Exp .No: 8 Date: 20/08/2024

SET UP A SINGLE HADOOP CLUSTER AND SHOW THE PROCESS USING WEB UI AIM:

To set up a single hadoop cluster and show the process using web UI.

PROCEDURE:

1. **Install Java 8:** Download Java 8 from the link: http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-

2133151.html

- a. Set environmental variables:
 - i. User variable:

• Variable: JAVA HOME

• Value: C:/java ii. System variable:

• Variable: PATH • Value: C:/java/bin

b. Check on cmd, see below:

```
Command Prompt

Microsoft Windows [Version 10.0.19045.4780]

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C:\Users\user>cd \

C:\>java -version
java version "1.8.0_202"

Java(TM) SE Runtime Environment (build 1.8.0_202-b08)

Java HotSpot(TM) 64-Bit Server VM (build 25.202-b08, mixed mode)

C:\>
```

2. Download Hadoop-3.3.6: download Hadoop 3.3.6 from the link:

http://www.apache.org/dyn/closer.cgi/hadoop/common/hadoop-3.3.6/hadoop-3.3.6.tar.gz

- a. Put extracted Hadoop-3.3.6 files into C drive. Note that do not put these extracted files into Cdrive, where you installed your Windows.
- b. **Download** "hadoop-common-3.3.6-bin-master" from the link: https://github.com/amihalik/hadoop-common-3.3.6-bin/tree/master/bin. You will see 11 filesthere. Paste all these files into the "bin" folder of Hadoop- 3.3.6.
- c. Create a "data" folder inside Hadoop-3.3.6, and also create two more folders in the "data" folderas "data" and "name."
- d. Create a folder to store temporary data during execution of a project, such as "D:/hadoop/temp."
- e. Create a log folder, such as "D:/hadoop/userlog"
- f. Go to Hadoop-3.3.6 **O**etc **O** Hadoop and edit four files:
 - i. core-site.xml ii. hdfs-site.xml

```
varn-site.xml
core-site.xml:
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
<configuration>
property>
  <name>fs.defaultFS</name>
  <value>hdfs://localhost:9000</value>
 </configuration>
hdfs-site.xml:
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
<configuration>
 property>
  <name>dfs.replication</name>
  <value>1</value>
 property>
  <name>dfs.namenode.name.dir</name>
  <value>file:///C:/hadoop-3.3.6/data/namenode</value>
 property>
  <name>dfs.datanode.data.dir</name>
  <value>file:///C:/hadoop-3.3.6/data/datanode</value>
 </configuration>
mapred-site.xml:
<?xml version="1.0"?>
<?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
<configuration>
```

iii. mapred-site.xml iv.

g. Go to the location: "Hadoop-3.3.6 etc hadoop," and edit "hadoop-env.cmd" by writingset

JAVA_HOME=C:/java/jdk1.8.0_202

h. Set environmental variables: Do: My computer • Properties • Advance system settings •

Advanced **7** Environmental variables

i. User variables:

• Variable: HADOOP HOME

• Value: C:/hadoop-3.3.6 ii. System variable

Variable: Path

• Value: C:/hadoop-3.3.6/bin

C:/hadoop-3.3.6/sbin

C:/hadoop-3.3.6/share/hadoop/common/*

C:/hadoop-3.3.6/share/hadoop/hdfs

C:/hadoop-3.3.6/share/hadoop/hdfs/lib/*

C:/hadoop-3.3.6/share/hadoop/hdfs/*

C:/hadoop-3.3.6/share/hadoop/yarn/lib/*

C:/hadoop-3.3.6/share/hadoop/yarn/*

C:/hadoop-3.3.6/share/hadoop/mapreduce/lib/*

C:/hadoop3.3.6/share/hadoop/mapreduce/*

C:/hadoop3.3.6/share/hadoop/common/lib/*

i. Check on cmd; see below.

```
C:\Windows\System32>hadoop version
Hadoop 3.3.6
Source code repository https://github.com/apache/hadoop.git -r 1be78238728da9266a4f88195058f08fd012bf9c
Compiled by ubuntu on 2023-06-18T08:22Z
Compiled on platform linux-x86_64
Compiled with protoc 3.7.1
From source with checksum 5652179ad55f76cb287d9c633bb53bbd
This command was run using /C:/hadoop-3.3.6/share/hadoop/common/hadoop-common-3.3.6.jar
```

- j. **Format name-node**: On cmd go to the location "Hadoop-2.6.0 bin" by writing on cmd "cdhadoop-2.6.0.\bin" and then "hdfs namenode –format"
- k. Start Hadoop. Go to the location: "D:\hadoop-2.6.0\sbin." Run the following files as administrator "start-all.cmd".
- 1. Go to your web browser and search "localhost:9870" to access Hadoop NameNode. For Resource Manager, search "localhost:8088".

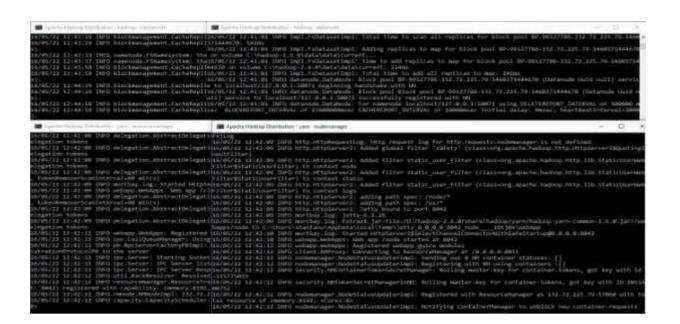
```
| 20.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.0
```

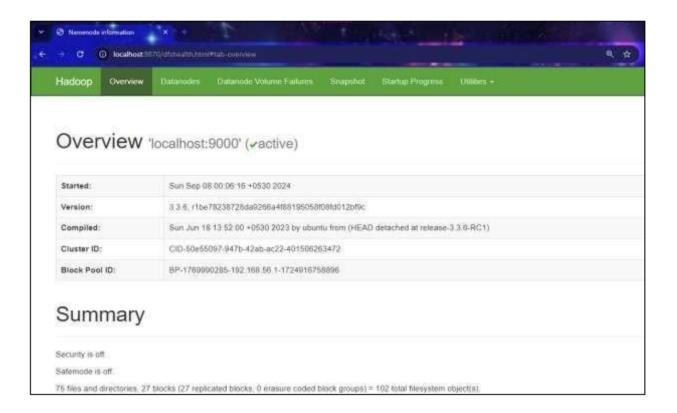
```
Microsoft Windows [Version 10.0.19045.4780]
(c) Microsoft Corporation. All rights reserved.

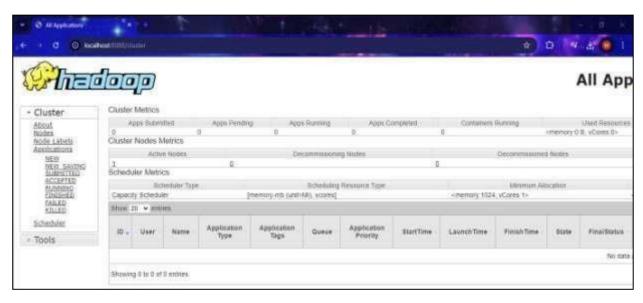
C:\WINDOWS\system32>start-all.cmd
This script is Deprecated. Instead use start-dfs.cmd and start-yarn.cmd
starting yarn daemons

C:\WINDOWS\system32>jps
1104 Jps
12868 DataNode
11288 ResourceManager
12456 NodeManager
5596 NameNode

C:\WINDOWS\system32>
```







RESULT:

The set up of a single hadoop cluster and show the process using web UI on Windows system have been successfully completed.