Understanding groups

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Understanding groups

You can create groups in Unified Manager to manage storage objects. Understanding the concepts about groups and how group rules enable you to add storage objects to a group will help you to manage the storage objects in your environment.

What a group is

A group is a dynamic collection of heterogeneous storage objects (clusters, SVMs, or volumes). You can create groups in Unified Manager to easily manage a set of storage objects. The members in a group might change, depending on the storage objects that are monitored by Unified Manager at a point in time.

- Each group has a unique name.
- You must configure a minimum of one group rule for each group.
- You can associate a group with more than one group rule.
- Each group can include multiple types of storage objects such as clusters, SVMs, or volumes.
- Storage objects are dynamically added to a group based on when a group rule is created or when Unified Manager completes a monitoring cycle.
- You can simultaneously apply actions on all the storage objects in a group such as setting thresholds for volumes.

How group rules work for groups

A group rule is a criterion that you define to enable storage objects (volumes, clusters, or SVMs) to be included in a specific group. You can use condition groups or conditions for defining group rule for a group.

- You must associate a group rule to a group.
- You must associate an object type for a group rule; only one object type is associated for a group rule.
- Storage objects are added or removed from the group after each monitoring cycle or when a rule is created, edited, or deleted.
- A group rule can have one or more condition groups, and each condition group can have one or more conditions.
- Storage objects can belong to multiple groups based on group rules you create.

Conditions

You can create multiple condition groups, and each condition group can have one or more conditions. You can apply all the defined condition groups in a group rule for groups in order to specify which storage objects are included in the group.

Conditions within a condition group are executed using logical AND. All the conditions in a condition group must be met. When you create or modify a group rule, a condition is created that applies, selects, and groups only those storage objects that satisfy all conditions in the condition group. You can use multiple conditions within a condition group when you want to narrow the scope of which storage objects to include in a group.

You can create conditions with storage objects by using the following operands and operator and specifying the required value.

Storage object type	Applicable operands
Volume	• Object name • Owning cluster name • Owning SVM name • Annotations
SVM	• Object name • Owning cluster name • Annotations
Cluster	• Object name • Annotations

When you select annotation as an operand for any storage object, the “Is” operator is available. For all other operands, you can select either “Is” or “Contains” as operator.

- Operand

  The list of operands in Unified Manager changes based on the selected object type. The list includes the object name, owning cluster name, owning SVM name, and annotations that you define in Unified Manager.

- Operator

  The list of operators changes based on the selected operand for a condition. The operators supported in Unified Manager are “Is” and “Contains”.

  When you select the “Is” operator, the condition is evaluated for exact match of operand value to the value provided for the selected operand.

  When you select the “Contains” operator, the condition is evaluated to meet one of the following criteria:

  - The operand value is an exact match to the value provided for the selected operand
  - The operand value contains the value provided for the selected operand

- Value

  The value field changes based on the operand selected.

Example of a group rule with conditions

Consider a condition group for a volume with the following two conditions:

- Name contains “vol”
- SVM name is “data_svm”

This condition group selects all volumes that include “vol” in their names and that are hosted on SVMs with the name “data_svm”.

Condition groups

Condition groups are executed using logical OR, and then applied to storage objects. The storage objects must satisfy one of the condition groups to be included in a group. The storage objects of all the condition groups are combined. You can use condition groups to increase the scope of storage objects to include in a group.

Example of a group rule with condition groups

Consider two condition groups for a volume, with each group containing the following two conditions:

- Condition group 1
  - Name contains “vol”
  - SVM name is “data_svm” Condition group 1 selects all volumes that include “vol” in their names and that are hosted on SVMs with the name “data_svm”.
- Condition group 2
  - Name contains “vol”
  - The annotation value of data-priority is “critical” Condition group 2 selects all volumes that include “vol” in their names and that are annotated with the data-priority annotation value as “critical”.

When a group rule containing these two condition groups is applied on storage objects, then the following storage objects are added to a selected group:

- All volumes that include “vol” in their names and that are hosted on the SVM with the name “data_svm”.
- All volumes that include “vol” in their names and that are annotated with the data-priority annotation value “critical”.

How group actions work on storage objects

A group action is an operation that is performed on all the storage objects in a group. For example, you can configure volume threshold group action to simultaneously change the volume threshold values of all volumes in a group.

Groups support unique group action types. You can have a group with only one volume health threshold group action type. However, you can configure a different type of group action, if available, for the same group. The rank of a group action determines the order in which the action is applied to storage objects. The details page of a storage object provides information about which group action is applied on the storage object.

Example of unique group actions

Consider a volume A that belongs to groups G1 and G2, and the following volume health threshold group actions are configured for these groups:

- `Change_capacity_threshold` group action with rank 1, for configuring the capacity of the volume
- `Change_snapshot_copies` group action with rank 2, for configuring the Snapshot copies of the volume

The `Change_capacity_threshold` group action always takes priority over the

`Change_snapshot_copies` group action and is applied to volume A. When Unified Manager completes one cycle of monitoring, the health threshold related events of volume A are re-evaluated per the `Change_capacity_threshold` group action. You cannot configure another volume threshold type of group action for either G1 or G2 group.

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