**LAB01: DDL COMMANDS**

Data Definition Language is used to describe the structure/schema of database elements. These statements are used to create, alter, or drop data structures in an instance of SQL Server.

DDL Commands are as follows:

1. CREATE - to create objects in the database
2. ALTER - alters the structure of the database
3. DROP - delete objects from the database
4. TRUNCATE - remove all records from a table, including all spaces allocated for the records are removed
5. COMMENT - add comments to the data dictionary
6. RENAME - rename an object

Some more commands:

1. SHOW – to list databases or tables
2. USE – to use/choose the database
3. DESCRIBE – to expose the details of object (table), showing how table is formed.

C:\xampp\mysql\bin>mysql -u root -p -h 127.0.0.1

Enter password:

MariaDB [(none)]> show databases;

+--------------------+

| Database |

+--------------------+

+--------------------+

0 rows in set (0.001 sec)

MariaDB [(none)]> create database book\_mngmt\_sys;

Query OK, 1 row affected (0.002 sec)

MariaDB [(none)]> show databases;

+----------------------------+

| Database |

+----------------------------+

| book\_mngmt\_sys |

+----------------------------+

1 rows in set (0.001 sec)

MariaDB [(none)]> use book\_mngmt\_sys;

Database changed

MariaDB [book\_mngmt\_sys]> show tables;

Empty set (0.000 sec)

MariaDB [book\_mngmt\_sys]> create table books(id int(11) unsigned auto\_increment primary key not null,book\_title varchar(25) not null,category varchar(25) not null,price int(11) not null,author varchar(25) not null,publisher varchar(25) not null);

Query OK, 0 rows affected (0.031 sec)

MariaDB [book\_mngmt\_sys]> show tables;

+---------------------------------------+

| Tables\_in\_book\_mngmt\_sys |

+---------------------------------------+

| books |

+---------------------------------------+

1 row in set (0.001 sec)

MariaDB [book\_mngmt\_sys]> describe books;

+------------+------------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+---------------+-----------------------+--------+------+-----------+----------------------+

| id | int(11) unsigned | NO | PRI | NULL | auto\_increment |

| book\_title | varchar(25) | NO | | NULL | |

| category | varchar(25) | NO | | NULL | |

| price | int(11) | NO | | NULL | |

| author | varchar(25) | NO | | NULL | |

| publisher | varchar(25) | NO | | NULL | |

+------------+------------------+------+-----+---------+----------------+

6 rows in set (0.020 sec)

MariaDB [book\_mngmt\_sys]> create table customers(customer\_id int(11) unsigned auto\_increment primary key not null,customer\_name varchar(25) not null,customer\_address varchar(25) not null,registration\_date int(11) not null);

Query OK, 0 rows affected (0.024 sec)

MariaDB [book\_mngmt\_sys]> show tables;

+--------------------------+

| Tables\_in\_book\_mngmt\_sys |

+--------------------------+

| books |

| customers |

+--------------------------+

2 rows in set (0.000 sec)

MariaDB [book\_mngmt\_sys]> describe customers;

+-------------------+------------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-------------------+------------------+------+-----+---------+----------------+

| customer\_id | int(11) unsigned | NO | PRI | NULL | auto\_increment |

| customer\_name | varchar(25) | NO | | NULL | |

| customer\_address | varchar(25) | NO | | NULL | |

| registration\_date | int(11) | NO | | NULL | |

+-------------------+------------------+------+-----+---------+----------------+

4 rows in set (0.016 sec)

MariaDB [book\_mngmt\_sys]> create table employees(employee\_id int(11) unsigned auto\_increment primary key not null,employee\_name varchar(25) not null,salary int(11) not null);

Query OK, 0 rows affected (0.025 sec)

MariaDB [book\_mngmt\_sys]> show tables;

+--------------------------+

| Tables\_in\_book\_mngmt\_sys |

+--------------------------+

| books |

| customers |

| employees |

+--------------------------+

3 rows in set (0.001 sec)

MariaDB [book\_mngmt\_sys]> describe employees;

+---------------+------------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+---------------+------------------+------+-----+---------+----------------+

| employee\_id | int(11) unsigned | NO | PRI | NULL | auto\_increment |

| employee\_name | varchar(25) | NO | | NULL | |

| salary | int(11) | NO | | NULL | |

+---------------+------------------+------+-----+---------+----------------+

3 rows in set (0.015 sec)

MariaDB [book\_mngmt\_sys]> create table issue\_books(issue\_id int(11) unsigned auto\_increment not null primary key,issued\_customer int(11) not null references customers(customer\_id),issued\_book varchar(25) not null,issue\_date int(11) not null,id\_one int(11) not null references books(id));

Query OK, 0 rows affected (0.024 sec)

MariaDB [book\_mngmt\_sys]> show tables;

+--------------------------+

| Tables\_in\_book\_mngmt\_sys |

+--------------------------+

| books |

| customers |

| employees |

| issue\_books |

+--------------------------+

4 rows in set (0.001 sec)

MariaDB [book\_mngmt\_sys]> describe issue\_books;

+-----------------+------------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-----------------+------------------+------+-----+---------+----------------+

| issue\_id | int(11) unsigned | NO | PRI | NULL | auto\_increment |

| issued\_customer | int(11) | NO | | NULL | |

| issued\_book | varchar(25) | NO | | NULL | |

| issue\_date | int(11) | NO | | NULL | |

| id\_one | int(11) | NO | | NULL | |

+-----------------+------------------+------+-----+---------+----------------+

5 rows in set (0.015 sec)

MariaDB [book\_mngmt\_sys]> create table return\_books(return\_id int(11) unsigned auto\_increment not null primary key,return\_customer int(11) not null references issue\_books(issued\_customer),return\_book varchar(25) not null,return\_date int(11) not null,id\_two int(11) not null references books(id));

Query OK, 0 rows affected (0.023 sec)

MariaDB [book\_mngmt\_sys]> show tables;

+--------------------------+

| Tables\_in\_book\_mngmt\_sys |

+--------------------------+

| books |

| customers |

| employees |

| issue\_books |

| return\_books |

+--------------------------+

5 rows in set (0.001 sec)

MariaDB [book\_mngmt\_sys]> describe return\_books;

+-----------------+------------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-----------------+------------------+------+-----+---------+----------------+

| return\_id | int(11) unsigned | NO | PRI | NULL | auto\_increment |

| return\_customer | int(11) | NO | | NULL | |

| return\_book | varchar(25) | NO | | NULL | |

| return\_date | int(11) | NO | | NULL | |

| id\_two | int(11) | NO | | NULL | |

+-----------------+------------------+------+-----+---------+----------------+

5 rows in set (0.019 sec)

MariaDB [book\_mngmt\_sys]> create table library(num int(11) unsigned auto\_increment primary key not null,library\_name varchar(25) not null);

Query OK, 0 rows affected (0.024 sec)

MariaDB [book\_mngmt\_sys]> show tables;

+--------------------------+

| Tables\_in\_book\_mngmt\_sys |

+--------------------------+

| books |

| customers |

| employees |

| issue\_books |

| library |

| return\_books |

+--------------------------+

6 rows in set (0.000 sec)

MariaDB [book\_mngmt\_sys]> describe library;

+--------------+------------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+--------------+------------------+------+-----+---------+----------------+

| num | int(11) unsigned | NO | PRI | NULL | auto\_increment |

| library\_name | varchar(25) | NO | | NULL | |

+--------------+------------------+------+-----+---------+----------------+

2 rows in set (0.019 sec)

MariaDB [book\_mngmt\_sys]> alter table library add library\_address varchar(25);

Query OK, 0 rows affected (0.017 sec)

Records: 0 Duplicates: 0 Warnings: 0

MariaDB [book\_mngmt\_sys]> show tables;

+--------------------------+

| Tables\_in\_book\_mngmt\_sys |

+--------------------------+

| books |

| customers |

| employees |

| issue\_books |

| library |

| return\_books |

+--------------------------+

6 rows in set (0.001 sec)

MariaDB [book\_mngmt\_sys]> describe library;

+-----------------+------------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-----------------+------------------+------+-----+---------+----------------+

| num | int(11) unsigned | NO | PRI | NULL | auto\_increment |

| library\_name | varchar(25) | NO | | NULL | |

| library\_address | varchar(25) | YES | | NULL | |

+-----------------+------------------+------+-----+---------+----------------+

3 rows in set (0.013 sec)

MariaDB [book\_mngmt\_sys]> alter table library drop library\_address;

Query OK, 0 rows affected (0.013 sec)

Records: 0 Duplicates: 0 Warnings: 0

MariaDB [book\_mngmt\_sys]> show tables;

+--------------------------+

| Tables\_in\_book\_mngmt\_sys |

+--------------------------+

| books |

| customers |

| employees |

| issue\_books |

| library |

| return\_books |

+--------------------------+

6 rows in set (0.001 sec)

MariaDB [book\_mngmt\_sys]> describe library;

+--------------+------------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+--------------+------------------+------+-----+---------+----------------+

| num | int(11) unsigned | NO | PRI | NULL | auto\_increment |

| library\_name | varchar(25) | NO | | NULL | |

+--------------+------------------+------+-----+---------+----------------+

2 rows in set (0.015 sec)

MariaDB [book\_mngmt\_sys]> alter table library add library\_address varchar(25) not null;

Query OK, 0 rows affected (0.011 sec)

Records: 0 Duplicates: 0 Warnings: 0

MariaDB [book\_mngmt\_sys]> show tables;

+--------------------------+

| Tables\_in\_book\_mngmt\_sys |

+--------------------------+

| books |

| customers |

| employees |

| issue\_books |

| library |

| return\_books |

+--------------------------+

6 rows in set (0.001 sec)

MariaDB [book\_mngmt\_sys]> describe library;

+-----------------+------------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-----------------+------------------+------+-----+---------+----------------+

| num | int(11) unsigned | NO | PRI | NULL | auto\_increment |

| library\_name | varchar(25) | NO | | NULL | |

| library\_address | varchar(25) | NO | | NULL | |

+-----------------+------------------+------+-----+---------+----------------+

3 rows in set (0.017 sec)

MariaDB [book\_mngmt\_sys]> alter table library rename book\_store;

Query OK, 0 rows affected (0.016 sec)

MariaDB [book\_mngmt\_sys]> show tables;

+--------------------------+

| Tables\_in\_book\_mngmt\_sys |

+--------------------------+

| book\_store |

| books |

| customers |

| employees |

| issue\_books |

| return\_books |

+--------------------------+

6 rows in set (0.001 sec)

MariaDB [book\_mngmt\_sys]> truncate book\_store;

Query OK, 0 rows affected (0.029 sec)

MariaDB [book\_mngmt\_sys]> show tables;

+--------------------------+

| Tables\_in\_book\_mngmt\_sys |

+--------------------------+

| book\_store |

| books |

| customers |

| employees |

| issue\_books |

| return\_books |

+--------------------------+

6 rows in set (0.001 sec)

MariaDB [book\_mngmt\_sys]> describe book\_store;

+-----------------+------------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-----------------+------------------+------+-----+---------+----------------+

| num | int(11) unsigned | NO | PRI | NULL | auto\_increment |

| library\_name | varchar(25) | NO | | NULL | |

| library\_address | varchar(25) | NO | | NULL | |

+-----------------+------------------+------+-----+---------+----------------+

3 rows in set (0.015 sec)

MariaDB [book\_mngmt\_sys]> show tables;

+--------------------------+

| Tables\_in\_book\_mngmt\_sys |

+--------------------------+

| book\_store |

| books |

| customers |

| employees |

| issue\_books |

| return\_books |

+--------------------------+

6 rows in set (0.001 sec)

MariaDB [book\_mngmt\_sys]> drop table book\_store;

Query OK, 0 rows affected (0.012 sec)

MariaDB [book\_mngmt\_sys]> show tables;

+--------------------------+

| Tables\_in\_book\_mngmt\_sys |

+--------------------------+

| books |

| customers |

| employees |

| issue\_books |

| return\_books |

+--------------------------+

5 rows in set (0.001 sec)

MariaDB [book\_mngmt\_sys]>exit