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## MODUL 4

### Data Definition Language(DDL)

#### Latihan

```
Command Prompt - mysql -u root -p
Microsoft Windows [Version 10.0.18362.778]
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C:\Users\msi gaming>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 2
Server version: 10.1.37-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 (0.03 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 (0.23 sec)

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 (0.16 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 (0.20 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 (0.14 sec)
```

Command Prompt - mysql -u root -p

```
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 (0.20 sec)
```

```
MariaDB [perbankan]> show tables;
```

```
+-----+  
| Tables_in_perbankan |  
+-----+  
| cabang_bank         |  
| nasabah             |  
| nasabah_has_rekening |  
| rekening            |  
| transaksi           |  
+-----+
```

5 rows in set (0.05 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 (0.04 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 (0.01 sec)

```
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)

Command Prompt - mysql -u root -p

4 rows in set (0.01 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 (0.01 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 (0.07 sec)

MariaDB [perbankan]>

## Tugas

```
C:\> Command Prompt - mysql -u root -p
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Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 3
Server version: 10.1.37-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 kuliah;
Query OK, 1 row affected (0.04 sec)

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

```
MariaDB [(none)]> create table mahasiswa(
-> NIM INTEGER PRIMARY KEY,
-> alamat_mahasiswa VARCHAR(255) NOT NULL,
-> nama_mahasiswa VARCHAR(45) NOT NULL);
Query OK, 0 rows affected (0.21 sec)
```

Command Prompt - mysql -u root -p

```
MariaDB [kuliah]> create table dosen(  
  -> id_dosen INTEGER PRIMARY KEY,  
  -> nama_dosen VARCHAR(45) NOT NULL,  
  -> alamat_dosen VARCHAR(255) NOT NULL,  
  -> jabatan_dosen VARCHAR(45) NOT NULL,  
  -> notlp_dosen INTEGER DEFAULT 0 NOT NULL);  
Query OK, 0 rows affected (0.16 sec)
```

```
MariaDB [kuliah]> create table matakuliah(  
  -> kode_mk INTEGER PRIMARY KEY,  
  -> nama_mk VARCHAR(45) NOT NULL,  
  -> semester_mk INTEGER NOT NULL);  
Query OK, 0 rows affected (0.20 sec)
```

```
MariaDB [kuliah]> create table ruangkelas(  
  -> kode_rk VARCHAR(20) PRIMARY KEY,  
  -> nama_rk VARCHAR(45) NOT NULL,  
  -> letak_rk VARCHAR(20) NOT NULL);  
Query OK, 0 rows affected (0.31 sec)
```

```
MariaDB [kuliah]> create table mahasiswa_has_dosen(  
  -> NIMFK INTEGER REFERENCES mahasiswa(NIM)  
  -> ON DELETE CASCADE ON UPDATE CASCADE,  
  -> id_dosenFK INTEGER REFERENCES dosen(id_dosen)  
  -> ON DELETE CASCADE ON UPDATE CASCADE,  
  -> PRIMARY KEY(NIMFK, id_dosenFK));  
Query OK, 0 rows affected (0.19 sec)
```

```
MariaDB [kuliah]> create table mahasiswa_has_matakuliah(  
  -> NIMFK INTEGER REFERENCES mahasiswa(NIM)  
  -> ON DELETE CASCADE ON UPDATE CASCADE,  
  -> kode_mkFK INTEGER REFERENCES matakuliah(kode_mk)  
  -> ON DELETE CASCADE ON UPDATE CASCADE,  
  -> PRIMARY KEY(NIMFK, kode_mkFK));  
Query OK, 0 rows affected (0.34 sec)
```

```
MariaDB [kuliah]> create table dosen_has_matakuliah(  
  -> id_dosenFK INTEGER REFERENCES dosen(id_dosen)  
  -> ON DELETE CASCADE ON UPDATE CASCADE,  
  -> kode_mkFK INTEGER REFERENCES matakuliah(kode_mk)  
  -> ON DELETE CASCADE ON UPDATE CASCADE,  
  -> PRIMARY KEY(id_dosenFK, kode_mkFK));  
Query OK, 0 rows affected (0.21 sec)
```

Command Prompt - mysql -u root -p

Query OK, 0 rows affected (0.21 sec)

MariaDB [kuliah]> show tables;

| Tables_in_kuliah         |
|--------------------------|
| dosen                    |
| dosen_has_matakuliah     |
| mahasiswa                |
| mahasiswa_has_dosen      |
| mahasiswa_has_matakuliah |
| matakuliah               |
| ruangkelas               |

7 rows in set (0.00 sec)

MariaDB [kuliah]> 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    |       |
| jabatan_dosen | varchar(45)  | NO   |     | NULL    |       |
| notlp_dosen   | int(11)      | NO   |     | 0       |       |

5 rows in set (0.01 sec)

MariaDB [kuliah]> describe dosen\_has\_matakuliah;

| Field      | Type    | Null | Key | Default | Extra |
|------------|---------|------|-----|---------|-------|
| id_dosenFK | int(11) | NO   | PRI | NULL    |       |
| kode_mkFK  | int(11) | NO   | PRI | NULL    |       |

2 rows in set (0.01 sec)

MariaDB [kuliah]> describe mahasiswa;

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

3 rows in set (0.01 sec)

Command Prompt - mysql -u root -p

3 rows in set (0.01 sec)

MariaDB [kuliah]> describe mahasiswa\_has\_dosen;

| Field      | Type    | Null | Key | Default | Extra |
|------------|---------|------|-----|---------|-------|
| NIMFK      | int(11) | NO   | PRI | NULL    |       |
| id_dosenFK | int(11) | NO   | PRI | NULL    |       |

2 rows in set (0.01 sec)

MariaDB [kuliah]> describe mahasiswa\_has\_matakuliah;

| Field     | Type    | Null | Key | Default | Extra |
|-----------|---------|------|-----|---------|-------|
| NIMFK     | int(11) | NO   | PRI | NULL    |       |
| kode_mkFK | int(11) | NO   | PRI | NULL    |       |

2 rows in set (0.01 sec)

MariaDB [kuliah]> describe matakuliah;

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

3 rows in set (0.01 sec)

MariaDB [kuliah]> describe ruangkelas;

| Field    | Type        | Null | Key | Default | Extra |
|----------|-------------|------|-----|---------|-------|
| kode_rk  | varchar(20) | NO   | PRI | NULL    |       |
| nama_rk  | varchar(45) | NO   |     | NULL    |       |
| letak_rk | varchar(20) | NO   |     | NULL    |       |

3 rows in set (0.07 sec)

MariaDB [kuliah]> \_