Hive Interfaces includes WEB UI, table, set, configuration, and Hive command line.

**Hive SELECT Command**

- `SELECT` (User defined functions): It is a function that fetches one or more columns from a row as arguments and returns a single value.
- `UDTF` (User defined Tabular Functions): This function is used to produce multiple columns or rows of output by taking zero or more inputs.
- `MAX/MIN/AVG/STD`: It is a function that uses other Hive functions.
- `User defined aggregate functions`: A user defined function that takes multiple rows or columns and returns the aggregation of the data.
- `User defined table generating functions`: A function which takes a column from single record and splitting it into multiple rows.

**Hive Data Types**

- **Integral data types**: Tinyint, Smallint, int, bigint.
- **String types**: VARCHAR(N: 1 to 65535), CHAR(N:5).
- **Union types**: A collection of heterogeneous data types.
- **Syntax**: UNION TYPE (int, double, arraystrings, structstrings, structsrt).

**Thrift**

A Thrift service is used to provide remote access from other processes.

**Data Definition Language (DDL)**: It is used to build or modify tables and objects stored in a database. Some of the DDL commands are as follows:
- To create database in Hive: `CREATE DATABASE data_base_name`.
- To list the databases created in a Hive warehouse: `SHOW DATABASES`.
- To use the database created: `USE data_base_name`.
- To describe the associated database in metadata: `DESCRIBE data_base_name`.
- To alter the database created: `ALTER DATABASE data_base_name`.
- To Data Manipulation Language (DML): These statements are used to retrieve, store, modify, delete, insert and update data in a database.
- To insert data in a database: `LOAD data LOCAL ==> input file path into database table_name`.
- To drop table: `DROP [IF EXISTS] table_name`.
- To alter table: `ALTER TABLE table_name`.
- To add column: `ALTER TABLE table_name ADD `.
- To drop column: `ALTER TABLE table_name DROP COLUMN column_name`.
- To add comment to column: `ALTER TABLE table_name ADD COMMENT`.
- To drop comment from column: `ALTER TABLE table_name DROP COMMENT`.

**Hive Functions in HQL**

- To run the query: `hive -e 'select count from table a'`.
- To run a query in a client mode: `hive -S -e 'select count from table a'`.
- To select hive configuration variables: `hive -e 'select * from hive_conf'`.
- To use the initialization script: `hive -e 'init shell scripts inside the shell'`.
- To run the list command: `hive -e 'list [table] list columns from the shell'`.
- To set hive configuration variables: `set var=value
set hiveconf var=value
hive -e 'set var=value'`.
- To display all variables starting with `hive`: `set`. 
- To reset all variables: `reset`.
- To add jar files to distributed cache: `jar -add jar path
hive -e 'add jar path'`.
- To display all the jars in the distributed cache: `list jars`.
- To delete jars from the distributed cache: `delete jar name`.

**Hive Command Line**

- It is a metadata and table management system for Hadoop platform which enables storage of data in any format.

**Hive Metastore**

It is a data warehouse infrastructure based on Hadoop framework which is perfectly suitable for data summarization, analysis and querying. It uses an SQL like language called HQL (Hive query Language).

**Commands in HQL**

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**Hive Functions**

- `UDF`: User defined function.
- `UDTF`: User defined table function.
- `HQL`: Hive query language.
- `Hive Warehouse`: A warehouse that uses Hive to perform more sophisticated analysis of data.

**Data Manipulation Language (DML)**: These statements are used to retrieve, store, modify, delete, insert and update data in a database.

**Hive Command Line**

- **User defined aggregate functions**: A function which takes how many records to be retrieved.
- **User defined table generating functions**: A function which takes a column from a record and splitting it into multiple rows.

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