

Ozone Performance Tuning

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Performance tuning for Ozone

Learn how to use the Ozone configuration properties to tune Ozone to work optimally on your cluster.

For performance optimization and to overcome known issues, Cloudera recommends the following additional configurations:

Configuration Property	Value	Remarks
Ozone Configuration		
Maximum Process File Descriptors	100,000	
Java Heap Size of Ozone Manager	31GB	
Java Heap Size of Storage Container Manager	31GB	
Java Heap Size of Recon	31GB	Can be increased to 64GB for higher load.
Java Heap Size of S3 Gateway	31GB	
Java Heap Size of DataNode	31GB	
Ozone Service Advanced Configuration Snippet (Safety Valve) for ozone-conf/ozone-site.xml	<pre><property> <name>hdds.prometheus.endpoint.token</name> <value>*****</value> <description>Prometheus Token</description> </property></pre>	<p>Prometheus is an optional role and this configuration can be ignored if Prometheus is not being used.</p> <p>Disables Prometheus SPNEGO and uses Token Based Authentication.</p>
Ozone Configuration Ozone DataNode Advanced Configuration Snippet (Safety Valve) for ozone-conf/ozone-site.xml		
ozone.container.cache.size	8192	
ozone.container.cache.lock.stripes	8192	
hdds.datanode.du.factory.classname	org.apache.hadoop.hdds.fs.DedicatedDiskSpaceUsageFactory	
hdds.container.report.interval	10m	
dfs.container.ratis.leader.pending.bytes.limit	2GB	
Ozone Configuration Storage Container Manager Advanced Configuration Snippet (Safety Valve) for ozone-conf/ozone-site.xml		
ozone.scm.datanode.pipeline.limit	10	If DataNodes have different number of disks, pick the highest number.
ozone.scm.pipeline.owner.container.count	10	
ozone.scm.pipeline.creation.auto.factor.one	FALSE	
ozone.scm.container.placement.impl	org.apache.hadoop.hdds.scm.container.placement.algorithms.SCMContainerPlacementCapacity	Adaptive SCM Container Placement based on capacity available instead of random allocation.
Ozone Configuration Ozone Recon Advanced Configuration Snippet (Safety Valve) for ozone-conf/ozone-site.xml		
ozone.recon.task.pipelinesync.interval	120s	
ozone.recon.task.missingcontainer.interval	3600s	
Ozone Configuration Ozone Recon Advanced Configuration Snippet (Safety Valve) for ozone-conf/ozone-site.xml		

Configuration Property	Value	Remarks
hdds.datanode.replication.work.dir	/tmp (is the default value)	The /tmp directory is used for staging transient files as part of data replication. Cloudera recommends a minimum of 50 GB size for the Datanode Replication Working Directory. Cloudera recommends you to use SSD for better performance during data replication. It can use the same SSD as datanode metadata.
hdds.datanode.replication.work.dir	</path/to/custom/replication/work/dir>	To use a non-default directory as Datanode Replication Working Directory
ozone.om.enable.filesystem.paths	true	
scm.container.client.max.size	<number of active pipelines in the cluster>	
scm.container.client.idle.threshold	120s	