



## **View NVMe interfaces**

### **ONTAP 9.12.1 REST API reference**

NetApp  
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# View NVMe interfaces

## Protocols NVMe interfaces endpoint overview

### Overview

NVMe interfaces are network interfaces configured to support an NVMe over Fabrics (NVMe-oF) protocol. The NVMe interfaces are Fibre Channel (FC) interfaces supporting an NVMe-oF data protocol. Regardless of the underlying physical and data protocol, NVMe interfaces are treated equally for host-side application configuration. This endpoint provides a consolidated view of all NVMe interfaces for the purpose of configuring host-side applications.

The NVMe interfaces REST API provides NVMe-specific information about network interfaces configured to support an NVMe-oF protocol.

NVMe interfaces must be created using the protocol-specific endpoints for FC interfaces. See [POST /network/fc/interfaces](#) . After creation, the interfaces are available via this interface.

### Examples

#### Retrieving summary information for all NVMe interfaces

```
# The API:
GET /api/protocols/nvme/interfaces

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

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "013e2c44-0d30-11e9-a684-005056bbdb14",
        "name": "svml",
        "_links": {
          "self": {
            "href": "/api/svm/svms/013e2c44-0d30-11e9-a684-005056bbdb14"
          }
        }
      },
      "uuid": "74d69872-0d30-11e9-a684-005056bbdb14",
      "name": "nvme1",
      "_links": {
        "self": {
          "href": "/api/protocols/nvme/interfaces/74d69872-0d30-11e9-a684-
```

```

005056bbdb14"
    }
  },
  {
    "svm": {
      "uuid": "013e2c44-0d30-11e9-a684-005056bbdb14",
      "name": "svm1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/013e2c44-0d30-11e9-a684-005056bbdb14"
        }
      }
    },
    "uuid": "77ded991-0d30-11e9-a684-005056bbdb14",
    "name": "nvme2",
    "_links": {
      "self": {
        "href": "/api/protocols/nvme/interfaces/77ded991-0d30-11e9-a684-005056bbdb14"
      }
    }
  }
],
"num_records": 2,
"_links": {
  "self": {
    "href": "/api/protocols/nvme/interfaces"
  }
}
}
}

```

## Retrieving detailed information for a specific NVMe interface

```

# The API:
GET /api/protocols/nvme/interfaces/{uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/protocols/nvme/interfaces/77ded991-0d30-11e9-a684-005056bbdb14' -H 'Accept: application/hal+json'

# The response:
{
  "svm": {

```

```

"uuid": "013e2c44-0d30-11e9-a684-005056bbdb14",
"name": "svm1",
"_links": {
  "self": {
    "href": "/api/svm/svms/013e2c44-0d30-11e9-a684-005056bbdb14"
  }
}
},
"uuid": "77ded991-0d30-11e9-a684-005056bbdb14",
"name": "nvme2",
"enabled": true,
"node": {
  "name": "node1",
  "uuid": "cd4d47fd-0d2e-11e9-a684-005056bbdb14",
  "_links": {
    "self": {
      "href": "/api/cluster/nodes/cd4d47fd-0d2e-11e9-a684-005056bbdb14"
    }
  }
}
},
"transport_address": "nn-0x2003005056bbdb14:pn-0x2005005056bbdb14",
"fc_interface": {
  "wwnn": "20:03:00:50:56:bb:db:14",
  "wwpn": "20:05:00:50:56:bb:db:14",
  "port": {
    "name": "1a",
    "uuid": "081ec491-0d2f-11e9-a684-005056bbdb14",
    "node": {
      "name": "node1"
    },
    "_links": {
      "self": {
        "href": "/api/network/fc/ports/081ec491-0d2f-11e9-a684-005056bbdb14"
      }
    }
  }
},
"_links": {
  "self": {
    "href": "/api/network/fc/interfaces/77ded991-0d30-11e9-a684-005056bbdb14"
  }
}
},
"_links": {
  "self": {

```

```
"href": "/api/protocols/nvme/interfaces/77ded991-0d30-11e9-a684-005056bbdb14"
}
```

## Retrieve NVMe interfaces

GET /protocols/nvme/interfaces

Introduced In: 9.6

Retrieves NVMe interfaces.

### Related ONTAP commands

- `vserver nvme show-interface`

### Learn more

- [DOC /protocols/nvme/interfaces](#)

### Parameters

Name	Type	In	Required	Description
fc_interface.port.nod e.name	string	query	False	Filter by fc_interface.port.nod e.name
fc_interface.port.na me	string	query	False	Filter by fc_interface.port.na me
fc_interface.port.uuid	string	query	False	Filter by fc_interface.port.uui d
fc_interface.wwnn	string	query	False	Filter by fc_interface.wwnn
fc_interface.wwpn	string	query	False	Filter by fc_interface.wwpn

Name	Type	In	Required	Description
ip_interface.ip.address	string	query	False	Filter by ip_interface.ip.address  • Introduced in: 9.10
ip_interface.location.port.uuid	string	query	False	Filter by ip_interface.location.port.uuid  • Introduced in: 9.10
ip_interface.location.port.name	string	query	False	Filter by ip_interface.location.port.name  • Introduced in: 9.10
ip_interface.location.port.node.name	string	query	False	Filter by ip_interface.location.port.node.name  • Introduced in: 9.10
interface_type	string	query	False	Filter by interface_type  • Introduced in: 9.10
svm.uuid	string	query	False	Filter by svm.uuid
svm.name	string	query	False	Filter by svm.name
transport_protocols	string	query	False	Filter by transport_protocols  • Introduced in: 9.10
enabled	boolean	query	False	Filter by enabled
name	string	query	False	Filter by name

Name	Type	In	Required	Description
node.uuid	string	query	False	Filter by node.uuid
node.name	string	query	False	Filter by node.name
transport_address	string	query	False	Filter by transport_address
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. <ul style="list-style-type: none"> <li>• Default value: 1</li> </ul>
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached. <ul style="list-style-type: none"> <li>• Default value: 1</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul>
order_by	array[string]	query	False	Order results by specified fields and optional [asc



## Response

Status: 200, Ok

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

## Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "fc_interface": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "port": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "0a",
        "node": {
          "name": "node1"
        },
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "wwnn": "20:00:00:50:56:b4:13:a9",
      "wvpn": "20:00:00:50:56:b4:13:a8"
    },
    "interface_type": "fc_interface",
    "ip_interface": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      }
    }
  },
}
```

```

    "ip": {
      "address": "10.10.10.7"
    },
    "location": {
      "port": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "elb",
        "node": {
          "name": "node1"
        },
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    },
    "name": "lif1",
    "node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "svm": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "svm1",
      "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
    },
    "transport_address": "nn-0x200a00a0989062da;pn-0x200100a0989062da",
    "transport_protocols": {
    },
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  }
}

```

## Error

Status: Default, Error

Name	Type	Description
error	error	

### Example error

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

## Definitions

## See Definitions

href

Name	Type	Description
href	string	

\_links

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

\_links

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

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.

port

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	<a href="#">_links</a>	
name	string	The name of the FC port.
node	<a href="#">node</a>	The node on which the FC port is located.
uuid	string	The unique identifier of the FC port.

fc\_interface

The attributes specific to a Fibre Channel-based NVMe interface.

This is populated when `interface_type` is `fc_interface`.

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
port	<a href="#">port</a>	An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.
wwnn	string	The WWNN (world wide node name) of the Fibre Channel NVMe interface.
wwpn	string	The WWPN (world wide port name) of the Fibre Channel NVMe interface.

#### self\_link

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

#### ip

Name	Type	Description
address	string	IPv4 or IPv6 address

#### node

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

#### port\_reference

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

Name	Type	Description
<a href="#">_links</a>	<a href="#">_links</a>	
name	string	
node	<a href="#">node</a>	
uuid	string	

#### location

Name	Type	Description
port	<a href="#">port_reference</a>	Port UUID along with readable names. Either the UUID or both names may be supplied on input.

#### ip\_interface

The attributes specific to an IP-based NVMe interface.

This is populated when `interface_type` is `ip_interface`.

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

#### node

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

#### svm

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

#### nvme\_interface

NVMe interfaces are network interfaces configured to support an NVMe over Fabrics (NVMe-oF) protocol. The NVMe interfaces are Fibre Channel interfaces supporting an NVMe-oF data protocol. Regardless of the underlying physical and data protocol, NVMe interfaces are treated equally for host-side application configuration. This endpoint provides a consolidated view of all NVMe interfaces for the purpose of configuring host-side applications.

NVMe interfaces must be created using the protocol-specific endpoints for Fibre Channel interfaces. See [POST /network/fc/interfaces](#) . After creation, the interfaces are available via this interface.

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

Name	Type	Description
enabled	boolean	The administrative state of the NVMe interface.
fc_interface	<a href="#">fc_interface</a>	The attributes specific to a Fibre Channel-based NVMe interface.  This is populated when <code>interface_type</code> is <code>fc_interface</code> .
interface_type	string	The underlying interface type of the NVMe interface. This property identifies which of <code>fc_interface</code> and <code>ip_interface</code> will be further populated.
ip_interface	<a href="#">ip_interface</a>	The attributes specific to an IP-based NVMe interface.  This is populated when <code>interface_type</code> is <code>ip_interface</code> .
name	string	The name of the NVMe interface.
node	<a href="#">node</a>	
svm	<a href="#">svm</a>	
transport_address	string	The transport address of the NVMe interface.
transport_protocols	array[string]	The transport protocols supported by the NVMe interface.
uuid	string	The unique identifier of the NVMe interface.

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error



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

## Retrieve an NVMe interface

GET /protocols/nvme/interfaces/{uuid}

Introduced In: 9.6

Retrieves an NVMe interface.

### Related ONTAP commands

- `vserver nvme show-interface`

### Learn more

- [DOC /protocols/nvme/interfaces](#)

### Parameters

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

### Response

Status: 200, Ok

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

Name	Type	Description
enabled	boolean	The administrative state of the NVMe interface.
fc_interface	<a href="#">fc_interface</a>	The attributes specific to a Fibre Channel-based NVMe interface.  This is populated when <code>interface_type</code> is <code>fc_interface</code> .
interface_type	string	The underlying interface type of the NVMe interface. This property identifies which of <code>fc_interface</code> and <code>ip_interface</code> will be further populated.
ip_interface	<a href="#">ip_interface</a>	The attributes specific to an IP-based NVMe interface.  This is populated when <code>interface_type</code> is <code>ip_interface</code> .
name	string	The name of the NVMe interface.
node	<a href="#">node</a>	
svm	<a href="#">svm</a>	
transport_address	string	The transport address of the NVMe interface.
transport_protocols	array[string]	The transport protocols supported by the NVMe interface.
uuid	string	The unique identifier of the NVMe interface.

## Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "fc_interface": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "port": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "0a",
      "node": {
        "name": "node1"
      },
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    },
    "wwnn": "20:00:00:50:56:b4:13:a9",
    "wwpn": "20:00:00:50:56:b4:13:a8"
  },
  "interface_type": "fc_interface",
  "ip_interface": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "ip": {
      "address": "10.10.10.7"
    },
    "location": {
      "port": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      }
    }
  },
}
```

```

    "name": "e1b",
    "node": {
      "name": "node1"
    },
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "name": "lif1",
  "node": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "transport_address": "nn-0x200a00a0989062da:pn-0x200100a0989062da",
  "transport_protocols": {
  },
  "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
}

```

## Error

Status: Default

### ONTAP Error Response Codes

Error Code	Description
2621462	The supplied SVM 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	<a href="#">href</a>	

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.

port

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	<a href="#">_links</a>	
name	string	The name of the FC port.
node	<a href="#">node</a>	The node on which the FC port is located.
uuid	string	The unique identifier of the FC port.

fc\_interface

The attributes specific to a Fibre Channel-based NVMe interface.

This is populated when `interface_type` is `fc_interface`.

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

Name	Type	Description
port	<a href="#">port</a>	An FC port is the physical port of an FC adapter on a cluster node that can be connected to an FC network.
wwnn	string	The WWNN (world wide node name) of the Fibre Channel NVMe interface.
wwpn	string	The WWPN (world wide port name) of the Fibre Channel NVMe interface.

self\_link

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

ip

Name	Type	Description
address	string	IPv4 or IPv6 address

node

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

port\_reference

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

Name	Type	Description
_links	<a href="#">_links</a>	
name	string	
node	<a href="#">node</a>	
uuid	string	

location

Name	Type	Description
port	<a href="#">port_reference</a>	Port UUID along with readable names. Either the UUID or both names may be supplied on input.

#### ip\_interface

The attributes specific to an IP-based NVMe interface.

This is populated when `interface_type` is *ip\_interface*.

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

#### node

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

#### svm

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

#### error\_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

#### error



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

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