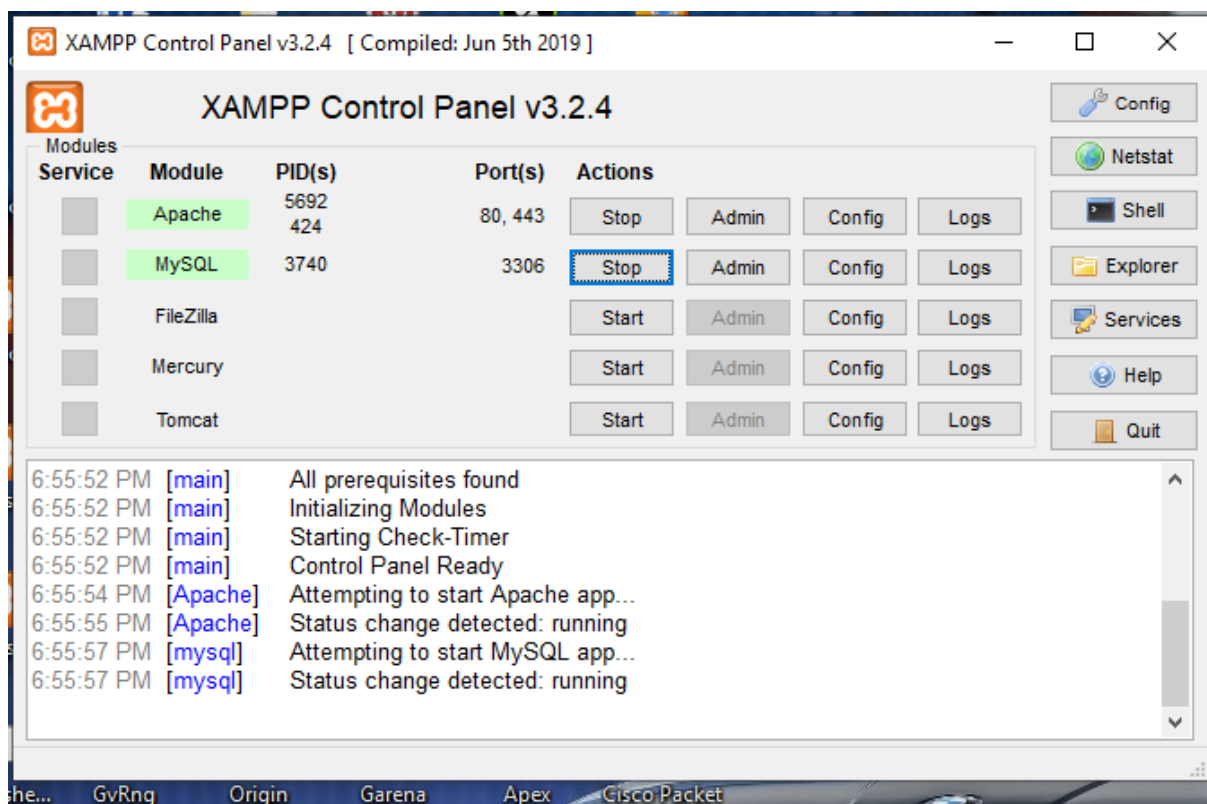# MODUL 4
Praktikum Sistem Basis Data

Nama : Muhammad Al Fatih
NIM   : L200180002
Kelas   : A

Menjalankan XAMPP
Start Server Apache dan MySQL

Membuka My SQL lewat Command Prompt

Membuat database baru

```
MariaDB [(none)]> create database perbankan;
Query OK, 1 row affected (0.010 sec)
```

Menghubungkan kedalam database baru yang telah dibuat

```
MariaDB [perbankan]> use perbankan;
Database changed
MariaDB [perbankan]>
```

Membuat table nasabah

```
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 (0.213 sec)

MariaDB [perbankan]>
```

Membuat table cabang_bank

```
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 (0.215 sec)

MariaDB [perbankan]>
```

Membuat table rekening

```
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 (0.217 sec)

MariaDB [perbankan]>
```

Membuat table transaksi

```
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 (0.182 sec)

MariaDB [perbankan]>
```

Membuat table nasabah_has_rekening

```
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 (0.174 sec)

MariaDB [perbankan]>
```

Cek hasil pembuatan database dengan perintah "show tables:" dan untuk melihat struktur tiap table menggunakan "describe nama_tabel:" misal, describe nasabah:

```
MariaDB [perbankan]> show tables
    -> ;
+---------------------+
| Tables_in_perbankan |
+---------------------+
| cabang_bank         |
| nasabah             |
| nasabah_has_rekening |
| rekening            |
| transaksi           |
+---------------------+
5 rows in set (0.001 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 (0.023 sec)

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 (0.023 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 (0.021 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 (0.030 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 (0.030 sec)

MariaDB [perbankan]>
```