# EX NO:5 210701130

## Create tables in Hive and write queries to access the data in the table

## AIM:

To create tables in Hive and write queries to access the data in the table.

### **PROCEDURE:**

### **Installation of Hive:**

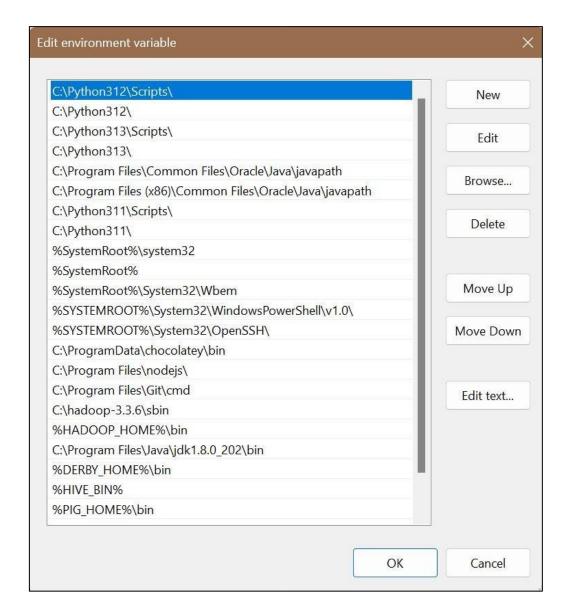
- Installing Apache Derby Install Apache Derby 10.14.2.0
   <a href="https://db.apache.org/derby/derby">https://db.apache.org/derby/derby</a> downloads.html#For+Java+8+and+Higher
- 2. Downloading Apache Hive binaries

https://downloads.apache.org/hive/hive-3.1.2/

3. Setting environment variables

Variable	Value
HADOOP_HOME	C:\hadoop-3.3.6
HIVE_BIN	%HIVE_HOME%\bin
HIVE_HOME	C:\apache-hive-3.1.3-bin
HIVE_LIB	%HIVE_HOME%\lib

C.\db-delby-10.14.2.0-bill	DERBY_HOME	C:\db-derby-10.14.2.0-bin	
----------------------------	------------	---------------------------	--



- 3.1. Copy Derby libraries we should go to the Derby libraries directory (db-derby10.14.2.0\lib) and copy all \*.jar files. Then, we should paste them within the Hive libraries directory.
- 3.2. Configuring hive-site.xml and Hive's Bin folder

Refer following link to download the file. Also download the guava file. Put hive-site.xml file to hive's conf location and replace hive's current guava file with this one in lib location. Also download the bin folder from link and replace the existing hive's bin folder.

 $\underline{https://1drv.ms/f/s!ArSg3Xpur4Grmw0SDqW0g44T7HYU?e=wDsoBn}$ 

4. Starting Hadoop Services start-all.cmd

5. Derby Network Server: Run the following command in separate window to open Derby

#### StartNetworkServer -h 0.0.0.0

6. Starting Apache Hive

Go to Apache Hive's bin location with cd command and run the following command:

hive --service schematool -dbType derby -initSchema

7. Open Hive shell by typing: hive

#### **Create a Database:**

Start by creating a database. Open the Hive CLI and follow the steps below:

1. Use the **CREATE DATABASE** statement to create a new database:

#### CREATE DATABASE sample;

2. Verify the database is present:

### SHOW DATABASES;

3. Switch to the new database:

USE sample;

### Create a Table in Hive

CREATE TABLE students (name STRING, roll INT, dept STRING);

#### **Add Data**

Run the LOAD DATALOCAL INPATH command:

#### LOAD DATA INPATH

'/C:/Users/mercy/OneDrive/Documents/DataAnalytics/Hive/students.csv' WRITE INTO TABLE students;

#### **List Hive Tables and Data**

To show all tables in a selected database, use the following statement:

### SHOW TABLES;

To show table column names and data types, run:

### DESC students;

To display table data, use a **SELECT** statement. For example, to select everything in a table,

### SELECT \* FROM students;

#### **OUTPUT:**

```
C:\hive
SIF41: Class path contains multiple SIF43 bindings.
SIF41: Found binding in [jar:file:/C:/packne.hive-3.1.3-bin/lib/log4;-alf4j:mpl-2.17.15_an!/org/slf4j/impl/StaticLoggerBinder.class]
SIF41: Found binding in [jar:file:/C:/packne.hive-3.1.3-bin/lib/log4;-alf4j:mpl-2.17.1.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SIF41: See Hottp://www.slf4j.org/codes.hive-3.1.3-bin/lib/log4;-alf4j:mpl-2.17.1.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SIF41: See Hottp://www.slf4j.org/codes.hive-3.1.3-bin/lib/log4;-alf4j:mpl-2.17.1.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SIF41: Actual binding is of type [org.slf4j:mpl.Reload5j:orgerFactory]
SIF41: See Hottp://www.slf4j.org/codes.hive-3.1.3-bin/lib/live-3.1.3-bin/conf/hive-site.xml
dive Session ID = ScbbicS7-f527-4a6e-9925-c52b4c955239
SIP41-88-26 20:02:33,787 INFO SessionState: Hive Session ID = ScbbicS7-f527-4a6e-9925-c52b4c955239
SIP41-88-26 20:02:33,787 INFO SessionState: Hive Session ID = ScbbicS7-f527-4a6e-9925-c52b4c956239
Logging initialized using configuration in jar:file:/C:/apache-hive-3.1.3-bin/lib/hive-common-3.1.3.jar!/hive-log4j2.properties Async: true
3024-88-26 20:02:33,782 INFO SessionState: Created HDFS directory: /txp/hive/mercy/ScbbicS7-f527-4a6e-9925-c52b4c956239
3024-88-26 20:02:34,969 INFO session SessionState: Created HDFS directory: /txp/hive/mercy/ScbbicS7-f527-4a6e-9925-c52b4c956239
3024-88-26 20:02:34,978 INFO session SessionState: Created HDFS directory: /txp/hive/mercy/ScbbicS7-f527-4a6e-9925-c52b4c956239
3024-88-26 20:02:34,978 INFO session SessionState: Undating thread name to ScbbicS7-f547-4a6e-9925-c52b4c956239
3024-88-26 20:02:34,978 INFO session SessionState: Undating thread name to ScbbicS7-f547-4a6e-9925-c52b4c956239
3024-88-26 20:02:34,978 INFO session SessionState: Undating thread name to ScbbicS7-f547-4a6e-9925-c52b4c956239
3024-88-26 20:02:34,978 INFO session SessionState: Undating thread name to ScbbicS7-f547-4a6e-9925-c52b4c956239
3024-88-26 20:02:34,98 INFO session SessionState: Created HDFS directory: /txp/hive/me
```

```
hive> SHOW DATABASES;

2024-08-26 20:02:59,018 INFO conf.HiveConf: Using the default value passed in for log id: 6cbb1c57-f5d7-4a6e-9925-c62b4c956239

2024-08-26 20:02:59,0653 INFO ql.Driver: Compiling command(queryId=mercy_20240826208250_6f3736af-alb0-4590-9b97-93f2de1e4032): SHOW DATABASES

2024-08-26 20:02:59,0653 INFO ql.Driver: Concurrency mode is disabled, not creating a lock manager

2024-08-26 20:02:59,740 INFO ql.Driver: Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:database_name, type:string, comment:from deserializer)], properties:null

1)

2024-08-26 20:02:59,829 INFO exec.ListSinkOperator: Initializing operator LIST_SINK[0]

2024-08-26 20:02:59,840 INFO ql.Driver: Completed compiling command(queryId=mercy_20240826200250_6f3736af-alb0-4590-9b97-93f24e1e4032); Time taken: 0.77 seconds

2024-08-26 20:02:59,846 INFO ql.Driver: Completed compiling command(queryId=mercy_20240826200250_6f3736af-alb0-4590-9b97-93f24e1e4032); SHOW DATABASES

2024-08-26 20:02:59,846 INFO ql.Driver: Concurrency mode is disabled, not creating a lock manager

2024-08-26 20:02:59,846 INFO ql.Driver: Starting task [Stage-e:DOL] in serial mode

2024-08-26 20:02:59,861 INFO ql.Driver: Starting task [Stage-e:DOL] in serial mode

2024-08-26 20:02:59,861 INFO metastore-HiveMetastore: 0 get_databases: @hive#

2024-08-26 20:02:59,870 INFO dl.Driver: Completed executing command(queryId=mercy_20240826200250_6f3736af-alb0-4590-9b97-93f24e1e4032); Time taken: 0.061 seconds

OK

2024-08-26 20:02:59,997 INFO ql.Driver: Completed executing command(queryId=mercy_20240826200250_6f3736af-alb0-4590-9b97-93f24e1e4032); Time taken: 0.061 seconds

OK

2024-08-26 20:02:59,999 INFO ql.Driver: Completed executing command(queryId=mercy_20240826200250_6f3736af-alb0-4590-9b97-93f24e1e4032); Time taken: 0.061 seconds

OK

2024-08-26 20:02:59,999 INFO ql.Driver: Completed executing command(queryId=mercy_20240826200250_6f3736af-alb0-4590-9b97-93f24e1e4032); Time taken: 0.061 seconds

OK

2024-08-26 20:02:59,999 INFO ql.Driver: Completed executi
```

```
hive USE sample

> ;

2024-08-26 20:05:59,795 INFO conf.HiveConf: Using the default value passed in for log id: 6ctbb1c57-f5d7-4a6e-9925-c62b4c956239

2024-08-26 20:05:59,795 INFO session.SessionState: Updating thread name to 6ctbb1c57-f5d7-4a6e-9925-c62b4c956239 main

2024-08-26 20:05:59,799 INFO ql.Driver: Compiling command(queryId=mercy_20240826200559_3b4f6151-de3b-4a30-8d29-0fe40576237e): USE sample

2024-08-26 20:05:59,838 INFO ql.Driver: Concurrency mode is disabled, not creating a lock manager

2024-08-26 20:05:59,831 INFO metastore-HiveMetastore: 0: get_database: @hiveMsample

2024-08-26 20:05:59,821 INFO hiveMscatere: 0: get_database: @hiveMsample

2024-08-26 20:05:59,821 INFO ql.Driver: Semantic Analysis Completed (retrial = false)

2024-08-26 20:05:59,821 INFO ql.Driver: Completed compiling command(queryId=mercy_20240826200559_3b4f6151-de3b-4a30-8d29-0fe40576237e); Time taken: 0.045 seconds

2024-08-26 20:05:59,845 INFO ql.Driver: Completed compiling command(queryId=mercy_20240826200559_3b4f6151-de3b-4a30-8d29-0fe40576237e); Time taken: 0.045 seconds

2024-08-26 20:05:59,845 INFO ql.Driver: Concurrency mode is disabled, not creating a lock manager

2024-08-26 20:05:59,851 INFO ql.Driver: Executing command(queryId=mercy_20240826200559_3b4f6151-de3b-4a30-8d29-0fe40576237e): USE sample

2024-08-26 20:05:59,851 INFO ql.Driver: Starting task [Stage-0:DUL] in serial mode

2024-08-26 20:05:59,851 INFO metastore-HiveMetastore: 0: get_database: @hiveMsample

2024-08-26 20:05:59,851 INFO metastore-HiveMetastore: 0: get_database: @hiveMsample

2024-08-26 20:05:59,851 INFO metastore-HiveMetastore: 0: get_database: @hiveMsample

2024-08-26 20:05:59,851 INFO metastore-HiveMetastore 0:
```

```
NEWS CREATE TABLE students (names STRING, roll INT, dept STRING);
2024-08-09-20 2010-08-720 INFO conf. HiveConf. Uning the default value passed in for log id: 6cbbic57-f567-4a6e-9925-ccbbcc96239
2024-08-02 2010-08-720 INFO conf. HiveConf. Uning the default value passed in for log id: 6cbbic57-f567-4a6e-9925-ccbbcc96239
2024-08-02 2010-08-720 INFO QLID-Tiver: Concurrency mode is disabled, not creating a lock manager
dept STRING)
2024-08-12 2018-08-720 INFO QLID-Tiver: Concurrency mode is disabled, not creating a lock manager
2024-08-12 2018-08-720 INFO QLID-Tiver: Concurrency mode is disabled, not creating a lock manager
2024-08-12 2018-08-720 INFO QLID-Tiver: Concurrency mode is disabled, not creating a lock manager
2024-08-12 2018-08-720 INFO QLID-Tiver: Concurrency mode is disabled, not creating a lock manager
2024-08-12 2018-08-720 INFO QLID-Tiver: Concurrency mode is disabled, not creating a lock manager
2024-08-12 2018-08-720 INFO QLID-Tiver: Concurrency mode is disabled, not creating a lock manager
2024-08-12 2018-08-720 INFO QLID-Tiver: Concurrency mode is disabled, not creating a lock manager
2024-08-12 2018-08-720 INFO QLID-Tiver: Concurrency mode is disabled, not creating a lock manager
2024-08-12 2018-08-720 INFO QLID-Tiver: Concurrency mode is disabled, not creating a lock manager
2024-08-12 2018-08-720 INFO QUITTO MANAGER PROVIDED INFO QUITTO M
```

```
2024-08-26 20:10:09,162 INFO utils.FileUtils: Creating directory if it doesn't exist: hdfs://localhost:9000/user/hive/warehouse/sample.db/students
2024-08-26 20:10:09,718 INFO ql.Driver: Completed executing command(queryId=mercy_20240826201008_7d484479-9c70-407e-9b5b-ef577623a7de); Time taken: 0.831 seconds
00:
2024-08-26 20:10:09,719 INFO ql.Driver: CK
2024-08-26 20:10:09,720 INFO ql.Driver: Concurrency mode is disabled, not creating a lock manager
Time taken: 0.993 seconds
2024-08-26 20:10:09,722 INFO cliDriver: Time taken: 0.993 seconds
2024-08-26 20:10:09,722 INFO cliDriver: Time taken: 0.993 seconds
2024-08-26 20:10:09,723 INFO cersions to sing the default value passed in for log id: 6cbb1c57-f5d7-4a6e-9925-c62b4c956239
2024-08-26 20:10:09,723 INFO session.SessionState: Resetting thread name to main
```

```
Divey DESC students;

2024-08-26 20:40:30,768 INFO conf.HiveConf: Using the default value passed in for log id: 6cbblc57-f5d7-4a6e-9925-c62b4c956239

2024-08-26 20:40:30,768 INFO session.SessionState: Updating thread name to 6cbblc57-f5d7-4a6e-9925-c62b4c956239 main

2024-08-26 20:40:30,770 INFO ql.Driver: Compiling command(queryId=mercy_20240826204030_742ecece-f18c-4465-82ba-0c86bbbaeae2): DESC students

2024-08-26 20:40:30,780 INFO ql.Driver: Compiling command(queryId=mercy_20240826204030_742ecece-f18c-4465-82ba-0c86bbbaeae2): DESC students

2024-08-26 20:40:30,780 INFO ql.Driver: Compiling command(queryId=mercy_20240826204030_742ecece-f18c-4465-82ba-0c86bbbaeae2): DESC students

2024-08-26 20:40:30,83 31 INFO ql.Driver: Semantic Analysis Completed (retrial = false)

2024-08-26 20:40:30,83 31 INFO ql.Driver: Semantic Analysis Completed (retrial = false)

2024-08-26 20:40:30,83 31 INFO ql.Driver: Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:col_name, type:string, comment:from deserializer), FieldSchema(a_type_type:string, comment; from deserializer), FieldSchema(a_type_type:string, comment; from deserializer), FieldSchema(a_type_type:string, comment; from deserializer), FieldSchema(a_type_type:string, comment; from deserializer)), properties:null)

2024-08-26 20:40:30,83 1NFO ql.Driver: Completed compiling command(queryId=mercy_2024080204030_742ecece-f18c-4465-82ba-0c86bbbaeae2); Time taken: 0.064 seconds

2024-08-26 20:40:30,83 1NFO ql.Driver: Completed compiling command(queryId=mercy_2024080204030_742ecece-f18c-4465-82ba-0c86bbbaeae2): DESC students

2024-08-26 20:40:30,83 31 INFO ql.Driver: Executing off of query

2024-08-26 20:40:30,83 31 INFO ql.Driver: Executing command(queryId=mercy_20240826204030_742ecece-f18c-4465-82ba-0c86bbbaeae2): DESC students

2024-08-26 20:40:30,83 31 INFO ql.Driver: Executing command(queryId=mercy_20240826204030_742ecece-f18c-4465-82ba-0c86bbbaeae2); Time taken: 0.087 seconds

OK

2024-08-26 20:40:30,83 31 INFO ql.Driver: Completed executing command(queryId=merc
```

```
hive> SELECT * FROM students;

2024-08-26 20:41:12,643 INFO conf.HiveConf: Using the default value passed in for log id: 6cbb1c57-f5d7-4a6e-9925-c62b4c956239

2024-08-26 20:41:12,644 INFO session.SessionState: Updating thread name to 6cbb1c57-f5d7-4a6e-9925-c62b4c956239 main

2024-08-26 20:41:12,645 INFO ql.Driver: Compiling command(queryId=mercy_20240826204112_4f6f657c-0e35-400c-9a40-f9a19709922d): SELECT * F

2024-08-26 20:41:12,663 INFO ql.Driver: Concurrency mode is disabled, not creating a lock manager

2024-08-26 20:41:12,663 INFO parse.CalcitePlanner: Starting Semantic Analysis

2024-08-26 20:41:12,691 INFO parse.CalcitePlanner: Completed phase 1 of Semantic Analysis

2024-08-26 20:41:12,691 INFO parse.CalcitePlanner: Get metadata for source tables

2024-08-26 20:41:12,691 INFO metastore.HiveMetaStore: 0: get_table: tbl=hive.sample.students

2024-08-26 20:41:12,693 INFO HiveMetaStore.audit: ugi=mercy ip=unknown-ip-addr cmd=get_table: tbl=hive.sample.students

2024-08-26 20:41:12,751 INFO parse.CalcitePlanner: Get metadata for subqueries

2024-08-26 20:41:12,751 INFO parse.CalcitePlanner: Get metadata for destination tables

2024-08-26 20:41:12,791 INFO ql.Context: New scratch dir is hdfs://localhost:9000/tmp/hive/mercy/6cbb1c57-f5d7-4a6e-9925-c62b4c956239/hi

5444333444-1
```

```
OK
2024-08-26 20:41:14,144 INFO ql.Driver: OK
2024-08-26 20:41:14,145 INFO ql.Driver: Concurrency mode is disabled, not creating a lock manager
2024-08-26 20:41:14,160 INFO mapred.FileInputFormat: Total input files to process: 1
2024-08-26 20:41:14,288 INFO lazy.LazyStruct: Missing fields! Expected 3 fields but only got 1! Ignoring similar problems.
2024-08-26 20:41:14,291 INFO exec.TableScanOperator: RECORDS_OUT_INTERMEDIATE:0, RECORDS_OUT_OPERATOR_TS_0:10,
2024-08-26 20:41:14,291 INFO exec.SelectOperator: RECORDS_OUT_INTERMEDIATE:0, RECORDS_OUT_OPERATOR_TS_0:10,
2024-08-26 20:41:14,291 INFO exec.ListSinkOperator: RECORDS_OUT_INTERMEDIATE:0, RECORDS_OUT_OPERATOR_SLI:10,
2024-08-26 20:41:14,291 INFO exec.ListSinkOperator: RECORDS_OUT_INTERMEDIATE:0, RECORDS_OUT_OPERATOR_LIST_SINK_3:10,
2024-08-26 20:41:14,291 INFO exec.ListSinkOperator: RECORDS_OUT_INTERMEDIATE:0, RECORDS_OUT_OPERATOR_LIST_SINK_3:10,
2024-08-26 20:41:14,291 INFO Exec.ListSinkOperator: RECORDS_OUT_INTERMEDIATE:0, RECORDS_OUT_OPERATOR_LIST_SINK_3:10,
2024-08-26 20:41:14,321 INFO LIDE
2024-08-26 20:41:14,321 INFO LIDE
2024-08-26 20:41:14,321 INFO CliDriver: Time taken: 1.5 seconds, Fetched: 10 row(s)
2024-08-26 20:41:14,321 INFO CliDriver: Time taken: 1.5 seconds, Fetched: 10 row(s)
2024-08-26 20:41:14,321 INFO CliDriver: Time taken: 1.5 seconds, Fetched: 10 row(s)
2024-08-26 20:41:14,321 INFO Conf.HiveConf: Using the default value passed in for log id: 6cbb1c57-f5d7-4a6e-9925-c62b4c956239
2024-08-26 20:41:14,321 INFO conf.HiveConf: Using the default value passed in for log id: 6cbb1c57-f5d7-4a6e-9925-c62b4c956239
2024-08-26 20:41:14,321 INFO conf.HiveConf: Using the default value passed in for log id: 6cbb1c57-f5d7-4a6e-9925-c62b4c956239
2024-08-26 20:41:14,321 INFO conf.HiveConf: Using the default value passed in for log id: 6cbb1c57-f5d7-4a6e-9925-c62b4c956239
```

#### **RESULT:**

Thus to create tables in Hive and write queries to access the data in the table is completed successfully.