GetClusterFullThreshold

Element Software

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Table of Contents

GetClusterFullThreshold

You can use the `GetClusterFullThreshold` method to view the stages set for cluster fullness levels. This method returns all fullness metrics for the cluster.

When a cluster reaches the Error stage of block cluster fullness, the maximum IOPS on all volumes are reduced linearly to the volume minimum IOPS as the cluster approaches the Critical stage. This helps prevent the cluster from reaching the Critical stage of block cluster fullness.

Parameters

This method has no input parameters.

Return values

This method has the following return values:

Name	Description	Type
blockFullness	The current computed level of block fullness of the cluster. • stage1Happy: No alerts or error conditions. Corresponds to the **Healthy** state in the web UI. • stage2Aware: No alerts or error conditions. Corresponds to the **Healthy** state in the web UI. • stage3Low: Your system cannot provide redundant data protection from two non-simultaneous node failures. Corresponds to the **Warning** state in the web UI. You can configure this level in the web UI (by default, the system triggers this alert at a capacity of 3% below the Error state). • stage4Critical: The system is not capable of providing redundant data protection from a single node failure. No new volumes or clones can be created. Corresponds to the **Error** state in the Element UI. • stage5CompletelyConsumed: Completely consumed. The cluster is read-only and iSCSI connections are maintained, but all writes are suspended. Corresponds to the **Critical** state in the Element UI.	string
fullness	Reflects the highest level of fullness between "blockFullness" and "metadataFullness".	string
maxMetadataOverProvisionFactor	A value representative of the number of times metadata space can be over provisioned relative to the amount of space available. For example, if there was enough metadata space to store 100 TiB of volumes and this number was set to 5, then 500 TiB worth of volumes could be created.	integer

Name	Description	Type
metadataFullness	The current computed level of metadata fullness of the cluster. • stage1Happy: No alerts or error conditions. Corresponds to the **Healthy** state in the web UI. • stage2Aware: No alerts or error conditions. Corresponds to the **Healthy** state in the web UI. • stage3Low: Your system cannot provide redundant data protection from two non-simultaneous node failures. Corresponds to the **Warning** state in the web UI. You can configure this level in the web UI (by default, the system triggers this alert at a capacity of 3% below the Error state). • stage4Critical: The system is not capable of providing redundant data protection from a single node failure. No new volumes or clones can be created. Corresponds to the **Error** state in the Element UI. • stage5CompletelyConsumed: Completely consumed. The cluster is read-only and iSCSI connections are maintained, but all writes are suspended. Corresponds to the **Critical** state in the Element UI.	string
sliceReserveUsedThresholdPct	Error condition. A system alert is triggered if the reserved slice utilization is greater than this value.	integer
stage2AwareThreshold	Awareness condition. The value that is set for the stage 2 cluster threshold level.	integer
stage2BlockThresholdBytes	The number of bytes being used by the cluster at which a stage 2 condition will exist.	integer

Name	Description	Type
stage2MetadataThresholdBytes	The number of metadata bytes being used by the cluster at which a stage 2 fullness condition will exist.	
stage3BlockThresholdBytes	The number of storage bytes being used by the cluster at which a stage 3 fullness condition will exist.	integer
stage3BlockThresholdPercent	The percent value set for stage 3. At this percent full, a warning is posted in the Alerts log.	integer
stage3LowThreshold	Error condition. The threshold at which a system alert is created due to low capacity on a cluster.	integer
stage3MetadataThresholdBytes	The number of metadata bytes used by the cluster at which a stage 3 fullness condition will exist.	integer
stage3MetadataThresholdPercent	The percent value set for stage3 of metadata fullness. At this percent full, a warning will be posted in the Alerts log.	integer
stage4BlockThresholdBytes	The number of storage bytes being used by the cluster at which a stage 4 fullness condition will exist.	integer
stage4CriticalThreshold	Error condition. The threshold at which a system alert is created to warn about critically low capacity on a cluster.	integer
stage4MetadataThresholdBytes	The number of metadata bytes used by the cluster at which a stage 4 fullness condition will exist.	integer
stage5BlockThresholdBytes	The number of storage bytes used by the cluster at which a stage 5 fullness condition will exist.	integer
stage5MetadataThresholdBytes	The number of metadata bytes used by the cluster at which a stage 5 fullness condition will exist.	integer

Name	Description	Type
sumTotalClusterBytes	The physical capacity of the cluster, measured in bytes.	integer
sumTotalMetadataClusterBytes	The total amount of space that can be used to store metadata.	integer
sumUsedClusterBytes	The number of storage bytes used on the cluster.	integer
sumUsedMetadataClusterBytes	The amount of space used on volume drives to store metadata.	integer

Request example

Requests for this method are similar to the following example:

```
{
   "method" : "GetClusterFullThreshold",
   "params" : {},
   "id" : 1
}
```

Response example

This method returns a response similar to the following example:

```
{
  "id":1,
  "result":{
    "blockFullness":"stage1Happy",
    "fullness":"stage3Low",
    "maxMetadataOverProvisionFactor":5,
    "metadataFullness":"stage3Low",
    "sliceReserveUsedThresholdPct":5,
    "stage2AwareThreshold":3,
    "stage2BlockThresholdBytes":2640607661261,
    "stage3BlockThresholdBytes":8281905846682,
    "stage3BlockThresholdPercent":5,
    "stage3LowThreshold":2,
    "stage4BlockThresholdBytes":8641988709581,
    "stage4CriticalThreshold":1,
    "stage5BlockThresholdBytes":12002762096640,
    "sumTotalClusterBytes":12002762096640,
    "sumTotalMetadataClusterBytes":404849531289,
    "sumUsedClusterBytes":45553617581,
    "sumUsedMetadataClusterBytes":31703113728
  }
}
```


New since version

9.6

Find more information

ModifyClusterFullThreshold