Display MetroCluster diagnostics

ONTAP 9.12.1 REST API reference

NetApp
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Display MetroCluster diagnostics

Cluster MetroCluster diagnostics endpoint overview

Overview

You can use this API to initiate a MetroCluster diagnostics operation and fetch the results of a completed diagnostics operation on a MetroCluster over IP configuration. The GET operation retrieves the results of a completed diagnostics operation for the MetroCluster over IP configuration. These can include the overall high level and details for the checks done for different components. By default, the response does not include the details. If the fields query is used in the request, the response will include the details. The POST request can be used to start a MetroCluster diagnostics operation or set up a schedule for the diagnostics to be run periodically.

Details

Details provide a way to view all the checks done on a component and the result of each check. The details of the checks are not included in the response by default. In order to fetch the details, use the `fields` query parameter.

- `node.details`
- `aggregate.details`
- `cluster.details`

Starting a MetroCluster diagnostics operation

A new MetroCluster diagnostics operation can be started by issuing a POST to /cluster/metrocluster/diagnostics. There are no extra parameters required to initiate a diagnostics operation.

Polling the POST job for status of diagnostics operation

After a successful POST /cluster/diagnostics operation is issued, an HTTP status code of 202 (Accepted) is returned along with a job UUID and a link in the body of the response. The POST job continues asynchronously and can be monitored by using the job UUID and the /cluster/jobs API. The "message" field in the response of the GET /cluster/jobs/{uuid} request shows the current step in the job, and the "state" field shows the overall state of the job.

Examples

Running the diagnostics operation

This example shows the POST request for starting a diagnostic operation for a MetroCluster over IP configuration and the responses returned:

```
#API
/api/cluster/metrocluster/diagnostics
```

POST Request

```
curl -X POST https://<mgmt-ip>/api/cluster/metrocluster/diagnostics
```

POST Response

```
HTTP/1.1 202 Accepted
Date: Tue, 22 Sep 2020 17:20:53 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Location: /api/cluster/metrocluster/diagnostics
Content-Length: 189
Content-Type: application/hal+json
{
"job": {
  "uuid": "f7d3804c-fcf7-11ea-acaf-005056bb47c1",
  "_links": {
    "self": {
      "href": "/api/cluster/jobs/f7d3804c-fcf7-11ea-acaf-005056bb47c1"
    }
  }
}
}
```

Monitoring the job progress

Use the link provided in the response to the POST request to fetch information for the diagnostics operation job.

Request

```
curl -X GET https://<mgmt-ip>/api/cluster/jobs/f7d3804c-fcf7-11ea-acaf-
005056bb47c1
```

Job status response

```
HTTP/1.1 202 Accepted
Date: Tue, 22 Sep 2020 17:21:12 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Length: 345
Content-Type: application/hal+json
{
"uuid": "f7d3804c-fcf7-11ea-acaf-005056bb47c1",
"description": "POST /api/cluster/metrocluster/diagnostics",
"state": "running",
"message": "Checking nodes...",
"code": 2432853,
"start_time": "2020-09-22T13:20:53-04:00",
"_links": {
  "self": {
    "href": "/api/cluster/jobs/f7d3804c-fcf7-11ea-acaf-005056bb47c1"
  }
}
}
```

Final status of the diagnostics job

```
HTTP/1.1 202 Accepted
Date: Tue, 22 Sep 2020 17:29:04 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Length: 372
Content-Type: application/hal+json
{
"uuid": "f7d3804c-fcf7-11ea-acaf-005056bb47c1",
"description": "POST /api/cluster/metrocluster/diagnostics",
"state": "success",
"message": "success",
"code": 0,
"start_time": "2020-09-22T13:20:53-04:00",
"end_time": "2020-09-22T13:22:04-04:00",
"_links": {
  "self": {
    "href": "/api/cluster/jobs/f7d3804c-fcf7-11ea-acaf-005056bb47c1"
  }
}
}
```

Retrieving the diagnostics operation

Request

```
curl -X GET https://<mgmt-ip>/api/cluster/metrocluster/diagnostics
```

Response

```
HTTP/1.1 202 Accepted
Date: Tue, 22 Sep 2020 18:04:28 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Length: 1005
Content-Type: application/hal+json
{
"node": {
  "timestamp": "2020-09-22T13:47:01-04:00",
  "state": "ok",
  "summary": {
    "message": ""
  }
},
"interface": {
  "timestamp": "2020-09-22T13:47:01-04:00",
  "state": "ok",
  "summary": {
    "message": ""
  }
},
"aggregate": {
  "timestamp": "2020-09-22T13:47:01-04:00",
  "state": "ok",
  "summary": {
    "message": ""
  }
},
"cluster": {
  "timestamp": "2020-09-22T13:47:01-04:00",
  "state": "ok",
  "summary": {
    "message": ""
  }
},
"connection": {
```

```
  "timestamp": "2020-09-22T13:47:01-04:00",
  "state": "ok",
  "summary": {
    "message": ""
  }
},
"volume": {
  "timestamp": "2020-09-22T13:47:01-04:00",
  "state": "ok",
  "summary": {
    "message": ""
  }
},
"config_replication": {
  "timestamp": "2020-09-22T13:47:01-04:00",
  "state": "ok",
  "summary": {
    "message": ""
  }
},
"_links": {
  "self": {
    "href": "/api/cluster/metrocluster/diagnostics"
  }
}
}
```

Retrieving check details for the node component

Request

```
curl -X GET https://<mgmt-
ip>/api/cluster/metrocluster/diagnostics?fields=node.details
```

Response

```
HTTP/1.1 200 OK
Date: Thu, 10 Feb 2022 00:05:12 GMT
Server: libzapid-httpd
X-Content-Type-Options: nosniff
Cache-Control: no-cache,no-store,must-revalidate
Content-Length: 4506
Content-Type: application/hal+json
{
"node": {
```

```
  "details": [
    {
      "node": {
        "uuid": "11111111-1111-1111-1111-111111111111",
        "name": "node1",
        "_links": {
          "self": {
            "href": "/api/cluster/nodes/11111111-1111-1111-1111-
111111111111"
          }
        }
      },
      "cluster": {
        "uuid": "12121212-1212-1212-1212-121212121212",
        "name": "clusterA",
        "_links": {
          "self": {
            "href": "/api/cluster/12121212-1212-1212-1212-121212121212"
          }
        }
      },
      "timestamp": "2022-02-09T18:47:00-05:00",
      "checks": [
        {
          "name": "node_reachable",
          "result": "ok"
        },
        {
          "name": "metrocluster_ready",
          "result": "ok"
        },
        {
          "name": "local_ha_partner",
          "result": "ok"
        },
        {
          "name": "ha_mirroring_on",
          "result": "ok"
        },
        {
          "name": "ha_mirroring_op_state",
          "result": "ok"
        },
        {
          "name": "symmetric_ha_relationship",
          "result": "ok"
```

```
      },
      {
        "name": "remote_dr_partner",
        "result": "ok"
      },
      {
        "name": "dr_mirroring_on",
        "result": "ok"
      },
      {
        "name": "dr_mirroring_op_state",
        "result": "ok"
      },
      {
        "name": "symmetric_dr_relationship",
        "result": "ok"
      },
      {
        "name": "remote_dr_auxiliary_partner",
        "result": "ok"
      },
      {
        "name": "symmetric_dr_auxiliary_relationship",
        "result": "ok"
      },
      {
        "name": "storage_failover_enabled",
        "result": "ok"
      },
      {
        "name": "has_intercluster_lif",
        "result": "ok"
      },
      {
        "name": "node_object_limit",
        "result": "ok"
      },
      {
        "name": "automatic_uso",
        "result": "ok"
      }
    ]
  },
  {
    "node": {
      "uuid": "22222222-2222-2222-2222-222222222222",
```

```
        "name": "node2",
        "_links": {
          "self": {
            "href": "/api/cluster/nodes/22222222-2222-2222-2222-
222222222222"
          }
        }
      },
      "cluster": {
        "uuid": "23232323-2323-2323-2323-232323232323",
        "name": "clusterB",
        "_links": {
          "self": {
            "href": "/api/cluster/23232323-2323-2323-2323-232323232323"
          }
        }
      },
      "timestamp": "2022-02-09T18:47:00-05:00",
      "checks": [
        {
          "name": "node_reachable",
          "result": "ok"
        },
        {
          "name": "metrocluster_ready",
          "result": "ok"
        },
        {
          "name": "local_ha_partner",
          "result": "ok"
        },
        {
          "name": "ha_mirroring_on",
          "result": "ok"
        },
        {
          "name": "ha_mirroring_op_state",
          "result": "ok"
        },
        {
          "name": "symmetric_ha_relationship",
          "result": "ok"
        },
        {
          "name": "remote_dr_partner",
          "result": "ok"
```

```
        },
        {
          "name": "dr_mirroring_on",
          "result": "ok"
        },
        {
          "name": "dr_mirroring_op_state",
          "result": "ok"
        },
        {
          "name": "symmetric_dr_relationship",
          "result": "ok"
        },
        {
          "name": "remote_dr_auxiliary_partner",
          "result": "ok"
        },
        {
          "name": "symmetric_dr_auxiliary_relationship",
          "result": "ok"
        },
        {
          "name": "storage_failover_enabled",
          "result": "ok"
        },
        {
          "name": "has_intercluster_lif",
          "result": "ok"
        },
        {
          "name": "node_object_limit",
          "result": "ok"
        },
        {
          "name": "automatic_uso",
          "result": "ok"
        }
      ]
    }
  ]
},
"_links": {
  "self": {
    "href": "/api/cluster/metrocluster/diagnostics"
  }
}
```

```
}
```

Retrieving check details for the volume component

Request

```
curl -X GET https://<mgmt-
ip>/api/cluster/metrocluster/diagnostics?fields=volume.details
```

Response

```
HTTP/1.1 200 OK
Cache-Control: no-cache,no-store,must-revalidate
Connection: close
Date: Fri, 08 Apr 2022 20:07:38 GMT
Server: libzapid-httpd
Vary: Accept-Encoding
Content-Length: 928
Content-Type: application/hal+json
Client-Date: Fri, 08 Apr 2022 20:07:42 GMT
Client-Peer: 172.21.138.189:443
Client-Response-Num: 1
Client-SSL-Cert-Issuer: /CN=sti75-vsim-ucs180f0e_siteA/C=US
Client-SSL-Cert-Subject: /CN=sti75-vsim-ucs180f0e_siteA/C=US
Client-SSL-Cipher: ECDHE-RSA-AES256-GCM-SHA384
Client-SSL-Socket-Class: IO::Socket::SSL
Client-SSL-Warning: Peer certificate not verified
Content-Security-Policy: default-src 'self'; script-src 'self' 'unsafe-
inline'; style-src 'self' 'unsafe-inline'; img-src 'self' data:; frame-
ancestors: 'self'
X-Content-Type-Options: nosniff
{
"volume": {
  "details": [
    {
      "checks": [
        {
          "name": "unmirrored_flexgroups",
          "result": "ok",
        }
      ]
    },
    {
      "checks": [
        {
```

```
          "name": "mixed_flexgroups",
          "result": "ok",
        }
      ]
    }
  ]
},
"_links": {
  "self": {
    "href": "/api/cluster/metrocluster/diagnostics"
  }
}
}
```


Related ONTAP Commands

- `metrocluster check run`
- `metrocluster check show`
- `metrocluster check node show`
- `metrocluster check aggregate show`
- `metrocluster check cluster show`

Retrieve diagnostic operation results for a MetroCluster configuration

GET `/cluster/metrocluster/diagnostics`

Introduced In: 9.8

Retrieves the results of a completed diagnostic operation for the MetroCluster configuration.

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.

Response

```
Status: 200, Ok
```

Name	Type	Description
aggregate	aggregate	
cluster	cluster	
config-replication	config-replication	
connection	connection	
interface	interface	
node	node	
volume	volume	

Example response


```
{
  "aggregate": {
    "details": {
      "aggregate": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "aggr1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "checks": {
        "additional_info": {
          "code": "string",
          "message": "string"
        },
        "name": "mirrror_status",
        "result": "ok"
      },
      "cluster": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "cluster1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "timestamp": "2016-03-10T14:35:16-08:00",
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
```

```
        },
        "name": "volume1",
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
      }
    },
    "state": "ok",
    "summary": {
      "code": "string",
      "message": "string"
    },
    "timestamp": "2016-03-10T14:35:16-08:00"
  },
  "cluster": {
    "details": {
      "aggregate": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "aggr1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "checks": {
        "additional_info": {
          "code": "string",
          "message": "string"
        },
        "name": "mirrror_status",
        "result": "ok"
      },
      "cluster": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "cluster1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
```

```
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "timestamp": "2016-03-10T14:35:16-08:00",
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "volume1",
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
      }
    },
    "state": "ok",
    "summary": {
      "code": "string",
      "message": "string"
    },
    "timestamp": "2016-03-10T14:35:16-08:00"
  },
  "config-replication": {
    "state": "ok",
    "summary": {
      "code": "string",
      "message": "string"
    },
    "timestamp": "2016-03-14T14:35:16-08:00"
  },
  "connection": {
    "details": {
      "cluster": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "cluster1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "connections": {
        "destination_address": "string",
        "partner": {
          "node": {
            "_links": {
              "self": {
```

```
                "href": "/api/resourcelink"
              }
            },
            "name": "node1",
            "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
          },
          "type": "ha"
        },
        "port": "string",
        "result": "ok",
        "source_address": "string",
        "state": "disconnected"
      },
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      }
    },
    "state": "ok",
    "summary": {
      "code": "string",
      "message": "string"
    },
    "timestamp": "2016-03-10T14:35:16-08:00"
  },
  "interface": {
    "state": "ok",
    "summary": {
      "code": "string",
      "message": "string"
    },
    "timestamp": "2016-03-10T14:35:16-08:00"
  },
  "node": {
    "details": {
      "aggregate": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
```

```
        "name": "aggr1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "checks": {
        "additional_info": {
          "code": "string",
          "message": "string"
        },
        "name": "mirrror_status",
        "result": "ok"
      },
      "cluster": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "cluster1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "timestamp": "2016-03-10T14:35:16-08:00",
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "volume1",
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
      }
    },
    "state": "ok",
    "summary": {
      "code": "string",
      "message": "string"
    },
    "timestamp": "2016-03-10T14:35:16-08:00"
```

```
  },
  "volume": {
    "details": {
      "aggregate": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "aggr1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "checks": {
        "additional_info": {
          "code": "string",
          "message": "string"
        },
        "name": "mirrror_status",
        "result": "ok"
      },
      "cluster": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "cluster1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "timestamp": "2016-03-10T14:35:16-08:00",
      "volume": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "volume1",
```

```
        "uuid": "028baa66-41bd-11e9-81d5-00a0986138f7"
      }
    },
    "state": "ok",
    "summary": {
      "code": "string",
      "message": "string"
    },
    "timestamp": "2016-03-10T14:35:16-08:00"
  }
}
```


Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
2425734	An internal error occurred. Wait a few minutes, and try the operation again. For further assistance, contact technical support.
2427132	MetroCluster is not configured on this cluster.
2432856	MetroCluster diagnostics result is not available. Use the REST API GET method on "/api/cluster/metrocluster/operations?type=check&fields=*" for more information.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

aggregate

Name	Type	Description
_links	_links	
name	string	
uuid	string	

additional_info

Additional information or recovery steps to take on this component.

Name	Type	Description
code	string	Argument code
message	string	Message argument

metrocluster_diag_check

Generic object which can be used for various components which holds details of the checks of a component.

Name	Type	Description
additional_info	additional_info	Additional information or recovery steps to take on this component.
name	string	Name of type of diagnostic operation run for the component.
result	string	Result of the diagnostic operation on this component.

cluster

Name	Type	Description
_links	_links	
name	string	
uuid	string	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

volume

Name	Type	Description
_links	_links	
name	string	The name of the volume.
uuid	string	Unique identifier for the volume. This corresponds to the instance-uuid that is exposed in the CLI and ONTAPI. It does not change due to a volume move. • example: 028baa66-41bd-11e9-81d5-00a0986138f7 • Introduced in: 9.6

metrocluster_diag_details

Name	Type	Description
aggregate	aggregate	
checks	array[metrocluster_diag_check]	Collection of MetroCluster checks done for component.
cluster	cluster	
node	node	
timestamp	string	Time check was done.
volume	volume	

summary

Additional information or recovery steps to take.

Name	Type	Description
code	string	Argument code
message	string	Message argument

aggregate

Name	Type	Description
details	array[metrocluster_diag_details]	Display details of the MetroCluster check for aggregates.
state	string	Status of diagnostic operation for this component.
summary	summary	Additional information or recovery steps to take.
timestamp	string	Time of the most recent diagnostic operation for this component

cluster

Name	Type	Description
details	array[metrocluster_diag_details]	Display details of the MetroCluster check for clusters.
state	string	Status of diagnostic operation for this component.
summary	summary	Additional information or recovery steps to take.
timestamp	string	Time of the most recent diagnostic operation for this component

config-replication

Name	Type	Description
state	string	Status of diagnostic operation for this component.
summary	summary	Additional information or recovery steps to take.
timestamp	string	Time of the most recent diagnostic operation for this component

partner

Name	Type	Description
node	node	
type	string	

metrocluster_diag_connection

Name	Type	Description
destination_address	string	
partner	partner	
port	string	
result	string	Result of the diagnostic operation on this component.
source_address	string	
state	string	

metrocluster_diag_connection_details

Name	Type	Description
cluster	cluster	
connections	array[metrocluster_diag_connection]	
node	node	

connection

Name	Type	Description
details	array[metrocluster_diag_connection_details]	Display details of the MetroCluster check for connections.
state	string	Status of diagnostic operation for this component.
summary	summary	Additional information or recovery steps to take.
timestamp	string	Time of the most recent diagnostic operation for this component

interface

Name	Type	Description
state	string	Status of diagnostic operation for this component.
summary	summary	Additional information or recovery steps to take.
timestamp	string	Time of the most recent diagnostic operation for this component

node

Name	Type	Description
details	array[metrocluster_diag_details]	Displays details of the MetroCluster check for nodes.
state	string	Status of diagnostic operation for this component.
summary	summary	Additional information or recovery steps to take.
timestamp	string	Time of the most recent diagnostic operation for this component

volume

Name	Type	Description
details	array[metrocluster_diag_details]	Display details of the MetroCluster check for volumes.
state	string	Status of diagnostic operation for this component.
summary	summary	Additional information or recovery steps to take.
timestamp	string	Time of the most recent diagnostic operation for this component

Start MetroCluster diagnostics or set up a periodic diagnostic schedule

POST `/cluster/metrocluster/diagnostics`

Introduced In: 9.8

Start a MetroCluster diagnostic operation or set up a schedule for the diagnostics to be run periodically.

Parameters

Name	Type	In	Required	Description
schedule	integer	query	False	Shows the minutes of every hour when a job runs. Setting this parameter schedules the periodic job to be run to perform MetroCluster diagnostic.

Name	Type	In	Required	Description
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202. • Default value: 1 • Max value: 120 • Min value: 0

Response

```
Status: 202, Accepted
```

Name	Type	Description
job	job_link	

Example response


```
{
  "job": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uuid": "string"
  }
}
```


Headers

Name	Description	Type
Location	Useful for tracking the resource location	string

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
2425734	An internal error occurred. Wait a few minutes, and try the operation again. For further assistance, contact technical support.
2427132	MetroCluster is not configured on this cluster.
2432833	Operation is already running.
2432852	MetroCluster diagnostics start
2432853	MetroCluster diagnostics job scheduled
2432854	MetroCluster diagnostics complete
2432855	MetroCluster diagnostics operation failed. Use the REST API GET method on "/api/cluster/metrocluster/operations?type=check&fields=*" for more information.

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

job_link

Name	Type	Description
_links	_links	
uuid	string	The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.

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