Manage volume efficiency operations manually

ONTAP 9

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Manage volume efficiency operations manually

Manage volume efficiency operations manually overview

You can manage how the efficiency operations run on a volume by running efficiency operations manually.

You can also control how the efficiency operations run based on the following conditions:

- Use checkpoints or not
- Run efficiency operations on existing data or only new data
- Stop efficiency operations if required

You can use the `volume efficiency show` command with `schedule` as value for the `-fields` option to view the schedule assigned to the volumes.

Run efficiency operations manually

You can run efficiency operations manually on a volume by using the `volume efficiency start` command.

What you'll need

Depending on the efficiency operation you want to run manually, you must have enabled deduplication or both data compression and deduplication on a volume.

About this task

If deduplication and data compression are enabled on a volume, data compression is run initially followed by deduplication.

Deduplication is a background process that consumes system resources while it is running. If the data does not change often in a volume, it is best to run deduplication less frequently. Multiple concurrent deduplication operations running on a storage system lead to a higher consumption of system resources.

You can run a maximum of eight concurrent deduplication or data compression operations per node. If any more efficiency operations are scheduled, the operations are queued.

Step

1. Use the `volume efficiency start` command to start the efficiency operation on a volume.

Example

The following command allows you to manually start only deduplication or data compression followed by deduplication on the volume VolA:

```
volume efficiency start -vserver vs1 -volume VolA
```

Use checkpoints to resume efficiency operation

The checkpoints are used internally to log the execution process of an efficiency

operation. When an efficiency operation is stopped for any reason (such as system halt, system disruption, reboot, or because last efficiency operation failed or stopped) and checkpoint data exists, the efficiency operation can resume from the latest checkpoint file.

A checkpoint is created:

- in each stage or substage of the operation
- when you run the `sis stop` command
- when the duration expires

Resume a halted efficiency operation

If an efficiency operation is halted due to a system halt, system disruption, or reboot, you can resume the efficiency operation from the same point by using the `volume efficiency start` command with the checkpoint option. This helps in saving time and resources by not having to restart the efficiency operation from the beginning.

About this task

If you enabled only deduplication on the volume, deduplication runs on the data. If you enabled both deduplication and data compression on a volume, then data compression runs first, followed by deduplication.

You can view the details of the checkpoint for a volume by using the `volume efficiency show` command.

By default, the efficiency operations resume from checkpoints. However, if a checkpoint corresponding to a previous efficiency operation (the phase when the `volume efficiency start`-scan-old-data` command is run) is older than 24 hours, then the efficiency operation does not resume from the previous checkpoint automatically. In this case, the efficiency operation starts from the beginning. However, if you know that significant changes have not occurred in the volume since the last scan, you can force continuation from the previous checkpoint by using the `-use-checkpoint` option.

Step

1. Use the `volume efficiency start` command with the `-use-checkpoint` option to resume an efficiency operation.

   The following command enables you to resume an efficiency operation on new data on volume VolA:

   ```
   volume efficiency start -vserver vs1 -volume VolA -use-checkpoint true
   ```

   The following command enables you to resume an efficiency operation on existing data on volume VolA:

   ```
   volume efficiency start -vserver vs1 -volume VolA -scan-old-data true -use
   -checkpoint true
   ```

Run efficiency operations manually on existing data

You can run the efficiency operations manually on the data that exists in non-temperature sensitive storage efficiency volumes prior to enabling deduplication, data compression, or data compaction with ONTAP versions earlier than ONTAP 9.8. You can run these

operations by using the `volume efficiency start -scan-old-data` command.

About this task

The `-compression` option does not work with `-scan-old-data` on temperature sensitive storage efficiency volumes. Inactive data compression runs automatically on preexisting data for temperature sensitive storage efficiency volumes in ONTAP 9.8 and later.

If you enable only deduplication on a volume, then deduplication runs on the data. If you enable deduplication, data compression, and data compaction on a volume, then data compression runs first, followed by deduplication and data compaction.

When you run data compression on existing data, by default the data compression operation skips the data blocks that are shared by deduplication and the data blocks that are locked by Snapshot copies. If you choose to run data compression on shared blocks, then optimization is turned off and the fingerprint information is captured and used for sharing again. You can change the default behavior of data compression when compressing existing data.

You can run a maximum of eight deduplication, data compression, or data compaction operations concurrently per node. The remaining operations are queued.

Postprocess compression does not run on AFF platforms. An EMS message is generated to inform you that this operation was skipped.

Step

1. Use the `volume efficiency start -scan-old-data` command to run deduplication, data compression, or data compaction manually on the existing data.

   The following command enables you to run these operations manually on the existing data in volume VolA:

   ```
   volume efficiency start -vserver vs1 -volume VolA -scan-old-data true [-
   compression | -dedupe | -compaction ] true
   ```

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