**Partitions in hive**

We will use below dataset to perform the operations:

* user\_info1.txt
* user\_info2.txt
* user\_info3.txt

**Understanding Data**

user\_info1.txt, user\_info2.txt, user\_info3.txt files has following columns.  
first\_name  
last\_name  
id  
  
  
hive> create table user1(first\_name string,last\_name string,id string)

> partitioned by (country string, region string)

> row format delimited fields terminated by ','

> stored as textfile;

hive> describe formatted user1;

OK

col\_name data\_type comment

# col\_name data\_type comment

first\_name string

last\_name string

id string

# Partition Information

# col\_name data\_type comment

country string

region string

# Detailed Table Information

Database: retail

Owner: cloudera

CreateTime: Wed Jan 27 04:24:48 PST 2021

LastAccessTime: UNKNOWN

Protect Mode: None

Retention: 0

Location: hdfs://quickstart.cloudera:8020/user/hive/warehouse/retail.db/user1

Table Type: MANAGED\_TABLE

Table Parameters:

transient\_lastDdlTime 1611750288

# 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: 0.085 seconds, Fetched: 35 row(s)

* **Static Partitioning**
* **Dynamic Partitioning**

**Static Partitioning**

Static partitioning needs to be applied when we know data belongs to which partition.

hive> load data local inpath 'file:///home/cloudera/khasimbabu/HIVE\_Excercise/user\_info1.txt' into table user1

> partition(country='New Zealand',region = 'Quebec');  
  
hive> load data local inpath 'file:///home/cloudera/khasimbabu/HIVE\_Excercise/user\_info2.txt' into table user1

> partition (country = 'Nigeria',region = 'Pomorskie');  
  
So, it will only go to the required partition and fetches the result. No, need to scan whole table

hive> select \* from user1 where country='New Zealand' and region='Quebec';  
hive> select \* from user1 where country='Nigeria' and region='Pomorskie';

[cloudera@quickstart /]$ hdfs dfs -ls /user/hive/warehouse/retail.db/user1/

Found 2 items

drwxrwxrwx - cloudera supergroup 0 2021-01-27 07:58 /user/hive/warehouse/retail.db/user1/country=New Zealand

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:08 /user/hive/warehouse/retail.db/user1/country=Nigeria  
  
Writing individual queries for every partition is not possible for large number of partitions. In this case we use Dynamic partition.

**Dynamic Partitioning**hive> create table user2(first\_name string,last\_name string,id string)

> partitioned by (country string, region string)

> row format delimited fields terminated by ',' stored as textfile;  
  
hive> create table user3(first\_name string,last\_name string,id string,country string,region string)

> row format delimited fields terminated by ',' stored as textfile;

hive> load data local inpath 'file:///home/cloudera/khasimbabu/HIVE\_Excercise/user\_info3.txt' into table user3;

Hive>set hive.exec.dynamic.partition=true;

Hive>set hive.exec.dynamic.partition.mode=nonstrict;

Hive>set hive.exec.max.dynamic.partitions=100;

Hive>set hive.exec.max.dynamic.partitions.pernode=100;

**Inserting data into table user2 dynamically**

hive> insert into table user2 partition(country,region)

> select first\_name,last\_name,id,country,region from user3;

[cloudera@quickstart /]$ hdfs dfs -ls /user/hive/warehouse/retail.db/user2/

Found 25 items

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=%22Korea

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Angola

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Austria

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Belize

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Burundi

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Christmas Island

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Gabon

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Guam

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Kazakhstan

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Kiribati

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Latvia

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Liberia

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Luxembourg

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Myanmar

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Namibia

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Nicaragua

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Nigeria

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Oman

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Saint Kitts and Nevis

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Suriname

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Svalbard and Jan Mayen Islands

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Tanzania

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Togo

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Venezuela

drwxrwxrwx - cloudera supergroup 0 2021-01-27 08:43 /user/hive/warehouse/retail.db/user2/country=Viet Nam