

Hbase Installation Guide - 0.98.0

NOTE: If a dedicated Hadoop user is present (**hduser**), Hbase needs to be installed in that user account. The guide below assumes Hadoop is installed.

Download and Install Hbase:

- Switch to appropriate user where Hadoop is installed or skip this step: `$su hduser`
- Go to the home directory: `$cd ~`
- Download Hbase using the command: `$curl -o hbase-0.98.9-hadoop2-bin.tar.gz http://archive.apache.org/dist/hbase/hbase-0.98.9/hbase-0.98.9-hadoop2-bin.tar.gz`
- If the above link fails to work, download Hbase from the apache website (tar.gz file).
- Unzip the folder with the command: `$tar -xvzf hbase-0.98.9-hadoop2-bin.tar.gz`
- The above command will create a new Hbase file (**hbase-0.98.9-hadoop2**), to check use the command: `$ls -l`
- Rename the unzipped folder to "hbase": `$mv hbase-0.98.9-hadoop2 hbase`
- Check the present working director: `$pwd` #should be /Users/Username or similar
- Move Hbase folder from pwd to /usr/local: `$sudo mv /home/hduser/hbase /usr/local/hbase`
- Change owner of Hbase folder in /usr/local to the Hadoop user if required (Hadoop user is hduser in this case): `$sudo chown -R hduser:hadoop /usr/local/hbase`
- To check permissions of the Hbase folder, go to /usr/local and enter the command: `$ls -al`

Create a Hbase directory in Hadoop:

- To start Hadoop use the following command: `$start-all.sh`
- To check if Hadoop services are running, use the command: `$jps`
- The above command should show a minimum of 5 services running, namely - **DataNode**, **NodeManager**, **SecondaryNameNode**, **ResourceManager**, **NameNode**
- Make a user directory inside HDFS: `$hadoop fs -mkdir /user`
- Make a hbase directory inside user: `$hadoop fs -mkdir /user/hbase`
- Make a hbase-data directory inside user: `$hadoop fs -mkdir /user/hbase/hbase-data`
- Open a web-browser and enter the URL <http://localhost:50070/>
- To check the files in HDFS, go to **Utilities -> Browse the file system** in the webpage.

Setup Hbase Configuration Files:

A total of 3 configurations files have to be modified to complete the Hive setup. The setup process is described below.

File1: .bash_profile

- Switch to the Hadoop user where Hbase is installed (hduser in this case): `$su hduser`
- Go to the home directory inside hduser: `$cd ~`
- Check if the `.bash_profile` file exists: `$ls -al`
- Open the `.bash_profile` file using TextEdit: `$open -a TextEdit .bash_profile`
- Append the following code to the end of the `.bash_profile` file:

```
#HBASE VARIABLES START
export HBASE_HOME=/usr/local/hbase
export PATH="$JAVA_HOME/bin:$HBASE_HOME/bin:/usr/local/bin:/usr/local/sbin:$PATH"
export PATH="$JAVA_HOME:$PATH"
#HBASE VARIABLES END
```

- Make sure the above syntax is identical with the spacing between the variables and =
- Save and close the `.bash_profile` file.
- Run the following command in the terminal: `$source ~/.bash_profile`

File2: hbase-site.xml

- The `hbase-site.xml` is located in the `conf` directory of the installation root
- Switch to the Hadoop user where Hbase is installed (hduser in this case): `$su hduser`
- Go to the following directory inside hduser: `$cd /usr/local/hbase/conf`
- Open the `hbase-site.xml` file using TextEdit: `$open -a TextEdit hbase-site.xml`
- Add the following code between the `<configuration>` xml tags:

```
<property>
  <name>hbase.rootdir</name>
  <value>hdfs://localhost:54310/user/hbase/hbase-data</value>
</property>
<property>
  <name>hbase.zookeeper.property.dataDir</name>
  <value>/usr/local/hbase/zookeeper</value>
</property>
<property>
  <name>dfs.replication</name>
  <value>1</value>
</property>
<property>
  <name>hbase.zookeeper.property.clientPort</name>
  <value>2222</value>
</property>
<property>
  <name>hbase.zookeeper.quorum</name>
  <value>localhost</value>
</property>
```

- Make sure the above syntax is identical.
- Save and close the `hbase-site.xml` file.

File3: `hbase-env.sh`

- The `hbase-env.sh` file is modified to allow Hbase to manage its own instance of the zookeeper
- The `hbase-env.sh` is located in the `conf` directory of the installation root.
- Switch to the Hadoop user where hbase is installed (hduser in this case): `$su hduser`
- Go to the following directory inside hduser: `$cd /usr/local/hbase/conf`
- Open the `hbase-env.sh` file using TextEdit: `$open -a TextEdit hbase-env.sh`
- Search for the line `export HBASE_MANAGES_ZK=true` and uncomment the line (remove `#`)
- Save the file and exit.

Start Hbase:

- Start Hadoop first: `$start-all.sh` # Execute only if Hadoop installed
- Run the command: `$start-hbase.sh`
- To start Hbase, use the command: `$hbase shell`