

PRAKTIKUM SISTEM BASIS DATA

MODUL 4

Data Definition Language (DDL)



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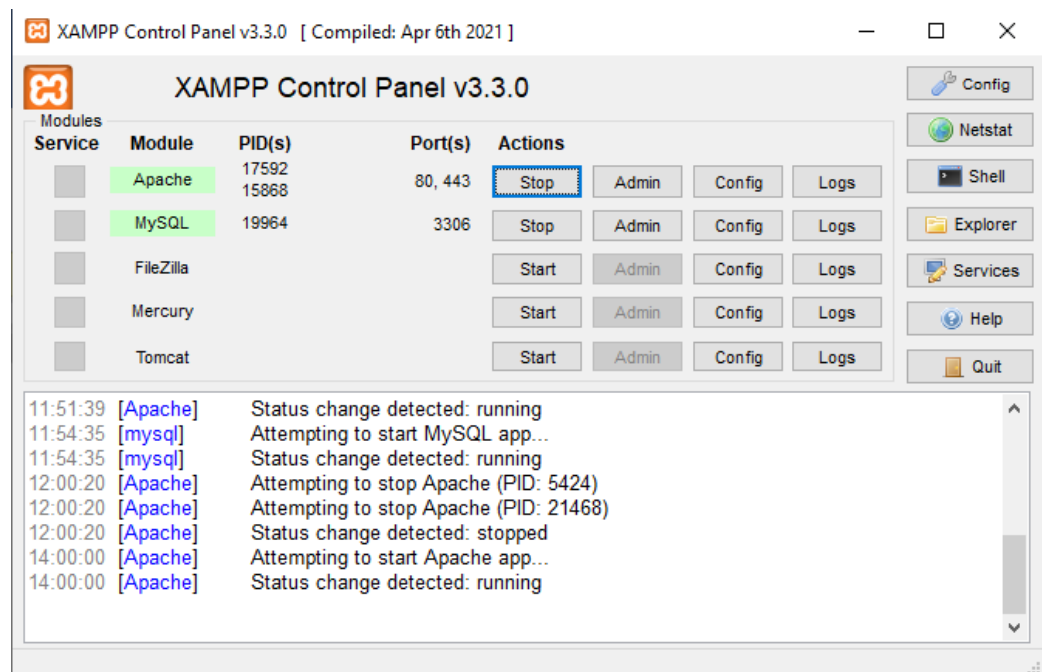
Kelas : D

**PROGRAM STUDI TEKNIK INFORMATIKA
FAKULTAS KOMUNIKASI DAN INFORMATIKA
UNIVERSITAS MUHAMMADIYAH SURAKARTA**

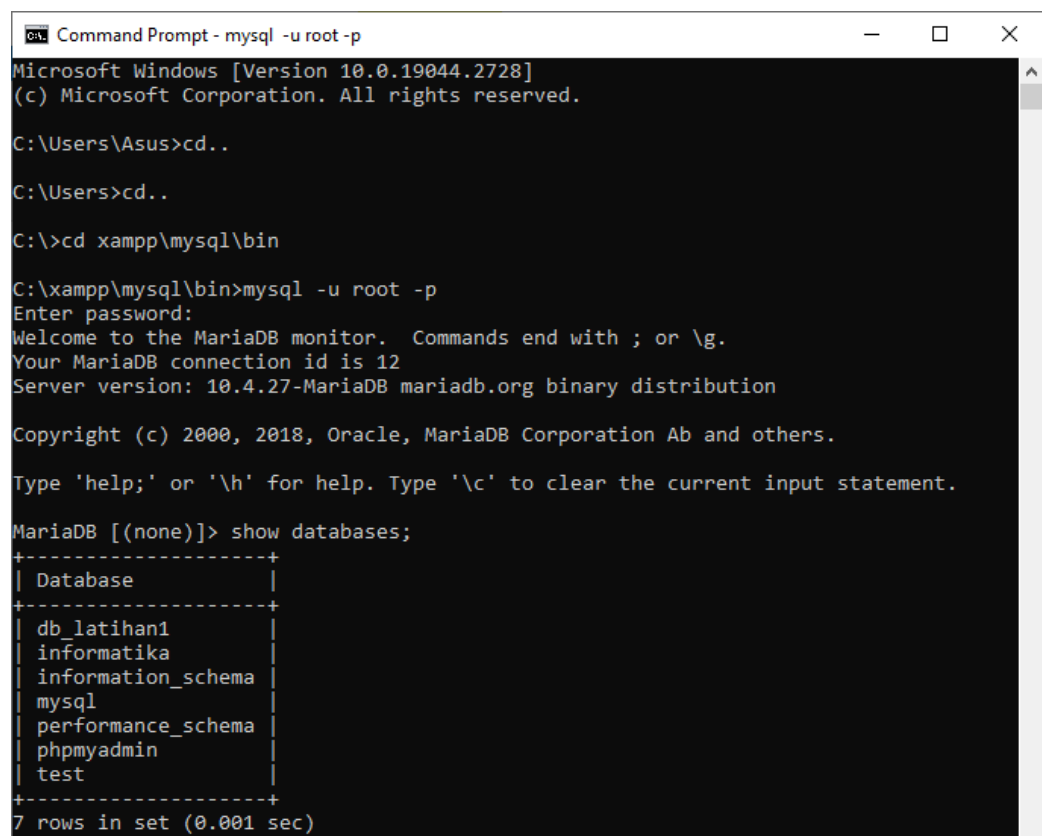
2023

A. Praktikum

1. Jalankan XAMPP control panel.
2. Jalankan server apache dan mysql.



3. Buka cmd dan login sebagai root ke mysql.



4. Buat database perbankan.
5. Hubungkan kedalam database yang telah dibuat dengan perintah 'use perbankan;'.

```
Command Prompt - mysql -u root -p
MariaDB [(none)]> CREATE DATABASE Perbankan;
Query OK, 1 row affected (0.003 sec)

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| db_latihan1 |
| informatika |
| information_schema |
| mysql |
| perbankan |
| performance_schema |
| phpmyadmin |
| test |
+-----+
8 rows in set (0.001 sec)

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

6. Membuat tabel nasabah.

```
Command Prompt - mysql -u root -p
MariaDB [perbankan]> CREATE TABLE nasabah
-> (
-> id_nasabah INTEGER PRIMARY KEY,
-> nama_nasabah VARCHAR(45) NOT NULL,
-> alamat_nasabah VARCHAR(255) NOT NULL
-> );
Query OK, 0 rows affected (0.023 sec)
```

7. Membuat tabel cabang_bank.

```
Command Prompt - mysql -u root -p
MariaDB [perbankan]> create table cabang_bank
-> (
-> kode_cabang varchar(20) primary key,
-> nama_cabang varchar(45) unique not null,
-> alamat_cabang varchar(255) not null
-> );
Query OK, 0 rows affected (0.030 sec)
```

8. Membuat tabel rekening.

```
Command Prompt - mysql -u root -p
MariaDB [perbankan]> create table rekening
-> (
-> no_rekening integer primary key,
-> kode_cabangFK varchar(20) references cabang_bank(kode_cabang) on delete cascade on update cascade,
-> pin varchar(20) default '1234' not null,
-> saldo integer default 0 not null
-> );
Query OK, 0 rows affected (0.017 sec)
```

9. Membuat tabel transaksi.

```
Command Prompt - mysql -u root -p
MariaDB [perbankan]> create table transaksi
-> (
-> no_transaksi serial primary key,
-> id_nasabahFK integer references nasabah(id_nasabah) on delete set null on update cascade,
-> no_rekeningFK integer references rekening(no_rekening) on delete set null on update cascade,
-> jenis_transaksi varchar(20) default 'debit' not null,
-> tanggal datetime not null default current_timestamp,
-> jumlah integer not null check (jumlah>=20000)
-> );
Query OK, 0 rows affected (0.038 sec)
```

10. Membuat tabel nasabah_has_rekening.

```
Command Prompt - mysql -u root -p
MariaDB [perbankan]> create table nasabah_has_rekening
-> (
-> id_nasabahFK integer references nasabah(id_nasabah) on delete cascade on update cascade,
-> no_rekeningFK integer references rekening(no_rekening) on delete cascade on update cascade,
-> primary key (id_nasabahFK, no_rekeningFK)
-> );
Query OK, 0 rows affected (0.017 sec)
```

11. Show database perbankan.

```
Command Prompt - mysql -u root -p
MariaDB [perbankan]> show tables;
+-----+
| Tables_in_perbankan |
+-----+
| cabang_bank          |
| nasabah              |
| nasabah_has_rekening |
| rekening             |
| transaksi            |
+-----+
5 rows in set (0.001 sec)
```

12. Describe masing-masing tabel.

```
Command Prompt - mysql -u root -p
MariaDB [perbankan]> describe cabang_bank;
+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+
| kode_cabang    | varchar(20)   | NO   | PRI | NULL    |       |
| nama_cabang    | varchar(45)   | NO   | UNI | NULL    |       |
| alamat_cabang  | varchar(255)  | NO   |     | NULL    |       |
+-----+
3 rows in set (0.017 sec)
```

```

Command Prompt - mysql -u root -p
MariaDB [perbankan]> describe nasabah;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_nasabah | int(11)   | NO   | PRI | NULL    |       |
| nama_nasabah | varchar(45) | NO   |     | NULL    |       |
| alamat_nasabah | varchar(255) | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.011 sec)

MariaDB [perbankan]> describe nasabah_has_rekening;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_nasabahFK | int(11)   | NO   | PRI | NULL    |       |
| no_rekeningFK | int(11)   | NO   | PRI | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.014 sec)

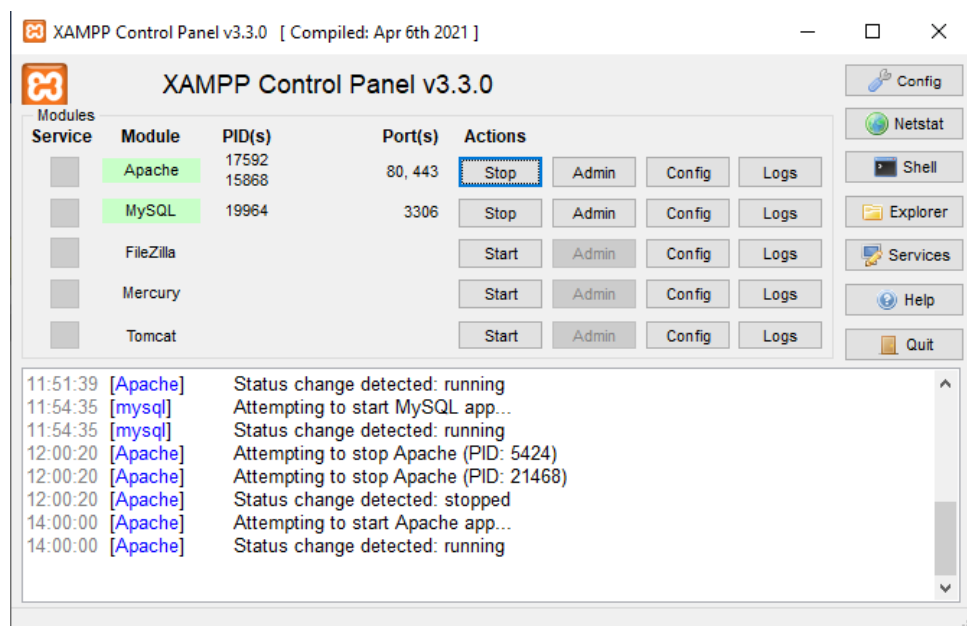
MariaDB [perbankan]> describe rekening;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| no_rekening | int(11)   | NO   | PRI | NULL    |       |
| kode_cabangFK | varchar(20) | YES  |     | NULL    |       |
| pin        | varchar(20) | NO   |     | 1234    |       |
| saldo      | int(11)   | NO   |     | 0       |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.011 sec)

MariaDB [perbankan]> describe transaksi;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| no_transaksi | bigint(20) unsigned | NO   | PRI | NULL    | auto_increment |
| id_nasabahFK | int(11)   | YES  |     | NULL    |       |
| no_rekeningFK | int(11)   | YES  |     | NULL    |       |
| jenis_transaksi | varchar(20) | NO   |     | debit   |       |
| tanggal     | datetime  | NO   |     | current_timestamp() |       |
| jumlah      | int(11)   | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.009 sec)

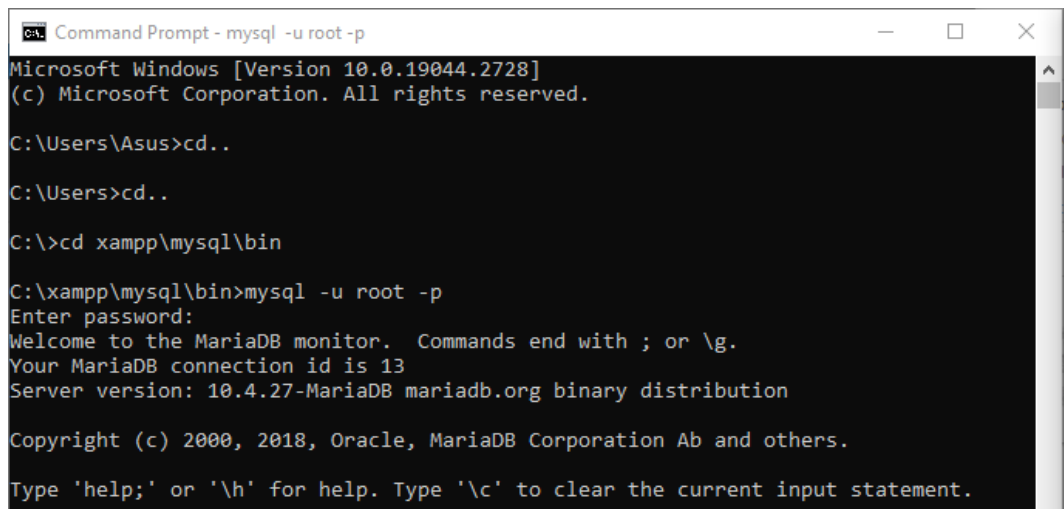
```

B. Tugas

1. Jalankan XAMPP control panel.
2. Jalankan server apache dan mysql.



3. Buka cmd dan login sebagai root ke mysql.



```
Command Prompt - mysql -u root -p
Microsoft Windows [Version 10.0.19044.2728]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Asus>cd..

C:\Users>cd..

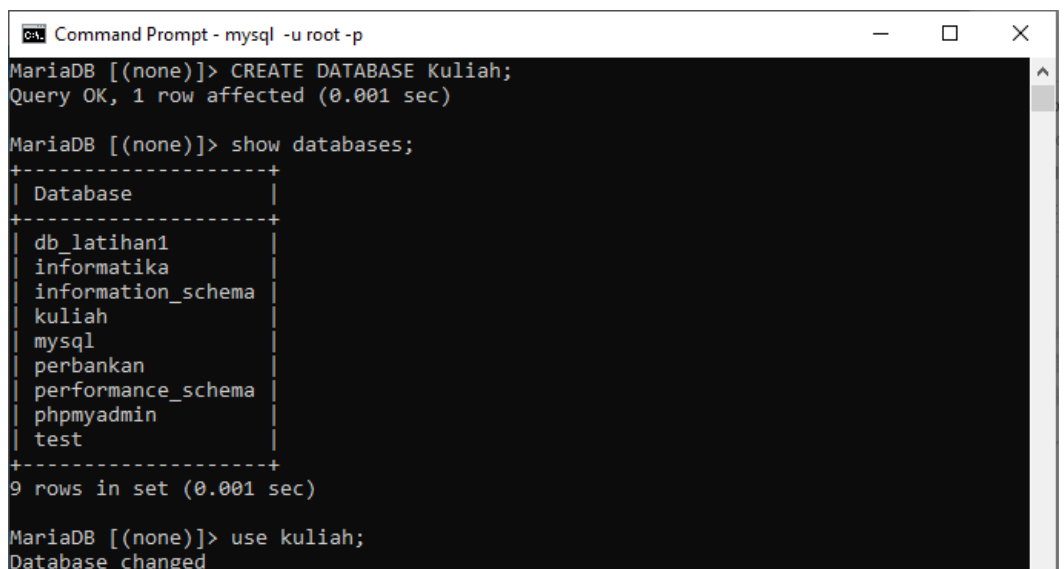
C:\>cd xampp\mysql\bin

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 13
Server version: 10.4.27-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.
```

4. Buat database kuliah.
5. Hubungkan kedalam database yang telah dibuat dengan perintah 'use kuliah;'.

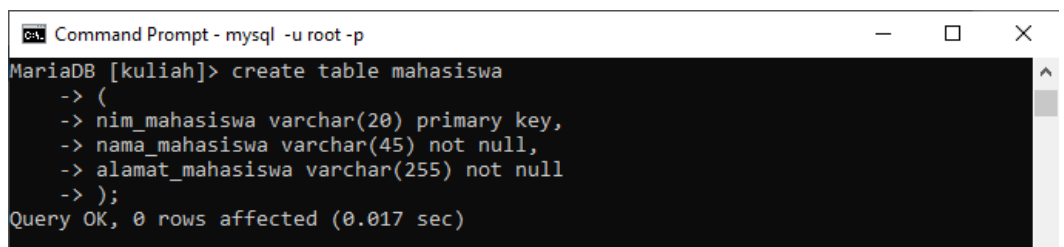


```
Command Prompt - mysql -u root -p
MariaDB [(none)]> CREATE DATABASE kuliah;
Query OK, 1 row affected (0.001 sec)

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| db_latihan1 |
| informatika |
| information_schema |
| kuliah |
| mysql |
| perbankan |
| performance_schema |
| phpmyadmin |
| test |
+-----+
9 rows in set (0.001 sec)

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

6. Membuat tabel mahasiswa.



```
Command Prompt - mysql -u root -p
MariaDB [kuliah]> create table mahasiswa
-> (
-> nim_mahasiswa varchar(20) primary key,
-> nama_mahasiswa varchar(45) not null,
-> alamat_mahasiswa varchar(255) not null
-> );
Query OK, 0 rows affected (0.017 sec)
```

7. Membuat tabel dosen.

```
Command Prompt - mysql -u root -p
MariaDB [kuliah]> create table dosen
-> (
-> nid_dosen integer primary key,
-> nama_dosen varchar(45) not null,
-> alamat_dosen varchar(255) not null
-> );
Query OK, 0 rows affected (0.019 sec)
```

8. Membuat tabel mata_kuliah.

```
Command Prompt - mysql -u root -p
MariaDB [kuliah]> create table mata_kuliah (
-> kode_mk varchar(10) primary key,
-> nama_mk varchar(45) not null,
-> sks integer default 0 not null
-> );
Query OK, 0 rows affected (0.014 sec)
```

9. Membuat tabel ruang_kuliah.

```
Command Prompt - mysql -u root -p
MariaDB [kuliah]> create table ruang_kuliah (
-> kode_ruang varchar(20) primary key,
-> nama_ruang varchar(45) not null,
-> gedung_ruang varchar(20) not null
-> );
Query OK, 0 rows affected (0.015 sec)
```

10. Membuat tabel mahasiswa_has_mata_kuliah.

```
Command Prompt - mysql -u root -p
MariaDB [kuliah]> create table mahasiswa_has_mata_kuliah (
-> nim_mahasiswaFK varchar(20) references mahasiswa(nim_mahasiswa) on delete cascade on update cascade,
-> kode_mkFK varchar(20) references mata_kuliah(kode_mk) on delete cascade on update cascade
-> );
Query OK, 0 rows affected (0.015 sec)
```

11. Show database kuliah.

```
Command Prompt - mysql -u root -p
MariaDB [kuliah]> show tables;
+-----+
| Tables_in_kuliah |
+-----+
| dosen             |
| mahasiswa         |
| mahasiswa_has_mata_kuliah |
| mata_kuliah       |
| ruang_kuliah      |
+-----+
5 rows in set (0.001 sec)
```

12. Describe masing-masing tabel.

```
Command Prompt - mysql -u root -p

MariaDB [kuliah]> describe dosen;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| nid_dosen  | int(11)   | NO   | PRI | NULL    |       |
| nama_dosen | varchar(45)| NO   |     | NULL    |       |
| alamat_dosen | varchar(255)| NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.017 sec)

MariaDB [kuliah]> describe mahasiswa;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| nim_mahasiswa | varchar(20) | NO   | PRI | NULL    |       |
| nama_mahasiswa | varchar(45) | NO   |     | NULL    |       |
| alamat_mahasiswa | varchar(255) | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.010 sec)

MariaDB [kuliah]> describe mata_kuliah;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| kode_mk    | varchar(10) | NO   | PRI | NULL    |       |
| nama_mk    | varchar(45) | NO   |     | NULL    |       |
| sks        | int(11)     | NO   |     | 0        |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.010 sec)

MariaDB [kuliah]> describe ruang_kuliah;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| kode_ruang | varchar(20) | NO   | PRI | NULL    |       |
| nama_ruang | varchar(45) | NO   |     | NULL    |       |
| gedung_ruang | varchar(20) | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.010 sec)

Command Prompt - mysql -u root -p

MariaDB [kuliah]> describe mahasiswa_has_mata_kuliah;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| nim_mahasiswaFK | varchar(20) | YES  |     | NULL    |       |
| kode_mkFK      | varchar(20) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.010 sec)

MariaDB [kuliah]>
```