

PB_05_Kushagra Suryawanshi

T.Y.B.TECH

Batch B1

DBMS LAB ASSIGNMENT 2: DDL AND DCL COMMANDS

18/08/21

PB_05_Kushagra Suryawanshi

Batch B1

DBMS - Assignment 2 : DDL and DCL commands

Aim: Design and develop SQL DDL statements for different system.

Objective : To study DDL and DCL commands.

Theory :

1. DDL commands:
 - Create : creates database or its objects (table, index, functions, views, store procedure and triggers)
 - DROP : used to delete objects from database.
 - alter : used to alter the structure of database.
 - rename : renames existing object in database.
 - comment : used to add comments to data dictionary.
 - truncate : used to remove all records from a table.
2. DCL commands:
 - Grant : gives users access privileges to the database.
 - Revoke : withdraws user's access privileges given by using the grant command.

Input : Music system database.

Output : DDL and DCL commands.

MIT-WPU
Dr. Vishwesh Karad
MIT WORLD PEACE UNIVERSITY | PUNE
www.mitwpu.edu.in

Conclusion: Thus, we have learned DDL and DCL commands thoroughly.

FAQ'S:

1. How to drop a column from a table?

→ Use following syntax:

```
ALTER DROP TABLE table_name DROP COLUMN column_name;
```

2. How to add a primary key in an already existing table?

→ Use following syntax:

```
ALTER TABLE table_name ADD column_name col definition  
Primary Key;
```

3. How to create a new user in SQL?

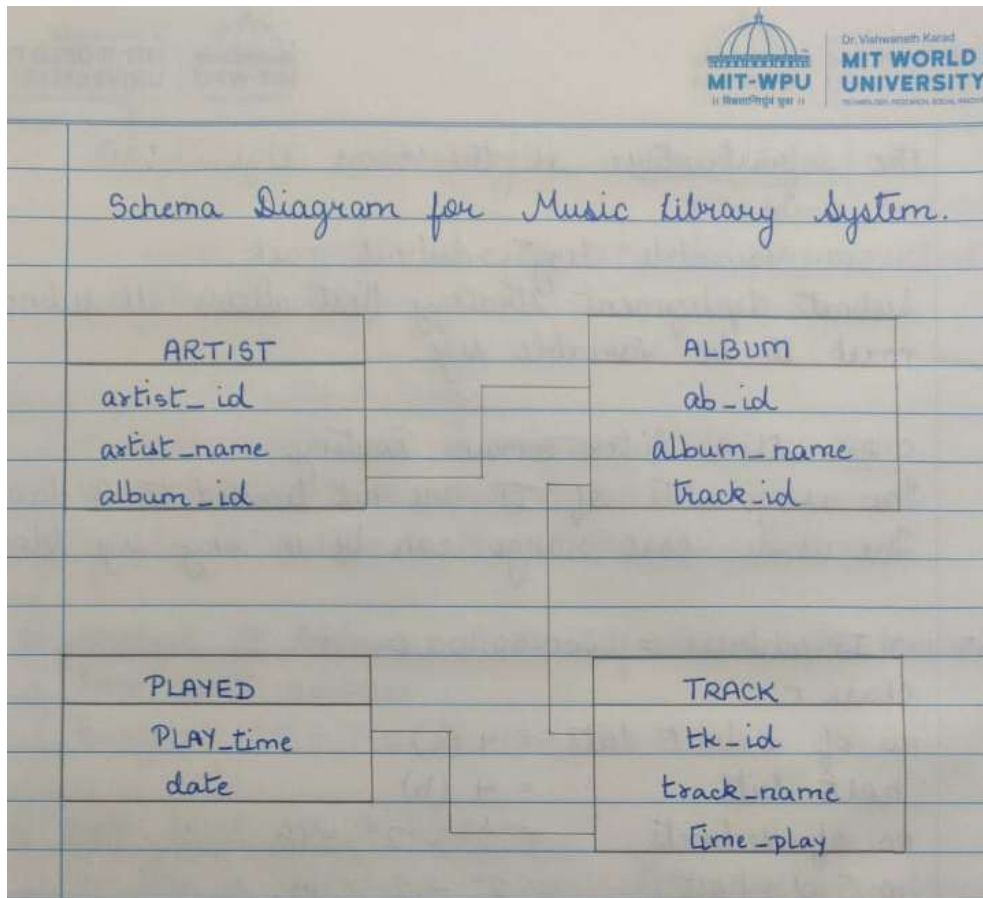
→ i) Open SQL command line client.

ii) Type: `CREATE USER 'username'@'localhost' identified by 'password';`

iii) Grant required privileges using the GRANT command.

iv) Use command line prompt to check if user has been created.

Schema Diagram for Music Library System: (wrt First Assignment)



Code:

```

MySQL 8.0 Command Line Client
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 25
Server version: 8.0.21 MySQL Community Server - GPL

Copyright (c) 2000, 2020, Oracle and/or its affiliates. All rights reserved.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> create user 'Kushagra'@'localhost' identified by 'password';
Query OK, 0 rows affected (0.36 sec)

mysql> grant all on *.* to 'Kushagra'@'localhost';
Query OK, 0 rows affected (0.03 sec)

mysql> show grants for 'Kushagra'@'localhost';
+-----+
| Grants for Kushagra@localhost |
+-----+
|
+-----+
| GRANT SELECT, INSERT, UPDATE, DELETE, CREATE, DROP, RELOAD, SHUTDOWN, PROCESS, FILE, REFERENCES, INDEX, ALTER, SHOW DATABASES, SUPER, CREATE TEMPORARY TABLES, LOCK TABLES, EXECUTE, REPLICATION SLAVE, REPLICATI |
ON CLIENT, CREATE VIEW, SHOW VIEW, CREATE ROUTINE, ALTER ROUTINE, CREATE USER, EVENT, TRIGGER, CREATE TABLESPACE, CREATE ROLE, DROP ROLE ON *.* TO 'Kushagra'@'localhost' |
|
+-----+
| GRANT APPLICATION_PASSWORD_ADMIN, AUDIT_ADMIN, BACKUP_ADMIN, BINLOG_ADMIN, BINLOG_ENCRYPTION_ADMIN, CLORE_ADMIN, CONNECTION_ADMIN, ENCRYPTION_KEY_ADMIN, GROUP_REPLICATION_ADMIN, INNODB_REDO_LOG_ARCHIVE, INNODB_REDO_LOG |
ENABLE, PERSIST_RO_VARIABLES_ADMIN, REPLICATION_APPLIER, REPLICATION_SLAVE_ADMIN, RESOURCE_GROUP_ADMIN, RESOURCE_GROUP_USER, ROLE_ADMIN, SERVICE_CONNECTION_ADMIN, SESSION_VARIABLES_ADMIN, SET_USER_ID, SHOW_ROUTINE, SYSTEM |
USER, SYSTEM_VARIABLES_ADMIN, TABLE_ENCRYPTION_ADMIN, XA_RECOVER_ADMIN ON *.* TO 'Kushagra'@'localhost' |
+-----+
2 rows in set (0.00 sec)

mysql> create database music.lib;
Query OK, 1 row affected (0.40 sec)
    
```

```

MySQL 8.0 Command Line Client
mysql> alter table Album add foreign key(track_id) references Track(tk_id);
Query OK, 0 rows affected (0.56 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc Album;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ab_id | int  | NO   | PRI | NULL    |       |
| album_name | varchar(30) | NO | NULL | NULL    |       |
| track_id | int  | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

mysql> create table Played(play_time integer primary key, date integer);
Query OK, 0 rows affected (0.41 sec)

mysql> desc Played;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| play_time | int | NO | PRI | NULL |       |
| date | int | YES |     | NULL |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.38 sec)

mysql> revoke create, drop on *.* from 'Kushagra'@'localhost';
Query OK, 0 rows affected (0.01 sec)

mysql>

```

```

MySQL 8.0 Command Line Client

mysql> use music_lib;
Database changed
mysql> create table Album(ab_id integer primary key, album_name varchar(30) not null, track_id integer);
Query OK, 0 rows affected (0.06 sec)

mysql> desc Album;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ab_id | int  | NO   | PRI | NULL    |       |
| album_name | varchar(30) | NO | NULL | NULL    |       |
| track_id | int  | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

mysql> create table Artist(artist_id integer primary key, artist_name varchar(30) not null, album_id integer, foreign key(album_id) references Album(ab_id));
Query OK, 0 rows affected (0.44 sec)

mysql> desc Artist;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| artist_id | int | NO | PRI | NULL |       |
| artist_name | varchar(30) | NO | NULL | NULL |       |
| album_id | int | YES | MUL | NULL |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

mysql> create table Track(tk_id integer primary key, track_name varchar(30) not null, time_play integer default(1));
Query OK, 0 rows affected (0.38 sec)

mysql> desc Track;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| tk_id | int | NO | PRI | NULL |       |
| track_name | varchar(30) | NO | NULL | NULL |       |
| time_play | int | YES |     | 1 | DEFAULT_GENERATED |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

```

```

C:\>cd C:\Program Files\MySQL\MySQL Server 8.0\bin

```

```

C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql -u Kushagra -p

```

```

Enter password: *****

```

```

Welcome to the MySQL monitor.  Commands end with ; or \g.

```

```

Your MySQL connection id is 26

```

```

Server version: 8.0.21 MySQL Community Server - GPL

```

```

Copyright (c) 2000, 2020, Oracle and/or its affiliates. All rights reserved.

```

```

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

```

```

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

```

```

mysql>

```

Enter password: *****

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 25

Server version: 8.0.21 MySQL Community Server - GPL

Copyright (c) 2000, 2020, Oracle and/or its affiliates. All rights reserved.

Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

```
mysql> create user 'Kushagra'@'localhost' identified by 'password';
```

```
Query OK, 0 rows affected (0.36 sec)
```

```
mysql> grant all on *.* to 'Kushagra'@'localhost';
```

```
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> show grants for 'Kushagra'@'localhost';
```

```
+-----+
+-----+
+-----+
+-----+
+-----+
+
| Grants for Kushagra@localhost
|
```

+-----

+

| GRANT SELECT, INSERT, UPDATE, DELETE, CREATE, DROP, RELOAD,
SHUTDOWN, PROCESS, FILE, REFERENCES, INDEX, ALTER, SHOW DATABASES,
SUPER, CREATE TEMPORARY TABLES, LOCK TABLES, EXECUTE, REPLICATION
SLAVE, REPLICATION CLIENT, CREATE VIEW, SHOW VIEW, CREATE ROUTINE,
ALTER ROUTINE, CREATE USER, EVENT, TRIGGER, CREATE TABLESPACE, CREATE
ROLE, DROP ROLE ON *.* TO `Kushagra`@`localhost`

|

| GRANT
APPLICATION_PASSWORD_ADMIN,AUDIT_ADMIN,BACKUP_ADMIN,BINLOG_A
DMIN,BINLOG_ENCRYPTION_ADMIN,CLONE_ADMIN,CONNECTION_ADMIN,EN
CRYPTION_KEY_ADMIN,GROUP_REPLICATION_ADMIN,INNODB_REDO_LOG_A
RCHIVE,INNODB_REDO_LOG_ENABLE,PERSIST_RO_VARIABLES_ADMIN,REPLIC
ATION_APPLIER,REPLICATION_SLAVE_ADMIN,RESOURCE_GROUP_ADMIN,RES
OURCE_GROUP_USER,ROLE_ADMIN,SERVICE_CONNECTION_ADMIN,SESSION_
VARIABLES_ADMIN,SET_USER_ID,SHOW_ROUTINE,SYSTEM_USER,SYSTEM_VA
RIABLES_ADMIN,TABLE_ENCRYPTION_ADMIN,XA_RECOVER_ADMIN ON *.* TO
`Kushagra`@`localhost` |

+-----

+

2 rows in set (0.00 sec)

mysql> create database music_lib;

Query OK, 1 row affected (0.40 sec)

```
mysql> use music_lib;
```

Database changed

```
mysql> create table Album(ab_id integer primary key, album_name
varchar(30) not null, track_id integer);
```

Query OK, 0 rows affected (0.06 sec)

```
mysql> desc Album;
```

Field	Type	Null	Key	Default	Extra
ab_id	int	NO	PRI	NULL	
album_name	varchar(30)	NO		NULL	
track_id	int	YES		NULL	

3 rows in set (0.01 sec)

```
mysql> create table Artist(artist_id integer primary key, artist_name
varchar(30) not null, album_id integer, foreign key(album_id) references
Album(ab_id));
```

Query OK, 0 rows affected (0.44 sec)

```
mysql> desc Artist;
```

Field	Type	Null	Key	Default	Extra
artist_id	int	NO	PRI	NULL	

artist_name	varchar(30)	NO		NULL		
album_id	int	YES	MUL	NULL		

```
+-----+-----+-----+-----+-----+
```

3 rows in set (0.01 sec)

```
mysql> create table Track(tk_id integer primary key, track_name varchar(30)
not null, time_play integer default(1));
```

Query OK, 0 rows affected (0.38 sec)

```
mysql> desc Track;
```

```
+-----+-----+-----+-----+-----+
```

Field	Type	Null	Key	Default	Extra	
-------	------	------	-----	---------	-------	--

```
+-----+-----+-----+-----+-----+
```

tk_id	int	NO	PRI	NULL		
-------	-----	----	-----	------	--	--

track_name	varchar(30)	NO		NULL		
------------	-------------	----	--	------	--	--

time_play	int	YES		1	DEFAULT_GENERATED	
-----------	-----	-----	--	---	-------------------	--

```
+-----+-----+-----+-----+-----+
```

3 rows in set (0.01 sec)

```
mysql> alter table Album add foreign key(track_id) references Track(tk_id);
```

Query OK, 0 rows affected (0.56 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> desc Album;
```

```
+-----+-----+-----+-----+-----+
```

Field	Type	Null	Key	Default	Extra	
-------	------	------	-----	---------	-------	--


```

+-----+-----+-----+-----+-----+
| ab_id  | int    | NO   | PRI | NULL |      |
| album_name | varchar(30) | NO   |      | NULL |      |
| track_id | int    | YES  | MUL | NULL |      |
+-----+-----+-----+-----+-----+

```

3 rows in set (0.01 sec)

```
mysql> create table Played(play_time integer primary key, date integer);
Query OK, 0 rows affected (0.41 sec)
```

```
mysql> desc Played;
```

```

+-----+-----+-----+-----+-----+
| Field  | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| play_time | int | NO   | PRI | NULL    |      |
| date      | int | YES  |      | NULL    |      |
+-----+-----+-----+-----+-----+

```

2 rows in set (0.38 sec)

```
mysql> revoke create, drop on *.* from 'Kushagra'@'localhost';
Query OK, 0 rows affected (0.01 sec)
```

```
mysql>
```