Apache Hive

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IMPORTANT

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Hive
External Table

External Table

In External table, data not fully managed by Hive:

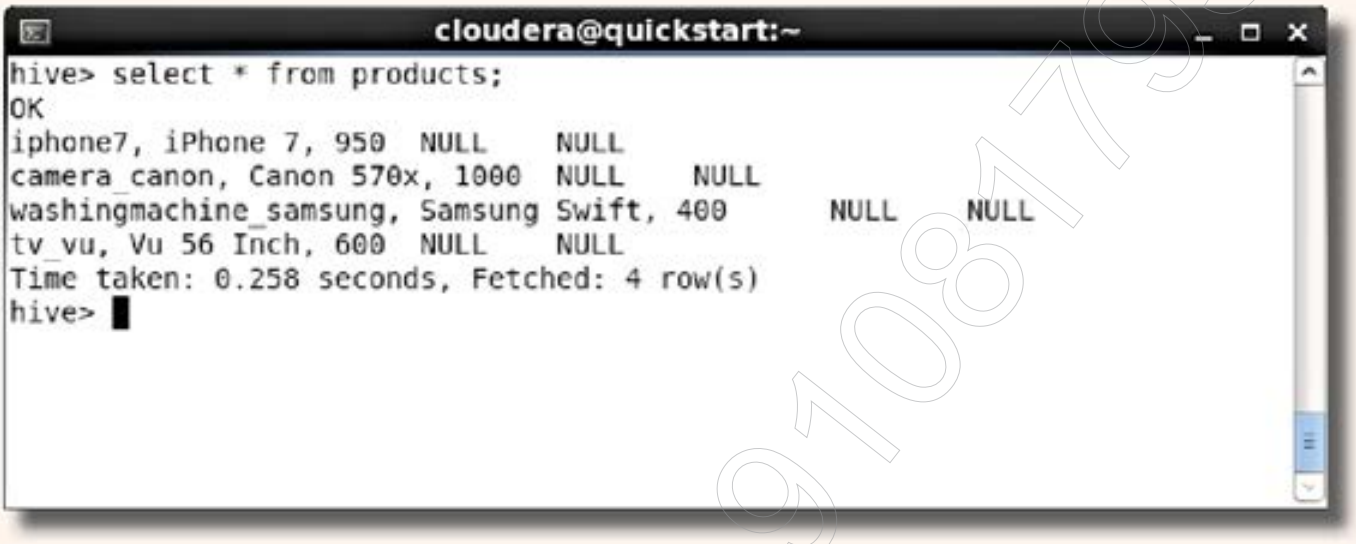
- Share the underlying data across other applications (Hadoop, Pig, HBase, etc)
- Deleting an external table deletes only the metadata

Create an external table in Hive:

```
create external table products(
id string,
title string,
cost float)
location '/data/';
```

Display records of an external table:

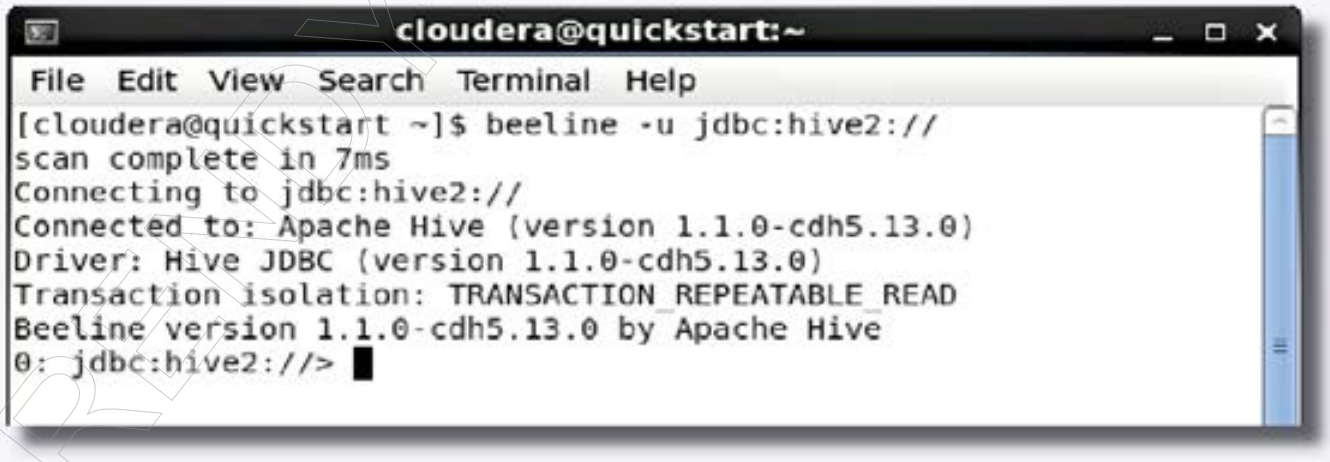
```
select * from products;
```



Note: The output is not what we wanted

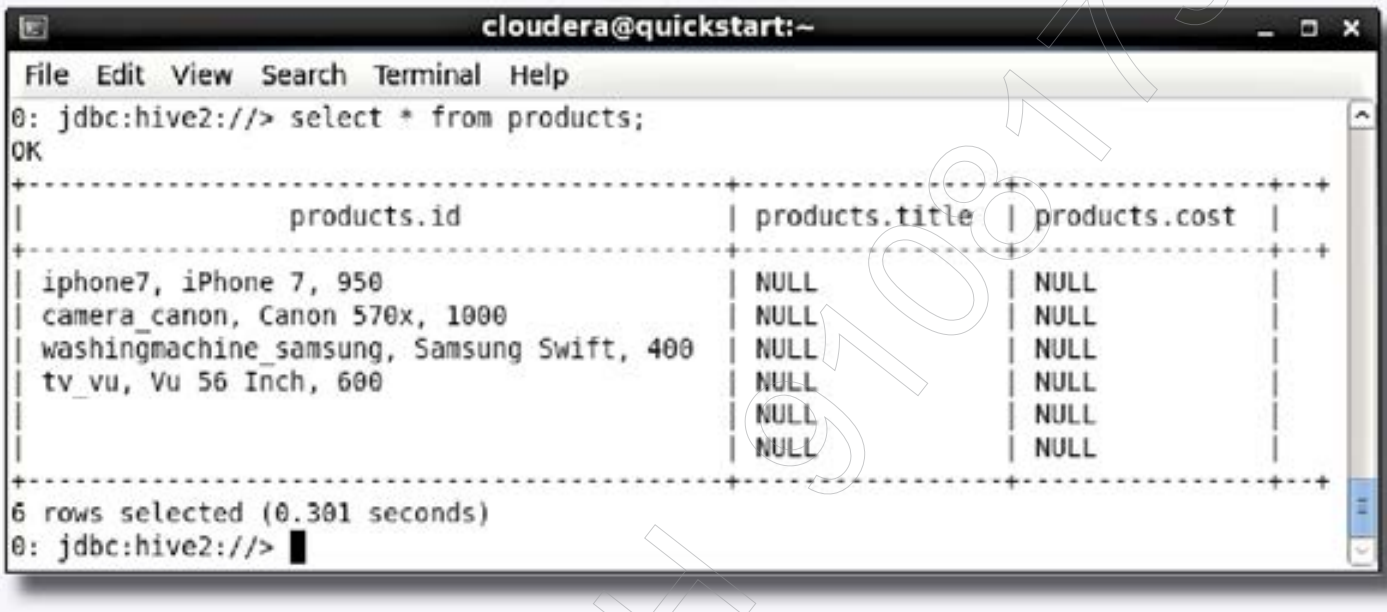
Open a new terminal and enter to Beeline:

```
beeline -u jdbc:hive2://
```



Display the same records of *products* external table using Beeline:

```
select * from products;
```

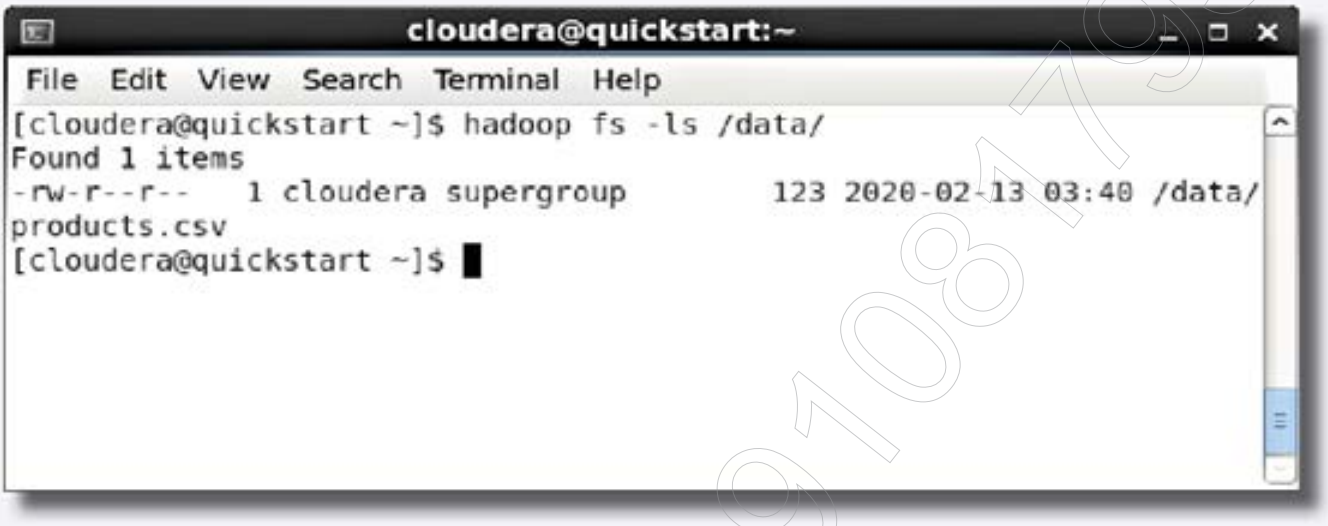


Drop an external table:

```
drop table products;
```

Now, check the *data* folder in hdfs:

```
hadoop fs -ls /data/
```

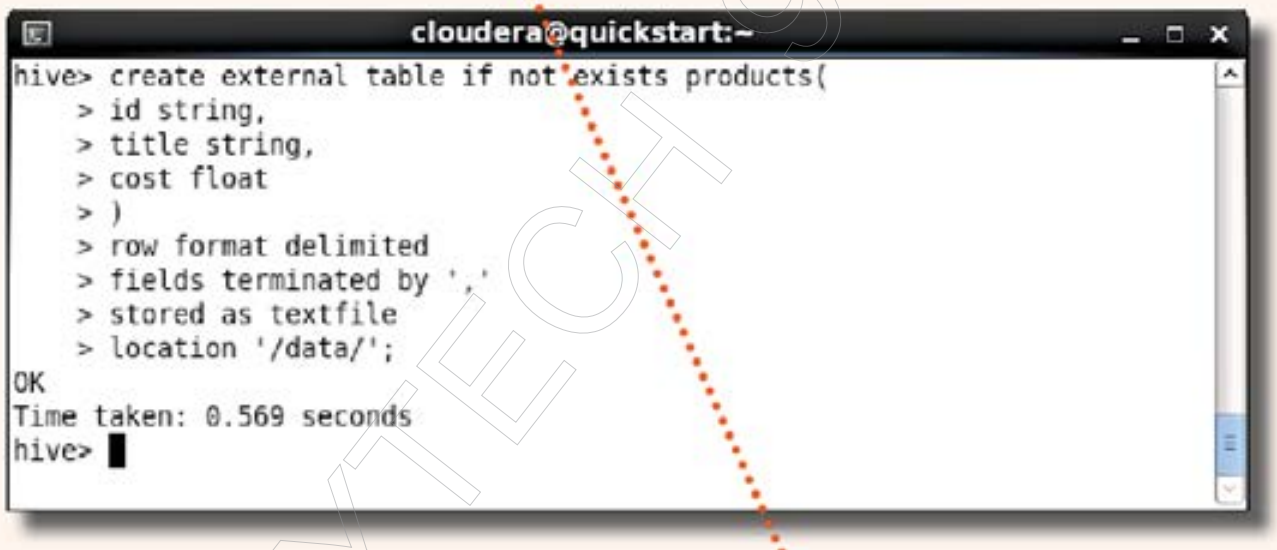


Note: The data is still there.

Note: In Hive External table, data not fully managed by Hive and exists outside the warehouse directory.

Create an external table with delimiters:

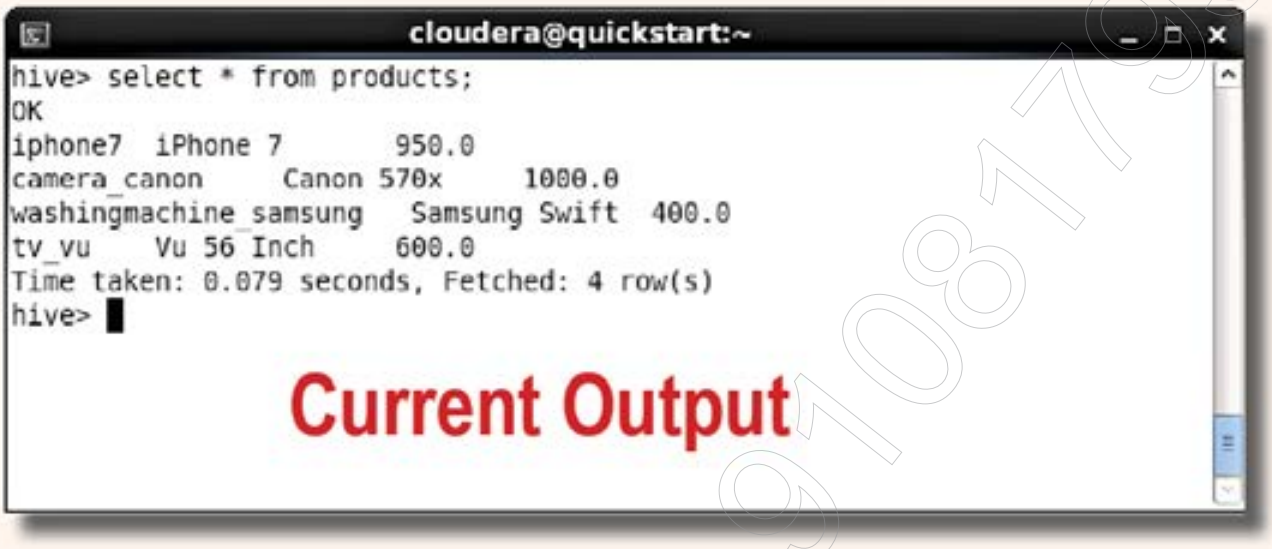
```
create external table if not exists products(
id string,
title string,
cost float
)
row format delimited
fields terminated by ','
stored as textfile
location '/data/';
```

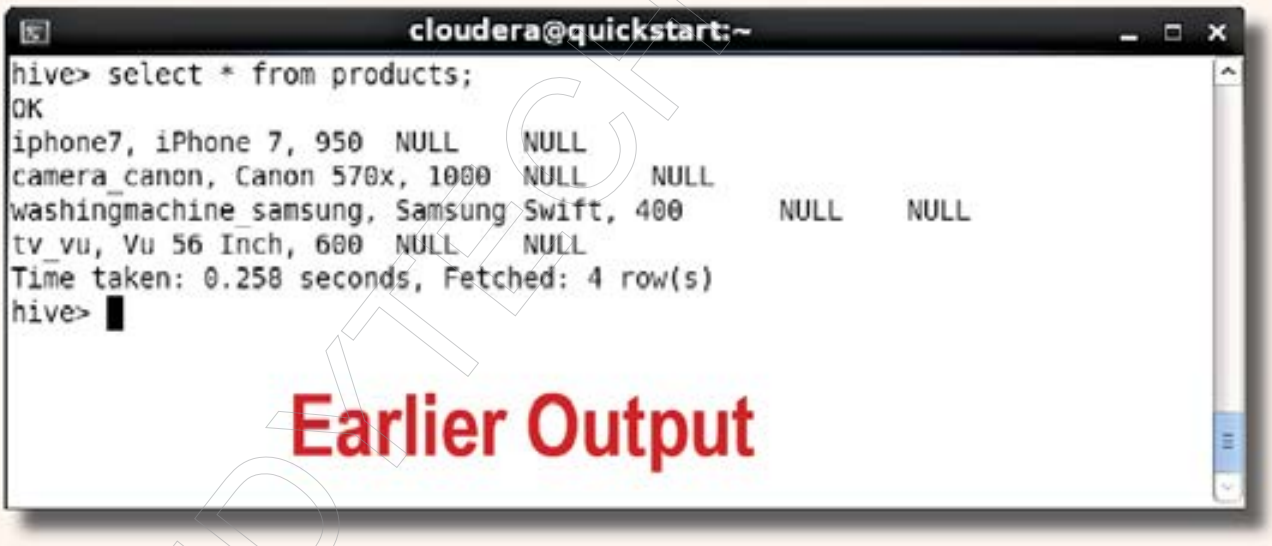


Note: Hive by default takes **text** file format [We can skip this line also].

Display the contents of new *products* table:

```
select * from products;
```



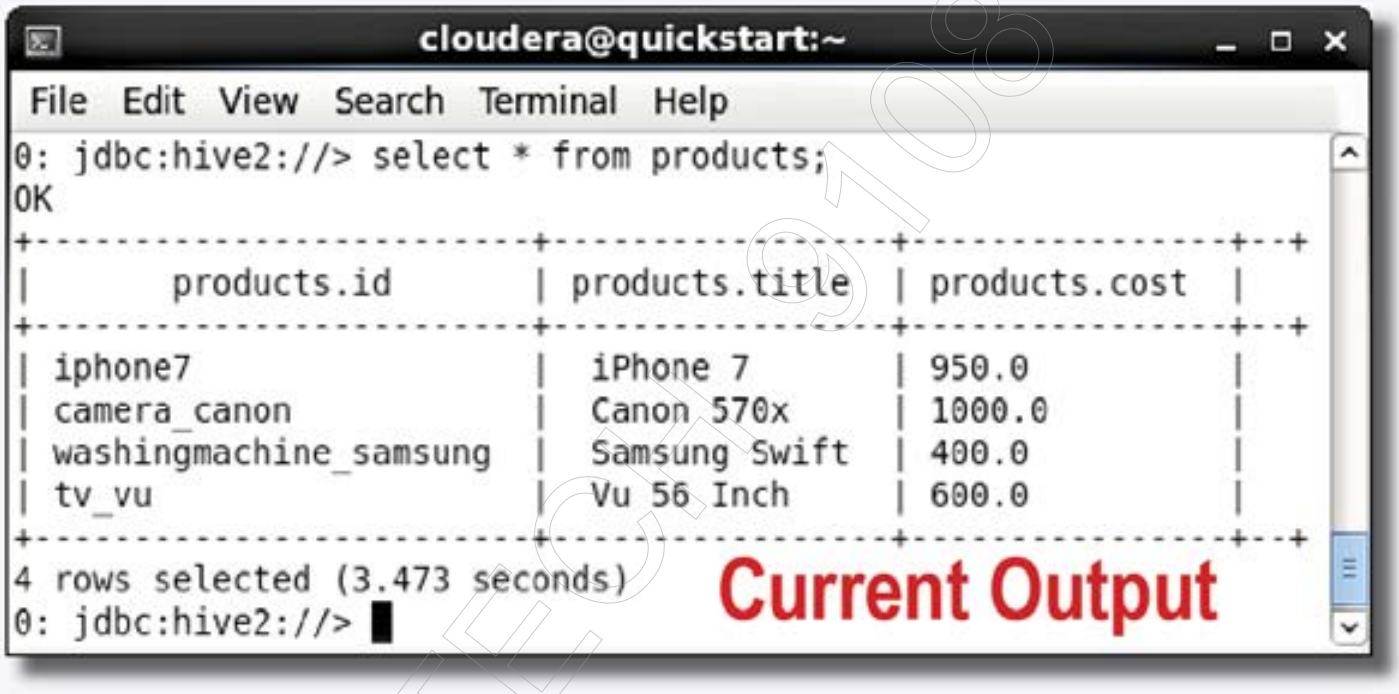


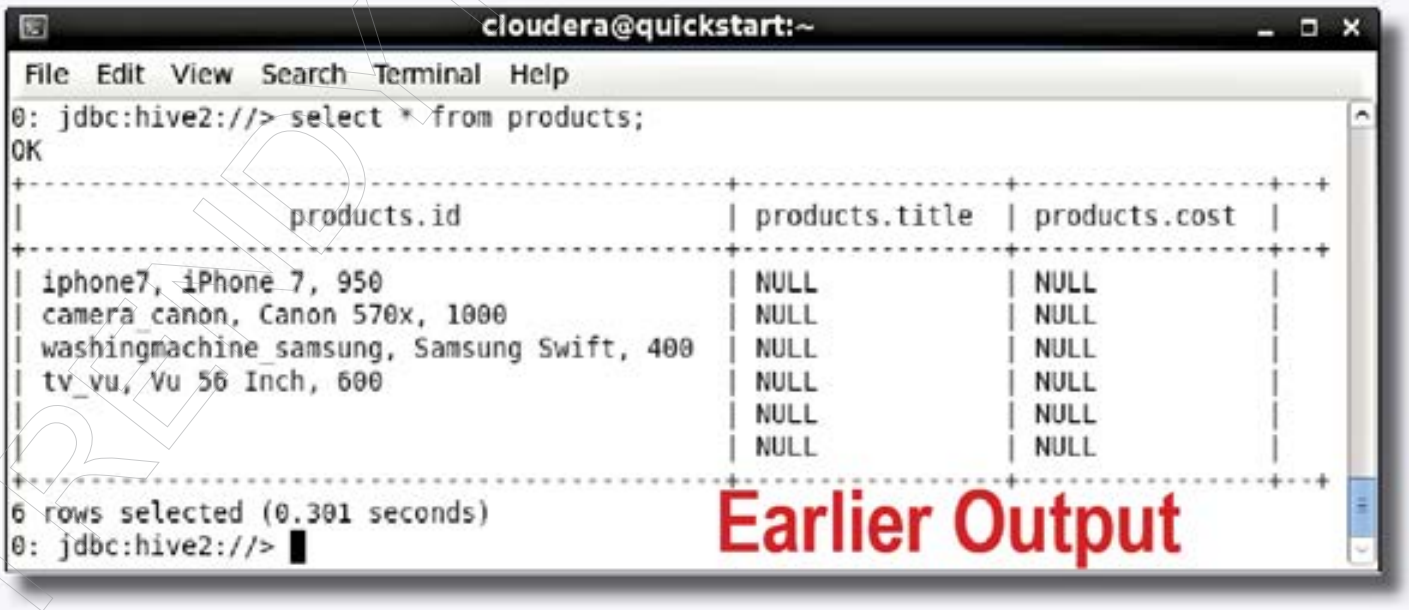
Display the same records (*products*) external table using Beeline:

```
beeline -u jdbc:hive2://
```

→ 1st enter beeline

```
select * from products;
```





How to know a table is Managed or External in Hive:

Detailed information about a Managed table:

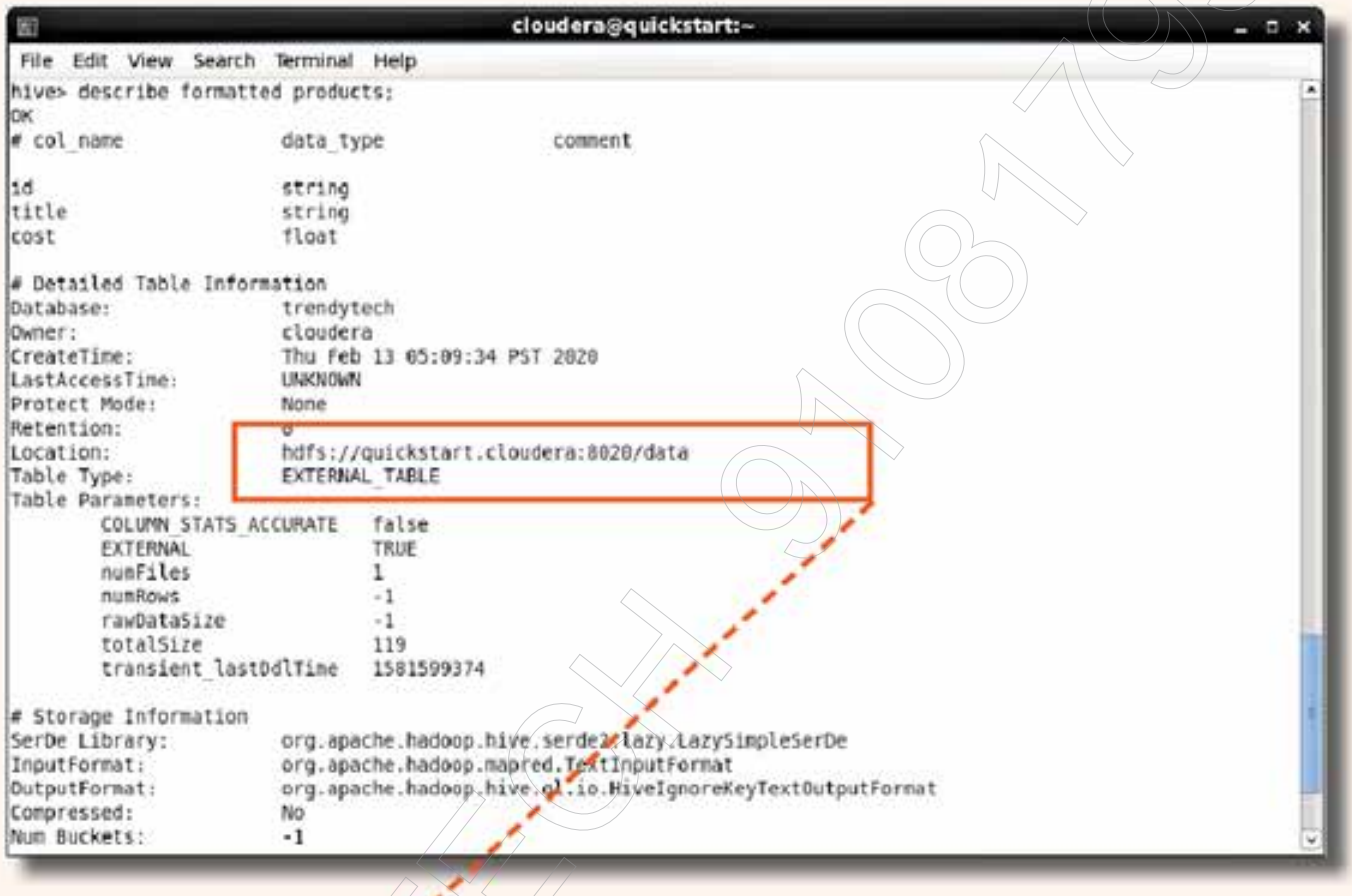
```
describe formatted products;
```

```
cloudera@quickstart:~
File  Edit  View  Search  Terminal  Help
hive> describe formatted customers;
OK
# col_name              data_type               comment

id                      bigint
name                    string
address                 string

# Detailed Table Information
Database:               trendytech
Owner:                  cloudera
CreateTime:             Mon Feb 03 20:15:37 PST 2020
LastAccessTime:         UNKNOWN
Protect Mode:           None
Retention:              0
Location:               hdfs://quickstart.cloudera:8020/user/hive/warehouse/trendytech.db/customers
Table Type:             MANAGED_TABLE
Table Parameters:
        COLUMN_STATS_ACCURATE   true
        numFiles                2
        numRows                 6
        rawDataSize             73
        totalSize               79
        transient_lastDdlTime   1580790920

# 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:         []
```

Note: Location should be Warehouse directory and Table Type must be MANAGED TABLE

Detailed information about an External table:

```
describe formatted customers;
```



Note: Location should be HDFS and Table Type must be EXTERNAL TABLE

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