#### Ex No 5

## 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:**

## 1. Download Hive and Derby

- Apache Hive: Download from Hive Download
- Apache Derby: Download from Derby Download Extract both .tar.gz

files after downloading.

## 2. Move Hive and Derby to /usr/local/

Open Terminal.

Navigate to the folder where the downloaded files are located. For example, if they are in your

```
Downloads folder: cd ~/Downloads
```

Move the extracted Hive and Derby folders to /usr/local/.

For Hive:

```
sudo mv apache-hive-3.1.3-bin /usr/local/
For Derby: sudo mv db-derby-10.14.2.0-bin
/usr/local/
```

Verify that the folders were successfully moved:

```
cd /usr/local/
ls
```

You should see apache-hive-3.1.3-bin and db-derby-10.14.2.0-bin listed.

#### 3. Set Environment Variables

Open your .\_profile or .zshrc (depending on your shell) in a text editor. Most likely, you are using Zsh on newer macOS versions, so edit .zshrc:

```
nano ~/.zshrc
```

Add the following lines to set the environment variables for Hive and Derby:

```
# Set Hive environment variables export
HIVE_HOME=/usr/local/apache-hive-3.1.3-bin export
PATH=$PATH:$HIVE_HOME/bin

# Set Derby environment variables export
DERBY_HOME=/usr/local/db-derby-10.14.2.0-bin export
PATH=$PATH:$DERBY_HOME/bin
```

Save and exit (Ctrl + O to save, then Ctrl + X to exit).

Apply the changes by running the following command:

```
source ~/.zshrc
```

cd /usr/local/db-derby-10.14.2.0-bin/lib cp \*.jar /usr/local/apache-

hive-3.1.3-bin/lib/

https://ldrv.ms/f/s!ArSg3Xpur4Grmw0SDqW0g44T7HYU?e=wDsoB

n

Download all

Move and Replace hive-site.xml

Navigate to Hive Configuration Directory: cd

/usr/local/apache-hive-3.1.3-bin/conf

### Backup Existing hive-site.xml (if it exists):

```
mv hive-site.xml hive-site.xml.bak
```

## Copy the Downloaded hive-site.xml from Downloads:

```
cp ~/Downloads/hive-site.xml . Replace the
```

## **Guava Library**

### Navigate to Hive's Libraries Directory: cd

```
/usr/local/apache-hive-3.1.3-bin/lib
```

## Backup Existing Guava Library (if it exists): mv

```
guava-*.jar guava-*.jar.bak
```

## **Copy the Downloaded Guava Library from Downloads:**

```
cp ~/Downloads/quava-*.jar .
```

Ensure you replace guava-\*.jar with the actual filename of the Guava library you downloaded.

## Replace the Bin Folder

Navigate to Hive Installation Directory: cd

```
/usr/local/apache-hive-3.1.3-bin
```

## Backup Existing bin Directory:

```
mv bin bin.bak
```

#### Copy the Downloaded bin Directory from Downloads:

```
cp -r ~/Downloads/bin .
```

## **Verify Installation**

### **Navigate to Hive's Bin Directory:**

```
cd /usr/local/apache-hive-3.1.3-bin/bin
```

#### **Check Hive Version to Verify Installation:**

```
cd /usr/local/apache-hive-3.1.3-bin/bin
chmod +x hive
```

## 4. Test Hive and Derby Installation

To test if Hive is working, run:

```
hive --version
```

You should see the version of Hive that you installed.

To test if Derby is working, run:

sudo java -jar \$DERBY\_HOME/lib/derbyrun.jar server start You should see a message saying the Derby server started successfully.

# 5. Start Hadoop Services (if Hadoop is Installed)

If Hadoop is set up on your system, you'll need to start the Hadoop services for Hive to run:

Open a new terminal and go to Hadoop's sbin directory:

```
cd /path/to/hadoop/sbin Start the Hadoop
services:
```

```
start-dfs.sh start-
yarn.sh
```

# 6. Configure Hive Schema with Derby

Now, initialize the Hive schema with Derby as the metastore:

Open a new terminal and run the following command to initialize the schema:

```
hive --service schematool -dbType derby -initSchema
```

## 7. Open the Hive Shell

Now, you can open the Hive shell and start working with Hive:

Open the Hive shell by typing: hive

Verify that Hive is running correctly by creating a database and listing it:

```
CREATE DATABASE financials;
SHOW DATABASES;
```

```
New CREATE DATABASE financials;

2024-08-30723:35:44,007 INFO [main] org.apache.hadoop.hive.conf.HiveConf - Using the default value passed in for log id: 1c22e2df-c20b-dd8f-b0b1-63004207bbe2

2024-08-30723:35:44,007 INFO [main] org.apache.hadoop.hive.ql.session.SessionState - Updating thread name to 1c22e2df-c20b-dd8f-b0b1-63004207bbe2 main

OK

Time taken: 0.046 seconds

2024-08-30723:35:44,110 INFO [1c22e2df-c20b-dd8f-b0b3-63004207bbe2 main] org.apache.hadoop.hive.conf.HiveConf - Using the default value passed in for log id: 1c22e2df-c20b-dd8f-b0b3-63004207bbe2

2024-08-30723:35:44,110 INFO [1c22e2df-c20b-dd8f-b0b3-63004207bbe2 main] org.apache.hadoop.hive.conf.HiveConf - Using the default value passed in for log id: 1c22e2df-c20b-dd8f-b0b3-63004207bbe2

2024-08-301-231-25:44,110 INFO [1c22e2df-c20b-dd8f-b0b3-63004207bbe2 main] org.apache.hadoop.hive.conf.siviconfister - Resetting thread name to main

2024-09-08 19:231-14,70 INFO [1c22e2df-c20b-dd8f-b0b3-63004207bbe2 main] org.apache.hadoop.hive.conf.siviconfister - Resetting thread name to main

2024-09-08 19:231-14,70 INFO [1c22e2df-c20b-dd8f-b0b3-63004207bbe2 main] org.apache.hadoop.hive.confister - Resetting thread name to main

2024-09-08 19:231-14,70 INFO [1c22e2df-c20b-dd8f-b0b3-63004207bbe2 main] org.apache.hadoop.hive.confister - Resetting thread name to main

2024-09-08 19:231-14,00 INFO [1c22e2df-c20b-dd8f-b0b3-63004207bbe2 main] org.apache.hadoop.hive.confister - Resetting thread name to main

2024-09-08 19:231-15,06 INFO ql.Driver: compiling command(querydruer-20240080192014 org.apache.badoop.hive.confister - Resetting thread name to main

2024-09-08 19:231-15,06 INFO ql.Driver: Compileted compiling command(querydruer-20240080192014 org.apache.badoop.hive.confister - Resetting thread name to main

2024-09-08 19:231-15,06 INFO ql.Driver: Compileted compiling command(querydruer-20240080192014 org.apache.badoop.hive.confister - Resetting thread name to main

2024-09-08 19:231-15,06 INFO ql.Driver: Compileted compiling command(querydruer-202400801920
```

#### 8. Create a Table and Insert Data

Use the following to create a simple table in Hive:

```
USE financials;
```

```
hive> use financials;
2044-08-30723:36:20,802 INFO [main] org.apache.hadoop.hive.conf.HiveConf - Using the default value passed in for log id: 1c22e2df-c29b-4d8f-beb3-63904207bbe2
2044-08-30723:36:20,802 INFO [main] org.apache.hadoop.hive.ql.session.SessionState - Updating thread name to 1c22e2df-c29b-4d8f-beb3-63904207bbe2 main

OK
Time taken: 0.048 seconds
2042-08-30723:36:20,917 INFO [1c22e2df-c29b-4d8f-beb3-63904207bbe2 main] org.apache.hadoop.hive.conf.HiveConf - Using the default value passed in for log id: 1c22e2df-c29b-4d8f-beb3-63904207bbe2 main] org.apache.hadoop.hive.ql.session.SessionState - Resetting thread name to main

CREATE TABLE students table (id INT, name STRING);

Nive> CREATE TABLE finance table(id INT, name STRING);
2024-08-30123:36:29,2350 INFO [main] org.apache.hadoop.hive.conf.HiveConf - Using the default value passed in for log id: 1c22e2df-c29b-4d8f-beb3-63904207bbe2
2024-08-30123:36:32,3350 INFO [main] org.apache.hadoop.hive.conf.HiveConf - Using the default value passed in for log id: 1c22e2df-c29b-4d8f-beb3-63904207bbe2
2024-08-30123:36:32,3350 INFO [main] org.apache.hadoop.hive.ql.session.SessionState - Updating thread name to 1c22e2df-c29b-4d8f-beb3-63904207bbe2
2024-08-30123:36:32,3350 INFO [main] org.apache.hadoop.hive.ql.session.SessionState - Updating thread name to 1c22e2df-c29b-4d8f-beb3-63904207bbe2
2024-08-30123:36:32,3350 INFO [main] org.apache.hadoop.hive.ql.session.SessionState - Updating thread name to 1c22e2df-c29b-4d8f-beb3-63904207bbe2
2024-08-30123:36:32,3350 INFO [main] org.apache.hadoop.hive.ql.session.SessionState - Updating thread name to 1c22e2df-c29b-4d8f-beb3-63904207bbe2
2024-08-30123:36:32,3350 INFO [main] org.apache.hadoop.hive.ql.session.SessionState - Updating thread name to 1c22e2df-c29b-4d8f-beb3-63904207bbe2
```

M ime taken: 0.078 seconds 1024-08-30173:36:32,439 INFO [1c22e2df-c29b-4d8f-b0b3-63904207bbe2 main] org.apache.hadoop.hive.conf.HiveConf - Using the default value passed in for log id: 1c22e2df-

```
Insert some sample data:
```

```
INSERT INTO students_table VALUES (1, 'Alice'), (2, 'Bob'), (3,
'Charlie');
```

```
Nove NORSEN INTO finance_table VALUES (d./Alice), (2.786b), (3.78cb), (3.78c
```

## 9. Query the Data

Query the data to verify everything is working:

```
SELECT * FROM students table;
```

```
2824-89-10 21:55:31,579 INFO mapred.FileInputFormat: Total input files to process: 1
2824-89-10 21:55:31,579 INFO mapred.FileInputFormat: Total input files to process: 1
2824-89-10 21:55:31,579 INFO exec.ScienceOperator: RECORDS_OUT_INTERMEDIATE:0, RECORDS_OUT_OPERATOR_SEL_1:3,
2824-89-10 21:55:31,591 INFO exec.ScienceOperator: RECORDS_OUT_INTERMEDIATE:0, RECORDS_OUT_OPERATOR_LIST_SINK_3:3,
416c
2 Bob
3 Charlie
Time taken: 0,354 seconds, Fetched: 3 row(s)
2824-89-10 21:55:31,593 INFO Conf.NiveConf: Using the default value passed in for log id: 7944878f-fb4d-4f68-9f0b-ba4ecde738ef
2824-89-10 21:55:31,593 INFO conf.NiveConf: Using the default value passed in for log id: 7944878f-fb4d-4f68-9f0b-ba4ecde738ef
```

# 10. Shut Down Hive and Derby

Exit the Hive shell by typing quit;.

Stop the Derby server by running:

```
sudo java -jar $DERBY_HOME/lib/derbyrun.jar server shutdown
OUTPUT:
```

```
ativewit@Nativewits-MacBook-Air ~ % cd /usr/local/db-derby-10.14.2.0/lib
    cd: no such file or directory: /usr/local/db-derby-10.14.2.0/lib
nativewitQNativewit=-MacBook-Air - % cd /usr/local/db-derby-10.14.2.0/lib
nativewitQNativewit=-MacBook-Air local % le
Caskroom
db-derby-10g sbin
Frameworks et share
fonebore include var
apache-hive-3.1.3-bin lib
nativewitQNativewit=-MacBook-Air local % cd /usr/local/db-derby-10.14.2.0-bin/lib
nativewitQNativewit=-MacBook-Air local % cd /usr/local/apache-hive-3.1.3-bin/lib
    nativewit@Nativewits-MacBook-Air lib % cd /usr/local/apache-hive-3.1.3-bin/conf
        ativewit@Nativewits-MacBook-Air conf % mv hive-site.xml hive-site.xml.bak
   mv: rename hive-site.xml to hive-site.xml.bak: No such file or directory nativewit@Nativewits-MacBook-Air conf % cp ~/Downloads/hive-site.xml .
  cp: /Users/nativewit/Downloads/hive-site.xml: No such file or directory
nativewit@Nativewits-MacBook-Air conf % cp ~/Downloads/hive-site.xml .
       ativewit@Nativewits-MacBook-Air conf % cd /usr/local/apache-hive-3.1.3-bin/lib
      nativewit@Nativewits-MacBook-Air lib % mv guava-*.jar guava-*.jar.bak
      zsh: no matches found: guava-*.jar.bak
nativewit@Nativewits-MacBook-Air lib % cp ~/Downloads/guava-*.jar .
        ativewit@Nativewits-MacBook-Air lib % cd /usr/local/apache-hive-3.1.3-bin
      nativewit@Nativewits-MacBook-Air apache-hive-3.1.3-bin % mv bin bin.bak
        ativewit@Nativewits-MacBook-Air apache-hive-3.1.3-bin % cp -r ~/Downloads/bin .
       nativewit@Nativewits-MacBook-Air apache-hive-3.1.3-bin % cd /usr/local/apache-hive-3.1.3-bin/bin
        ativewit@Nativewits-MacBook-Air bin % ./hive --version
      zsh: permission denied: ./hive
nativewit@Nativewits-MacBook-Air bin % cd /usr/local/apache-hive-3.1.3-bin/bin
      nativewit@Nativewits-MacBook-Air bin % chmod +x hive
SLF4]: Class path contains multiple SLF4D bindings.
SLF4]: Found binding in [jartfiler/usr/local/Callar/hadoop/3.4.@/libevec/share/hadoop/common/lib/slf4j-reload6j-1.7.36.jarl/org/slf4j/impl/SteticLoggerBinder.class]
SLF4]: Found binding in [jartfiler/usr/local/apache-hive-3.1.3-bin/lib/log6j-slf4j-impl-2.17.1.jarl/org/slf4j/impl/SteticLoggerBinder.class]
SLF4]: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
SLF4]: Actual binding in of type [org.slf4j.impl.Reload6j.loggerFactory]
SLF4]: Class path contains multiple SLF4D bindings.
SLF4]: Found binding in [jartfiler/usr/local/Callar/hadoop/3.4.@/libexec/share/hadoop/common/lib/slf4j-reload6j-1.7.36.jarl/org/slf4j/impl/SteticLoggerBinder.class]
SLF4]: Found binding in [jartfiler/usr/local/Callar/hadoop/3.4.@/libexec/share/hadoop/common/lib/slf4j-reload6j-1.7.36.jarl/org/slf4j/impl/SteticLoggerBinder.class]
SLF4]: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
SLF4]: Actual binding is of type [org.slf4j.impl.Reload6jloggerFactory]
Hivo 3.1.3
  Last login: Tue Sep 10 21:23:19 on ttys002
nativewit@Nativewits-MacBook-Air ~ %
       d /usr/local/Cellar/hadoop/3.4.0/libexec/sbin
      nativewit@Nativewits-MacBook-Air sbin % ./start-dfs.sh
    Starting namenodes on [localhost]
localhost: namenode is running as process 71574. Stop it first and ensure /tmp/hadoop-nativewit-namenode.pid file is empty before retry.
Starting datanodes
localhost: datanode is running as process 71677. Stop it first and ensure /tmp/hadoop-nativewit-datanode.pid file is empty before retry.
Starting ascondary namenodes [Nativewit-AmeBook-Air.local]
Nativewits-MacBook-Air.local: secondarynamenode is running as process 71812. Stop it first and ensure /tmp/hadoop-nativewit-secondarynamenode.pid file is empty before retry.
2024-09-10 22 (124-08) 808 MANN util.NativeCodeloader: Umable to load native-hadoop library for your platform... using builtin-java classes where applicable
nativewiteNativewite-MacBook-Air sbin % ./start-yarn.sh
    Starting resourcemanager
resourcemanager is running as process 72011. Stop it first and ensure /tmp/hadoop-nativewit-resourcemanager.pid file is empty before retry.
Starting nodemanagers
localhost: nodemanager is running as process 72114. Stop it first and ensure /tmp/hadoop-nativewit--nodemanager.pid file is empty before retry.
astivemit@Nativewits-MacEook-Air sbin % hadoop fs -mkdir /input_dir
2024-09-10 21:00:05,001 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Mair: /input_dits-MacEook-Air sbin % cho "Hadoop is a distributed computing framework" > -/input_file.txt
nativewit@Nativewits-MacEook-Air sbin % hadoop fs -put -/input_file.txt /input_dir
      2024-09-10 21:41:14,209 WARN util.NativeCodeloader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
uti-i/nput_dir/input_file.tut': File exists
uti-i/wei(TeNtivewitz-MacEod-Air sbin X hive—service schematool -dbType derby -initSchema
   nativewiteMativewits-MacBook-Air sbin % hive —mervice schematool —dbType derby —initSchema
SLF42: Class path contains multiple SLF42 bindings.
SLF43: Found binding in [jar:file:/usr/local/dellar/hadoop/3.4.8/libexec/share/hadoop/common/lib/slf4j-relosd4j-1.7.36.jar!/org/slf4j/impl/StaticloggerBinder.class]
SLF43: Round binding in [jar:file:/usr/local/dellar/hadoop/3.4.8/libexec/share/hadoop/common/lib/slf4j-relosd4j-1.7.36.jar!/org/slf4j/impl/StaticloggerBinder.class]
SLF43: Round binding is of type [org.slf4j.impl.Relosd4jloggerFactory)
Service schematool not found
Available Services: beeline cli help hiveburninclient hiveserver hiveserver2 hwi jar lineage metastore metatool orcfiledump refilecat schemaTool version
nativewiteNativewits-MacBook-Air sbin % hive
SLF43: Claus sant sonatains multiple SLF43 bindings.
SLF43: Found binding in [jar:file:/usr/local/peach-hive-3.1.3-bin/lib/log4j-slf45]-impl-2.17.1.jar!/org/slf4j/impl/StaticloggerBinder.class]
SLF43: Found binding in [jar:file:/usr/local/peach-hive-3.1.3-bin/lib/log4j-slf4j-impl-2.17.1.jar!/org/slf4j/impl/StaticloggerBinder.class]
SLF43: Found binding in [jar:file:/usr/local/peach-hive-3.1.3-bin/lib/lib/jar-slf46-9f6b-3.466-9f6
      Logging initialized using configuration in jar:file:/uar/local/apache-hive-3.1.3-bin/lib/hive-common-3.1.3-jar/hive-log6j2.properties Async: true
12024-09-10 21:53:47,023 INFO SessionState:
12024-09-10 21:53:47,023 INFO SessionState:
12024-09-10 21:53:47,778 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtim-java classes where applicable
12024-09-10 21:53:47,778 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtim-java classes where applicable
12024-09-10 21:53:50,233 INFO session.SessionState: Created IOSS directory: /tap/hive/natives/i/Apindej8dbbbbg23kc_froeBed8gap1/natives/17946576-fbbd-4668-9f8b-ba4ecde738ef
12024-09-10 21:53:50,278 INFO session.SessionState: Created IOSS directory: /tap/hive/natives/17946578-fbbd-4668-9f8b-ba4ecde738ef
12024-09-10 21:53:50,278 INFO session.SessionState: Created IOSS directory: /tap/hive/natives/17946578-fbbd-4668-9f8b-ba4ecde738ef
12024-09-10 21:53:50,278 INFO session.SessionState: Created IOSS directory: /tap/hive/natives/17946578-fbdd-4668-9f8b-ba4ecde738ef
12024-09-10 21:53:50,278 INFO session.SessionState: Created IOSS directory: /tap/hive/natives/17946578-fbdd-4668-9f8b-ba4ecde738ef
12024-09-10 21:53:50,278 INFO session.SessionState: Created IOSS directory: /tap/hive/natives/1794658-fbdd-ba4ecd-738ef
12024-09-10 21:53:50,278 INFO session.SessionState Updating through the planetation classics of t
```

```
2024-89-10 21:86:31,679 INFO mapred_FileInputFormat: Total input files to process: 1
2024-89-10 21:86:31,591 INFO exec.fableScanDepartor: RECORDS_OUT_INTERMEDIATE: 0, RECORDS_OUT_OPERATOR_TS_0:3,
2024-89-10 21:86:33,591 INFO exec.fableScanDepartor: RECORDS_OUT_INTERMEDIATE: 0, RECORDS_OUT_OPERATOR_SEL_1:3,
2024-89-10 21:86:31,591 INFO exec.fableScanDepartor: RECORDS_OUT_INTERMEDIATE: 0, RECORDS_OUT_OPERATOR_LIST_SINK_3:3,

Altic
2 Bob
3 Charit
Time taken: 0.354 seconds, Fetched: 3 row(s)
2024-89-10 21:86:31,593 INFO coliDriver: Time taken: 0.354 seconds, Fetched: 3 row(s)
2024-89-10 21:86:31,593 INFO conf-HiveConft Using the default value passed in for log id: 79e6878f-fb4d-4f68-9f0b-ba6ecde738ef
```

## **RESULT:**

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