

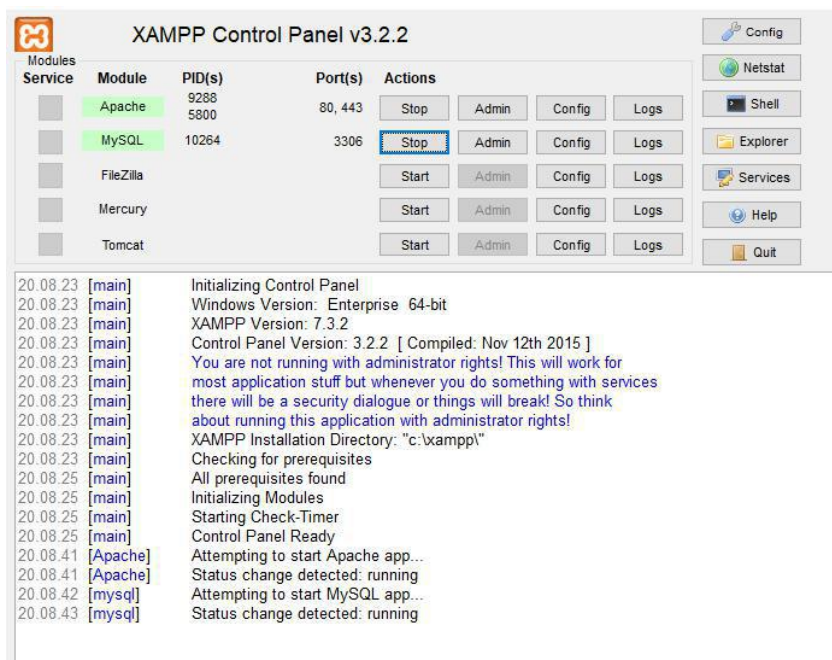
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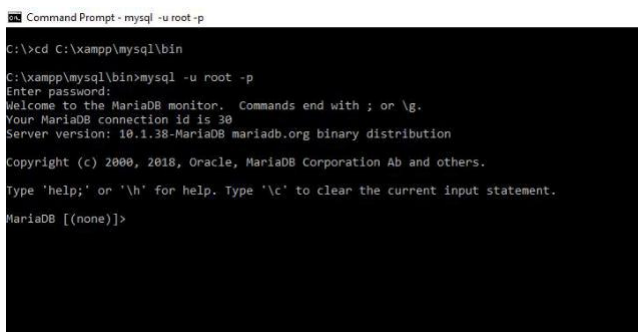
Kelas : D

MODUL 4

1. Jalankan XAMPP Control Panel.
2. Jalankan server Apache dan MySQL.



3. Buka Command Prompt dan login sebagai root ke MySQL



4. Buat database baru dengan perintah berikut ini.
create database perbankan;

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

C:\>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 30
Server version: 10.1.38-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 (0.00 sec)

MariaDB [(none)]> _
```

5. Hubungkan kedalam database yang telah dibuat dengan perintah berikut.
Sehingga akan muncul pemberitahuan “database changed”.
use perbankan;

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

C:\>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 30
Server version: 10.1.38-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 (0.00 sec)

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

6. Membuat tabel nasabah dengan scrip berikut.
- ```
CREATE TABLE nasabah(
 id_nasabah INTEGER PRIMARY KEY,
 nama_nasabah VARCHAR(45) NOT NULL,
 alamat_nasabah VARCHAR(255) NOT
 NULL
);
```

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

C:\>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 30
Server version: 10.1.38-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 (0.00 sec)

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 (0.72 sec)

MariaDB [perbankan]>
```

7. Membuat tabel cabang\_bank dengan scrip berikut :

```
CREATE TABLE cabang_bank(Kode_cabang
VARCHAR(20) PRIMARY KEY,
Nama_cabang VARCHAR(45) UNIQUE NOT NULL,
Alamat_cabang VARCHAR(255) NOT NULL
);
```

```
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 (0.26 sec)

MariaDB [perbankan]> _
```

8. Membuat tabel rekening dengan script berikut.

```
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
```

);

```
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 (0.24 sec)
```

9. Membuat tabel transaksi dengan script berikut ini.

CREATE TABLE transaksi (

No\_transaksi SERIAL PRIMARY KEY,

Id\_nasabahFK INTEGER REFERENCES rekening(no\_rekening) 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)

);

```
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 (0.17 sec)
```

10. Membuat tabel nasabah\_has\_rekening dengan script berikut

ini CREATE TABLE nasabah\_has\_rekening (

Id\_nasabahFK INTEGER REFERENCES nasabah(id\_nasabah)  
ON DELETE CASCADE ON UPDATE CASCADE,

PRIMARY KEY (id\_nasabahFK, no\_rekeningFK)

);

```
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 (0.16 sec)
```

11. Untuk mengecek hasil pembuatan database gunakan perintah show tables;

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

12. Kemudian untuk melihat struktur tiap tabel dapat dilakukan dengan perintah describe.

Misalnya untuk melihat struktur tabel nasabah dapat dilakukan dengan perintah describe nasabah.

```

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

MariaDB [perbankan]> exit
Bye

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 45
Server version: 10.1.38-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 universitas
-> ;
Query OK, 1 row affected (0.00 sec)

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

```



# Tugas

## 1) Membuat database universitas

```
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 45
Server version: 10.1.38-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 universitas
-> ;
Query OK, 1 row affected (0.00 sec)

MariaDB [(none)]> _
```

## 2) Membuat tabel mata\_kuliah

```
MariaDB [(none)]> use universitas;
Database changed
MariaDB [universitas]> CREATE TABLE mata_kuliah(
-> kode_mk VARCHAR(10) PRIMARY KEY,
-> nama_mk VARCHAR(50) NOT NULL,
-> sks INTEGER(2) NOT NULL
->);
Query OK, 0 rows affected (0.14 sec)

MariaDB [universitas]> _
```

## 3) Membuat tabel dosen

```
MariaDB [universitas]> CREATE TABLE dosen(
-> id_dosen INTEGER PRIMARY KEY,
-> nip VARCHAR(10) NOT NULL,
-> nama_dosen VARCHAR(50) NOT NULL,
-> alamat_dosen VARCHAR(250) NOT NULL
->);
Query OK, 0 rows affected (0.15 sec)

MariaDB [universitas]> _
```

4) Membuat tabel ruang\_kelas

```
MariaDB [universitas]> CREATE TABLE ruang_kelas(
 -> kode_ruang VARCHAR(10) NOT NULL,
 -> nama_ruang VARCHAR(30) NOT NULL,
 -> nama_gedung VARCHAR(30) NOT NULL
 ->);
Query OK, 0 rows affected (0.14 sec)

MariaDB [universitas]>
```

5) Membuat tabel mahasiswa

```
MariaDB [universitas]> CREATE TABLE mahasiswa (
 -> id_mahasiswa INTEGER PRIMARY KEY,
 -> nim VARCHAR(10) NOT NULL,
 -> nama_mahasiswa VARCHAR(50) NOT NULL,
 -> alamat_mahasiswa VARCHAR(250) NOT NULL,
 -> kode_ruangFK VARCHAR(10) REFERENCES ruang_kelas(kode_ruang)
 ->);
Query OK, 0 rows affected (0.16 sec)

MariaDB [universitas]>
```

6) Membuat tabel mahasiswa\_has\_mata\_kuliah

```
MariaDB [universitas]> CREATE TABLE mahasiswa_has_mata_kuliah(
 -> id_mahasiswaFK INTEGER REFERENCES mahasiswa(id_mahasiswa),
 -> kode_mkFK VARCHAR(10) REFERENCES mata_kuliah(kode_mk)
 ->);
Query OK, 0 rows affected (0.29 sec)

MariaDB [universitas]>
```

7) Membuat tabel dosen\_has\_mata\_kuliah

```
MariaDB [universitas]> CREATE TABLE dosen_has_mata_kuliah(
 -> id_dosen INTEGER REFERENCES dosen(id_dosen),
 -> kode_mkFK VARCHAR(10) REFERENCES mata_kuliah(kode_mk)
 ->);
Query OK, 0 rows affected (0.24 sec)

MariaDB [universitas]>
```



8) Membuat tabel mahasiswa\_has\_dosen

```
MariaDB [universitas]> CREATE TABLE mahasiswa_has_dosen(
 -> id_mahasiswaFK INTEGER REFERENCES mahasiswa(id_mahasiswa),
 -> id_dosenFK INTEGER REFERENCES dosen(id_dosen)
 ->);
Query OK, 0 rows affected (0.22 sec)

MariaDB [universitas]> _
```

9) Mengecek hasil pembuatan database

```
MariaDB [universitas]> show tables;
+-----+
| Tables_in_universitas |
+-----+
| dosen |
| dosen_has_mata_kuliah |
| mahasiswa |
| mahasiswa_has_dosen |
| mahasiswa_has_mata_kuliah |
| mata_kuliah |
| ruang_kelas |
+-----+
7 rows in set (0.07 sec)

MariaDB [universitas]>
```

10) Melihat struktur tabel dosen

```
MariaDB [universitas]> describe dosen;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
id_dosen	int(11)	NO	PRI	NULL	
nip	varchar(10)	NO		NULL	
nama_dosen	varchar(50)	NO		NULL	
alamat_dosen	varchar(250)	NO		NULL	
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.08 sec)

MariaDB [universitas]> _
```

