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## MODUL 4

### Kegiatan

Membuat tabel nasabah

```
C:\Windows\system32\cmd.exe - mysql -u root -p
Microsoft Windows [Version 6.3.9600]
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C:\Users\ASUS-DESKTOP>cd..
C:\Users>cd..
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 26
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;
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(45) NOT NULL);
Query OK, 0 rows affected (1.070 sec)

MariaDB [perbankan]> show tables;
+-----+
| Tables_in_perbankan |
+-----+
| nasabah             |
+-----+
1 row 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(45) | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.009 sec)
```

Membuat tabel cabang\_bank

```
C:\Windows\system32\cmd.exe - mysql -u root -p
MariaDB [perbankan]>
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 (0.219 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 (0.009 sec)
```

Membuat Tabel rekening

```
C:\Windows\system32\cmd.exe - mysql -u root -p
MariaDB [perbankan]>
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 (0.947 sec)

MariaDB [perbankan]> describe rekening
-> <>;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near '(<)',
at line 2
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 (0.009 sec)
```

Membuat tabel transaksi

```
C:\Windows\system32\cmd.exe - mysql -u root -p
MariaDB [perbankan]>
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 (0.918 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 (0.735 sec)
```

Membuat tabel nasabah\_has\_rekening

```
C:\Windows\system32\cmd.exe - mysql -u root -p
MariaDB [perbankan]>
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 (0.187 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 (0.741 sec)

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

## TUGAS

Implementasi hasil rancangan database yang menangani data kuliah pada tugas modul 2 ke dalam program mysql

Membuat database Universitas

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

MariaDB [(none)]> create database Universitas;
Query OK, 1 row affected (0.074 sec)

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

Membuat tabel Mahasiswa

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

MariaDB [Universitas]> CREATE TABLE Mahasiswa(<
-> id_mhs INTEGER PRIMARY KEY,
-> nama_mhs VARCHAR(45) NOT NULL,
-> alamat_mhs VARCHAR(255) NOT NULL);
Query OK, 0 rows affected (0.640 sec)
```

Membuat tabel Dosen,

MataKuliah,

Ruang Kelas

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

MariaDB [Universitas]> CREATE TABLE Dosen(<
-> id_dsn INTEGER PRIMARY KEY,
-> nama_dsn VARCHAR(45) NOT NULL);
Query OK, 0 rows affected (0.236 sec)

MariaDB [Universitas]> CREATE TABLE MataKuliah(<
-> kode_mk VARCHAR(10) PRIMARY KEY,
-> nama_mk VARCHAR(45) NOT NULL,
-> semester_mk INTEGER NOT NULL);
Query OK, 0 rows affected (1.043 sec)

MariaDB [Universitas]> CREATE TABLE RuangKelas(<
-> kode_ruang VARCHAR(10) PRIMARY KEY,
-> nama_ruang VARCHAR(45) NOT NULL);
Query OK, 0 rows affected (0.206 sec)
```

Membuat tabel Mahasiswa\_has\_Dosen,

Mahasiswa\_has\_MataKuliah,

Dosen\_has\_MataKuliah,

MataKuliah\_has\_RuangKelas

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

MariaDB [Universitas]> CREATE TABLE Mahasiswa_has_Dosen(
  -> id_mhsFK INTEGER REFERENCES Mahasiswa(id_mhs)
  -> ON DELETE CASCADE ON UPDATE CASCADE,
  -> id_dsnFK INTEGER REFERENCES Dosen(id_dsn)
  -> ON DELETE CASCADE ON UPDATE CASCADE,
  -> PRIMARY KEY(id_mhsFK, id_dsnFK));
Query OK, 0 rows affected (1.025 sec)

MariaDB [Universitas]> CREATE TABLE Mahasiswa_has_MataKuliah(
  -> id_mhsFK INTEGER REFERENCES Mahasiswa(id_mhs)
  -> ON DELETE CASCADE ON UPDATE CASCADE,
  -> kode_mkFK VARCHAR(10) REFERENCES MataKuliah(kode_mk)
  -> ON DELETE CASCADE ON UPDATE CASCADE,
  -> PRIMARY KEY(id_mhsFK, kode_mkFK));
Query OK, 0 rows affected (0.397 sec)

MariaDB [Universitas]> CREATE TABLE Dosen_has_MataKuliah(
  -> id_dsnFK INTEGER REFERENCES Dosen(id_dsn)
  -> ON DELETE CASCADE ON UPDATE CASCADE,
  -> kode_mkFK VARCHAR(10) REFERENCES MataKuliah(kode_mk)
  -> ON DELETE CASCADE ON UPDATE CASCADE,
  -> PRIMARY KEY(id_dsnFK, kode_mkFK));
Query OK, 0 rows affected (0.898 sec)

MariaDB [Universitas]> CREATE TABLE MataKuliah_has_RuangKelas(
  -> kode_mkFK VARCHAR(10) REFERENCES MataKuliah(kode_mk)
  -> ON DELETE CASCADE ON UPDATE CASCADE,
  -> kode_ruangFK VARCHAR(10) REFERENCES RuangKelas(kode_ruang)
  -> ON DELETE CASCADE ON UPDATE CASCADE,
  -> PRIMARY KEY(kode_mkFK, kode_ruangFK));
Query OK, 0 rows affected (0.332 sec)
```

Hasil :

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

MariaDB [Universitas]> show tables;
+-----+
| Tables_in_universitas |
+-----+
| dosen                  |
| dosen_has_matakuliah   |
| mahasiswa              |
| mahasiswa_has_dosen    |
| mahasiswa_has_matakuliah |
| matakuliah             |
| matakuliah_has_ruangkelas |
| ruangkelas             |
+-----+
8 rows in set (0.002 sec)

MariaDB [Universitas]> describe Dosen;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_dsn | int(11) | NO | PRI | NULL | |
| nama_dsn | varchar(45) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.178 sec)

MariaDB [Universitas]> describe Dosen_has_MataKuliah;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_dsnFK | int(11) | NO | PRI | NULL | |
| kode_mkFK | varchar(10) | NO | PRI | NULL | |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.050 sec)

MariaDB [Universitas]> describe Mahasiswa;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_mhs | int(11) | NO | PRI | NULL | |
| nama_mhs | varchar(45) | NO | | NULL | |
| alamat_mhs | varchar(255) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.010 sec)

MariaDB [Universitas]> describe Mahasiswa_has_Dosen;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_mhsFK | int(11) | NO | PRI | NULL | |
| id_dsnFK | int(11) | NO | PRI | NULL | |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.734 sec)

MariaDB [Universitas]> describe Mahasiswa_has_MataKuliah;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_mhsFK | int(11) | NO | PRI | NULL | |
| kode_mkFK | varchar(10) | NO | PRI | NULL | |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.730 sec)
```

C:\

Command Prompt - mysql -u root -p



MariaDB [Universitas]&gt; describe Matakuliah;

Field	Type	Null	Key	Default	Extra
kode_mk	varchar(10)	NO	PRI	NULL	
nama_mk	varchar(45)	NO		NULL	
semester_mk	int(11)	NO		NULL	

3 rows in set (0.008 sec)

MariaDB [Universitas]&gt; describe Matakuliah\_has\_RuangKelas;

Field	Type	Null	Key	Default	Extra
kode_mkFK	varchar(10)	NO	PRI	NULL	
kode_ruangFK	varchar(10)	NO	PRI	NULL	

2 rows in set (0.009 sec)

MariaDB [Universitas]&gt; describe RuangKelas;

Field	Type	Null	Key	Default	Extra
kode_ruang	varchar(10)	NO	PRI	NULL	
nama_ruang	varchar(45)	NO		NULL	

2 rows in set (0.009 sec)