

**Note**

The `--export-format` parameter value must match for the related `rbd export` and the `rbd import` commands.

Exporting and Importing Changes to RBD Images

Red Hat Ceph Storage provides the `rbd export-diff` and the `rbd import-diff` commands to export and import changes made between two points in time on an RBD image. The syntax is the same as for the `rbd export` and `rbd import` commands.

The endpoint in time can be:

- The current content of an RBD image, such as `poolname/imagename`.
- A snapshot of an RBD image, such as `poolname/imagename@snapname`.

The start time can be:

- The creation date and time of the RBD image. For example, without using the `--from-snap` option.
- A snapshot of an RBD image, such as is obtained by using the `--from-snap snapname` option.

If you specify a start point snapshot, the command exports the changes after you created that snapshot. If you do not specify a snapshot, the command exports all changes since the creation of the RBD image, which is the same as a regular RBD image export operation.

**Note**

The `import-diff` operation performs the following validity checks:

- If the `export-diff` is relative to a start snapshot, this snapshot must also exist in the target RBD image.
- If the `export-diff` is performed specifying an end snapshot, the same snapshot name is created in the target RBD image after the data is imported.

Piping the Export and Import Processes

Specifying the dash (`-`) character as the target file of an export operation causes the output to go to standard output (`stdout`).

You can also use the dash character (`-`) to specify either `stdout` or standard input (`stdin`) as the export target or import source.

You can pipe two commands into a single command.

```
[ceph: root@node /]# rbd export rbd/img1 - | rbd import - bup/img1
```

The `rbd merge-diff` command merges the output of two continuous incremental `rbd export-diff` image operations into one single target path. The command can only process two incremental paths at one time.

```
[ceph: root@node /]# rbd merge-diff first second merged
```