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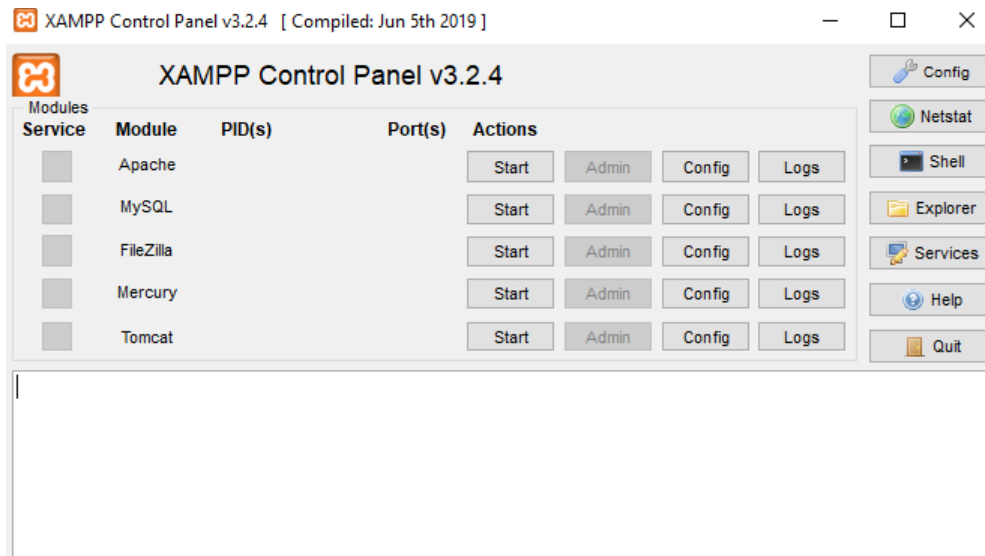
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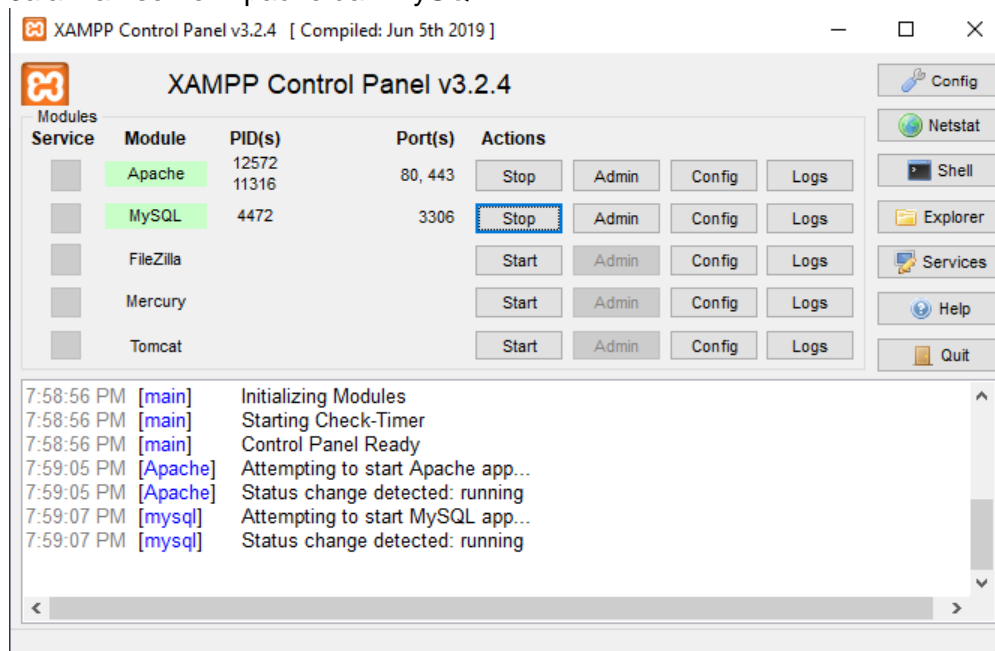
Modul 4 (Praktikum dan Tugas)

● PRAKTIKUM

1. Jalankan XAMPP Control Panel



2. Jalankan server Apache dan MySQL



3. Buka Command Prompt dan login sebagai root ke MySQL

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

C:\>cd C:\New folder\mysql\bin

C:\New folder\mysql\bin>mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 9
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)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| phpmyadmin |
| test |
+-----+
5 rows in set (0.021 sec)

MariaDB [(none)]>
```

4. Membuat database baru dengan perintah 'create database perbankan'

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

C:\>cd C:\New folder\mysql\bin

C:\New folder\mysql\bin>mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 9
Server version: 10.4.11-MariaDB mariadb.org binary distribution

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

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| phpmyadmin |
| test |
+-----+
5 rows in set (0.021 sec)

MariaDB [(none)]> create database perbankan;
Query OK, 1 row affected (0.009 sec)

MariaDB [(none)]>
```

5. Menghubungkan ke dalam database dengan perintah 'use perbankan;' sehingga muncul pemberitahuan 'database changed'

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

C:\>cd C:\New folder\mysql\bin

C:\New folder\mysql\bin>mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 9
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)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| phpmyadmin |
| test |
+-----+
5 rows in set (0.021 sec)

MariaDB [(none)]> create database perbankan;
Query OK, 1 row affected (0.009 sec)

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

6. Membuat tabel 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 (0.034 sec)
```

7. 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 (0.040 sec)
```

8. 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 (0.038 sec)
```

9. 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 (0.041 sec)
```

10. 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 (0.037 sec)
```

11. Menampilkan hasil pembuatan database 'show tables;'

```
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 (0.037 sec)

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

MariaDB [perbankan]>
```

12. Melihat struktur tiap table dengan perintah 'describe <spasi> nama tabel'

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

  -> 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 (0.037 sec)

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 (0.025 sec)

MariaDB [perbankan]>
```

• TUGAS

1. Membuat database baru bernama "data perkuliahan" serta membuat table mahasiswa

```
MariaDB [perbankan]> create database data_perkuliahan;
Query OK, 1 row affected (0.003 sec)

MariaDB [perbankan]> use data_perkuliahan;
Database changed
MariaDB [data_perkuliahan]> CREATE TABLE mahasiswa(
  -> id_mahasiswa INTEGER PRIMARY KEY,
  -> nama_mahasiswa VARCHAR(45) NOT NULL,
  -> alamat_mahasiswa VARCHAR(255) NOT NULL
  -> );
Query OK, 0 rows affected (0.040 sec)

MariaDB [data_perkuliahan]>
```

2. Membuat table dosen

```
MariaDB [data_perkuliahan]> CREATE TABLE dosen(  
  -> id_dosen INTEGER PRIMARY KEY,  
  -> nama_dosen VARCHAR(45) NOT NULL,  
  -> alamat_dosen VARCHAR(255) NOT NULL  
  -> );  
Query OK, 0 rows affected (0.036 sec)  
  
MariaDB [data_perkuliahan]>
```

3. Membuat table matakuliah

```
MariaDB [data_perkuliahan]> CREATE TABLE matakuliah(  
  -> kode_matakuliah VARCHAR(20) PRIMARY KEY,  
  -> nama_matakuliah VARCHAR(45) UNIQUE NOT NULL  
  -> );  
Query OK, 0 rows affected (0.045 sec)  
  
MariaDB [data_perkuliahan]>
```

4. Membuat table kelas

```
MariaDB [data_perkuliahan]> CREATE TABLE kelas(  
  -> nama_kelas VARCHAR(20) PRIMARY KEY,  
  -> jumlah_mahasiswa INTEGER NOT NULL,  
  -> nama_ruang VARCHAR(20) UNIQUE NOT NULL  
  -> );  
Query OK, 0 rows affected (0.039 sec)  
  
MariaDB [data_perkuliahan]>
```

5. Mengecek hasil pembuatan database

```
MariaDB [data_perkuliahan]> show tables;  
+-----+  
| Tables_in_data_perkuliahan |  
+-----+  
| dosen                        |  
| kelas                       |  
| mahasiswa                   |  
| matakuliah                  |  
+-----+  
4 rows in set (0.001 sec)  
  
MariaDB [data_perkuliahan]>
```

6. Melihat struktur table

Command Prompt - mysql -u root -p

MariaDB [data_perkuliahan]> describe dosen;

Field	Type	Null	Key	Default	Extra
id_dosen	int(11)	NO	PRI	NULL	
nama_dosen	varchar(45)	NO		NULL	
alamat_dosen	varchar(255)	NO		NULL	

3 rows in set (0.028 sec)

MariaDB [data_perkuliahan]> describe mahasiswa;

Field	Type	Null	Key	Default	Extra
id_mahasiswa	int(11)	NO	PRI	NULL	
nama_mahasiswa	varchar(45)	NO		NULL	
alamat_mahasiswa	varchar(255)	NO		NULL	

3 rows in set (0.025 sec)

MariaDB [data_perkuliahan]> describe matakuliah;

Field	Type	Null	Key	Default	Extra
kode_matakuliah	varchar(20)	NO	PRI	NULL	
nama_matakuliah	varchar(45)	NO	UNI	NULL	

2 rows in set (0.025 sec)

MariaDB [data_perkuliahan]> describe kelas;

Field	Type	Null	Key	Default	Extra
nama_kelas	varchar(20)	NO	PRI	NULL	
jumlah_mahasiswa	int(11)	NO		NULL	
nama_ruang	varchar(20)	NO	UNI	NULL	

3 rows in set (0.024 sec)

MariaDB [data_perkuliahan]> _