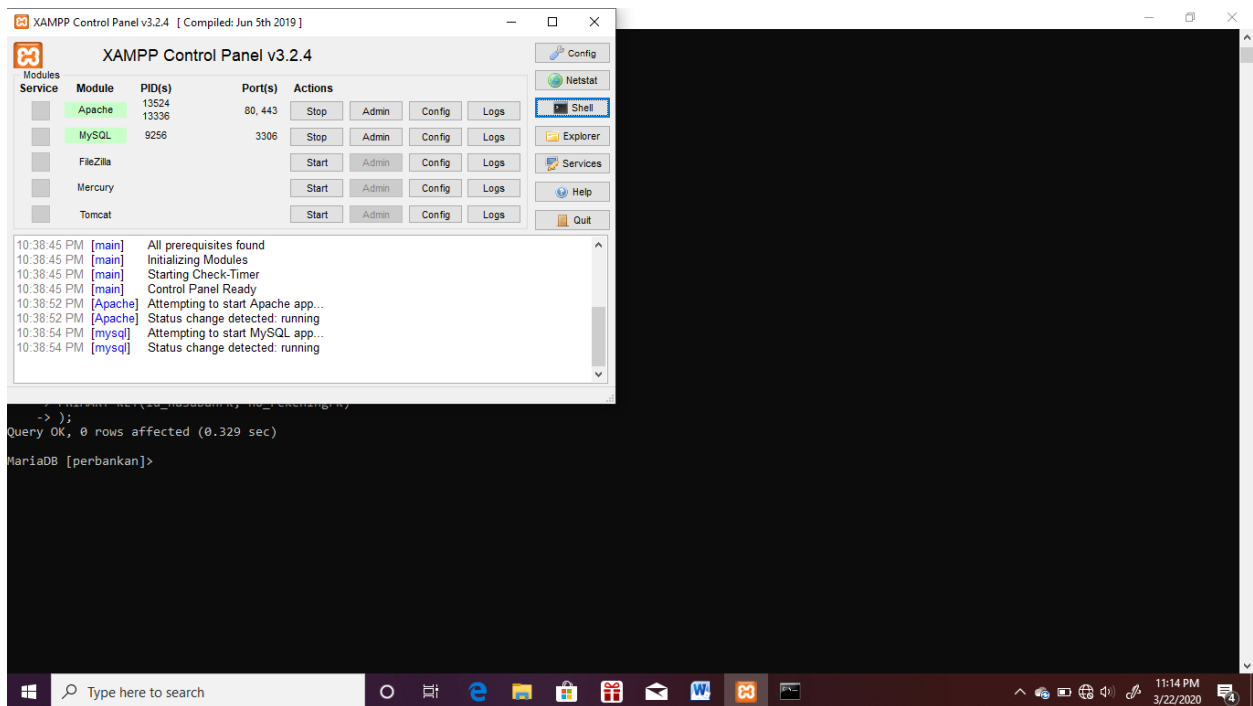


MODUL 4

NIM : L200180132

Nama : Rohana Murniati Furshotun

Mata Kuliah : E / Praktikum Sistem Basis Data



```
XAMPP for Windows - mysql -u root -p

Setting environment for using XAMPP for Windows.
ASUS@LAPTOP-6K5IO2L1 e:\xampp
# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 9
Server version: 10.4.11-MariaDB mariadb.org binary distribution

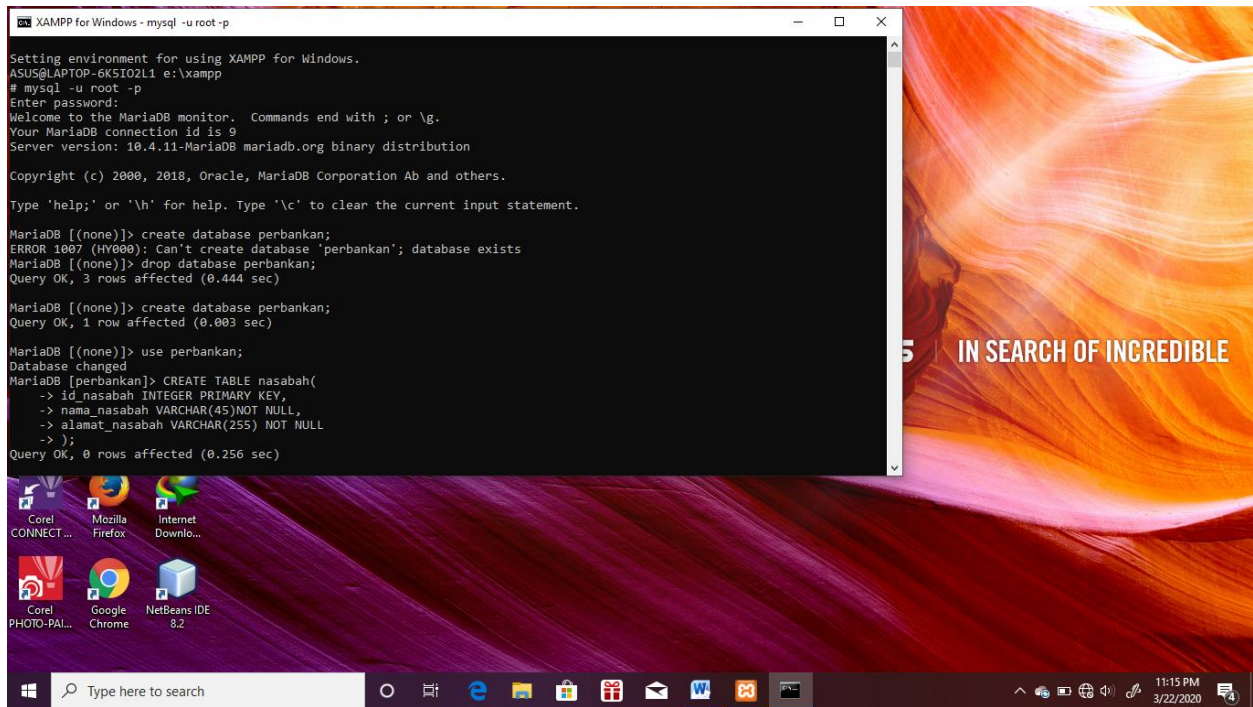
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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)]> drop database perbankan;
Query OK, 3 rows affected (0.444 sec)

MariaDB [(none)]> create database perbankan;
Query OK, 1 row affected (0.003 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 (0.256 sec)
```



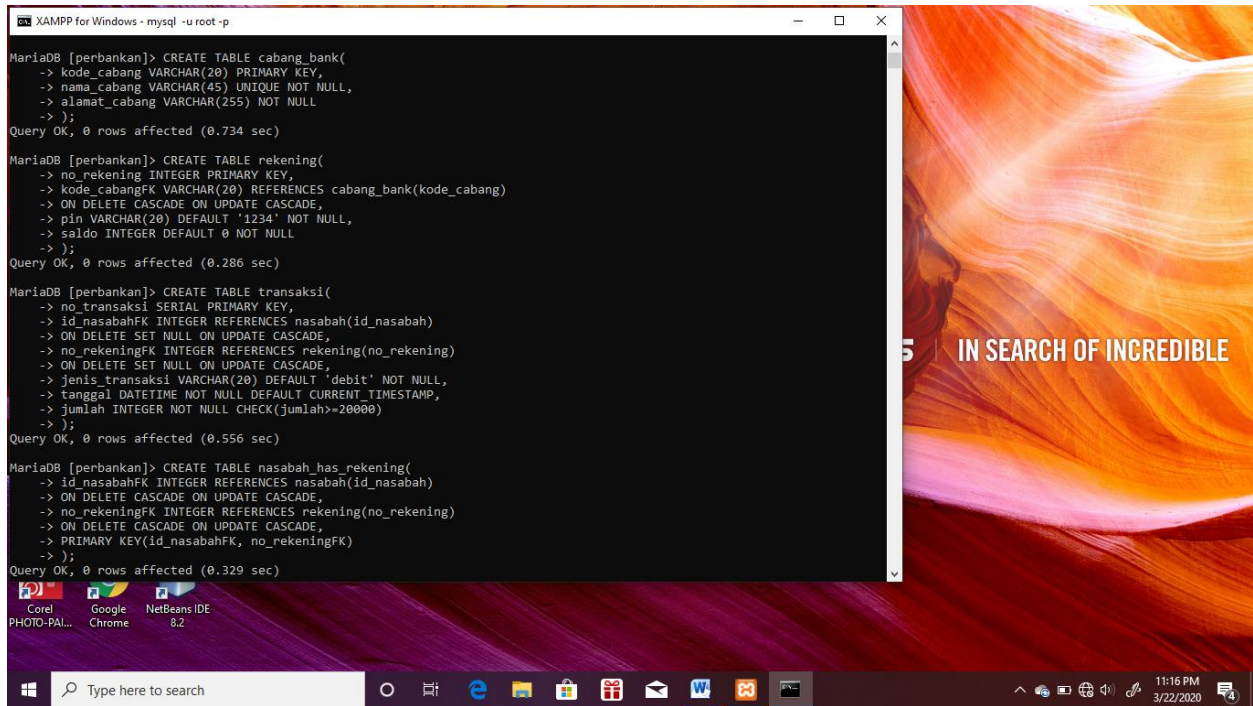
```
XAMPP for Windows - mysql -u root -p

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 (0.734 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 (0.286 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 (0.556 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 (0.329 sec)
```




Show table

```
XAMPP for Windows - mysql -u root -p

MariaDB [perbankan]> show tables;
+-----+
| Tables_in_perbankan |
+-----+
| cabang_bank          |
| nasabah              |
| nasabah_has_rekening |
| rekening             |
| transaksi             |
+-----+
5 rows 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(255) | NO   |     | NULL    |       |
+-----+
3 rows in set (0.051 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 (0.030 sec)
```




```
XAMPP for Windows - mysql -u root -p

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 (0.034 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 (0.143 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 (0.033 sec)

MariaDB [perbankan]>
```



Tugas

The screenshot shows the XAMPP Control Panel v3.2.4 on the left and a MySQL command prompt on the right. The Control Panel shows the status of services: Apache (running), MySQL (running), FileZilla (stopped), Mercury (stopped), and Tomcat (stopped). The MySQL command prompt shows the following commands and output:

```
Setting environment for using XAMPP for Windows.
ASUS@LAPTOP-6K5IO2L1 e:\xampp
# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 10
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 kuliah;
Query OK, 1 row affected (0.132 sec)

MariaDB [(none)]> create table mahasiswa(
-> nim_mhs INTEGER PRIMARY KEY,
-> nama_mhs VARCHAR(45) NOT NULL,
-> alamat_mhs VARCHAR(255) NOT NULL,
-> semester_mhs INTEGER NOT NULL,
-> gender_mhs VARCHAR(25) NOT NULL
-> );
ERROR 1046 (3D000): No database selected
MariaDB [(none)]> use kuliah
Database changed
MariaDB [kuliah]> create table mahasiswa(
-> nim_mhs INTEGER PRIMARY KEY,
-> nama_mhs VARCHAR(45) NOT NULL,
-> alamat_mhs VARCHAR(255) NOT NULL,
-> semester_mhs INTEGER NOT NULL,
-> gender_mhs VARCHAR(25) NOT NULL
-> );
Query OK, 0 rows affected (0.376 sec)

MariaDB [kuliah]> create table dosen(
-> nip_dosen INTEGER PRIMARY KEY,
-> nama_dosen VARCHAR(45) NOT NULL,
-> matkul_dosen VARCHAR(45) NOT NULL,
-> alamat_dosen VARCHAR(255) NOT NULL
-> );
Query OK, 0 rows affected (0.424 sec)
```

The screenshot shows the XAMPP Control Panel v3.2.4 on the left and a MySQL command prompt on the right. The Control Panel shows the status of services: Apache (running), MySQL (running), FileZilla (stopped), Mercury (stopped), and Tomcat (stopped). The MySQL command prompt shows the following commands and output:

```
MariaDB [kuliah]> create table mata_kuliah(
-> kode_mk INTEGER PRIMARY KEY,
-> nama_mk VARCHAR(255) NOT NULL,
-> jenis_mk VARCHAR(25) NOT NULL,
-> sks_mk INTEGER NOT NULL
-> );
Query OK, 0 rows affected (0.230 sec)

MariaDB [kuliah]> create table ruang_kuliah(
-> kode_ruang INTEGER PRIMARY KEY,
-> kapasitas_ruang INTEGER NOT NULL,
-> waktu_ruang VARCHAR(45) NOT NULL
-> );
Query OK, 0 rows affected (0.339 sec)

MariaDB [kuliah]> ALTER TABLE mata_kuliah ADD kode_ruang INTEGER REFERECES ruang_kuliah(kode_ruang)
-> ON DELETE SET NULL ON UPDATE CASCADE;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server versi
on for the right syntax to use near 'ruang_kuliah(kode_ruang)
ON DELETE SET NULL ON UPDATE CASCADE' at line 1
MariaDB [kuliah]> ALTER TABLE mata_kuliah ADD kode_ruang INTEGER REFERECES ruang_kuliah(kode_ruang)
-> ON DELETE SET NULL ON UPDATE CASCADE;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server versi
on for the right syntax to use near 'ruang_kuliah(kode_ruang)
ON DELETE SET NULL ON UPDATE CASCADE' at line 1
MariaDB [kuliah]> ALTER TABLE mata_kuliah ADD kode_ruang INTEGER NOT NULL;
Query OK, 0 rows affected (0.251 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [kuliah]> create table mahasiswa_has_mata_kuliah(
-> nim_mhs INTEGER REFERENCES mahasiswa(nim_mhs)
-> ON DELETE CASCADE ON UPDATE CASCADE,
-> kode_mk INTEGER REFERENCES mata_kuliah(kode_mk)
-> ON DELETE CASCADE ON UPDATE CASCADE,
-> PRIMARY KEY(nim_mhs,kode_mk)
-> );
Query OK, 0 rows affected (0.468 sec)

MariaDB [kuliah]> show tables;
+-----+
| Tables_in_kuliah |
+-----+
```

XAMPP Control Panel v3.2.4

Service	Module	PID(s)	Port(s)	Actions
<input type="checkbox"/>	Apache	4700 11360	80, 443	Stop
<input type="checkbox"/>	MySQL	12716	3306	Stop
<input type="checkbox"/>	FileZilla			Start
<input type="checkbox"/>	Mercury			Start
<input type="checkbox"/>	Tomcat			Start

5:59:14 AM [main]

All prerequisites found

5:59:14 AM [main]

Initializing Modules

5:59:15 AM [main]

Starting Check-Timer

5:59:15 AM [main]

Control Panel Ready

5:59:48 AM [Apache]

Attempting to start Apache app...

5:59:48 AM [Apache]

Status change detected: running

5:59:49 AM [mysql]

Attempting to start MySQL app...

5:59:51 AM [mysql]

Status change detected: running

XAMPP for Windows - mysql -u root -p

MariaDB [kuliah]> show tables;

Tables_in_kuliah

dosen
mahasiswa
mahasiswa_has_mata_kuliah
mata_kuliah
ruang_kuliah

5 rows in set (0.513 sec)

MariaDB [kuliah]> describe dosen;

Field	Type	Null	Key	Default	Extra
nip_dosen	int(11)	NO	PRI	NULL	
nama_dosen	varchar(45)	NO		NULL	
matkul_dosen	varchar(45)	NO		NULL	
alamat_dosen	varchar(255)	NO		NULL	

4 rows in set (0.181 sec)

MariaDB [kuliah]> describe mahasiswa;

Field	Type	Null	Key	Default	Extra
nim_mhs	int(11)	NO	PRI	NULL	
nama_mhs	varchar(45)	NO		NULL	
alamat_mhs	varchar(255)	NO		NULL	
semester_mhs	int(11)	NO		NULL	
gender_mhs	varchar(25)	NO		NULL	

5 rows in set (0.191 sec)

MariaDB [kuliah]> describe mahasiswa_has_mata_kuliah;

Field	Type	Null	Key	Default	Extra
nim_mhs	int(11)	NO	PRI	NULL	
kode_mk	int(11)	NO	PRI	NULL	

2 rows in set (0.029 sec)

XAMPP Control Panel v3.2.4

Service	Module	PID(s)	Port(s)	Actions
<input type="checkbox"/>	Apache	4700 11360	80, 443	Stop
<input type="checkbox"/>	MySQL	12716	3306	Stop
<input type="checkbox"/>	FileZilla			Start
<input type="checkbox"/>	Mercury			Start
<input type="checkbox"/>	Tomcat			Start

5:59:14 AM [main]

All prerequisites found

5:59:14 AM [main]

Initializing Modules

5:59:15 AM [main]

Starting Check-Timer

5:59:15 AM [main]

Control Panel Ready

5:59:48 AM [Apache]

Attempting to start Apache app...

5:59:48 AM [Apache]

Status change detected: running

5:59:49 AM [mysql]

Attempting to start MySQL app...

5:59:51 AM [mysql]

Status change detected: running

XAMPP for Windows - mysql -u root -p

MariaDB [kuliah]> describe mata_kuliah;

Field	Type	Null	Key	Default	Extra
kode_mk	int(11)	NO	PRI	NULL	
nama_mk	varchar(255)	NO		NULL	
jenis_mk	varchar(25)	NO		NULL	
sks_mk	int(11)	NO		NULL	
kode_ruang	int(11)	NO		NULL	

5 rows in set (0.036 sec)

MariaDB [kuliah]> describe ruang_kuliah;

Field	Type	Null	Key	Default	Extra
kode_ruang	int(11)	NO	PRI	NULL	
kapasitas_ruang	int(11)	NO		NULL	
waktu_ruang	varchar(45)	NO		NULL	

3 rows in set (0.029 sec)

MariaDB [kuliah]> .