Step 1:

Download the data files from

<https://github.com/imrankhan88/Dataengineering_bootcamp_docs/tree/main/data/hive>

and copy all downloaded files to home dir.

Create a blank text file on your machine with name as **customer.txt** in the current working directory(i.e home directory).

Copy below table data into this customer.txt.

| 1,rahul,2010-01-01,2010-01-01 01:01:01  2,rakesh,2010-01-02,2010-01-02 01:01:01  ,rahul,,2010-01-01 01:01:01  4,rakesh,2010-01-02,2010-01-02 01:01:01 |
| --- |

Step 2:

Create **/data/test/text** dir on hdfs-(Run below command on terminal).

| hadoop fs -mkdir -p **/data/test/text** |
| --- |

Put the text file on HDFS in the create directory-(Run below command on terminal).

| hadoop fs -put **customer.txt /data/test/text** |
| --- |

Step3:

Open hive console-(Run below command on terminal).

| hive |
| --- |

(You will get Hive prompt- **‘**hive>’)

**Create new database in hive**

| create database xyz; |
| --- |

**Switch Database in hive**

| use xyz; |
| --- |

Step4:

**Create an external Table over text file**-(Run below command on hive console).

| CREATE external TABLE customer(id int, name string, dob date, time timestamp) ROW FORMAT DELIMITED FIELDS TERMINATED BY ',' LOCATION '**/data/test/text**'; |
| --- |

Step5: Check table data-(Run below command on hive console).

| select \* from customer; |
| --- |

Expected output

| 1 rahul 2010-01-01 2010-01-01 01:01:01  2 rakesh 2010-01-02 2010-01-02 01:01:01  **NULL** rahul **NULL** 2010-01-01 01:01:01  4 rakesh 2010-01-02 2010-01-02 01:01:01 |
| --- |

**Other useful queries:-**

| show databases; |
| --- |
| show tables; |
| describe table customer; |

**Create managed Table**-(Run below command on hive console).

| create table emp(empId int, empName String, doj date); |
| --- |

**Insert data:**-(Run below create table command on hive console).

| insert into emp values(1,'vishal','2009-01-01'); |
| --- |

*(Note:-MapReduce job will run for data insertion).*

**Read data from one table and insert into another**

1. Create a new table name emp1 and insert data into it from emp.-(Run below commands on hive console).

| create table emp1(empId int, empName String, doj date);  INSERT OVERWRITE TABLE emp1 select \* from emp;  INSERT INTO TABLE emp1 select \* from emp; |
| --- |

**Try these commands as well**

| select \* from emp where empId=1;  select count(\*) from customer; |
| --- |

**Count queries:-**

| Select count (DISTINCT name) from customer;  Select sum(id) from customer group by dob; |
| --- |

**Publish table data to HDFS dir**

INSERT OVERWRITE DIRECTORY '/data/test/text/output' SELECT \* FROM emp1;

**Join:-**

| Select a.empname,b.name from emp a **join** customer b on a.empname=b.name;  Select a.empname,b.name from emp a **left outer join** customer b on a.empname=b.name;  Select a.empname,b.name from emp a **right outer join** customer b on a.empname=b.name;  Select a.empname,b.name from emp a **outer join** customer b on a.empname=b.name; |
| --- |

**Drop a particular table:-**

| Drop Table emp2; |
| --- |

**Static partitioning example:-**

| Download data file1 and file2 from here :  https://drive.google.com/open?id=1Sl-3kfewSQrvxZV8hw8W9gpQ-\_RLVjCI  https://drive.google.com/open?id=10tp6SXG4pkoRofKiSzq72nfav62HNAG2  hadoop fs -mkdir -p /data/test/static  hadoop fs -mkdir -p /data/test/static/year=2010  hadoop fs -mkdir -p /data/test/static/year=2011  hadoop fs -put file1 /data/test/static/year=2010  hadoop fs -put file11 /data/test/static/year=2011  Open hive console if it is not already opened - run command  hive  ……..  …….  hive> Now execute all below commands  set hive.mapred.mode = strict;  create external table userdata(userId string, userName String) partitioned by (year string) ROW FORMAT DELIMITED FIELDS TERMINATED BY ',' LOCATION '/data/test/static' ;    **ALTER TABLE userdata ADD PARTITION (year = '2010') LOCATION '/data/test/static/year=2010';**  **ALTER TABLE userdata ADD PARTITION (year = '2011') LOCATION '/data/test/static/year=2011';**    hive> select \* from userdata;  10 rahul 2010  11 deepak 2011  select \* from userdata where year=2010;  OK  10 rahul 2010 |
| --- |

**Show table partitions**

| **show partitions userdata;** |
| --- |

**Create dynamic partitioned table and insert data into it from Non-partitioned table:-**

| CREATE TABLE **partition\_date**(column1 string) **partitioned by** (day string, event string);  CREATE TABLE non\_partitioned\_date1(column1 string, day string,event string);  insert into non\_partitioned\_date1 values('abc', '2000-01-01','e1');  insert into non\_partitioned\_date1 values('abc', '2000-01-02','e1');  insert into non\_partitioned\_date1 values('abc', '1999-12-20','e1');  insert into non\_partitioned\_date1 values('abc', '2000-01-01','e1');  set hive.exec.dynamic.partition.mode=nonstrict;  insert overwrite table partition\_date partition(day,b) select \* from non\_partitioned\_date1; |
| --- |

**Drop multiple partitions from table which have multiple partitions columns**

| **//drop single partition in single command**  **ALTER TABLE partition\_date DROP PARTITION(day =** 2000-01-01**,** event **= 'e1');**  **// drop multiple partitions in single commad**  **ALTER TABLE partition\_date DROP PARTITION (day =** '2000-01-02'**,** event **= 'e1) , PARTITION (day =** '1999-12-20'**,** event **= 'e1);** |
| --- |

**Create Buckets in hive**

| create table input\_table (Street string,  City string,  Zip string,  State string,  Beds string,  Baths string,  Sq\_feet int,  flat\_type string,  Price int) ROW FORMAT DELIMITED FIELDS TERMINATED BY ',' ;  load data local inpath 'realstatewh.csv' into table input\_table;  SET hive.enforce.bucketing = true;  set hive.exec.dynamic.partition.mode=nonstrict;  create table bucket\_table(Street string,  Zip string,  State string,  Beds string,  Baths string,  Sq\_feet int,  flat\_type string,  Price int) partitioned by(**city** string) clustered by (**street**) into 4 buckets ROW FORMAT DELIMITED FIELDS TERMINATED BY ',';  insert into table bucket\_table partition(city) select street,zip,state,beds,baths,sq\_feet,flat\_type,price,**city** from input\_table; |
| --- |

Note:- In above query we are partitioning bucket\_table on column (city), So it should be the last column in source select statement. I have marked this RED in the above query.

show create table input\_table;

describe formatted input\_table;

Show partitions bucket\_table;

**Ordering commands**

| create table employee(id bigint, name string,age int, salary bigint) partitioned by (department string);  insert into table employee partition(department='HR') values(1,'aarti',28,55000),(2,'shakshi',22,60000),(3,'mahesh',25,25000);  insert into table employee partition(department='BIGDATA') values(10001,'rajesh',29,50000),(10002,'rahul',23,250000),(10003,'dinesh',35,70000);  select \* from employee order by id; |
| --- |

**Convert text table to parquet table**

| create table employee\_parquet(id bigint, name string,age int, salary bigint) STORED AS PARQUET; |
| --- |

| insert intoemployee\_parquet select id,name,age,salary from employee; |
| --- |

| drop table employee; |
| --- |

**Quit the hive terminal:-**

| quit; |
| --- |