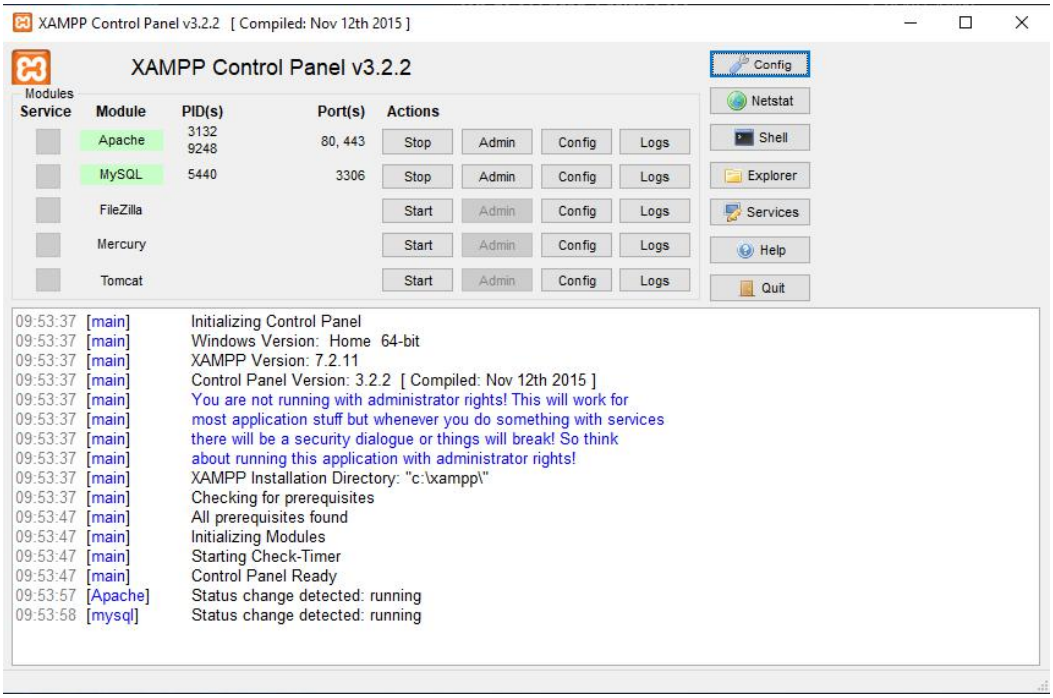
Nama : Ayudhia Isnafiani Fanada
NIM : L200180095
Kelas : D

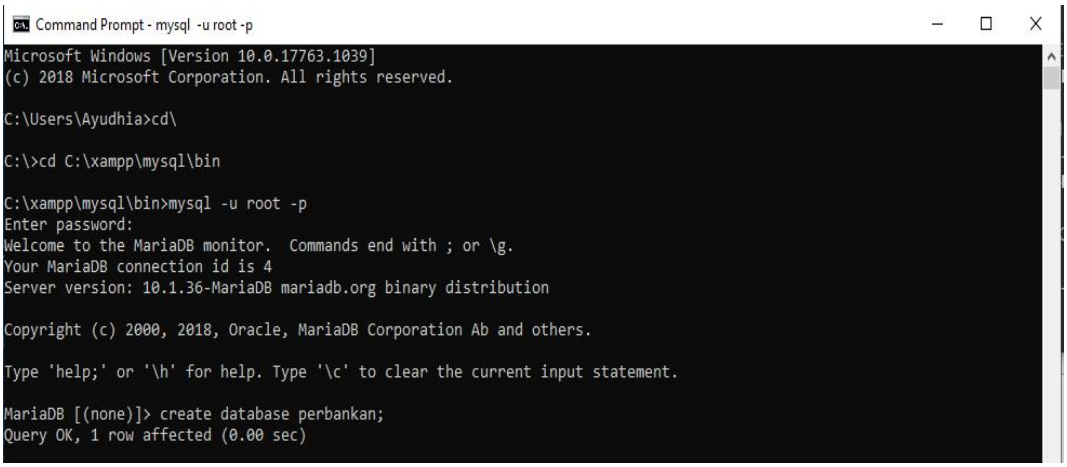
SISTEM BASIS DATA
Modul 4

Kegiatan.

1. Jalankan XAMPP Control Panel, kemudian jalankan server Apache dan MySQL.



2. Buka Command Prompt dan login sebagai root ke MySQL.
Serta mebuat database perbankan dan menghubungkannya.



3. Membuat berbagai macam tabel sebagai berikut:
   a) Tabel nasabah

```
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 (0.27 sec)
```

   b) Tabel 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 (0.39 sec)
```

   c) 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 (0.53 sec)
```

   d) Tabel 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 (0.16 sec)
```

   e) Tabel nasabah_has_rekening (m:n)

```
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 SET NULL ON UPDATE CASCADE,
    -> PRIMARY KEY(id_nasabahFK, no_rekeningFK)
    -> );
Query OK, 0 rows affected (0.25 sec)
```

4. Mengecek hasil pembuatan database.

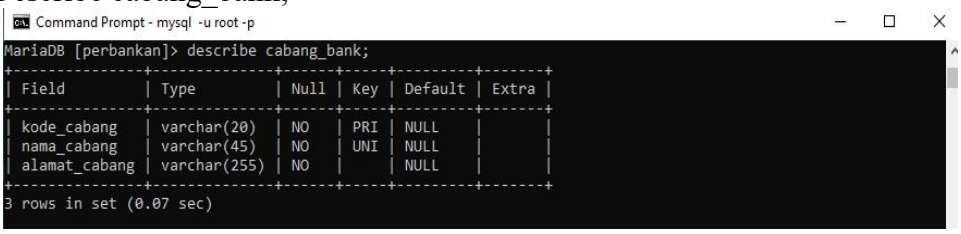
```
MariaDB [perbankan]> show tables;
+----------------------+
| Tables_in_perbankan  |
+----------------------+
| cabang_bank          |
| nasabah              |
| nasabah_has_rekening |
| rekening             |
| transaksi            |
+----------------------+
5 rows in set (0.00 sec)

MariaDB [perbankan]>
```

5. Melihat struktur tiap tabel.
   a) Describe nasabah;

```
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 (0.02 sec)
```

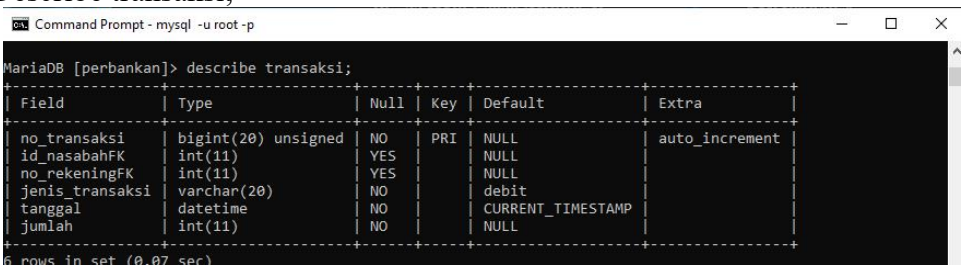
   b) Describe cabang_bank;



   c) Describe rekening;

```
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 (0.01 sec)
```

   d) Describe transaksi;



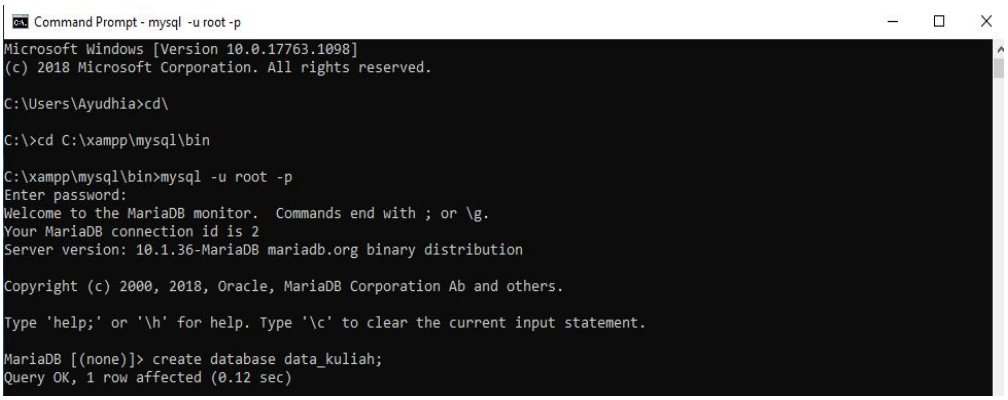
   e) Describe nasabah_has_rekening;

```
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 (0.03 sec)

MariaDB [perbankan]>
```

Tugas.

1. Buka Command Prompt dan login sebagai root ke MySQL.
   Serta mebuat database perbankan dan menghubungkannya.



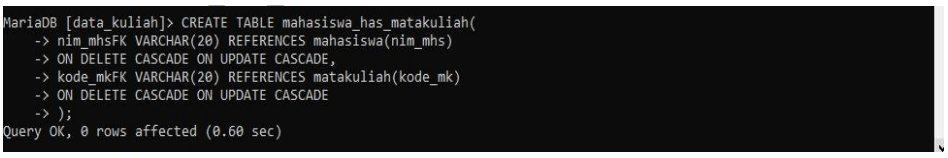
2. Membuat berbagai macam tabel sebagai berikut:
   a) Tabel mahasiswa

   b) Tabel dosen

   c) Tabel matakuliah

   d) Tabel ruang_kelas

   e) Tabel mahasiswa_has_matakuliah



f) Tabel dosen has matakuliah

```
MariaDB [data_kuliah]> CREATE TABLE dosen_has_matakuliah(
    -> nip_dsnFK VARCHAR(20) REFERENCES dosen(nip_dsn)
    -> ON DELETE CASCADE ON UPDATE CASCADE,
    -> kode_mkFK VARCHAR(20) REFERENCES matakuliah(kode_mk)
    -> ON DELETE CASCADE ON UPDATE CASCADE
    -> );
Query OK, 0 rows affected (0.12 sec)
```

3. Mengecek hasil pembuatan database.

```
MariaDB [data_kuliah]> show tables;
+--------------------------+
| Tables_in_data_kuliah    |
+--------------------------+
| dosen                    |
| dosen_has_matakuliah     |
| mahasiswa                |
| mahasiswa_has_matakuliah |
| matakuliah               |
| ruang_kelas              |
+--------------------------+
6 rows in set (0.10 sec)
```

4. Melihat struktur tiap tabel.

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

MariaDB [data_kuliah]> describe mahasiswa;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| nim_mhs    | varchar(20) | NO   | PRI | NULL    |       |
| nama_mhs   | varchar(45) | NO   |     | NULL    |       |
| alamat_mhs | varchar(255)| NO   |     | NULL    |       |
| tgl_lahir  | date        | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
4 rows in set (0.09 sec)

MariaDB [data_kuliah]> describe dosen;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| nip_dsn    | varchar(20) | NO   | PRI | NULL    |       |
| nama_dsn   | varchar(45) | NO   |     | NULL    |       |
| alamat_dsn | varchar(255)| NO   |     | NULL    |       |
| no_hp      | varchar(20) | NO   |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
4 rows in set (0.01 sec)
```

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

MariaDB [data_kuliah]> describe matakuliah;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| kode_mk  | varchar(20) | NO   | PRI | NULL    |       |
| nama_mk  | varchar(45) | NO   |     | NULL    |       |
| semester | int(11)     | NO   |     | NULL    |       |
| jml_sks  | int(11)     | NO   |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
4 rows in set (0.07 sec)

MariaDB [data_kuliah]> describe ruang_kelas;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| kode_rk   | varchar(20) | NO   | PRI | NULL    |       |
| kapasitas | int(11)     | NO   |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
2 rows in set (0.05 sec)

MariaDB [data_kuliah]> describe mahasiswa_has_matakuliah;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| nim_mhsFK | varchar(20) | YES  |     | NULL    |       |
| kode_mkFK | varchar(20) | YES  |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
2 rows in set (0.45 sec)
```

```
MariaDB [data_kuliah]> describe dosen_has_matakuliah;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| nip_dsnFK | varchar(20) | YES  |     | NULL    |       |
| kode_mkFK | varchar(20) | YES  |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
2 rows in set (0.02 sec)

MariaDB [data_kuliah]>
```