# 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:**

1. Installing Apache Derby

Install Apache Derby 10.14.2.0

https://db.apache.org/derby/derby\_downloads.html#For+Java+8+and+Higher

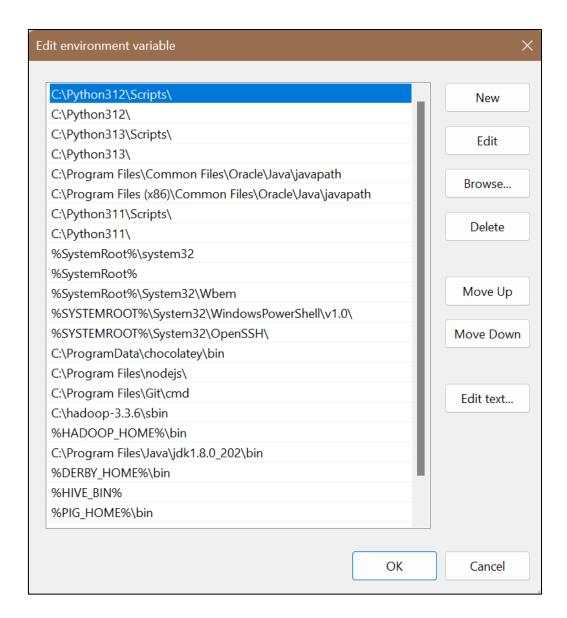
2. Downloading Apache Hive binaries

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

DERBY HOME	C:\db-derby-10.14.2.0-bin	
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### 3.1. Copy Derby libraries

we should go to the Derby libraries directory (db-derby-10.14.2.0\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 hivesite.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.

https://ldrv.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 DATA LOCAL 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, run:

# SELECT \* FROM students;

#### **OUTPUT:**

```
C:\hive
SIF41: Class path contains multiple SIF41 bindings.
SIF41: Found binding in [ja::file:/C:/padop-3.3.6/share/hadoop/common/lib/slf4j-reload4j-1.7.36.jar!/org/slf4j/impl/StaticloggerBinder.class]
SIF41: Found binding in [ja::file:/C:/apache-hive-3.1.3-bin/lib/log4j-slf4j-impl-2.17.1.jar!/org/slf4j/impl/StaticloggerBinder.class]
SIF41: See http://www.slf4j.org/codes.rhutemlmultiple bindings for an explanation.
SIF41: Actual binding is of type [org. slf4j.impl.Reload4jloggerFactory]
204-488-26 200:2012.33,573 INFO conf.HiveConf. Found configuration file file:/C:/apache-hive-3.1.3-bin/conf/hive-site.xml
Hive Session ID = 6cbblc57-7507-4a6e-9925-c62b4c956239

Logging initialized using configuration in jar:file:/C:/apache-hive-3.1.3-bin/lib/hive-common-3.1.3.jarl/hive-log4j2.properties Async: true
2024-88-26 20:02:33,373 INFO SessionState:
Logging initialized using configuration in jar:file:/C:/apache-hive-3.1.3-bin/lib/hive-common-3.1.3.jarl/hive-log4j2.properties Async: true
2024-88-26 20:02:33,423 INFO SessionState:
Logging initialized using configuration in jar:file:/C:/apache-hive-3.1.3-bin/lib/hive-common-3.1.3.jarl/hive-log4j2.properties Async: true
2024-88-26 20:02:33,425 INFO SessionState:
Logging initialized using configuration in jar:file:/C:/apache-hive-3.1.3-bin/lib/hive-common-3.1.3.jarl/hive-log4j2.properties Async: true
2024-88-26 20:02:33,460 INFO Session.SessionState: Created HOFS directory: /tmp/hive/mercy/6cbblc57-f547-4a6e-9925-c62b4c956239
2024-88-26 20:02:33,460 INFO Session.SessionState: Created HOFS directory: /tmp/hive/mercy/fcbblc57-f547-4a6e-9925-c62b4c956239
2024-88-26 20:02:33,48 INFO Session.SessionState: Updating thread name to 6cbblc57-f547-4a6e-9925-c62b4c956239
2024-88-26 20:02:33,48 INFO Session.SessionState: Updating thread name to 6cbblc57-f547-4a6e-9925-c62b4c956239
2024-88-26 20:02:33,48 INFO Session.SessionState: Updating thread name to 6cbblc57-f547-4a6e-9925-c62b4c956239
2024-88-26 20:02:33,48 INFO Session.SessionState: Updating may store with implemental class:org, a
```

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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
0K
2024-08-26 20:10:09,719 INFO ql.Driver: OK
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 conf.HiveConf: Using 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
```

```
Nive LOAD DATA LOCAL IMPATH '/C:/Users/mercy/DneDrive/Documents/DataAnalytics/Hive/students.csv' OVERWITTE INTO TABLE students;

2023-08-16-20-23-09-08-86 INFO conf. History of the default value passed in Novi 10g of 6c001cm - February - 10g of 6c001cm - 10g of 6c
```

```
Niver SHOW TABLES;
2024-08-26 20:40:00,827 INFO conf.HiveConf: Using the default value passed in for log id: 6cbb1c57-f5d7-4a6e-9925-c62b4c956239
2024-08-26 20:40:00,828 INFO session.SessionState: Updating thread name to 6cbb1c57-f5d7-4a6e-9925-c62b4c956239
2024-08-26 20:40:00,838 INFO gl.Driver: Compiling command(queryId=mercy_20240826204000_a3d158d3-c6f2-47b4-8afd-7301c6420533): SHOW TABLES
2024-08-26 20:40:00,868 INFO metastore. HiveMetaStore: 0: get_database: (MiveMetastore)
2024-08-26 20:40:00,868 INFO metastore. HiveMetaStore: 0: get_database: (MiveMetastore)
2024-08-26 20:40:00,868 INFO metastore. HiveMetaStore: 0: get_database: (MiveMetastore)
2024-08-26 20:40:00,873 INFO ql.Driver: Semantic Analysis Completed (retrial = false)
2024-08-26 20:40:00,873 INFO ql.Driver: Semantic Analysis Completed (retrial = false)
2024-08-26 20:40:00,873 INFO ql.Driver: Semantic Analysis Completed (retrial = false)
2024-08-26 20:40:00,873 INFO ql.Driver: Semantic Analysis Completed (retrial = false)
2024-08-26 20:40:00,873 INFO ql.Driver: Completed compiling command(queryId=mercy_20240826204000_a3d158d3-c6f2-47b4-8afd-7301c6420533); Time taken: 0.046 seconds
2024-08-26 20:40:00,875 INFO ql.Driver: Concurrency mode is disabled, not creating a lock manager
2024-08-26 20:40:00,875 INFO ql.Driver: Execution and of query
2024-08-26 20:40:00,875 INFO ql.Driver: Execution and of query 20240826204000_a3d158d3-c6f2-47b4-8afd-7301c6420533); SHOW TABLES
2024-08-26 20:40:00,875 INFO ql.Driver: Execution grade command(queryId=mercy_20240826204000_a3d158d3-c6f2-47b4-8afd-7301c6420533); Time taken: 0:046 seconds
2024-08-26 20:40:00,875 INFO ql.Driver: Execution grade command(queryId=mercy_20240826204000_a3d158d3-c6f2-47b4-8afd-7301c6420533); Time taken: 0:041 seconds
2024-08-26 20:40:00,875 INFO ql.Driver: Execution grade command(queryId=mercy_20240826204000_a3d158d3-c6f2-47b4-8afd-7301c6420533); Time taken: 0:041 seconds
2024-08-26 20:40:00,875 INFO ql.Driver: OX
2024-08-26 20:40:00,875 INFO ql.Driver: OX
2024-08-26 20:40:00,875 INFO q
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```
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 * F2024-08-26 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: Starting 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 20:41:12,751 INFO parse.CalcitePlanner: Get metadata for destination tables

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

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 20:41:12,751 INFO parse.CalcitePlanner: Get metadata for subqueries

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 subqueries
```

```
OK
2024-08-26 20:41:14,144 INFO ql.Driver: OK
2024-08-26 20:41:14,145 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 20:41:14,281 INFO mapred.FileInputFormat: Total input files to process: 1
2024-08-26 20:41:14,293 INFO expect. 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_SEL_1:10,
2024-08-26 20:41:14,291 INFO exec.ListSinkOperator: RECORDS_OUT_INTERMEDIATE:0, RECORDS_OUT_OPERATOR_SEL_1:10,
2024-08-26 20:41:14,291 INFO exec.ListSinkOperator: RECORDS_OUT_INTERMEDIATE:0, RECORDS_OUT_OPERATOR_LIST_SINK_3:10,
2024-08-26 NULL
2024-08-26
```

# **RESULT:**

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