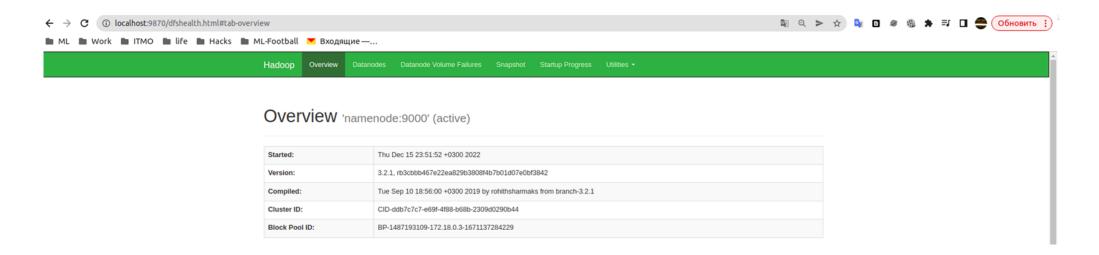
© NameNode:



Summary

Security is off.

Safemode is off.

12 files and directories, 5 blocks (5 replicated blocks, 0 erasure coded block groups) = 17 total filesystem object(s).

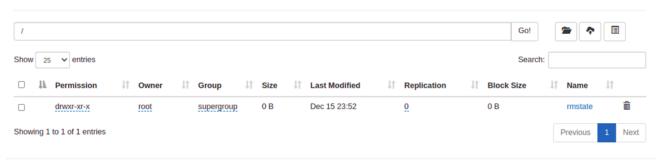
Heap Memory used 121.06 MB of 431.5 MB Heap Memory. Max Heap Memory is 3.43 GB.

Non Heap Memory used 48.05 MB of 49.19 MB Committed Non Heap Memory. Max Non Heap Memory is <unbounded>.

Configured Capacity:	567.68 GB
Configured Remote Capacity:	0 B
DFS Used:	56.23 KB (0%)
ion DFS Used:	356.45 GB
DFS Remaining:	182.25 GB (32.1%)
Block Pool Used:	56.23 KB (0%)
DataNodes usages% (Min/Median/Max/stdDev):	0.00% / 0.00% / 0.00% / 0.00%
Live Nodes	2 (Decommissioned: 0, In Maintenance: 0)
Dead Nodes	0 (Decommissioned: 0, In Maintenance: 0)
Decommissioning Nodes	0
Entering Maintenance Nodes	0
Total Datanode Volume Failures	0 (0 B)
Number of Under-Replicated Blocks	5
Number of Blocks Pending Deletion (including replicas)	0
Block Deletion Start Time	Thu Dec 15 23:51:52 +0300 2022
Last Checkpoint Time	Thu Dec 15 23:48:04 +0300 2022
Enabled Erasure Coding Policies	RS-6-3-1024k

Hadoop Overview Datanodes Datanode Volume Failures Snapshot Startup Progress Utilities ▼

Browse Directory

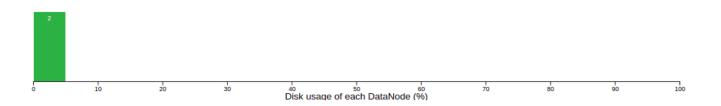


Hadoop, 2019.

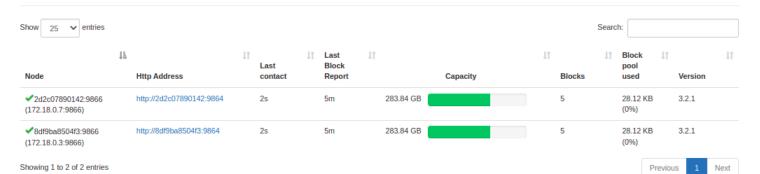
Datanode Information



Datanode usage histogram



In operation



NameNode Journal Status

Current transaction ID: 39

Current transaction ib. 59	
Journal Manager	State
FileJournalManager(root=/hadoop/dfs/name)	EditLogFileOutputStream(/hadoop/dfs/name/current/edits_inprogress_00000000000000000000000000000000000

NameNode Storage

Storage Directory	Туре	State
/hadoop/dfs/name	IMAGE_AND_EDITS	Active

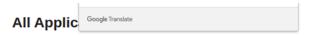
DFS Storage Types

Storage Type	Configured Capacity	Capacity Used	Capacity Remaining	Block Pool Used	Nodes In Service
DISK	567.68 GB	56.23 KB (0%)	182.24 GB (32.1%)	56.23 KB	2

Hadoop, 2019.

© Resource Manager:





- Cluster About Nodes Node Labels Applications NEW SAVING
SUBMITTED
ACCEPTED
RUNNING
FINISHED
FAILED
KILLED

Scheduler → Tools

- Cluster About Nodes Node Labels Applications

Scheduler → Tools

Cluster Metrics										
Apps Submitted Apps	Apps Submitted Apps Pending Apps Running Apps Complete			Memory Used N	lemory Total Memory R	eserved VCores	Used VCores Total	VCores Reserved		
0 0	0 0	0	0 B	32 GI	B 0 B	0	16	0		
Cluster Nodes Metrics										
Active Nodes	Decommissioning Nodes	Decommissi	oned Nodes	Lost Nodes	Unhealthy Nodes	Rebo	oted Nodes	Shutdown Nodes		
2 0		<u>0</u>		0	<u>0</u>	<u>0</u>	<u>0</u>			
Scheduler Metrics	Scheduler Metrics									
Scheduler Type	Scheduling Resource	е Туре	Minimum Allocation	1	Maximum Allocation		Maximum Cluster Application Priority			
Capacity Scheduler	[memory-mb (unit=Mi), vcores]	<memory< td=""><td>:1024, vCores:1></td><td><mem< td=""><td>nory:8192, vCores:4></td><td>0</td><td></td><td></td></mem<></td></memory<>	:1024, vCores:1>	<mem< td=""><td>nory:8192, vCores:4></td><td>0</td><td></td><td></td></mem<>	nory:8192, vCores:4>	0				
Show 20 ➤ entries							Searc	h:		
ID User Name Application Type ≎	Queue Application StartTime Priority		ate FinalStatus Runr				of of uster Progress 0 Tr	acking UI Blacklisted Nodes Nodes		
			No data a	available in table						
Showing 0 to 0 of 0 entries								First Previous Next Last		

ووماهداني

Nodes of the cluster

NEW SAVING
SUBMITTED
ACCEPTED
RUNNING
FINISHED
FAILED
KILLED

Apps Submitted	d	Apps Pending	Apps Running	Apps Completed	Containers Running	Memory Used	Memory T	otal Memory	Reserved	VCores Used	VCores Tota	VCores F	Reserved
0	0		0	0	0	0 B	32 GB	0 B		0	16	0	
luster Nodes Me	etrics												
Active Node	es	De	commissioning Nodes		Decommissioned Nodes	Lost N	lodes	Unhealthy Nodes		Rebooted N	odes	Shutdown No	des
2	0		<u>0</u>		<u>0</u>	<u>0</u>		<u>0</u>		<u>0</u>			
cheduler Metrics	3												
Scheduler Type Scheduling Resource Type				Minimum A		Maximum Allocation			Maximum Cluster Application Priority				
Capacity Scheduler [memory-mb (unit=Mi), vcores]			<memory:1024, vcores:1=""> <memory:8192, td="" v<=""><td colspan="4">8192, vCores:4> 0</td><td></td><td></td></memory:8192,></memory:1024,>			8192, vCores:4> 0							
Show 20 v entries	s										5	Search:	
Node Labels A	Rack 0	Node State ≎	Node Address 0	Node HTTP Address	Last health-update	Health-report 0	Containers 0	Allocation Tags \$	Mem Used ≎	Mem Avail ≎	VCores Used ⋄	VCores Avail ♀	Version
	/default- rack	RUNNING	9585b4648967:43479	9585b4648967:8042	Thu Dec 15 21:28:15 +0000 2022		0		0 B	16 GB	0	8	3.2.1
	/default- rack	RUNNING	9eaf0120ad6d:43337	9eaf0120ad6d:8042	Thu Dec 15 21:28:15 +0000 2022		0		0 B	16 GB	0	8	3.2.1

Logged in as: root

Logged in as: root

Queue

N/A



Time

N/A

N/A

NEW,NEW_SAVING,SUBMITTED,ACCEPTED,RUNNING Applications

▼ Cluster

About
Nodes
Node Labels
Applications
NEW SAVING
SUBMITTED
ACCEPTED
RUNNING
RUNNING
FINISHED
FAILED
KILLED
Scheduler

▶ Tools

Cluster Metrics																				
Apps Submitt	ted	Apps Pending		Apps Running	q	Apps Complete	d	Containers	Running	Memo	ory Used	Memory Total	al Men	nory Reserved	V	Cores Used	VCores	Total VC	Cores Reserved	
0	0		0		0		0			0 B		32 GB	0 B		0		16	0		
Cluster Nodes M	Metrics																			
Active Nodes Decommissioning Nodes						Decommissioned Nodes				Lost Nodes	Lost Nodes Unhealthy Nodes				Rebooted N	odes	Shutdown Nodes			
2				0				0		0	,		0			0				
Scheduler Metric	cs	_				_				_		_						_		
Sched	Scheduler Type Scheduling Resource T				Type	ype Minimum Allocation						Maximum Alloca	tion	Maximum Cluster Application Priority						
Capacity Schedul	71			-71-	<me< td=""><td>emory:1024</td><td>, vCores:1></td><td></td><td></td><td>memory:8192,</td><td>vCores:4></td><td></td><td>0</td><td></td><td></td><td></td><td></td></me<>	emory:1024	, vCores:1>			memory:8192,	vCores:4>		0							
Dump scheduler le					,							,								
Application Qu																				
Legend:	Capacity	Used	U	sed (over cap	pacity)	Max Capa	city	Users Re	equesting F	Resources	Auto Cr	eated Queues								
- Queue: root																	0.0%	used		
+ Queue: de	foods																	used		
T Queue. de	iduit																			
Show 20 ✔ entri	ies																	Search:		
ID User Nam	ne Applicati		\$	Application Priority 0	StartTime	LaunchTime		State	FinalStatus	Running Containers 0	CPU VCor	es Memory ME	Reserved B CPU VCores				Progress	Tracking UI	Blacklisted Nodes	
										No data availat	ble in table									
Showing 0 to 0 of	0 entries																	First Pre	vious Next Last	
Aggregate schedu	uler counts																			
	Total Contain	er Allocations(co	ount)			Total	Total Container Releases(count)				1	Total Fulfilled Reservations(count)				Total Container Preemptions(count)				
0					0					0					0					
Last scheduler ru																				
							Allocations(count - resources)					Reservations(count - resources)				Releases(count - resources)				
Thu Dec 15 21:28	3:55 +0000 20	22			0	- <memory:0, p="" v<=""></memory:0,>	Cores:0>				0 - <memory< td=""><td>/:0, vCores:0></td><td></td><td></td><td></td><td>0 - <mem< td=""><td>ory:0, vCores:0></td><td></td><td></td></mem<></td></memory<>	/:0, vCores:0>				0 - <mem< td=""><td>ory:0, vCores:0></td><td></td><td></td></mem<>	ory:0, vCores:0>			
Last Preemption	Time						01-111						Norda Id					0		
N/A	Time	me Cor				Container Id	Container Id			N/A	Node Id				N/A Queue					
Last Reservation			IN/	Α							IN/A					N/A				
Eust reservation	Time						Container Id						Node Id					Queue		
N/A			N/	A			oomanier id				N/A		11000 10			N/A		40000		
Last Allocation																				
	Time						Container Id						Node Id					Queue		
N/A			N/	A							N/A					N/A				
Last Release																				

N/A

Node Id

Container Id

FAILED Dump scheduler logs 1 min 🗸 **Application Queues** Scheduler Legend: Capacity Max Capacity Users Requesting Resources Auto Created Queues → Tools 0.0% used . - Queue: root 0.0% used ■ Queue: default 'default' Queue Status Queue State: RUNNING Used Capacity: <memory:0, vCores:0> (0.0%) Configured Capacity: <memory:0, vCores:0> Configured Max Capacity: unlimited Effective Capacity: <memory:32768, vCores:16> (100.0%) Effective Max Capacity: <memory:32768, vCores:16> (100.0%) Absolute Used Capacity: 0.0% Absolute Configured Capacity: 100.0% Absolute Configured Max Capacity: 100.0% Used Resources: <memory:0, vCores:0> Configured Max Application Master Limit: 10.0 Max Application Master Resources: <memory:4096, vCores:1> Used Application Master Resources: <memory:0, vCores:0> Max Application Master Resources Per User: <memory:4096, vCores:1> Num Schedulable Applications: 0 Num Non-Schedulable Applications: 0 Num Containers: 0 Max Applications: 10000 Max Applications Per User: 10000 Configured Minimum User Limit Percent: 100% Configured User Limit Factor: 1.0 Accessible Node Labels: * Ordering Policy: FifoOrderingPolicy Preemption: disabled Intra-queue Preemption: disabled Default Node Label Expression: <DEFAULT_PARTITION> Default Application Priority: 0 Active Users Info User Name Max Resource Weight Used Resource Max AM Resource Used AM Resource Schedulable Apps Non-Schedulable Apps

© MapReduce for mean value:

```
root@f0b48522740c:/# hadoop jar /opt/hadoop-3.2.1/share/hadoop/tools/lib/hadoop-streaming-3.2.1.jar -file mapper mean.py -mapper mapper_mean.py -file reducer_mean.py -reducer_reducer_mean.py -input /AB_NYC_2
2022-12-18 12:25:17,549 WARN streaming.StreamJob: -file option is deprecated, please use generic option -files instead.
packageJobJar: [mapper_mean.py, reducer_mean.py, /tmp/hadoop-unjar6273384495079626774/] [] /tmp/streamjob421315842509172170.jar tmpDir=null
2022-12-18 12:25:18,178 INFO client.RMProxy: Connecting to ResourceManager at resourcemanager/172.18.0.6:8032
2022-12-18 12:25:18,289 INFO client.AHSProxy: Connecting to Application History server at historyserver/172.18.0.5:10200
2022-12-18 12:25:18,312 INFO client.RMProxy: Connecting to ResourceManager at resourcemanager/172.18.0.6:8032
2022-12-18 12:25:18,312 INFO client.AHSProxy: Connecting to Application History server at historyserver/172.18.0.5:10200
2022-12-18 12:25:18,450 INFO mapreduce.JobResourceUploader: Disabling Erasure Coding for path: /tmp/hadoop-yarn/staging/root/.staging/job_1671364070864_0005
2022-12-18 12:25:18,529 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2022-12-18 12:25:18,597 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2022-12-18 12:25:18,620 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2022-12-18 12:25:18,673 INFO mapred.FileInputFormat: Total input files to process : 1
2022-12-18 12:25:18,697 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2022-12-18 12:25:18,713 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2022-12-18 12:25:18,721 INFO mapreduce.JobSubmitter: number of splits:2
2022-12-18 12:25:18,807 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2022-12-18 12:25:18,821 INFO mapreduce.JobSubmitter: Submitting tokens for job: job 1671364070864 0005
2022-12-18 12:25:18,821 INFO mapreduce.JobSubmitter: Executing with tokens: []
2022-12-18 12:25:18,939 INFO conf.Configuration: resource-types.xml not found
2022-12-18 12:25:18,939 INFO resource.ResourceUtils: Unable to find 'resource-types.xml'.
2022-12-18 12:25:19,197 INFO impl.YarnClientImpl: Submitted application application_1671364070864_0005
2022-12-18 12:25:19,230 INFO mapreduce.Job: The url to track the job: http://resourcemanager:8088/proxy/application_1671364070864_0005/
2022-12-18 12:25:19,231 INFO mapreduce.Job: Running job: job_1671364070864_0005
2022-12-18 12:25:23,300 INFO mapreduce.Job: Job job_1671364070864_0005 running in uber mode : false
2022-12-18 12:25:23,301 INFO mapreduce.Job: map 0% reduce 0%
2022-12-18 12:25:28,366 INFO mapreduce.Job: map 100% reduce 0%
2022-12-18 12:25:32,390 INFO mapreduce.Job: map 100% reduce 100%
2022-12-18 12:25:33,410 INFO mapreduce.Job: Job job_1671364070864_0005 completed successfully
2022-12-18 12:25:33,465 INFO mapreduce.Job: Counters: 54
```

root@f0b48522740c:/# hdfs dfs -cat /user/root/mean3/part*
2022-12-18 12:27:57,709 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
152.72068718682894
root@f0b48522740c:/#

10 MapReduce for var value:

```
root@f0b48522740c:/# hadoop jar /opt/hadoop-3.2.1/share/hadoop/tools/lib/hadoop-streaming-3.2.1.jar -file mapper_var.py -mapper mapper_var.py -file reducer_var.py -reducer reducer_var.py -input /AB_NYC_2019.
csv -output var
2022-12-18 12:29:40.781 WARN streaming.StreamJob: -file option is deprecated, please use generic option -files instead.
packageJobJar: [mapper_var.py, reducer_var.py, /tmp/hadoop-unjar5101932596493368928/] [] /tmp/streamjob169141015672428457.jar tmpDir=null
2022-12-18 12:29:41,485 INFO client.RMProxy: Connecting to ResourceManager at resourcemanager/172.18.0.6:8032
2022-12-18 12:29:41,576 INFO client.AHSProxy: Connecting to Application History server at historyserver/172.18.0.5:10200
2022-12-18 12:29:41,601 INFO client.RMProxy: Connecting to ResourceManager at resourcemanager/172.18.0.6:8032
2022-12-18 12:29:41,601 INFO client.AHSProxy: Connecting to Application History server at historyserver/172.18.0.5:10200
2022-12-18 12:29:41,730 INFO mapreduce.JobResourceUploader: Disabling Erasure Coding for path: /tmp/hadoop-yarn/staging/root/.staging/job_1671364070864_0006
2022-12-18 12:29:41,806 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2022-12-18 12:29:41,878 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2022-12-18 12:29:41,894 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2022-12-18 12:29:41,943 INFO mapred.FileInputFormat: Total input files to process : 1
2022-12-18 12:29:41,963 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2022-12-18 12:29:41,981 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2022-12-18 12:29:41,989 INFO mapreduce.JobSubmitter: number of splits:2
2022-12-18 12:29:42,074 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2022-12-18 12:29:42,086 INFO mapreduce.JobSubmitter: Submitting tokens for job: job 1671364070864 0006
2022-12-18 12:29:42,086 INFO mapreduce.JobSubmitter: Executing with tokens: []
2022-12-18 12:29:42,206 INFO conf.Configuration: resource-types.xml not found
2022-12-18 12:29:42,207 INFO resource.ResourceUtils: Unable to find 'resource-types.xml'.
2022-12-18 12:29:42,458 INFO impl.YarnClientImpl: Submitted application application 1671364070864 0006
2022-12-18 12:29:42,487 INFO mapreduce.Job: The url to track the job: http://resourcemanager:8088/proxy/application_1671364070864_0006/
2022-12-18 12:29:42,488 INFO mapreduce.Job: Running job: job 1671364070864 0006
2022-12-18 12:29:46,548 INFO mapreduce.Job: Job job_1671364070864_0006 running in uber mode : false
2022-12-18 12:29:46.550 INFO mapreduce.Job: map 0% reduce 0%
2022-12-18 12:29:51,610 INFO mapreduce.Job: map 100% reduce 0%
2022-12-18 12:29:55,635 INFO mapreduce.Job: map 100% reduce 100%
2022-12-18 12:29:55,644 INFO mapreduce.Job: Job job_1671364070864_0006 completed successfully
2022-12-18 12:29:55,702 INFO mapreduce.Job: Counters: 54
       File System Counters
```

```
root@f0b48522740c:/# hdfs dfs -ls /user/root/var
Found 2 items
-rw-r--r-- 3 root supergroup 0 2022-12-18 12:29 /user/root/var/_SUCCESS
-rw-r--r-- 3 root supergroup 19 2022-12-18 12:29 /user/root/var/_SUCCESS
-rw-r--r-- 3 root supergroup 19 2022-12-18 12:29 /user/root/var/part-00000
root@f0b48522740c:/# hdfs dfs -cat /user/root/var/part*
2022-12-18 12:32:06,356 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
57675.20659426322
root@f0b48522740c:/#
```