

EXPNO: 5

## Installation Of Hive

Environment Setting for Hive :

```
hadoop@fedora:~$ nano .bashrc
GNU nano 7.2 .bashrc
# User specific environment
if ! [[ "$PATH" =~ "$HOME/.local/bin:$HOME/bin:" ]]; then
    PATH="$HOME/.local/bin:$HOME/bin:$PATH"
fi
export PATH

# Uncomment the following line if you don't like systemctl's auto-paging feature:
# export SYSTEMD_PAGER=

# User specific aliases and functions
if [ -d ~/.bashrc.d ]; then
    for rc in ~/.bashrc.d/*; do
        if [ -f "$rc" ]; then
            . "$rc"
        fi
    done
fi

#Hadoop Related Options
export JAVA_HOME=/usr/lib/jvm/java-11-openjdk-11.0.24.0.8-2.fc40.x86_64
export HADOOP_HOME=/home/hadoop/hadoop
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"
export PIG_HOME=/home/hadoop/pig
export PATH=$PATH:$PIG_HOME/bin
export PIG_CLASSPATH=$PIG_HOME/conf:$HADOOP_INSTALL/etc/hadoop/
export PIG_CONF_DIR=$PIG_HOME/conf
export PIG_CLASSPATH=$PIG_CONF_DIR:$PATH
export HIVE_HOME=/home/jeciyazhini/hive
export PATH=$PATH:$HIVE_HOME/bin
export HADOOP_USER_CLASSPATH_FIRST=true
unse trc
```

Configure Hive (hive-env.sh, hive-site.xml) :

```
hadoop@fedora:~/hive/conf$ nano hive.env.sh
GNU nano 7.2 hive.env.sh
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# distributed under the License is distributed on an "AS IS" BASIS,
# WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
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# limitations under the License.
#
# Set Hive and Hadoop environment variables here. These variables can be used
# to control the execution of Hive. It should be used by admins to configure
# the Hive installation (so that users do not have to set environment variables
# or set command line parameters to get correct behavior).
#
# The hive service being invoked (CLI etc.) is available via the environment
# variable SERVICE
#
# Hive Client memory usage can be an issue if a large number of clients
# are running at the same time. The flags below have been useful in
# reducing memory usage:
#
# if [ "$SERVICE" = "cli" ]; then
#     if [ -z "$DEBUG" ]; then
#         export HADOOP_OPTS="$HADOOP_OPTS -XX:NewRatio=12 -Xms10m -XX:MaxHeapFreeRatio=40 -XX:MinHeapFreeRatio=15 -XX:+UseParNewGC -XX:-UseGCOverheadLimit"
#     else
#         export HADOOP_OPTS="$HADOOP_OPTS -XX:NewRatio=12 -Xms10m -XX:MaxHeapFreeRatio=40 -XX:MinHeapFreeRatio=15 -XX:-UseGCOverheadLimit"
#     fi
# fi
#
# The heap size of the jvm started by hive shell script can be controlled via:
#
# export HADOOP_HEAPSIZE=1024
#
# Larger heap size may be required when running queries over large number of files or partitions.
# By default hive shell scripts use a heap size of 256 (MB). Larger heap size would also be
```

```
hadoop@fedora:~/hive/conf
GNU nano 7.2
hive-site.xml
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<!--
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contributor license agreements. See the NOTICE file distributed with
this work for additional information regarding copyright ownership.
The ASF licenses this file to You under the Apache License, Version 2.0
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distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
-->
<configuration>
  <!-- WARNING!!! This file is auto generated for documentation purposes ONLY! -->
  <!-- WARNING!!! Any changes you make to this file will be ignored by Hive. -->
  <!-- WARNING!!! You must make your changes in hive-site.xml instead. -->
  <!-- Hive Execution Parameters -->
  <property>
    <name>hive.metastore.client.cache.v2.enabled</name>
    <value>true</value>
    <description>This property enables a Caffeine Cache for Metastore client</description>
  </property>
  <property>
    <name>hive.metastore.client.cache.v2.maxSize</name>
    <value>1gb</value>
    <description>
      Expects a byte size value with unit (blank for bytes, kb, mb, gb, tb, pb).
      Set the maximum size (number of bytes) of the metastore client cache (DEFAULT: 1GB). Only in effect when the cache is enabled
    </description>
  </property>
  <property>
    <name>hive.metastore.client.cache.v2.recordStats</name>
    <value>false</value>
    <description>This property enables recording metastore client cache stats in DEBUG logs</description>
  </property>
  <property>
    <name>dfs.xattr.supported.only.on.reserved.namespace</name>
    <value>false</value>
    <description>DFS supports xattr only on Reserved Name space (/.reserved/raw)</description>
  </property>
</configuration>
```

Connecting Hive to SQL Database with JDBC :

!connect jdbc:mysql://localhost:3306/<database> <username> <password>

```
Beeline version 4.0.0 by Apache Hive
beeline> show databases;
No current connection
beeline> !connect jdbc:mysql://localhost:3306/hive root admin
Connecting to jdbc:mysql://localhost:3306/hive
Connected to: MySQL (version 8.0.39)
Driver: MySQL Connector/J (version mysql-connector-java-8.0.15 (Revision: 79a4336f140499bd22dd07f02b708e163844e3d5))
Transaction isolation: TRANSACTION_REPEATABLE_READ
0: jdbc:mysql://localhost:3306/hive> show databases;
Error: You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'databases' at line 1 (state
=42000,code=1064)
0: jdbc:mysql://localhost:3306/hive> show databases;
+-----+
| Database |
+-----+
| hive     |
| information_schema |
| metastore |
| mysql    |
| performance_schema |
| sys      |
+-----+
6 rows selected (0.043 seconds)
0: jdbc:mysql://localhost:3306/hive> create database financials;
1 row affected (2.151 seconds)
0: jdbc:mysql://localhost:3306/hive> use financials
. . . . .> ;
No rows affected (0.004 seconds)
0: jdbc:mysql://localhost:3306/hive> CREATE TABLE finance_table( id INT, name STRING );
Error: You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'STRING )' at line 1 (state
=42000,code=1064)
0: jdbc:mysql://localhost:3306/hive> CREATE TABLE finance_table(id integer, name varchar(25));
No rows affected (0.592 seconds)
```

```
0: jdbc:mysql://localhost:3306/hive> CREATE TABLE finance_table(id integer, name varchar(25));
No rows affected (0.592 seconds)
0: jdbc:mysql://localhost:3306/hive> INSERT INTO finance_tableVALUES (1, 'Alice'), (2, 'Bob'), (3, 'Charlie');
Error: You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '1, 'Alice'), (2, 'Bob'), (
3, 'Charlie')' at line 1 (state=42000,code=1064)
0: jdbc:mysql://localhost:3306/hive> INSERT INTO finance_tableVALUES (1, 'Alice');
Error: You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '1, 'Alice')' at line 1 (st
ate=42000,code=1064)
0: jdbc:mysql://localhost:3306/hive> INSERT INTO finance_table VALUES (1, 'Alice'), (2, 'Bob'), (3, 'Charlie');
3 rows affected (0.547 seconds)
0: jdbc:mysql://localhost:3306/hive> CREATE VIEW myview AS SELECT name, id FROM finance_table;
No rows affected (0.272 seconds)
0: jdbc:mysql://localhost:3306/hive> SELECT*FROM myview;
+-----+
| name | id |
+-----+
| Alice | 1 |
| Bob   | 2 |
| Charlie | 3 |
+-----+
3 rows selected (0.012 seconds)
0: jdbc:mysql://localhost:3306/hive> DESCRIBE finance_table;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| id    | int  | YES  |     | NULL    |       |
| name  | varchar(25) | YES  |     | NULL    |       |
+-----+
2 rows selected (0.021 seconds)
```

## Result :

Thus Hive is successfully installed and connected with SQL database.