DDL Commands

Data Definition Language (DDL):

DDL is used to define the database objects such as tables, views, procedures etc. DDL commands will work on structure of the table but not work on data within the table.

This language contains the following commands.

1. Create

2. Alter

3. Rename

4. Truncate

5. Drop

CREATE:

This command is used to create a new object with in the database.

Syntax 1: CREATE DATABASE <DATABASE_NAME>;

Example: CREATE DATABASE TRAVELS;

Example: USE TRAVELS;

Syntax 2: CREATE TABLE <TABLE_NAME> (COLUMN_NAME1 <DATATYPE>(SIZE)………COLUMN_NAMEn<DATATYPE>(SIZE));

Example: CREATE TABLE BUS (BNO INT PRIMARY KEY, BNAME VARCHAR(20), SOURCE VARCHAR(20), DESTINATION VARCHAR(20), ARRTIME TIME, DEPTIME TIME);

DESC BUS;

```
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| bno         | int(11)     | NO   | PRI | NULL    |       |
| bname       | varchar(20) | YES  |     | NULL    |       |
| source      | varchar(20) | YES  |     | NULL    |       |
| destination | varchar(20) | YES  |     | NULL    |       |
| arrtime     | time        | YES  |     | NULL    |       |
| deptime     | time        | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
```

ALTER:

This command is used to change or modify the structure of the table. By using ALTER command we can perform the following operations on existing table like

1. Changing the size of the data type.

2. Changing the data type from old data type to new data type.

3. Changing an existing column name from old column name to new column name.

4. Adding a new column to an existing table.

5. Dropping a column from an existing table.

Syntax 1: ALTER TABLE <TABLE_NAME> CHANGE <OLD_COLUMN_NAME> <NEW_COLUMN_NAME> <DATATYPE> (SIZE);

Example 1: ALTER TABLE BUS CHANGE BNAME BNAME VARCHAR(50);

DESC BUS;

```
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| bno         | int(11)     | NO   | PRI | NULL    |       |
| BNAME       | varchar(50) | YES  |     | NULL    |       |
| source      | varchar(20) | YES  |     | NULL    |       |
| destination | varchar(20) | YES  |     | NULL    |       |
| arrtime     | time        | YES  |     | NULL    |       |
| deptime     | time        | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
```

Example 2: ALTER TABLE BUS CHANGE SOURCE SOURCE CHAR(20);

DESC BUS;

```
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| bno         | int(11)     | NO   | PRI | NULL    |       |
| BNAME       | varchar(50) | YES  |     | NULL    |       |
| SOURCE      | char(20)    | YES  |     | NULL    |       |
| destination | varchar(20) | YES  |     | NULL    |       |
| arrtime     | time        | YES  |     | NULL    |       |
| deptime     | time        | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
```

Example 3: ALTER TABLE BUS CHANGE BNO BID INT;

DESC BUS;

```
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| BID         | int(11)     | NO   | PRI | NULL    |       |
| BNAME       | varchar(50) | YES  |     | NULL    |       |
| SOURCE      | char(20)    | YES  |     | NULL    |       |
| destination | varchar(20) | YES  |     | NULL    |       |
| arrtime     | time        | YES  |     | NULL    |       |
| deptime     | time        | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
```

Syntax 2: ALTER TABLE <TABLE_NAME> ADD <COLUMN_NAME> <DATATYPE>(SIZE);

Example: ALTER TABLE BUS ADD BUSTYPE VARCHAR(10);

DESC BUS;

```
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| BID         | int(11)     | NO   | PRI | NULL    |       |
| BNAME       | varchar(50) | YES  |     | NULL    |       |
| SOURCE      | char(20)    | YES  |     | NULL    |       |
| destination | varchar(20) | YES  |     | NULL    |       |
| arrtime     | time        | YES  |     | NULL    |       |
| deptime     | time        | YES  |     | NULL    |       |
| BUSTYPE     | varchar(10) | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
```

Syntax 3: ALTER TABLE <TABLE_NAME> DROP <COLUMN_NAME>;
Example: ALTER TABLE BUS DROP DESTINATION;

DESC BUS;

```
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| BID     | int(11)     | NO   | PRI | NULL    |       |
| BNAME   | varchar(50) | YES  |     | NULL    |       |
| SOURCE  | char(20)    | YES  |     | NULL    |       |
| arrtime | time        | YES  |     | NULL    |       |
| deptime | time        | YES  |     | NULL    |       |
| BUSTYPE | varchar(10) | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
```

RENAME:

This command is used to change the table name from old table name to new table name.

Syntax: RENAME TABLE <OLD_TABLE_NAME> TO <NEW_TABLE_NAME>;

Example: RENAME TABLE BUS TO BUSINFO;

DESC BUSINFO;

```
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| BID     | int(11)     | NO   | PRI | NULL    |       |
| BNAME   | varchar(50) | YES  |     | NULL    |       |
| SOURCE  | char(20)    | YES  |     | NULL    |       |
| arrtime | time        | YES  |     | NULL    |       |
| deptime | time        | YES  |     | NULL    |       |
| BUSTYPE | varchar(10) | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
```

TRUCNATE:

This command is used to delete all the records at a time from the table. By using truncate command we can't delete a specific record from the table.

Syntax: TRUNCATE TABLE <TABLE_NAME>;

Example: TRUNCATE TABLE BUSINFO;

DESC BUSINFO;

```
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| BID     | int(11)     | NO   | PRI | NULL    |       |
| BNAME   | varchar(50) | YES  |     | NULL    |       |
| SOURCE  | char(20)    | YES  |     | NULL    |       |
| arrtime | time        | YES  |     | NULL    |       |
| deptime | time        | YES  |     | NULL    |       |
| BUSTYPE | varchar(10) | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
```

DROP:

This command is used to delete database objects from the database location.

Syntax: DROP TABLE <OBJECT_NAME/TABLE_NAME>;

Example 1: DROP TABLE BUSINFO;

DESC BUSINFO;

```
Table 'travels.businfo' doesn't exist
```

Example 2: DROP DATABASE TRAVELS;

ROADWAY_TRAVELS DATABASE:

CREATE DATABASE ROADWAY_TRAVELS;

USE ROADWAY_TRAVELS;

CREATE TABLE BUS (BNO INT PRIMARY KEY, BNAME VARCHAR(20), SOURCE VARCHAR(20), DESTINATION VARCHAR(20), ARRTIME TIME, DEPTIME TIME);
SELECT * FROM BUS;

BNO	BNAME	SOURCE	DESTINATION	ARRTIME	DEPTIME

CREATE TABLE PASSENGER (PID INT PRIMARY KEY, PNAME VARCHAR(20), AGE INT, GENDER VARCHAR(10), PHNO NUMERIC, EMAIL VARCHAR(30));
SELECT * FROM PASSENGER;

PID	PNAME	AGE	GENDER	PHNO	EMAIL

CREATE TABLE TICKET (TID INT PRIMARY KEY, PID INT, BNO INT, BDATE DATE, PRICE INT, FOREIGN KEY(PID) REFERENCES PASSENGER(PID) ON UPDATE CASCADE ON DELETE CASCADE, FOREIGN KEY(BNO) REFERENCES BUS(BNO) ON UPDATE CASCADE ON DELETE CASCADE);
SELECT * FROM TICKET;

TID	PID	BNO	BDATE	PRICE

CREATE TABLE RESERVATION (TID INT, JDATE DATE, STATUS VARCHAR(20), REMARKS VARCHAR (50), FOREIGN KEY(TID) REFERENCES TICKET(TID) ON UPDATE CASCADE ON DELETE CASCADE);
SELECT * FROM RESERVATION;

TID	JDATE	STATUS	REMARKS

CREATE TABLE CANCELLATION (TID INT, JDATE DATE, STATUS VARCHAR(20), REMARKS VARCHAR (50), FOREIGN KEY(TID) REFERENCES TICKET(TID) ON UPDATE CASCADE ON DELETE CASCADE);
SELECT * FROM CANCELLATION;

TID	JDATE	STATUS	REMARKS