

1. To list the docker images to confirm the Hadoop image is downloaded:

```
docker images
```

Terminal

Windows PowerShell

Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! <https://aka.ms/PSWindows>

```
PS C:\Users\Jana> docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
my-app-with-ping	latest	2441bc1751ce	2 weeks ago	231MB
dockerapp	1.1	26882eedb496	2 weeks ago	226MB
nginx	latest	28402db69fec	6 weeks ago	279MB
alpine	latest	beefdbd8a1da	2 months ago	12.1MB
hello-world	latest	d211f485f2dd	18 months ago	24.4kB
bde2020/hadoop-namenode	latest	fdf741108051	4 years ago	2.05GB

```
PS C:\Users\Jana>
```

2. To run the Hadoop docker image:

```
docker run bde2020/hadoop-namenode:latest
```

```
PS C:\Users\Jana> docker run bde2020/hadoop-namenode:latest
Configuring core
- Setting fs.defaultFS=hdfs://05117a9443dc:8020
Configuring hdfs
- Setting dfs.namenode.name.dir=file:///hadoop/dfs/name
Configuring yarn
Configuring httpfs
Configuring kms
Configuring mapred
Configuring for multihomed network
Cluster name not specified
PS C:\Users\Jana>
```

3. To run a Docker container for a Hadoop NameNode instance:

```
docker run -it --name hadoop-cluster202 -p 9872:9871 -p 8090:8089 -p 60070:50070 bde2020/hadoop-namenode:latest /bin/bash
```

```
PS C:\Users\Jana> docker run -it --name hadoop-cluster202 -p 9872:9871 -p 8090:8089 -p 60070:50070 bde2020/hadoop-namenode:latest /bin/bash
Configuring core
- Setting fs.defaultFS=hdfs://9f4b1c8d33b4:8020
Configuring hdfs
- Setting dfs.namenode.name.dir=file:///hadoop/dfs/name
Configuring yarn
Configuring httpfs
Configuring kms
Configuring mapred
Configuring for multihomed network
```

4. To start the Hadoop services once inside the container's shell at once:

```
start-all.sh  
// Above code produces an error as "ERROR: namenode is not COMMAND nor fully qualified CLASSNAME" continue from code 05
```

```
root@9f4b1c8d33b4:/# start-all.sh  
bash: start-all.sh: command not found
```

5. To initialize and format the Hadoop Distributed File System (HDFS) NameNode:

```
hdfs namenode -format
```

```
root@9f4b1c8d33b4:/# hdfs namenode -format

2024-11-18 08:20:22,226 INFO namenode.NameNode: STARTUP_MSG:
/*****
STARTUP_MSG: Starting NameNode
STARTUP_MSG:   host = 9f4b1c8d33b4/172.17.0.2
STARTUP_MSG:   args = [-format]
STARTUP_MSG:   version = 3.2.1
STARTUP_MSG:   classpath = /etc/hadoop:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-crypto-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/listenablefuture-9999.0-empty-to-avoid-conflict-with-guava.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jaxb-impl-2.2.3-1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/json-smart-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jcip-annotations-1.0-1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-net-3.6.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/paramamer-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/curator-framework-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/log4j-1.2.17.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jsr311-api-1.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-core-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-asn1-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/j2objc-annotations-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-logging-1.1.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/guava-27.0-jre.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-xdr-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-lang3-3.7.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/stax2-api-3.1.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/token-provider-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-text-1.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/curator-client-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/hadoop-auth-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-io-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/gs
```

```
on-2.2.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/slf4j-log4j12-1.7.25.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-common-1.0.1.jar:/o  
pt/hadoop-3.2.1/share/hadoop/common/lib/jackson-xc-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-cli-1.2.jar:/opt/hadoop-3.2.1/shar  
e/hadoop/common/lib/slf4j-api-1.7.25.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/checker-qual-2.5.2.jar:/opt/hadoop-3.2.1/share/hadoop/common/li  
b/commons-collections-3.2.2.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jsch-0.1.54.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-http-9.3  
.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/dnsjava-2.1.7.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/error_prone_annotations-2.  
2.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/hadoop-annotations-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/nimbus-jose-jwt-4.41.ja  
r:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-mapper-asl-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-client-1.0.1.jar:/opt/had  
oop-3.2.1/share/hadoop/common/lib/jetty-webapp-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-util-1.0.1.jar:/opt/hadoop-3.2  
.1/share/hadoop/common/lib/avro-1.7.7.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-databind-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/comm  
on/lib/jaxb-api-2.2.11.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jersey-server-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-server  
-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jsp-api-2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-util-1.0.1.jar:/opt  
/hadoop-3.2.1/share/hadoop/common/lib/protobuf-java-2.5.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jettison-1.1.jar:/opt/hadoop-3.2.1/share/h  
adoop/common/lib/jackson-annotations-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-io-2.5.jar:/opt/hadoop-3.2.1/share/hadoop/common/  
lib/htrace-core4-4.1.0-incubating.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/woodstox-core-5.0.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/  
accessors-smart-1.2.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-servlet-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/ker  
b-admin-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/animal-sniffer-annotations-1.17.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/failurea  
ccess-1.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/curator-recipes-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/httpcore-4.4.10.jar:/  
opt/hadoop-3.2.1/share/hadoop/common/lib/netty-3.10.5.Final.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/metrics-core-3.2.4.jar:/opt/hadoop-3.2.1  
/share/hadoop/common/lib/jsr305-3.0.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-math3-3.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/
```

Terminal

```
lib/commons-compress-1.18.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-simplekdc-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-util-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-codec-1.11.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/asm-5.0.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/httpclient-4.5.6.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/audience-annotations-0.5.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-security-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-config-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-pkix-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-jaxrs-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-core-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-configuration2-2.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jul-to-slf4j-1.7.25.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/re2j-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jersey-json-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-beanutils-1.9.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jersey-servlet-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/zookeeper-3.4.13.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-identity-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/snappy-java-1.0.5.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/javax.servlet-api-3.1.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-server-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-core-asl-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-xml-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jersey-core-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/common/hadoop-nfs-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/hadoop-kms-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/hadoop-common-3.2.1-tests.jar:/opt/hadoop-3.2.1/share/hadoop/common/hadoop-common-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-crypto-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/listenablefuture-9999.0-empty-to-avoid-conflict-with-guava.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jaxb-impl-2.2.3-1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/json-smart-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jcip-annotations-1.0-1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-net-3.6.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/paranamer-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/curator-framework-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/log4j-1.2.17.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jsr311-api-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-core-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerby-asn1-1.0.1.jar:/opt/hadoop-3.2.1
```

```
/share/hadoop/hdfs/lib/j2objc-annotations-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/json-simple-1.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-logging-1.1.3.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/guava-27.0-jre.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/okio-1.6.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerby-xdr-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-lang3-3.7.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/stax2-api-3.1.4.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/token-provider-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/okhttp-2.7.5.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-text-1.4.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/curator-client-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/hadoop-auth-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/leveldbjni-all-1.8.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-io-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/gson-2.2.4.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-common-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jackson-xc-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-cli-1.2.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/checker-qual-2.5.2.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-collections-3.2.2.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jsch-0.1.54.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-http-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/dnsjava-2.1.7.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/error_prone_annotations-2.2.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/hadoop-annotations-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/nimbus-jose-jwt-4.41.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jackson-mapper-asl-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-client-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-webapp-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerby-util-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/avro-1.7.7.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jackson-databind-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jaxb-api-2.2.11.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jersey-server-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-server-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-util-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/protobuf-java-2.5.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jettison-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jackson-annotations-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-io-2.5.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/htrace-core4-4.1.0-incubating.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/woodstox-core-5.0.3.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/accessors-smar
```



```
t-1.2.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-servlet-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-admin-1.0.1.jar:  
/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/animal-sniffer-annotations-1.17.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-daemon-1.0.13.jar:/opt  
/hadoop-3.2.1/share/hadoop/hdfs/lib/failureaccess-1.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/curator-recipes-2.13.0.jar:/opt/hadoop-3.2.1/sha  
re/hadoop/hdfs/lib/httpcore-4.4.10.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/netty-3.10.5.Final.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jsr3  
05-3.0.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-math3-3.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-compress-1.18.jar:/op  
t/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-simplekdc-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-util-9.3.24.v20180605.jar:/opt/hadoop-  
3.2.1/share/hadoop/hdfs/lib/commons-codec-1.11.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/asm-5.0.4.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/h  
ttpclient-4.5.6.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/audience-annotations-0.5.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-security-  
9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerby-config-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerby-pkix-1.0.1.jar:/  
opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jackson-jaxrs-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jackson-core-2.9.8.jar:/opt/hadoop-3.2.1/s  
hare/hadoop/hdfs/lib/commons-configuration2-2.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/re2j-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib  
/jersey-json-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-beanutils-1.9.3.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jersey-servlet-1  
.19.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/zookeeper-3.4.13.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-identity-1.0.1.jar:/opt/hadoop-3  
.2.1/share/hadoop/hdfs/lib/snappy-java-1.0.5.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/netty-all-4.0.52.Final.jar:/opt/hadoop-3.2.1/share/hadoop  
/hdfs/lib/javax.servlet-api-3.1.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-util-ajax-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/  
hdfs/lib/kerb-server-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jackson-core-asl-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-x  
ml-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jersey-core-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/hadoop-hdfs-client-3.2.1-  
tests.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/hadoop-hdfs-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/hadoop-hdfs-rbf-3.2.1.jar:/opt/hadoop-3.2  
.1/share/hadoop/hdfs/hadoop-hdfs-htpfs-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/hadoop-hdfs-native-client-3.2.1.jar:/opt/hadoop-3.2.1/share/h
```



```
adoop/hdfs/hadoop-hdfs-native-client-3.2.1-tests.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/hadoop-hdfs-rbf-3.2.1-tests.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/hadoop-hdfs-nfs-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/hadoop-hdfs-3.2.1-tests.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/hadoop-hdfs-client-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/mapreduce/lib/junit-4.11.jar:/opt/hadoop-3.2.1/share/hadoop/mapreduce/lib/hamcrest-core-1.3.jar:/opt/hadoop-3.2.1/share/hadoop/mapreduce/hadoop-mapreduce-client-uploader-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/mapreduce/hadoop-mapreduce-client-nativetask-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/mapreduce/hadoop-mapreduce-client-hs-plugins-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/mapreduce/hadoop-mapreduce-client-hs-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/mapreduce/hadoop-mapreduce-client-shuffle-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/mapreduce/hadoop-mapreduce-client-app-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/mapreduce/hadoop-mapreduce-client-common-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/mapreduce/hadoop-mapreduce-client-jobclient-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/mapreduce/hadoop-mapreduce-client-jobclient-3.2.1-tests.jar:/opt/hadoop-3.2.1/share/hadoop/mapreduce/hadoop-mapreduce-client-core-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jersey-client-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/fst-2.50.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/objenesis-1.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/aopalliance-1.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/geronimo-jcache_1.0_spec-1.0-alpha-1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/swagger-annotations-1.5.4.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/mssql-jdbc-6.2.1.jre7.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/javax.inject-1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/json-io-2.5.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/java-util-1.9.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jersey-guice-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/ehcache-3.3.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jackson-jaxrs-base-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/HikariCP-java7-2.4.12.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/guice-servlet-4.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/metrics-core-3.2.4.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/bcpkix-jdk15on-1.60.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/guice-4.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jackson-module-jaxb-annotations-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/snakeyaml-1.16.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jackson-jaxrs-json-provider-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/bcp
```



Terminal

```
rov-jdk15on-1.60.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-applications-distributedshell-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-applications-unmanaged-am-launcher-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-submarine-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-web-proxy-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-nodemanager-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-common-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-timeline-pluginstorage-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-resourcemanager-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-common-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-router-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-applicationhistoryservice-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-client-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-services-api-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-services-core-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-api-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-registry-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-sharedcachemanager-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-tests-3.2.1.jar  
STARTUP_MSG: build = https://gitbox.apache.org/repos/asf/hadoop.git -r b3cbbb467e22ea829b3808f4b7b01d07e0bf3842; compiled by 'rohithsharmaks' on 2019-09-10T15:56Z
```

Terminal

```
STARTUP_MSG:  java = 1.8.0_232
*****
2024-11-18 08:20:22,250 INFO namenode.NameNode: registered UNIX signal handlers for [TERM, HUP, INT]
2024-11-18 08:20:22,413 INFO namenode.NameNode: createNameNode [-format]
Formatting using clusterid: CID-bfe8da6b-1274-4c7d-923a-0d09ebeaf213
2024-11-18 08:20:23,265 INFO namenode.FSEditLog: Edit logging is async:true
2024-11-18 08:20:23,300 INFO namenode.FSNamesystem: KeyProvider: null
2024-11-18 08:20:23,302 INFO namenode.FSNamesystem: fsLock is fair: true
2024-11-18 08:20:23,304 INFO namenode.FSNamesystem: Detailed lock hold time metrics enabled: false
2024-11-18 08:20:23,335 INFO namenode.FSNamesystem: fsOwner          = root (auth:SIMPLE)
2024-11-18 08:20:23,335 INFO namenode.FSNamesystem: supergroup       = supergroup
2024-11-18 08:20:23,335 INFO namenode.FSNamesystem: isPermissionEnabled = true
2024-11-18 08:20:23,336 INFO namenode.FSNamesystem: HA Enabled: false
2024-11-18 08:20:23,603 INFO common.Util: dfs.datanode.fileio.profiling.sampling.percentage set to 0. Disabling file IO profiling
2024-11-18 08:20:23,632 INFO blockmanagement.DatanodeManager: dfs.block.invalidate.limit: configured=1000, counted=60, effected=1000
2024-11-18 08:20:23,633 INFO blockmanagement.DatanodeManager: dfs.namenode.datanode.registration.ip-hostname-check=true
2024-11-18 08:20:23,647 INFO blockmanagement.BlockManager: dfs.namenode.startup.delay.block.deletion.sec is set to 000:00:00:00.000
2024-11-18 08:20:23,648 INFO blockmanagement.BlockManager: The block deletion will start around 2024 Nov 18 08:20:23
2024-11-18 08:20:23,652 INFO util.GSet: Computing capacity for map BlocksMap
```



Terminal

```
2024-11-18 08:20:23,652 INFO util.GSet: VM type      = 64-bit
2024-11-18 08:20:23,657 INFO util.GSet: 2.0% max memory 1.7 GB = 34.7 MB
2024-11-18 08:20:23,657 INFO util.GSet: capacity      = 2^22 = 4194304 entries
2024-11-18 08:20:23,672 INFO blockmanagement.BlockManager: Storage policy satisfier is disabled
2024-11-18 08:20:23,672 INFO blockmanagement.BlockManager: dfs.block.access.token.enable = false
2024-11-18 08:20:23,688 INFO Configuration.deprecation: No unit for dfs.namenode.safemode.extension(30000) assuming MILLISECONDS
2024-11-18 08:20:23,688 INFO blockmanagement.BlockManagerSafeMode: dfs.namenode.safemode.threshold-pct = 0.9990000128746033
2024-11-18 08:20:23,688 INFO blockmanagement.BlockManagerSafeMode: dfs.namenode.safemode.min.datanodes = 0
2024-11-18 08:20:23,688 INFO blockmanagement.BlockManagerSafeMode: dfs.namenode.safemode.extension = 30000
2024-11-18 08:20:23,689 INFO blockmanagement.BlockManager: defaultReplication      = 3
2024-11-18 08:20:23,689 INFO blockmanagement.BlockManager: maxReplication      = 512
2024-11-18 08:20:23,689 INFO blockmanagement.BlockManager: minReplication      = 1
2024-11-18 08:20:23,689 INFO blockmanagement.BlockManager: maxReplicationStreams      = 2
2024-11-18 08:20:23,690 INFO blockmanagement.BlockManager: redundancyRecheckInterval      = 3000ms
2024-11-18 08:20:23,690 INFO blockmanagement.BlockManager: encryptDataTransfer      = false
2024-11-18 08:20:23,691 INFO blockmanagement.BlockManager: maxNumBlocksToLog      = 1000
2024-11-18 08:20:23,754 INFO namenode.FSDirectory: GLOBAL serial map: bits=29 maxEntries=536870911
2024-11-18 08:20:23,755 INFO namenode.FSDirectory: USER serial map: bits=24 maxEntries=16777215
2024-11-18 08:20:23,755 INFO namenode.FSDirectory: GROUP serial map: bits=24 maxEntries=16777215
```



Terminal

```
2024-11-18 08:20:23,755 INFO namenode.FSDirectory: GROUP serial map: bits=24 maxEntries=16777215
2024-11-18 08:20:23,755 INFO namenode.FSDirectory: XATTR serial map: bits=24 maxEntries=16777215
2024-11-18 08:20:23,779 INFO util.GSet: Computing capacity for map INodeMap
2024-11-18 08:20:23,779 INFO util.GSet: VM type      = 64-bit
2024-11-18 08:20:23,780 INFO util.GSet: 1.0% max memory 1.7 GB = 17.3 MB
2024-11-18 08:20:23,780 INFO util.GSet: capacity      = 2^21 = 2097152 entries
2024-11-18 08:20:23,826 INFO namenode.FSDirectory: ACLs enabled? false
2024-11-18 08:20:23,826 INFO namenode.FSDirectory: POSIX ACL inheritance enabled? true
2024-11-18 08:20:23,826 INFO namenode.FSDirectory: XAttrs enabled? true
2024-11-18 08:20:23,826 INFO namenode.NameNode: Caching file names occurring more than 10 times
2024-11-18 08:20:23,835 INFO snapshot.SnapshotManager: Loaded config captureOpenFiles: false, skipCaptureAccessTimeOnlyChange: false, snapshotDiff
AllowSnapRootDescendant: true, maxSnapshotLimit: 65536
2024-11-18 08:20:23,838 INFO snapshot.SnapshotManager: SkipList is disabled
2024-11-18 08:20:23,848 INFO util.GSet: Computing capacity for map cachedBlocks
2024-11-18 08:20:23,849 INFO util.GSet: VM type      = 64-bit
2024-11-18 08:20:23,850 INFO util.GSet: 0.25% max memory 1.7 GB = 4.3 MB
2024-11-18 08:20:23,850 INFO util.GSet: capacity      = 2^19 = 524288 entries
2024-11-18 08:20:23,871 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.window.num.buckets = 10
2024-11-18 08:20:23,871 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.num.users = 10
```



Terminal

```
2024-11-18 08:20:23,879 INFO namenode.FSNamesystem: Retry cache on namenode is enabled
2024-11-18 08:20:23,879 INFO namenode.FSNamesystem: Retry cache will use 0.03 of total heap and retry cache entry expiry time is 600000 millis
2024-11-18 08:20:23,888 INFO util.GSet: Computing capacity for map NameNodeRetryCache
2024-11-18 08:20:23,888 INFO util.GSet: VM type      = 64-bit
2024-11-18 08:20:23,888 INFO util.GSet: 0.029999999329447746% max memory 1.7 GB = 532.5 KB
2024-11-18 08:20:23,889 INFO util.GSet: capacity      = 2^16 = 65536 entries
2024-11-18 08:20:23,947 INFO namenode.FSImage: Allocated new BlockPoolId: BP-1489701997-172.17.0.2-1731918023935
2024-11-18 08:20:23,981 INFO common.Storage: Storage directory /hadoop/dfs/name has been successfully formatted.
2024-11-18 08:20:24,050 INFO namenode.FSImageFormatProtobuf: Saving image file /hadoop/dfs/name/current/fsimage.ckpt_00000000000000000000 using no compression
2024-11-18 08:20:24,243 INFO namenode.FSImageFormatProtobuf: Image file /hadoop/dfs/name/current/fsimage.ckpt_00000000000000000000 of size 396 bytes saved in 0 seconds .
2024-11-18 08:20:24,262 INFO namenode.NNStorageRetentionManager: Going to retain 1 images with txid >= 0
2024-11-18 08:20:24,277 INFO namenode.FSImage: FSImageSaver clean checkpoint: txid=0 when meet shutdown.
2024-11-18 08:20:24,277 INFO namenode.NameNode: SHUTDOWN_MSG:
/*********************************************
SHUTDOWN_MSG: Shutting down NameNode at 9f4b1c8d33b4/172.17.0.2
*****/
```

root@9f4b1c8d33b4:/#

6. To start the HDFS NameNode in the background:

```
hdfs namenode &
```

```
root@9f4b1c8d33b4:#  
root@9f4b1c8d33b4:# hdfs namenode &  
[1] 349  
root@9f4b1c8d33b4:# 2024-11-18 08:31:15,030 INFO namenode.NameNode: STARTUP_MSG:  
*****  
STARTUP_MSG: Starting NameNode  
STARTUP_MSG: host = 9f4b1c8d33b4/172.17.0.2  
STARTUP_MSG: args = []  
STARTUP_MSG: version = 3.2.1  
STARTUP_MSG: classpath = /etc/hadoop:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-crypto-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/listenablefuture-9999.0-empty-to-avoid-conflict-with-guava.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jaxb-impl-2.2.3-1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/json-smart-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jcip-annotations-1.0-1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-net-3.6.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/paramamer-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/curator-framework-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/log4j-1.2.17.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jsr311-api-1.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-core-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-asn1-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/j2objc-annotations-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-logging-1.1.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/guava-27.0-jre.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-xdr-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-lang3-3.7.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/stax2-api-3.1.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/token-provider-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-text-1.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/curator-client-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/com
```

Terminal

```
mon/lib/hadoop-auth-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-io-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/gson-2.2.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/slf4j-log4j12-1.7.25.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-common-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-xc-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-cli-1.2.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/slf4j-api-1.7.25.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/checker-qual-2.5.2.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-collections-3.2.2.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jsch-0.1.54.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-http-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/dnsjava-2.1.7.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/error_prone_annotations-2.2.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/hadoop-annotations-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/nimbus-jose-jwt-4.41.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-mapper-asl-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-client-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-webapp-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-util-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/avro-1.7.7.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-databind-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jaxb-api-2.2.11.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jersey-server-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-server-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jsp-api-2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-util-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/protobuf-java-2.5.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jettison-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-annotations-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-io-2.5.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/htrace-core4-4.1.0-incubating.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/woodstox-core-5.0.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/accessors-smart-1.2.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-servlet-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-admin-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/animal-sniffer-annotations-1.17.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/failureaccess-1.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/curator-recipes-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/httpcore-4.4.10.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/netty-3.10.5.Final.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/metrics-core-3.2.4.jar:/opt/hadoop-3.2.1
```

Terminal

```
opt/hadoop-3.2.1/share/hadoop/common/lib/netty-3.10.5.Final.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/metrics-core-3.2.4.jar:/opt/hadoop-3.2.1  
/share/hadoop/common/lib/jsr305-3.0.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-math3-3.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/  
lib/commons-compress-1.18.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-simplekdc-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-u  
til-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-codec-1.11.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/asm-5.0.4.jar:  
/opt/hadoop-3.2.1/share/hadoop/common/lib/httpclient-4.5.6.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/audience-annotations-0.5.0.jar:/opt/hadoo  
p-3.2.1/share/hadoop/common/lib/jetty-security-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-config-1.0.1.jar:/opt/hadoop-3  
.2.1/share/hadoop/common/lib/kerby-pkix-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-jaxrs-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoo  
p/common/lib/jackson-core-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-configuration2-2.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/comm  
on/lib/jul-to-slf4j-1.7.25.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/re2j-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jersey-json-1.19.j  
ar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-beanutils-1.9.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jersey-servlet-1.19.jar:/opt/ha  
dooop-3.2.1/share/hadoop/common/lib/zookeeper-3.4.13.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-identity-1.0.1.jar:/opt/hadoop-3.2.1/share/  
hadoop/common/lib/snappy-java-1.0.5.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/javax.servlet-api-3.1.0.jar:/opt/hadoop-3.2.1/share/hadoop/comm  
on/lib/kerb-server-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-core-asl-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-  
xml-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jersey-core-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/common/hadoop-nfs-3.2.1.jar  
:/opt/hadoop-3.2.1/share/hadoop/common/hadoop-kms-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/hadoop-common-3.2.1-tests.jar:/opt/hadoop-3.2.1/  
share/hadoop/common/hadoop-common-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-crypto-1.0.1.jar:/opt  
/hadoop-3.2.1/share/hadoop/hdfs/lib/listenablefuture-9999.0-empty-to-avoid-conflict-with-guava.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jaxb-im  
pl-2.2.3-1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/json-smart-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jcip-annotations-1.0-1.jar:/opt/  
hadoop-3.2.1/share/hadoop/hdfs/lib/commons-net-3.6.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/paranamer-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/hd
```

Terminal

```
fs/lib/curator-framework-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/log4j-1.2.17.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jsr311-api-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-core-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerby-asn1-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/j2objc-annotations-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/json-simple-1.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-logging-1.1.3.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/guava-27.0-jre.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/okio-1.6.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerby-xdr-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-lang3-3.7.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/stax2-api-3.1.4.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/token-provider-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/okhttp-2.7.5.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-text-1.4.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/curator-client-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/hadoop-auth-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/leveldbjni-all-1.8.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-io-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/gson-2.2.4.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-common-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jackson-xc-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-cli-1.2.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/checker-qual-2.5.2.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-collections-3.2.2.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jsch-0.1.54.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-http-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/dnsjava-2.1.7.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/error_prone_annotations-2.2.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/hadoop-annotations-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/nimbus-jose-jwt-4.41.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jackson-mapper-asl-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-client-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-webapp-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerby-util-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/avro-1.7.7.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jackson-databind-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jaxb-api-2.2.11.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jersey-server-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-server-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-util-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/protobuf-java-2.5.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jettison-1.1.jar:/opt/hadoop-3.2.1/share/hadoop
```

Terminal

```
p/hdfs/lib/jackson-annotations-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-io-2.5.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/htrace-core4-4.1.0-incubating.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/woodstox-core-5.0.3.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/accessors-smart-1.2.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-servlet-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-admin-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/animal-sniffer-annotations-1.17.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-daemon-1.0.13.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/failureaccess-1.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/curator-recipes-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/httpcore-4.4.10.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/netty-3.10.5.Final.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jsr305-3.0.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-math3-3.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-compress-1.18.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-simplekdc-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-util-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-codec-1.11.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/asm-5.0.4.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/httpclient-4.5.6.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/audience-annotations-0.5.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-security-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerby-config-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerby-pkix-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jackson-jaxrs-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jackson-core-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-configuration2-2.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/re2j-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jersey-json-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-beanutils-1.9.3.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jersey-servlet-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/zookeeper-3.4.13.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-identity-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/snappy-java-1.0.5.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/netty-all-4.0.52.Final.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/javax.servlet-api-3.1.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-util-ajax-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-server-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jackson-core-asl-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-xml-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jersey-core-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/hadoop-hdfs-client-3.2.1-  
↓
```

Terminal

```
pt/hadoop-3.2.1/share/hadoop/yarn/lib/json-io-2.5.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/java-util-1.9.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jersey-guice-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/ehcache-3.3.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jackson-jaxrs-base-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/HikariCP-java7-2.4.12.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/guice-servlet-4.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/metrics-core-3.2.4.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/bcpkix-jdk15on-1.60.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/guice-4.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jackson-module-jaxb-annotations-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/snakeyaml-1.16.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jackson-jaxrs-json-provider-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/bcpkix-jdk15on-1.60.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-applications-distributedshell-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-applications-unmanaged-am-launcher-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-submarine-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-web-proxy-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-nodemanager-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-common-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-timeline-pluginstorage-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-resourcemanager-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-common-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-router-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-applicationhistoryservice-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-client-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-services-api-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-services-core-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-api-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-registry-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-sharedcachemanager-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-tests-3.2.1.jar
STARTUP_MSG: build = https://gitbox.apache.org/repos/asf/hadoop.git -r b3cbbb467e22ea829b3808f4b7b01d07e0bf3842; compiled by 'rohithsharmaks' on 2019-09-10T15:56Z
STARTUP_MSG: java -version
java version "1.8.0_232"
```

Terminal

```
STARTUP_MSG:  java = 1.8.0_232
*****
2024-11-18 08:31:15,042 INFO namenode.NameNode: registered UNIX signal handlers for [TERM, HUP, INT]
2024-11-18 08:31:15,169 INFO namenode.NameNode: createNameNode []
2024-11-18 08:31:15,309 INFO impl.MetricsConfig: Loaded properties from hadoop-metrics2.properties
2024-11-18 08:31:15,466 INFO impl.MetricsSystemImpl: Scheduled Metric snapshot period at 10 second(s).
2024-11-18 08:31:15,466 INFO impl.MetricsSystemImpl: NameNode metrics system started
2024-11-18 08:31:15,510 INFO namenode.NameNodeUtils: fs.defaultFS is hdfs://9f4b1c8d33b4:8020
2024-11-18 08:31:15,510 INFO namenode.NameNode: Clients should use 9f4b1c8d33b4:8020 to access this namenode/service.
2024-11-18 08:31:15,672 INFO util.JvmPauseMonitor: Starting JVM pause monitor
2024-11-18 08:31:15,733 INFO hdfs.DFSUtil: Starting Web-server for hdfs at: http://0.0.0.0:9870
2024-11-18 08:31:15,756 INFO util.log: Logging initialized @1266ms
2024-11-18 08:31:15,868 INFO server.AuthenticationFilter: Unable to initialize FileSignerSecretProvider, falling back to use random secrets.
2024-11-18 08:31:15,882 INFO http.HttpRequestLog: Http request log for http.requests.namenode is not defined
2024-11-18 08:31:15,895 INFO http.HttpServer2: Added global filter 'safety' (class=org.apache.hadoop.http.HttpServer2$QuotingInputFilter)
2024-11-18 08:31:15,899 INFO http.HttpServer2: Added filter static_user_filter (class=org.apache.hadoop.http.lib.StaticUserWebFilter$StaticUserFilter) to context hdfs
2024-11-18 08:31:15,899 INFO http.HttpServer2: Added filter static_user_filter (class=org.apache.hadoop.http.lib.StaticUserWebFilter$StaticUserFilter) to context logs
```



Terminal

```
2024-11-18 08:31:15,899 INFO http.HttpServer2: Added filter static_user_filter (class=org.apache.hadoop.http.lib.StaticUserWebFilter$StaticUserFilter) to context hdfs
2024-11-18 08:31:15,899 INFO http.HttpServer2: Added filter static_user_filter (class=org.apache.hadoop.http.lib.StaticUserWebFilter$StaticUserFilter) to context logs
2024-11-18 08:31:15,899 INFO http.HttpServer2: Added filter static_user_filter (class=org.apache.hadoop.http.lib.StaticUserWebFilter$StaticUserFilter) to context static
2024-11-18 08:31:15,934 INFO http.HttpServer2: Added filter 'org.apache.hadoop.hdfs.web.AuthFilter' (class=org.apache.hadoop.hdfs.web.AuthFilter)
2024-11-18 08:31:15,934 INFO http.HttpServer2: addJerseyResourcePackage: packageName=org.apache.hadoop.hdfs.server.namenode.web.resources;org.apache.hadoop.hdfs.web.resources, pathSpec=/webhdfs/v1/*
2024-11-18 08:31:15,955 INFO http.HttpServer2: Jetty bound to port 9870
2024-11-18 08:31:15,957 INFO server.Server: jetty-9.3.24.v20180605, build timestamp: 2018-06-05T17:11:56Z, git hash: 84205aa28f11a4f31f2a3b86d1bba2cc8ab69827
2024-11-18 08:31:15,996 INFO handler.ContextHandler: Started o.e.j.s.ServletContextHandler@7d0b7e3c{/logs,file:///opt/hadoop-3.2.1/logs/,AVAILABLE}
2024-11-18 08:31:15,997 INFO handler.ContextHandler: Started o.e.j.s.ServletContextHandler@4b741d6d{/static,file:///opt/hadoop-3.2.1/share/hadoop/hdfs/webapps/static/,AVAILABLE}
2024-11-18 08:31:16,187 INFO handler.ContextHandler: Started o.e.j.w.WebApplicationContext@7486b455{/file:///opt/hadoop-3.2.1/share/hadoop/hdfs/webapps/hdfs/,AVAILABLE}{/hdfs}
2024-11-18 08:31:16,214 INFO server.AbstractConnector: Started ServerConnector@700fb871[HTTP/1.1,[http/1.1]]{0.0.0.0:9870}
```



Terminal

```
2024-11-18 08:31:16,214 INFO server.AbstractConnector: Started ServerConnector@700fb871{HTTP/1.1,[http/1.1]}{0.0.0.0:9870}
2024-11-18 08:31:16,214 INFO server.Server: Started @1725ms
2024-11-18 08:31:16,393 WARN namenode.FSNamesystem: Only one image storage directory (dfs.namenode.name.dir) configured. Beware of data loss due to lack of redundant storage directories!
2024-11-18 08:31:16,394 WARN namenode.FSNamesystem: Only one namespace edits storage directory (dfs.namenode.edits.dir) configured. Beware of data loss due to lack of redundant storage directories!
2024-11-18 08:31:16,454 INFO namenode.FSEditLog: Edit logging is async:true
2024-11-18 08:31:16,524 INFO namenode.FSNamesystem: KeyProvider: null
2024-11-18 08:31:16,525 INFO namenode.FSNamesystem: fsLock is fair: true
2024-11-18 08:31:16,525 INFO namenode.FSNamesystem: Detailed lock hold time metrics enabled: false
2024-11-18 08:31:16,532 INFO namenode.FSNamesystem: fsOwner          = root (auth:SIMPLE)
2024-11-18 08:31:16,532 INFO namenode.FSNamesystem: supergroup        = supergroup
2024-11-18 08:31:16,532 INFO namenode.FSNamesystem: isPermissionEnabled = true
2024-11-18 08:31:16,532 INFO namenode.FSNamesystem: HA Enabled: false
2024-11-18 08:31:16,573 INFO common.Util: dfs.datanode.fileio.profiling.sampling.percentage set to 0. Disabling file IO profiling
2024-11-18 08:31:16,582 INFO blockmanagement.DatanodeManager: dfs.block.invalidate.limit: configured=1000, counted=60, effected=1000
2024-11-18 08:31:16,582 INFO blockmanagement.DatanodeManager: dfs.namenode.datanode.registration.ip-hostname-check=true
2024-11-18 08:31:16,588 INFO blockmanagement.BlockManager: dfs.namenode.startup.delay.block.deletion.sec is set to 000:00:00:00.000
2024-11-18 08:31:16,589 INFO blockmanagement.BlockManager: The block deletion will start around 2024 Nov 18 08:31:16
```

Terminal

```
2024-11-18 08:31:16,591 INFO util.GSet: Computing capacity for map BlocksMap
2024-11-18 08:31:16,591 INFO util.GSet: VM type      = 64-bit
2024-11-18 08:31:16,593 INFO util.GSet: 2.0% max memory 1.7 GB = 34.7 MB
2024-11-18 08:31:16,593 INFO util.GSet: capacity      = 2^22 = 4194304 entries
2024-11-18 08:31:16,604 INFO blockmanagement.BlockManager: Storage policy satisfier is disabled
2024-11-18 08:31:16,605 INFO blockmanagement.BlockManager: dfs.block.access.token.enable = false
2024-11-18 08:31:16,616 INFO Configuration.deprecation: No unit for dfs.namenode.safemode.extension(30000) assuming MILLISECONDS
2024-11-18 08:31:16,617 INFO blockmanagement.BlockManagerSafeMode: dfs.namenode.safemode.threshold-pct = 0.9990000128746033
2024-11-18 08:31:16,617 INFO blockmanagement.BlockManagerSafeMode: dfs.namenode.safemode.min.datanodes = 0
2024-11-18 08:31:16,617 INFO blockmanagement.BlockManagerSafeMode: dfs.namenode.safemode.extension = 30000
2024-11-18 08:31:16,618 INFO blockmanagement.BlockManager: defaultReplication      = 3
2024-11-18 08:31:16,618 INFO blockmanagement.BlockManager: maxReplication      = 512
2024-11-18 08:31:16,620 INFO blockmanagement.BlockManager: minReplication      = 1
2024-11-18 08:31:16,620 INFO blockmanagement.BlockManager: maxReplicationStreams = 2
2024-11-18 08:31:16,620 INFO blockmanagement.BlockManager: redundancyRecheckInterval = 3000ms
2024-11-18 08:31:16,620 INFO blockmanagement.BlockManager: encryptDataTransfer      = false
2024-11-18 08:31:16,620 INFO blockmanagement.BlockManager: maxNumBlocksToLog      = 1000
2024-11-18 08:31:16,654 INFO namenode.FSDirectory: GLOBAL serial map: bits=29 maxEntries=536870911
2024-11-18 08:31:16,654 INFO namenode.FSDirectory: USER serial map: bits=24 maxEntries=16777215
```



Terminal

```
2024-11-18 08:31:16,654 INFO namenode.FSDirectory: GROUP serial map: bits=24 maxEntries=16777215
2024-11-18 08:31:16,654 INFO namenode.FSDirectory: XATTR serial map: bits=24 maxEntries=16777215
2024-11-18 08:31:16,669 INFO util.GSet: Computing capacity for map INodeMap
2024-11-18 08:31:16,670 INFO util.GSet: VM type      = 64-bit
2024-11-18 08:31:16,670 INFO util.GSet: 1.0% max memory 1.7 GB = 17.3 MB
2024-11-18 08:31:16,670 INFO util.GSet: capacity      = 2^21 = 2097152 entries
2024-11-18 08:31:16,671 INFO namenode.FSDirectory: ACLs enabled? false
2024-11-18 08:31:16,672 INFO namenode.FSDirectory: POSIX ACL inheritance enabled? true
2024-11-18 08:31:16,673 INFO namenode.FSDirectory: XAttrs enabled? true
2024-11-18 08:31:16,675 INFO namenode.NameNode: Caching file names occurring more than 10 times
2024-11-18 08:31:16,681 INFO snapshot.SnapshotManager: Loaded config captureOpenFiles: false, skipCaptureAccessTimeOnlyChange: false, snapshotDiff
AllowSnapRootDescendant: true, maxSnapshotLimit: 65536
2024-11-18 08:31:16,684 INFO snapshot.SnapshotManager: SkipList is disabled
2024-11-18 08:31:16,689 INFO util.GSet: Computing capacity for map cachedBlocks
2024-11-18 08:31:16,689 INFO util.GSet: VM type      = 64-bit
2024-11-18 08:31:16,689 INFO util.GSet: 0.25% max memory 1.7 GB = 4.3 MB
2024-11-18 08:31:16,689 INFO util.GSet: capacity      = 2^19 = 524288 entries
2024-11-18 08:31:16,699 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.window.num.buckets = 10
2024-11-18 08:31:16,699 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.num.users = 10
```

Terminal

```
2024-11-18 08:31:16,699 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.windows.minutes = 1,5,25
2024-11-18 08:31:16,704 INFO namenode.FSNamesystem: Retry cache on namenode is enabled
2024-11-18 08:31:16,704 INFO namenode.FSNamesystem: Retry cache will use 0.03 of total heap and retry cache entry expiry time is 600000 millis
2024-11-18 08:31:16,706 INFO util.GSet: Computing capacity for map NameNodeRetryCache
2024-11-18 08:31:16,706 INFO util.GSet: VM type      = 64-bit
2024-11-18 08:31:16,707 INFO util.GSet: 0.029999999329447746% max memory 1.7 GB = 532.5 KB
2024-11-18 08:31:16,707 INFO util.GSet: capacity      = 2^16 = 65536 entries
2024-11-18 08:31:16,736 INFO common.Storage: Lock on /hadoop/dfs/name/in_use.lock acquired by nodename 349@9f4b1c8d33b4
2024-11-18 08:31:16,778 INFO namenode.FileJournalManager: Recovering unfinalized segments in /hadoop/dfs/name/current
2024-11-18 08:31:16,778 INFO namenode.FSImage: No edit log streams selected.
2024-11-18 08:31:16,779 INFO namenode.FSImage: Planning to load image: FSImageFile(file=/hadoop/dfs/name/current/fsimage_00000000000000000000, cpkt
TxId=00000000000000000000)
2024-11-18 08:31:16,853 INFO namenode.FSImageFormatPBINode: Loading 1 INodes.
2024-11-18 08:31:16,889 INFO namenode.FSImageFormatProtobuf: Loaded FSImage in 0 seconds.
2024-11-18 08:31:16,889 INFO namenode.FSImage: Loaded image for txid 0 from /hadoop/dfs/name/current/fsimage_00000000000000000000
2024-11-18 08:31:16,900 INFO namenode.FSNamesystem: Need to save fs image? false (staleImage=false, haEnabled=false, isRollingUpgrade=false)
2024-11-18 08:31:16,902 INFO namenode.FSEditLog: Starting log segment at 1
2024-11-18 08:31:17,045 INFO namenode.NameCache: initialized with 0 entries 0 lookups
2024-11-18 08:31:17,045 INFO namenode.FSNamesystem: Finished loading FSImage in 333 msecs
```

Terminal

```
2024-11-18 08:31:17,578 INFO namenode.NameNode: RPC server is binding to 0.0.0.0:8020
2024-11-18 08:31:17,645 INFO ipc.CallQueueManager: Using callQueue: class java.util.concurrent.LinkedBlockingQueue, queueCapacity: 1000, scheduler : class org.apache.hadoop.ipc.DefaultRpcScheduler, ipcBackoff: false.
2024-11-18 08:31:17,656 INFO ipc.Server: Starting Socket Reader #1 for port 8020
2024-11-18 08:31:17,889 INFO namenode.FSNamesystem: Registered FSNamesystemState, ReplicatedBlocksState and ECBlockGroupsState MBeans.
2024-11-18 08:31:17,902 INFO namenode.LeaseManager: Number of blocks under construction: 0
2024-11-18 08:31:17,915 INFO blockmanagement.BlockManager: initializing replication queues
2024-11-18 08:31:17,915 INFO hdfs.StateChange: STATE* Leaving safe mode after 0 secs
2024-11-18 08:31:17,916 INFO hdfs.StateChange: STATE* Network topology has 0 racks and 0 datanodes
2024-11-18 08:31:17,916 INFO hdfs.StateChange: STATE* UnderReplicatedBlocks has 0 blocks
2024-11-18 08:31:17,928 INFO blockmanagement.BlockManager: Total number of blocks      = 0
2024-11-18 08:31:17,928 INFO blockmanagement.BlockManager: Number of invalid blocks      = 0
2024-11-18 08:31:17,929 INFO blockmanagement.BlockManager: Number of under-replicated blocks = 0
2024-11-18 08:31:17,929 INFO blockmanagement.BlockManager: Number of over-replicated blocks = 0
2024-11-18 08:31:17,929 INFO blockmanagement.BlockManager: Number of blocks being written   = 0
2024-11-18 08:31:17,929 INFO hdfs.StateChange: STATE* Replication Queue initialization scan for invalid, over- and under-replicated blocks completed in 13 msec
2024-11-18 08:31:17,952 INFO ipc.Server: IPC Server Responder: starting
2024-11-18 08:31:17,952 INFO ipc.Server: IPC Server listener on 8020: starting
```

7. To start the HDFS DataNode in the background:

```
hdfs datanode &
```

Terminal

```
root@9f4b1c8d33b4:/# hdfs datanode &
[2] 691
root@9f4b1c8d33b4:/# 2024-11-18 08:45:41,041 INFO datanode.DataNode: STARTUP_MSG:
*****
STARTUP_MSG: Starting DataNode
STARTUP_MSG:   host = 9f4b1c8d33b4/172.17.0.2
STARTUP_MSG:   args = []
STARTUP_MSG:   version = 3.2.1
STARTUP_MSG:   classpath = /etc/hadoop:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-crypto-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/listenablefuture-9999.0-e
mpty-to-avoid-conflict-with-guava.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jaxb-impl-2.2.3-1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/json-smart-2.3.jar:/opt/h
adoop-3.2.1/share/hadoop/common/lib/jcip-annotations-1.0-1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-net-3.6.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/para
namer-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/curator-framework-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/log4j-1.2.17.jar:/opt/hadoop-3.2.1/share/h
adoop/common/lib/jsr311-api-1.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-core-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-asn1-1.0.1.jar:/opt/had
oop-3.2.1/share/hadoop/common/lib/j2objc-annotations-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-logging-1.1.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/guava-27.0-jre.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-xdr-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-lang3-3.7.jar:/opt/hadoop-3.2.1/share/
hadoop/common/lib/stax2-api-3.1.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/token-provider-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-text-1.4.jar:/o
pt/hadoop-3.2.1/share/hadoop/common/lib/curator-client-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/hadoop-auth-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/li
b/jetty-io-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/gson-2.2.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/slf4j-log4j12-1.7.25.jar:/opt/hadoop-3.
2.1/share/hadoop/common/lib/kerb-common-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-xc-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-cli-1.
```

Terminal

```
2.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/slf4j-api-1.7.25.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/checker-qual-2.5.2.jar:/opt/hadoop-3.2.1/share/hadoop/commo  
n/lib/commons-collections-3.2.2.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jsch-0.1.54.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-http-9.3.24.v20180605.jar:/o  
pt/hadoop-3.2.1/share/hadoop/common/lib/dnsjava-2.1.7.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/error_prone_annotations-2.2.0.jar:/opt/hadoop-3.2.1/share/hadoop/commo  
n/lib/hadoop-annotations-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/nimbus-jose-jwt-4.41.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-mapper-asl-1.9.1  
3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-client-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-webapp-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/  
hadoop/common/lib/kerby-util-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/avro-1.7.7.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-databind-2.9.8.jar:/opt/  
hadoop-3.2.1/share/hadoop/common/lib/jaxb-api-2.2.11.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jersey-server-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-  
server-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jsp-api-2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-util-1.0.1.jar:/opt/hadoop-3.2.1/shar  
e/hadoop/common/lib/protobuf-java-2.5.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jettison-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-annotations-2.9.8  
.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-io-2.5.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/htrace-core4-4.1.0-incubating.jar:/opt/hadoop-3.2.1/share/had  
oop/common/lib/woodstox-core-5.0.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/accessors-smart-1.2.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-servlet-9.3.24.v20  
180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-admin-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/animal-sniffer-annotations-1.17.jar:/opt/hadoop-3.2.1/  
share/hadoop/common/lib/failureaccess-1.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/curator-recipes-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/httpcore-4.4.  
10.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/netty-3.10.5.Final.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/metrics-core-3.2.4.jar:/opt/hadoop-3.2.1/share/hadoop/co  
mmon/lib/jsr305-3.0.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-math3-3.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-compress-1.18.jar:/opt/hadoo  
p-3.2.1/share/hadoop/common/lib/kerb-simplekdc-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-util-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/l  
ib/commons-codec-1.11.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/asm-5.0.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/httpclient-4.5.6.jar:/opt/hadoop-3.2.1/share/h  
adoop/common/lib/audience-annotations-0.5.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-security-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/ke  
rby-config-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-pkix-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-jaxrs-1.9.13.jar:/opt/hadoop-3.2.1/s  
↓
```

Terminal

```
hare/hadoop/common/lib/jackson-core-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-configuration2-2.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jul-to-slf4j-1.7.25.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/re2j-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jersey-json-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-beanutils-1.9.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jersey-servlet-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/zookeeper-3.4.13.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-identity-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/snappy-java-1.0.5.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/java-x.servlet-api-3.1.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-server-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-core-asl-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-xml-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jersey-core-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/common/hadoop-nfs-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/hadoop-kms-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/hadoop-common-3.2.1-tests.jar:/opt/hadoop-3.2.1/share/hadoop/common/hadoop-common-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-crypto-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/listenablefuture-9999.0-empty-to-avoid-conflict-with-guava.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jaxb-impl-2.2.3-1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/json-smart-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jcip-annotations-1.0-1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-net-3.6.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/paramamer-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/curator-framework-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/log4j-1.2.17.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jsr311-api-1.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerb-core-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerby-asn1-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/j2objc-annotations-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/json-simple-1.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-logging-1.1.3.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/guava-27.0-jre.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/okio-1.6.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/kerby-xdr-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-lang3-3.7.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/stax2-api-3.1.4.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/token-provider-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/okhttp-2.7.5.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-text-1.4.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/curator-client-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/hadoop-auth-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/leveldbjni-all-1.8.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/jetty-io-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/gson-2.2.4.jar:/opt/hadoop-3.2.1/share/hadoop/hdfs/lib/commons-cli-1.2.jar:/opt/hadoop-3.2.1/s
```

Terminal

```
client-jobclient-3.2.1-tests.jar:/opt/hadoop-3.2.1/share/hadoop/mapreduce/hadoop-mapreduce-client-core-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jersey-client-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/fst-2.50.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/objenesis-1.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/aopalliance-1.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/geronimo-jcache_1.0_spec-1.0-alpha-1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/swagger-annotations-1.5.4.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/mssql-jdbc-6.2.1.jre7.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/javax.inject-1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/json-io-2.5.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/java-util-1.9.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jersey-guice-1.19.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/ehcache-3.3.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jackson-jaxrs-base-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/HikariCP-java7-2.4.12.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/guice-servlet-4.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/metrics-core-3.2.4.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/bcpkix-jdk15on-1.60.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/guice-4.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jackson-module-jaxb-annotations-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/snakeyaml-1.16.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jackson-jaxrs-json-provider-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/bcprov-jdk15on-1.60.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-applications-distributedshell-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-applications-unmanaged-am-launcher-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-submarine-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-web-proxy-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-nodemanager-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-common-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-timeline-pluginstorage-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-resourcemanager-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-common-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-router-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-applicationhistoryservice-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-client-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-services-api-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-services-core-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-api-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-registry-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-sharedcachemanager-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-tests-3.2.1.jar
STARTUP_MSG:  build = https://gitbox.apache.org/repos/asf/hadoop.git -r b3cbbb467e22ea829b3808f4b7b01d07e0bf3842; compiled by 'rohithsharmaks' on 2019-09-10T15:56Z
```

Terminal

```
STARTUP_MSG:  java = 1.8.0_232
*****
2024-11-18 08:45:41,060 INFO datanode.DataNode: registered UNIX signal handlers for [TERM, HUP, INT]
2024-11-18 08:45:41,471 INFO checker.ThrottledAsyncChecker: Scheduling a check for [DISK]file:/tmp/hadoop-root/dfs/data
2024-11-18 08:45:41,571 INFO impl.MetricsConfig: Loaded properties from hadoop-metrics2.properties
2024-11-18 08:45:41,640 INFO impl.MetricsSystemImpl: Scheduled Metric snapshot period at 10 second(s).
2024-11-18 08:45:41,640 INFO impl.MetricsSystemImpl: DataNode metrics system started
2024-11-18 08:45:41,822 INFO common.Util: dfs.datanode.fileio.profiling.sampling.percentage set to 0. Disabling file IO profiling
2024-11-18 08:45:41,825 INFO datanode.BlockScanner: Initialized block scanner with targetBytesPerSec 1048576
2024-11-18 08:45:41,831 INFO datanode.DataNode: Configured hostname is 9f4b1c8d33b4
2024-11-18 08:45:41,832 INFO common.Util: dfs.datanode.fileio.profiling.sampling.percentage set to 0. Disabling file IO profiling
2024-11-18 08:45:41,839 INFO datanode.DataNode: Starting DataNode with maxLockedMemory = 0
2024-11-18 08:45:41,862 INFO datanode.DataNode: Opened streaming server at /0.0.0.0:9866
2024-11-18 08:45:41,866 INFO datanode.DataNode: Balancing bandwidth is 10485760 bytes/s
2024-11-18 08:45:41,866 INFO datanode.DataNode: Number threads for balancing is 50
2024-11-18 08:45:41,912 INFO util.log: Logging initialized @1658ms
2024-11-18 08:45:42,007 INFO server.AuthenticationFilter: Unable to initialize FileSignerSecretProvider, falling back to use random secrets.
2024-11-18 08:45:42,011 INFO http.HttpRequestLog: Http request log for http.requests.datanode is not defined
2024-11-18 08:45:42,022 INFO http.HttpServer2: Added global filter 'safety' (class=org.apache.hadoop.http.HttpServer2$QuotingInputFilter)
```



Terminal

```
2024-11-18 08:45:42,088 INFO handler.ContextHandler: Started o.e.j.s.ServletContextHandler@5038d0b5{/logs,file:///opt/hadoop-3.2.1/logs/,AVAILABLE}
2024-11-18 08:45:42,089 INFO handler.ContextHandler: Started o.e.j.s.ServletContextHandler@2ad48653{/static,file:///opt/hadoop-3.2.1/share/hadoop/hdfs/webapps/static/,AVAILABLE}
2024-11-18 08:45:42,203 INFO handler.ContextHandler: Started o.e.j.w.WebApplicationContext@68034211{/file:///opt/hadoop-3.2.1/share/hadoop/hdfs/webapps/datanode/,datanode}
2024-11-18 08:45:42,220 INFO server.AbstractConnector: Started ServerConnector@275bf9b3{HTTP/1.1,[http/1.1]}{localhost:46691}
2024-11-18 08:45:42,220 INFO server.Server: Started @1966ms
2024-11-18 08:45:42,619 INFO web.DatanodeHttpServer: Listening HTTP traffic on /0.0.0.0:9864
2024-11-18 08:45:42,625 INFO util.JvmPauseMonitor: Starting JVM pause monitor
2024-11-18 08:45:42,629 INFO datanode.DataNode: dnUserName = root
2024-11-18 08:45:42,630 INFO datanode.DataNode: supergroup = supergroup
2024-11-18 08:45:42,702 INFO ipc.CallQueueManager: Using callQueue: class java.util.concurrent.LinkedBlockingQueue, queueCapacity: 1000, scheduler: class org.apache.hadoop.ipc.DefaultRpcScheduler, ipcBackoff: false.
2024-11-18 08:45:42,721 INFO ipc.Server: Starting Socket Reader #1 for port 9867
2024-11-18 08:45:42,921 INFO datanode.DataNode: Opened IPC server at /0.0.0.0:9867
2024-11-18 08:45:42,944 INFO datanode.DataNode: Refresh request received for nameservices: null
2024-11-18 08:45:42,955 INFO datanode.DataNode: Starting BPOfferServices for nameservices: <default>
2024-11-18 08:45:42,969 INFO datanode.DataNode: Block pool <registering> (Datanode Uuid unassigned) service to 9f4b1c8d33b4/172.17.0.2:8020 starting to offer service
2024-11-18 08:45:42,979 INFO ipc.Server: IPC Server Responder: starting
```

Terminal

```
2024-11-18 08:45:42,979 INFO ipc.Server: IPC Server listener on 9867: starting
2024-11-18 08:45:43,464 INFO datanode.DataNode: Acknowledging ACTIVE Namenode during handshakeBlock pool <registering> (Datanode Uuid unassigned) service to 9f4b1c8d33b4/172.17.0.2:8020
2024-11-18 08:45:43,467 INFO common.Storage: Using 1 threads to upgrade data directories (dfs.datanode.parallel.volumes.load.threads.num=1, dataDirs=1)
2024-11-18 08:45:43,479 INFO common.Storage: Lock on /tmp/hadoop-root/dfs/data/in_use.lock acquired by nodename 691@9f4b1c8d33b4
2024-11-18 08:45:43,483 INFO common.Storage: Storage directory with location [DISK]file:/tmp/hadoop-root/dfs/data is not formatted for namespace 172888150. Formatting...
2024-11-18 08:45:43,486 INFO common.Storage: Generated new storageID DS-1fb29aee-9333-4085-8aae-e2550fd71ac8 for directory /tmp/hadoop-root/dfs/data
2024-11-18 08:45:43,522 INFO common.Storage: Analyzing storage directories for bpid BP-1489701997-172.17.0.2-1731918023935
2024-11-18 08:45:43,523 INFO common.Storage: Locking is disabled for /tmp/hadoop-root/dfs/data/current/BP-1489701997-172.17.0.2-1731918023935
2024-11-18 08:45:43,524 INFO common.Storage: Block pool storage directory for location [DISK]file:/tmp/hadoop-root/dfs/data and block pool id BP-1489701997-172.17.0.2-1731918023935 is not formatted. Formatting ...
2024-11-18 08:45:43,525 INFO common.Storage: Formatting block pool BP-1489701997-172.17.0.2-1731918023935 directory /tmp/hadoop-root/dfs/data/current/BP-1489701997-172.17.0.2-1731918023935/current
2024-11-18 08:45:43,533 INFO datanode.DataNode: Setting up storage: nsid=172888150;bpid=BP-1489701997-172.17.0.2-1731918023935;lv=-57;nsInfo=lv=-65;cid=CID-bfe8da6b-1274-4c7d-923a-0d09ebeaf213;nsid=172888150;c=1731918023935;bpid=BP-1489701997-172.17.0.2-1731918023935;dnuuid=null
2024-11-18 08:45:43,536 INFO datanode.DataNode: Generated and persisted new Datanode UUID 0a5899ea-0773-49b3-95f2-0c6548ca0547
2024-11-18 08:45:43,721 INFO impl.FsDatasetImpl: Added new volume: DS-1fb29aee-9333-4085-8aae-e2550fd71ac8
2024-11-18 08:45:43,721 INFO impl.FsDatasetImpl: Added volume - [DISK]file:/tmp/hadoop-root/dfs/data, StorageType: DISK
2024-11-18 08:45:43,726 INFO impl.FsDatasetImpl: Registered FSDataSetState MBean
```

Terminal

```
ist
2024-11-18 08:45:43,847 INFO impl.FsDatasetImpl: Time to add replicas to map for block pool BP-1489701997-172.17.0.2-1731918023935 on volume /tmp/hadoop-root/dfs/data: 11
ms
2024-11-18 08:45:43,848 INFO impl.FsDatasetImpl: Total time to add all replicas to map for block pool BP-1489701997-172.17.0.2-1731918023935: 13ms
2024-11-18 08:45:43,854 INFO datanode.VolumeScanner: Now scanning bpid BP-1489701997-172.17.0.2-1731918023935 on volume /tmp/hadoop-root/dfs/data
2024-11-18 08:45:43,863 INFO datanode.VolumeScanner: VolumeScanner(/tmp/hadoop-root/dfs/data, DS-1fb29aee-9333-4085-8aae-e2550fd71ac8): finished scanning block pool BP-14
89701997-172.17.0.2-1731918023935
2024-11-18 08:45:43,918 INFO datanode.VolumeScanner: VolumeScanner(/tmp/hadoop-root/dfs/data, DS-1fb29aee-9333-4085-8aae-e2550fd71ac8): no suitable block pools found to s
can. Waiting 1814399936 ms.
2024-11-18 08:45:43,931 INFO datanode.DirectoryScanner: Periodic Directory Tree Verification scan starting at 11/18/24 9:37 AM with interval of 21600000ms
2024-11-18 08:45:43,953 INFO datanode.DataNode: Block pool BP-1489701997-172.17.0.2-1731918023935 (Datanode Uuid 0a5899ea-0773-49b3-95f2-0c6548ca0547) service to 9f4b1c8d
33b4/172.17.0.2:8020 beginning handshake with NN
2024-11-18 08:45:44,116 INFO net.NetworkTopology: Adding a new node: /default-rack/172.17.0.2:9866
2024-11-18 08:45:44,116 INFO blockmanagement.BlockReportLeaseManager: Registered DN 0a5899ea-0773-49b3-95f2-0c6548ca0547 (172.17.0.2:9866).
2024-11-18 08:45:44,132 INFO datanode.DataNode: Block pool Block pool BP-1489701997-172.17.0.2-1731918023935 (Datanode Uuid 0a5899ea-0773-49b3-95f2-0c6548ca0547) service
to 9f4b1c8d33b4/172.17.0.2:8020 successfully registered with NN
2024-11-18 08:45:44,132 INFO datanode.DataNode: For namenode 9f4b1c8d33b4/172.17.0.2:8020 using BLOCKREPORT_INTERVAL of 21600000msec CACHEREPORT_INTERVAL of 10000msec Ini
tial delay: 0msec; heartBeatInterval=3000
2024-11-18 08:45:44,235 INFO blockmanagement.DatanodeDescriptor: Adding new storage ID DS-1fb29aee-9333-4085-8aae-e2550fd71ac8 for DN 172.17.0.2:9866
```

```
2024-11-18 08:45:44,297 INFO BlockStateChange: BLOCK* processReport 0xc7eae48c84f4fc43: from storage DS-1fb29aee-9333-4085-8aae-e2550fd71ac8 node DatanodeRegistration(172 .17.0.2:9866, datanodeUuid=0a5899ea-0773-49b3-95f2-0c6548ca0547, infoPort=9864, infoSecurePort=0, ipcPort=9867, storageInfo=lv=-57;cid=CID-bfe8da6b-1274-4c7d-923a-0d09ebe af213;nsid=172888150;c=1731918023935), blocks: 0, hasStaleStorage: false, processing time: 2 msec, invalidatedBlocks: 0  
2024-11-18 08:45:44,340 INFO datanode.DataNode: Successfully sent block report 0xc7eae48c84f4fc43, containing 1 storage report(s), of which we sent 1. The reports had 0 total blocks and used 1 RPC(s). This took 5 msec to generate and 72 msec for RPC and NN processing. Got back one command: FinalizeCommand/5.  
2024-11-18 08:45:44,340 INFO datanode.DataNode: Got finalize command for block pool BP-1489701997-172.17.0.2-1731918023935  
root@9f4b1c8d33b4:/# []
```

8. To start the YARN NodeManager process in the background:

```
yarn nodemanager &
```

```
root@9f4b1c8d33b4:/# yarn nodemanager &
[3] 925
root@9f4b1c8d33b4:/# 2024-11-18 08:53:47,100 INFO nodemanager.NodeManager: STARTUP_MSG:
/*****
STARTUP_MSG: Starting NodeManager
STARTUP_MSG: host = 9f4b1c8d33b4/172.17.0.2
STARTUP_MSG: args = []
STARTUP_MSG: version = 3.2.1
STARTUP_MSG: classpath = /etc/hadoop:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-crypto-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/listenablefuture-9999.0-empty-to-avoid-conflict-with-guava.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jaxb-impl-2.2.3-1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/json-smart-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jcip-annotations-1.0-1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-net-3.6.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/paramer-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/curator-framework-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/log4j-1.2.17.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jsr311-api-1.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-core-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-asn1-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/j2objc-annotations-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-logging-1.1.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/guava-27.0-jre.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-xdr-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-lang3-3.7.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/stax2-api-3.1.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/token-provider-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-text-1.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/curator-client-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/hadoop-auth-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jetty-io-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/gson-2.2.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/slf4j-log4j12-1.7.25.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-common-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jackson-xc-1.9.13.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-cli-1.4.jar
```

```
3.2.1/share/hadoop/yarn/lib/ehcache-3.3.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jackson-jaxrs-base-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/HikariCP-java7-  
2.4.12.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/guice-servlet-4.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/metrics-core-3.2.4.jar:/opt/hadoop-3.2.1/share/hadoop/yar  
n/lib/bcpkix-jdk15on-1.60.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/guice-4.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jackson-module-jaxb-annotations-2.9.8.jar:/opt  
/hadoop-3.2.1/share/hadoop/yarn/lib/snakeyaml-1.16.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/lib/jackson-jaxrs-json-provider-2.9.8.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/l  
ib/bcprov-jdk15on-1.60.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-applications-distributedshell-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-applica  
tions-unmanaged-am-launcher-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-submarine-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-web-proxy  
-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-nodemanager-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-common-3.2.1.jar:/opt/hadoo  
p-3.2.1/share/hadoop/yarn/hadoop-yarn-server-timeline-pluginstorage-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-resourcemanager-3.2.1.jar:/opt/hadoop  
-3.2.1/share/hadoop/yarn/hadoop-yarn-common-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-router-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-y  
arn-server-applicationhistoryservice-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-client-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-services-a  
pi-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-services-core-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-api-3.2.1.jar:/opt/hadoop-3.2.1/share  
/hadoop/yarn/hadoop-yarn-registry-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop-yarn-server-sharedcachemanager-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/hadoop  
-yarn-server-tests-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservice/hadoop-yarn-server-timelineservice-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timeline  
service/hadoop-yarn-server-timelineservice-hbase-client-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservice/hadoop-yarn-server-timelineservice-hbase-coprocessor  
-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservice/hadoop-yarn-server-timelineservice-hbase-common-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservi  
ce/lib/joni-2.1.2.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservice/lib/htrace-core-3.1.0-incubating.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservice/lib/com  
mons-lang-2.6.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservice/lib/hbase-protocol-1.2.6.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservice/lib/hbase-common-1.  
2.6.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservice/lib/jcodings-1.0.13.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservice/lib/commons-csv-1.0.jar:/opt/hadoo  
p-3.2.1/share/hadoop/yarn/timelineservice/lib/metrics-core-2.2.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservice/lib/hbase-client-1.2.6.jar:/opt/hadoop-3.2.1/shar
```

Terminal

```
2.6.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservice/lib/jcodings-1.0.13.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservice/lib/commons-csv-1.0.jar:/opt/hadoo  
p-3.2.1/share/hadoop/yarn/timelineservice/lib/metrics-core-2.2.0.jar:/opt/hadoop-3.2.1/share/hadoop/yarn/timelineservice/lib/hbase-client-1.2.6.jar:/opt/hadoop-3.2.1/shar  
e/hadoop/yarn/timelineservice/lib/hbase-annotations-1.2.6.jar  
STARTUP_MSG: build = https://gitbox.apache.org/repos/asf/hadoop.git -r b3cbbb467e22ea829b3808f4b7b01d07e0bf3842; compiled by 'rohithsharmaks' on 2019-09-10T15:56Z  
STARTUP_MSG: java = 1.8.0_232  
*****  
2024-11-18 08:53:47,125 INFO nodemanager.NodeManager: registered UNIX signal handlers for [TERM, HUP, INT]  
2024-11-18 08:53:47,527 INFO resourceplugin.ResourcePluginManager: No Resource plugins found from configuration!  
2024-11-18 08:53:47,527 INFO resourceplugin.ResourcePluginManager: Found Resource plugins from configuration: null  
2024-11-18 08:53:47,623 INFO nodemanager.NodeManager: Node Manager health check script is not available or doesn't have execute permission, so not starting the node healt  
h script runner.  
2024-11-18 08:53:47,707 INFO event.AsyncDispatcher: Registering class org.apache.hadoop.yarn.server.nodemanager.containermanager.container.ContainerEventType for class or  
g.apache.hadoop.yarn.server.nodemanager.containermanager.ContainerManagerImpl$ContainerEventDispatcher  
2024-11-18 08:53:47,708 INFO event.AsyncDispatcher: Registering class org.apache.hadoop.yarn.server.nodemanager.containermanager.application.ApplicationEventType for clas  
s org.apache.hadoop.yarn.server.nodemanager.containermanager.ContainerManagerImpl$ApplicationEventDispatcher  
2024-11-18 08:53:47,710 INFO event.AsyncDispatcher: Registering class org.apache.hadoop.yarn.server.nodemanager.containermanager.localizer.event.LocalizationEventType for  
class org.apache.hadoop.yarn.server.nodemanager.containermanager.ContainerManagerImpl$LocalizationEventHandlerWrapper  
2024-11-18 08:53:47,711 INFO event.AsyncDispatcher: Registering class org.apache.hadoop.yarn.server.nodemanager.containermanager.AuxServicesEventType for class org.apache  
.hadoop.yarn.server.nodemanager.containermanager.AuxServices
```

Terminal

```
2024-11-18 08:53:47,716 INFO tracker.NMLogAggregationStatusTracker: the rolling interval seconds for the NodeManager Cached Log aggregation status is 600
2024-11-18 08:53:47,752 INFO event.AsyncDispatcher: Registering class org.apache.hadoop.yarn.server.nodemanager.ContainerManagerEventType for class org.apache.hadoop.yarn.server.nodemanager.containermanager.ContainerManagerImpl
2024-11-18 08:53:47,752 INFO event.AsyncDispatcher: Registering class org.apache.hadoop.yarn.server.nodemanager.NodeManagerEventType for class org.apache.hadoop.yarn.server.nodemanager.NodeManager
2024-11-18 08:53:47,819 INFO impl.MetricsConfig: Loaded properties from hadoop-metrics2.properties
2024-11-18 08:53:47,882 INFO impl.MetricsSystemImpl: Scheduled Metric snapshot period at 10 second(s).
2024-11-18 08:53:47,882 INFO impl.MetricsSystemImpl: NodeManager metrics system started
2024-11-18 08:53:47,903 INFO nodemanager.DirectoryCollection: Disk Validator 'basic' is loaded.
2024-11-18 08:53:47,916 INFO nodemanager.DirectoryCollection: Disk Validator 'basic' is loaded.
2024-11-18 08:53:47,969 INFO nodemanager.NodeResourceMonitorImpl: Using ResourceCalculatorPlugin : org.apache.hadoop.yarn.util.ResourceCalculatorPlugin@1e6a3214
2024-11-18 08:53:47,971 INFO event.AsyncDispatcher: Registering class org.apache.hadoop.yarn.server.nodemanager.containermanager.loghandler.event.LogHandlerEventType for class org.apache.hadoop.yarn.server.nodemanager.containermanager.loghandler.NonAggregatingLogHandler
2024-11-18 08:53:47,973 INFO event.AsyncDispatcher: Registering class org.apache.hadoop.yarn.server.nodemanager.containermanager.localizer.sharedcache.SharedCacheUploadEvent for class org.apache.hadoop.yarn.server.nodemanager.containermanager.localizer.sharedcache.SharedCacheUploadService
2024-11-18 08:53:47,973 INFO containermanager.ContainerManagerImpl: AMRMProxyService is disabled
2024-11-18 08:53:47,973 INFO localizer.ResourceLocalizationService: per directory file limit = 8192
2024-11-18 08:53:48,021 INFO event.AsyncDispatcher: Registering class org.apache.hadoop.yarn.server.nodemanager.containermanager.localizer.event.LocalizerEventType for class org.apache.hadoop.yarn.server.nodemanager.containermanager.localizer.ResourceLocalizationService$LocalizerTracker
```



Terminal

```
2024-11-18 08:53:50,404 INFO nodemanager.NodeStatusUpdaterImpl: Node ID assigned is : 9f4b1c8d33b4:37547
2024-11-18 08:53:50,405 INFO util.JvmPauseMonitor: Starting JVM pause monitor
2024-11-18 08:53:50,415 INFO client.RMProxy: Connecting to ResourceManager at /0.0.0.0:8031
2024-11-18 08:53:50,492 INFO nodemanager.NodeStatusUpdaterImpl: Sending out 0 NM container statuses: []
2024-11-18 08:53:50,506 INFO nodemanager.NodeStatusUpdaterImpl: Registering with RM using containers :[]
2024-11-18 08:53:51,563 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 0 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 08:53:52,567 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 1 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 08:53:53,570 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 2 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 08:53:54,573 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 3 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 08:53:55,575 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 4 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 08:53:56,576 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 5 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 08:53:57,579 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 6 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
```

Terminal

```
2024-11-18 08:59:52,865 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 1 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 08:59:53,866 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 2 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 08:59:54,868 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 3 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 08:59:55,871 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 4 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 08:59:56,873 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 5 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 08:59:57,875 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 6 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 08:59:58,877 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 7 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 08:59:59,879 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 8 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 09:00:00,883 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 9 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
```

Terminal

```
2024-11-18 09:00:33,896 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 2 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 09:00:34,897 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 3 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 09:00:35,902 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 4 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 09:00:36,903 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 5 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 09:00:37,905 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 6 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 09:00:38,907 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 7 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 09:00:39,910 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 8 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2024-11-18 09:00:40,911 INFO ipc.Client: Retrying connect to server: 0.0.0.0/0.0.0.0:8031. Already tried 9 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
```

```
root@9f4b1c8d33b4:/#
```

```
root@9f4b1c8d33b4:/#
```

9. To start the YARN ResourceManager process in the background:

```
yarn resourcemanager &
```

Terminal

```
root@9f4b1c8d33b4:/#
root@9f4b1c8d33b4:/# yarn resourcemanager &
[4] 1211
root@9f4b1c8d33b4:/# 2024-11-18 09:03:28,207 INFO resourcemanager.ResourceManager: STARTUP_MSG:
*****
STARTUP_MSG: Starting ResourceManager
STARTUP_MSG: host = 9f4b1c8d33b4/172.17.0.2
STARTUP_MSG: args = []
STARTUP_MSG: version = 3.2.1
STARTUP_MSG: classpath = /etc/hadoop:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-crypto-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/listenablefuture-9999.0-e
mpty-to-avoid-conflict-with-guava.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/jaxb-impl-2.2.3-1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/json-smart-2.3.jar:/opt/h
adoop-3.2.1/share/hadoop/common/lib/jcip-annotations-1.0-1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-net-3.6.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/para
namer-2.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/curator-framework-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/log4j-1.2.17.jar:/opt/hadoop-3.2.1/share/h
adoop/common/lib/jsr311-api-1.1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerb-core-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-asn1-1.0.1.jar:/opt/had
oop-3.2.1/share/hadoop/common/lib/j2objc-annotations-1.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-logging-1.1.3.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/guava-27.0-jre.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/kerby-xdr-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-lang3-3.7.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/stax2-api-3.1.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/token-provider-1.0.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/commons-text-1.4.jar:/o
pt/hadoop-3.2.1/share/hadoop/common/lib/curator-client-2.13.0.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/hadoop-auth-3.2.1.jar:/opt/hadoop-3.2.1/share/hadoop/common/li
b/jetty-io-9.3.24.v20180605.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/gson-2.2.4.jar:/opt/hadoop-3.2.1/share/hadoop/common/lib/slf4j-log4j12-1.7.25.jar:/opt/hadoop-3.
```

Terminal

```
.server.resourcemanager.RMAppManager
2024-11-18 09:03:29,090 INFO event.AsyncDispatcher: Registering class org.apache.hadoop.yarn.server.resourcemanager.amlauncher.AMLauncherEventType for class org.apache.hadoop.yarn.server.resourcemanager.amlauncher.ApplicationMasterLauncher
2024-11-18 09:03:29,093 INFO resourcemanager.RMNMInfo: Registered RMNMInfo MBean
2024-11-18 09:03:29,093 INFO monitor.RMAppLifetimeMonitor: Application lifetime monitor interval set to 3000 ms.
2024-11-18 09:03:29,103 INFO placement.MultiNodeSortingManager: Initializing NodeSortingService=MultiNodeSortingManager
2024-11-18 09:03:29,107 INFO util.HostsFileReader: Refreshing hosts (include/exclude) list
2024-11-18 09:03:29,119 INFO conf.Configuration: found resource capacity-scheduler.xml at file:/opt/hadoop-3.2.1/etc/hadoop/capacity-scheduler.xml
2024-11-18 09:03:29,139 INFO scheduler.AbstractYarnScheduler: Minimum allocation = <memory:1024, vCores:1>
2024-11-18 09:03:29,139 INFO scheduler.AbstractYarnScheduler: Maximum allocation = <memory:8192, vCores:4>
2024-11-18 09:03:29,184 INFO capacity.CapacitySchedulerConfiguration: max alloc mb per queue for root is undefined
2024-11-18 09:03:29,185 INFO capacity.CapacitySchedulerConfiguration: max alloc vcore per queue for root is undefined
2024-11-18 09:03:29,195 INFO capacity.ParentQueue: root, capacity=1.0, absoluteCapacity=1.0, maxCapacity=1.0, absoluteMaxCapacity=1.0, state=RUNNING, acls=ADMINISTER_QUEUE:*SUBMIT_APP:*, labels=*, reservationsContinueLooking=true, orderingPolicy=utilization, priority=0
2024-11-18 09:03:29,195 INFO capacity.ParentQueue: Initialized parent-queue root name=root, fullname=root
2024-11-18 09:03:29,238 INFO capacity.CapacitySchedulerConfiguration: max alloc mb per queue for root.default is undefined
2024-11-18 09:03:29,238 INFO capacity.CapacitySchedulerConfiguration: max alloc vcore per queue for root.default is undefined
2024-11-18 09:03:29,243 INFO capacity.LeafQueue: Initializing default
```



Terminal

```
maxCapacity = 1.0 [= configuredMaxCapacity ]
absoluteMaxCapacity = 1.0 [= 1.0 maximumCapacity undefined, (parentAbsoluteMaxCapacity * maximumCapacity) / 100 otherwise ]
effectiveMinResource=<memory:0, vCores:0>
, effectiveMaxResource=<memory:0, vCores:0>
userLimit = 100 [= configuredUserLimit ]
userLimitFactor = 1.0 [= configuredUserLimitFactor ]
maxApplications = 10000 [= configuredMaximumSystemApplicationsPerQueue or (int)(configuredMaximumSystemApplications * absoluteCapacity)]
maxApplicationsPerUser = 10000 [= (int)(maxApplications * (userLimit / 100.0f) * userLimitFactor) ]
usedCapacity = 0.0 [= usedResourcesMemory / (clusterResourceMemory * absoluteCapacity)]
absoluteUsedCapacity = 0.0 [= usedResourcesMemory / clusterResourceMemory]
maxAMResourcePerQueuePercent = 0.1 [= configuredMaximumAMResourcePercent ]
minimumAllocationFactor = 0.875 [= (float)(maximumAllocationMemory - minimumAllocationMemory) / maximumAllocationMemory ]
maximumAllocation = <memory:8192, vCores:4> [= configuredMaxAllocation ]
numContainers = 0 [= currentNumContainers ]
state = RUNNING [= configuredState ]
acls = ADMINISTER_QUEUE:*SUBMIT_APP:* [= configuredAcls ]
nodeLocalityDelay = 40
rackLocalityAdditionalDelay = -1
labels=*,
```



Terminal

```
2024-11-18 09:03:31,549 INFO store.AbstractFSNodeStore: Created store directory :file:/tmp/hadoop-yarn-root/node-attribute
2024-11-18 09:03:31,574 INFO store.AbstractFSNodeStore: Finished write mirror at:file:/tmp/hadoop-yarn-root/node-attribute/nodeattribute.mirror
2024-11-18 09:03:31,575 INFO store.AbstractFSNodeStore: Finished create editlog file at:file:/tmp/hadoop-yarn-root/node-attribute/nodeattribute.editlog
2024-11-18 09:03:31,595 INFO event.AsyncDispatcher: Registering class org.apache.hadoop.yarn.server.resourcemanager.nodelabels.NodeAttributesStoreEventType for class org.apache.hadoop.yarn.server.resourcemanager.nodelabels.NodeAttributesManagerImpl$ForwardingEventHandler
2024-11-18 09:03:31,596 INFO placement.MultiNodeSortingManager: Starting NodeSortingService=MultiNodeSortingManager
2024-11-18 09:03:31,624 INFO ipc.CallQueueManager: Using callQueue: class java.util.concurrent.LinkedBlockingQueue, queueCapacity: 5000, scheduler: class org.apache.hadoop.ipc.DefaultRpcScheduler, ipcBackoff: false.
2024-11-18 09:03:31,626 INFO ipc.Server: Starting Socket Reader #1 for port 8031
2024-11-18 09:03:31,637 INFO pb.RpcServerFactoryPBImpl: Adding protocol org.apache.hadoop.yarn.server.api.ResourceTrackerPB to the server
2024-11-18 09:03:31,641 INFO ipc.Server: IPC Server Responder: starting
2024-11-18 09:03:31,642 INFO ipc.Server: IPC Server listener on 8031: starting
2024-11-18 09:03:31,736 INFO util.JvmPauseMonitor: Starting JVM pause monitor
2024-11-18 09:03:31,781 INFO ipc.CallQueueManager: Using callQueue: class java.util.concurrent.LinkedBlockingQueue, queueCapacity: 5000, scheduler: class org.apache.hadoop.ipc.DefaultRpcScheduler, ipcBackoff: false.
2024-11-18 09:03:31,802 INFO ipc.Server: Starting Socket Reader #1 for port 8030
2024-11-18 09:03:31,831 INFO pb.RpcServerFactoryPBImpl: Adding protocol org.apache.hadoop.yarn.api.ApplicationMasterProtocolPB to the server
2024-11-18 09:03:31,836 INFO ipc.Server: IPC Server Responder: starting
2024-11-18 09:03:31,841 INFO ipc.Server: IPC Server listener on 8030: starting
```

```
root@9f4b1c8d33b4:/# 2024-11-18 09:03:48,710 INFO localizer.ResourceLocalizationService: Cache Size Before Clean: 0, Total Deleted: 0, Public Deleted: 0, Private Deleted: 0
2024-11-18 09:03:51,499 INFO resourcemanager.ResourceTrackerService: NodeManager from node 9f4b1c8d33b4(cmPort: 37547 httpPort: 8042) registered with capability: <memory: 8192, vCores:8>, assigned nodeId 9f4b1c8d33b4:37547
2024-11-18 09:03:51,505 INFO rmnode.RMNodeImpl: 9f4b1c8d33b4:37547 Node Transitioned from NEW to RUNNING
2024-11-18 09:03:51,533 INFO security.NMContainerTokenSecretManager: Rolling master-key for container-tokens, got key with id 836646860
2024-11-18 09:03:51,534 INFO security.NMTokenSecretManagerInNM: Rolling master-key for container-tokens, got key with id -947681700
2024-11-18 09:03:51,539 INFO nodemanager.NodeStatusUpdaterImpl: Registered with ResourceManager as 9f4b1c8d33b4:37547 with total resource of <memory:8192, vCores:8>
2024-11-18 09:03:51,541 INFO capacity.CapacityScheduler: Added node 9f4b1c8d33b4:37547 clusterResource: <memory:8192, vCores:8>

root@9f4b1c8d33b4:/#
```

10. To create an input directory and upload sample files to HDFS:

```
hdfs dfs -mkdir -p /user/hadoop/input
```

```
root@9f4b1c8d33b4:/# hdfs dfs -mkdir -p /user/hadoop/input
2024-11-18 09:06:39,257 INFO namenode.FSEditLog: Number of transactions: 4 Total time for transactions(ms): 26 Number of transactions batched in Syncs: 0 Number of syncs: 2 SyncTimes(ms): 12
```

```
hdfs dfs -put $HADOOP_HOME/etc/hadoop/*.xml /user/hadoop/input
```

Terminal

```
root@9f4b1c8d33b4:/# hdfs dfs -put $HADOOP_HOME/etc/hadoop/*.xml /user/hadoop/input
2024-11-18 09:07:32,501 INFO hdfs.StateChange: BLOCK* allocate blk_1073741825_1001, replicas=172.17.0.2:9866 for /user/hadoop/input/capacity-scheduler.xml._COPYING_
2024-11-18 09:07:32,540 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2024-11-18 09:07:32,696 INFO datanode.DataNode: Receiving BP-1489701997-172.17.0.2-1731918023935:blk_1073741825_1001 src: /172.17.0.2:33160 dest: /172.17.0.2:9866
2024-11-18 09:07:33,058 INFO DataNode.clienttrace: src: /172.17.0.2:33160, dest: /172.17.0.2:9866, bytes: 8260, op: HDFS_WRITE, cliID: DFSClient_NONMAPREDUCE_2124022006_1
, offset: 0, srvID: 0a5899ea-0773-49b3-95f2-0c6548ca0547, blockid: BP-1489701997-172.17.0.2-1731918023935:blk_1073741825_1001, duration(ns): 153293040
2024-11-18 09:07:33,059 INFO datanode.DataNode: PacketResponder: BP-1489701997-172.17.0.2-1731918023935:blk_1073741825_1001, type=LAST_IN_PIPELINE terminating
2024-11-18 09:07:33,087 INFO namenode.FSNamesystem: BLOCK* blk_1073741825_1001 is COMMITTED but not COMPLETE(numNodes= 0 < minimum = 1) in file /user/hadoop/input/capaci
ty-scheduler.xml._COPYING_
2024-11-18 09:07:33,507 INFO hdfs.StateChange: DIR* completeFile: /user/hadoop/input/capacity-scheduler.xml._COPYING_ is closed by DFSClient_NONMAPREDUCE_2124022006_1
2024-11-18 09:07:33,614 INFO hdfs.StateChange: BLOCK* allocate blk_1073741826_1002, replicas=172.17.0.2:9866 for /user/hadoop/input/core-site.xml._COPYING_
2024-11-18 09:07:33,622 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2024-11-18 09:07:33,626 INFO datanode.DataNode: Receiving BP-1489701997-172.17.0.2-1731918023935:blk_1073741826_1002 src: /172.17.0.2:33176 dest: /172.17.0.2:9866
2024-11-18 09:07:33,636 INFO DataNode.clienttrace: src: /172.17.0.2:33176, dest: /172.17.0.2:9866, bytes: 860, op: HDFS_WRITE, cliID: DFSClient_NONMAPREDUCE_2124022006_1,
offset: 0, srvID: 0a5899ea-0773-49b3-95f2-0c6548ca0547, blockid: BP-1489701997-172.17.0.2-1731918023935:blk_1073741826_1002, duration(ns): 5394595
2024-11-18 09:07:33,638 INFO datanode.DataNode: PacketResponder: BP-1489701997-172.17.0.2-1731918023935:blk_1073741826_1002, type=LAST_IN_PIPELINE terminating
2024-11-18 09:07:33,639 INFO namenode.FSNamesystem: BLOCK* blk_1073741826_1002 is COMMITTED but not COMPLETE(numNodes= 0 < minimum = 1) in file /user/hadoop/input/core-s
ite.xml._COPYING_
2024-11-18 09:07:34,048 INFO hdfs.StateChange: DIR* completeFile: /user/hadoop/input/core-site.xml._COPYING_ is closed by DFSClient_NONMAPREDUCE_2124022006_1
```

Terminal

```
2024-11-18 09:07:34,754 INFO DataNode.clienttrace: src: /172.17.0.2:37744, dest: /172.17.0.2:9866, bytes: 682, op: HDFS_WRITE, cliID: DFSClient_NONMAPREDUCE_2124022006_1, offset: 0, srvID: 0a5899ea-0773-49b3-95f2-0c6548ca0547, blockid: BP-1489701997-172.17.0.2-1731918023935:blk_1073741831_1007, duration(ns): 5099217
2024-11-18 09:07:34,754 INFO datanode.DataNode: PacketResponder: BP-1489701997-172.17.0.2-1731918023935:blk_1073741831_1007, type=LAST_IN_PIPELINE terminating
2024-11-18 09:07:34,757 INFO hdfs.StateChange: DIR* completeFile: /user/hadoop/input/kms-site.xml._COPYING_ is closed by DFSClient_NONMAPREDUCE_2124022006_1
2024-11-18 09:07:34,781 INFO hdfs.StateChange: BLOCK* allocate blk_1073741832_1008, replicas=172.17.0.2:9866 for /user/hadoop/input/mapred-site.xml._COPYING_
2024-11-18 09:07:34,786 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2024-11-18 09:07:34,788 INFO datanode.DataNode: Receiving BP-1489701997-172.17.0.2-1731918023935:blk_1073741832_1008 src: /172.17.0.2:37746 dest: /172.17.0.2:9866
2024-11-18 09:07:34,794 INFO DataNode.clienttrace: src: /172.17.0.2:37746, dest: /172.17.0.2:9866, bytes: 841, op: HDFS_WRITE, cliID: DFSClient_NONMAPREDUCE_2124022006_1, offset: 0, srvID: 0a5899ea-0773-49b3-95f2-0c6548ca0547, blockid: BP-1489701997-172.17.0.2-1731918023935:blk_1073741832_1008, duration(ns): 3569462
2024-11-18 09:07:34,795 INFO datanode.DataNode: PacketResponder: BP-1489701997-172.17.0.2-1731918023935:blk_1073741832_1008, type=LAST_IN_PIPELINE terminating
2024-11-18 09:07:34,797 INFO hdfs.StateChange: DIR* completeFile: /user/hadoop/input/mapred-site.xml._COPYING_ is closed by DFSClient_NONMAPREDUCE_2124022006_1
2024-11-18 09:07:34,819 INFO hdfs.StateChange: BLOCK* allocate blk_1073741833_1009, replicas=172.17.0.2:9866 for /user/hadoop/input/yarn-site.xml._COPYING_
2024-11-18 09:07:34,824 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2024-11-18 09:07:34,825 INFO datanode.DataNode: Receiving BP-1489701997-172.17.0.2-1731918023935:blk_1073741833_1009 src: /172.17.0.2:37760 dest: /172.17.0.2:9866
2024-11-18 09:07:34,831 INFO DataNode.clienttrace: src: /172.17.0.2:37760, dest: /172.17.0.2:9866, bytes: 1031, op: HDFS_WRITE, cliID: DFSClient_NONMAPREDUCE_2124022006_1, offset: 0, srvID: 0a5899ea-0773-49b3-95f2-0c6548ca0547, blockid: BP-1489701997-172.17.0.2-1731918023935:blk_1073741833_1009, duration(ns): 3781489
2024-11-18 09:07:34,831 INFO datanode.DataNode: PacketResponder: BP-1489701997-172.17.0.2-1731918023935:blk_1073741833_1009, type=LAST_IN_PIPELINE terminating
2024-11-18 09:07:34,833 INFO hdfs.StateChange: DIR* completeFile: /user/hadoop/input/yarn-site.xml._COPYING_ is closed by DFSClient_NONMAPREDUCE_2124022006_1
root@9f4b1c8d33b4:/#
```

11. To run the word count job:

```
hadoop jar $HADOOP_HOME/share/hadoop/mapreduce/hadoop-mapreduce-examples-*.jar wordcount /user/hadoop/input /user/hadoop/output
```

```
root@9f4b1c8d33b4:/# hdfs dfs -put $HADOOP_HOME/etc/hadoop/*.xml /user/hadoop/input
2024-11-18 09:07:32,501 INFO hdfs.StateChange: BLOCK* allocate blk_1073741825_1001, replicas=172.17.0.2:9866 for /user/hadoop/input/capacity-scheduler.xml._COPYING_
2024-11-18 09:07:32,540 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2024-11-18 09:07:32,696 INFO datanode.DataNode: Receiving BP-1489701997-172.17.0.2-1731918023935:blk_1073741825_1001 src: /172.17.0.2:33160 dest: /172.17.0.2:9866
2024-11-18 09:07:33,058 INFO DataNode.clienttrace: src: /172.17.0.2:33160, dest: /172.17.0.2:9866, bytes: 8260, op: HDFS_WRITE, cliID: DFSClient_NONMAPREDUCE_2124022006_1
, offset: 0, srvID: 0a5899ea-0773-49b3-95f2-0c6548ca0547, blockid: BP-1489701997-172.17.0.2-1731918023935:blk_1073741825_1001, duration(ns): 153293040
2024-11-18 09:07:33,059 INFO datanode.DataNode: PacketResponder: BP-1489701997-172.17.0.2-1731918023935:blk_1073741825_1001, type=LAST_IN_PIPELINE terminating
2024-11-18 09:07:33,087 INFO namenode.FSNamesystem: BLOCK* blk_1073741825_1001 is COMMITTED but not COMPLETE(numNodes= 0 < minimum = 1) in file /user/hadoop/input/capaci
ty-scheduler.xml._COPYING_
2024-11-18 09:07:33,507 INFO hdfs.StateChange: DIR* completeFile: /user/hadoop/input/capacity-scheduler.xml._COPYING_ is closed by DFSClient_NONMAPREDUCE_2124022006_1
2024-11-18 09:07:33,614 INFO hdfs.StateChange: BLOCK* allocate blk_1073741826_1002, replicas=172.17.0.2:9866 for /user/hadoop/input/core-site.xml._COPYING_
2024-11-18 09:07:33,622 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2024-11-18 09:07:33,626 INFO datanode.DataNode: Receiving BP-1489701997-172.17.0.2-1731918023935:blk_1073741826_1002 src: /172.17.0.2:33176 dest: /172.17.0.2:9866
2024-11-18 09:07:33,636 INFO DataNode.clienttrace: src: /172.17.0.2:33176, dest: /172.17.0.2:9866, bytes: 860, op: HDFS_WRITE, cliID: DFSClient_NONMAPREDUCE_2124022006_1
, offset: 0, srvID: 0a5899ea-0773-49b3-95f2-0c6548ca0547, blockid: BP-1489701997-172.17.0.2-1731918023935:blk_1073741826_1002, duration(ns): 5394595
2024-11-18 09:07:33,638 INFO datanode.DataNode: PacketResponder: BP-1489701997-172.17.0.2-1731918023935:blk_1073741826_1002, type=LAST_IN_PIPELINE terminating
2024-11-18 09:07:33,639 INFO namenode.FSNamesystem: BLOCK* blk_1073741826_1002 is COMMITTED but not COMPLETE(numNodes= 0 < minimum = 1) in file /user/hadoop/input/core-s
ite.xml._COPYING_
```

12. To display the results of the word count job:

```
hdfs dfs -cat /user/hadoop/output/part-r-00000
```

Terminal

```
2024-11-18 09:10:55,025 INFO mapred.Task: Final Counters for attempt_local889440425_0001_m_000000_0: Counters: 24
```

File System Counters

```
FILE: Number of bytes read=317864  
FILE: Number of bytes written=845822  
FILE: Number of read operations=0  
FILE: Number of large read operations=0  
FILE: Number of write operations=0  
HDFS: Number of bytes read=11392  
HDFS: Number of bytes written=0  
HDFS: Number of read operations=5  
HDFS: Number of large read operations=0  
HDFS: Number of write operations=1  
HDFS: Number of bytes read erasure-coded=0
```

Map-Reduce Framework

```
Map input records=265  
Map output records=1310  
Map output bytes=15783  
Map output materialized bytes=5170  
Input split bytes=125
```

Terminal

```
2024-11-18 09:10:55,275 INFO mapred.LocalJobRunner: map
2024-11-18 09:10:55,275 INFO mapred.Task: Task 'attempt_local889440425_0001_m_000002_0' done.
2024-11-18 09:10:55,276 INFO mapred.Task: Final Counters for attempt_local889440425_0001_m_000002_0: Counters: 24
    File System Counters
        FILE: Number of bytes read=320126
        FILE: Number of bytes written=854599
        FILE: Number of read operations=0
        FILE: Number of large read operations=0
        FILE: Number of write operations=0
        HDFS: Number of bytes read=23170
        HDFS: Number of bytes written=0
        HDFS: Number of read operations=9
        HDFS: Number of large read operations=0
        HDFS: Number of write operations=1
        HDFS: Number of bytes read erasure-coded=0
    Map-Reduce Framework
        Map input records=135
        Map output records=332
        Map output bytes=4413
```



```
2024-11-18 09:10:56,361 INFO reduce.MergeManagerImpl: closeInMemoryFile -> map-output of size: 1214, inMemoryMapOutputs.size() -> 8, commitMemory -> 19139, usedMemory ->2  
0353  
2024-11-18 09:10:56,362 INFO reduce.LocalFetcher: localfetcher#1 about to shuffle output of map attempt_local889440425_0001_m_000008_0 decomp: 938 len: 942 to MEMORY  
2024-11-18 09:10:56,362 WARN io.ReadaheadPool: Failed readahead on ifile  
EBADF: Bad file descriptor  
    at org.apache.hadoop.io.nativeio.NativeIO$POSIX.posix_fadvise(Native Method)  
    at org.apache.hadoop.io.nativeio.NativeIO$POSIX.posixFadviseIfPossible(NativeIO.java:271)  
    at org.apache.hadoop.io.nativeio.NativeIO$POSIX$CacheManipulator.posixAdviseIfPossible(NativeIO.java:148)  
    at org.apache.hadoop.io.ReadaheadPool$ReadaheadRequestImpl.run(ReadaheadPool.java:209)  
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1149)  
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)  
    at java.lang.Thread.run(Thread.java:748)  
2024-11-18 09:10:56,363 INFO reduce.InMemoryMapOutput: Read 938 bytes from map-output for attempt_local889440425_0001_m_000008_0  
2024-11-18 09:10:56,367 INFO reduce.MergeManagerImpl: closeInMemoryFile -> map-output of size: 938, inMemoryMapOutputs.size() -> 9, commitMemory -> 20353, usedMemory ->21  
291  
2024-11-18 09:10:56,367 INFO reduce.EventFetcher: EventFetcher is interrupted.. Returning  
2024-11-18 09:10:56,369 INFO mapred.LocalJobRunner: 9 / 9 copied.  
2024-11-18 09:10:56,369 INFO reduce.MergeManagerImpl: finalMerge called with 9 in-memory map-outputs and 0 on-disk map-outputs  
2024-11-18 09:10:56,380 INFO mapred.Merger: Merging 9 sorted segments
```

Terminal

```
2024-11-18 09:10:56,591 INFO mapred.LocalJobRunner: reduce task executor complete.
2024-11-18 09:10:56,632 INFO hdfs.StateChange: DIR* completeFile: /user/hadoop/output/_SUCCESS is closed by DFSClient_NONMAPREDUCE_1713112118_1
2024-11-18 09:10:57,537 INFO mapreduce.Job: map 100% reduce 100%
2024-11-18 09:10:57,539 INFO mapreduce.Job: Job job_local889440425_0001 completed successfully
2024-11-18 09:10:57,610 INFO mapreduce.Job: Counters: 36
  File System Counters
    FILE: Number of bytes read=3264130
    FILE: Number of bytes written=8592971
    FILE: Number of read operations=0
    FILE: Number of large read operations=0
    FILE: Number of write operations=0
    HDFS: Number of bytes read=243235
    HDFS: Number of bytes written=10327
    HDFS: Number of read operations=143
    HDFS: Number of large read operations=0
    HDFS: Number of write operations=12
    HDFS: Number of bytes read erasure-coded=0
  Map-Reduce Framework
    Map input records=751
```



Terminal

```
Shuffled Maps =9
Failed Shuffles=0
Merged Map outputs=9
GC time elapsed (ms)=37
Total committed heap usage (bytes)=7683964928
Shuffle Errors
  BAD_ID=0
  CONNECTION=0
  IO_ERROR=0
  WRONG_LENGTH=0
  WRONG_MAP=0
  WRONG_REDUCE=0
File Input Format Counters
  Bytes Read=28589
File Output Format Counters
  Bytes Written=10327
root@9f4b1c8d33b4:/# 2024-11-18 09:13:31,601 INFO scheduler.AbstractYarnScheduler: Release request cache is cleaned up
2024-11-18 09:13:48,607 INFO localizer.ResourceLocalizationService: Cache Size Before Clean: 0, Total Deleted: 0, Public Deleted: 0, Private Deleted: 0
```



Terminal

```
root@9f4b1c8d33b4:/# hdfs dfs -cat /user/hadoop/output/part-r-00000
2024-11-18 09:18:45,240 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
"*"      21
"AS      9
"License");    9
"alice,bob   21
"clumping"   1
ASF)      1
(root     1
(the      9
-->      18
-1       1
-1,      1
0.0      1
1-MAX_INT. 1
1.       1
1.0.     1
2.0      9
```



Terminal

```
</description> 33
</name> 2
</property> 57
<?xml 8
<?xmlstylesheet 4
<configuration> 9
<description> 31
<description>ACL 25
<description>Default 1
<name>default.key.acl.DECRYPT_EEK</name> 1
<name>default.key.acl.GENERATE_EEK</name> 1
<name>default.key.acl.MANAGEMENT</name> 1
<name>default.key.acl.READ</name> 1
<name>hadoop.kms.acl.CREATE</name> 1
<name>hadoop.kms.acl.DECRYPT_EEK</name> 1
<name>hadoop.kms.acl.DELETE</name> 1
<name>hadoop.kms.acl.GENERATE_EEK</name> 1
<name>hadoop.kms.acl.GET</name> 1
<name>hadoop.kms.acl.GET_KEYS</name> 1
```



Terminal

```
<name>yarn.scheduler.capacity.application.fail-fast</name>      1
<name>yarn.scheduler.capacity.maximum-am-resource-percent</name>      1
<name>yarn.scheduler.capacity.maximum-applications</name>      1
<name>yarn.scheduler.capacity.node-locality-delay</name>      1
<name>yarn.scheduler.capacity.per-node-heartbeat.maximum-offswitch-assignments</name>  1
<name>yarn.scheduler.capacity.queue-mappings-override.enable</name>      1
<name>yarn.scheduler.capacity.queue-mappings</name>      1
<name>yarn.scheduler.capacity.rack-locality-additional-delay</name>      1
<name>yarn.scheduler.capacity.resource-calculator</name>      1
<name>yarn.scheduler.capacity.root.default.acl_administer_queue</name>  1
<name>yarn.scheduler.capacity.root.default.acl_application_max_priority</name>  1
<name>yarn.scheduler.capacity.root.default.acl_submit_applications</name>      1
<name>yarn.scheduler.capacity.root.default.capacity</name>      1
<name>yarn.scheduler.capacity.root.default.default-application-lifetime 1
<name>yarn.scheduler.capacity.root.default.maximum-application-lifetime 1
<name>yarn.scheduler.capacity.root.default.maximum-capacity</name>      1
<name>yarn.scheduler.capacity.root.default.state</name>  1
<name>yarn.scheduler.capacity.root.default.user-limit-factor</name>      1
<name>yarn.scheduler.capacity.root.queues</name>      1
```



Terminal

```
<property><name>yarn.timeline-service.bind-host</name><value>0.0.0.0</value></property> 1
<value>*</value>      41
<value>-1</value>      3
<value>0.1</value>      1
<value>10000</value>    1
<value>100</value>      2
<value>1</value>        2
<value>40</value>       1
<value></value>        1
<value>RUNNING</value>   1
<value>default</value>   1
<value>false</value>     2
<value>org.apache.hadoop.yarn.util.resource.DefaultResourceCalculator</value>  1
A      22
ACL    37
ACL,   2
ACLs   1
ANY    9
ASF    1
```



Terminal

```
valid. 1
value 30
value, 2
values 2
version="1.0" 5
version="1.0"?> 3
via 1
well 1
when 3
which 10
while 1
who 3
will 12
with 28
work 1
writing, 9
you 10
zero 2
root@9f4b1c8d33b4:/# []
```

