

## Light Scrubbing

Tune the light scrubbing process by adding parameters in the `[osd]` section of the `ceph.conf` file. For example, use the `osd_scrub_begin_hour` parameter to set the time of day that light scrubbing begins, thereby avoiding light scrubbing during peak workloads.

The light scrubbing feature has the following tuning parameters: `osd_scrub_begin_hour = begin_hour::` The `begin_hour` parameter specifies the time to start scrubbing. Valid values are from 0 to 23. If the value is set to 0 and `osd_scrub_end_hour` is also 0, then scrubbing is allowed the entire day.

`osd_scrub_end_hour = end_hour`

The `end_hour` parameter specifies the time to stop scrubbing. Valid values are from 0 to 23. If the value is set to 0 and `osd_scrub_begin_hour` is also 0, then scrubbing is allowed the entire day.

`osd_scrub_load_threshold`

Perform a scrub if the system load is below the threshold, defined by the `getloadavg()` / `number_online CPUs` parameter. The default value is 0.5.

`osd_scrub_min_interval`

Perform a scrub no more often than the number of seconds defined in this parameter if the load is below the threshold set in the `osd_scrub_load_threshold` parameter. The default value is 1 day.

`osd_scrub_interval_randomize_ratio`

Add a random delay to the value defined in the `osd_scrub_min_interval` parameter. The default value is 0.5.

`osd_scrub_max_interval`

Do not wait more than this period before performing a scrub, regardless of load. The default value is 7 days.

`osd_scrub_priority`

Set the priority for scrub operations by using this parameter. The default value is 5. This value is relative to the value of the `osd_client_op_priority`, which has a higher default priority of 63.

## Deep Scrubbing

You can enable and disable deep scrubbing at the cluster level by using the `ceph osd set nodeep-scrub` and `ceph osd unset nodeep-scrub` commands. You can configure deep scrubbing parameters by adding them to the `[osd]` section of the ceph configuration file, `ceph.conf`. As with the light scrubbing parameters, any changes made to the deep scrub configuration can impact cluster performance.

The following parameters are the most critical to tuning deep scrubbing:

`osd_deep_scrub_interval`

The interval for deep scrubbing. The default value is 7 days.

`osd_scrub_sleep`

Introduces a pause between deep scrub disk reads. Increase this value to slow down scrub operations and to have a lower impact on client operations. The default value is 0.

You can use an external scheduler to implement light and deep scrubbing by using the following commands: