

**DATABASE SYSTEMS**  
**PRACTICUM 4**



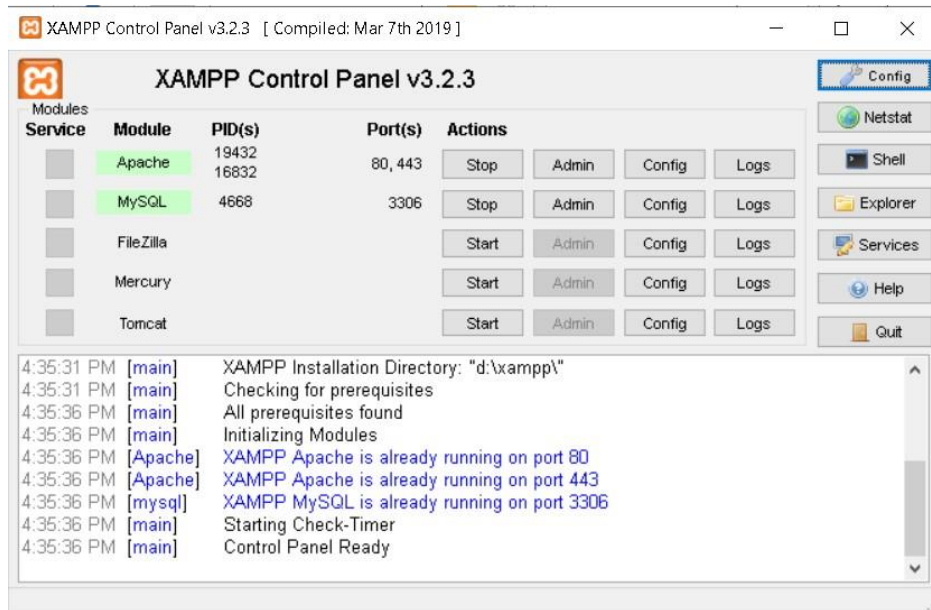
**By: Motwkel**

**Adam**

**NIM: L200184220**

**INFORMATION TECHNOLOGY**  
**FACULTY OF COMMUNICATION AND**  
**INFORMATICS UNIVERSITY OF MUHAMMADIYAH**  
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## 1. Activity 1



**Open XAMPP and then start server Apache and MySQL**

```
Command Prompt - mysql -u root -p
Microsoft Windows [Version 10.0.18363.720]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\dakeyay>cd c:\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 8
Server version: 10.4.11-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)]> create database perbankan
-> ;
Query OK, 1 row affected (0.032 sec)

MariaDB [(none)]> create database perbankan;
ERROR 1007 (HY000): Can't create database 'perbankan'; database exists
MariaDB [(none)]> use perbankan;
Database changed
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 (0.295 sec)

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 (0.641 sec)
```

**Creating new database and create the table**

```

C:\ 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 (0.295 sec)

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 (0.641 sec)

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 (0.291 sec)

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 (0.335 sec)

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 (0.286 sec)

```

## Creating the table

```

C:\ Command Prompt - mysql -u root -p
  -> 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 (0.335 sec)

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 (0.286 sec)

MariaDB [perbankan]> show tables;
+-----+
| Tables_in_perbankan |
+-----+
| cabang_bank          |
| nasabah              |
| nasabah_has_rekening |
| rekening             |
| transaksi            |
+-----+
5 rows in set (0.002 sec)

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 (0.065 sec)

MariaDB [perbankan]>

```

## Show the result of all table and show data inside of a table

## Assignment

```
MariaDB [university]> create table dosen(  
  -> nip integer primary key,  
  -> nama varchar(45) not null,  
  -> alamat varchar(225) not null);  
Query OK, 0 rows affected (0.048 sec)
```

```
MariaDB [university]> create table mahasiswa(  
  -> nim integer primary key,  
  -> nama varchar(45) not null,  
  -> alamat varchar(225) not null,  
  -> major varchar(20) not null);  
Query OK, 0 rows affected (0.039 sec)
```

```
MariaDB [university]> create table mata_kuliah(  
  -> kode_mk varchar(20) primary key,  
  -> nama_mk varchar(20) not null);  
Query OK, 0 rows affected (0.034 sec)
```

```
MariaDB [university]> create table ruang_kelas(  
  -> kode_ruang varchar(20) primary key,  
  -> nama_ruang varchar(45) not null);  
Query OK, 0 rows affected (0.038 sec)
```

```
MariaDB [university]> create table dosen_has_mata_kuliah(  
  -> nipFK integer references dosen(nip) on delete cascade on update cascade,  
  -> kode_mkFK integer references mata_kuliah(kode_mk) on delete cascade on update cascade,  
  -> primary key(nipFK, kode_mkFK)  
  -> );  
Query OK, 0 rows affected (0.046 sec)
```

```
MariaDB [university]> create table dosen_has_mahasiswa(  
  -> nipFK integer references dosen(nip) on delete cascade on update cascade,  
  -> nimFK integer references mahasiswa(nim) on delete cascade on update cascade,  
  -> primary key(nipFK, nimFK));  
Query OK, 0 rows affected (0.048 sec)
```

```
MariaDB [university]> create table mahasiswa_has_mata_kuliah(  
  -> nimFK integer references mahasiswa(nim) on delete cascade on update cascade,  
  -> kode_mkFK varchar(20) references mata_kuliah(kode_mk) on delete cascade on update cascade,  
  -> primary key(nimFK, kode_mkFK));  
Query OK, 0 rows affected (0.049 sec)
```

```
MariaDB [university]> create table mata_kuliah_has_ruang_kelas(  
  -> kode_mkFK varchar(20) references mata_kuliah(kode_mk) on delete cascade on update cascade,  
  -> kode_ruangFK varchar(20) references ruang_kelas(kode_ruang) on delete cascade on update cascade,  
  -> primary key(kode_mkFK, kode_ruangFK));  
Query OK, 0 rows affected (0.047 sec)
```

## Creating the table



```

MariaDB [university]> show tables;
+-----+
| Tables_in_university |
+-----+
| dosen                  |
| dosen_has_mahasiswa    |
| dosen_has_mata_kuliah  |
| mahasiswa              |
| mahasiswa_has_mata_kuliah |
| mata_kuliah            |
| mata_kuliah_has_ruang_kelas |
| ruang_kelas            |
+-----+
8 rows in set (0.001 sec)

MariaDB [university]> describe dosen;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| nip   | int(11)       | NO   | PRI | NULL    |       |
| nama  | varchar(45)   | NO   |     | NULL    |       |
| alamat | varchar(225)  | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.036 sec)

MariaDB [university]> describe dosen_has_mahasiswa
-> ;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| nipFK | int(11)       | NO   | PRI | NULL    |       |
| nimFK | int(11)       | NO   | PRI | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.037 sec)

MariaDB [university]> describe mahasiswa;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| nim   | int(11)       | NO   | PRI | NULL    |       |
| nama  | varchar(45)   | NO   |     | NULL    |       |
| alamat | varchar(225)  | NO   |     | NULL    |       |
| major | varchar(20)   | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+

```

Showing the tables and data inside it