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Modul 4 PRAK-SBD

Latihan

1. Masuk ke direktori c:\xampp\mysql\bin lalu masuk sebagai admin (mysql -u root -p)

```
Command Prompt - mysql -u root -p
Microsoft Windows [Version 10.0.18362.657]
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C:\Users\Comvy_22nd>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 3
Server version: 10.1.34-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 |
+-----+
| booking |
| datakost |
| gayo |
| information_schema |
| kuliner |
| laravel |
| latihan_crud |
| login |
| mylink |
| mysql |
| percobaan |
| performance_schema |
| phpmyadmin |
| sma 1 dayun |
| test |
+-----+
15 rows in set (0.00 sec)

MariaDB [(none)]> create database perbankan;
Query OK, 1 row affected (0.06 sec)

MariaDB [(none)]>
```

2. membuat database perbankan dan menghubungkannya

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

MariaDB [(none)]> create database perbankan;
Query OK, 1 row affected (0.06 sec)

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

MariaDB [perbankan]> show tables;
Empty set (0.06 sec)

MariaDB [perbankan]> create table nasabah(
  -> id_nasabah INTEGER PRIMARY KEY,
  -> nama_nasabah VARCHAR(45) NOT NULL,
  -> alamat_nasabah VARCHAR(225) NOT NULL
  -> );
Query OK, 0 rows affected (0.48 sec)

MariaDB [perbankan]> create table cabang_bank(
  -> kode_cabang VARCHAR(20) PRIMARY KEY,
  -> nama_cabang VARCHAR(45) UNIQUE NOT NULL,
  -> alamat_cabang VARCHAR(225) NOT NULL
  -> );
Query OK, 0 rows affected (0.65 sec)

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 (0.28 sec)

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 (0.28 sec)
```

3. membuat table nasabah, rekening, transaksi, cabang bank dan (karena m:n ada tambahan table nasabah_has_rekening)

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

MariaDB [(none)]> create database perbankan;
Query OK, 1 row affected (0.06 sec)

MariaDB [(none)]> use perbankan;
Database changed
MariaDB [perbankan]> show tables;
Empty set (0.00 sec)

MariaDB [perbankan]> create table nasabah(
  -> id_nasabah INTEGER PRIMARY KEY,
  -> nama_nasabah VARCHAR(45) NOT NULL,
  -> alamat_nasabah VARCHAR(225) NOT NULL
  -> );
Query OK, 0 rows affected (0.48 sec)

MariaDB [perbankan]> create table cabang_bank(
  -> kode_cabang VARCHAR(20) PRIMARY KEY,
  -> nama_cabang VARCHAR(45) UNIQUE NOT NULL,
  -> alamat_cabang VARCHAR(225) NOT NULL
  -> );
Query OK, 0 rows affected (0.65 sec)

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 (0.28 sec)

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 (0.28 sec)
```

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

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 (0.28 sec)

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 (0.30 sec)
```

4. menampilkan table pada database perbankan dan melihat struktur table nasabah

```
MariaDB [perbankan]> show tables;
+-----+
Tables_in_perbankan |
+-----+
cabang_bank
nasabah
nasabah_has_rekening
rekening
transaksi
+-----+
rows in set (0.00 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(225) | NO | | NULL | |
+-----+
rows in set (0.15 sec)
```

Tugas

1. Buka cmd lalu masuk ke direktori c:\xampp\mysql\bin masuk sebagai admin(mysql -u root -p) dan buat database universitas lalu menghubungkannya

```
Command Prompt - mysql -u root -p
Microsoft Windows [Version 10.0.18362.657]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Convy_22nd>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 5
Server version: 10.1.34-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 universitas;
Database changed
MariaDB [universitas]> create table mahasiswa(
  -> NIM integer primary key,
  -> nama varchar(45) not null,
  -> alamat varchar(225) not null
  -> );
Query OK, 0 rows affected (0.42 sec)

MariaDB [universitas]> create table dosen(
  -> NIP integer primary key,
  -> nama varchar(45) not null,
  -> alamat varchar(225) not null
  -> );
Query OK, 0 rows affected (0.31 sec)

MariaDB [universitas]> create table matkul(
  -> id_mk integer primary key,
  -> nama_mk varchar(25) not null
  -> );
Query OK, 0 rows affected (0.33 sec)

MariaDB [universitas]> create table ruang_kelas(
  -> id_ruangan integer(10) primary key,
  -> nama_ruangan varchar(25) not null
  -> );
```

2. Lalu buat table mahasiswa,dosen,matkul,ruang_kelas dan (tambahan- tambahan table m:n)

```
Command Prompt - mysql -u root -p
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(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Convy_22nd>cd c:\xampp\mysql\bin
C:\xampp\mysql\bin>mysql -u root -p
Enter password:
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Your MariaDB connection id is 5
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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 universitas;
Database changed
MariaDB [universitas]> create table mahasiswa(
  -> NIM integer primary key,
  -> nama varchar(45) not null,
  -> alamat varchar(225) not null
  -> );
Query OK, 0 rows affected (0.42 sec)

MariaDB [universitas]> create table dosen(
  -> NIP integer primary key,
  -> nama varchar(45) not null,
  -> alamat varchar(225) not null
  -> );
Query OK, 0 rows affected (0.31 sec)

MariaDB [universitas]> create table matkul(
  -> id_mk integer primary key,
  -> nama_mk varchar(25) not null
  -> );
Query OK, 0 rows affected (0.33 sec)

MariaDB [universitas]> create table ruang_kelas(
  -> id_ruangan integer(10) primary key,
  -> nama_ruangan varchar(25) not null
  -> );
```

```
Select Command Prompt - mysql -u root -p
MariaDB [university]> create table ruang_kelas(
  -> id_ruangan integer(10) primary key,
  -> nama_ruangan varchar(25) not null
  -> );
Query OK, 0 rows affected (0.35 sec)

MariaDB [university]> create table mahasiswa_has_dosen(
  -> NIMFK integer references mahasiswa(NIM)
  -> on delete cascade on update cascade,
  -> NIPFK integer references dosen(NIP)
  -> on delete cascade on update cascade,
  -> primary key(NIMFK,NIPFK)
  -> );
Query OK, 0 rows affected (0.29 sec)

MariaDB [university]> create table mahasiswa_has_matkul(
  -> NIMFK integer references mahasiswa(NIM)
  -> on delete cascade on update cascade,
  -> id_mkFK integer references matkul(id_mkFK)
  -> on delete cascade on update cascade,
  -> ,
  -> ,
  -> );
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 6
MariaDB [university]> create table mahasiswa_has_matkul(
  -> NIMFK integer references mahasiswa(NIM)
  -> on delete cascade on update cascade,
  -> id_mkFK integer references matkul(id_mkFK)
  -> on delete cascade on update cascade,
  -> primary key(NIMFK,id_mkFK)
  -> );
Query OK, 0 rows affected (0.31 sec)

MariaDB [university]> create table dosen_has_matkul(
  -> NIPFK integer references dosen(NIP)
  -> on delete cascade on update cascade,
  -> id_mkFK integer references matkul(id_mkFK)
  -> on delete cascade on update cascade,
  -> primary key(NIPFK,id_mkFK)
  -> );
Query OK, 0 rows affected (0.31 sec)

MariaDB [university]> drop table mahasiswa_has_dosen;
```

3. Setelah itu tampilkan table database university

```
Select Command Prompt - mysql -u root -p
Query OK, 0 rows affected (0.31 sec)

MariaDB [university]> drop table mahasiswa_has_dosen;
Query OK, 0 rows affected (0.60 sec)

MariaDB [university]> show tables;
+-----+
| Tables_in_university |
+-----+
| dosen                 |
| dosen_has_matkul      |
| mahasiswa             |
| mahasiswa_has_matkul  |
| matkul                |
| ruang_kelas           |
+-----+
6 rows in set (0.00 sec)
```

4. Tampilkan struktur tiap table university

```
MariaDB [university]> describe dosen;
+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+
| NIP   | int(11)   | NO   | PRI | NULL    |       |
| nama  | varchar(45) | NO   |     | NULL    |       |
| alamat | varchar(225) | NO   |     | NULL    |       |
+-----+
3 rows in set (0.14 sec)

MariaDB [university]> describe dosen_has_matkul;
+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+
| NIPFK | int(11)   | NO   | PRI | NULL    |       |
| id_mkFK | int(11) | NO   | PRI | NULL    |       |
+-----+
2 rows in set (0.04 sec)

MariaDB [university]> describe mahasiswa;
+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+
| NIM   | int(11)   | NO   | PRI | NULL    |       |
| nama  | varchar(45) | NO   |     | NULL    |       |
| alamat | varchar(225) | NO   |     | NULL    |       |
+-----+
```

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

NIMFK | int(11) | NO | PRI | NULL |
id_mkFK | int(11) | NO | PRI | NULL |
2 rows in set (0.04 sec)

MariaDB [university]> describe mahasiswa;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| NIM | int(11) | NO | PRI | NULL |
| nama | varchar(45) | NO | | NULL |
| alamat | varchar(225) | NO | | NULL |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.06 sec)

MariaDB [university]> describe mahasiswa_has_matkul;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| NIMFK | int(11) | NO | PRI | NULL |
| id_mkFK | int(11) | NO | PRI | NULL |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.03 sec)

MariaDB [university]> describe matkul;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_mk | int(11) | NO | PRI | NULL |
| nama_mk | varchar(25) | NO | | NULL |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.09 sec)

MariaDB [university]> describe ruang_kelas;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_ruangan | int(10) | NO | PRI | NULL |
| nama_ruangan | varchar(25) | NO | | NULL |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.02 sec)

MariaDB [university]> _
```