



Manage storage switches

ONTAP 9.12.1 REST API reference

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Manage storage switches

Storage switches endpoint overview

Retrieving storage switch information

The storage switch GET API retrieves all of the switches in the cluster.

Examples

1) Retrieves a list of storage switches from the cluster

The following example shows the response with a list of storage switches in the cluster:

```
# The API:
/api/storage/switches

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

# The response:
{
  "records": [
    {
      "name": "Brocade_10.226.57.206",
      "_links": {
        "self": {
          "href": "/api/storage/switches/Brocade_10.226.57.206"
        }
      }
    },
    {
      "name": "Brocade_10.226.57.207",
      "_links": {
        "self": {
          "href": "/api/storage/switches/Brocade_10.226.57.207"
        }
      }
    },
    {
      "name": "Brocade_10.226.57.208",
      "_links": {
```

```

    "self": {
      "href": "/api/storage/switches/Brocade_10.226.57.208"
    }
  },
  {
    "name": "Brocade_10.226.57.209",
    "_links": {
      "self": {
        "href": "/api/storage/switches/Brocade_10.226.57.209"
      }
    }
  }
],
"num_records": 4,
"_links": {
  "self": {
    "href": "/api/storage/switches/"
  }
}
}

```

2) Retrieves a specific storage switch from the cluster

The following example shows the response of the requested storage switch. If there is no storage switch with the requested name, an error is returned.

```

# The API:
/api/storage/switches/{name}

# The call:
curl -X GET "https://<mgmt-ip>/api/storage/switches/Brocade_10.226.57.206"
-H "accept: application/hal+json"

# The response:
{
  "name": "Brocade_10.226.57.206",
  "domain_id": 5,
  "switch_fabric_name": "100050eb1a238892",
  "fw_version": "v7.2.1c1",
  "ip_address": "10.226.57.206",
  "is_director_class": false,
  "local": false,

```

```
"monitoring_enabled": true,
"model": "Brocade6510",
"role": "subordinate",
"state": "ok",
"symbolic_name": "rtp-fc01-41kk11",
"vendor": "brocade",
"wwn": "100050eb1a1ef7d7",
"power_supply_units": [
  {
    "name": "Power Supply #1",
    "state": "ok"
  },
  {
    "name": "Power Supply #2",
    "state": "ok"
  }
],
"temperature_sensors": [
  {
    "name": "SLOT #0: TEMP #1",
    "reading": 52,
    "state": "ok"
  }
],
"ports": [
  {
    "name": "FC port 0/0",
    "mode": "f_port",
    "wwn": "200050eb1a1ef7d7",
    "enabled": true,
    "state": "online",
    "speed": 16,
    "sfp": {
      "type": "small_form_factor",
      "transmitter_type": "short_wave_laser",
      "serial_number": "HAA2140310058E5"
    }
  },
  {
    "name": "FC port 0/1",
    "mode": "f_port",
    "wwn": "200050eb1a1ef2d7",
    "enabled": true,
    "state": "online",
    "speed": 16,
    "sfp": {
```

```

    "type": "small_form_factor",
    "transmitter_type": "short_wave_laser",
    "serial_number": "HAA2140310058E5"
  }
},
{
  "name": "FC port 0/2",
  "mode": "f_port",
  "wwn": "200050eb1a1ef7d0",
  "enabled": true,
  "state": "online",
  "speed": 16,
  "sfp": {
    "type": "small_form_factor",
    "transmitter_type": "short_wave_laser",
    "serial_number": "HAA2140310058E5"
  }
},
{
  "name": "FC port 0/3",
  "mode": "f_port",
  "wwn": "200050eb1a1ef7d7",
  "enabled": true,
  "state": "online",
  "speed": 16,
  "sfp": {
    "type": "small_form_factor",
    "transmitter_type": "short_wave_laser",
    "serial_number": "HAA2140310058E5"
  }
},
{
  "name": "FC port 0/4",
  "mode": "f_port",
  "wwn": "200050eb1a1ef2d7",
  "enabled": true,
  "state": "online",
  "speed": 16,
  "sfp": {
    "type": "small_form_factor",
    "transmitter_type": "short_wave_laser",
    "serial_number": "HAA2140310058E5"
  }
},
{
  "name": "FC port 0/5",

```

```

"mode": "f_port",
"wwn": "200050eb1a1ef7d0",
"enabled": true,
"state": "online",
"speed": 16,
"sfp": {
  "type": "small_form_factor",
  "transmitter_type": "short_wave_laser",
  "serial_number": "HAA2140310058E5"
}
},
"connections": [
  {
    "source_port": {
      "name": "FC port 0/0",
      "wwn": "200050eb1a236efd",
      "mode": "f_port"
    },
    "peer_port": {
      "wwn": "2100000e1e30ac5f",
      "connection": "sti8020mcc-htp-006:fcvi_device_1",
      "type": "fcvi_adapter",
      "unique_id": "38993dc0-4ea1-11eb-9331-00a0985bd455"
    }
  },
  {
    "source_port": {
      "name": "FC port 0/1",
      "wwn": "200150eb1a236efd",
      "mode": "f_port"
    },
    "peer_port": {
      "wwn": "21000024ff72c0c9",
      "connection": "sti8020mcc-htp-006:2b",
      "type": "fcp_adapter",
      "unique_id": "38993dc0-4ea1-11eb-9331-00a0985bd455"
    }
  },
  {
    "source_port": {
      "name": "FC port 0/2",
      "wwn": "200250eb1a236efd",
      "mode": "f_port"
    },
    "peer_port": {

```

```

    "wwn": "21000024ff72c0cb",
    "connection": "sti8020mcc-htp-006:2d",
    "type": "fcplib_adapter",
    "unique_id": "38993dc0-4ea1-11eb-9331-00a0985bd455"
  }
}
],
"fans": [
  {
    "name": "FAN #1",
    "speed": 7336,
    "state": "ok"
  },
  {
    "name": "FAN #2",
    "speed": 7336,
    "state": "ok"
  }
],
"paths": [
  {
    "adapter": {
      "name": "2a",
      "wwn": "21000024ff6c4bc0",
      "type": "fcplib_initiator"
    },
    "port": {
      "name": "FC port 0/4",
      "speed": 8
    },
    "node": {
      "name": "sti8020mcc-htp-005",
      "uuid": "382cb083-4416-11eb-ad1d-00a0985bd455",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/382cb083-4416-11eb-ad1d-00a0985bd455"
        }
      }
    },
    "_links": {
      "self": {
        "href": "/api/storage/ports/382cb083-4416-11eb-ad1d-00a0985bd455/2a"
      }
    }
  }
]

```



```

    },
    {
      "adapter": {
        "name": "2c",
        "wwn": "21000024ff6c4bc2",
        "type": "fcp_initiator"
      },
      "port": {
        "name": "FC port 0/5",
        "speed": 8
      },
      "node": {
        "name": "sti8020mcc-htp-005",
        "uuid": "382cb083-4416-11eb-ad1d-00a0985bd455",
        "_links": {
          "self": {
            "href": "/api/cluster/nodes/382cb083-4416-11eb-ad1d-00a0985bd455"
          }
        }
      },
      "_links": {
        "self": {
          "href": "/api/storage/ports/382cb083-4416-11eb-ad1d-00a0985bd455/2c"
        }
      }
    },
    {
      "adapter": {
        "name": "fcvi_device_0",
        "wwn": "2100000e1e09d5d2",
        "type": "fc_vi"
      },
      "port": {
        "name": "FC port 0/3",
        "speed": 16
      },
      "node": {
        "name": "sti8020mcc-htp-005",
        "uuid": "382cb083-4416-11eb-ad1d-00a0985bd455",
        "_links": {
          "self": {
            "href": "/api/cluster/nodes/382cb083-4416-11eb-ad1d-00a0985bd455"
          }
        }
      }
    }
  ]
}

```

```

    }
  },
  {
    "adapter": {
      "name": "2a",
      "wwn": "21000024ff72c0c8",
      "type": "fc_initiator"
    },
    "port": {
      "name": "FC port 0/1",
      "speed": 8
    },
    "node": {
      "name": "sti8020mcc-htp-006",
      "uuid": "364fbba8-4416-11eb-8e72-00a098431045",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/364fbba8-4416-11eb-8e72-00a098431045"
        }
      }
    },
    "_links": {
      "self": {
        "href": "/api/storage/ports/364fbba8-4416-11eb-8e72-00a098431045/2a"
      }
    }
  },
  {
    "adapter": {
      "name": "2c",
      "wwn": "21000024ff72c0ca",
      "type": "fc_initiator"
    },
    "port": {
      "name": "FC port 0/2",
      "speed": 8
    },
    "node": {
      "name": "sti8020mcc-htp-006",
      "uuid": "364fbba8-4416-11eb-8e72-00a098431045",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/364fbba8-4416-11eb-8e72-

```

```

00a098431045"
    }
  }
},
"_links": {
  "self": {
    "href": "/api/storage/ports/364fbba8-4416-11eb-8e72-
00a098431045/2c"
  }
}
}
],
"_links": {
  "self": {
    "href": "/api/storage/switches/Brocade_10.226.57.206"
  }
}
}
}

```

Retrieve storage switches

GET /storage/switches

Introduced In: 9.9

Retrieves a collection of storage switches.

Related ONTAP commands

- `storage switch show`

Learn more

- [DOC /storage/switches](#)

Parameters

| 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. |

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

Response

Status: 200, Ok

| Name | Type | Description |
|-------------|---|-------------------|
| _links | _links | |
| num_records | integer | Number of records |
| records | array[storage_switch] | |

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": {
    "connections": {
      "peer_port": {
        "type": "unknown"
      }
    },
    "errors": {
      "reason": {
        "arguments": {
          "code": "string",
          "message": "string"
        },
        "code": "4",
        "message": "entry doesn't exist",
        "target": "uuid"
      },
      "severity": "unknown",
      "type": "switch_unreachable"
    },
    "fans": {
      "state": "ok"
    },
    "monitored_blades": {
    },
    "paths": {
      "adapter": {
        "type": "unknown"
      },
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      }
    },
  },
}
```

```

    "name": "node1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  }
},
"ports": {
  "mode": "unknown",
  "sfp": {
    "transmitter_type": "unknown",
    "type": "unknown"
  },
  "state": "error"
},
"power_supply_units": {
  "state": "ok"
},
"role": "unknown",
"state": "ok",
"temperature_sensors": {
  "state": "error"
},
"vendor": "unknown",
"vsans": {
  "state": "ok"
},
"zones": {
}
}

```

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 | |

peer_port

| Name | Type | Description |
|------------|--------|--|
| connection | string | Storage switch peer port host and name |
| type | string | Storage switch peer type |
| unique_id | string | Storage switch peer unique ID |
| wwn | string | Storage switch peer port world wide name |

source_port

| Name | Type | Description |
|------|--------|--|
| mode | string | Storage switch port operating mode |
| name | string | Storage switch port name |
| wwn | string | Storage switch peer port world wide name |

connections

| Name | Type | Description |
|-------------|-----------------------------|-------------|
| peer_port | peer_port | |
| source_port | source_port | |

component

| Name | Type | Description |
|------|---------|----------------------|
| id | integer | Error component ID |
| name | string | Error component name |

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. |

errors

| Name | Type | Description |
|-----------|---------------------------|--------------------------|
| component | component | |
| reason | error | |
| severity | string | Error component severity |
| type | string | Error component type |

fans

| Name | Type | Description |
|-------|---------|--------------------------|
| name | string | Storage switch fan name |
| speed | integer | Storage switch fan speed |
| state | string | Storage switch fan state |

adapter

| Name | Type | Description |
|------|--------|------------------------------|
| name | string | Node adapter name |
| type | string | Node adapter type |
| wwn | string | Node adapter world wide name |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

node

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

port

| Name | Type | Description |
|-------|---------|------------------------------------|
| name | string | Storage switch port name |
| speed | integer | Storage switch port speed, in Gbps |

paths

| Name | Type | Description |
|---------|-------------------------|-------------|
| adapter | adapter | |
| node | node | |
| port | port | |

sfp

| Name | Type | Description |
|---------------|--------|---------------------------------------|
| serial_number | string | Storage switch port SFP serial number |

| Name | Type | Description |
|------------------|--------|--|
| transmitter_type | string | Storage switch port SFP transmitter type |
| type | string | Storage switch port SFP type |

ports

| Name | Type | Description |
|---------|---------------------|---|
| enabled | boolean | Indicates whether the storage switch port is enabled. |
| mode | string | Storage switch port mode |
| name | string | Storage switch port name |
| sfp | sfp | |
| speed | integer | Storage switch port speed, in Gbps |
| state | string | Storage switch port state |
| wwn | string | Storage switch port world wide name |

power_supply_units

| Name | Type | Description |
|-------|--------|-------------------------|
| name | string | Power supply unit name |
| state | string | Power supply unit state |

temperature_sensors

| Name | Type | Description |
|---------|---------|---|
| name | string | Temperature sensor name |
| reading | integer | Temperature sensor reading, in degrees celsius. |
| state | string | Temperature sensor state |

vsans

| Name | Type | Description |
|----------------------|---------|--|
| id | integer | Storage switch VSAN ID |
| iod | boolean | Indicates whether in-order delivery is set for a zone. |
| load_balancing_types | string | Storage switch VSAN load balancing type |
| name | string | Storage switch VSAN name |
| state | string | Storage switch VSAN Port state |

port

| Name | Type | Description |
|------|--------|-----------------------------|
| id | string | Storage switch zone port ID |
| name | string | Storage switch zone port |

zones

| Name | Type | Description |
|------|----------------------|-------------------------------------|
| id | integer | Storage switch zone ID |
| name | string | Storage switch zone name |
| port | port | |
| wwn | string | Storage switch zone world wide name |

storage_switch

The Storage switch object describes the storage switch properties, features and cabling.

| Name | Type | Description |
|----------------|--------------------------------------|-------------|
| connections | array[connections] | |
| director_class | boolean | |
| domain_id | integer | Domain ID |
| errors | array[errors] | |

| Name | Type | Description |
|---------------------|----------------------------|--|
| fabric_name | string | Storage switch fabric name |
| fans | array[fans] | |
| firmware_version | string | Storage switch firmware version |
| ip_address | string | IP Address |
| local | boolean | Indicates whether the storage switch is directly connected to the reporting cluster. |
| model | string | Storage switch model. |
| monitored_blades | array[integer] | Indicates the blades that are being monitored for a director-class switch. |
| monitoring_enabled | boolean | Indicates whether monitoring is enabled for the storage switch. |
| name | string | Storage switch name |
| paths | array[paths] | |
| ports | array[ports] | |
| power_supply_units | array[power_supply_units] | |
| role | string | Storage switch role in fabric. |
| state | string | Storage switch state |
| symbolic_name | string | Storage switch symbolic name |
| temperature_sensors | array[temperature_sensors] | |
| vendor | string | Storage switch vendor |
| vsans | array[vsans] | |
| wwn | string | Storage switch world wide name |
| zones | array[zones] | |

Retrieve a specific storage switch

GET /storage/switches/{name}

Introduced In: 9.9

Retrieves a specific storage switch.

Related ONTAP commands

- `storage switch show`

Learn more

- [DOC /storage/switches](#)

Parameters

| Name | Type | In | Required | Description |
|--------|---------------|-------|----------|-------------------------------|
| name | string | path | True | |
| fields | array[string] | query | False | Specify the fields to return. |

Response

Status: 200, Ok

| Name | Type | Description |
|------------------|--------------------------------------|--|
| connections | array[connections] | |
| director_class | boolean | |
| domain_id | integer | Domain ID |
| errors | array[errors] | |
| fabric_name | string | Storage switch fabric name |
| fans | array[fans] | |
| firmware_version | string | Storage switch firmware version |
| ip_address | string | IP Address |
| local | boolean | Indicates whether the storage switch is directly connected to the reporting cluster. |
| model | string | Storage switch model. |

| Name | Type | Description |
|---------------------|----------------------------|--|
| monitored_blades | array[integer] | Indicates the blades that are being monitored for a director-class switch. |
| monitoring_enabled | boolean | Indicates whether monitoring is enabled for the storage switch. |
| name | string | Storage switch name |
| paths | array[paths] | |
| ports | array[ports] | |
| power_supply_units | array[power_supply_units] | |
| role | string | Storage switch role in fabric. |
| state | string | Storage switch state |
| symbolic_name | string | Storage switch symbolic name |
| temperature_sensors | array[temperature_sensors] | |
| vendor | string | Storage switch vendor |
| vsans | array[vsans] | |
| wwn | string | Storage switch world wide name |
| zones | array[zones] | |

Example response

```
{
  "connections": {
    "peer_port": {
      "type": "unknown"
    }
  },
  "errors": {
    "reason": {
      "arguments": {
        "code": "string",
        "message": "string"
      },
      "code": "4",
      "message": "entry doesn't exist",
      "target": "uuid"
    },
    "severity": "unknown",
    "type": "switch_unreachable"
  },
  "fans": {
    "state": "ok"
  },
  "monitored_blades": {
  },
  "paths": {
    "adapter": {
      "type": "unknown"
    },
    "node": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "name": "node1",
      "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
    }
  },
  "ports": {
    "mode": "unknown",
    "sfp": {
      "transmitter_type": "unknown",
      "type": "unknown"
    }
  },
}
```



```

    "state": "error"
  },
  "power_supply_units": {
    "state": "ok"
  },
  "role": "unknown",
  "state": "ok",
  "temperature_sensors": {
    "state": "error"
  },
  "vendor": "unknown",
  "vsans": {
    "state": "ok"
  },
  "zones": {
  }
}

```

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

peer_port

| Name | Type | Description |
|------------|--------|--|
| connection | string | Storage switch peer port host and name |
| type | string | Storage switch peer type |
| unique_id | string | Storage switch peer unique ID |
| wwn | string | Storage switch peer port world wide name |

source_port

| Name | Type | Description |
|------|--------|--|
| mode | string | Storage switch port operating mode |
| name | string | Storage switch port name |
| wwn | string | Storage switch peer port world wide name |

connections

| Name | Type | Description |
|-------------|-----------------------------|-------------|
| peer_port | peer_port | |
| source_port | source_port | |

component

| Name | Type | Description |
|------|---------|----------------------|
| id | integer | Error component ID |
| name | string | Error component name |

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. |

errors

| Name | Type | Description |
|-----------|---------------------------|--------------------------|
| component | component | |
| reason | error | |
| severity | string | Error component severity |
| type | string | Error component type |

fans

| Name | Type | Description |
|-------|---------|--------------------------|
| name | string | Storage switch fan name |
| speed | integer | Storage switch fan speed |
| state | string | Storage switch fan state |

adapter

| Name | Type | Description |
|------|--------|------------------------------|
| name | string | Node adapter name |
| type | string | Node adapter type |
| wwn | string | Node adapter world wide name |

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

node

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |
| uuid | string | |

port

| Name | Type | Description |
|-------|---------|------------------------------------|
| name | string | Storage switch port name |
| speed | integer | Storage switch port speed, in Gbps |

paths

| Name | Type | Description |
|---------|-------------------------|-------------|
| adapter | adapter | |
| node | node | |
| port | port | |

sfp

| Name | Type | Description |
|------------------|--------|--|
| serial_number | string | Storage switch port SFP serial number |
| transmitter_type | string | Storage switch port SFP transmitter type |
| type | string | Storage switch port SFP type |

ports

| Name | Type | Description |
|---------|---------------------|---|
| enabled | boolean | Indicates whether the storage switch port is enabled. |
| mode | string | Storage switch port mode |
| name | string | Storage switch port name |
| sfp | sfp | |
| speed | integer | Storage switch port speed, in Gbps |
| state | string | Storage switch port state |
| wwn | string | Storage switch port world wide name |

power_supply_units

| Name | Type | Description |
|-------|--------|-------------------------|
| name | string | Power supply unit name |
| state | string | Power supply unit state |

temperature_sensors

| Name | Type | Description |
|---------|---------|---|
| name | string | Temperature sensor name |
| reading | integer | Temperature sensor reading, in degrees celsius. |
| state | string | Temperature sensor state |

vsans

| Name | Type | Description |
|------|---------|--|
| id | integer | Storage switch VSAN ID |
| iod | boolean | Indicates whether in-order delivery is set for a zone. |

| Name | Type | Description |
|----------------------|--------|---|
| load_balancing_types | string | Storage switch VSAN load balancing type |
| name | string | Storage switch VSAN name |
| state | string | Storage switch VSAN Port state |

port

| Name | Type | Description |
|------|--------|-----------------------------|
| id | string | Storage switch zone port ID |
| name | string | Storage switch zone port |

zones

| Name | Type | Description |
|------|----------------------|-------------------------------------|
| id | integer | Storage switch zone ID |
| name | string | Storage switch zone name |
| port | port | |
| wwn | string | Storage switch zone world wide name |

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