to create and remove ports from the ONTAP cluster.

Examples

Retrieving all FC ports

```
# The API:
GET /api/network/fc/ports

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

# The response:
{
"records": [
  {
    "node": {
      "name": "node1",
      "uuid": "3c768e01-1abc-4b3b-b7c0-629ceb62a497",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/3c768e01-1abc-4b3b-b7c0-
629ceb62a497"
        }
      }
    },
    "uuid": "931b20f8-b047-11e8-9af3-005056bb838e",
    "name": "0a",
    "_links": {
      "self": {
        "href": "/api/network/fc/ports/931b20f8-b047-11e8-9af3-
005056bb838e"
      }
    }
  },
  {
    "node": {
```

```
      "name": "node1",
      "uuid": "3c768e01-1abc-4b3b-b7c0-629ceb62a497",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/3c768e01-1abc-4b3b-b7c0-
629ceb62a497"
        }
      }
    },
    "uuid": "931b23f7-b047-11e8-9af3-005056bb838e",
    "name": "0b",
    "_links": {
      "self": {
        "href": "/api/network/fc/ports/931b23f7-b047-11e8-9af3-
005056bb838e"
      }
    }
  },
  {
    "node": {
      "name": "node1",
      "uuid": "3c768e01-1abc-4b3b-b7c0-629ceb62a497",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/3c768e01-1abc-4b3b-b7c0-
629ceb62a497"
        }
      }
    },
    "uuid": "931b25ba-b047-11e8-9af3-005056bb838e",
    "name": "0c",
    "_links": {
      "self": {
        "href": "/api/network/fc/ports/931b25ba-b047-11e8-9af3-
005056bb838e"
      }
    }
  },
  {
    "node": {
      "name": "node1",
      "uuid": "3c768e01-1abc-4b3b-b7c0-629ceb62a497",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/3c768e01-1abc-4b3b-b7c0-
629ceb62a497"
```

```
        }
      }
    },
    "uuid": "931b2748-b047-11e8-9af3-005056bb838e",
    "name": "0d",
    "_links": {
      "self": {
        "href": "/api/network/fc/ports/931b2748-b047-11e8-9af3-
005056bb838e"
      }
    }
  },
  {
    "node": {
      "name": "node1",
      "uuid": "3c768e01-1abc-4b3b-b7c0-629ceb62a497",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/3c768e01-1abc-4b3b-b7c0-
629ceb62a497"
        }
      }
    },
    "uuid": "931b28c2-b047-11e8-9af3-005056bb838e",
    "name": "0e",
    "_links": {
      "self": {
        "href": "/api/network/fc/ports/931b28c2-b047-11e8-9af3-
005056bb838e"
      }
    }
  },
  {
    "node": {
      "name": "node1",
      "uuid": "3c768e01-1abc-4b3b-b7c0-629ceb62a497",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/3c768e01-1abc-4b3b-b7c0-
629ceb62a497"
        }
      }
    },
    "uuid": "931b2a7b-b047-11e8-9af3-005056bb838e",
    "name": "0f",
    "_links": {
```

```
      "self": {
        "href": "/api/network/fc/ports/931b2a7b-b047-11e8-9af3-
005056bb838e"
      }
    }
  },
  {
    "node": {
      "name": "node1",
      "uuid": "3c768e01-1abc-4b3b-b7c0-629ceb62a497",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/3c768e01-1abc-4b3b-b7c0-
629ceb62a497"
        }
      }
    },
    "uuid": "931b2e2b-b047-11e8-9af3-005056bb838e",
    "name": "1b",
    "_links": {
      "self": {
        "href": "/api/network/fc/ports/931b2e2b-b047-11e8-9af3-
005056bb838e"
      }
    }
  }
[,
"num_records": 8,
"_links": {
  "self": {
    "href": "/api/network/fc/ports"
  }
}
}
```

Retrieving all FC ports with state *online*

The `state` query parameter is used to perform the query.

```
# The API:
GET /api/network/fc/ports

# The call:
curl -X GET "https://<mgmt-ip>/api/network/fc/ports?state=online" -H
```

```
"accept: application/hal+json"

# The response:
{
"records": [
  {
    "node": {
      "name": "node1",
      "uuid": "3c768e01-1abc-4b3b-b7c0-629ceb62a497",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/3c768e01-1abc-4b3b-b7c0-
629ceb62a497"
        }
      }
    }
    "uuid": "931b20f8-b047-11e8-9af3-005056bb838e",
    "name": "0a",
    "state": "online",
    "_links": {
      "self": {
        "href": "/api/network/fc/ports/931b20f8-b047-11e8-9af3-
005056bb838e"
      }
    }
  },
  {
    "node": {
      "name": "node1",
      "uuid": "3c768e01-1abc-4b3b-b7c0-629ceb62a497",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/3c768e01-1abc-4b3b-b7c0-
629ceb62a497"
        }
      }
    }
    "uuid": "931b23f7-b047-11e8-9af3-005056bb838e",
    "name": "0b",
    "state": "online",
    "_links": {
      "self": {
        "href": "/api/network/fc/ports/931b23f7-b047-11e8-9af3-
005056bb838e"
      }
    }
```

```
  },
  {
    "node": {
      "name": "node1",
      "uuid": "3c768e01-1abc-4b3b-b7c0-629ceb62a497",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/3c768e01-1abc-4b3b-b7c0-
629ceb62a497"
        }
      }
    }
    "uuid": "931b25ba-b047-11e8-9af3-005056bb838e",
    "name": "0c",
    "state": "online",
    "_links": {
      "self": {
        "href": "/api/network/fc/ports/931b25ba-b047-11e8-9af3-
005056bb838e"
      }
    }
  }
[,
"num_records": 3,
"_links": {
  "self": {
    "href": "/api/network/fc/ports?state=online"
  }
}
}
```

Retrieving an FC port

```
# The API:
GET /api/network/fc/ports/{uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/network/fc/ports/931b20f8-b047-11e8-
9af3-005056bb838e" -H "accept: application/hal+json"

# The response:
{
"node": {
  "name": "node1",
```

```
  "uuid": "5a534a72-b047-11e8-9af3-005056bb838e",
  "_links": {
    "self": {
      "href": "/api/cluster/nodes/5a534a72-b047-11e8-9af3-005056bb838e"
    }
  }
},
"uuid": "931b20f8-b047-11e8-9af3-005056bb838e",
"name": "0a",
"description": "Fibre Channel Target Adapter 0a (ACME Fibre Channel
Adapter, rev. 1.0.0, 8G)",
"enabled": true,
"fabric": {
  "connected": true,
  "connected_speed": 8,
  "name": "55:0e:b1:a0:20:40:80:00",
  "port_address": "52100",
  "switch_port": "ssan-g620-03:1"
},
"physical_protocol": "fibre_channel",
"speed": {
  "maximum": "8",
  "configured": "auto"
},
"state": "online",
"supported_protocols": [
  "fcp"
],
"transceiver": {
  "form_factor": "SFP",
  "manufacturer": "ACME",
  "capabilities": [
    4,
    8
  ],
  "part_number": "1000"
},
"wwnn": "50:0a:09:80:bb:83:8e:00",
"wwpn": "50:0a:09:82:bb:83:8e:00",
"_links": {
  "self": {
    "href": "/api/network/fc/ports/931b20f8-b047-11e8-9af3-005056bb838e"
  }
}
}
```

Disabling an FC port

If an active FC interface exists on an FC port, the port cannot be disabled.

```
# The API:
PATCH /api/network/fc/ports/{uuid}

# The call:
curl -X PATCH "http://<mgmt-ip>/api/network/fc/ports/931b20f8-b047-11e8-
9af3-005056bb838e" -H "accept: application/hal+json" -d '{ "enabled":
false }'
```

Retrieve FC ports

GET `/network/fc/ports`

Retrieves FC ports.

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.

- `fabric.name`

Related ONTAP commands

- `network fcp adapter show`

Learn more

- DOC /network/fc/ports

Parameters

Name	Type	In	Required	Description
wwpn	string	query	False	Filter by wwpn
description	string	query	False	Filter by description
uuid	string	query	False	Filter by uuid
supported_protocols	string	query	False	Filter by supported_protocols

Name	Type	In	Required	Description
transceiver.manufacturer	string	query	False	Filter by transceiver.manufacturer
transceiver.form-factor	string	query	False	Filter by transceiver.form-factor
transceiver.part_number	string	query	False	Filter by transceiver.part_number
transceiver.capabilities	integer	query	False	Filter by transceiver.capabilities
wwnn	string	query	False	Filter by wwnn
speed.configured	string	query	False	Filter by speed.configured
speed.maximum	string	query	False	Filter by speed.maximum
enabled	boolean	query	False	Filter by enabled
fabric.connected	boolean	query	False	Filter by fabric.connected
fabric.switch_port	string	query	False	Filter by fabric.switch_port
fabric.connected_speed	integer	query	False	Filter by fabric.connected_speed
fabric.port_address	string	query	False	Filter by fabric.port_address
fabric.name	string	query	False	Filter by fabric.name
node.name	string	query	False	Filter by node.name
node.uuid	string	query	False	Filter by node.uuid

Name	Type	In	Required	Description
state	string	query	False	Filter by state
name	string	query	False	Filter by name
physical_protocol	string	query	False	Filter by physical_protocol
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.
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	_links	
num_records	integer	Number of records.

Name	Type	Description
records	array[fc_port]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "description": "Fibre Channel Target Adapter 0a (ACME Fibre
Channel Adapter, rev. 1.0.0, 8G)",
      "fabric": {
        "connected_speed": 16,
        "name": "string",
        "port_address": "52100A",
        "switch_port": "ssan-g620-03:33"
      },
      "name": "0a",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "physical_protocol": "string",
      "speed": {
        "configured": "auto",
        "maximum": 32
      },
      "state": "online",
      "supported_protocols": [
        "string"
      ],
      "transceiver": {
```

```
        "capabilities": [
          16
        ],
        "form-factor": "string",
        "manufacturer": "Acme, Inc.",
        "part_number": "string"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412",
      "wwnn": "20:00:00:50:56:b4:13:a8",
      "wwpn": "20:00:00:50:56:b4:13:a8"
    }
  ]
}
```


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	

fabric

Properties of the fabric to which the FC port is attached.

Name	Type	Description
connected	boolean	Reports if the physical port has established a connection with the FC fabric.
connected_speed	integer	The negotiated data rate between the target FC port and the fabric in gigabits per second.
name	string	The name of the fabric to which the port is connected. This is only available when the FC port is connected to a fabric. 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 `fields` query parameter. See DOC Requesting specific fields to learn more.

Name	Type	Description
port_address	string	The FC port address of the host bus adapter (HBA) physical port. Each FC port in an FC switched fabric has its own unique FC port address for routing purposes. The FC port address is assigned by a switch in the fabric when that port logs in to the fabric. This property refers to the FC port address given to the physical host bus adapter (HBA) port when the port performs a fabric login (FLOGI). This is useful for obtaining statistics and diagnostic information from FC switches. This is a six-digit hexadecimal encoded numeric value.
switch_port	string	The switch port to which the FC port is connected.

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

speed

The physical device speed related properties of the FC port.

Name	Type	Description
configured	string	The configured speed of the FC port in gigabits per second.
maximum	string	The maximum speed supported by the FC port in gigabits per second.

transceiver

Properties of the transceiver connected to the FC port.

Name	Type	Description
capabilities	array[integer]	The speeds of which the transceiver is capable in gigabits per second.
form-factor	string	The form factor of the transceiver. Possible values are: • *sfp* - Small Form Factor - Pluggable • *sff* - Small Form Factor • *unk* - Unknown
manufacturer	string	The manufacturer of the transceiver.
part_number	string	The part number of the transceiver.

fc_port

A Fibre Channel (FC) port is the physical port of an FC adapter on an ONTAP cluster node that can be connected to an FC network to provide FC network connectivity. An FC port defines the location of an FC interface within the ONTAP cluster.

Name	Type	Description
_links	_links	
description	string	A description of the FC port.
enabled	boolean	The administrative state of the FC port. If this property is set to *false*, all FC connectivity to FC interfaces are blocked. Optional in PATCH.
fabric	fabric	Properties of the fabric to which the FC port is attached.
name	string	The FC port name.
node	node	
physical_protocol	string	The physical network protocol of the FC port.

Name	Type	Description
speed	speed	The physical device speed related properties of the FC port.
state	string	The operational state of the FC port. • startup - The port is booting up. • link_not_connected - The port has finished initialization, but a link with the fabric is not established. • online - The port is initialized and a link with the fabric has been established. • link_disconnected - The link was present at one point on this port but is currently not established. • offlined_by_user - The port is administratively disabled. • offlined_by_system - The port is set to offline by the system. This happens when the port encounters too many errors. • node_offline - The state information for the port cannot be retrieved. The node is offline or inaccessible.
supported_protocols	array[string]	The network protocols supported by the FC port.
transceiver	transceiver	Properties of the transceiver connected to the FC port.
uuid	string	The unique identifier of the FC port.
wwnn	string	The base world wide node name (WWNN) for the FC port.
wwpn	string	The base world wide port name (WWPN) for the FC port.

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 an FC port

GET `/network/fc/ports/{uuid}`

Retrieves an FC port.

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.

- `fabric.name`

Related ONTAP commands

- `network fcp adapter show`

Learn more

- DOC /network/fc/ports

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	The unique identifier for the FC port.

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

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
description	string	A description of the FC port.
enabled	boolean	The administrative state of the FC port. If this property is set to *false*, all FC connectivity to FC interfaces are blocked. Optional in PATCH.
fabric	fabric	Properties of the fabric to which the FC port is attached.
name	string	The FC port name.
node	node	
physical_protocol	string	The physical network protocol of the FC port.
speed	speed	The physical device speed related properties of the FC port.

Name	Type	Description
state	string	The operational state of the FC port. • startup - The port is booting up. • link_not_connected - The port has finished initialization, but a link with the fabric is not established. • online - The port is initialized and a link with the fabric has been established. • link_disconnected - The link was present at one point on this port but is currently not established. • offlined_by_user - The port is administratively disabled. • offlined_by_system - The port is set to offline by the system. This happens when the port encounters too many errors. • node_offline - The state information for the port cannot be retrieved. The node is offline or inaccessible.
supported_protocols	array[string]	The network protocols supported by the FC port.
transceiver	transceiver	Properties of the transceiver connected to the FC port.
uuid	string	The unique identifier of the FC port.
wwnn	string	The base world wide node name (WWNN) for the FC port.
wwpn	string	The base world wide port name (WWPN) for the FC port.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "description": "Fibre Channel Target Adapter 0a (ACME Fibre Channel
Adapter, rev. 1.0.0, 8G)",
  "fabric": {
    "connected_speed": 16,
    "name": "string",
    "port_address": "52100A",
    "switch_port": "ssan-g620-03:33"
  },
  "name": "0a",
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "physical_protocol": "string",
  "speed": {
    "configured": "auto",
    "maximum": 32
  },
  "state": "online",
  "supported_protocols": [
    "string"
  ],
  "transceiver": {
    "capabilities": [
      16
    ],
    "form-factor": "string",
    "manufacturer": "Acme, Inc.",
    "part_number": "string"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412",
  "wwnn": "20:00:00:50:56:b4:13:a8",
  "wwpn": "20:00:00:50:56:b4:13:a8"
}
```

Error

```
Status: Default, Error
```

Name	Type	Description
error	error	

Example error


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


Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

fabric

Properties of the fabric to which the FC port is attached.

Name	Type	Description
connected	boolean	Reports if the physical port has established a connection with the FC fabric.
connected_speed	integer	The negotiated data rate between the target FC port and the fabric in gigabits per second.
name	string	The name of the fabric to which the port is connected. This is only available when the FC port is connected to a fabric. 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 `fields` query parameter. See DOC Requesting specific fields to learn more.

Name	Type	Description
port_address	string	The FC port address of the host bus adapter (HBA) physical port. Each FC port in an FC switched fabric has its own unique FC port address for routing purposes. The FC port address is assigned by a switch in the fabric when that port logs in to the fabric. This property refers to the FC port address given to the physical host bus adapter (HBA) port when the port performs a fabric login (FLOGI). This is useful for obtaining statistics and diagnostic information from FC switches. This is a six-digit hexadecimal encoded numeric value.
switch_port	string	The switch port to which the FC port is connected.

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

speed

The physical device speed related properties of the FC port.

Name	Type	Description
configured	string	The configured speed of the FC port in gigabits per second.
maximum	string	The maximum speed supported by the FC port in gigabits per second.

transceiver

Properties of the transceiver connected to the FC port.

Name	Type	Description
capabilities	array[integer]	The speeds of which the transceiver is capable in gigabits per second.
form-factor	string	The form factor of the transceiver. Possible values are: • *sfp* - Small Form Factor - Pluggable • *sff* - Small Form Factor • *unk* - Unknown
manufacturer	string	The manufacturer of the transceiver.
part_number	string	The part number of the transceiver.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

Update an FC port

PATCH `/network/fc/ports/{uuid}`

Updates an FC port.

Related ONTAP commands

- `network fcp adapter modify`

Learn more

- DOC /network/fc/ports

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	The unique identifier for the FC port.

Request Body

Name	Type	Description
_links	_links	
description	string	A description of the FC port.
enabled	boolean	The administrative state of the FC port. If this property is set to *false*, all FC connectivity to FC interfaces are blocked. Optional in PATCH.
fabric	fabric	Properties of the fabric to which the FC port is attached.
name	string	The FC port name.
node	node	
physical_protocol	string	The physical network protocol of the FC port.
speed	speed	The physical device speed related properties of the FC port.

Name	Type	Description
state	string	The operational state of the FC port. • startup - The port is booting up. • link_not_connected - The port has finished initialization, but a link with the fabric is not established. • online - The port is initialized and a link with the fabric has been established. • link_disconnected - The link was present at one point on this port but is currently not established. • offlined_by_user - The port is administratively disabled. • offlined_by_system - The port is set to offline by the system. This happens when the port encounters too many errors. • node_offline - The state information for the port cannot be retrieved. The node is offline or inaccessible.
supported_protocols	array[string]	The network protocols supported by the FC port.
transceiver	transceiver	Properties of the transceiver connected to the FC port.
uuid	string	The unique identifier of the FC port.
wwnn	string	The base world wide node name (WWNN) for the FC port.
wwpn	string	The base world wide port name (WWPN) for the FC port.

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "description": "Fibre Channel Target Adapter 0a (ACME Fibre Channel
Adapter, rev. 1.0.0, 8G)",
  "fabric": {
    "connected_speed": 16,
    "name": "string",
    "port_address": "52100A",
    "switch_port": "ssan-g620-03:33"
  },
  "name": "0a",
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "physical_protocol": "string",
  "speed": {
    "configured": "auto",
    "maximum": 32
  },
  "state": "online",
  "supported_protocols": [
    "string"
  ],
  "transceiver": {
    "capabilities": [
      16
    ],
    "form-factor": "string",
    "manufacturer": "Acme, Inc.",
    "part_number": "string"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412",
  "wwnn": "20:00:00:50:56:b4:13:a8",
  "wwpn": "20:00:00:50:56:b4:13:a8"
}
```

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
5374085	The node where the Fibre Channel port is located is offline.
5374087	The Fibre Channel port has active Fibre Channel interfaces and cannot be disabled.

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	

fabric

Properties of the fabric to which the FC port is attached.

Name	Type	Description
connected	boolean	Reports if the physical port has established a connection with the FC fabric.
connected_speed	integer	The negotiated data rate between the target FC port and the fabric in gigabits per second.
name	string	The name of the fabric to which the port is connected. This is only available when the FC port is connected to a fabric. 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 `fields` query parameter. See DOC Requesting specific fields to learn more.

Name	Type	Description
port_address	string	The FC port address of the host bus adapter (HBA) physical port. Each FC port in an FC switched fabric has its own unique FC port address for routing purposes. The FC port address is assigned by a switch in the fabric when that port logs in to the fabric. This property refers to the FC port address given to the physical host bus adapter (HBA) port when the port performs a fabric login (FLOGI). This is useful for obtaining statistics and diagnostic information from FC switches. This is a six-digit hexadecimal encoded numeric value.
switch_port	string	The switch port to which the FC port is connected.

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

speed

The physical device speed related properties of the FC port.

Name	Type	Description
configured	string	The configured speed of the FC port in gigabits per second.
maximum	string	The maximum speed supported by the FC port in gigabits per second.

transceiver

Properties of the transceiver connected to the FC port.

Name	Type	Description
capabilities	array[integer]	The speeds of which the transceiver is capable in gigabits per second.
form-factor	string	The form factor of the transceiver. Possible values are: • *sfp* - Small Form Factor - Pluggable • *sff* - Small Form Factor • *unk* - Unknown
manufacturer	string	The manufacturer of the transceiver.
part_number	string	The part number of the transceiver.

fc_port

A Fibre Channel (FC) port is the physical port of an FC adapter on an ONTAP cluster node that can be connected to an FC network to provide FC network connectivity. An FC port defines the location of an FC interface within the ONTAP cluster.

Name	Type	Description
_links	_links	
description	string	A description of the FC port.
enabled	boolean	The administrative state of the FC port. If this property is set to *false*, all FC connectivity to FC interfaces are blocked. Optional in PATCH.
fabric	fabric	Properties of the fabric to which the FC port is attached.
name	string	The FC port name.
node	node	
physical_protocol	string	The physical network protocol of the FC port.

Name	Type	Description
speed	speed	The physical device speed related properties of the FC port.
state	string	The operational state of the FC port. • startup - The port is booting up. • link_not_connected - The port has finished initialization, but a link with the fabric is not established. • online - The port is initialized and a link with the fabric has been established. • link_disconnected - The link was present at one point on this port but is currently not established. • offlined_by_user - The port is administratively disabled. • offlined_by_system - The port is set to offline by the system. This happens when the port encounters too many errors. • node_offline - The state information for the port cannot be retrieved. The node is offline or inaccessible.
supported_protocols	array[string]	The network protocols supported by the FC port.
transceiver	transceiver	Properties of the transceiver connected to the FC port.
uuid	string	The unique identifier of the FC port.
wwnn	string	The base world wide node name (WWNN) for the FC port.
wwpn	string	The base world wide port name (WWPN) for the FC port.

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.

Manage network IP interfaces

Network IP interfaces endpoint overview

Overview

The following operations are supported:

- Creation: POST network/ip/interfaces
- Collection Get: GET network/ip/interfaces
- Instance Get: GET network/ip/interfaces/{uuid}
- Instance Patch: PATCH network/ip/interfaces/{uuid}
- Instance Delete: DELETE network/ip/interfaces/{uuid}

Retrieving network interface information

The IP interfaces GET API retrieves and displays relevant information pertaining to the interfaces configured in the cluster. The response can contain a list of multiple interfaces or a specific interface. The fields returned in the response vary for different interfaces and configurations.

Examples

Retrieving all interfaces in the cluster

The following example shows the list of all interfaces configured in a cluster.

```
# The API:
/api/network/ip/interfaces

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

# The response:
{
"records": [
  {
    "uuid": "14531286-59fc-11e8-ba55-005056b4340f",
    "name": "user-cluster-01_mgmt1",
    "_links": {
      "self": {
        "href": "/api/network/ip/interfaces/14531286-59fc-11e8-ba55-
005056b4340f"
      }
    }
  },
  {
    "uuid": "145318ba-59fc-11e8-ba55-005056b4340f",
    "name": "user-cluster-01_clus2",
    "_links": {
      "self": {
        "href": "/api/network/ip/interfaces/145318ba-59fc-11e8-ba55-
005056b4340f"
      }
    }
  },
  {
    "uuid": "14531e45-59fc-11e8-ba55-005056b4340f",
    "name": "user-cluster-01_clus1",
    "_links": {
      "self": {
        "href": "/api/network/ip/interfaces/14531e45-59fc-11e8-ba55-
005056b4340f"
      }
    }
  },
  {
    "uuid": "245979de-59fc-11e8-ba55-005056b4340f",
    "name": "cluster_mgmt",
    "_links": {
      "self": {
        "href": "/api/network/ip/interfaces/245979de-59fc-11e8-ba55-
```

```
005056b4340f"
      }
    }
  },
  {
    "uuid": "c670707c-5a11-11e8-8fcb-005056b4340f",
    "name": "lif1",
    "_links": {
      "self": {
        "href": "/api/network/ip/interfaces/c670707c-5a11-11e8-8fcb-
005056b4340f"
      }
    }
  }
],
"num_records": 5,
"_links": {
  "self": {
    "href": "/api/network/ip/interfaces"
  }
}
}
```

Retrieving a specific cluster-scoped interface

The following example shows the response when a specific cluster-scoped interface is requested. The system returns an error when there is no interface with the requested UUID. SVM information is not returned for cluster-scoped interfaces.

```
# The API:
/api/network/ip/interfaces/{uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ip/interfaces/245979de-59fc-
11e8-ba55-005056b4340f" -H "accept: application/hal+json"

# The response:
{
"uuid": "245979de-59fc-11e8-ba55-005056b4340f",
"name": "cluster_mgmt",
"ip": {
  "address": "10.63.41.6",
  "netmask": "18",
```

```
  "family": "ipv4",
},
"enabled": true,
"state": "up",
"scope": "cluster",
"ipspace": {
  "uuid": "114ecfb5-59fc-11e8-ba55-005056b4340f",
  "name": "Default",
  "_links": {
    "self": {
            "href": "/api/network/ipspaces/114ecfb5-59fc-11e8-ba55-
005056b4340f"
    }
  }
},
"services": [
  "management_core",
  "management_autosupport",
  "management_access"
],
"location": {
  "is_home": true,
  "auto_revert": false,
  "failover": "broadcast_domain_only",
  "node": {
    "uuid": "c1db2904-1396-11e9-bb7d-005056acfcbb",
    "name": "user-cluster-01-a",
    "_links": {
      "self": {
        "href": "/api/cluster/nodes/c1db2904-1396-11e9-bb7d-005056acfcbb"
      }
    }
  },
  "port": {
    "uuid": "c84d5337-1397-11e9-87c2-005056acfcbb",
    "name": "e0d",
    "node": {
      "name": "user-cluster-01-a"
    },
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/c84d5337-1397-11e9-87c2-
005056acfcbb"
      }
    }
  },
```

```
  "home_node": {
    "uuid": "c1db2904-1396-11e9-bb7d-005056acfcbb",
    "name": "user-cluster-01-a",
    "_links": {
      "self": {
        "href": "/api/cluster/nodes/c1db2904-1396-11e9-bb7d-005056acfcbb"
      }
    }
  },
  "home_port": {
    "uuid": "c84d5337-1397-11e9-87c2-005056acfcbb",
    "name": "e0d",
    "node": {
      "name": "user-cluster-01-a"
    },
    "_links": {
      "self": {
        "href": "/api/network/ethernet/ports/c84d5337-1397-11e9-87c2-
005056acfcbb"
      }
    }
  }
},
"service_policy": {
  "uuid": "9e0f4151-141b-11e9-851e-005056ac1ce0",
  "name": "default-management"
},
"vip": false,
"_links": {
  "self": {
    "href": "/api/network/ip/interfaces/245979de-59fc-11e8-ba55-
005056b4340f"
  }
}
}
```

Retrieving a specific SVM-scoped interface using a filter

The following example shows the response when a specific SVM-scoped interface is requested. The SVM object is only included for SVM-scoped interfaces.

```
# The API:
/api/network/ip/interfaces
```

```
# The call:
curl -X GET "https://<mgmt-
ip>/api/network/ip/interfaces?name=lif1?fields=*" -H "accept:
application/hal+json"

# The response:
{
"records": [
  {
    "uuid": "c670707c-5a11-11e8-8fcb-005056b4340f",
    "name": "lif1",
    "ip": {
      "address": "10.10.10.11",
      "netmask": "24",
      "family": "ipv4",
    },
    "enabled": true,
    "state": "up",
    "scope": "svm",
    "ipspace": {
      "uuid": "114ecfb5-59fc-11e8-ba55-005056b4340f",
      "name": "Default",
      "_links": {
        "self": {
          "href": "/api/network/ipspaces/114ecfb5-59fc-11e8-ba55-
005056b4340f"
        }
      }
    },
    "svm": {
      "uuid": "c2134665-5a11-11e8-8fcb-005056b4340f",
      "name": "user_vs0",
      "_links": {
        "self": {
          "href": "/api/svm/svms/c2134665-5a11-11e8-8fcb-005056b4340f"
        }
      }
    },
    "services": [
      "data_core",
      "data_nfs",
      "data_cifs",
      "data_flexcache"
    ],
    "location": {
```

```
      "is_home": true,
      "auto_revert": false,
      "failover": "broadcast_domain_only",
      "node": {
        "uuid": "c1db2904-1396-11e9-bb7d-005056acfcbb",
        "name": "user-cluster-01-a",
        "_links": {
          "self": {
            "href": "/api/cluster/nodes/c1db2904-1396-11e9-bb7d-
005056acfcbb"
          }
        }
      },
      "port": {
        "uuid": "c84d5337-1397-11e9-87c2-005056acfcbb",
        "name": "e0d",
        "node": {
          "name": "user-cluster-01-a"
        },
        "_links": {
          "self": {
            "href": "/api/network/ethernet/ports/c84d5337-1397-11e9-87c2-
005056acfcbb"
          }
        }
      },
      "home_node": {
        "uuid": "c1db2904-1396-11e9-bb7d-005056acfcbb",
        "name": "user-cluster-01-a",
        "_links": {
          "self": {
            "href": "/api/cluster/nodes/c1db2904-1396-11e9-bb7d-
005056acfcbb"
          }
        }
      },
      "home_port": {
        "uuid": "c84d5337-1397-11e9-87c2-005056acfcbb",
        "name": "e0d",
        "node": {
          "name": "user-cluster-01-a"
        },
        "_links": {
          "self": {
            "href": "/api/network/ethernet/ports/c84d5337-1397-11e9-87c2-
005056acfcbb"
```

```
          }
        }
      }
    },
    "service_policy": {
      "uuid": "9e53525f-141b-11e9-851e-005056ac1ce0",
      "name": "default-data-files"
    },
    "vip": false,
    "_links": {
      "self": {
        "href": "/api/network/ip/interfaces/c670707c-5a11-11e8-8fcb-
005056b4340f"
      }
    }
  }
],
"num_records": 1,
"_links": {
  "self": {
    "href": "/api/network/ip/interfaces?name=lif1?fields=*"
  }
}
}
```

Retrieving specific fields and limiting the output using filters

The following example shows the response when a filter is applied (location.home_port.name=e0a) and only certain fields are requested. Filtered fields are in the output in addition to the default fields and requested fields.

```
# The API:
/api/network/ip/interfaces

# The call:
curl -X GET "https://<mgmt-
ip>/api/network/ip/interfaces?location.home_port.name=e0a&fields=location.
home_node.name,service_policy.name,ip.address,enabled" -H "accept:
application/hal+json"

# The response:
{
"records": [
```

```
  {
    "uuid": "1d1c9dc8-4f17-11e9-9553-005056ac918a",
    "name": "user-cluster-01-a_clus1",
    "ip": {
      "address": "192.168.170.24"
    },
    "enabled": true,
    "location": {
      "home_node": {
        "name": "user-cluster-01-a"
      },
      "home_port": {
        "name": "e0a"
      }
    },
    "service_policy": {
      "name": "default-cluster"
    },
    "_links": {
      "self": {
        "href": "/api/network/ip/interfaces/1d1c9dc8-4f17-11e9-9553-
005056ac918a"
      }
    }
  },
  {
    "uuid": "d07782c1-4f16-11e9-86e7-005056ace7ee",
    "name": "user-cluster-01-b_clus1",
    "ip": {
      "address": "192.168.170.22"
    },
    "enabled": true,
    "location": {
      "home_node": {
        "name": "user-cluster-01-b"
      },
      "home_port": {
        "name": "e0a"
      }
    },
    "service_policy": {
      "name": "default-cluster"
    },
    "_links": {
      "self": {
        "href": "/api/network/ip/interfaces/d07782c1-4f16-11e9-86e7-
```

```
005056ace7ee"
      }
    }
  }
],
"num_records": 2,
"_links": {
  "self": {
    "href":
"/api/network/ip/interfaces?location.home_port.name=e0a&fields=location.ho
me_node.name,service_policy.name,ip.address,enabled"
  }
}
}
```

Creating IP interfaces

The IP interfaces POST API is used to create IP interfaces as shown in the following examples.

Examples

Creating a cluster-scoped IP interface using names

The following example shows the record returned after the creation of an IP interface on "e0d".

```
# The API:
/api/network/ip/interfaces

# The call:
curl -X POST "https://<mgmt-
ip>/api/network/ip/interfaces?return_records=true" -H "accept:
application/hal+json" -d '{ "name": "cluster_mgmt", "ip": { "address":
"10.63.41.6", "netmask": "18" }, "enabled": true, "scope": "cluster",
"ipspace": { "name": "Default" }, "location": { "auto_revert": false,
"failover": "broadcast_domain_only", "home_port": { "name": "e0d", "node":
{ "name": "user-cluster-01-a" } } }, "service_policy": { "name": "default-
management" } }'

# The response:
{
"num_records": 1,
"records": [
```

```
  {
    "uuid": "245979de-59fc-11e8-ba55-005056b4340f",
    "name": "cluster_mgmt",
    "ip": {
      "address": "10.63.41.6",
      "netmask": "18"
    },
    "enabled": true,
    "scope": "cluster",
    "ipspace": {
      "name": "Default"
    },
    "location": {
      "auto_revert": false,
      "failover": "broadcast_domain_only",
      "home_port": {
        "name": "e0d",
        "node": {
          "name": "user-cluster-01-a"
        }
      },
    },
    "service_policy": {
      "name": "default-management"
    },
    "_links": {
      "self": {
        "href": "/api/network/ip/interfaces/245979de-59fc-11e8-ba55-
005056b4340f"
      }
    }
  }
]
}
```

Creating a SVM-scoped IP interface using a mix of parameter types

The following example shows the record returned after the creation of a IP interface by specifying a broadcast domain as the location.

```
# The API:
/api/network/ip/interfaces
```

```
# The call:
curl -X POST "https://<mgmt-
ip>/api/network/ip/interfaces?return_records=true" -H "accept:
application/hal+json" -d '{ "name": "Data1", "ip": { "address":
"10.234.101.116", "netmask": "255.255.240.0" }, "enabled": true, "scope":
"svm", "svm": { "uuid": "137f3618-1e89-11e9-803e-005056a7646a" },
"location": { "auto_revert": true, "broadcast_domain": { "name": "Default"
} }, "service_policy": { "name": "default-data-files" } }'

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "80d271c9-1f43-11e9-803e-005056a7646a",
    "name": "Data1",
    "ip": {
      "address": "10.234.101.116",
      "netmask": "20"
    },
    "enabled": true,
    "scope": "svm",
    "svm": {
      "uuid": "137f3618-1e89-11e9-803e-005056a7646a",
      "name": "vs0",
      "_links": {
        "self": {
          "href": "/api/svm/svms/137f3618-1e89-11e9-803e-005056a7646a"
        }
      }
    },
    "location": {
      "auto_revert": true
    },
    "service_policy": {
      "name": "default-data-files"
    },
    "_links": {
      "self": {
        "href": "/api/network/ip/interfaces/80d271c9-1f43-11e9-803e-
005056a7646a"
      }
    }
  }
]
}
```

Creating a cluster-scoped IP interface without specifying the scope parameter

The following example shows the record returned after creating an IP interface on "e0d" without specifying the scope parameter. The scope is "cluster" if an "svm" is not specified.

```
# The API:
/api/network/ip/interfaces

# The call:
curl -X POST "https://<mgmt-
ip>/api/network/ip/interfaces?return_records=true" -H "accept:
application/hal+json" -d '{ "name": "cluster_mgmt", "ip": { "address":
"10.63.41.6", "netmask": "18" }, "enabled": true, "ipspace": { "name":
"Default" }, "location": { "auto_revert": false, "home_port": { "name":
"e0d", "node": { "name": "user-cluster-01-a" } } }, "service_policy": {
"name": "default-management" } }'

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "245979de-59fc-11e8-ba55-005056b4340f",
    "name": "cluster_mgmt",
    "ip": {
      "address": "10.63.41.6",
      "netmask": "18"
    },
    "enabled": true,
    "scope": "cluster",
    "ipspace": {
      "name": "Default"
    },
    "location": {
      "auto_revert": false,
      "home_port": {
        "name": "e0d",
        "node": {
          "name": "user-cluster-01-a"
        }
      }
    },
    "service_policy": {
      "name": "default-management"
    },
```

```
    "_links": {
      "self": {
        "href": "/api/network/ip/interfaces/245979de-59fc-11e8-ba55-
005056b4340f"
      }
    }
  }
]
}
```

Creating an SVM-scoped IP interface without specifying the scope parameter

The following example shows the record returned after creating an IP interface on "e0d" without specifying the scope parameter. The scope is "svm" if the "svm" field is specified.

```
# The API:
/api/network/ip/interfaces

# The call:
curl -X POST "https://<mgmt-
ip>/api/network/ip/interfaces?return_records=true" -H "accept:
application/hal+json" -d '{ "name": "Data1", "ip": { "address":
"10.234.101.116", "netmask": "255.255.240.0" }, "enabled": true, "svm": {
"uuid": "137f3618-1e89-11e9-803e-005056a7646a" }, "location": {
"auto_revert": true, "broadcast_domain": { "name": "Default" } },
"service_policy": { "name": "default-data-files" } }'

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "80d271c9-1f43-11e9-803e-005056a7646a",
    "name": "Data1",
    "ip": {
      "address": "10.234.101.116",
      "netmask": "20"
    },
    "enabled": true,
    "scope": "svm",
    "svm": {
      "uuid": "137f3618-1e89-11e9-803e-005056a7646a",
      "name": "vs0",
```

```
      "_links": {
        "self": {
          "href": "/api/svms/137f3618-1e89-11e9-803e-005056a7646a"
        }
      }
    },
    "location": {
      "auto_revert": true
    },
    "service_policy": {
      "name": "default-data-files"
    },
    "_links": {
      "self": {
        "href": "/api/network/ip/interfaces/80d271c9-1f43-11e9-803e-
005056a7646a"
      }
    }
  }
]
}
```

Updating IP interfaces

The IP interfaces PATCH API is used to update attributes of IP interface.

Examples

Updating the auto revert flag of an IP interface

The following example shows how the PATCH request changes the auto revert flag to 'false'.

```
# The API:
/api/network/ip/interfaces/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/network/ip/interfaces/80d271c9-1f43-
11e9-803e-005056a7646a" -H "accept: application/hal+json" -d '{
"location": { "auto_revert": "false" } }'
{
}
```

Updating the service policy of an IP interface

The following example shows how the PATCH request changes the service policy to 'default-management'.

```
# The API:
/api/network/ip/interfaces/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/network/ip/interfaces/80d271c9-1f43-
11e9-803e-005056a7646a" -H "accept: application/hal+json" -d '{
"service_policy": "default-management" }'
{
}
```

Deleting IP interfaces

The IP interfaces DELETE API is used to delete an IP interface in the cluster.

Example

Deleting an IP Interface

The following DELETE request deletes a network IP interface.

```
# The API:
/api/network/ip/interfaces/{uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/network/ip/interfaces/80d271c9-1f43-
11e9-803e-005056a7646a"
{
}
```

Retrieve all IP interface details

GET `/network/ip/interfaces`

Retrieves the details of all IP interfaces.

Related ONTAP Commands

- `network interface show`

Learn more

- DOC /network/ip/interfaces

Parameters

Name	Type	In	Required	Description
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
scope	string	query	False	Filter by scope
services	string	query	False	Filter by services
state	string	query	False	Filter by state
name	string	query	False	Filter by name
enabled	boolean	query	False	Filter by enabled
ipspace.uuid	string	query	False	Filter by ipspace.uuid
ipspace.name	string	query	False	Filter by ipspace.name
ip.address	string	query	False	Filter by ip.address
ip.netmask	string	query	False	Filter by ip.netmask
ip.family	string	query	False	Filter by ip.family
vip	boolean	query	False	Filter by vip
service_policy.uuid	string	query	False	Filter by service_policy.uuid
service_policy.name	string	query	False	Filter by service_policy.name
uuid	string	query	False	Filter by uuid

Name	Type	In	Required	Description
location.home_node.name	string	query	False	Filter by location.home_node.name
location.home_node.uuid	string	query	False	Filter by location.home_node.uuid
location.is_home	boolean	query	False	Filter by location.is_home
location.auto_revert	boolean	query	False	Filter by location.auto_revert
location.failover	string	query	False	Filter by location.failover
location.home_port.node.name	string	query	False	Filter by location.home_port.node.name
location.home_port.name	string	query	False	Filter by location.home_port.name
location.home_port.uuid	string	query	False	Filter by location.home_port.uuid
location.node.name	string	query	False	Filter by location.node.name
location.node.uuid	string	query	False	Filter by location.node.uuid
location.port.node.name	string	query	False	Filter by location.port.node.name
location.port.name	string	query	False	Filter by location.port.name
location.port.uuid	string	query	False	Filter by location.port.uuid

Name	Type	In	Required	Description
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned.
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	_links	
num_records	integer	
records	array[ip_interface]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ip": {
        "address": "10.10.10.7",
        "family": "string",
        "netmask": "24"
      },
      "ipspace": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "exchange",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "location": {
        "failover": "string",
        "home_node": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "node1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "home_port": {
          "_links": {
```

```
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "e1b",
          "node": {
            "name": "node1"
          },
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "node": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "node1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "port": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "e1b",
          "node": {
            "name": "node1"
          },
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        }
      },
      "name": "dataLif1",
      "scope": "string",
      "service_policy": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "default-intercluster",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "services": [
        "data_nfs"
      ],
```

```
      "state": "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	

ip_info

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address
family	string	IPv4 or IPv6
netmask	string	Input as netmask length (16) or IPv4 mask (255.255.0.0). For IPv6, you must set the netmask length. The default value is 64. Output is always netmask length.

ipspace

Either the UUID or name must be supplied on POST for cluster-scoped objects.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

broadcast_domain

Broadcast domain UUID along with a readable name.

Name	Type	Description
_links	_links	
name	string	Name of the broadcast domain, scoped to its IPspace
uuid	string	Broadcast domain UUID

home_node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

node

Name	Type	Description
name	string	Name of node on which the port is located.

home_port

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

port

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

location

Current or home location can be modified. Specifying a port implies a node. Specifying a node allows an appropriate port to be automatically selected. Ports are not valid and not shown for VIP interfaces. For POST, broadcast_domain can be specified alone or with home_node.

Name	Type	Description
auto_revert	boolean	
failover	string	Defines where an interface may failover.
home_node	home_node	
home_port	home_port	Port UUID along with readable names. Either the UUID or both names may be supplied on input.
is_home	boolean	
node	node	
port	port	Port UUID along with readable names. Either the UUID or both names may be supplied on input.

service_policy

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

Applies only to SVM-scoped objects. Either the UUID or name must be supplied on POST.

Name	Type	Description
_links	_links	
name	string	The name of the SVM.

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

ip_interface

Name	Type	Description
_links	_links	
enabled	boolean	The administrative state of the interface.
ip	ip_info	IP information
ipspace	ipspace	Either the UUID or name must be supplied on POST for cluster-scoped objects.
location	location	Current or home location can be modified. Specifying a port implies a node. Specifying a node allows an appropriate port to be automatically selected. Ports are not valid and not shown for VIP interfaces. For POST, broadcast_domain can be specified alone or with home_node.
name	string	Interface name
scope	string	Set to "svm" for interfaces owned by an SVM. Otherwise, set to "cluster".
service_policy	service_policy	
services	array[string]	The services associated with the interface.
state	string	The operational state of the interface.
svm	svm	Applies only to SVM-scoped objects. Either the UUID or name must be supplied on POST.
uuid	string	The UUID that uniquely identifies the interface.

Name	Type	Description
vip	boolean	True for a VIP interface, whose location is announced via BGP.

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.

Create a new cluster-scoped or SVM-scoped interface

POST `/network/ip/interfaces`

Creates a new cluster-scoped or svm-scoped interface.

Required properties

- `name` - Name of the interface to create.
- `ip.address` - IP address for the interface.
- `ip.netmask` - IP subnet of the interface.
- `ipspace.name` or `ipspace.uuid`
  - Required for cluster-scoped interfaces.
  - Optional for svm-scoped interfaces.
- `svm.name` or `svm.uuid`
  - Required for a svm-scoped interface.
  - Invalid for a cluster-scoped interface.
- `location.home_port` or `location.home_node` or `location.broadcast_domain` - One of these

properties must be set to a value to define where the interface will be located.

Default property values

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

- `scope`
  - *svm* if svm parameter is specified.
  - *cluster* if svm parameter is not specified
- `enabled` - *true*
- `location.auto_revert` - *true*
- `service_policy`
  - *default-data-files* if scope is `svm`
  - *default-management* if scope is `cluster` and IPspace is not `Cluster`
  - *default-cluster* if scope is `svm` and IPspace is `Cluster`
- `failover` - Selects the least restrictive failover policy supported by all the services in the service policy.

Related ONTAP commands

- `network interface create`

Learn more

- DOC /network/ip/interfaces

Request Body

Name	Type	Description
_links	_links	
enabled	boolean	The administrative state of the interface.
ip	ip_info	IP information
ipspace	ipspace	Either the UUID or name must be supplied on POST for cluster-scoped objects.

Name	Type	Description
location	location	Current or home location can be modified. Specifying a port implies a node. Specifying a node allows an appropriate port to be automatically selected. Ports are not valid and not shown for VIP interfaces. For POST, broadcast_domain can be specified alone or with home_node.
name	string	Interface name
scope	string	Set to "svm" for interfaces owned by an SVM. Otherwise, set to "cluster".
service_policy	service_policy	
services	array[string]	The services associated with the interface.
state	string	The operational state of the interface.
svm	svm	Applies only to SVM-scoped objects. Either the UUID or name must be supplied on POST.
uuid	string	The UUID that uniquely identifies the interface.
vip	boolean	True for a VIP interface, whose location is announced via BGP.

Example request


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ip": {
    "address": "10.10.10.7",
    "family": "string",
    "netmask": "24"
  },
  "ipspace": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "exchange",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "location": {
    "broadcast_domain": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "bd1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "failover": "string",
    "home_port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "e1b",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
```

```
  "name": "dataLif1",
  "scope": "string",
  "service_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "default-intercluster",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "services": [
    "data_nfs"
  ],
  "state": "string",
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
```


Response

```
Status: 201, Created
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1967127	svm.uuid or svm.name must be provided if scope is "svm".
1967128	ipspace.uuid or ipspace.name must be provided if scope is "cluster".

Error Code	Description
1967082	The specified ipspace.name does not match the IPspace name of ipspace.uuid.
1967081	The specified SVM must exist in the specified IPspace.
1967120	The specified service_policy.name does not match the specified service policy name of service_policy.uuid.
1967121	Invalid service_policy.uuid specified.
1967122	The specified location.broadcast_domain.name does not match the specified broadcast domain name of location.broadcast_domain.uuid.
1967123	The specified IPspace does not match the IPspace name of location.broadcast_domain.uuid.
1967124	Invalid location.broadcast_domain.uuid specified.
1967106	The specified location.home_port.name does not match the specified port name of location.home_port.uuid.
1967107	Invalid location.home_port.uuid specified.
1967108	The specified location.home_node.name does not match the node name of location.home_node.uuid.
1967109	The specified location.home_port.node.name does not match the node name of location.home_node.uuid.
1967110	The specified location.home_port.node.name does not match location.home_node.name.
1967111	Home node must be specified by at least one location.home_node, location.home_port, or location.broadcast_domain field.
1967112	The specified location.home_node.name does not match the node name of location.home_port.uuid.
1967102	POST operation might have left configuration in an inconsistent state. Check the configuration.
1967137	The specified location.broadcast_domain.uuid and location.broadcast_domain.name (and IPspace name) are invalid.
1967135	The specified location.broadcast_domain.uuid is invalid.
1967136	The specified location.broadcast_domain.name (and ipspace name) is invalid.
1967129	The specified location.home_port.uuid is invalid.
1967130	The specified location.home_port.name is invalid.

Error Code	Description
1967131	The specified location.home_port.uuid and location.home_port.name are invalid.
1967145	The specified location.failover is invalid.
1967146	The specified svm.name is invalid.
1967147	The specified svm.uuid is invalid.
5373966	An iSCSI interface cannot be created in an SVM is configured for NVMe.
1966140	A LIF with the same name already exists.
1966987	The Vserver Broadcast-Domain Home-Node and Home-Port combination is not valid.
1376656	Cluster LIFs must be in the same subnet. Verify the address and netmask are set to the correct values.
1966138	The same IP address may not be used for both a mgmt interface and a gateway address.
1376963	Duplicate IP address

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	

ip_info

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address
family	string	IPv4 or IPv6
netmask	string	Input as netmask length (16) or IPv4 mask (255.255.0.0). For IPv6, you must set the netmask length. The default value is 64. Output is always netmask length.

ipspace

Either the UUID or name must be supplied on POST for cluster-scoped objects.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

broadcast_domain

Broadcast domain UUID along with a readable name.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	Name of the broadcast domain, scoped to its IPspace
uuid	string	Broadcast domain UUID

home_node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

node

Name	Type	Description
name	string	Name of node on which the port is located.

home_port

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

port

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	
node	node	
uuid	string	

location

Current or home location can be modified. Specifying a port implies a node. Specifying a node allows an appropriate port to be automatically selected. Ports are not valid and not shown for VIP interfaces. For POST, broadcast_domain can be specified alone or with home_node.

Name	Type	Description
auto_revert	boolean	
broadcast_domain	broadcast_domain	Broadcast domain UUID along with a readable name.
failover	string	Defines where an interface may failover.
home_port	home_port	Port UUID along with readable names. Either the UUID or both names may be supplied on input.
is_home	boolean	

service_policy

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

Applies only to SVM-scoped objects. Either the UUID or name must be supplied on POST.

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

ip_interface

Name	Type	Description
_links	_links	
enabled	boolean	The administrative state of the interface.
ip	ip_info	IP information
ipspace	ipspace	Either the UUID or name must be supplied on POST for cluster-scoped objects.
location	location	Current or home location can be modified. Specifying a port implies a node. Specifying a node allows an appropriate port to be automatically selected. Ports are not valid and not shown for VIP interfaces. For POST, broadcast_domain can be specified alone or with home_node.
name	string	Interface name
scope	string	Set to "svm" for interfaces owned by an SVM. Otherwise, set to "cluster".
service_policy	service_policy	
services	array[string]	The services associated with the interface.
state	string	The operational state of the interface.
svm	svm	Applies only to SVM-scoped objects. Either the UUID or name must be supplied on POST.
uuid	string	The UUID that uniquely identifies the interface.
vip	boolean	True for a VIP interface, whose location is announced via BGP.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

Delete an IP interface

DELETE `/network/ip/interfaces/{uuid}`

Deletes an IP interface.

Related ONTAP commands

- `network interface delete`

Learn more

- DOC /network/ip/interfaces

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	

Response

```
Status: 200, Ok
```

Retrieve details for an IP interface

GET `/network/ip/interfaces/{uuid}`

Retrieves details for a specific IP interface.

Related ONTAP commands

- `network interface show`

Learn more

- DOC /network/ip/interfaces

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	IP interface UUID
fields	array[string]	query	False	Specify the fields to return.

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
enabled	boolean	The administrative state of the interface.
ip	ip_info	IP information
ipspace	ipspace	Either the UUID or name must be supplied on POST for cluster-scoped objects.
location	location	Current or home location can be modified. Specifying a port implies a node. Specifying a node allows an appropriate port to be automatically selected. Ports are not valid and not shown for VIP interfaces. For POST, broadcast_domain can be specified alone or with home_node.
name	string	Interface name

Name	Type	Description
scope	string	Set to "svm" for interfaces owned by an SVM. Otherwise, set to "cluster".
service_policy	service_policy	
services	array[string]	The services associated with the interface.
state	string	The operational state of the interface.
svm	svm	Applies only to SVM-scoped objects. Either the UUID or name must be supplied on POST.
uuid	string	The UUID that uniquely identifies the interface.
vip	boolean	True for a VIP interface, whose location is announced via BGP.

Example response


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ip": {
    "address": "10.10.10.7",
    "family": "string",
    "netmask": "24"
  },
  "ipspace": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "exchange",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "location": {
    "failover": "string",
    "home_node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "home_port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "e1b",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "node": {
```

```
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "e1b",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "name": "dataLif1",
  "scope": "string",
  "service_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "default-intercluster",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "services": [
    "data_nfs"
  ],
  "state": "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
self	href	

ip_info

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address
family	string	IPv4 or IPv6
netmask	string	Input as netmask length (16) or IPv4 mask (255.255.0.0). For IPv6, you must set the netmask length. The default value is 64. Output is always netmask length.

ipspace

Either the UUID or name must be supplied on POST for cluster-scoped objects.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

broadcast_domain

Broadcast domain UUID along with a readable name.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	Name of the broadcast domain, scoped to its IPspace
uuid	string	Broadcast domain UUID

home_node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

node

Name	Type	Description
name	string	Name of node on which the port is located.

home_port

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

port

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	
node	node	
uuid	string	

location

Current or home location can be modified. Specifying a port implies a node. Specifying a node allows an appropriate port to be automatically selected. Ports are not valid and not shown for VIP interfaces. For POST, broadcast_domain can be specified alone or with home_node.

Name	Type	Description
auto_revert	boolean	
failover	string	Defines where an interface may failover.
home_node	home_node	
home_port	home_port	Port UUID along with readable names. Either the UUID or both names may be supplied on input.
is_home	boolean	
node	node	
port	port	Port UUID along with readable names. Either the UUID or both names may be supplied on input.

service_policy

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

Applies only to SVM-scoped objects. Either the UUID or name must be supplied on POST.

Name	Type	Description
_links	_links	
name	string	The name of the SVM.

Name	Type	Description
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.

Update an IP interface

PATCH `/network/ip/interfaces/{uuid}`

Updates an IP interface.

Related ONTAP commands

- `network interface migrate`
- `network interface modify`
- `network interface rename`
- `network interface revert`

Learn more

- DOC /network/ip/interfaces

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	IP interface UUID

Request Body

Name	Type	Description
_links	_links	
enabled	boolean	The administrative state of the interface.
ip	ip_info	IP information
location	location	Current or home location can be modified. Specifying a port implies a node. Specifying a node allows an appropriate port to be automatically selected. Ports are not valid and not shown for VIP interfaces. For POST, broadcast_domain can be specified alone or with home_node.
name	string	Interface name
service_policy	service_policy	
services	array[string]	The services associated with the interface.
state	string	The operational state of the interface.
uuid	string	The UUID that uniquely identifies the interface.

Example request


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ip": {
    "address": "10.10.10.7",
    "family": "string",
    "netmask": "24"
  },
  "location": {
    "failover": "string",
    "home_port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "e1b",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "e1b",
      "node": {
        "name": "node1"
      },
```

```
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "name": "dataLif1",
  "service_policy": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "default-intercluster",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "services": [
    "data_nfs"
  ],
  "state": "string",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412",
  "vip": null
}
```


Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1967143	Cannot patch home_port for a VIP interface. Invalid parameters location.home_port.uuid and location.home_port.name specified.
1967141	Cannot patch home_port for a VIP interface. Invalid parameter location.home_port.uuid specified.
1967142	Cannot patch home_port for a VIP interface. Invalid parameter location.home_port.name specified.
1967140	Cannot patch port for a VIP interface. Invalid parameters location.port.uuid and location.port.name specified.

Error Code	Description
1967138	Cannot patch port for a VIP interface. Invalid parameter location.port.uuid specified.
1967139	Cannot patch port for a VIP interface. Invalid parameter location.port.name specified.
1967120	The specified service_policy.name does not match the specified service policy name of service_policy.uuid.
1967121	Invalid service_policy.uuid specified.
1967113	The specified location.port.name does not match the port name of location.port.uuid.
1967114	Invalid location.port.uuid specified.
1967134	The specified location.port.uuid and location.port.name are invalid.
1967132	The specified location.port.uuid is invalid.
1967133	The specified location.port.name is invalid.
1967115	The specified location.node.name does not match the node name of location.node.uuid.
1967116	The specified location.port.node.name does not match the node name of location.node.uuid.
1967117	The specified location.port.node.name does not match location.node.name.
1967118	Node must be specified by at least one location.node or location.port field.
1967119	The specified location.node.name does not match the node name of location.port.uuid.
1967106	The specified location.home_port.name does not match the specified port name of location.home_port.uuid.
1967107	Invalid location.home_port.uuid specified.
1967111	Home node must be specified by at least one location.home_node, location.home_port, or location.broadcast_domain field.
1967129	The specified location.home_port.uuid is invalid.
1967130	The specified location.home_port.name is invalid.
1967131	The specified location.home_port.uuid and location.home_port.name are invalid.
1967145	The specified location.failover is invalid.
1966138	The same IP address may not be used for both a mgmt interface and a gateway address.
1376963	Duplicate IP address

Error Code	Description
1966229	You cannot patch the "location.node" or "location.port" fields to migrate interfaces using FCP and iSCSI data protocols. Instead perform the following PATCH operations on the interface: set the "enabled" field to "false"; change one or more "location.home_port" fields to migrate the interface; and then set the "enabled" field to "true".

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

ip_info

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address
family	string	IPv4 or IPv6
netmask	string	Input as netmask length (16) or IPv4 mask (255.255.0.0). For IPv6, you must set the netmask length. The default value is 64. Output is always netmask length.

ipspace

Either the UUID or name must be supplied on POST for cluster-scoped objects.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

broadcast_domain

Broadcast domain UUID along with a readable name.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	Name of the broadcast domain, scoped to its IPspace
uuid	string	Broadcast domain UUID

home_node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

node

Name	Type	Description
name	string	Name of node on which the port is located.

home_port

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	
name	string	
node	node	
uuid	string	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

port

Port UUID along with readable names. Either the UUID or both names may be supplied on input.

Name	Type	Description
_links	_links	

Name	Type	Description
name	string	
node	node	
uuid	string	

location

Current or home location can be modified. Specifying a port implies a node. Specifying a node allows an appropriate port to be automatically selected. Ports are not valid and not shown for VIP interfaces. For POST, broadcast_domain can be specified alone or with home_node.

Name	Type	Description
auto_revert	boolean	
failover	string	Defines where an interface may failover.
home_port	home_port	Port UUID along with readable names. Either the UUID or both names may be supplied on input.
is_home	boolean	
node	node	
port	port	Port UUID along with readable names. Either the UUID or both names may be supplied on input.

service_policy

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

Applies only to SVM-scoped objects. Either the UUID or name must be supplied on POST.

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

ip_interface

Name	Type	Description
_links	_links	
enabled	boolean	The administrative state of the interface.
ip	ip_info	IP information
location	location	Current or home location can be modified. Specifying a port implies a node. Specifying a node allows an appropriate port to be automatically selected. Ports are not valid and not shown for VIP interfaces. For POST, broadcast_domain can be specified alone or with home_node.
name	string	Interface name
service_policy	service_policy	
services	array[string]	The services associated with the interface.
state	string	The operational state of the interface.
uuid	string	The UUID that uniquely identifies the interface.

Manage network IP routes

Network IP routes endpoint overview

Overview

This endpoint supports the following operations: GET (collection and instance), POST, and DELETE.

Retrieving network routes

The IP routes GET API retrieves and displays relevant information pertaining to the routes configured in the cluster. The API retrieves the list of all routes configured in the cluster, or a specific route. The fields that are returned in the response will differ with the configuration.

Examples

Retrieving all routes in the cluster

The following output shows the list of all routes configured in a cluster.

```
# The API:
/api/network/ip/routes

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ip/routes?fields=*" -H "accept:
application/hal+json"

# The response:
{
"records": [
  {
    "uuid": "5fdffb0b-62f8-11e8-853d-005056b4c971",
    "ipspace": {
      "uuid": "84f4beb2-616c-11e8-a4df-005056b4c971",
      "name": "Default",
      "_links": {
        "self": {
          "href": "/api/network/ipspaces/84f4beb2-616c-11e8-a4df-
005056b4c971"
        }
      }
    },
    "svm": {
      "uuid": "3243312c-62f8-11e8-853d-005056b4c971",
      "name": "vs1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/3243312c-62f8-11e8-853d-005056b4c971"
        }
      }
    },
    "scope": "svm",
    "destination": {
      "address": "10.4.3.14",
      "netmask": "18",
      "family": "ipv4"
    },
    "gateway": "10.4.3.1",
    "_links": {
```

```
      "self": {
        "href": "/api/network/ip/routes/5fdffb0b-62f8-11e8-853d-
005056b4c971"
      }
    }
  },
  {
    "uuid": "84c128d2-62f9-11e8-853d-005056b4c971",
    "ipspace": {
      "uuid": "cc71aadc-62f7-11e8-853d-005056b4c971",
      "name": "ips1",
      "_links": {
        "self": {
          "href": "/api/network/ipspaces/cc71aadc-62f7-11e8-853d-
005056b4c971"
        }
      }
    },
    "scope": "cluster",
    "destination": {
      "address": "::",
      "netmask": "0",
      "family": "ipv6"
    },
    "gateway": "fd20:8b1e:b255:814e::1",
    "_links": {
      "self": {
        "href": "/api/network/ip/routes/84c128d2-62f9-11e8-853d-
005056b4c971"
      }
    }
  },
  {
    "uuid": "8cc72bcd-616c-11e8-a4df-005056b4c971",
    "ipspace": {
      "uuid": "84f4beb2-616c-11e8-a4df-005056b4c971",
      "name": "Default",
      "_links": {
        "self": {
          "href": "/api/network/ipspaces/84f4beb2-616c-11e8-a4df-
005056b4c971"
        }
      }
    },
    "scope": "cluster",
    "destination": {
```

```
      "address": "0.0.0.0",
      "netmask": "0",
      "family": "ipv4"
    },
    "gateway": "10.224.64.1",
    "_links": {
      "self": {
        "href": "/api/network/ip/routes/8cc72bcd-616c-11e8-a4df-
005056b4c971"
      }
    }
  },
  {
    "uuid": "d63b6eee-62f9-11e8-853d-005056b4c971",
    "ipspace": {
      "uuid": "84f4beb2-616c-11e8-a4df-005056b4c971",
      "name": "Default",
      "_links": {
        "self": {
          "href": "/api/network/ipspaces/84f4beb2-616c-11e8-a4df-
005056b4c971"
        }
      }
    },
    "svm": {
      "uuid": "3243312c-62f8-11e8-853d-005056b4c971",
      "name": "vs1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/3243312c-62f8-11e8-853d-005056b4c971"
        }
      }
    },
    "scope": "svm",
    "destination": {
      "address": "fd20:8b1e:b255:814e::",
      "netmask": "64",
      "family": "ipv6"
    },
    "gateway": "fd20:8b1e:b255:814e::1",
    "_links": {
      "self": {
        "href": "/api/network/ip/routes/d63b6eee-62f9-11e8-853d-
005056b4c971"
      }
    }
```

```
    }
  ],
  "num_records": 4,
  "_links": {
    "self": {
      "href": "/api/network/ip/routes?fields=*"
    }
  }
}
```

Retrieving a specific cluster-scoped route

The following output shows the returned response when a specific cluster-scoped route is requested. The system returns an error if there is no route with the requested UUID. SVM information is not returned for cluster-scoped routes.

```
# The API:
/api/network/ip/routes/{uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ip/routes/84c128d2-62f9-11e8-
853d-005056b4c971?fields=*" -H "accept: application/hal+json"

# The response:
{
"uuid": "84c128d2-62f9-11e8-853d-005056b4c971",
"ipspace": {
  "uuid": "cc71aadc-62f7-11e8-853d-005056b4c971",
  "name": "ips1",
  "_links": {
    "self": {
      "href": "/api/network/ipspaces/cc71aadc-62f7-11e8-853d-005056b4c971"
    }
  }
},
"scope": "cluster",
"destination": {
  "address": "::",
  "netmask": "0",
  "family": "ipv6"
},
"gateway": "fd20:8b1e:b255:814e::1",
"_links": {
  "self": {
    "href": "/api/network/ip/routes/84c128d2-62f9-11e8-853d-005056b4c971"
  }
}
}
```

Retrieving a specific SVM-scoped route

The following output shows the returned response when a specific SVM-scoped route is requested. The system returns an error if there is no route with the requested UUID. The SVM object is only included for SVM-scoped routes.

```
# The API:
/api/network/ip/routes

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ip/routes/d63b6eee-62f9-11e8-
853d-005056b4c971?fields=*" -H "accept: application/hal+json"

# The response:
{
"uuid": "d63b6eee-62f9-11e8-853d-005056b4c971",
"ipspace": {
  "uuid": "84f4beb2-616c-11e8-a4df-005056b4c971",
  "name": "Default",
  "_links": {
    "self": {
      "href": "/api/network/ipspaces/84f4beb2-616c-11e8-a4df-005056b4c971"
    }
  }
},
"svm": {
  "uuid": "3243312c-62f8-11e8-853d-005056b4c971",
  "name": "vs1",
  "_links": {
    "self": {
      "href": "/api/svm/svms/3243312c-62f8-11e8-853d-005056b4c971"
    }
  }
},
"scope": "svm",
"destination": {
  "address": "fd20:8b1e:b255:814e::",
  "netmask": "64",
  "family": "ipv6"
},
"gateway": "fd20:8b1e:b255:814e::1",
"_links": {
  "self": {
    "href": "/api/network/ip/routes/d63b6eee-62f9-11e8-853d-005056b4c971"
  }
}
}
```

Creating network routes

The POST API is used to create an SVM-scoped route by specifying the associated SVM, or a cluster-scoped route by specifying the associated IPspace.

Examples

Creating a cluster-scoped route

IPspace is required to create a cluster-scoped route. If the IPspace is not specified, the route will be created in the Default IPspace. The default destination will be set to "0.0.0.0/0" for IPv4 gateway addresses or "::/0" for IPv6 gateway addresses.

```
# The API:
/api/network/ip/routes

# The call:
curl -X POST "https://<mgmt-ip>/api/network/ip/routes?return_records=true"
-H "accept: application/json" -d '{ "ipspace": { "name":"ips1" },
"gateway": "10.10.10.1"}'

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "ae583c9e-9ac7-11e8-8bc9-005056bbd531",
    "ipspace": {
      "name": "ips1"
    },
    "gateway": "10.10.10.1"
  }
]
}
```

Creating an SVM-scoped route

To create an SVM-scoped route, the associated SVM can be identified by either its UUID or name.

```
# The API:
/api/network/ip/routes

# The call:
curl -X POST "https://<mgmt-ip>/api/network/ip/routes?return_records=true"
-H "accept: application/json" -d '{ "svm": { "name":"vs0" }, "gateway":
"10.10.10.1"}'

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "38805a91-9ac9-11e8-8bc9-005056bbd531",
    "svm": {
      "name": "vs0"
    },
    "gateway": "10.10.10.1"
  }
]
}
```

Deleting network routes

The DELETE API can remove a specific route identified by its UUID.

Example

Deleting a specific route

```
# The API:
/api/network/ip/routes

# The call:
curl -X DELETE "https://<mgmt-ip>/api/network/ip/routes/38805a91-9ac9-
11e8-8bc9-005056bbd531"
```

Retrieve IP routes

GET `/network/ip/routes`

Retrieves the collection of IP routes.

Related ONTAP commands

- `network route show`

Learn more

- DOC /network/ip/routes

Parameters

Name	Type	In	Required	Description
ipspace.uuid	string	query	False	Filter by ipspace.uuid
ipspace.name	string	query	False	Filter by ipspace.name
uuid	string	query	False	Filter by uuid
destination.address	string	query	False	Filter by destination.address
destination.netmask	string	query	False	Filter by destination.netmask
destination.family	string	query	False	Filter by destination.family
gateway	string	query	False	Filter by gateway
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
scope	string	query	False	Filter by scope
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.
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	_links	
error	error	
num_records	integer	Number of records
records	array[network_route]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "destination": {
        "address": "10.10.10.7",
        "family": "string",
        "netmask": "24"
      },
      "gateway": "10.1.1.1",
      "ipspace": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "exchange",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "scope": "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	

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.

_links

Name	Type	Description
self	href	

ip_info

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address

Name	Type	Description
family	string	IPv4 or IPv6
netmask	string	Input as netmask length (16) or IPv4 mask (255.255.0.0). For IPv6, you must set the netmask length. The default value is 64. Output is always netmask length.

ipspace

Applies to both SVM and cluster-scoped objects. Either the UUID or name may be supplied on input.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

svm

SVM, applies only to SVM-scoped objects.

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

network_route

Name	Type	Description
_links	_links	
destination	ip_info	IP information
gateway	string	The IP address of the gateway router leading to the destination.
ipspace	ipspace	Applies to both SVM and cluster-scoped objects. Either the UUID or name may be supplied on input.

Name	Type	Description
scope	string	Set to "svm" for interfaces owned by an SVM. Otherwise, set to "cluster".
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The UUID that uniquely identifies the route.

Create a cluster-scoped or SVM-scoped static route

POST `/network/ip/routes`

Creates a cluster-scoped or SVM-scoped static route.

Required properties

- `gateway` - IP address to route packets to.
- SVM-scoped routes
  - `svm.name` or `svm.uuid` - SVM that route is applied to.
- cluster-scoped routes
  - There are no additional required fields for cluster-scoped routes.

Default property values

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

- `destination` - *0.0.0.0/0* for IPv4 or *::/0* for IPv6.
- `ipspace.name`
  - *Default* for cluster-scoped routes.
  - Name of the SVM's IPspace for SVM-scoped routes.

Related ONTAP commands

- `network route create`

Learn more

- DOC /network/ip/routes

Request Body

Name	Type	Description
_links	_links	
destination	ip_info	IP information
gateway	string	The IP address of the gateway router leading to the destination.
ipspace	ipspace	Applies to both SVM and cluster-scoped objects. Either the UUID or name may be supplied on input.
scope	string	Set to "svm" for interfaces owned by an SVM. Otherwise, set to "cluster".
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The UUID that uniquely identifies the route.

Example request


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "destination": {
    "address": "10.10.10.7",
    "family": "string",
    "netmask": "24"
  },
  "gateway": "10.1.1.1",
  "ipspace": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "exchange",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "scope": "string",
  "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	_links	

Name	Type	Description
error	error	
num_records	integer	Number of records
records	array[network_route]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "destination": {
        "address": "10.10.10.7",
        "family": "string",
        "netmask": "24"
      },
      "gateway": "10.1.1.1",
      "ipspace": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "exchange",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "scope": "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
1966345	Duplicate route exists.
1967080	The destination.address is missing.
1967081	The specified SVM must exist in the specified IPspace.
1967082	The specified ipspace.uuid and ipspace.name refer to different IPspaces.
1967146	The specified svm.name is invalid.
2	The specified svm.uuid is invalid or wrong.

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	

ip_info

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address
family	string	IPv4 or IPv6
netmask	string	Input as netmask length (16) or IPv4 mask (255.255.0.0). For IPv6, you must set the netmask length. The default value is 64. Output is always netmask length.

ipspace

Applies to both SVM and cluster-scoped objects. Either the UUID or name may be supplied on input.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM.

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

network_route

Name	Type	Description
_links	_links	
destination	ip_info	IP information
gateway	string	The IP address of the gateway router leading to the destination.
ipspace	ipspace	Applies to both SVM and cluster-scoped objects. Either the UUID or name may be supplied on input.
scope	string	Set to "svm" for interfaces owned by an SVM. Otherwise, set to "cluster".
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The UUID that uniquely identifies the route.

_links

Name	Type	Description
next	href	
self	href	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

Delete an IP route

DELETE `/network/ip/routes/{uuid}`

Deletes a specific IP route.

Related ONTAP commands

- `network route delete`

Learn more

- DOC /network/ip/routes

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	

Response

```
Status: 200, Ok
```

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

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 details for an IP route

GET `/network/ip/routes/{uuid}`

Retrieves the details of a specific IP route.

Related ONTAP commands

- `network route show`

Learn more

- DOC /network/ip/routes

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Route UUID
fields	array[string]	query	False	Specify the fields to return.

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
destination	ip_info	IP information
gateway	string	The IP address of the gateway router leading to the destination.
ipspace	ipspace	Applies to both SVM and cluster-scoped objects. Either the UUID or name may be supplied on input.
scope	string	Set to "svm" for interfaces owned by an SVM. Otherwise, set to "cluster".
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	The UUID that uniquely identifies the route.

Example response


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "destination": {
    "address": "10.10.10.7",
    "family": "string",
    "netmask": "24"
  },
  "gateway": "10.1.1.1",
  "ipspace": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "exchange",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "scope": "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
self	href	

ip_info

IP information

Name	Type	Description
address	string	IPv4 or IPv6 address
family	string	IPv4 or IPv6
netmask	string	Input as netmask length (16) or IPv4 mask (255.255.0.0). For IPv6, you must set the netmask length. The default value is 64. Output is always netmask length.

ipspace

Applies to both SVM and cluster-scoped objects. Either the UUID or name may be supplied on input.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM.

Name	Type	Description
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.

Manage network IP service policies

Network IP service-policies endpoint overview

Overview

Service policies are named groupings that define what services are supported by an IP interface. The network IP service-policies GET API retrieves and displays relevant information pertaining to the service policies configured in the cluster. The API retrieves the list of all service policies configured in the cluster or a specific service policy.

Examples

Retrieving all service policies in the cluster

The following output shows the collection of all service policies configured in a 2-node cluster. By default (without 'field=*' parameter), only the UUID and name fields are shown for each entry.

```
# The API:
/api/network/ethernet/ip/service-policies
```

```
# The call:
curl -X GET "https://<mgmt-ip>/api/network/ip/service-policies" -H
"accept: application/hal+json"

# The response:
{
"records": [
  {
    "uuid": "e4e2f193-c1a3-11e8-bb9d-005056bb88c8",
    "name": "net-intercluster",
    "_links": {
      "self": {
        "href": "/api/network/ip/service-policies/e4e2f193-c1a3-11e8-bb9d-
005056bb88c8"
      }
    }
  },
  {
    "uuid": "e4e3f6da-c1a3-11e8-bb9d-005056bb88c8",
    "name": "net-route-announce",
    "_links": {
      "self": {
        "href": "/api/network/ip/service-policies/e4e3f6da-c1a3-11e8-bb9d-
005056bb88c8"
      }
    }
  },
  {
    "uuid": "e5111111-c1a3-11e8-bb9d-005056bb88c8",
    "name": "vserver-route-announce",
    "_links": {
      "self": {
        "href": "/api/network/ip/service-policies/e5111111-c1a3-11e8-bb9d-
005056bb88c8"
      }
    }
  },
  {
    "uuid": "e6111111-c1a3-11e8-bb9d-005056bb88c8",
    "name": "data-route-announce",
    "_links": {
      "self": {
        "href": "/api/network/ip/service-policies/e6111111-c1a3-11e8-bb9d-
005056bb88c8"
      }
```

```
    }
  }
],
"num_records": 4,
"_links": {
  "self": {
    "href": "/api/network/ip/service-
policies/?return_records=true&return_timeout=15"
  }
}
}
```

Retrieving a specific service policy (scope=svm)

The following output displays the response when a specific "svm" scoped service policy is requested. Among other parameters, the response contains the svm parameters associated with the service policy. The system returns an error when there is no service policy with the requested UUID.

```
# The API:
/api/network/ip/service-policies

# The call:
curl -X GET "http://<mgmt-ip>/api/network/ip/service-policies/dad323ff-
4ce0-11e9-9372-005056bb91a8?fields=*" -H "accept: application/hal+json"

# The response:
{
"uuid": "dad323ff-4ce0-11e9-9372-005056bb91a8",
"name": "default-data-files",
"scope": "svm",
"svm": {
  "uuid": "d9060680-4ce0-11e9-9372-005056bb91a8",
  "name": "vs0",
  "_links": {
    "self": {
      "href": "/api/svm/svms/d9060680-4ce0-11e9-9372-005056bb91a8"
    }
  }
},
"ipspace": {
  "uuid": "45ec2dee-4ce0-11e9-9372-005056bb91a8",
  "name": "Default",
  "_links": {
    "self": {
      "href": "/api/network/ipspaces/45ec2dee-4ce0-11e9-9372-005056bb91a8"
    }
  }
},
"services": [
  "data_core",
  "data_nfs",
  "data_cifs",
  "data_flexcache"
],
"_links": {
  "self": {
    "href": "/api/network/ip/service-policies/dad323ff-4ce0-11e9-9372-
005056bb91a8"
  }
}
}
```

Retrieving a specific service policy (scope=svm) when requesting commonly used fields

The following output displays the response when commonly used fields are requested for a specific "svm" scoped service policy. Among other parameters, the response contains the svm parameters associated with the service policy. The system returns an error when there is no service policy with the requested UUID.

```
# The API:
/api/network/ip/service-policies

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ip/service-policies/e0889ce6-
1e6a-11e9-89d6-005056bbdc04?fields=name,scope,svm.name,ipspace.name" -H
"accept: application/hal+json"

# The response:
{
"uuid": "e0889ce6-1e6a-11e9-89d6-005056bbdc04",
"name": "test_policy",
"scope": "svm",
"svm": {
  "name": "vs0",
},
"ipspace": {
  "name": "Default",
},
"_links": {
  "self": {
    "href": "/api/network/ip/service-policies/e0889ce6-1e6a-11e9-89d6-
005056bbdc04"
  }
}
}
```

Retrieving a specific service policy (scope=cluster)

The following output displays the response when a specific cluster-scoped service policy is requested. The SVM object is not included for cluster-scoped service policies. A service policy with a scope of "cluster" is associated with an IPspace. The system returns an error when there is no service policy with the requested UUID.

```
# The API:
/api/network/ip/service-policies

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ip/service-policies/4c6b72b9-
0f6c-11e9-875d-005056bb21b8?fields=*" -H "accept: application/hal+json"

# The response:
{
"uuid": "4c6b72b9-0f6c-11e9-875d-005056bb21b8",
"name": "net-intercluster",
"scope": "cluster",
"ipspace": {
  "uuid": "4051f13e-0f6c-11e9-875d-005056bb21b8",
  "name": "Default",
  "_links": {
    "self": {
      "href": "/api/network/ipspaces/4051f13e-0f6c-11e9-875d-005056bb21b8"
    }
  }
},
"services": [
  "intercluster_core"
],
"_links": {
  "self": {
    "href": "/api/network/ip/service-policies/4c6b72b9-0f6c-11e9-875d-
005056bb21b8"
  }
}
}
```

Retrieving a specific service policy (scope=cluster) when requesting commonly used fields

The following output displays the response when commonly used fields are requested for a specific "cluster" scoped service policy. The SVM object is not included for cluster-scoped service policies. A service policy with a scope of "cluster" is associated with an IPspace. The system returns an error when there is no service policy with the requested UUID.

```
# The API:
/api/network/ip/service-policies

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ip/service-policies/4c6b72b9-
0f6c-11e9-875d-005056bb21b8?fields=name,scope,ipspace.name" -H "accept:
application/hal+json"

# The response:
{
"uuid": "4c6b72b9-0f6c-11e9-875d-005056bb21b8",
"name": "net-intercluster",
"scope": "cluster",
"ipspace": {
  "name": "Default",
},
"services": [
  "intercluster_core"
],
"_links": {
  "self": {
    "href": "/api/network/ip/service-policies/4c6b72b9-0f6c-11e9-875d-
005056bb21b8"
  }
}
}
```

Retrieve service policies

GET `/network/ip/service-policies`

Retrieves a collection of service policies.

Related ONTAP commands

- `network interface service-policy show`

Learn more

- DOC /network/ip/service-policies

Parameters

Name	Type	In	Required	Description
uuid	string	query	False	Filter by uuid
ipspace.uuid	string	query	False	Filter by ipspace.uuid
ipspace.name	string	query	False	Filter by ipspace.name
scope	string	query	False	Filter by scope
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
services	string	query	False	Filter by services
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.
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	_links	
num_records	integer	
records	array[ip_service_policy]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ipspace": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "exchange",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "name": "default-intercluster",
      "scope": "string",
      "services": [
        "data_nfs"
      ],
      "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	

ipspace

Applies to both SVM and cluster-scoped objects. Either the UUID or name may be supplied on input.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

svm

SVM, applies only to SVM-scoped objects.

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

ip_service_policy

Name	Type	Description
_links	_links	

Name	Type	Description
ipspace	ipspace	Applies to both SVM and cluster-scoped objects. Either the UUID or name may be supplied on input.
name	string	
scope	string	Set to "svm" for interfaces owned by an SVM. Otherwise, set to "cluster".
services	array[string]	
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	

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 service policy

GET `/network/ip/service-policies/{uuid}`

Retrieves a specific service policy.

Related ONTAP commands

- `network interface service-policy show`

Learn more

- DOC /network/ip/service-policies

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	Service policy 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.
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	_links	
ipspace	ipspace	Applies to both SVM and cluster-scoped objects. Either the UUID or name may be supplied on input.
name	string	
scope	string	Set to "svm" for interfaces owned by an SVM. Otherwise, set to "cluster".
services	array[string]	
svm	svm	SVM, applies only to SVM-scoped objects.
uuid	string	

Example response


```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ipspace": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "exchange",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "name": "default-intercluster",
  "scope": "string",
  "services": [
    "data_nfs"
  ],
  "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
self	href	

ipspace

Applies to both SVM and cluster-scoped objects. Either the UUID or name may be supplied on input.

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	IPspace UUID

svm

SVM, applies only to SVM-scoped objects.

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.

Manage network IPspaces

Network ipspaces endpoint overview

Overview

An IPspace is an addressing domain within which each IP address is unique. The same address may appear in a different IPspace, but the matching addresses are considered to be distinct. SVMs and broadcast domains, and therefore IP interfaces and Ethernet ports, are associated with a single IPspace. This endpoint supports the following operations: GET (collection and instance), POST, PATCH, and DELETE.

Retrieving IPspace information

The IPspaces GET API retrieves all IPspaces configured in the cluster, including built-in and custom IPspaces, and specifically requested IPspaces.

Examples

Retrieving a list of the IPspaces in the cluster

The following example returns the requested list of IPspaces configured in the cluster.

```
# The API:
/api/network/ipspaces

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ipspaces?fields=*" -H "accept:
application/hal+json"

# The response:
{
"records": [
  {
    "uuid": "dcc7e79c-5acc-11e8-b9de-005056b42b32",
    "name": "Default",
    "_links": {
```

```
      "self": {
        "href": "/api/network/ipspaces/dcc7e79c-5acc-11e8-b9de-
005056b42b32"
      }
    }
  },
  {
    "uuid": "dfd3c1b2-5acc-11e8-b9de-005056b42b32",
    "name": "Cluster",
    "_links": {
      "self": {
        "href": "/api/network/ipspaces/dfd3c1b2-5acc-11e8-b9de-
005056b42b32"
      }
    }
  },
  {
    "uuid": "dedec1be-5aec-1eee-beee-0eee56be2b3e",
    "name": "Ipspace1",
    "_links": {
      "self": {
        "href": "/api/network/ipspaces/dedec1be-5aec-1eee-beee-
0eee56be2b3e"
      }
    }
  }
],
"num_records": 3,
"_links": {
  "self": {
    "href": "/api/network/ipspaces?fields=*"
  }
}
}
```

Retrieving a specific IPspace in the cluster

The following example returns the specific IPspace requested. The system returns an error if there is no IPspace with the requested UUID.

```
# The API:
/api/network/ipspaces/{uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/network/ipspaces/dfd3c1b2-5acc-11e8-
b9de-005056b42b32?fields=*" -H "accept: application/hal+json"

# The response:
{
  "uuid": "dcc7e79c-5acc-11e8-b9de-005056b42b32",
  "name": "Default",
  "_links": {
    "self": {
      "href": "/api/network/ipspaces/dcc7e79c-5acc-11e8-b9de-005056b42b32"
    }
  }
}
```

Creating IPspaces

The network IPspaces POST API is used to create IPspaces.

Example

Creating an IPspace

The following output displays the record returned after the creation of an IPspace with the name "ipspace1".

```
# The API:
/api/network/ipspaces

# The call:
curl -X POST "https://<mgmt-ip>/api/network/ipspaces?return_records=true"
-H  "accept: application/hal+json" -d "{  \"name\": \"ipspace2\"}"

# The response:
{
"num_records": 1,
"records": [
  {
    "uuid": "4165655e-0528-11e9-bd68-005056bb046a",
    "name": "ipspace2",
    "_links": {
      "self": {
        "href": "/api/network/ipspaces/4165655e-0528-11e9-bd68-
005056bb046a"
      }
    }
  }
]
}
```

Updating IPspaces

The IPspaces PATCH API is used to modify attributes of the IPspace.

Example

Updating the name of an IPspace

The following PATCH request is used to update the name of the IPspace from "ipspace2" to "ipspace20".

```
# The API:
/api/network/ipspaces/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/network/ipspaces/4165655e-0528-11e9-
bd68-005056bb046a" -H  "accept: application/hal+json" -d "{  \"name\":
\"ipspace20\"}"
```

Deleting IPspaces

The IPspaces DELETE API is used to delete an IPspace.

Example

Deleting an IPspace

The following DELETE request is used to delete an IPspace.

```
# The API:
/api/network/ipspaces/{uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/network/ipspaces/4165655e-0528-11e9-
bd68-005056bb046a" -H  "accept: application/hal+json" -H  "Content-Type:
application/json"
```

Retrieve IPspaces for a cluster

GET `/network/ipspaces`

Retrieves a collection of IPspaces for the entire cluster.

Related ONTAP commands

- `network ipspace show`

Learn more

- DOC /network/ipspaces

Parameters

Name	Type	In	Required	Description
name	string	query	False	Filter by name
uuid	string	query	False	Filter by 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.
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	_links	
num_records	integer	
records	array[ipspace]	

Example response


```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "ipspace1",
      "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	

ipspace

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	The UUID that uniquely identifies the IPspace.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

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

Create a new domain with unique IP addresses

POST `/network/ipspaces`

Creates a new domain within which IP addresses are unique. SVMs, ports, and networks are scoped within a single IPspace.

Required properties

- `name` - Name of the ipspace to create.

Related ONTAP commands

- `network ipspace create`

Learn more

- DOC /network/ipspaces

Request Body

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	The UUID that uniquely identifies the IPspace.

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "ipspace1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
```

Response

```
Status: 201, Created
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1967102	POST operation might have left the configuration in an inconsistent state. Check the configuration.

ONTAP Error Response Codes

Error Code	Description
9240591	Invalid name. The name is already in use by a cluster node, Vserver, or is the name of the local cluster.

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	

ipspace

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	The UUID that uniquely identifies the IPspace.

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

Delete an IPspace object

DELETE `/network/ipspaces/{uuid}`

Deletes an IPspace object.

Related ONTAP commands

- `network ipspace delete`

Learn more

- DOC /network/ipspaces

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	

Response

```
Status: 200, Ok
```

Retrieve information about an IPspace

GET `/network/ipspaces/{uuid}`

Retrieves information about a specific IPspace.

Related ONTAP commands

- `network ipspace show`

Learn more

- DOC /network/ipspaces

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	IPspace UUID
fields	array[string]	query	False	Specify the fields to return.

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	The UUID that uniquely identifies the IPspace.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "ipspace1",
  "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
self	href	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

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

Update an IPspace object

PATCH `/network/ipspaces/{uuid}`

Updates an IPspace object.

Related ONTAP commands

- `network ipspace rename`

Learn more

- DOC /network/ipspaces

Parameters

Name	Type	In	Required	Description
uuid	string	path	True	IPspace UUID

Request Body

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	The UUID that uniquely identifies the IPspace.

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "ipspace1",
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}
```

Response

```
Status: 200, Ok
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

ipspace

Name	Type	Description
_links	_links	
name	string	IPspace name
uuid	string	The UUID that uniquely identifies the IPspace.

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