



Managing health thresholds

Active IQ Unified Manager 9.13

NetApp
February 12, 2024

Table of Contents

- Managing health thresholds 1
 - What storage capacity health thresholds are 1
 - Configuring global health threshold settings 1
 - Editing individual aggregate health threshold settings 4
 - Editing individual volume health threshold settings 5
 - Editing individual qtree health threshold settings 5

Managing health thresholds

You can configure global health threshold values for all the aggregates, volumes, and qtrees to track any health threshold breaches.

What storage capacity health thresholds are

A storage capacity health threshold is the point at which the Unified Manager server generates events to report any capacity problem with storage objects. You can configure alerts to send notification whenever such events occurs.

The storage capacity health thresholds for all aggregates, volumes, and qtrees are set to default values. You can change the settings as required for an object or a group of objects.

Configuring global health threshold settings

You can configure global health threshold conditions for capacity, growth, Snapshot reserve, quotas, and inodes to monitor your aggregate, volume, and qtree size effectively. You can also edit the settings for generating events for exceeding lag thresholds.

Global health threshold settings apply to all objects with which they are associated, such as aggregates, volumes, and so forth. When thresholds are crossed, an event is generated and, if alerts are configured, an alert notification is sent. Threshold defaults are set to recommended values, but you can modify them to generate events at intervals to meet your specific needs. When thresholds are changed, events are generated or obsoleted in the next monitoring cycle.

Global health threshold settings are accessible from the Event Thresholds section of the left-navigation menu. You can also modify threshold settings for individual objects, from the inventory page or the details page for that object.

- For information, see [Configuring global aggregate health threshold values](#).

You can configure the health threshold settings for capacity, growth, and Snapshot copies for all aggregates to track any threshold breach.

- For information, see [Configuring global volume health threshold values](#).

You can edit the health threshold settings for capacity, Snapshot copies, qtree quotas, volume growth, overwrite reserve space, and inodes for all volumes to track any threshold breach.

- For information, see [Configuring global qtree health threshold values](#).

You can edit the health threshold settings for capacity for all qtrees to track any threshold breach.

- For information, see [Editing lag health threshold settings for unmanaged protection relationships](#).

You can increase or decrease the warning or error lag time percentage so that events are generated at intervals that are more appropriate to your needs.

Configuring global aggregate health threshold values

You can configure global health threshold values for all aggregates to track any threshold breach. Appropriate events are generated for threshold breaches and you can take preventive measures based on these events. You can configure the global values based on the best practice settings for thresholds that apply to all monitored aggregates.

What you'll need

You must have the Application Administrator or Storage Administrator role.

When you configure the options globally, the default values of the objects are modified. However, if the default values have been changed at the object level, the global values are not modified.

The threshold options have default values for better monitoring, however, you can change the values to suit the requirements of your environment.

When Autogrow is enabled on volumes that reside on the aggregate, the aggregate capacity thresholds are considered breached based on the maximum volume size set by autogrow, not based on the original volume size.



Health threshold values are not applicable to the root aggregate of the node.

Steps

1. In the left navigation pane, click **Event Thresholds > Aggregate**.
2. Configure the appropriate threshold values for capacity, growth, and Snapshot copies.
3. Click **Save**.

Related information

[Adding users](#)

Configuring global volume health threshold values

You can configure the global health threshold values for all volumes to track any threshold breach. Appropriate events are generated for health threshold breaches, and you can take preventive measures based on these events. You can configure the global values based on the best practice settings for thresholds that apply to all monitored volumes.

What you'll need

You must have the Application Administrator or Storage Administrator role.

Most of the threshold options have default values for better monitoring. However, you can change the values to suit the requirements of your environment.

Note that when Autogrow is enabled on a volume that capacity thresholds are considered breached based on the maximum volume size set by autogrow, not based on the original volume size.



The default value of 1000 Snapshot copies is applicable only to FlexVol volumes when the ONTAP version is 9.4 or greater, and to FlexGroup volumes when the ONTAP version is 9.8 and greater. For clusters installed with older versions of ONTAP software, the maximum number is 250 Snapshot copies per volume. For these older versions, Unified Manager interprets this number 1000 (and any number between 1000 and 250) as 250; meaning you will continue to receive events when the number of Snapshot copies reaches 250. If you wish to set this threshold to less than 250 for these older versions, you must set the threshold to 250 or lower here, in the Health: All Volumes view, or in the Volume / Health details page.

Steps

1. In the left navigation pane, click **Event Thresholds > Volume**.
2. Configure the appropriate threshold values for capacity, Snapshot copies, qtree quotas, volume growth, and inodes.
3. Click **Save**.

Related information

[Adding users](#)

Configuring global qtree health threshold values

You can configure the global health threshold values for all qtrees to track any threshold breach. Appropriate events are generated for health threshold breaches, and you can take preventive measures based on these events. You can configure the global values based on the best practice settings for thresholds that apply to all monitored qtrees.

What you'll need

You must have the Application Administrator or Storage Administrator role.

The threshold options have default values for better monitoring, however, you can change the values to suit the requirements of your environment.

Events are generated for a qtree only when a Qtree quota or a Default quota has been set on the qtree. Events are not generated if the space defined in a User quota or Group quota has exceeded the threshold.

Steps

1. In the left navigation pane, click **Event Thresholds > Qtree**.
2. Configure the appropriate capacity threshold values.
3. Click **Save**.

Configuring lag threshold settings for unmanaged protection relationships

You can edit the global default lag warning and error health threshold settings for unmanaged protection relationships so that events are generated at intervals that are appropriate to your needs.

What you'll need

You must have the Application Administrator or Storage Administrator role.

The lag time must be no more than the defined transfer schedule interval. For example, if the transfer schedule is hourly, then the lag time must not be more than one hour. The lag threshold specifies a percentage that the lag time must not exceed. Using the example of one hour, if the lag threshold is defined as 150%, then you will receive an event when the lag time is more than 1.5 hours.

The settings described in this task are applied globally to all unmanaged protection relationships. The settings cannot be specified and applied exclusively to one unmanaged protection relationship.

Steps

1. In the left navigation pane, click **Event Thresholds > Relationship**.
2. Increase or decrease the global default warning or error lag time percentage as required.
3. To disable a warning or error event from being triggered from any lag threshold amount, uncheck the box next to **Enabled**.
4. Click **Save**.

Related information

[Adding users](#)

Editing individual aggregate health threshold settings

You can edit the health threshold settings for aggregate capacity, growth, and Snapshot copies of one or more aggregates. When a threshold is crossed, alerts are generated and you receive notifications. These notifications help you to take preventive measures based on the event generated.

What you'll need

You must have the Application Administrator or Storage Administrator role.

Based on changes to the threshold values, events are generated or obsoleted in the next monitoring cycle.

When Autogrow is enabled on volumes that reside on the aggregate, the aggregate capacity thresholds are considered breached based on the maximum volume size set by autogrow, not based on the original volume size.

Steps

1. In the left navigation pane, click **Storage > Aggregates**.
2. In the **Health: All Aggregates** view, select one or more aggregates and then click **Edit Thresholds**.
3. In the **Edit Aggregate Thresholds** dialog box, edit the threshold settings of one of the following: capacity, growth, or Snapshot copies by selecting the appropriate check box and then modifying the settings.
4. Click **Save**.

Related information

[Adding users](#)

Editing individual volume health threshold settings

You can edit the health threshold settings for volume capacity, growth, quota, and space reserve of one or more volumes. When a threshold is crossed, alerts are generated and you receive notifications. These notifications help you to take preventive measures based on the event generated.

What you'll need

You must have the Application Administrator or Storage Administrator role.

Based on changes to the threshold values, events are generated or obsoleted in the next monitoring cycle.

Note that when Autogrow is enabled on a volume that capacity thresholds are considered breached based on the maximum volume size set by autogrow, not based on the original volume size.



The default value of 1000 Snapshot copies is applicable only to FlexVol volumes when the ONTAP version is 9.4 or greater, and to FlexGroup volumes when the ONTAP version is 9.8 and greater. For clusters installed with older versions of ONTAP software, the maximum number is 250 Snapshot copies per volume. For these older versions, Unified Manager interprets this number 1000 (and any number between 1000 and 250) as 250; meaning you will continue to receive events when the number of Snapshot copies reaches 250. If you wish to set this threshold to less than 250 for these older versions, you must set the threshold to 250 or lower here, in the Health: All Volumes view, or in the Volume / Health details page.

Steps

1. In the left navigation pane, click **Storage > Volumes**.
2. In the **Health: All Volumes** view, select one or more volumes and then click **Edit Thresholds**.
3. In the **Edit Volume Thresholds** dialog box, edit the threshold settings of one of the following: capacity, Snapshot copies, qtree quota, growth, or inodes by selecting the appropriate check box and then modifying the settings.
4. Click **Save**.

Related information

[Adding users](#)

Editing individual qtree health threshold settings

You can edit the health threshold settings for qtree capacity for one or more qtrees. When a threshold is crossed, alerts are generated and you receive notifications. These notifications help you to take preventive measures based on the event generated.

What you'll need

You must have the Application Administrator or Storage Administrator role.

Based on changes to the threshold values, events are generated or obsoleted in the next monitoring cycle.

Steps

1. In the left navigation pane, click **Storage > Qtrees**.
2. In the **Capacity: All Qtrees** view, select one or more qtrees and then click **Edit Thresholds**.
3. In the **Edit Qtree Thresholds** dialog box, change the capacity thresholds for the selected qtree or qtrees and click **Save**.



You can also set individual qtree thresholds from the Qtrees tab on the Storage VM / Health details page.

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.