4 Hadoop cluster in HDFS

↗ Project	🚀 <u>AV</u>
☑ Done	☐
≡ Days (Only if Set to 1 Day(s))	
✳ Priority	🧀 Medium
≡ Contexts	

```
[root@namenode hadoop]# hdfs dfs -put sample.txt /user/assignment/
2025-04-09 11:23:00,938 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.use.legacy.blockreader.local = false
2025-04-09 11:23:00,941 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.read.shortcircuit = false
2025-04-09 11:23:00,941 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.domain.socket.data.traffic = false
2025-04-09 11:23:00,941 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.domain.socket.path =
2025-04-09 11:23:00,951 [main] DEBUG org.apache.hadoop.hdfs.DFSClient  - Sets dfs.client.block.write.replace-datanode-on-failure.min-replication to 0
2025-04-09 11:23:01,755 [main] DEBUG org.apache.hadoop.hdfs.protocol.datatransfer.sasl.DataTransferSaslUtil  - DataTransferProtocol not using SaslPropertiesResolver, no QOP f
ound in configuration for dfs.data.transfer.protection
2025-04-09 11:23:02,270 [main] DEBUG org.apache.hadoop.hdfs.DFSClient  - /user/assignment/sample.txt._COPYING_: masked={ masked: rw-r--r--, unmasked: rw-rw-rw- }
2025-04-09 11:23:02,444 [main] DEBUG org.apache.hadoop.hdfs.DFSClient  - computePacketChunkSize: src=/user/assignment/sample.txt._COPYING_, chunkSize=516, chunksPerPacket=126
, packetSize=65016
2025-04-09 11:23:02,454 [LeaseRenewer:root@namenode:9000] DEBUG org.apache.hadoop.hdfs.client.impl.LeaseRenewer  - Lease renewer daemon for [DFSClient_NONMAPREDUCE_1608462275
_1] with renew id 1 started
2025-04-09 11:23:02,457 [main] DEBUG org.apache.hadoop.hdfs.DFSClient  - WriteChunk allocating new packet seqno=0, src=/user/assignment/sample.txt._COPYING_, packetSize=65016
, chunksPerPacket=126, bytesCurBlock=0, output stream=DFSOutputStream:block==null
2025-04-09 11:23:02,458 [main] DEBUG org.apache.hadoop.hdfs.DataStreamer  - Queued packet seqno: 0 offsetInBlock: 0 lastPacketInBlock: false lastByteOffsetInBlock: 145, block
==null
2025-04-09 11:23:02,458 [main] DEBUG org.apache.hadoop.hdfs.DataStreamer  - Queued packet seqno: 1 offsetInBlock: 145 lastPacketInBlock: true lastByteOffsetInBlock: 145, bloc
k==null
2025-04-09 11:23:02,458 [Thread-7] DEBUG org.apache.hadoop.hdfs.DataStreamer  - stage=PIPELINE_SETUP_CREATE, block==null
2025-04-09 11:23:02,458 [Thread-7] DEBUG org.apache.hadoop.hdfs.DataStreamer  - Allocating new block: block==null
2025-04-09 11:23:02,458 [Thread-7] DEBUG org.apache.hadoop.hdfs.DataStreamer  - block==null waiting for ack for: 1
2025-04-09 11:23:02,609 [Thread-7] DEBUG org.apache.hadoop.hdfs.DataStreamer  - pipeline = [DatanodeInfoWithStorage[172.30.0.5:9866,DS-a869359b-d05b-433f-9430-f3f99b368486,DI
SK], DatanodeInfoWithStorage[172.30.0.4:9866,DS-e294e5c3-384b-46bd-9c89-dd606ddd8e6c,DISK], DatanodeInfoWithStorage[172.30.0.3:9866,DS-d55799c4-13fc-4bf1-ac8c-2477c99fad64,DI
SK]], blk_1073741825_1001
2025-04-09 11:23:02,610 [Thread-7] DEBUG org.apache.hadoop.hdfs.DataStreamer  - Connecting to datanode 172.30.0.5:9866
2025-04-09 11:23:02,611 [Thread-7] DEBUG org.apache.hadoop.hdfs.DataStreamer  - Send buf size 23040
2025-04-09 11:23:02,611 [Thread-7] DEBUG org.apache.hadoop.hdfs.protocol.datatransfer.sasl.SaslDataTransferClient  - SASL encryption trust check: localHostTrusted = false, re
moteHostTrusted = false
2025-04-09 11:23:02,640 [Thread-7] DEBUG org.apache.hadoop.hdfs.protocol.datatransfer.sasl.SaslDataTransferClient  - SASL client skipping handshake in unsecured configuration
 for addr = /172.30.0.5, datanodeId = DatanodeInfoWithStorage[172.30.0.5:9866,DS-a869359b-d05b-433f-9430-f3f99b368486,DISK]
2025-04-09 11:23:03,527 [DataStreamer for file /user/assignment/sample.txt._COPYING_ block BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001] DEBUG org.apache.hadoop.
hdfs.DataStreamer  - nodes [DatanodeInfoWithStorage[172.30.0.5:9866,DS-a869359b-d05b-433f-9430-f3f99b368486,DISK], DatanodeInfoWithStorage[172.30.0.4:9866,DS-e294e5c3-384b-46
bd-9c89-dd606ddd8e6c,DISK], DatanodeInfoWithStorage[172.30.0.3:9866,DS-d55799c4-13fc-4bf1-ac8c-2477c99fad64,DISK]] storageTypes [DISK, DISK, DISK] storageIDs [DS-a869359b-d05
b-433f-9430-f3f99b368486, DS-e294e5c3-384b-46bd-9c89-dd606ddd8e6c, DS-d55799c4-13fc-4bf1-ac8c-2477c99fad64]
2025-04-09 11:23:03,530 [DataStreamer for file /user/assignment/sample.txt._COPYING_ block BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001] DEBUG org.apache.hadoop.
hdfs.DataStreamer  - blk_1073741825_1001 sending packet seqno: 0 offsetInBlock: 0 lastPacketInBlock: false lastByteOffsetInBlock: 145
2025-04-09 11:23:03,534 [DataStreamer for file /user/assignment/sample.txt._COPYING_ block BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001] DEBUG org.apache.hadoop.
hdfs.DataStreamer  - stage=DATA_STREAMING, blk_1073741825_1001
2025-04-09 11:23:04,178 [ResponseProcessor for block BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001] DEBUG org.apache.hadoop.hdfs.DataStreamer  - DFSClient seqno:
0 reply: SUCCESS reply: SUCCESS reply: SUCCESS downstreamAckTimeNanos: 360608584 flag: 0 flag: 0 flag: 0
2025-04-09 11:23:04,182 [DataStreamer for file /user/assignment/sample.txt._COPYING_ block BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001] DEBUG org.apache.hadoop.
hdfs.DataStreamer  - blk_1073741825_1001 sending packet seqno: 1 offsetInBlock: 145 lastPacketInBlock: true lastByteOffsetInBlock: 145
2025-04-09 11:23:04,315 [ResponseProcessor for block BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001] DEBUG org.apache.hadoop.hdfs.DataStreamer  - DFSClient seqno:
1 reply: SUCCESS reply: SUCCESS downstreamAckTimeNanos: 88204042 flag: 0 flag: 0 flag: 0
2025-04-09 11:23:04,316 [DataStreamer for file /user/assignment/sample.txt._COPYING_ block BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001] DEBUG org.apache.hadoop.
hdfs.DataStreamer  - Closing old block BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001
2025-04-09 11:23:04,804 [main] DEBUG org.apache.hadoop.hdfs.DFSOutputStream  - Closing an already closed stream. [Stream:true, streamer:true]
2025-04-09 11:23:04,845 [shutdown-hook-0] DEBUG org.apache.hadoop.hdfs.KeyProviderCache  - Invalidating all cached KeyProviders.
[root@namenode hadoop]# hdfs dfs -ls /user/assignment
2025-04-09 11:23:20,614 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.use.legacy.blockreader.local = false
2025-04-09 11:23:20,616 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.read.shortcircuit = false
```

```
2025-04-09 11:23:04,182 [DataStreamer for file /user/assignment/sample.txt._COPYING_ block BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001] DEBUG org.apache.hadoop.
hdfs.DataStreamer  - blk_1073741825_1001 sending packet seqno: 1 offsetInBlock: 145 lastPacketInBlock: true lastByteOffsetInBlock: 145
2025-04-09 11:23:04,315 [ResponseProcessor for block BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001] DEBUG org.apache.hadoop.hdfs.DataStreamer  - DFSClient seqno:
1 reply: SUCCESS reply: SUCCESS downstreamAckTimeNanos: 88204042 flag: 0 flag: 0 flag: 0
2025-04-09 11:23:04,316 [DataStreamer for file /user/assignment/sample.txt._COPYING_ block BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001] DEBUG org.apache.hadoop.
hdfs.DataStreamer  - Closing old block BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001
2025-04-09 11:23:04,804 [main] DEBUG org.apache.hadoop.hdfs.DFSOutputStream  - Closing an already closed stream. [Stream:true, streamer:true]
2025-04-09 11:23:04,845 [shutdown-hook-0] DEBUG org.apache.hadoop.hdfs.KeyProviderCache  - Invalidating all cached KeyProviders.
[root@namenode hadoop]# hdfs dfs -ls /user/assignment
2025-04-09 11:23:20,614 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.use.legacy.blockreader.local = false
2025-04-09 11:23:20,616 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.read.shortcircuit = false
2025-04-09 11:23:20,616 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.domain.socket.data.traffic = false
2025-04-09 11:23:20,616 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.domain.socket.path =
2025-04-09 11:23:20,625 [main] DEBUG org.apache.hadoop.hdfs.DFSClient  - Sets dfs.client.block.write.replace-datanode-on-failure.min-replication to 0
2025-04-09 11:23:21,360 [main] DEBUG org.apache.hadoop.hdfs.protocol.datatransfer.sasl.DataTransferSaslUtil  - DataTransferProtocol not using SaslPropertiesResolver, no QOP f
ound in configuration for dfs.data.transfer.protection
Found 1 items
-rw-r--r--   3 root supergroup        145 2025-04-09 11:23 /user/assignment/sample.txt
2025-04-09 11:23:21,681 [shutdown-hook-0] DEBUG org.apache.hadoop.hdfs.KeyProviderCache  - Invalidating all cached KeyProviders.
[root@namenode hadoop]# hdfs dfs -tail /user/assignment/sample.txt
2025-04-09 11:23:47,600 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.use.legacy.blockreader.local = false
2025-04-09 11:23:47,608 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.read.shortcircuit = false
2025-04-09 11:23:47,608 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.domain.socket.data.traffic = false
2025-04-09 11:23:47,608 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.domain.socket.path =
2025-04-09 11:23:47,617 [main] DEBUG org.apache.hadoop.hdfs.DFSClient  - Sets dfs.client.block.write.replace-datanode-on-failure.min-replication to 0
2025-04-09 11:23:48,337 [main] DEBUG org.apache.hadoop.hdfs.protocol.datatransfer.sasl.DataTransferSaslUtil  - DataTransferProtocol not using SaslPropertiesResolver, no QOP f
ound in configuration for dfs.data.transfer.protection
2025-04-09 11:23:48,759 [main] DEBUG org.apache.hadoop.hdfs.DFSClient  - Connecting to datanode 172.30.0.4:9866
2025-04-09 11:23:48,777 [main] DEBUG org.apache.hadoop.hdfs.protocol.datatransfer.sasl.SaslDataTransferClient  - SASL encryption trust check: localHostTrusted = false, remote
HostTrusted = false
2025-04-09 11:23:48,792 [main] DEBUG org.apache.hadoop.hdfs.protocol.datatransfer.sasl.SaslDataTransferClient  - SASL client skipping handshake in unsecured configuration for
 addr = /172.30.0.4, datanodeId = DatanodeInfoWithStorage[172.30.0.4:9866,DS-e294e5c3-384b-46bd-9c89-dd606ddd8e6c,DISK]
Line 1: This is a sample file.
Line 2: Demonstrating HDFS.
Line 3: More content here.
Line 4: Even more text.
Line 5: Final line of sample text.
2025-04-09 11:23:49,021 [main] DEBUG org.apache.hadoop.hdfs.DFSClient  - DeadNode detection is not enabled or given block LocatedBlocks{; fileLength=145; underConstruction=
false; blocks=[LocatedBlock{BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001; getBlockSize()=145; corrupt=false; offset=0; locs=[DatanodeInfoWithStorage[172.30.0.4:
9866,DS-e294e5c3-384b-46bd-9c89-dd606ddd8e6c,DISK], DatanodeInfoWithStorage[172.30.0.5:9866,DS-a869359b-d05b-433f-9430-f3f99b368486,DISK], DatanodeInfoWithStorage[172.30.0.3:
9866,DS-d55799c4-13fc-4bf1-ac8c-2477c99fad64,DISK]]; cachedLocs=[]}];  lastLocatedBlock=LocatedBlock{BP-134388544-172.30.0.2-1744196795113:blk_1073741825_1001; getBlockSize()
=145; corrupt=false; offset=0; locs=[DatanodeInfoWithStorage[172.30.0.5:9866,DS-a869359b-d05b-433f-9430-f3f99b368486,DISK], DatanodeInfoWithStorage[172.30.0.4:9866,DS-e294e5c
3-384b-46bd-9c89-dd606ddd8e6c,DISK], DatanodeInfoWithStorage[172.30.0.3:9866,DS-d55799c4-13fc-4bf1-ac8c-2477c99fad64,DISK]]; cachedLocs=[]};  isLastBlockComplete=true;  ecPol
icy=null} is null, skip to remove node.
2025-04-09 11:23:49,026 [shutdown-hook-0] DEBUG org.apache.hadoop.hdfs.KeyProviderCache  - Invalidating all cached KeyProviders.
[root@namenode hadoop]# hdfs dfsadmin -report
2025-04-09 11:24:00,859 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.use.legacy.blockreader.local = false
2025-04-09 11:24:00,862 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.read.shortcircuit = false
2025-04-09 11:24:00,862 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.domain.socket.data.traffic = false
2025-04-09 11:24:00,862 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.domain.socket.path =
2025-04-09 11:24:00,872 [main] DEBUG org.apache.hadoop.hdfs.DFSClient  - Sets dfs.client.block.write.replace-datanode-on-failure.min-replication to 0
2025-04-09 11:24:01,602 [main] DEBUG org.apache.hadoop.hdfs.protocol.datatransfer.sasl.DataTransferSaslUtil  - DataTransferProtocol not using SaslPropertiesResolver, no QOP f
ound in configuration for dfs.data.transfer.protection
```

```
3-384b-46bd-9c89-dd606ddd8e6c,DISK], DatanodeInfoWithStorage[172.30.0.3:9866,DS-d55799c4-13fc-4bf1-ac8c-2477c99fad64,DISK]]; cachedLocs=[]};  isLastBlockComplete=true;  ecPol
icy=null} is null, skip to remove node.
2025-04-09 11:23:49,026 [shutdown-hook-0] DEBUG org.apache.hadoop.hdfs.KeyProviderCache  - Invalidating all cached KeyProviders.
[root@namenode hadoop]# hdfs dfsadmin -report
2025-04-09 11:24:00,859 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.use.legacy.blockreader.local = false
2025-04-09 11:24:00,862 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.read.shortcircuit = false
2025-04-09 11:24:00,862 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.client.domain.socket.data.traffic = false
2025-04-09 11:24:00,862 [main] DEBUG org.apache.hadoop.hdfs.client.impl.DfsClientConf  - dfs.domain.socket.path =
2025-04-09 11:24:00,872 [main] DEBUG org.apache.hadoop.hdfs.DFSClient  - Sets dfs.client.block.write.replace-datanode-on-failure.min-replication to 0
2025-04-09 11:24:01,602 [main] DEBUG org.apache.hadoop.hdfs.protocol.datatransfer.sasl.DataTransferSaslUtil  - DataTransferProtocol not using SaslPropertiesResolver, no QOP f
ound in configuration for dfs.data.transfer.protection
Configured Capacity: 735321587712 (684.82 GB)
Present Capacity: 52497506460 (48.89 GB)
DFS Remaining: 52497469440 (48.89 GB)
DFS Used: 37020 (36.15 KB)
DFS Used%: 0.00%
Replicated Blocks:
        Under replicated blocks: 0
        Blocks with corrupt replicas: 0
        Missing blocks: 0
        Missing blocks (with replication factor 1): 0
        Low redundancy blocks with highest priority to recover: 0
        Pending deletion blocks: 0
Erasure Coded Block Groups:
        Low redundancy block groups: 0
        Block groups with corrupt internal blocks: 0
        Missing block groups: 0
        Low redundancy blocks with highest priority to recover: 0
        Pending deletion blocks: 0

-------------------------------------------------
Live datanodes (3):

Name: 172.30.0.3:9866 (datanode1.hadoop-cluster_hdfs_network)
Hostname: datanode1
Decommission Status : Normal
Configured Capacity: 245107195904 (228.27 GB)
DFS Used: 4252 (4.15 KB)
Non DFS Used: 227608035172 (211.98 GB)
DFS Remaining: 17499156480 (16.30 GB)
DFS Used%: 0.00%
DFS Remaining%: 7.14%
Configured Cache Capacity: 0 (0 B)
Cache Used: 0 (0 B)
Cache Remaining: 0 (0 B)
Cache Used%: 100.00%
Cache Remaining%: 0.00%
Xceivers: 0
Last contact: Wed Apr 09 11:23:59 UTC 2025
Last Block Report: Wed Apr 09 11:12:17 UTC 2025
Num of Blocks: 1
```