

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