

The logo for Big Data Lab, featuring a dark blue vertical bar on the left and a blue arrow pointing right with the text "Big Data Lab" inside.

Big Data Lab

HBase Installation

1. HBase Installation

1. From Source :-

- Open terminal and make sure you are inside the home directory.
- Download HBase source code tarball using the following command in the terminal.

```
wget https://dlcdn.apache.org/hbase/2.4.9/hbase-2.4.9-bin.tar.gz
```

- Unzip the file

```
tar -xvf hbase-2.4.9-bin.tar.gz
```

Note: Make sure Hadoop is installed already.
It can be found by using the following commands.

```
cd ~
```

```
hadoop version
```

Note:

1. Follow the Hadoop installation ppt to set paths in the “bashrc” file.
2. Copy the output of **echo \$JAVA_HOME**

- Set HBase paths in bashrc file

```
sudo nano .bashrc
```

- Paste these lines at the end of the file

#HBASE_SETUP settings

#"/home/hadoop" can be different, so,

#1- cd ~

#2- pwd

#3- copy the output and replace the "/home/hadoop" with the output.

```
export HBASE_HOME=/home/hadoop/hbase-2.4.9
```

```
export PATH=$PATH:$HBASE_HOME/bin
```

#JAVA_HOME settings

paste the output of "echo \$JAVA_HOME"

```
export JAVA_HOME=/usr/lib/jvm/java-1.8.0-openjdk-  
amd64
```

```
export PATH=$PATH:/usr/lib/jvm/java-1.8.0-openjdk-  
amd64/bin
```

- Check to confirm all of the below are present

#HADOOP_SETUP settings

#use the output of "echo \$HADOOP_HOME"

```
export HADOOP_HOME=/home/hadoop/hadoop-3.2.2
```

```
export HADOOP_INSTALL=$HADOOP_HOME
```

```
export HADOOP_MAPRED_HOME=$HADOOP_HOME
```

```
export HADOOP_COMMON_HOME=$HADOOP_HOME
```

```
export HADOOP_HDFS_HOME=$HADOOP_HOME
```

```
export YARN_HOME=$HADOOP_HOME
```

```
export
```

```
HADOOP_COMMON_LIB_NATIVE_DIR=$HADOOP_HOME/lib/native
```

```
export PATH=$PATH:$HADOOP_HOME/sbin:$HADOOP_HOME/bin
```

```
export HADOOP_OPTS="-
```

```
Djava.library.path=$HADOOP_HOME/lib/native"
```

- Apply the changes in “bashrc” file

```
source ~/.bashrc
```

- create a folder named "zookeeper" in the home folder.

```
cd ~  
mkdir zookeeper
```

- Making changes in the HBase configuration files

```
sudo nano hbase-site.xml
```

```
cd conf
```

```
cd hbase-2.4.9/
```

- In hbase-site.xml; between <configuration></configuration>, paste the following code and make sure to replace **/home/hadoop** with the output of the path of home directory where **Hbase-2.4.9** is extracted.

```
cd ~
```

```
pwd
```

```
hadoop@abhishek-ubuntu:~$ cd ~  
hadoop@abhishek-ubuntu:~$ pwd  
/home/hadoop  
hadoop@abhishek-ubuntu:~$
```

- Copy the output and replace **/home/hadoop** with the output in the “**hbase-site.xml**”

```
<property>
  <name>hbase.cluster.distributed</name>
  <value>true</value>
</property>

<!--"/home/hadoop" can be different, so,
      1- cd ~
      2- pwd
      3- copy the output and replace the "/home/hadoop" with the output.

-->
<property>
  <name>hbase.rootdir</name>
  <value>/home/hadoop/hbase-2.4.9/hbasestorage</value>
</property>

<property>
  <name>hbase.zookeeper.property.dataDir</name>
  <value>/home/hadoop/zookeeper</value>
</property>

<property>
  <name>hbase.zookeeper.property.clientPort</name>
  <value>2181</value>
</property>

<property>
  <name>hbase.unsafe.stream.capability.enforce</name>
  <value>false</value>
</property>
```

- Now, we need to make changes to “**hbase-env.sh**” file

```
sudo nano hbase-env.sh
```

- Paste the following at the end of the file

```
# paste the output of "echo $JAVA_HOME" and $JAVA_PATH
export JAVA_HOME=/usr/lib/jvm/java-1.8.0-openjdk-amd64
export PATH=$PATH:/usr/lib/jvm/java-1.8.0-openjdk-amd64/bin
```

- Uncomment the following code (line)

```
export HBASE_DISABLE_HADOOP_CLASSPATH_LOOKUP="true"
```

- Start the services

```
sudo hdfs namenode -format
start-dfs.sh
start-yarn.sh
```

- Check the running services

```
jps
```

```
hdoop@abhishek-ubuntu:~$ jps
7137 HQuorumPeer
9617 JarBootstrapMain
13730 SecondaryNameNode
7250 HMaster
13571 DataNode
7894 HRegionServer
13463 NameNode
14247 Jps
```

- Start HBase

```
cd ~/hbase-2.4.9/bin
```

```
./start-hbase.sh
```

```
hdoop@abhishek-ubuntu:~/hbase-2.4.9/bin$ ./start-hbase.sh
127.0.0.1: running zookeeper, logging to /home/hdoop/hbase-2.4.9/bin/../logs/
hbase-hdoop-zookeeper-abhishek-ubuntu.out
running master, logging to /home/hdoop/hbase-2.4.9/logs/hbase-hdoop-master-ab
hishek-ubuntu.out
: running regionserver, logging to /home/hdoop/hbase-2.4.9/logs/hbase-hdoop-r
egionserver-abhishek-ubuntu.out
```

```
hadoop@abhishek-ubuntu:~/hbase-2.4.9/bin$ hbase shell
2022-01-06 14:43:04,845 WARN [main] util.NativeCodeLoader: Unable to load native-hadoop
op library for your platform... using builtin-java classes where applicable
HBase Shell
Use "help" to get list of supported commands.
Use "exit" to quit this interactive shell.
For Reference, please visit: http://hbase.apache.org/2.0/book.html#shell
Version 2.4.9, rc49f7f63fca144765bf7c2da41791769286dfccc, Fri Dec 17 19:02:09 PST 2021
Took 0.0023 seconds
hbase:001:0> █
```