CÀI ĐẶT APACHE HIVE

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1. Cài đặt Java

- Đã thực hiện trong các bài tập trước

```
hadoopminhchau@minhchau-master:~$ java -version
openjdk version "11.0.14.1" 2022-02-08
OpenJDK Runtime Environment (build 11.0.14.1+1-Ubuntu-0ubuntu1.21.10)
OpenJDK 64-Bit Server VM (build 11.0.14.1+1-Ubuntu-0ubuntu1.21.10, mixed mode, sharing)
hadoopminhchau@minhchau-master:~$
```

2. Cài đặt Hadoop

- Đã thực hiện trong các bài tập trước

```
hadoopminhchau@minhchau-master:~$ start-all.sh
WARNING: Attempting to start all Apache Hadoop daemons as hadoopminhchau in 10 seconds.
WARNING: This is not a recommended production deployment configuration.
WARNING: Use CTRL-C to abort.
Starting namenodes on [minhchau-master]
Starting datanodes
Starting secondary namenodes [minhchau-master]
Starting resourcemanager
Starting nodemanagers
hadoopminhchau@minhchau-master:~$ jps
2612 Jps
2312 ResourceManager
1834 NameNode
2108 SecondaryNameNode
hadoopminhchau@minhchau-master:~$
```

3. Download và cài đặt Apache Hive

Download Apache Hive 3.1.3

```
$ wget https://dlcdn.apache.org/hive/hive-3.1.3/apache-hive-3.1.3-src.tar.gz
```

Giải nén và đổi tên thư mục

```
$ tar -xzf apache-hive-3.1.3-bin.tar.gz
$ mv apache-hive-3.1.3-bin hive
```

```
hadoopminhchau@minhchau-master:~$ ls
apache-hive-3.1.3-bin.tar.gz   hadoop-core-1.2.1.jar.zip  pig-0.17.0.tar.gz      tmp
db-derby-10.15.2.0-bin.tar.gz  id.out                     pig_1650382433801.log  units
derby                          id.pig                     pig_1650382485427.log  units.jar
hadoop                         output_dir                 ProcessUnits.java
hadoop-3.3.2.tar.gz            passwd                     sample.txt
hadoop-core-1.2.1.jar          pig                        test.sh
hadoopminhchau@minhchau-master:~$ tar -xzf apache-hive-3.1.3-bin.tar.gz
hadoopminhchau@minhchau-master:~$ ls
apache-hive-3.1.3-bin          hadoop-core-1.2.1.jar      pig                    test.sh
apache-hive-3.1.3-bin.tar.gz   hadoop-core-1.2.1.jar.zip  pig-0.17.0.tar.gz      tmp
db-derby-10.15.2.0-bin.tar.gz  id.out                     pig_1650382433801.log  units
derby                          id.pig                     pig_1650382485427.log  units.jar
hadoop                         output_dir                 ProcessUnits.java
hadoop-3.3.2.tar.gz            passwd                     sample.txt
hadoopminhchau@minhchau-master:~$ mv apache-hive-3.1.3-bin hive
hadoopminhchau@minhchau-master:~$ ls
apache-hive-3.1.3-bin.tar.gz   hadoop-core-1.2.1.jar.zip  pig                    test.sh
db-derby-10.15.2.0-bin.tar.gz  hive                       pig-0.17.0.tar.gz      tmp
derby                          id.out                     pig_1650382433801.log  units
hadoop                         id.pig                     pig_1650382485427.log  units.jar
hadoop-3.3.2.tar.gz            output_dir                 ProcessUnits.java
hadoop-core-1.2.1.jar          passwd                     sample.txt
hadoopminhchau@minhchau-master:~$
```

Cài đặt biến môi trường cho Hive

```
$ vim ~/.bashrc
```

```
export HIVE_HOME=/home/hadoopminhchau/hive
export PATH=$PATH:$HIVE_HOME/bin
export PATH=$PATH:$JAVA_HOME/bin
export CLASSPATH=$CLASSPATH:/home/hadoopminhchau/hadoop/lib/*:.
export CLASSPATH=$CLASSPATH:/home/hadoopminhchau/hive/lib/*:.
```

Cấu hình Hive

Tạo file hive-env.sh từ file mẫu và chỉnh lại nội dung

```
$ cd hive/conf
```

```
$ cp hive-env.sh.template hive-env.sh
```

```
hadoopminhchau@minhchau-master:~$ cd hive/conf/
hadoopminhchau@minhchau-master:~/hive/conf$ ls
beeline-log4j2.properties.template    ivysettings.xml
hive-default.xml.template             llap-cli-log4j2.properties.template
hive-env.sh.template                  llap-daemon-log4j2.properties.template
hive-exec-log4j2.properties.template  parquet-logging.properties
hive-log4j2.properties.template
hadoopminhchau@minhchau-master:~/hive/conf$ cp hive-env.sh.template hive-env.sh
hadoopminhchau@minhchau-master:~/hive/conf$ ls
beeline-log4j2.properties.template    hive-log4j2.properties.template
hive-default.xml.template             ivysettings.xml
hive-env.sh                           llap-cli-log4j2.properties.template
hive-env.sh.template                  llap-daemon-log4j2.properties.template
hive-exec-log4j2.properties.template  parquet-logging.properties
hadoopminhchau@minhchau-master:~/hive/conf$
```

```
export HADOOP_HOME=/home/hadoopminhchau/hadoop
```

4. Download và cài đặt Apache Derby

Download Apache Derby 10.15.2

$ wget https://dlcdn.apache.org//db/derby/db-derby-10.15.2.0/db-derby-10.15.2.0-src.tar.gz

Giải nén và đổi tên thư mục

$ tar -xzf db-derby-10.15.2.0-bin.tar.gz

$ mv db-derby-10.15.2.0-bin derby

```
hadoopminhchau@minhchau-master:~$ ls
apache-hive-3.1.3-bin.tar.gz   hive        pig-0.17.0.tar.gz      tmp
db-derby-10.15.2.0-bin.tar.gz  id.out      pig_1650382433801.log  units
hadoop                         id.pig      pig_1650382485427.log  units.jar
hadoop-3.3.2.tar.gz            output_dir  ProcessUnits.java
hadoop-core-1.2.1.jar          passwd      sample.txt
hadoop-core-1.2.1.jar.zip      pig         test.sh
hadoopminhchau@minhchau-master:~$ tar -xzf db-derby-10.15.2.0-bin.tar.gz
hadoopminhchau@minhchau-master:~$ ls
apache-hive-3.1.3-bin.tar.gz   hadoop-core-1.2.1.jar.zip  pig                    test.sh
db-derby-10.15.2.0-bin         hive                       pig-0.17.0.tar.gz      tmp
db-derby-10.15.2.0-bin.tar.gz  id.out                     pig_1650382433801.log  units
hadoop                         id.pig                     pig_1650382485427.log  units.jar
hadoop-3.3.2.tar.gz            output_dir                 ProcessUnits.java
hadoop-core-1.2.1.jar          passwd                     sample.txt
hadoopminhchau@minhchau-master:~$ mv db-derby-10.15.2.0-bin derby
hadoopminhchau@minhchau-master:~$ ls
apache-hive-3.1.3-bin.tar.gz   hadoop-core-1.2.1.jar.zip  pig                    test.sh
db-derby-10.15.2.0-bin.tar.gz  hive                       pig-0.17.0.tar.gz      tmp
derby                          id.out                     pig_1650382433801.log  units
hadoop                         id.pig                     pig_1650382485427.log  units.jar
hadoop-3.3.2.tar.gz            output_dir                 ProcessUnits.java
hadoop-core-1.2.1.jar          passwd                     sample.txt
hadoopminhchau@minhchau-master:~$
```

Cài đặt biến môi trường cho Derby

```
$ vim ~/.bashrc
```

```
export DERBY_HOME=/home/hadoopminhchau/derby
export PATH=$PATH:$DERBY_HOME/bin
export CLASSPATH=$CLASSPATH:$DERBY_HOME/lib/derby.jar:$DERBY_HOME/lib/derbytools.jar
```

Tạo thư mục để lưu Metastore

```
$ mkdir $DERBY_HOME/data
```

```
hadoopminhchau@minhchau-master:~$ ls
apache-hive-3.1.3-bin.tar.gz   hadoop-core-1.2.1.jar.zip  pig                    test.sh
db-derby-10.15.2.0-bin.tar.gz  hive                       pig-0.17.0.tar.gz      tmp
derby                          id.out                     pig_1650382433801.log  units
hadoop                         id.pig                     pig_1650382485427.log  units.jar
hadoop-3.3.2.tar.gz            output_dir                 ProcessUnits.java
hadoop-core-1.2.1.jar          passwd                     sample.txt
hadoopminhchau@minhchau-master:~$ mkdir $DERBY_HOME/data
hadoopminhchau@minhchau-master:~$ cd derby/
hadoopminhchau@minhchau-master:~/derby$ ls
bin  data  demo  docs  index.html  javadoc  KEYS  lib  LICENSE  NOTICE  RELEASE-NOTES.html  test
hadoopminhchau@minhchau-master:~/derby$
```

5. Cấu hình Metastore cho Hive

- Metastore như là một kho trung tâm của Hive metadata, lưu trữ metadata cho các tables của Hive (như schema hay vị trí được lưu trữ).

Tạo và cấu hình hive-site.xml từ file mẫu

```
$ cd hive/conf
$ cp hive-default.xml.template hive-site.xml
```

```
hadoopminhchau@minhchau-master:~/hive/conf$ ls
beeline-log4j2.properties.template    hive-log4j2.properties.template
hive-default.xml.template             ivysettings.xml
hive-env.sh                           llap-cli-log4j2.properties.template
hive-env.sh.template                  llap-daemon-log4j2.properties.template
hive-exec-log4j2.properties.template  parquet-logging.properties
hadoopminhchau@minhchau-master:~/hive/conf$ cp hive-default.xml.template hive-site.xml
hadoopminhchau@minhchau-master:~/hive/conf$ ls
beeline-log4j2.properties.template    hive-site.xml
hive-default.xml.template             ivysettings.xml
hive-env.sh                           llap-cli-log4j2.properties.template
hive-env.sh.template                  llap-daemon-log4j2.properties.template
hive-exec-log4j2.properties.template  parquet-logging.properties
hive-log4j2.properties.template
hadoopminhchau@minhchau-master:~/hive/conf$
```

Thêm vào nội dung sau:

```
<property>
    <name>system:java.io.tmpdir</name>
    <value>/tmp/hive/java</value>
  </property>
  <property>
    <name>system:user.name</name>
    <value>${user.name}</value>
</property>
<property>
   <name>javax.jdo.option.ConnectionURL</name>
   <value>jdbc:derby://minhchau-
master:1527/metastore_db;create=true </value>
   <description>JDBC connect string for a JDBC metastore
</description>
</property>
```

Tạo file jpox.properties

```
$ vim jpox.properties
```

Thêm nội dung sau:

```
javax.jdo.PersistenceManagerFactoryClass =

org.jpox.PersistenceManagerFactoryImpl
org.jpox.autoCreateSchema = false
org.jpox.validateTables = false
org.jpox.validateColumns = false
org.jpox.validateConstraints = false
org.jpox.storeManagerType = rdbms
org.jpox.autoCreateSchema = true
org.jpox.autoStartMechanismMode = checked
org.jpox.transactionIsolation = read_committed
javax.jdo.option.DetachAllOnCommit = true
javax.jdo.option.NontransactionalRead = true
javax.jdo.option.ConnectionDriverName =
org.apache.derby.jdbc.ClientDriver
javax.jdo.option.ConnectionURL = jdbc:derby://minhchau-
master:1527/metastore_db;create = true
javax.jdo.option.ConnectionUserName = hadoopminhchau
javax.jdo.option.ConnectionPassword = hadoopminhchau
```

```
javax.jdo.PersistenceManagerFactoryClass =


org.jpox.PersistenceManagerFactoryImpl
org.jpox.autoCreateSchema = false
org.jpox.validateTables = false
org.jpox.validateColumns = false
org.jpox.validateConstraints = false
org.jpox.storeManagerType = rdbms
org.jpox.autoCreateSchema = true
org.jpox.autoStartMechanismMode = checked
org.jpox.transactionIsolation = read_committed
javax.jdo.option.DetachAllOnCommit = true
javax.jdo.option.NontransactionalRead = true
javax.jdo.option.ConnectionDriverName = org.apache.derby.jdbc.ClientDriver
javax.jdo.option.ConnectionURL = jdbc:derby://minhchau-master:1527/metastore_db;create = true
javax.jdo.option.ConnectionUserName = hadoopminhchau
javax.jdo.option.ConnectionPassword = hadoopminhchau
```

Kiểm tra Hive

- Trước khi chạy Hive, chúng ta phải tạo một thư mục /tmp và thư mục Hive riêng trong HDFS. Ở đây chúng ta sẽ tạo thư mục /minhchau/hive/warehouse

```
$ hdfs dfs -mkdir /tmp
$ hdfs dfs -mkdir /minhchau
$ hdfs dfs -mkdir /minhchau/hive
$ hdfs dfs -mkdir /minhchau/hive/warehouse
$ hdfs dfs -chmod g+w /tmp
$ hdfs dfs -chmod g+w /minhchau/hive/warehouse
```

```
hadoopminhchau@minhchau-master:~$ hdfs dfs -mkdir /tmp
hadoopminhchau@minhchau-master:~$ hdfs dfs -mkdir /minhchau
hadoopminhchau@minhchau-master:~$ hdfs dfs -mkdir /minhchau/hive
hadoopminhchau@minhchau-master:~$ hdfs dfs -mkdir /minhchau/hive/warehouse
hadoopminhchau@minhchau-master:~$ hdfs dfs -chmod g+w /tmp
hadoopminhchau@minhchau-master:~$ hdfs dfs -chmod g+w /minhchau/hive/warehouse
hadoopminhchau@minhchau-master:~$ _
```

Thực thi Hive

```
hadoopminhchau@minhchau-master:~$ hive
Hive Session ID = e9d7b811-e43d-4d97-a0db-082a6d1e91e5

Logging initialized using configuration in jar:file:/home/hadoopminhchau/hive/lib/hive-common-3.1.
jar!/hive-log4j2.properties Async: true
Hive-on-MR is deprecated in Hive 2 and may not be available in the future versions. Consider using
 different execution engine (i.e. spark, tez) or using Hive 1.X releases.
hive>
```

Show toàn bộ database trong Hive

```
$ show tables;
```

Nếu báo lỗi "unable to instantiate org.apache.hadoop.hive.ql.metadata.sessionhivemetastoreclient" thì thực hiện các thao tác sau:

```
$ rm -rf metastore_db
```

```
$ schematool -dbType derby -initSchema
```

```
$ hive
```

Nếu báo lỗi java.lang.ClassCastException thì chuyển sang Java 8 rồi chạy lại Hive.

```
Initialization script completed
schemaTool completed
hadoopminhchau@minhchau-master:~$ hive
Hive Session ID = cf397e17-93c2-4daf-9fcc-2777816e9eb0

Logging initialized using configuration in jar:file:/home/hadoopminhchau/hive/lib/hive-common-3.1
jar!/hive-log4j2.properties Async: true
Hive-on-MR is deprecated in Hive 2 and may not be available in the future versions. Consider usir
 different execution engine (i.e. spark, tez) or using Hive 1.X releases.
Hive Session ID = d72bd35b-9f35-48c9-96b3-3ca692b0e7b0
hive> show tables;
OK
Time taken: 0.467 seconds
hive>
```

6. Xử lý lỗi ký tự thừa

Nếu báo lỗi như bên dưới thì vào file hive-site.xml xóa các ký tự &#8; trong dòng cột tương ứng

```
l character entity: expansion character (code 0x8
 at [row,col,system-id]: [3223,96,"file:/home/hadoopminhchau/hive/conf/hive-site.xml"]
        at org.apache.hadoop.conf.Configuration.loadResource(Configuration.java:3092)
        at org.apache.hadoop.conf.Configuration.loadResources(Configuration.java:3041)
        at org.apache.hadoop.conf.Configuration.loadProps(Configuration.java:2914)
        at org.apache.hadoop.conf.Configuration.addResourceObject(Configuration.java:1034)
        at org.apache.hadoop.conf.Configuration.addResource(Configuration.java:939)
        at org.apache.hadoop.hive.conf.HiveConf.initialize(HiveConf.java:5154)
        at org.apache.hadoop.hive.conf.HiveConf.<init>(HiveConf.java:5102)
        at org.apache.hadoop.hive.common.LogUtils.initHiveLog4jCommon(LogUtils.java:97)
        at org.apache.hadoop.hive.common.LogUtils.initHiveLog4j(LogUtils.java:81)
        at org.apache.hadoop.hive.cli.CliDriver.run(CliDriver.java:699)
        at org.apache.hadoop.hive.cli.CliDriver.main(CliDriver.java:683)
        at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
        at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorIm
ava:62)
        at java.base/jdk.internal.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAc
orImpl.java:43)
        at java.base/java.lang.reflect.Method.invoke(Method.java:566)
        at org.apache.hadoop.util.RunJar.run(RunJar.java:323)
        at org.apache.hadoop.util.RunJar.main(RunJar.java:236)
Caused by: com.ctc.wstx.exc.WstxParsingException: Illegal character entity: expansion character
e 0x8
 at [row,col,system-id]: [3223,96,"file:/home/hadoopminhchau/hive/conf/hive-site.xml"]
        at com.ctc.wstx.sr.StreamScanner.constructWfcException(StreamScanner.java:634)
        at com.ctc.wstx.sr.StreamScanner.throwParseError(StreamScanner.java:504)
        at com.ctc.wstx.sr.StreamScanner.reportIllegalChar(StreamScanner.java:2469)
        at com.ctc.wstx.sr.StreamScanner.validateChar(StreamScanner.java:2416)
        at com.ctc.wstx.sr.StreamScanner.resolveCharEnt(StreamScanner.java:2382)
        at com.ctc.wstx.sr.StreamScanner.fullyResolveEntity(StreamScanner.java:1528)
        at com.ctc.wstx.sr.BasicStreamReader.nextFromTree(BasicStreamReader.java:2818)
        at com.ctc.wstx.sr.BasicStreamReader.next(BasicStreamReader.java:1121)
        at org.apache.hadoop.conf.Configuration$Parser.parseNext(Configuration.java:3396)
        at org.apache.hadoop.conf.Configuration$Parser.parse(Configuration.java:3182)
        at org.apache.hadoop.conf.Configuration.loadResource(Configuration.java:3075)
        ... 16 more
hadoopminhchau@minhchau-master:~$
```

```
$ vim hive/conf/hive-site.xml
```

```
  </property>
  <property>
    <name>hive.txn.xlock.iow</name>
    <value>true</value>
    <description>
      Ensures commands with OVERWRITE (such as INSERT OVERWRITE) acquire Exclusive locks for&#8;tran
sactional tables.  This ensures that inserts (w/o overwrite) running concurrently
      are not hidden by the INSERT OVERWRITE.
    </description>
  </property>
  <property>
    <name>hive.txn.timeout</name>
    <value>300s</value>
    <description>
      Expects a time value with unit (d/day, h/hour, m/min, s/sec, ms/msec, us/usec, ns/nsec), which
 is sec if not specified.
      time after which transactions are declared aborted if the client has not sent a heartbeat.
    </description>
  </property>
  <property>
    <name>hive.txn.heartbeat.threadpool.size</name>
    <value>5</value>
    <description>The number of threads to use for heartbeating. For Hive CLI, 1 is enough. For HiveS
erver2, we need a few</description>
  </property>
  <property>
    <name>hive.txn.manager.dump.lock.state.on.acquire.timeout</name>
    <value>false</value>
    <description>Set this to true so that when attempt to acquire a lock on resource times out, the
current state of the lock manager is dumped to log file.  This is for debugging.  See also hive.lock
.numretries and hive.lock.sleep.between.retries.</description>
  </property>
  <property>
    <name>hive.max.open.txns</name>
    <value>100000</value>
    <description>
                                                                  3223,96       46%
```

xóa các ký tự &#8;

```
    <description>
      Ensures commands with OVERWRITE (such as INSERT OVERWRITE) acquire Exclusive locks for trans
tional tables.  This ensures that inserts (w/o overwrite) running concurrently
      are not hidden by the INSERT OVERWRITE.
```

7. Xử lý lỗi trùng thư viện SLF4J

Nếu báo lỗi như bên dưới thì che hoặc gỡ bỏ thư viện trùng đi

```
hadoopminhchau@minhchau-master:~$ hive
SLF4J: Class path contains multiple SLF4J bindings.
SLF4J: Found binding in [jar:file:/home/hadoopminhchau/hive/lib/log4j-slf4j-impl-2.17.1.jar!/org/slf
4j/impl/StaticLoggerBinder.class]
SLF4J: Found binding in [jar:file:/home/hadoopminhchau/hadoop/share/hadoop/common/lib/slf4j-log4j12-
1.7.30.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
SLF4J: Actual binding is of type [org.apache.logging.slf4j.Log4jLoggerFactory]
Hive Session ID = 72497183-974c-404b-9ffb-48d4c7e0e8a8
Exception in thread "main" java.lang.ClassCastException: class jdk.internal.loader.ClassLoaders$AppC
lassLoader cannot be cast to class java.net.URLClassLoader (jdk.internal.loader.ClassLoaders$AppClas
sLoader and java.net.URLClassLoader are in module java.base of loader 'bootstrap')
        at org.apache.hadoop.hive.ql.session.SessionState.<init>(SessionState.java:413)
        at org.apache.hadoop.hive.ql.session.SessionState.<init>(SessionState.java:389)
        at org.apache.hadoop.hive.cli.CliSessionState.<init>(CliSessionState.java:60)
        at org.apache.hadoop.hive.cli.CliDriver.run(CliDriver.java:705)
        at org.apache.hadoop.hive.cli.CliDriver.main(CliDriver.java:683)
        at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
        at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.j
ava:62)
        at java.base/jdk.internal.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccess
orImpl.java:43)
        at java.base/java.lang.reflect.Method.invoke(Method.java:566)
        at org.apache.hadoop.util.RunJar.run(RunJar.java:323)
        at org.apache.hadoop.util.RunJar.main(RunJar.java:236)
hadoopminhchau@minhchau-master:~$ _
```

Che thư viện SLF4J trong /hive/lib, sau này khi cần sử dụng thì gỡ ra

```
hadoopminhchau@minhchau-master:~$ cd hive/lib/
hadoopminhchau@minhchau-master:~/hive/lib$ ls_
```

```
hive-jdbc-handler-3.1.3.jar                scala-reflect-2.11.0.jar
hive-kryo-registrator-3.1.3.jar            scala-xml_2.11-1.0.1.jar
hive-llap-client-3.1.3.jar                 sketches-core-0.9.0.jar
hive-llap-common-3.1.3.jar                 snappy-java-1.1.4.jar
hive-llap-common-3.1.3-tests.jar           spark-core_2.11-2.3.0.jar
hive-llap-ext-client-3.1.3.jar             spark-kvstore_2.11-2.3.0.jar
hive-llap-server-3.1.3.jar                 spark-launcher_2.11-2.3.0.jar
hive-llap-tez-3.1.3.jar                    spark-network-common_2.11-2.3.0.jar
hive-metastore-3.1.3.jar                   spark-network-shuffle_2.11-2.3.0.jar
hive-serde-3.1.3.jar                       spark-tags_2.11-2.3.0.jar
hive-service-3.1.3.jar                     spark-unsafe_2.11-2.3.0.jar
hive-service-rpc-3.1.3.jar                 sqlline-1.3.0.jar
hive-shims-0.23-3.1.3.jar                  ST4-4.0.4.jar
hive-shims-3.1.3.jar                       stax-api-1.0.1.jar
hive-shims-common-3.1.3.jar                stream-2.7.0.jar
hive-shims-scheduler-3.1.3.jar             super-csv-2.2.0.jar
hive-spark-client-3.1.3.jar                taglibs-standard-impl-1.2.5.jar
hive-standalone-metastore-3.1.3.jar        taglibs-standard-spec-1.2.5.jar
hive-storage-api-2.7.0.jar                 tempus-fugit-1.1.jar
hive-streaming-3.1.3.jar                   threetenbp-1.3.5.jar
hive-testutils-3.1.3.jar                   transaction-api-1.1.jar
hive-upgrade-acid-3.1.3.jar                unused-1.0.0.jar
hive-vector-code-gen-3.1.3.jar             validation-api-1.1.0.Final.jar
hk2-api-2.5.0-b32.jar                      velocity-1.7.jar
hk2-locator-2.5.0-b32.jar                  websocket-api-9.3.20.v20170531.jar
hk2-utils-2.5.0-b32.jar                    websocket-client-9.3.20.v20170531.jar
hppc-0.7.2.jar                             websocket-common-9.3.20.v20170531.jar
htrace-core-3.2.0-incubating.jar           websocket-server-9.3.20.v20170531.jar
httpclient-4.5.13.jar                      websocket-servlet-9.3.20.v20170531.jar
httpcore-4.4.13.jar                        xbean-asm5-shaded-4.4.jar
ivy-2.4.0.jar                              xz-1.5.jar
jackson-annotations-2.12.0.jar             zookeeper-3.4.6.jar
jackson-core-2.12.0.jar                    zstd-jni-1.3.2-2.jar
jackson-core-asl-1.9.13.jar
hadoopminhchau@minhchau-master:~/hive/lib$ mv log4j-slf4j-impl-2.17.1.jar log4j-slf4j-impl-2.17.1.ja
r.old
hadoopminhchau@minhchau-master:~/hive/lib$
```

//////////////////////////////

```
hadoopminhchau@minhchau-master:~$ hive
SLF4J: Class path contains multiple SLF4J bindings.
SLF4J: Found binding in [jar:file:/home/hadoopminhchau/hive/lib/log4j-slf4j-impl-2.17.1.jar!/org/slf
4j/impl/StaticLoggerBinder.class]
SLF4J: Found binding in [jar:file:/home/hadoopminhchau/hadoop/share/hadoop/common/lib/slf4j-log4j12-
1.7.30.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
SLF4J: Actual binding is of type [org.apache.logging.slf4j.Log4jLoggerFactory]
Hive Session ID = 07a2451e-ccd4-4322-88c5-168b6fea7a23
Exception in thread "main" java.lang.ClassCastException: class jdk.internal.loader.ClassLoaders$AppC
lassLoader cannot be cast to class java.net.URLClassLoader (jdk.internal.loader.ClassLoaders$AppClas
sLoader and java.net.URLClassLoader are in module java.base of loader 'bootstrap')
        at org.apache.hadoop.hive.ql.session.SessionState.<init>(SessionState.java:413)
        at org.apache.hadoop.hive.ql.session.SessionState.<init>(SessionState.java:389)
        at org.apache.hadoop.hive.cli.CliSessionState.<init>(CliSessionState.java:60)
        at org.apache.hadoop.hive.cli.CliDriver.run(CliDriver.java:705)
        at org.apache.hadoop.hive.cli.CliDriver.main(CliDriver.java:683)
        at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
        at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.j
ava:62)
        at java.base/jdk.internal.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccess
orImpl.java:43)
        at java.base/java.lang.reflect.Method.invoke(Method.java:566)
        at org.apache.hadoop.util.RunJar.run(RunJar.java:323)
        at org.apache.hadoop.util.RunJar.main(RunJar.java:236)
hadoopminhchau@minhchau-master:~$
```