

## **Exp no: 5a**

### **Design and test various schema models to optimize data storage and retrieval using Hive**

#### **Aim:**

To Design and test various schema models to optimize data storage and retrieval Using Hbase.

#### **Procedure:**

##### **Step 1: Start Hive**

Open a terminal and start Hive by running:

\$hive

##### **Step 2: Create a Database**

Create a new database in Hive:

hive>CREATE DATABASE financials;

```
hive> CREATE DATABASE financials;
OK
Time taken: 0.41 seconds
```

##### **Step 3: Use the Database:**

Switch to the newly created database:

hive>use financials

```
hive> use financials;
OK
Time taken: 0.031 seconds
```

##### **Step 4: Create a Table:**

Create a simple table in your database:

hive>CREATE TABLE finance\_table( id INT, name STRING );

```
hive> CREATE TABLE finance_table (id INT, name STRING);
OK
Time taken: 0.552 seconds
```

##### **Step 5: Load Sample Data:**

You can insert sample data into the table:

```
hive>INSERT INTO finance_tableVALUES (1, 'Alice'), (2, 'Bob'), (3, 'Charlie');
```

```
hive> INSERT INTO finance_table VALUES (1, 'Alice'), (2,'Bob'), (3,'Charlie');
Query ID = haresh_20240912212701_f51e1fcd-d01a-4b83-8d6e-bf0388e6e714
Total jobs = 3
Launching Job 1 out of 3
Number of reduce tasks determined at compile time: 1
In order to change the average load for a reducer (in bytes):
  set hive.exec.reducers.bytes.per.reducer=<number>
In order to limit the maximum number of reducers:
  set hive.exec.reducers.max=<number>
In order to set a constant number of reducers:
  set mapreduce.job.reduces=<number>
Starting Job = job_1726155698102_0001, Tracking URL = http://fedora:8088/proxy
2_0001/
```

### Step 6: Query Your Data

Use SQL-like queries to retrieve data from your table:

```
hive>CREATE VIEW myview AS SELECT name, id FROM finance_table;
```

```
hive> CREATE VIEW myview AS SELECT name, id FROM finance_table;
OK
Time taken: 0.256 seconds
```

### Step 7: View the data:

To see the data in the view, you would need to query the view

```
hive>SELECT*FROM myview;
```

```
hive> SELECT * FROM myview;
OK
Alice    1
Bob      2
Charlie  3
Time taken: 0.213 seconds, Fetched: 3 row(s)
```

### Step 8: Describe a Table:

You can describe the structure of a table using the DESCRIBE command:

```
hive>DESCRIBE finance_table;
```

```
hive> DESCRIBE finance_table;
OK
id          int
name        string
Time taken: 0.075 seconds, Fetched: 2 row(s)
```

### Step 9: Alter a Table:

You can alter the table structure by adding a new column:

```
hive>ALTER TABLE finance_table ADD COLUMNS (age INT);
```

```
hive> ALTER TABLE finance_table ADD COLUMNS (age INT);  
OK  
Time taken: 0.126 seconds  
hive> quit;
```

#### **Step 10: Quit Hive:**

To exit the Hive CLI, simply type:

```
hive>quit;
```

#### **Result:**

Thus, the usage of various commands in Hive has been successfully completed