

<b>Name of Student:</b> Pushkar Sane		
<b>Roll Number:</b> 45	<b>Lab Assignment Number:</b> 4	
<b>Title of Lab Assignment:</b> Implementation of Hive: Creation of Database and Table, Hive Partition, Hive Built In Function and Operators, Hive View and Index.		
<b>DOP:</b> 06-09-2024	<b>DOS:</b> 06-09-2024	
<b>CO Mapped:</b>	<b>PO Mapped:</b>	<b>Signature:</b>

## Practical No. 4

**Aim:** Implementation of Hive: Creation of Database and Table, Hive Partition, Hive Built In Function and Operators, Hive View and Index.

### **Theory:**

Hive is a data warehousing solution built on top of Apache Hadoop, designed for managing and querying large datasets stored in Hadoop Distributed File System (HDFS). It provides a SQL-like interface, called HiveQL, enabling users to perform data analysis and manipulation without needing to write complex MapReduce programs. Hive is highly scalable, fault-tolerant, and supports features like partitioning, indexing, and user-defined functions (UDFs) for efficient querying. It's primarily used for batch processing and is well-suited for environments where large-scale data analysis is required, such as data mining, reporting, and business intelligence tasks.

#### 1. Creation of Database and Table in Hive

- Database Creation: A database in Hive is a collection of tables. Databases help in organizing tables and provide a namespace. The CREATE DATABASE command is used to create a database.
- Table Creation: Tables in Hive store data in a structured format. The CREATE TABLE command defines the schema of a table, including column names and data types. Tables can be either managed (where Hive manages the table's data) or external (where Hive references data stored externally, like in HDFS).

#### 2. Hive Partitioning

Partitioning in Hive divides a large table into smaller, more manageable parts based on the values of certain columns. Each partition corresponds to a unique value of a column, such as date or region. Partitioning improves query performance by scanning only the relevant partitions.

- Static Partitioning: The partition is defined manually when data is loaded into the table.
- Dynamic Partitioning: Hive automatically decides the partitions based on the data.

#### 3. Hive Built-in Functions and Operators

Hive offers a variety of built-in functions and operators to manipulate and query data.

- Aggregate Functions: These include COUNT(), SUM(), AVG(), MAX(), and MIN(), which operate on a set of values to return a single value.

- String Functions: Functions like LOWER(), UPPER(), CONCAT(), and SUBSTRING() help manipulate string data.
- Date Functions: Functions like TO\_DATE(), CURRENT\_DATE(), DATEDIFF(), and MONTH() are used to handle date-related operations.
- Mathematical Functions: Functions such as ABS(), ROUND(), and FLOOR() are used for mathematical operations.
- Operators: Hive supports arithmetic operators (+, -, \*, /) and comparison operators (=, >, <, !=, >=, <=).

#### 4. Hive Views

A view in Hive is a logical construct that allows querying data without storing it. It is similar to a table but does not store data itself. Views are created using a query that defines the data set and allows you to simplify complex queries.

- Creation of View: The CREATE VIEW command is used to define a view.
- Advantages: Views make querying complex data simpler and allow for easier data abstraction and security by restricting access to specific parts of the data.

#### 5. Hive Index

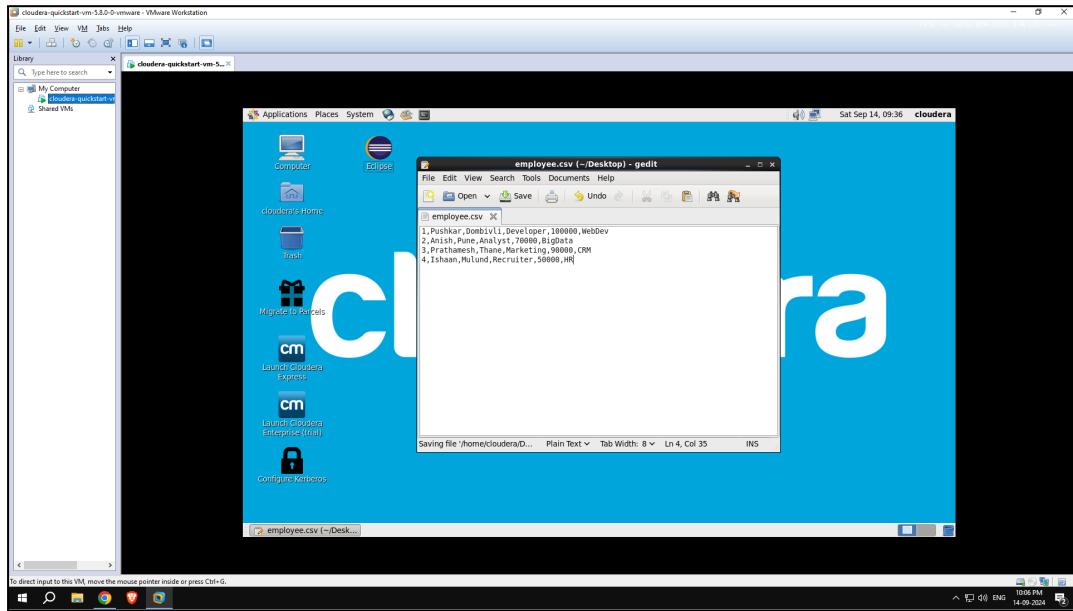
Indexes in Hive improve query performance by allowing faster lookups on certain columns. Indexes can be created on columns that are frequently searched, making the retrieval of data more efficient.

- Creation of Index: The CREATE INDEX command is used to create an index on a table's column.
- Advantages: Indexes enhance query speed, especially on large datasets, but they come at the cost of additional storage and maintenance overhead.

#### Code:

Create an **employee.csv** file on the desktop.

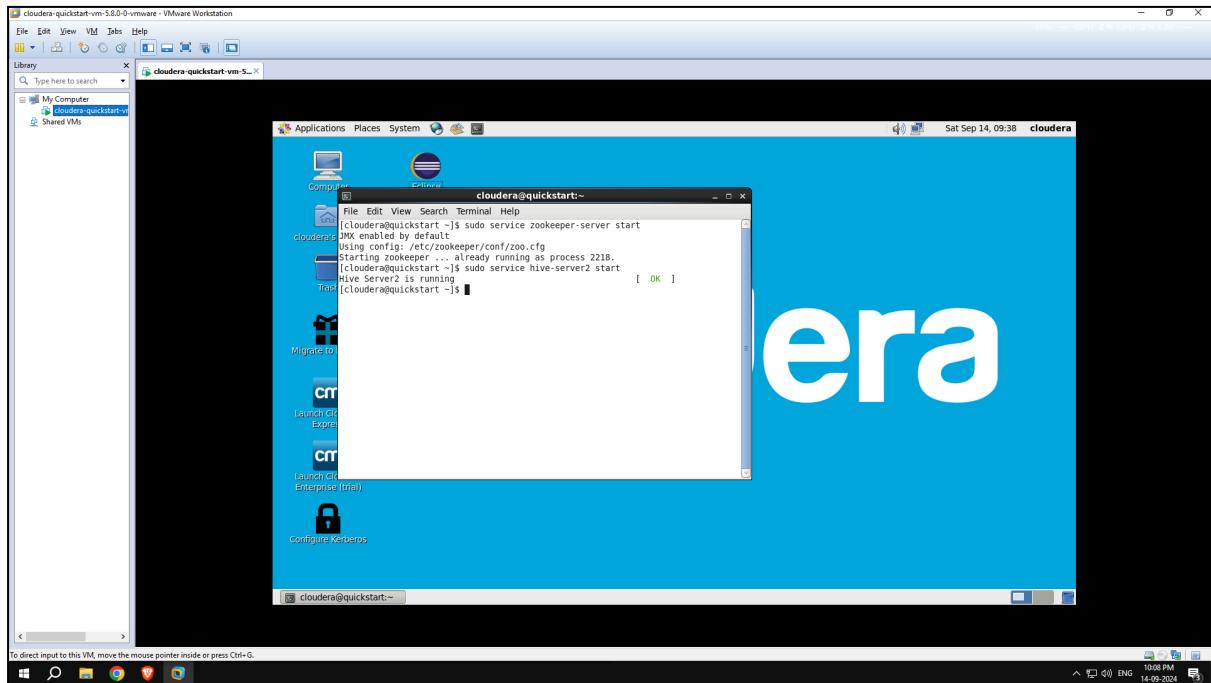
1,Pushkar,Dombivli,Developer,100000,WebDev  
2,Anish,Pune,Analyst,70000,BigData  
3,Prathamesh,Thane,Marketing,90000,CRM  
4,Ishaan,Mulund,Recruiter,50000,HR



Open cmd and start hive

**sudo service zookeeper-server start**

```
sudo service hive-server2 start
```



**sudo hive****create database pushkar45**

**Create table pushkar123(**

```
id int,
name string,
city string,
department string,
salary string,
domain string)
```

**row format delimited**

**fields terminated by ',';**



The screenshot shows a VMware Workstation window for a Cloudera VM. The desktop environment is a blue-themed Unity interface. A terminal window titled 'cloudera@quickstart:' is open, displaying the following Hive commands and output:

```
hive> create table pushkar123(
    > id int,
    > name string,
    > city string,
    > department string,
    > salary int,
    > domain string)
    > row format delimited
    > fields terminated by ',';
OK
Time taken: 0.33 seconds
hive> show tables
OK
pushkar123
Time taken: 0.642 seconds, Fetched: 1 rows
hive> [REDACTED]
```

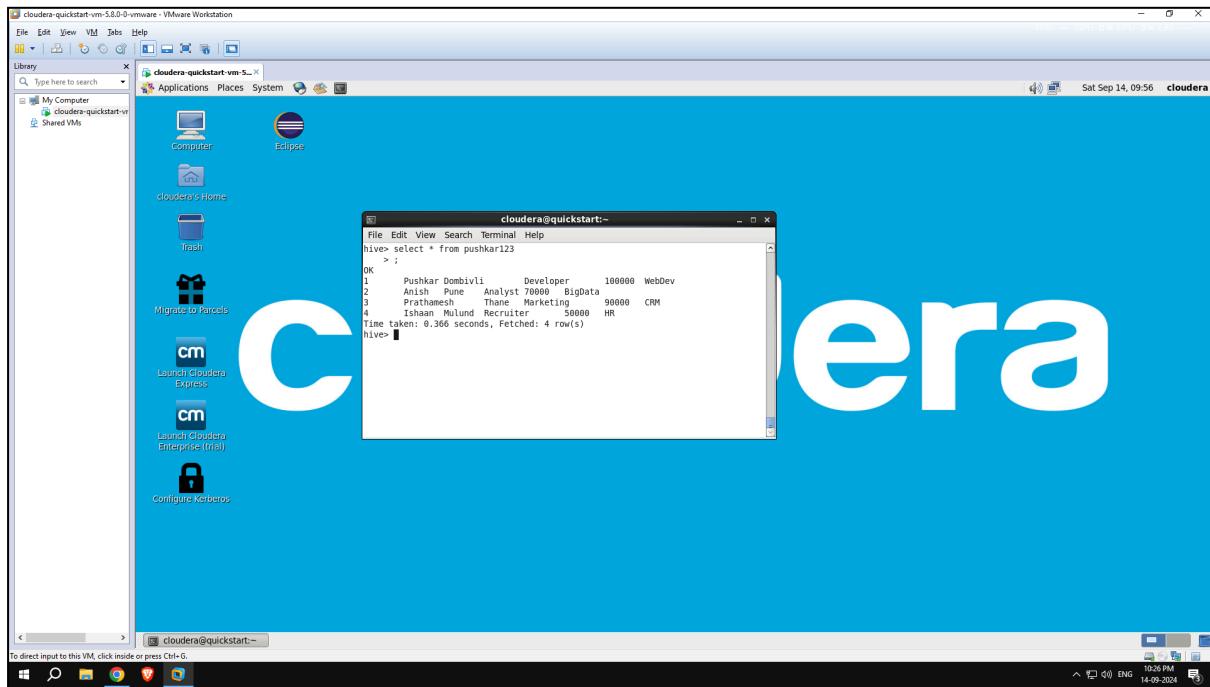
**LOAD DATA LOCAL INPATH 'employee.csv' INTO TABLE pushkar123;**



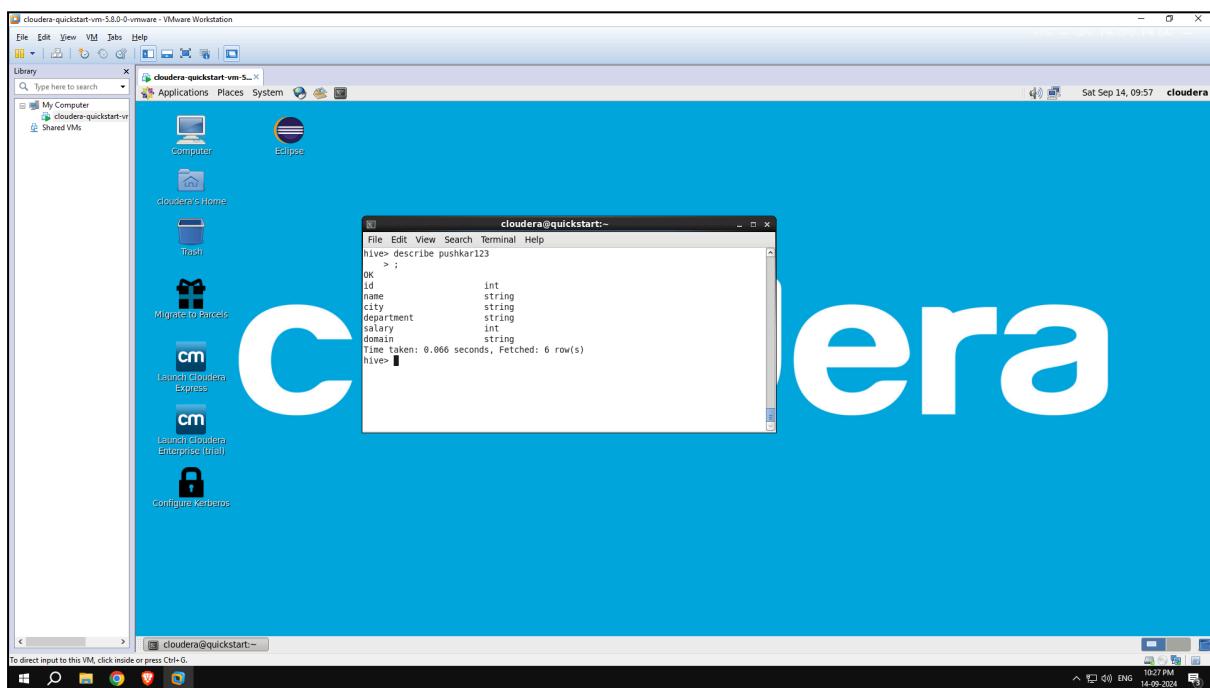
The screenshot shows a VMware Workstation window for a Cloudera VM. The desktop environment is a blue-themed Unity interface. A terminal window titled 'cloudera@quickstart:' is open, displaying the following Hive command and output:

```
hive> LOAD DATA LOCAL INPATH 'employee.csv' INTO TABLE pushkar123;
Loading data to table default.pushkar123
Table default.pushkar123 stats: [numFiles=1, totalSize=152]
OK
Time taken: 0.456 seconds
hive> [REDACTED]
```

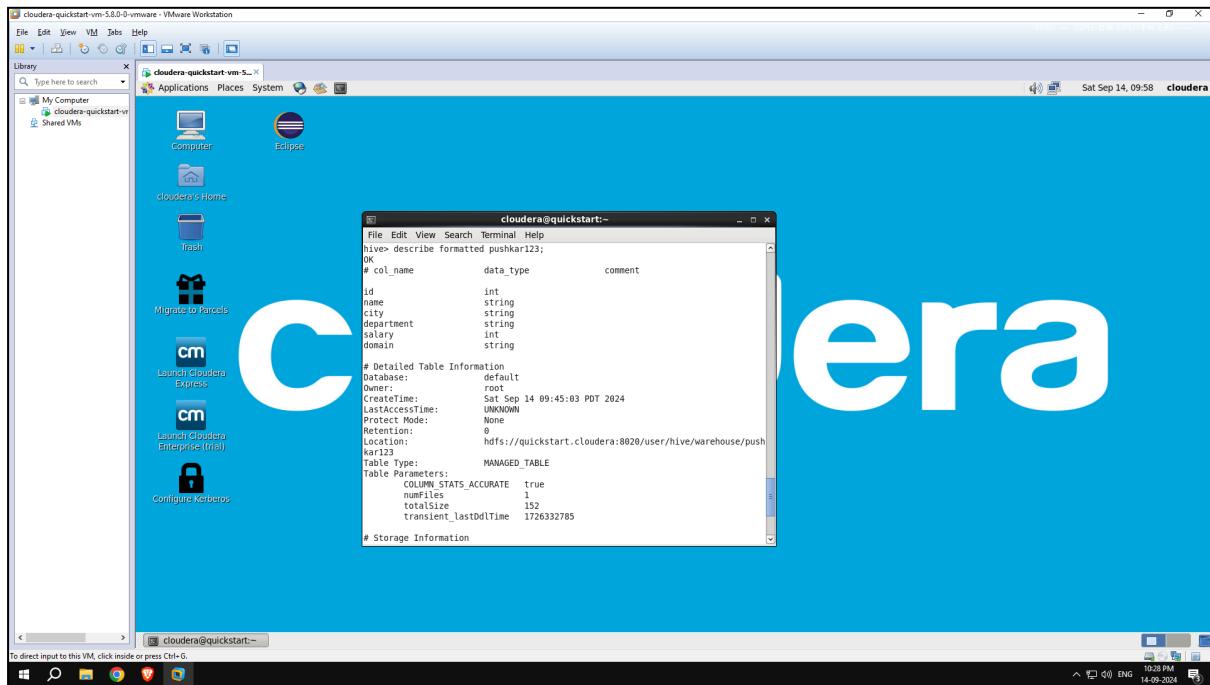
**select \* from pushkar123;**



**describe pushkar123;**



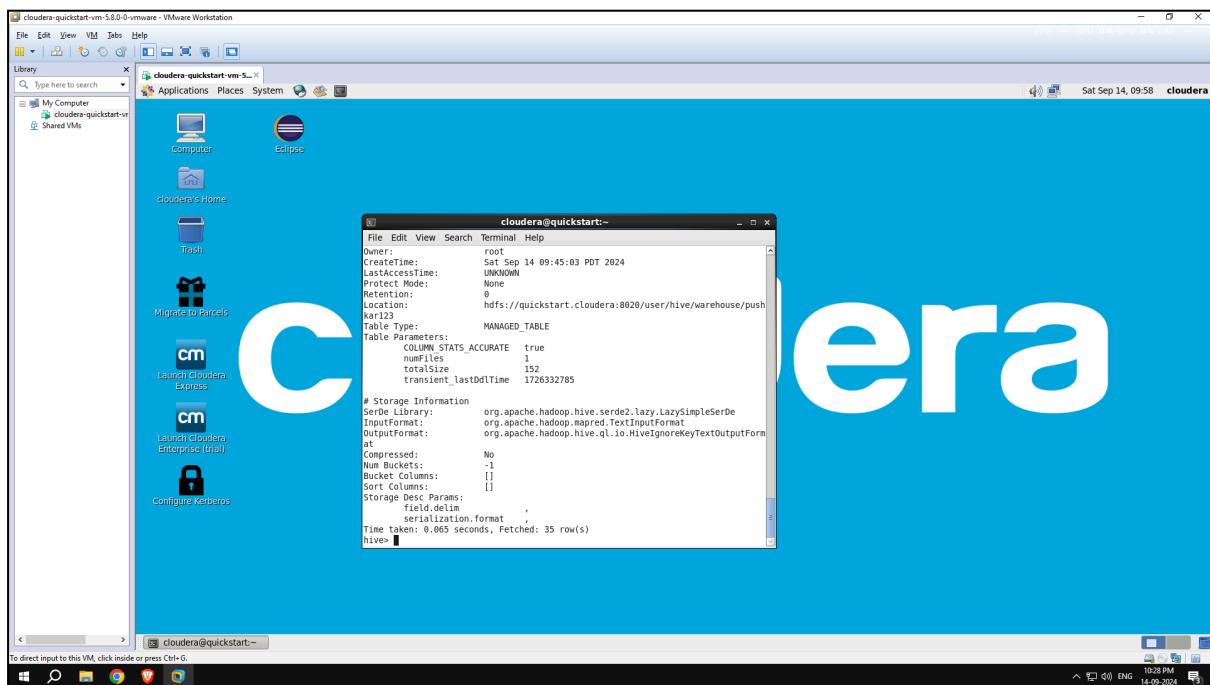
describe formatted pushkar123;



```
cloudera@quickstart:~$ hive> describe formatted pushkar123;
OK
# col_name          data_type      comment
id                int
name              string
city              string
department        string
country           string
domain            string

# Detailed Table Information
Database: default
Owner:    root
CreateTime: Sat Sep 14 09:45:03 PDT 2024
LastAccessTime: UNKNOWN
Protect Mode: None
Retention:   0
Location:   hdfs://quickstart.cloudera:8020/user/hive/warehouse/push
kar123
Table Type: MANAGED_TABLE
Table Parameters:
  COLUMN_STATS_ACCURATE true
  numfiles           1
  totalsize          152
  transient_lastDdlTime 1726332785

# Storage Information
```

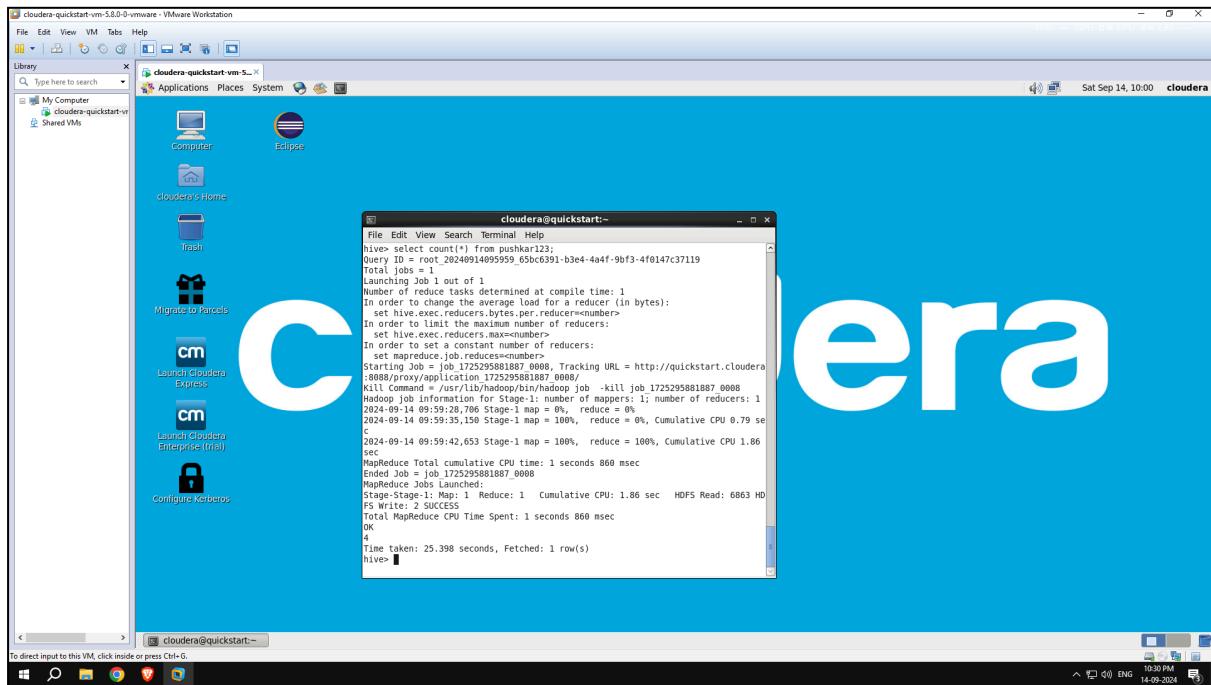


```
cloudera@quickstart:~$ hive> describe formatted pushkar123;
OK
# col_name          data_type      comment
id                int
name              string
city              string
department        string
country           string
domain            string

# Detailed Table Information
Database: default
Owner:    root
CreateTime: Sat Sep 14 09:45:03 PDT 2024
LastAccessTime: UNKNOWN
Protect Mode: None
Retention:   0
Location:   hdfs://quickstart.cloudera:8020/user/hive/warehouse/push
kar123
Table Type: MANAGED_TABLE
Table Parameters:
  COLUMN_STATS_ACCURATE true
  numfiles           1
  totalsize          152
  transient_lastDdlTime 1726332785

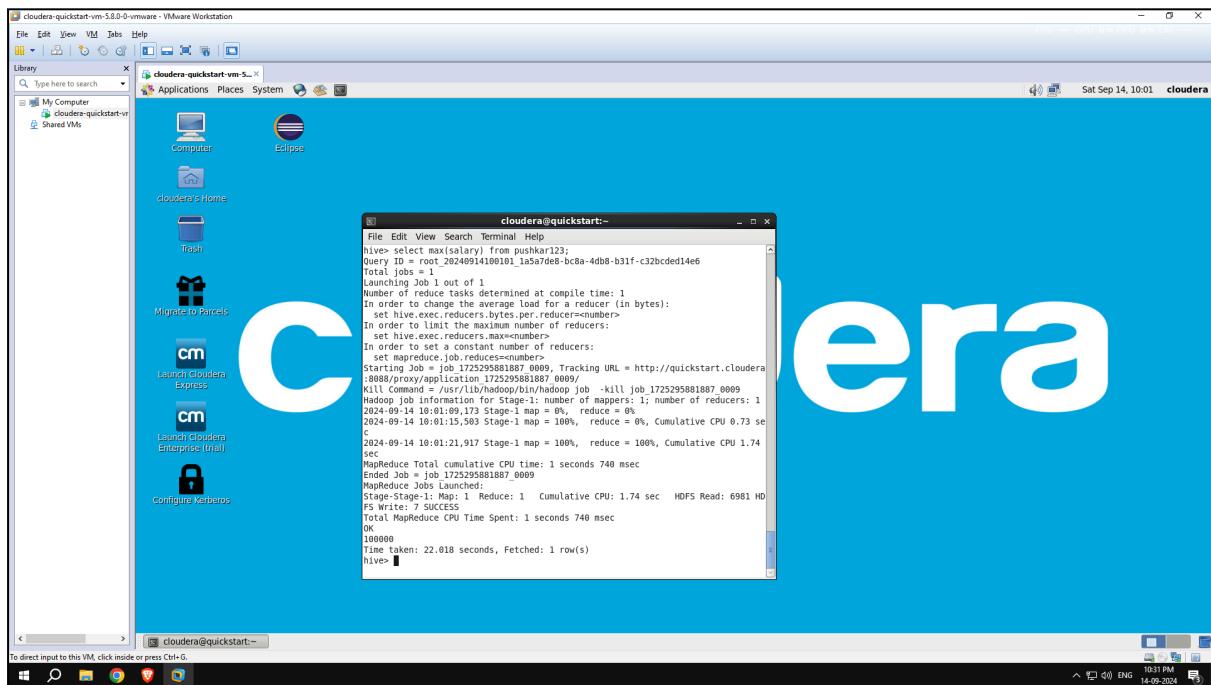
# Storage Information
Serde Library: org.apache.hadoop.hive.serde2.lazy.LazySimpleSerDe
InputFormat:  org.apache.hadoop.mapred.TextInputFormat
OutputFormat: org.apache.hadoop.hive.ql.io.HiveIgnoreKeyTextOutputFormat
Compressed:  No
Num Buckets: -1
Bucket Columns: []
Sort Columns: []
Storage Desc Params:
  field.delim  ,
  serialization.format  ,
Time taken: 0.005 seconds, Fetched: 35 row(s)
hive>
```

**select count(\*) from pushkar123;**



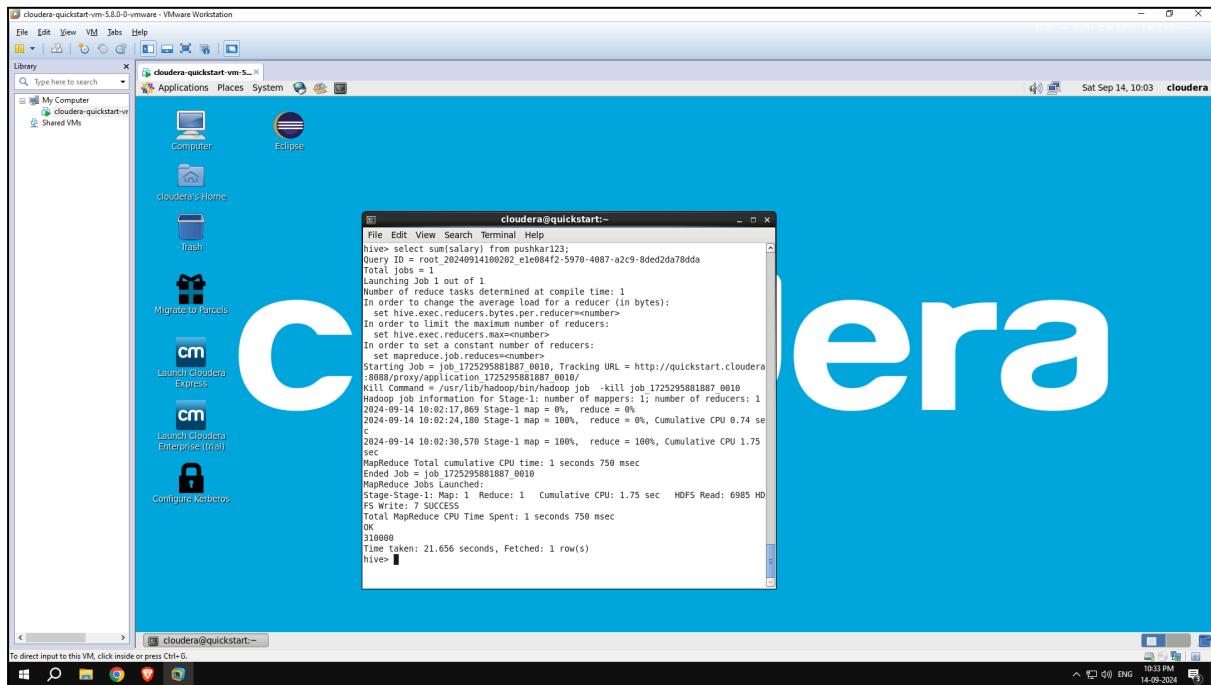
```
cloudera@quickstart:~$ File Edit View Search Terminal Help
hive> select count(*) from pushkar123;
Query ID = root_20240914095959_65bc6391-b3e4-4af9-bf3-4f0147c37119
Total Jobs = 1
Running Job 1 out of 1
Number of reduce tasks determined at compile time: 1
In order to change the average load for a reducer (in bytes):
 1. set hive.exec.reducers.bytes.per.reducer=<number>
 2. set mapred.reduce.tasks.max=<number>
In order to set a constant number of reducers:
 1. set mapreduce.job.reduces=<number>
Starting Job = job_172529581887_0008, Tracking URL = http://quickstart.cloudera:8088/proxy/application_172529581887_0008/
Kill Command = /usr/lib/hadoop/bin/hadoop job -kill job_172529581887_0008
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1
2024-09-14 09:59:28,706 Stage-1 map = 0%, reduce = 0%
2024-09-14 09:59:35,159 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 0.79 sec
2024-09-14 09:59:42,653 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 1.86 sec
MapReduce Total cumulative CPU time: 1 seconds 860 msec
Ended Job = job_172529581887_0008
MapReduce Job Launched:
Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 1.86 sec HDFS Read: 6863 HD FS Write: 0 SUCCESS
Total MapReduce CPU Time Spent: 1 seconds 860 msec
OK
4
Time taken: 25.398 seconds, Fetched: 1 row(s)
hive> 
```

**select max(salary) from pushkar123;**



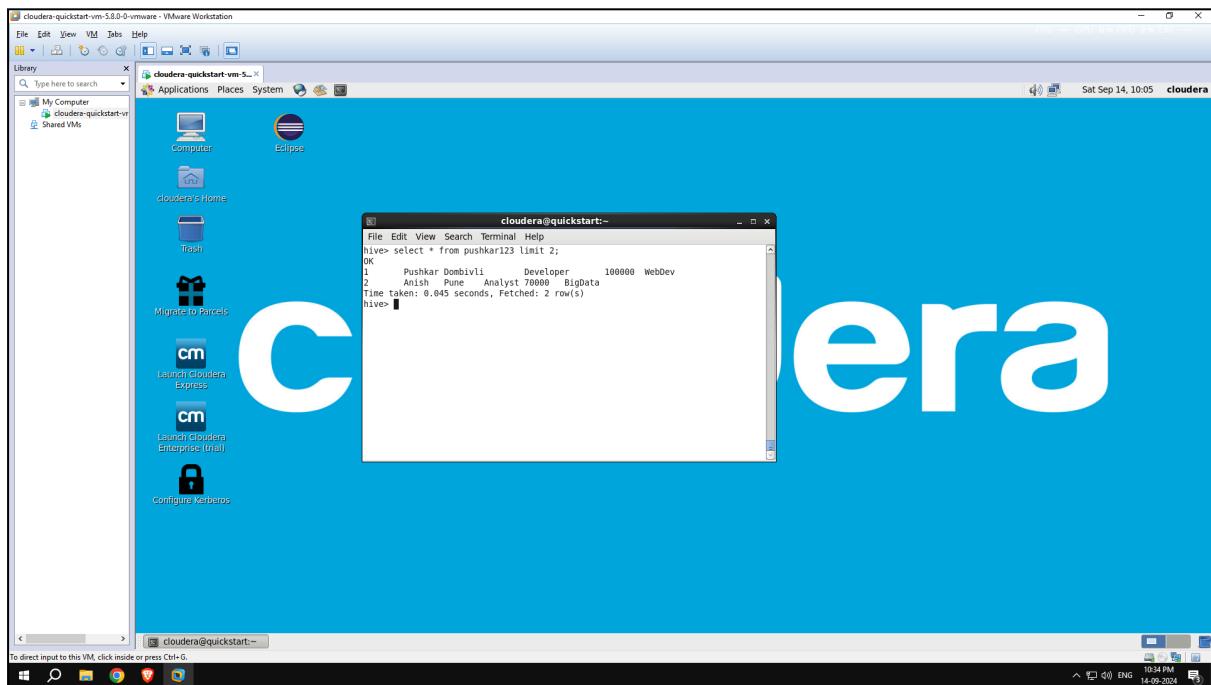
```
cloudera@quickstart:~$ File Edit View Search Terminal Help
hive> select max(salary) from pushkar123;
Query ID = root_20240914100101_1a5a7d68-bc8a-4db8-b31f-c32bcded14e6
Total Jobs = 1
Running Job 1 out of 1
Number of reduce tasks determined at compile time: 1
In order to change the average load for a reducer (in bytes):
 1. set hive.exec.reducers.bytes.per.reducer=<number>
 2. set mapred.reduce.tasks.max=<number>
In order to set a constant number of reducers:
 1. set mapreduce.job.reduces=<number>
Starting Job = job_172529581887_0009, Tracking URL = http://quickstart.cloudera:8088/proxy/application_172529581887_0009/
Kill Command = /usr/lib/hadoop/bin/hadoop job -kill job_172529581887_0009
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1
2024-09-14 10:01:09,173 Stage-1 map = 0%, reduce = 0%
2024-09-14 10:01:15,383 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 0.73 sec
2024-09-14 10:01:21,917 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 1.74 sec
MapReduce Total cumulative CPU time: 1 seconds 740 msec
Ended Job = job_172529581887_0009
MapReduce Job Launched:
Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 1.74 sec HDFS Read: 6981 HD FS Write: 7 SUCCESS
Total MapReduce CPU Time Spent: 1 seconds 740 msec
OK
100000
Time taken: 22.018 seconds, Fetched: 1 row(s)
hive> 
```

**select sum(salary) from pushkar123;**



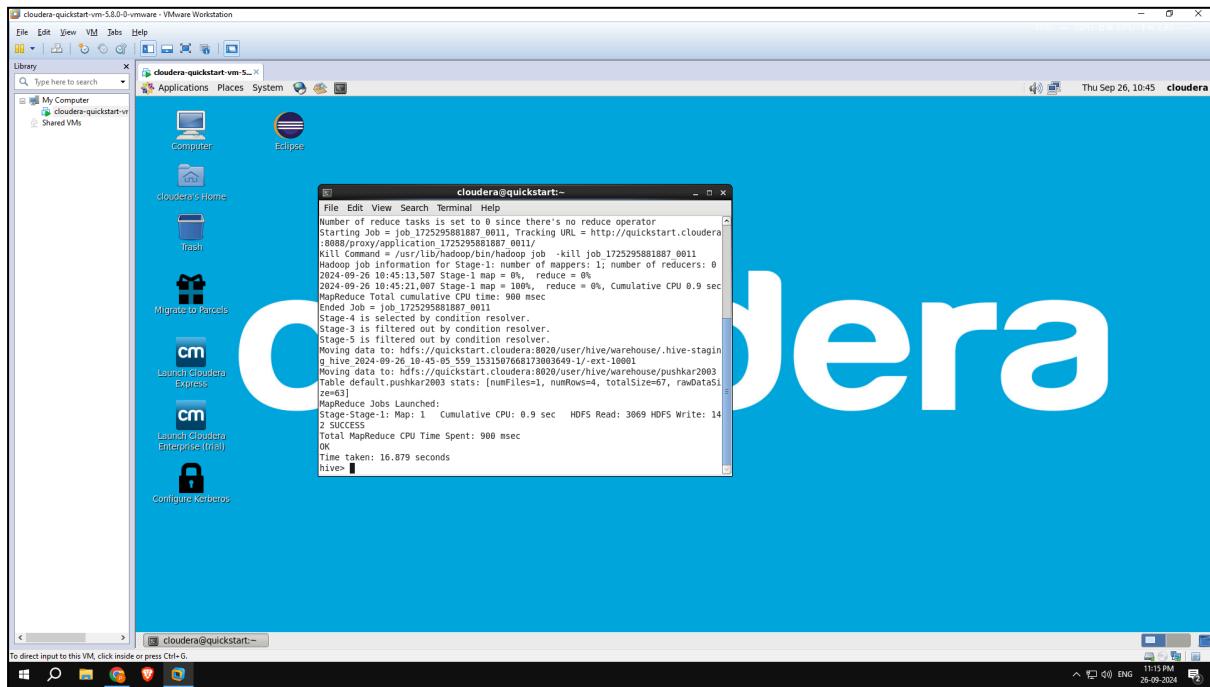
```
File Edit View Search Terminal Help
hive> select sum(salary) from pushkar123;
Query ID = root_20240914100282_cle084f2-5970-4087-a2c9-8ded2da78dd4
Total Jobs = 1
Running Job 1 out of 1
In order to change the average load for a reducer (in bytes):
  set hive.exec.reducers.bytes.per.reducer=<number>
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_172529581887_0010, Tracking URL = http://quickstart.cloudera:19990/jobs/172529581887_0010
Kill Command = /usr/lib/hadoop/bin/hadoop job -kill job_172529581887_0010
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1
2024-09-14 10:02:17,869 Stage-1 map = 0%, reduce = 0%
2024-09-14 10:02:24,188 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 0.74 sec
2024-09-14 10:02:30,570 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 1.75 sec
MapReduce Total cumulative CPU time: 1 seconds 750 msec
Ended Job = job_172529581887_0010
MapReduce Job Launched:
Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 1.75 sec HDFS Read: 6985 HD
FS Write: 0
Total MapReduce CPU Time Spent: 1 seconds 750 msec
OK
310800
Time taken: 21.656 seconds, Fetched: 1 row(s)
hive> 
```

**select \* from pushkar123 limit 2;**

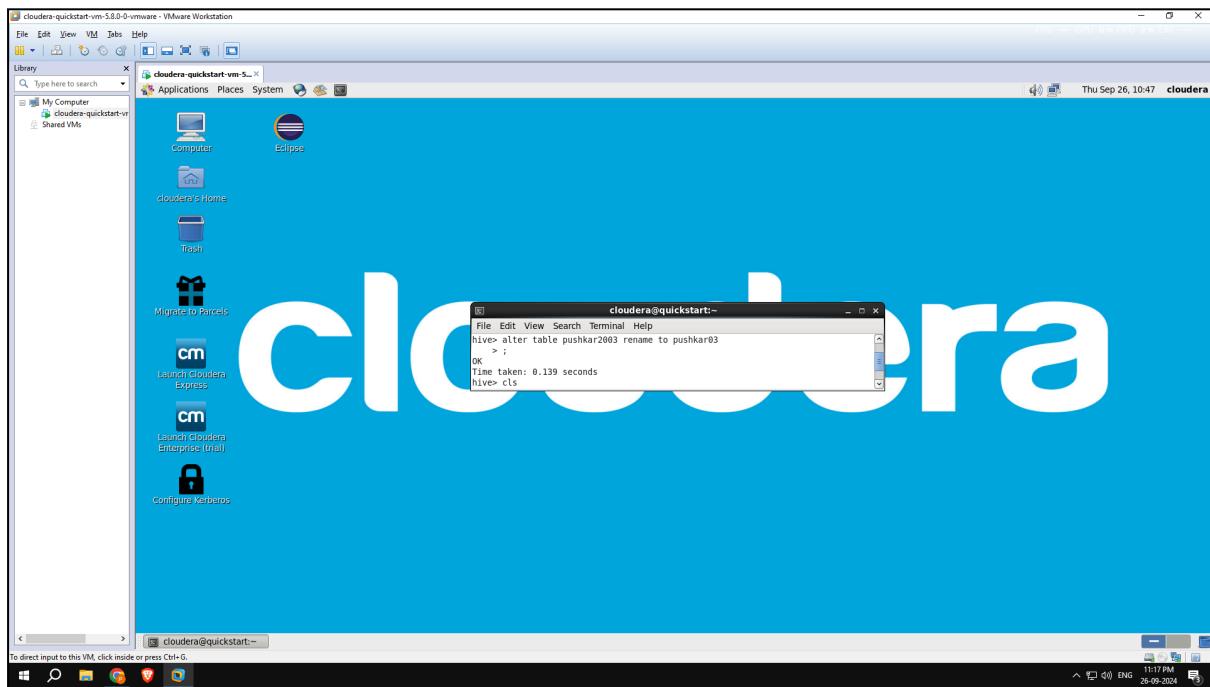


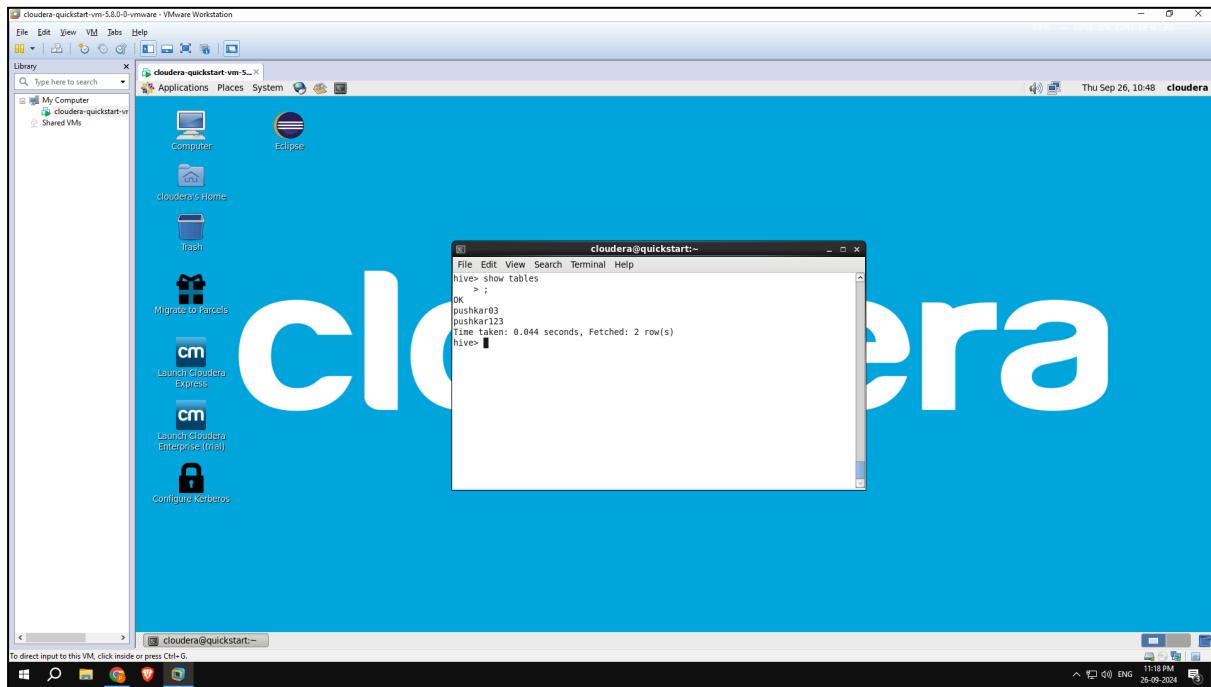
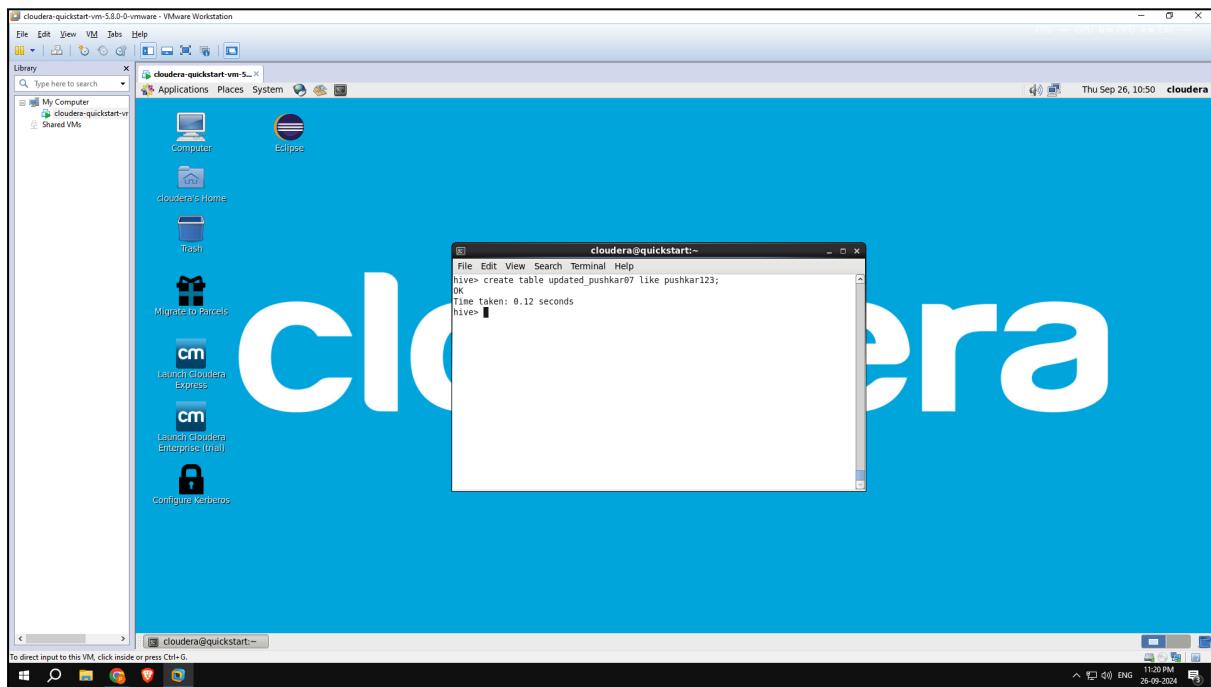
```
File Edit View Search Terminal Help
hive> select * from pushkar123 limit 2;
OK
1 Pushkar Dandivli Developer 100000 WebDev
2 Anish Pune Analyst 70000 BigData
Time taken: 0.045 seconds, Fetched: 2 row(s)
hive> 
```

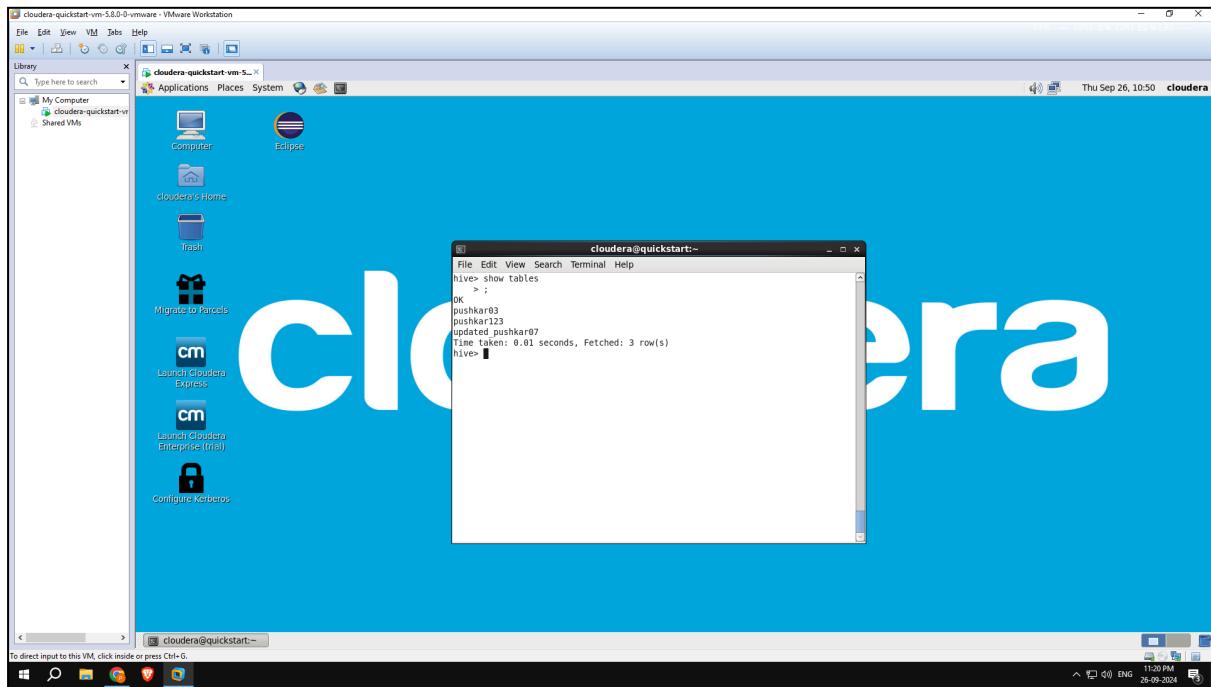
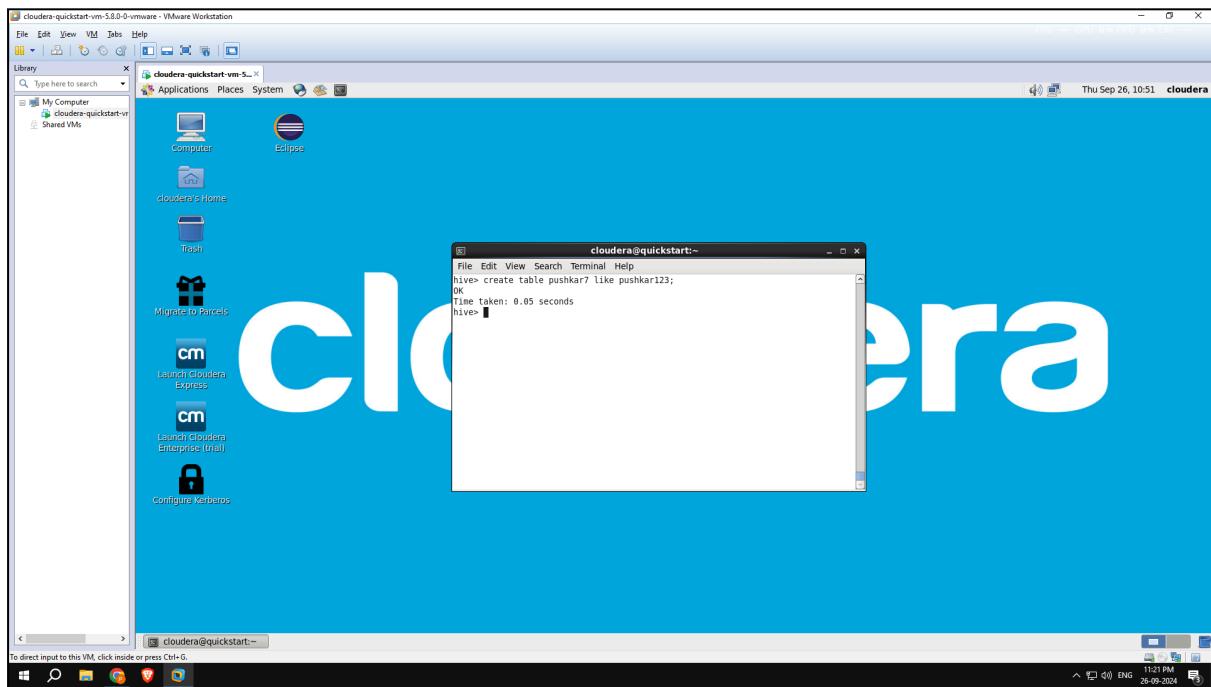
### Create table pushkar2003 as select id,name,city from pushkar123

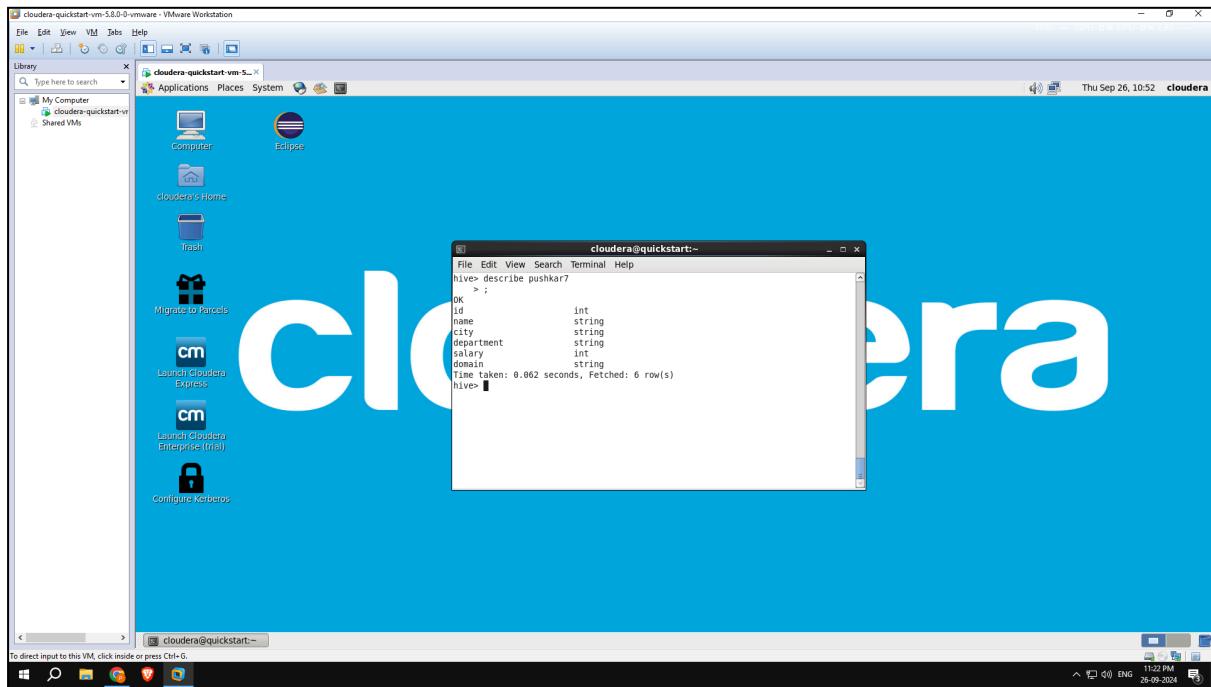
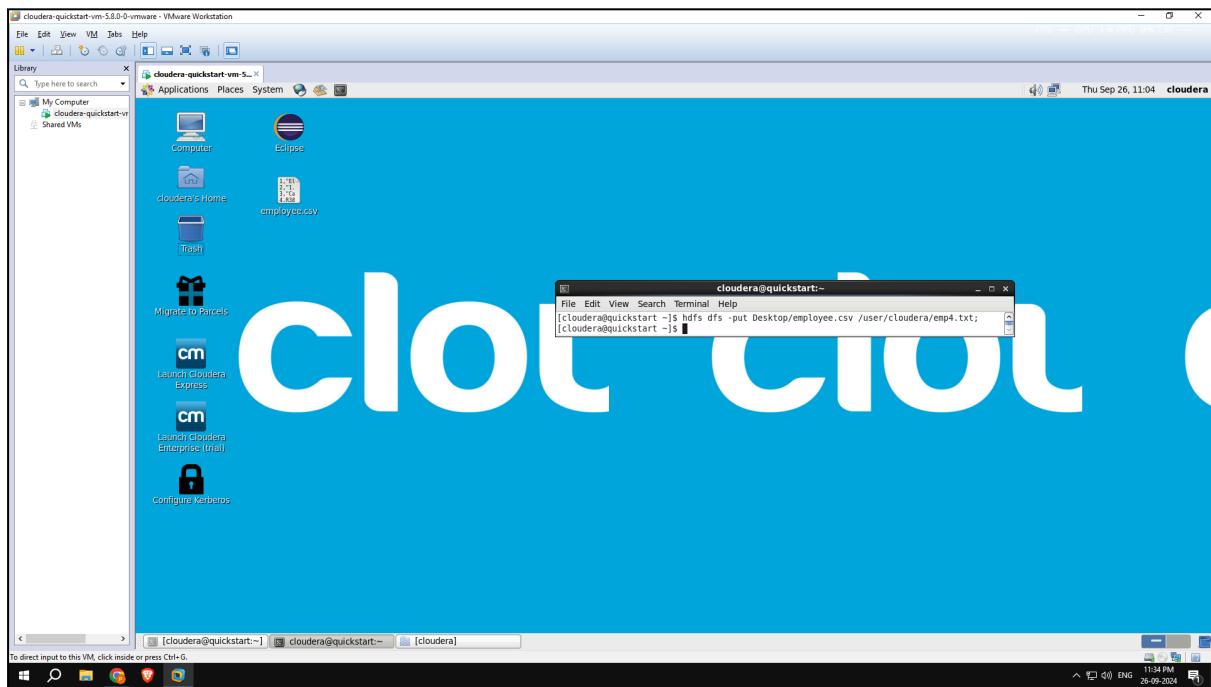


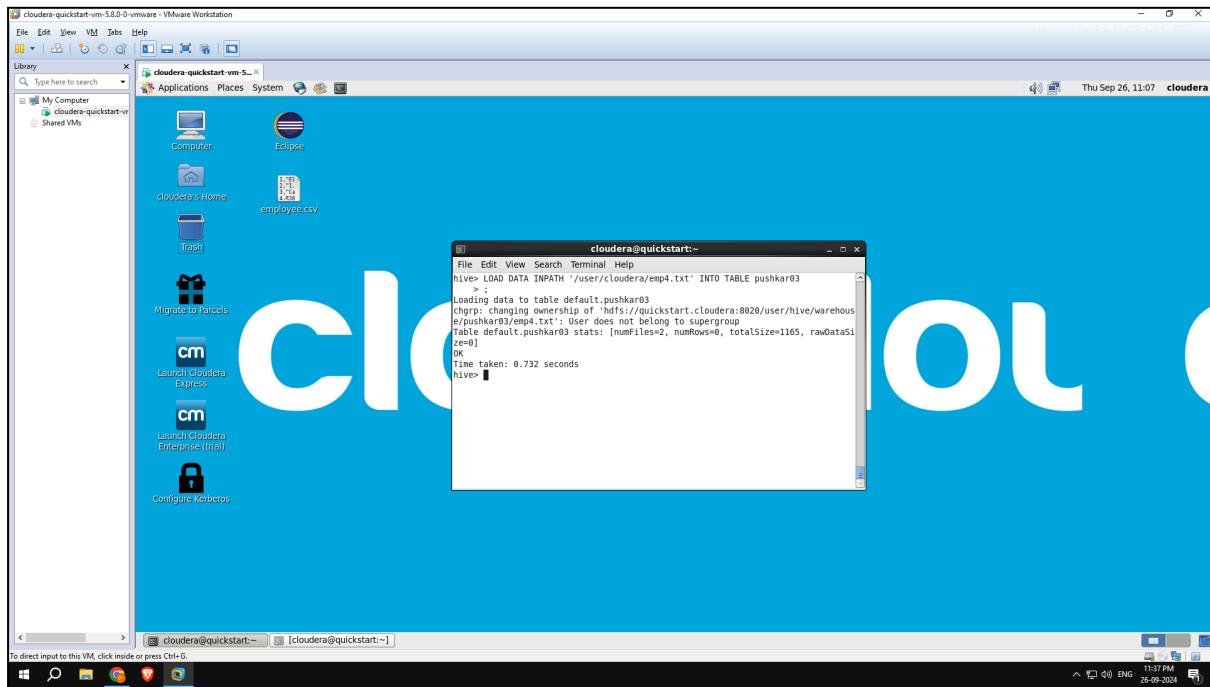
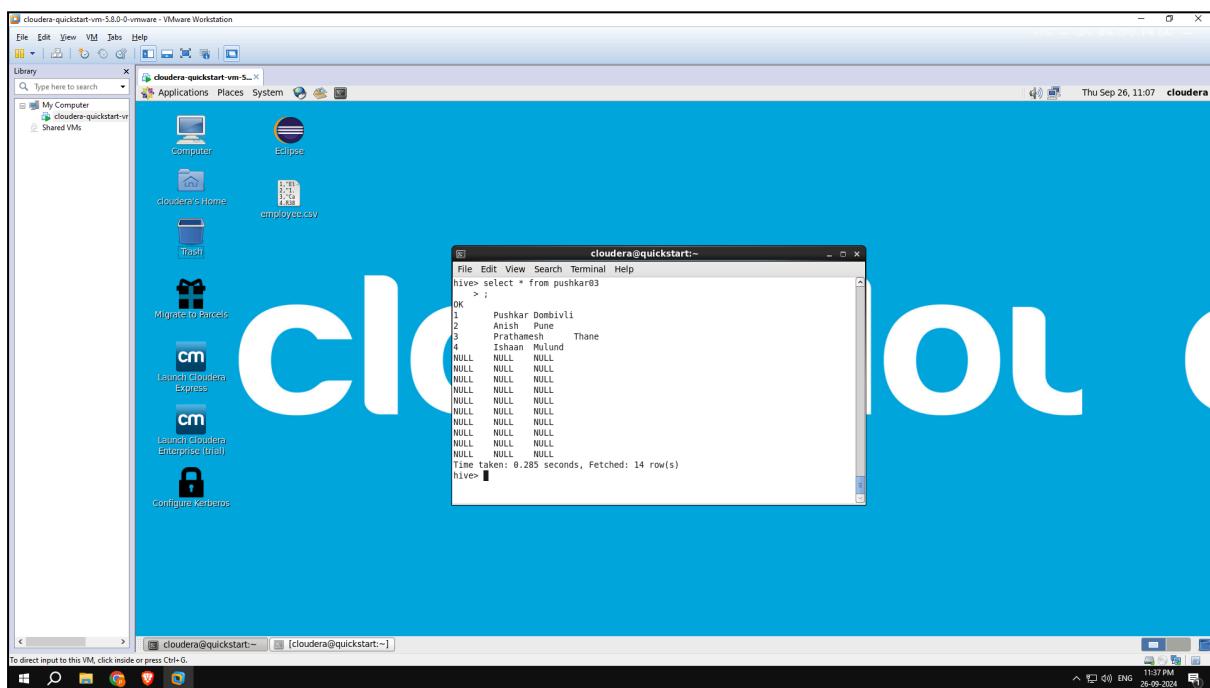
### alter table pushkar2003 rename to pushkar03



**show tables****create table updated\_pushkar07 like pushkar123**

**show tables****create table pushkar7 like pushkar123**

**describe pushkar7****hdfs dfs -put Desktop/employee.csv /user/cloudera/emp4.txt**

**LOAD DATA INPATH '/user/cloudera/emp4.txt' INTO TABLE pushkar03****select \* from pushkar03**

**select \* from pushkar123 order by id desc**

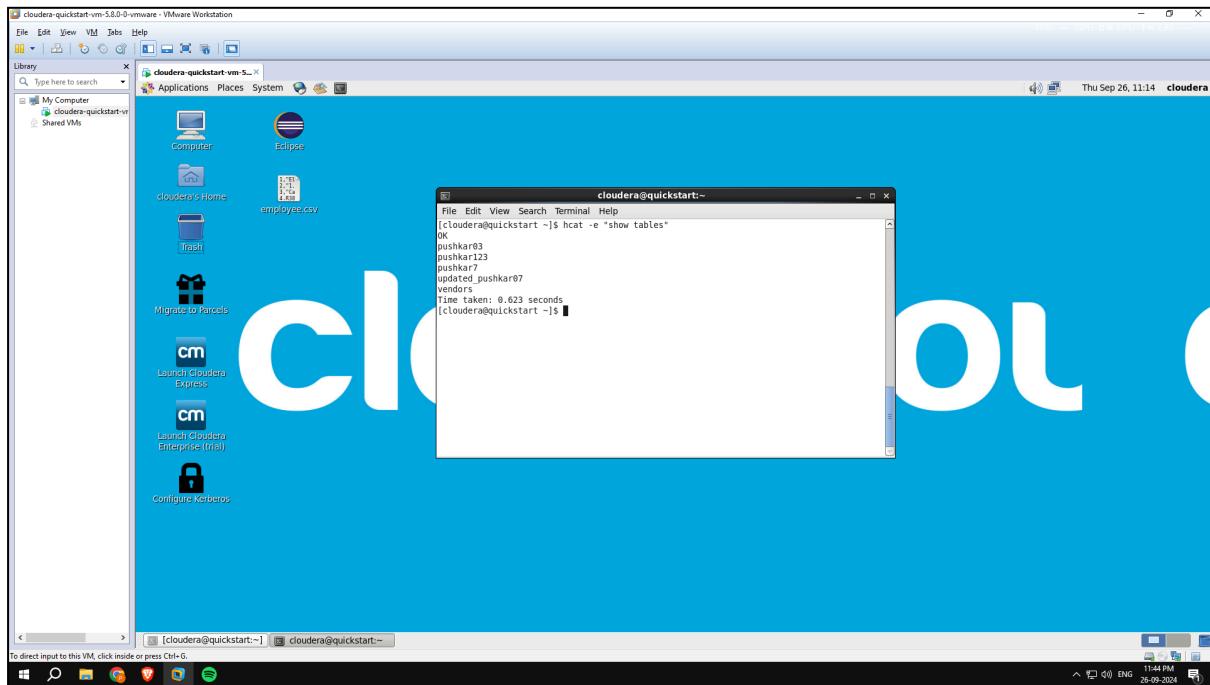
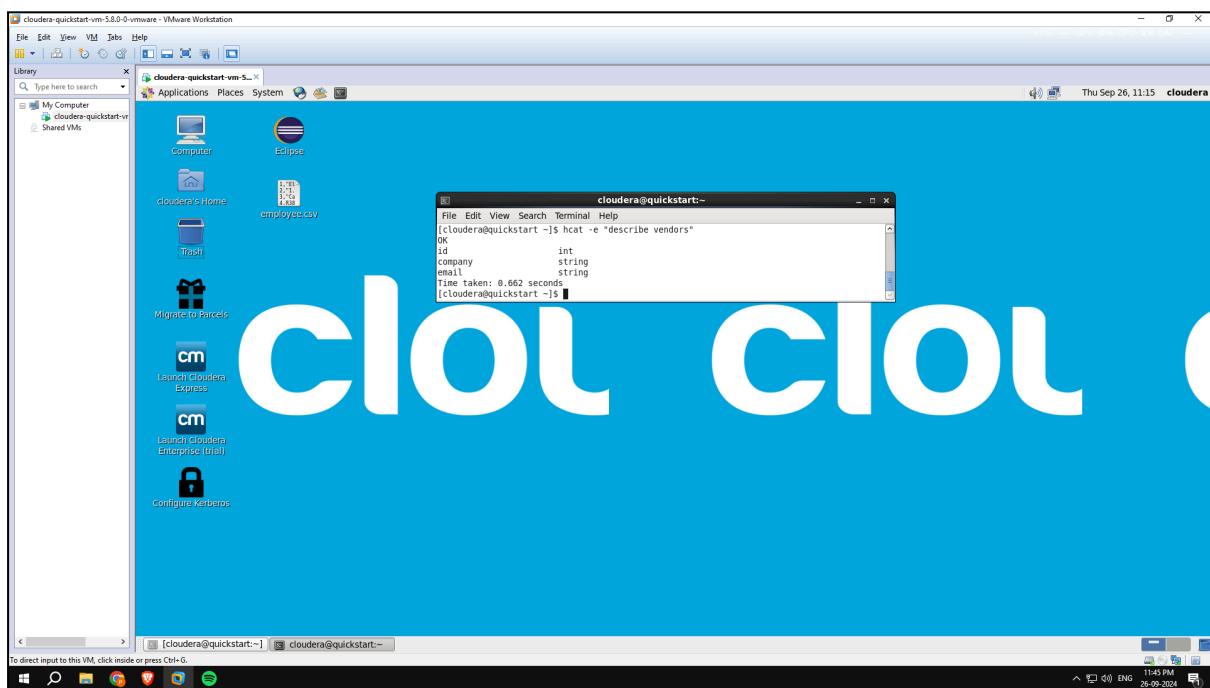
```

cloudera@quickstart:~$ hive> select * from pushkar123 order by id desc;
Query ID = cloudera20240926110808_77c1e9de-5dfe-4352-8954-d3290a1bb265
Total jobs = 1
Launching Job 1 out of 1
Number of reduce tasks determined at compile time: 1
In order to change the number of reducers, 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 mapred.reduce.tasks=<number>
Starting Job = job_1725295881887_0012, Tracking URL = http://quickstart.cloudera:8088/proxy/application_1725295881887_0012/
Kill Command = /usr/lib/hadoop/bin/hadoop job -kill job_1725295881887_0012
Job ID = job_1725295881887_0012
MapReduce Job Launched
[Stage-1: map = 0%, reduce = 0%]
2024-09-26 11:08:52,181 Stage-1 map = 0%, reduce = 0%, Cumulative CPU 0.77 sec
2024-09-26 11:08:58,687 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 2.19 sec
2024-09-26 11:09:08,699 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 2.19 sec
MapReduce Total cumulative CPU time: 2 seconds 190 msec
Ended Job = job_1725295881887_0012
MapReduce Jobs Launched
[Stage-1: map = 100%, reduce = 100%]
Time taken: 26.528 seconds, Fetched: 4 row(s)
hive> 
```

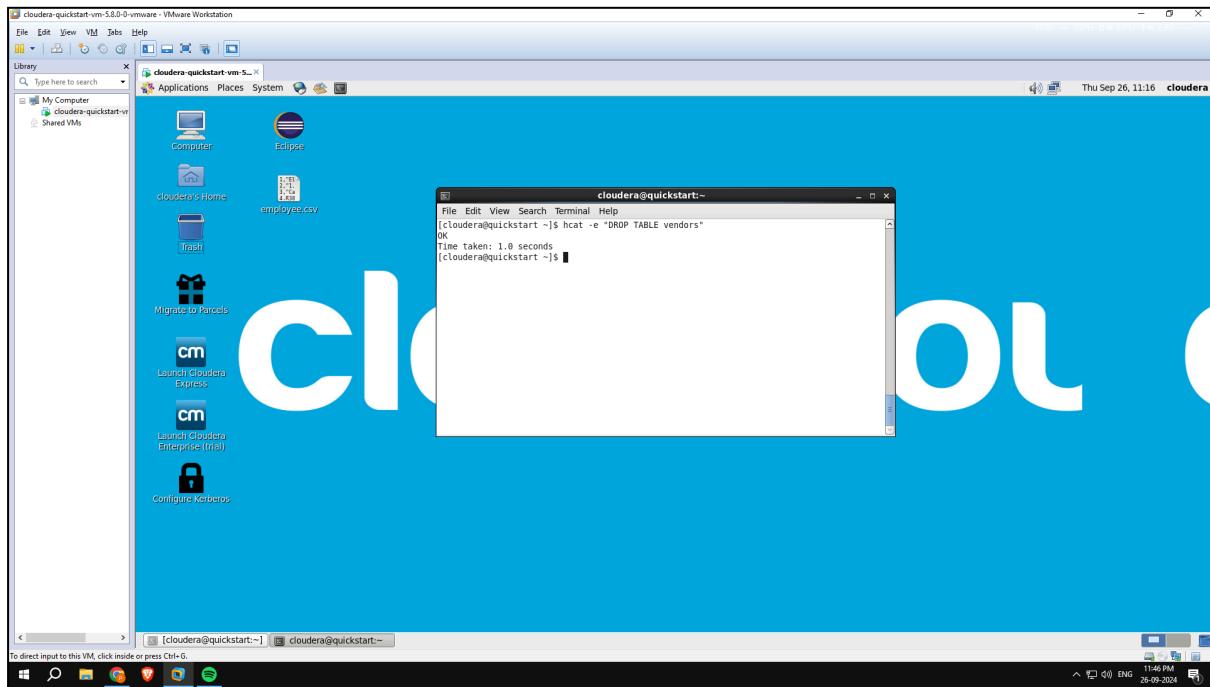
**hcat -e “CREATE TABLE vendors \**  
**(id INT, company STRING, email STRING) \**  
**ROW FORMAT DELIMITED FIELDS TERMINATED BY ‘,’ \**  
**LOCATION ‘/dualcore/vendors’ “**

```

cloudera@quickstart:~$ hdfs dfs -cat /dualcore/vendors
|cloudera@quickstart:~$ hdfs dfs -cat /dualcore/vendors
|> |1 1 Ishaan Mulund Recruiter 50000 HR
|> |3 Prathamesh Thane Marketing 90000 CRM
|> |2 Anish Pune Analyst 70000 Bigdata
|> |1 Pushkar Dombivli Developer 100000 WebDev
|> |
|> Time taken: 0.625 seconds
|cloudera@quickstart:~$ 
```

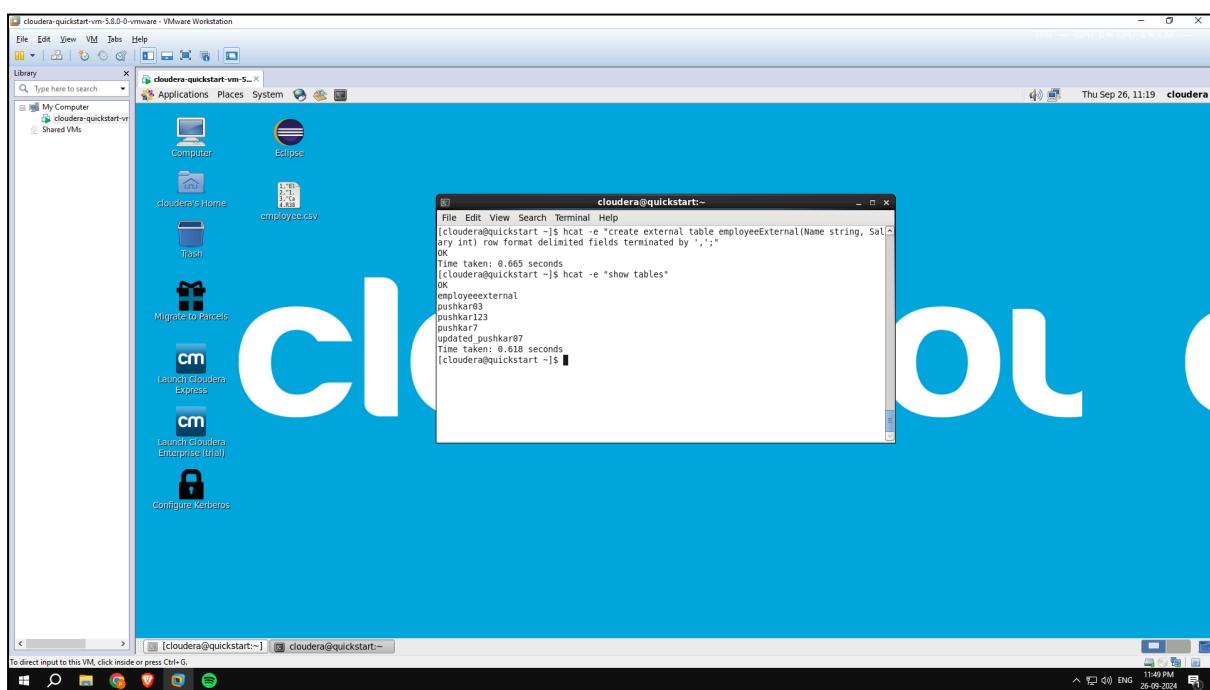
**hcat -e "show tables"****hcat -e "describe vendors"**

**hcat -e "DROP TABLE vendors"**



**hcat -e "create external table employeeExternal(Name string, Salary int) row format delimited fields terminated by ',';"**

**hcat -e "show tables"**



**create table sales(**

**Name string,**

**ID int)**

**row format delimited**

**fields terminated by ',';**

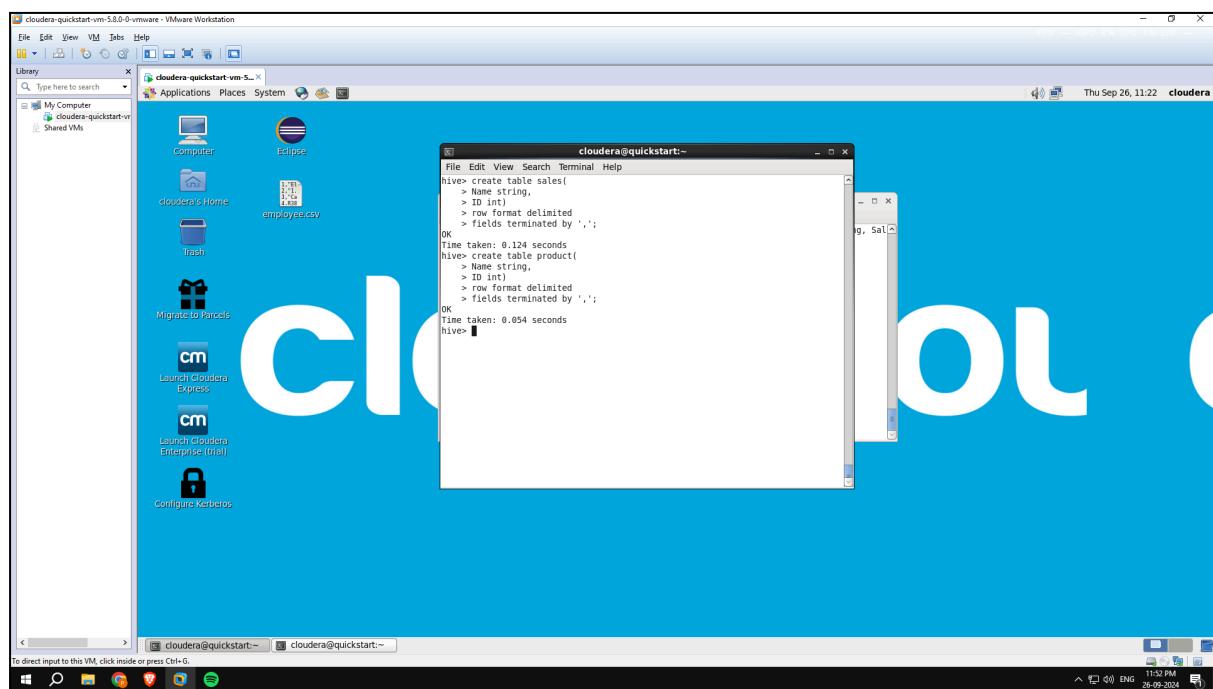
**create table product(**

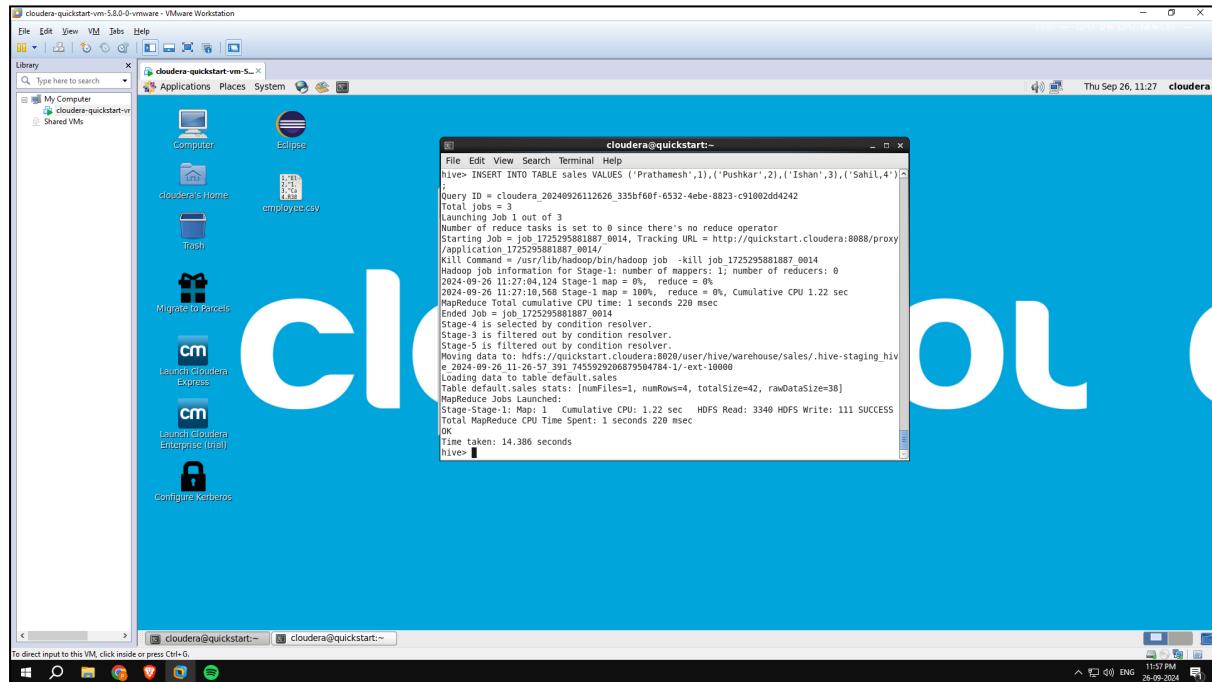
**Name string.**

**ID int)**

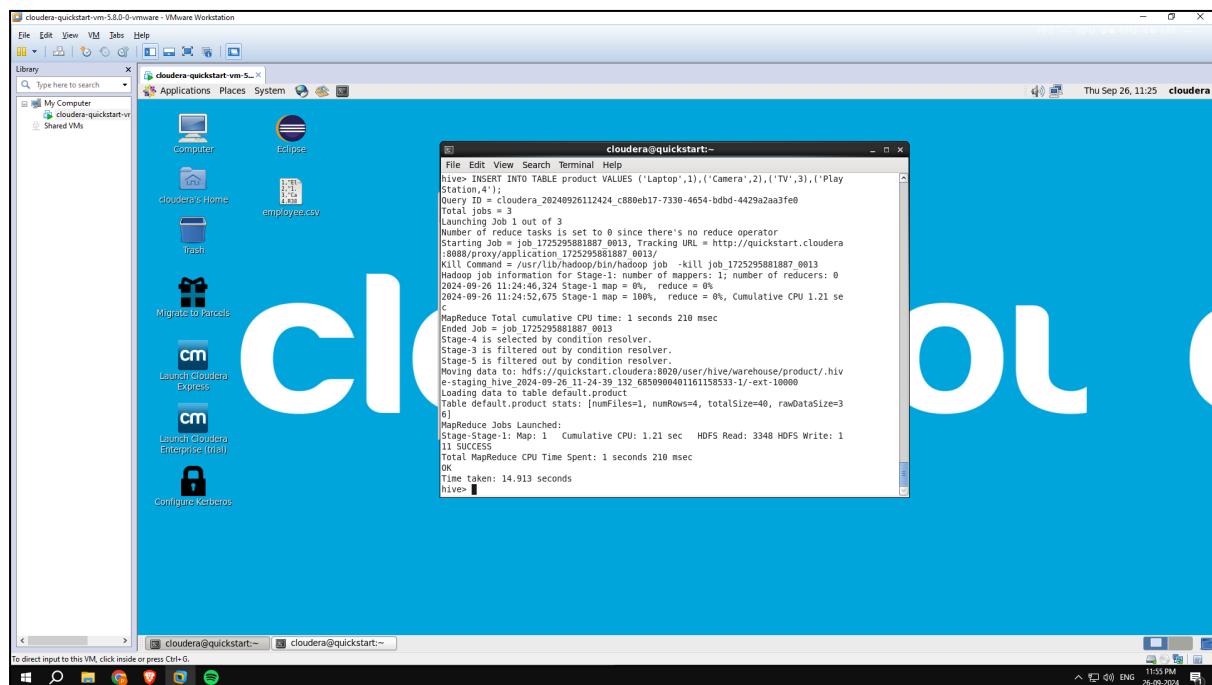
**row format delimited**

**fields terminated by ',';**



**INSERT INTO TABLE sales VALUES****(‘Pushkar’,1),(‘Prathamesh’,2),(‘Ishan’,3),(‘Sahil’,4)**


```
cloudera@quickstart:~$ hive> INSERT INTO TABLE sales VALUES ('Prathamesh',1),('Pushkar',2),('Ishan',3),('Sahil',4);
Query ID = cloudera_20240926112626_35bf60f-6532-4ebe-8823-c91082dd4242
Total jobs = 1
Launching Job 1 out of 3
Number of reduce tasks is set to 0 since there's no reduce operator
Starting Job = job_1725295881887_0014
Kill Command = /usr/lib/hadoop/bin/hadoop job -kill job_1725295881887_0014
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 0
2024-09-26 11:27:04,124 Stage-1 map = 0%, reduce = 0%
2024-09-26 11:27:10,568 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 1.22 sec
MapReduce Total cumulative CPU time: 1 second(s) 228 msec
Ended Job = job_1725295881887_0014
Stage-1 is selected by condition resolver.
Stage-3 is filtered out by condition resolver.
Stage-5 is filtered out by condition resolver.
Moving data to: hdfs://quickstart.cloudera:8020/user/hive/warehouse/sales/.hive-staging_hive_2024_09_26_11_26_57_391_76029283879504784-1/ext-10000
Loading data to table default.sales
Table default.sales stats: [numFiles=1, numRows=4, totalSize=42, rawDataSize=38]
MapReduce Jobs Launched:
Stage-Stage-1: Map: 1   Cumulative CPU: 1.22 sec   HDFS Read: 3340 HDFS Write: 111 SUCCESS
Total MapReduce CPU Time Spent: 1 seconds 228 msec
OK
Time taken: 14.386 seconds
hive>
```

**INSERT INTO TABLE product VALUES****(‘Laptop’,1),(‘Camera’,2),(‘TV’,3),(‘PlayStation’,4)**


```
cloudera@quickstart:~$ hive> INSERT INTO TABLE product VALUES ('Laptop',1),('Camera',2),('TV',3),('PlayStation',4);
Query ID = cloudera_20240926112424_c880eb17-7330-4654-bdbd-4429a2aa3fe0
Total jobs = 1
Launching Job 1 out of 3
Number of reduce tasks is set to 0 since there's no reduce operator
Starting Job = job_1725295881887_0013
Kill Command = /usr/lib/hadoop/bin/hadoop job -kill job_1725295881887_0013
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 0
2024-09-26 11:24:46,324 Stage-1 map = 0%, reduce = 0%
2024-09-26 11:24:52,675 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 1.21 sec
MapReduce Total cumulative CPU time: 1 second(s) 210 msec
Ended Job = job_1725295881887_0013
Stage-4 is selected by condition resolver.
Stage-5 is filtered out by condition resolver.
Stage-6 is filtered out by condition resolver.
Moving data to: hdfs://quickstart.cloudera:8020/user/hive/warehouse/product/.hive-staging_hive_2024_09_26_11_24_39_132_6850908401161158533-1/ext-10000
Loading data to table default.product
Table default.product stats: [numFiles=1, numRows=4, totalSize=40, rawDataSize=36]
MapReduce Jobs Launched:
Stage-Stage-1: Map: 1   Cumulative CPU: 1.21 sec   HDFS Read: 3348 HDFS Write: 1
Total MapReduce CPU Time Spent: 1 seconds 210 msec
OK
Time taken: 14.913 seconds
hive>
```

```

File Edit View Search Terminal Help
hive> INSERT INTO TABLE sales VALUES ('Prathamesh',1),('Pushkar',2),('Ishan',3),('Sahil',4);
Query ID = cloudera_20240926112626_335bf60f-6532-4ebe-8823-c91082dd4242
Total jobs = 3
Launching Job 1 out of 3
Number of reduce tasks is set to 0 since there's no reduce operator
Starting Job = job_1725295881887_0014, Tracking URL = http://quickstart.cloudera:8088/proxy
/application_1725295881887_0014
Kill Command = /usr/lib/hadoop/bin/hadoop job -kill job_1725295881887_0014
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 0
2024-09-26 11:27:04,124 Stage-1 map = 0%, reduce = 0%
2024-09-26 11:27:10,568 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 1.22 sec
MapReduce Total CPU Time Spent: 1 seconds (220 msec)
Ended Job = job_1725295881887_0014
Stage-4 is selected by condition resolver.
Stage-3 is filtered out by condition resolver.
Stage-2 is filtered out by condition resolver.
Moving data to: hdfs://quickstart.cloudera:8020/user/hive/warehouse/sales/.hive-staging_hive_2024-09-26 11:26:57.391 7455929206879504784-1-ext-10800
Loading data to table default.sales
Table deleted. New stats: [numFiles=1, numRows=4, totalSize=42, rawDataSize=38]
MapReduce Jobs Launched:
Stage-Stage-1: Map: 1  Cumulative CPU: 1.22 sec  HDFS Read: 3340 HDFS Write: 111 SUCCESS
Total MapReduce CPU Time Spent: 1 seconds (220 msec)
OK
Time taken: 14.386 seconds
hive>

```

MapReduce Total cumulative CPU time: 910 msec  
Ended Job = job\_1725616533594\_0010  
MapReduce Jobs Launched:  
Stage-Stage-3: Map: 1 Cumulative CPU: 0.91 sec HDFS Read: 5688 HDFS Write:  
148 SUCCESS  
Total MapReduce CPU Time Spent: 910 msec  
OK  
Shreya 1 Laptop 1  
Mrudula 2 Camera 2  
Preerna 3 TV 3  
Karina 4 PlayStation 4  
Shreya 1 Laptop 1  
Mrudula 2 Camera 2  
Preerna 3 TV 3  
Karina 4 PlayStation 4  
Time taken: 18.577 seconds, Fetched: 8 row(s)

```

hive> select sales.* , product.* from sales RIGHT OUTER JOIN Product ON(sales.id = product.id);
Query ID = root_20240912215555_ab9a3e4a-fb36-430e-a8d2-869dc7c2ba3d
Total jobs = 1
Execution log at: /tmp/root/root_20240912215555_ab9a3e4a-fb36-430e-a8d2-869dc7c2ba3d.log
2024-09-12 09:55:35 Starting to launch local task to process map join; maximum memory = 1013645312
2024-09-12 09:55:36 Dump the side-table for tag: 0 with group count: 4 into file: file:/tmp/root/6f22f280-428d-4ab5-alb6-662a071bbe79/hive_2024-09-12_21-55-69_2_318200605523358949-1-local-10003/HashTable-Stage-3/MapJoin-mapfile0-..-hashtable
2024-09-12 09:55:36 Uploaded 1 File to: file:/tmp/root/6f22f280-428d-4ab5-alb6-662a071bbe79/hive_2024-09-12_21-55-30_692_318200605523358949-1-local-10003/HashTable-Stage-3/MapJoin-mapfile0-..-hashtable (414 bytes)
2024-09-12 09:55:36 End of local task; Time Taken: 0.82 sec.
Execution completed successfully
MapredLocal task succeeded
Launching Job 1 out of 1
Number of reduce tasks is set to 0 since there's no reduce operator
Starting Job = job_1725616533594_0011, Tracking URL = http://quickstart.cloudera:8088/proxy/application_1725616533594_0011
Kill Command = /usr/lib/hadoop/bin/hadoop job -kill job_1725616533594_0011
Hadoop job information for Stage-3: number of mappers: 1; number of reducers: 0
2024-09-12 21:55:43,869 Stage-3 map = 0%, reduce = 0%
2024-09-12 21:55:50,147 Stage-3 map = 100%, reduce = 0%, Cumulative CPU 0.91 sec
MapReduce Total cumulative CPU time: 910 msec
Ended Job = job_1725616533594_0011
MapReduce Jobs Launched:  
Stage-Stage-3: Map: 1 Cumulative CPU: 0.91 sec HDFS Read: 5554 HDFS Write: 148 SUCCESS
Total MapReduce CPU Time Spent: 910 msec
OK
Shreya 1 Laptop 1
Shreya 1 Laptop 1
Mrudula 2 Camera 2
Mrudula 2 Camera 2
Preerna 3 TV 3
Preerna 3 TV 3
Karina 4 PlayStation 4
Karina 4 PlayStation 4

```

**Conclusion: Creation of Database and Table, Hive Partition, Hive Built In Function and Operators, Hive View and Index done successfully.**

Name: Pushkar Sane

MCA / A

Roll No. 45

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