**EX: 05(1)** **REG.NO:210701290**

**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;
hive> CREATE DATABASE financials;
OK
Time taken: 0.063 seconds
```

**Step 3: Use the Database:**

Switch to the newly created database:

**hive>use financials;**

```
hive>use financials;
hive> use financials;
OK
Time taken: 0.066 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: 0.768 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 = hadoop_20231028192937_fdebeb4e-abf7-4bad-a248-ac908246e3c1
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>
Job running in-process (local Hadoop)
2023-10-28 19:29:41,158 Stage-1 map = 0%,  reduce = 0%
```

**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;**

**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: 0.238 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: 0.081 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: 0.165 seconds
```

**Step 10: Quit Hive:**

To exit the Hive CLI, simply type:

**hive>quit;**

```
hive> ALTER TABLE finance_table ADD COLUMNS (age INT);
OK
Time taken: 0.159 seconds
hive> quit;
hadoop@dell-Inspiron-3443:~$
```

**Result:**

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