

LAPORAN
PRAKTIKUM SISTEM BASIS DATA
(MODUL 4)

“ Data Definition Language (DDL)”



Disusun oleh :

NAMA : CINDI DILA APRILIANA

NIM : L200200106

KELAS : E

INFORMATIKA
FAKULTAS KOMUNIKASI DAN INFORMATIKA
UNIVERSITAS MUHAMMADIYAH SURAKARTA
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Tugas

Implementasikan hasil rancangan database yang menangani data kuliah pada tugas modul 2 ke dalam program mysql.

1. Jalankan XAMPP Control Panel.
2. Jalankan server Apache dan MySQL.
3. Buka Command Prompt dan login sebagai root ke MySQL seperti di langkah pada Modul 1.
4. Buat database baru dengan perintah berikut ini. create database dbuniversitas;
5. Hubungkan ke dalam database yang telah dibuat dengan perintah berikut. Sehingga akan muncul pemberitahuan “database changed”. use dbuniversitas;

```
Command Prompt - mysql -u root -p
Microsoft Windows [Version 10.0.22000.556]
(c) Microsoft Corporation. All rights reserved.

C:\Users\MSI GF63>cd/

C:\>cd xampp/mysql/bin

C:\xampp\mysql\bin>mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 179
Server version: 10.4.22-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| dbperbankan |
| information_schema |
| mysql |
| perbankan3 |
| performance_schema |
| phpmyadmin |
| test |
+-----+
7 rows in set (0.001 sec)

MariaDB [(none)]> create database dbuniversitas;
Query OK, 1 row affected (0.000 sec)

MariaDB [(none)]> use dbuniversitas;
Database changed
```

6. Membuat tabel dosen, mata_kuliah, mahasiswa, ruang_kelas, mahasiswa_has_mata_kuliah dengan script.

```
Command Prompt - mysql -u root -p
MariaDB [dbuniversitas]> Create table mata_kuliah
-> (
-> semester integer primary key,
-> sks_matkul integer,
-> nama_matkul varchar(45) not null
-> );
Query OK, 0 rows affected (0.029 sec)

MariaDB [dbuniversitas]> Create table dosen
-> (
-> nip integer primary key,
-> mata_kuliahfk integer references semester(mata_kuliah) on delete cascade on update cascade,
-> nama_dosen varchar(45) not null,
-> alamat_dosen varchar(255) not null
-> );
Query OK, 0 rows affected (0.057 sec)

MariaDB [dbuniversitas]> Create table mahasiswa
-> (
-> nim serial primary key,
-> nip_dosenfk integer ,
-> nama_mahasiswa varchar(20) not null,
-> alamat_mahasiswa varchar(255) not null
-> );
Query OK, 0 rows affected (0.025 sec)

MariaDB [dbuniversitas]> Create table ruang_kelas
-> (
-> Jam_kelas serial primary key,
-> Mata_kuliahfk integer references semester(mata_kuliah)
-> On delete cascade on update cascade,
-> Jumlah integer,
-> Kapasitas integer,
-> Kode_kelas varchar(20) not null
-> );
Query OK, 0 rows affected (0.057 sec)

MariaDB [dbuniversitas]> CREATE TABLE mahasiswa_has_mata_kuliah
-> (
-> nimFK INTEGER REFERENCES mahasiswa(nim) ON DELETE CASCADE ON UPDATE CASCADE,
-> mata_kuliahFK INTEGER REFERENCES semester(mata_kuliah) ON DELETE CASCADE ON UPDATE CASCADE
-> );
Query OK, 0 rows affected (0.057 sec)
```

7. menampilkan table dbuniversitas

```
MariaDB [dbuniversitas]> show tables;
+-----+
| Tables_in_dbuniversitas |
+-----+
| dosen                    |
| mahasiswa                |
| mahasiswa_has_mata_kuliah |
| mata_kuliah              |
| ruang_kelas              |
+-----+
5 rows in set (0.001 sec)

MariaDB [dbuniversitas]>
```

8. Kemudian untuk melihat struktur tiap tabel dapat dilakukan dengan perintah describe.;

```
ca Command Prompt - mysql -u root -p
MariaDB [dbuniversitas]> desc mata_kuliah;
+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+
| semester  | int(11)   | NO   | PRI | NULL    |       |
| sks_matkul | int(11)   | YES  |     | NULL    |       |
| nama_matkul | varchar(45) | NO   |     | NULL    |       |
+-----+
3 rows in set (0.008 sec)

MariaDB [dbuniversitas]> desc dosen;
+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+
| nip        | int(11)   | NO   | PRI | NULL    |       |
| mata_kuliahfk | int(11)   | YES  |     | NULL    |       |
| nama_dosen | varchar(45) | NO   |     | NULL    |       |
| alamat_dosen | varchar(255) | NO   |     | NULL    |       |
+-----+
4 rows in set (0.018 sec)

MariaDB [dbuniversitas]> desc mahasiswa;
+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+
| nim        | bigint(20) unsigned | NO   | PRI | NULL    | auto_increment |
| nip_dosenfk | int(11)   | YES  |     | NULL    |       |
| nama_mahasiswa | varchar(20) | NO   |     | NULL    |       |
| alamat_mahasiswa | varchar(255) | NO   |     | NULL    |       |
+-----+
4 rows in set (0.018 sec)

MariaDB [dbuniversitas]> desc ruang_kelas;
+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+
| Jam_kelas  | bigint(20) unsigned | NO   | PRI | NULL    | auto_increment |
| Mata_kuliahfk | int(11)   | YES  |     | NULL    |       |
| Jumlah     | int(11)   | YES  |     | NULL    |       |
| Kapasitas  | int(11)   | YES  |     | NULL    |       |
| Kode_kelas | varchar(20) | NO   |     | NULL    |       |
+-----+
5 rows in set (0.017 sec)

MariaDB [dbuniversitas]> desc mahasiswa_has_mata_kuliah;
+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+
| nimFK      | int(11)   | YES  |     | NULL    |       |
| mata_kuliahFK | int(11)   | YES  |     | NULL    |       |
+-----+
2 rows in set (0.018 sec)
```