



Manage cluster schedules

ONTAP 9.6 REST API reference

NetApp
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Manage cluster schedules

Cluster schedules endpoint overview

Overview

The `/cluster/schedules` API is used to view, create, and modify job schedules in a cluster.

Retrieving a job schedule

Job schedules can be retrieved by issuing a GET request to `/cluster/schedules`. It is also possible to retrieve a specific schedule when qualified by its UUID to `/cluster/schedules/{uuid}`. Queries on fields can be applied to retrieve all schedules that match the combined query.

Example

```
# The API:
/api/cluster/schedules/

# The call:
curl -X GET 'https://<mgmt-ip>/api/cluster/schedules?type=interval'

# The response:
{
  "records": [
    {
      "uuid": "08ceae53-0158-11e9-a82c-005056bb4301",
      "name": "RepositoryBalanceMonitorJobSchedule",
      "type": "interval",
      "interval": "PT10M",
      "_links": {
        "self": {
          "href": "/api/cluster/schedules/08ceae53-0158-11e9-a82c-005056bb4301"
        }
      }
    },
    {
      "uuid": "0941e980-0158-11e9-a82c-005056bb4301",
      "name": "Balanced Placement Model Cache Update",
      "type": "interval",
      "interval": "PT7M30S",
      "_links": {
        "self": {
          "href": "/api/cluster/schedules/0941e980-0158-11e9-a82c-005056bb4301"
        }
      }
    }
  ]
}
```

```

    }
  },
  {
    "uuid": "0944b975-0158-11e9-a82c-005056bb4301",
    "name": "Auto Balance Aggregate Scheduler",
    "type": "interval",
    "interval": "PT1H",
    "_links": {
      "self": {
        "href": "/api/cluster/schedules/0944b975-0158-11e9-a82c-
005056bb4301"
      }
    }
  },
  {
    "uuid": "0c65f1fb-0158-11e9-a82c-005056bb4301",
    "name": "Application Templates ASUP Dump",
    "type": "interval",
    "interval": "P1D",
    "_links": {
      "self": {
        "href": "/api/cluster/schedules/0c65f1fb-0158-11e9-a82c-
005056bb4301"
      }
    }
  }
],
"num_records": 4,
"_links": {
  "self": {
    "href": "/api/cluster/schedules?type=interval"
  }
}
}
}

```

```

# The API:
/api/cluster/schedules/{uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/cluster/schedules/25312bd8-0158-11e9-a82c-005056bb4301'

# The response:
{
  "uuid": "25312bd8-0158-11e9-a82c-005056bb4301",
  "name": "monthly",
  "cluster": {
    "name": "rodan-tsunidere",
    "uuid": "f3f9bbfa-0157-11e9-a82c-005056bb4301"
  },
  "type": "cron",
  "cron": {
    "minutes": [
      20
    ],
    "hours": [
      0
    ],
    "days": [
      1
    ]
  },
  "_links": {
    "self": {
      "href": "/api/cluster/schedules/25312bd8-0158-11e9-a82c-005056bb4301"
    }
  }
}

```

Creating a job schedule

A job schedule is created by issuing a POST request to `/cluster/schedules` to a node in the cluster. For a successful request, the POST request returns a status code of 201. Job schedules can be of either type "cron" or type "interval". A cron schedule is run at specific minutes within the hour, or hours of the day, days of the week, days of the month, or months of the year. An interval schedule runs repeatedly at fixed intervals.

Required fields

- name - Name of the job schedule You are required to provide a "minutes" field for a cron schedule. An "interval" field is required for an interval schedule. You must not provide both a "cron" field and an "interval" field. The schedule UUID is created by the system.

Cron schedule fields

- cron.minutes - Minutes within the hour (0 through 59)
- cron.hours - Hours of the day (0 through 23)
- cron.weekdays - Weekdays (0 through 6, where 0 is Sunday and 6 is Saturday.)
- cron.days - Days of the month (1 through 31)
- cron.months - Months of the year (1 through 12)

Interval schedule field

- interval - Length of time in ISO 8601 duration format

Example

```
# The API:
/api/cluster/schedules

# The call:
curl -X POST "https://<mgmt-ip>/api/cluster/schedules" -d body

# The response of a successful POST is empty.
Example body to create an interval schedule with a 1-week interval:
{
  "name": "test_interval_1",
  "interval": "P1W"
}
Example body to create a cron schedule that runs daily at 12:05 :
{
  "name": "test_cron_1",
  "cron":
  {
    "minutes": [ 5 ],
    "hours": [ 12 ]
  }
}
```

Optional fields

By default, the schedule is owned by the local cluster. In a MetroCluster configuration, the partner cluster can be specified if the local cluster is in the switchover state.

- cluster.name - Name of the cluster owning the schedule
- cluster.uuid - UUID of the cluster owning the schedule

Records field

Multiple schedules can be created in one request by providing an array of named records with schedule entries. Each entry must follow the required and optional fields listed above.

Updating a job schedule

The following fields of an existing schedule can be modified:

- cron.minutes
- cron.hours
- cron.weekdays
- cron.days
- cron.months
- interval Note: The name, cluster, and type of schedule cannot be modified. Also, you cannot modify a cron field of an interval schedule, or the interval field of a cron schedule. Queries on fields can be applied to modify all schedules that match the combined query.

Example

```
# The API:
/api/cluster/schedules/{uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/cluster/schedules/{uuid}" -d body

# The response of a successful PATCH is empty.
Example body to modify an interval schedule with a 2-day and 5-minute
interval:
{
  "interval": "P2DT5M"
}
Example body to modify a cron schedule to run Mondays at 2:
{
  "cron":
  {
    "hours": [ 2 ],
    "weekdays": [ 1 ]
  }
}
```

Deleting a job schedule

Job schedules can be deleted based on their UUID. Queries on fields can be applied to delete all schedules that match the combined query.

Example

```
# The API:
/api/cluster/schedules/{uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/cluster/schedules/{uuid}"

# The response of a successful DELETE of one schedule is empty.
```

```
# The API:
/api/cluster/schedules/

# The call:
curl -X DELETE "https://<mgmt-ip>/api/cluster/schedules/?name=test*"

# The response of a successful DELETE indicates the number of schedules
affected:
{
  "num_records": 2,
  "_links": {
    "self": {
      "href": "/api/cluster/schedules?name=test*"
    }
  }
}
```

MetroCluster configurations

In a MetroCluster configuration, user-created schedules owned by the local cluster are replicated to the partner cluster. Likewise, user-created schedules owned by the partner cluster are replicated to the local cluster. The owning cluster for a particular schedule is shown in the "cluster.name" and "cluster.uuid" fields. Normally, only schedules owned by the local cluster can be created, modified, and deleted on the local cluster. However, when a MetroCluster configuration is in switchover, the cluster in switchover state can create, modify, and delete schedules owned by the partner cluster.

Retrieve schedules

GET /cluster/schedules

Retrieves a schedule.

Learn more

- [DOC /cluster/schedules](#)

Parameters

| Name | Type | In | Required | Description |
|----------------|---------------|-------|----------|---|
| cron.hours | integer | query | False | Filter by cron.hours |
| cron.months | integer | query | False | Filter by cron.months |
| cron.minutes | integer | query | False | Filter by cron.minutes |
| cron.weekdays | integer | query | False | Filter by cron.weekdays |
| cron.days | integer | query | False | Filter by cron.days |
| cluster.name | string | query | False | Filter by cluster.name |
| cluster.uuid | string | query | False | Filter by cluster.uuid |
| interval | string | query | False | Filter by interval |
| uuid | string | query | False | Filter by uuid |
| type | string | query | False | Filter by type |
| name | string | query | False | Filter by 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[schedule] | |

Example response

A large, empty rectangular box with a thin, dashed border, occupying most of the page. It is intended for an example response.

```

{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "cluster": {
        "name": "cluster1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "cron": {
        "days": [
          "integer"
        ],
        "hours": [
          "integer"
        ],
        "minutes": [
          "integer"
        ],
        "months": [
          "integer"
        ],
        "weekdays": [
          "integer"
        ]
      },
      "interval": "P1DT2H3M4S",
      "name": "string",
      "type": "string",
      "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
    }
  ]
}

```

Error

Status: Default

ONTAP Error Response Codes

| Error Code | Description |
|------------|---|
| 459760 | The schedule specified is not a valid schedule. |

| 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 | |

cluster

The cluster that owns the schedule. Defaults to the local cluster.

| Name | Type | Description |
|------|--------|--------------|
| name | string | Cluster name |
| uuid | string | Cluster UUID |

cron

Details for schedules of type cron.

| Name | Type | Description |
|---------|----------------|--|
| days | array[integer] | The days of the month the schedule runs. Leave empty for all. |
| hours | array[integer] | The hours of the day the schedule runs. Leave empty for all. |
| minutes | array[integer] | The minutes the schedule runs. Required on POST for a cron schedule. |

| Name | Type | Description |
|----------|----------------|--|
| months | array[integer] | The months of the year the schedule runs. Leave empty for all. |
| weekdays | array[integer] | The weekdays the schedule runs. Leave empty for all. |

schedule

Complete schedule information

| Name | Type | Description |
|----------|-------------------------|--|
| _links | _links | |
| cluster | cluster | The cluster that owns the schedule. Defaults to the local cluster. |
| cron | cron | Details for schedules of type cron. |
| interval | string | An ISO-8601 duration formatted string. |
| name | string | Schedule Name. Required in the URL or POST body. |
| type | string | Schedule type |
| uuid | string | Job schedule UUID |

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. |

Create a schedule

POST `/cluster/schedules`

Create a schedule.

Required Fields

- name - Name of the job schedule It is required to provide a minutes field for a cron schedule. An interval field is required for an interval schedule. You must not provide both a cron field and an interval field.

Learn more

- [DOC /cluster/schedules](#)

Request Body

| Name | Type | Description |
|-----------------------|-------------------------|--|
| <code>_links</code> | _links | |
| <code>cluster</code> | cluster | The cluster that owns the schedule. Defaults to the local cluster. |
| <code>cron</code> | cron | Details for schedules of type cron. |
| <code>interval</code> | string | An ISO-8601 duration formatted string. |
| <code>name</code> | string | Schedule Name. Required in the URL or POST body. |
| <code>type</code> | string | Schedule type |
| <code>uuid</code> | string | Job schedule UUID |

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "cluster": {
    "name": "cluster1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "cron": {
    "days": [
      "integer"
    ],
    "hours": [
      "integer"
    ],
    "minutes": [
      "integer"
    ],
    "months": [
      "integer"
    ],
    "weekdays": [
      "integer"
    ]
  },
  "interval": "P1DT2H3M4S",
  "name": "string",
  "type": "string",
  "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}
```

Response

Status: 201, Created

Error

Status: Default

ONTAP Error Response Codes

| Error Code | Description |
|------------|---|
| 459760 | The schedule specified is not a valid schedule. |
| 458788 | The schedule specified is not a valid schedule. |
| 459764 | Cannot create a schedule with the same name as an existing schedule from the MetroCluster partner cluster but of a different schedule type. |
| 460783 | As this is a MetroCluster configuration and the local cluster is waiting for switchback, changes to non-system schedules are not allowed. |
| 459763 | Schedule cannot be created locally using the remote cluster name as the owner. |
| 460784 | An error occurred creating the remote cluster version of this schedule. |

| 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 | |

cluster

The cluster that owns the schedule. Defaults to the local cluster.

| Name | Type | Description |
|------|--------|--------------|
| name | string | Cluster name |
| uuid | string | Cluster UUID |

cron

Details for schedules of type cron.

| Name | Type | Description |
|----------|----------------|--|
| days | array[integer] | The days of the month the schedule runs. Leave empty for all. |
| hours | array[integer] | The hours of the day the schedule runs. Leave empty for all. |
| minutes | array[integer] | The minutes the schedule runs. Required on POST for a cron schedule. |
| months | array[integer] | The months of the year the schedule runs. Leave empty for all. |
| weekdays | array[integer] | The weekdays the schedule runs. Leave empty for all. |

schedule

Complete schedule information

| Name | Type | Description |
|----------|-------------------------|--|
| _links | _links | |
| cluster | cluster | The cluster that owns the schedule. Defaults to the local cluster. |
| cron | cron | Details for schedules of type cron. |
| interval | string | An ISO-8601 duration formatted string. |
| name | string | Schedule Name. Required in the URL or POST body. |
| type | string | Schedule type |
| uuid | string | Job schedule 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 schedule

DELETE /cluster/schedules/{uuid}

Deletes a schedule.

Learn more

- [DOC /cluster/schedules](#)

Parameters

| Name | Type | In | Required | Description |
|------|--------|------|----------|-------------|
| uuid | string | path | True | |

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

| Error Code | Description |
|------------|---|
| 459758 | Cannot delete a job schedule that is in use. Remove all references to the schedule, and then try to delete again. |
| 459761 | Schedule cannot be deleted on this cluster because it is replicated from the remote cluster. |
| 459762 | The schedule cannot be deleted because it is a system-level schedule. |

| 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 schedule

GET /cluster/schedules/{uuid}

Retrieves a schedule.

Learn more

- [DOC /cluster/schedules](#)

Parameters

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

Response

Status: 200, Ok

| Name | Type | Description |
|----------|-------------------------|--|
| _links | _links | |
| cluster | cluster | The cluster that owns the schedule. Defaults to the local cluster. |
| cron | cron | Details for schedules of type cron. |
| interval | string | An ISO-8601 duration formatted string. |
| name | string | Schedule Name. Required in the URL or POST body. |
| type | string | Schedule type |
| uuid | string | Job schedule UUID |

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "cluster": {
    "name": "cluster1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "cron": {
    "days": [
      "integer"
    ],
    "hours": [
      "integer"
    ],
    "minutes": [
      "integer"
    ],
    "months": [
      "integer"
    ],
    "weekdays": [
      "integer"
    ]
  },
  "interval": "P1DT2H3M4S",
  "name": "string",
  "type": "string",
  "uuid": "4ea7a442-86d1-11e0-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 | |

cluster

The cluster that owns the schedule. Defaults to the local cluster.

| Name | Type | Description |
|------|--------|--------------|
| name | string | Cluster name |
| uuid | string | Cluster UUID |

cron

Details for schedules of type cron.

| Name | Type | Description |
|----------|----------------|--|
| days | array[integer] | The days of the month the schedule runs. Leave empty for all. |
| hours | array[integer] | The hours of the day the schedule runs. Leave empty for all. |
| minutes | array[integer] | The minutes the schedule runs. Required on POST for a cron schedule. |
| months | array[integer] | The months of the year the schedule runs. Leave empty for all. |
| weekdays | array[integer] | The weekdays the schedule runs. Leave empty for all. |

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 schedule

PATCH `/cluster/schedules/{uuid}`

Updates a schedule. Note that you cannot modify a cron field of an interval schedule, or the interval field of a cron schedule.

Learn more

- [DOC /cluster/schedules](#)

Parameters

| Name | Type | In | Required | Description |
|------|--------|------|----------|---------------|
| uuid | string | path | True | Schedule UUID |

Request Body

| Name | Type | Description |
|------------------------|-------------------------|--|
| _links | _links | |
| cluster | cluster | The cluster that owns the schedule. Defaults to the local cluster. |
| cron | cron | Details for schedules of type cron. |

| Name | Type | Description |
|-------------|-------------|--|
| interval | string | An ISO-8601 duration formatted string. |
| name | string | Schedule Name. Required in the URL or POST body. |
| type | string | Schedule type |
| uuid | string | Job schedule UUID |

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "cluster": {
    "name": "cluster1",
    "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
  },
  "cron": {
    "days": [
      "integer"
    ],
    "hours": [
      "integer"
    ],
    "minutes": [
      "integer"
    ],
    "months": [
      "integer"
    ],
    "weekdays": [
      "integer"
    ]
  },
  "interval": "P1DT2H3M4S",
  "name": "string",
  "type": "string",
  "uuid": "4ea7a442-86d1-11e0-ae1c-123478563412"
}
```

Response

Status: 200, Ok

Error

Status: Default

ONTAP Error Response Codes

| Error Code | Description |
|------------|---|
| 459760 | The schedule specified is not a valid schedule. |
| 458788 | The schedule specified is not a valid schedule. |
| 460783 | As this is a MetroCluster configuration and the local cluster is waiting for switchback, changes to non-system schedules are not allowed. |
| 459761 | Schedule cannot be modified on this cluster because it is replicated from the remote 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 | |

cluster

The cluster that owns the schedule. Defaults to the local cluster.

| Name | Type | Description |
|------|--------|--------------|
| name | string | Cluster name |
| uuid | string | Cluster UUID |

cron

Details for schedules of type cron.

| Name | Type | Description |
|----------|----------------|--|
| days | array[integer] | The days of the month the schedule runs. Leave empty for all. |
| hours | array[integer] | The hours of the day the schedule runs. Leave empty for all. |
| minutes | array[integer] | The minutes the schedule runs. Required on POST for a cron schedule. |
| months | array[integer] | The months of the year the schedule runs. Leave empty for all. |
| weekdays | array[integer] | The weekdays the schedule runs. Leave empty for all. |

schedule

Complete schedule information

| Name | Type | Description |
|----------|-------------------------|--|
| _links | _links | |
| cluster | cluster | The cluster that owns the schedule. Defaults to the local cluster. |
| cron | cron | Details for schedules of type cron. |
| interval | string | An ISO-8601 duration formatted string. |
| name | string | Schedule Name. Required in the URL or POST body. |
| type | string | Schedule type |
| uuid | string | Job schedule 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. |

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