



## **EMS**

### **ONTAP Automation**

NetApp  
April 21, 2024

This PDF was generated from [https://docs.netapp.com/us-en/ontap-automation/workflows/wf\\_ems\\_prepare.html](https://docs.netapp.com/us-en/ontap-automation/workflows/wf_ems_prepare.html) on April 21, 2024. Always check docs.netapp.com for the latest.

# Table of Contents

- EMS ..... 1
  - Prepare to manage EMS support services ..... 1
  - List the EMS log events ..... 1
  - Get the EMS configuration ..... 4
  - Create an EMS notification ..... 4

# EMS

## Prepare to manage EMS support services

You can configure Event Management System (EMS) processing for an ONTAP cluster as well as retrieve EMS messages as needed.

### Overview

There are several example workflows available that illustrate how to use the ONTAP EMS services. Before using the workflows and issuing any of the REST API calls, make sure to review [Prepare to use the workflows](#).

If you use Python, also see the scripy [events.py](#) for examples of how to automate some of the EMS-related activities.

### ONTAP REST API versus ONTAP CLI commands

For many tasks, using the ONTAP REST API requires fewer calls than the equivalent ONTAP CLI commands. The table below includes a list of API calls and the equivalent the CLI commands needed for each task.

ONTAP REST API	ONTAP CLI
GET /support/ems	<code>event config show</code>
POST /support/ems/destinations	<ol style="list-style-type: none"><li><code>event notification destination create</code></li><li><code>event notification create</code></li></ol>
GET /support/ems/events	<code>event log show</code>
POST /support/ems/filters	<ol style="list-style-type: none"><li><code>event filter create -filter-name &lt;filtername&gt;</code></li><li><code>event filter rule add -filter-name &lt;filtername&gt;</code></li></ol>

### Related information

- [Python script illustrating EMS](#)
- [ONTAP REST APIs: Automate Notification of High-Severity Events](#)

## List the EMS log events

You can retrieve all event notification messages or only those with specific characteristics.

### HTTP method and endpoint

This REST API call uses the following method and endpoint.

HTTP method	Path
GET	/api/support/ems/events

## Processing type

Synchronous

### Additional input parameters for the Curl examples

In addition to the parameters common with all REST API calls, the following parameters are also used in the curl examples for this step.

Parameter	Type	Required	Description
fields	Query	No	Used to request specific fields to be included in the response.
max_records	Query	No	Can be used to limit the number of records returned in a single request.
log_message	Query	No	Used to search for a specific text value and only return the matching messages.
message.severity	Query	No	Limit the returned messages to those with a specific severity such as alert.

### Curl example: Return the latest message and the name value

```
curl --request GET \  
--location \  
"https://$FQDN_IP/api/support/ems/events?fields=message.name&max_records=1" \  
--include \  
--header "Accept: */*" \  
--header "Authorization: Basic $BASIC_AUTH"
```

### Curl example: Return a message containing specific text and severity

```
curl --request GET \  
--location \  
"https://$FQDN_IP/api/support/ems/events?log_message=*disk*&message.severity=alert" \  
--include \  
--header "Accept: */*" \  
--header "Authorization: Basic $BASIC_AUTH"
```

## JSON output example

```
{
  "records": [
    {
      "node": {
        "name": "malha-vsim1",
        "uuid": "da4f9e62-9de3-11ec-976a-005056b369de",
        "_links": {
          "self": {
            "href": "/api/cluster/nodes/da4f9e62-9de3-11ec-976a-005056b369de"
          }
        }
      },
      "index": 4602,
      "time": "2022-03-18T06:37:46-04:00",
      "message": {
        "severity": "alert",
        "name": "raid.autoPart.disabled"
      },
      "log_message": "raid.autoPart.disabled: Disk auto-partitioning is disabled on this system: the system needs a minimum of 4 usable internal hard disks.",
      "_links": {
        "self": {
          "href": "/api/support/ems/events/malha-vsim1/4602"
        }
      }
    }
  ],
  "num_records": 1,
  "_links": {
    "self": {
      "href": "/api/support/ems/events?log_message=*disk*&message.severity=alert&max_records=1"
    },
    "next": {
      "href": "/api/support/ems/events?start.keytime=2022-03-18T06%3A37%3A46-04%3A00&start.node.name=malha-vsim1&start.index=4602&log_message=*disk*&message.severity=alert"
    }
  }
}
```

## Get the EMS configuration

You can retrieve the current EMS configuration for an ONTAP cluster. You might do this before updating the configuration or creating a new EMS notification.

### HTTP method and endpoint

This REST API call uses the following method and endpoint.

HTTP method	Path
GET	/api/support/ems

### Processing type

Synchronous

### Curl example

```
curl --request GET \  
--location "https://$FQDN_IP/api/support/ems" \  
--include \  
--header "Accept: */*" \  
--header "Authorization: Basic $BASIC_AUTH"
```

### JSON output example

```
{  
  "proxy_url": "https://proxyserver.mycompany.com",  
  "proxy_user": "proxy_user",  
  "mail_server": "mail@mycompany.com",  
  "_links": {  
    "self": {  
      "href": "/api/resourcelink"  
    }  
  },  
  "pubsub_enabled": "1",  
  "mail_from": "administrator@mycompany.com"  
}
```

## Create an EMS notification

You can use the following workflow to create a new EMS notification destination to receive selected event messages.

### Step 1: Configure the system-wide email settings

You can issue the following API call to configure the system-wide email settings.

### HTTP method and endpoint

This REST API call uses the following method and endpoint.

HTTP method	Path
PATCH	/api/support/ems

### Processing type

Synchronous

### Additional input parameters for the Curl examples

In addition to the parameters common with all REST API calls, the following parameters are also used in the curl examples for this step.

Parameter	Type	Required	Description
mail_from	Query	Yes	Sets the <code>from</code> field in the notification email messages.
mail_server	Query	Yes	Configures the target SMTP mail server.

### Curl example

```
curl --request PATCH \  
--location \  
"https://$FQDN_IP/api/support/ems?mail_from=administrator@mycompany.com&ma  
il_server=mail@mycompany.com" \  
--include \  
--header "Accept: */*" \  
--header "Authorization: Basic $BASIC_AUTH"
```

## Step 2: Define a message filter

You can issue an API call to define a filter rule to match the messages.

### HTTP method and endpoint

This REST API call uses the following method and endpoint.

HTTP method	Path
POST	/api/support/ems/filters

### Processing type

Synchronous

### Additional input parameters for the Curl examples

In addition to the parameters common with all REST API calls, the following parameters are also used in the curl examples for this step.

Parameter	Type	Required	Description
Filter	Body	Yes	Includes the values for the filter configuration.

### Curl example

```
curl --request POST \  
--location "https://$FQDN_IP/api/support/ems/filters" \  
--include \  
--header "Accept: */*" \  
--header "Authorization: Basic $BASIC_AUTH" \  
--data @JSONinput
```

### JSON input example

```
{  
  "name": "test-filter",  
  "rules.type": ["include"],  
  "rules.message_criteria.severities": ["emergency"]  
}
```

## Step 3: Create a message destination

You can issue an API call to create a message destination.

### HTTP method and endpoint

This REST API call uses the following method and endpoint.

HTTP method	Path
POST	/api/support/ems/destinations

### Processing type

Synchronous

### Additional input parameters for the Curl examples

In addition to the parameters common with all REST API calls, the following parameters are also used in the curl examples for this step.

Parameter	Type	Required	Description
Destination configuration	Body	Yes	Includes the values for the event destination.

### Curl example

```
curl --request POST \  
--location "https://$FQDN_IP/api/support/ems/destinations" \  
--include \  
--header "Accept: */*" \  
--header "Authorization: Basic $BASIC_AUTH" \  
--data @JSONinput
```



### JSON input example

```
{  
  "name": "test-destination",  
  "type": "email",  
  "destination": "administrator@mycompany.com",  
  "filters.name": ["important-events"]  
}
```

## Copyright information

Copyright © 2024 NetApp, Inc. All Rights Reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

## Trademark information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.