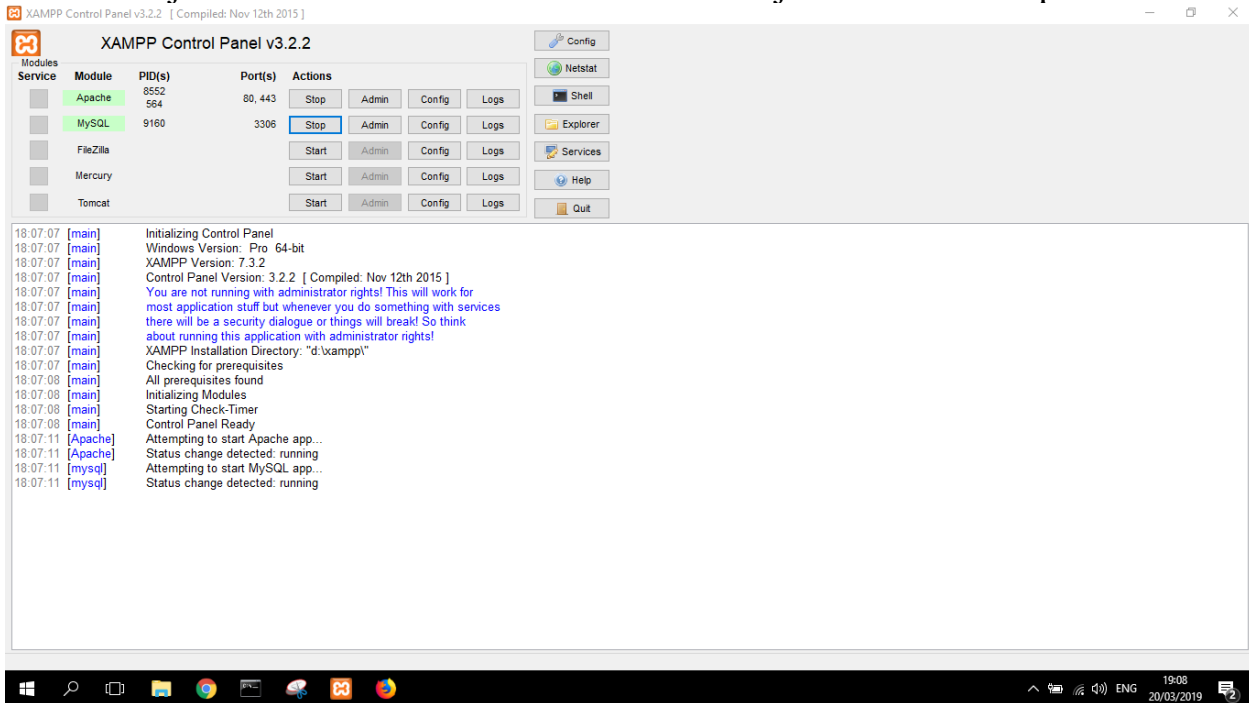


NAMA : PUJI NUGROHO  
NIM : L200170123  
KELAS : E

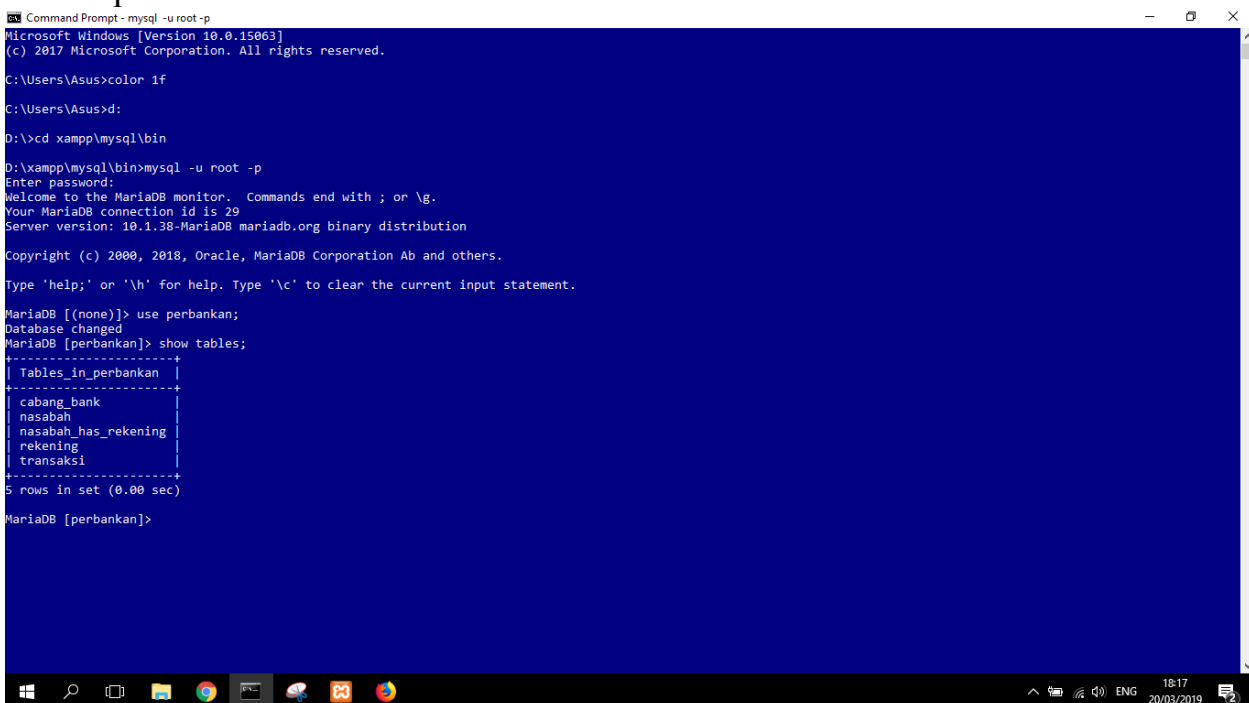
## Modul 5

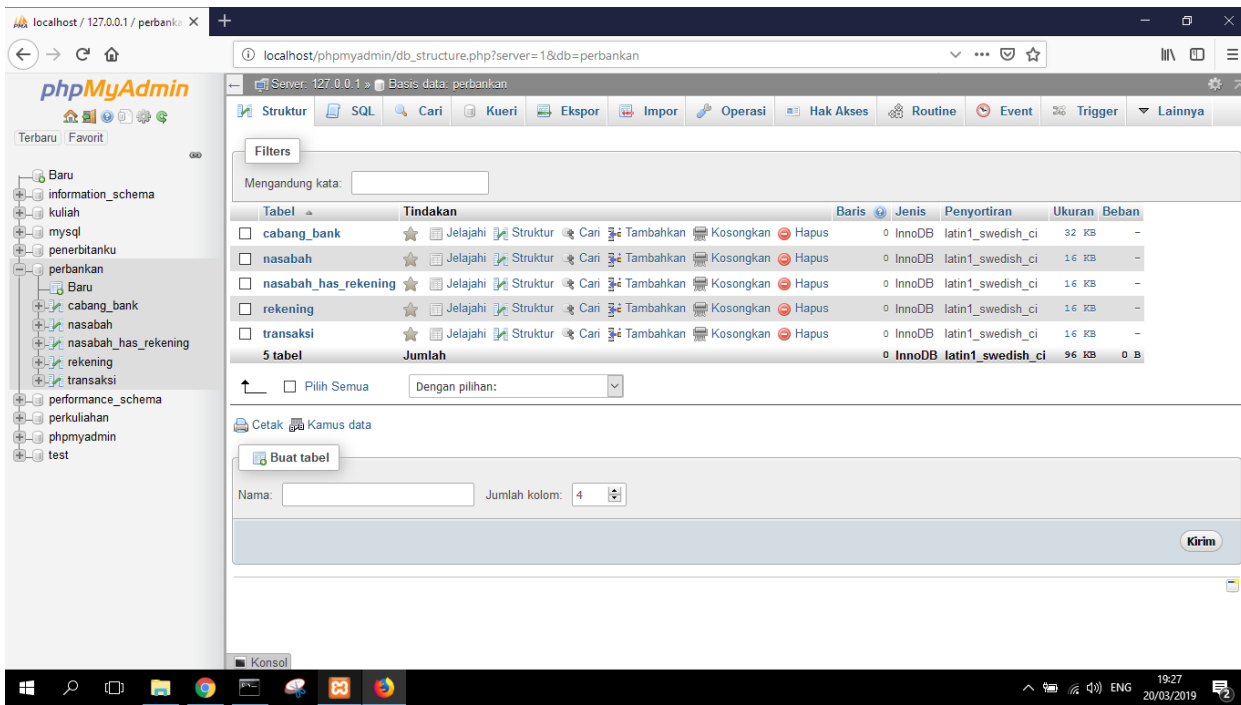
### Data Manipulation Language (DML)

#### 1. Menjalankan XAMPP Control Panel dan menjalankan server Apache serta MySQL.



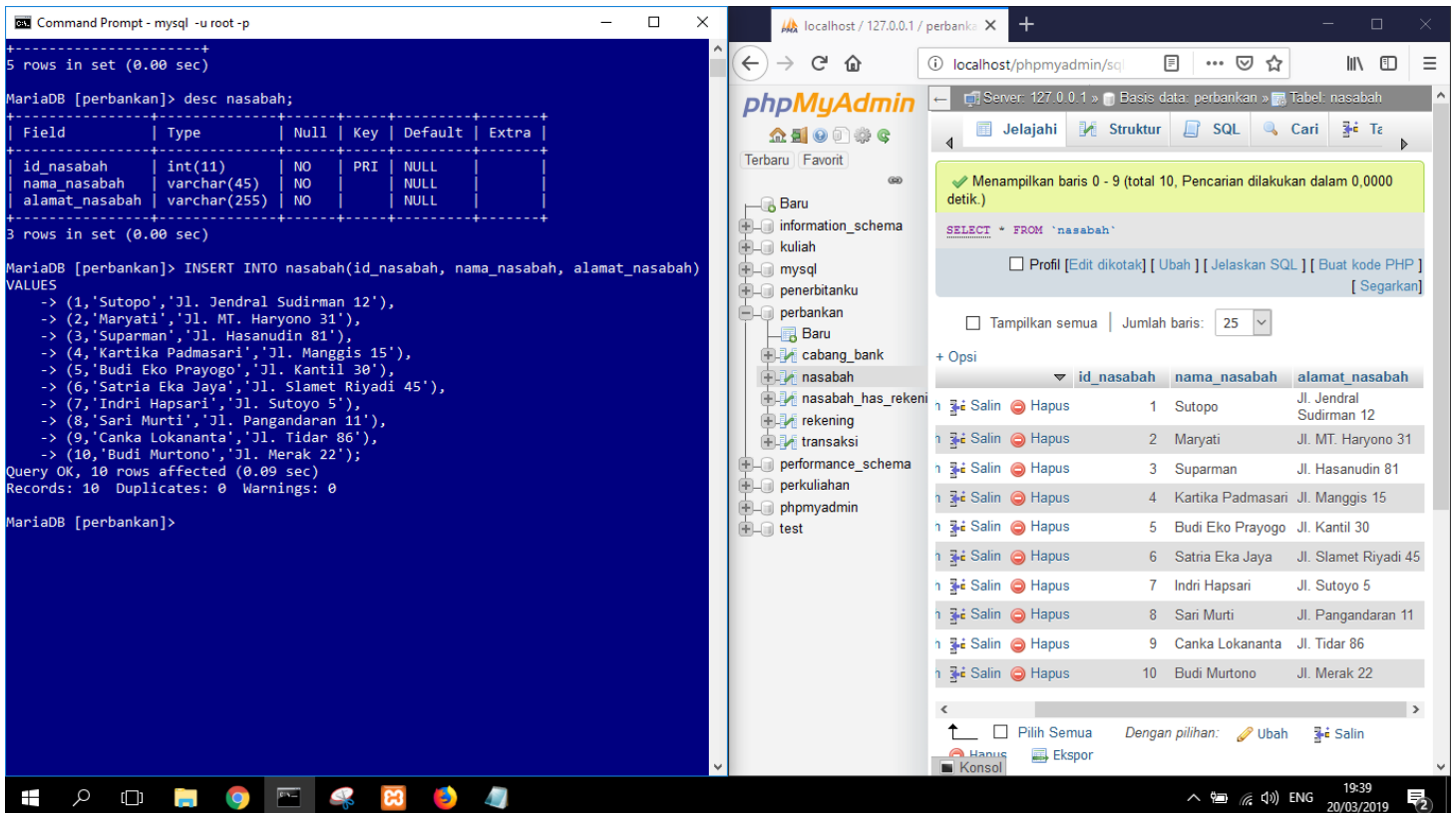
#### 2. Membuka CMD dan login sebagai root ke MySQL kemudian memilih database 'perbankan'.





Gambar diatas menunjukkan table-tabel yang ada pada database 'perbankan'.

### 3. Memasukkan data-data kedalam table 'nasabah'.



#### 4. Memasukkan data-data kedalam table 'cabang bank'.

The screenshot shows two windows. On the left, a MySQL Command Prompt window displays the following commands and results:

```
MariaDB [perbankan]> desc 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]> INSERT INTO cabang_bank(kode_cabang, nama_cabang, alamat_cabang) VALUES
```

- > ('BRUS', 'Bank Rut Unit Surakarta', 'Jl. Slamet Riyadi 18'),
- > ('BRUM', 'Bank Rut Unit Magelang', 'Jl. P. Tende 63'),
- > ('BRUB', 'Bank Rut Unit Boyolali', 'Jl. Ahmad Yani 45'),
- > ('BRUK', 'Bank Rut Unit Klaten', 'Jl. Suparman 23'),
- > ('BRUY', 'Bank Rut Unit Yogyakarta', 'Jl. Anggrek 21'),
- > ('BRUW', 'Bank Rut Unit Wonogiri', 'Jl. Untung Suropati 12');

Query OK, 6 rows affected (0.07 sec)  
Records: 6 Duplicates: 0 Warnings: 0

MariaDB [perbankan]>

On the right, the phpMyAdmin interface shows the 'cabang\_bank' table structure and a list of data entries:

kode_cabang	nama_cabang	alamat_cabang
BRUB	Bank Rut Unit Boyolali	Jl. Ahmad Yani 45
BRUK	Bank Rut Unit Klaten	Jl. Suparman 23
BRUM	Bank Rut Unit Magelang	Jl. P. Tende 63
BRUS	Bank Rut Unit Surakarta	Jl. Slamet Riyadi 18
BRUW	Bank Rut Unit Wonogiri	Jl. Untung Suropati 12
BRUY	Bank Rut Unit Yogyakarta	Jl. Anggrek 21

#### 5. Memasukkan data-data kedalam table 'rekening'.

The screenshot shows two windows. On the left, a MySQL Command Prompt window displays the following commands and results:

```
MariaDB [perbankan]> INSERT INTO cabang_bank(kode_cabang, nama_cabang, alamat_cabang) VALUES
```

- > ('BRUS', 'Bank Rut Unit Surakarta', 'Jl. Slamet Riyadi 18'),
- > ('BRUM', 'Bank Rut Unit Magelang', 'Jl. P. Tende 63'),
- > ('BRUB', 'Bank Rut Unit Boyolali', 'Jl. Ahmad Yani 45'),
- > ('BRUK', 'Bank Rut Unit Klaten', 'Jl. Suparman 23'),
- > ('BRUY', 'Bank Rut Unit Yogyakarta', 'Jl. Anggrek 21'),
- > ('BRUW', 'Bank Rut Unit Wonogiri', 'Jl. Untung Suropati 12');

Query OK, 6 rows affected (0.07 sec)  
Records: 6 Duplicates: 0 Warnings: 0

```
MariaDB [perbankan]> desc 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 (0.05 sec)

```
MariaDB [perbankan]> INSERT INTO rekening(no_rekening, kode_cabangFK, pin, saldo) VALUES
```

- > (101, 'BRUS', '1111', 500000),
- > (102, 'BRUS', '2222', 350000),
- > (103, 'BRUS', '3333', 750000),
- > (104, 'BRUM', '4444', 900000),
- > (105, 'BRUM', '5555', 2000000),
- > (106, 'BRUS', '6666', 3000000),
- > (107, 'BRUS', '7777', 1000000),
- > (108, 'BRUB', '0000', 5000000),
- > (109, 'BRUB', '9999', 0),
- > (110, 'BRUY', '1234', 550000),
- > (111, 'BRUK', '4321', 150000),
- > (112, 'BRUK', '0123', 300000),
- > (113, 'BRUY', '8888', 255000);

Query OK, 13 rows affected (0.08 sec)  
Records: 13 Duplicates: 0 Warnings: 0

MariaDB [perbankan]>

On the right, the phpMyAdmin interface shows the 'rekening' table structure and a list of data entries:

no_rekening	kode_cabangFK	pin	saldo
101	BRUS	1111	500000
102	BRUS	2222	350000
103	BRUS	3333	750000
104	BRUM	4444	900000
105	BRUM	5555	2000000
106	BRUS	6666	3000000
107	BRUS	7777	1000000
108	BRUB	0000	5000000
109	BRUB	9999	0
110	BRUY	1234	550000
111	BRUK	4321	150000
112	BRUK	0123	300000
113	BRUY	8888	255000

## 6. Memasukkan data-data kedalam table 'nasabah has rekening'.

```

C:\xampp>mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 176
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)]> use perbankan;
Database changed
MariaDB [perbankan]>
MariaDB [perbankan]> INSERT INTO nasabah_has_rekening(id_nasabahFK, no_rekeningFK)
VALUES
  -> (1,104),
  -> (2,103),
  -> (3,105),
  -> (3,106),
  -> (4,101),
  -> (4,107),
  -> (5,102),
  -> (5,107),
  -> (6,109),
  -> (7,109),
  -> (8,111),
  -> (9,110),
  -> (10,113),
  -> (8,112),
  -> (10,108);
Query OK, 15 rows affected (0.08 sec)
Records: 15  Duplicates: 0  Warnings: 0

MariaDB [perbankan]>
        
```

The screenshot shows the phpMyAdmin interface for the 'perbankan' database. The 'nasabah\_has\_rekening' table is selected, displaying 15 rows of data. The columns are 'id\_nasabahFK' and 'no\_rekeningFK'. The data is as follows:

id_nasabahFK	no_rekeningFK
1	104
2	103
3	105
3	106
4	101
4	107
5	102
5	107
6	109
7	109
8	111
9	110
10	113
8	112
10	108

## 7. Memasukkan data-data kedalam table 'transaksi'.

```

MariaDB [perbankan]> INSERT INTO transaksi(no_transaksi, id_nasabahFK, no_rekeningFK, jenis_transaksi, tanggal, jumlah) VALUES
  -> (1,105,3,'debit',2009-11-10,50000),
  -> (2,103,2,'debit',2009-11-10,40000),
  -> (3,101,4,'kredit',2009-11-12,20000),
  -> (4,106,3,'debit',2009-11-13,50000),
  -> (5,107,5,'kredit',2009-11-13,30000),
  -> (6,104,1,'kredit',2009-11-15,20000),
  -> (7,110,9,'kredit',2009-11-15,150000),
  -> (8,102,5,'debit',2009-11-16,20000),
  -> (9,105,3,'kredit',2009-11-18,50000),
  -> (10,107,4,'debit',2009-11-19,100000),
  -> (11,103,2,'debit',2009-11-19,100000),
  -> (12,104,1,'debit',2009-11-19,50000),
  -> (13,107,4,'kredit',2009-11-20,200000),
  -> (14,105,3,'debit',2009-11-21,40000),
  -> (15,104,1,'kredit',2009-11-22,100000),
  -> (16,101,4,'kredit',2009-11-22,20000),
  -> (17,103,2,'debit',2009-11-22,50000),
  -> (18,102,5,'debit',2009-11-25,50000),
  -> (19,108,10,'debit',2009-11-26,100000),
  -> (20,106,3,'kredit',2009-11-27,50000),
  -> (21,103,2,'kredit',2009-11-28,200000),
  -> (22,105,3,'kredit',2009-11-28,100000),
  -> (23,102,5,'debit',2009-11-30,100000),
  -> (24,104,1,'debit',2009-12-1,50000),
  -> (25,103,2,'debit',2009-12-2,40000),
  -> (26,101,4,'debit',2009-12-4,50000),
  -> (27,103,2,'kredit',2009-12-5,100000),
  -> (28,102,5,'kredit',2009-12-5,200000),
  -> (29,109,7,'debit',2009-12-5,100000),
  -> (30,110,9,'debit',2009-12-6,20000);
Query OK, 30 rows affected, 30 warnings (0.08 sec)
Records: 30  Duplicates: 0  Warnings: 30

MariaDB [perbankan]>
        
```

The screenshot shows the phpMyAdmin interface for the 'perbankan' database. The 'transaksi' table is selected, displaying 30 rows of data. The columns are 'no\_transaksi', 'id\_nasabahFK', 'no\_rekeningFK', 'jenis\_transaksi', 'tanggal', and 'jumlah'. The data is as follows:

no_transaksi	id_nasabahFK	no_rekeningFK	jenis_transaksi	tanggal	jumlah
1	105	3	debit	2009-11-10	50000
2	103	2	debit	2009-11-10	40000
3	101	4	kredit	2009-11-12	20000
4	106	3	debit	2009-11-13	50000
5	107	5	kredit	2009-11-13	30000
6	104	1	kredit	2009-11-15	20000
7	110	9	kredit	2009-11-15	150000
8	102	5	debit	2009-11-16	20000
9	105	3	kredit	2009-11-18	50000
10	107	4	debit	2009-11-19	100000
11	103	2	debit	2009-11-19	100000
12	104	1	debit	2009-11-19	50000
13	107	4	kredit	2009-11-20	200000
14	105	3	debit	2009-11-21	40000
15	104	1	kredit	2009-11-22	100000
16	101	4	kredit	2009-11-22	20000
17	103	2	debit	2009-11-22	50000
18	102	5	debit	2009-11-25	50000
19	108	10	debit	2009-11-26	100000
20	106	3	kredit	2009-11-27	50000
21	103	2	kredit	2009-11-28	200000
22	105	3	kredit	2009-11-28	100000
23	102	5	debit	2009-11-30	100000
24	104	1	debit	2009-12-1	50000
25	103	2	debit	2009-12-2	40000
26	101	4	debit	2009-12-4	50000
27	103	2	kredit	2009-12-5	100000
28	102	5	kredit	2009-12-5	200000
29	109	7	debit	2009-12-5	100000
30	110	9	debit	2009-12-6	20000

## 8. Melakukan UPDATE terhadap alamat seorang nasabah.

The screenshot shows a MySQL command prompt on the left and the phpMyAdmin web interface on the right. The command prompt displays a list of 30 rows from a table, followed by an UPDATE query that changes the address of the customer with ID 7 (Indri Hapsari) to 'Jl. Slamet Riyadi No. 34'. The phpMyAdmin interface shows the 'nasabah' table with 10 rows. The row for Indri Hapsari is highlighted, and the 'alamat\_nasabah' column is updated.

```
Command Prompt - mysql -u root -p
-> (20,106,3,'kredit',2009-11-27,50000),
-> (21,103,2,'kredit',2009-11-28,200000),
-> (22,105,3,'kredit',2009-11-28,100000),
-> (23,102,5,'debit',2009-11-30,100000),
-> (24,104,1,'debit',2009-12-1,50000),
-> (25,103,2,'debit',2009-12-2,40000),
-> (26,101,4,'debit',2009-12-4,50000),
-> (27,103,2,'kredit',2009-12-5,100000),
-> (28,102,5,'kredit',2009-12-5,200000),
-> (29,109,7,'debit',2009-12-5,100000),
-> (30,110,9,'debit',2009-12-6,20000);
Query OK, 30 rows affected, 30 warnings (0.08 sec)
Records: 30 Duplicates: 0 Warnings: 30

MariaDB [perbankan]> UPDATE nasabah SET alamat_nasabah = 'Jl. Slamet Riyadi No. 34'
WHERE nama_nasabah = 'Indri Hapsari';
Query OK, 1 row affected (0.06 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [perbankan]>
```

phpMyAdmin interface showing the 'nasabah' table with 10 rows. The row for Indri Hapsari is highlighted, and the 'alamat\_nasabah' column is updated.

id_nasabah	nama_nasabah	alamat_nasabah
1	Sutopo	Jl. Jendral Sudirman 12
2	Maryati	Jl. MT. Haryono 31
3	Suparman	Jl. Hasanudin 81
4	Kartika Padmasari	Jl. Manggis 15
5	Budi Eko Prayogo	Jl. Kantil 30
6	Satria Eka Jaya	Jl. Slamet Riyadi 45
7	Indri Hapsari	Jl. Slamet Riyadi No. 34
8	Sari Murti	Jl. Pangandaran 11
9	Canka Lokananta	Jl. Tidar 86
10	Budi Murtono	Jl. Merak 22

## 9. Melakukan UPDATE alamat pada salah satu cabang bank.

The screenshot shows a MySQL command prompt on the left and the phpMyAdmin web interface on the right. The command prompt displays a list of 30 rows from a table, followed by two UPDATE queries. The first query updates the address of the branch with code 'BRUB' (Bank Rut Unit Boyolali) to 'Jl. A. Yani No. 23'. The second query updates the address of the branch with code 'BRUM' (Bank Rut Unit Magelang) to 'Jl. A. Yani No. 23'. The phpMyAdmin interface shows the 'cabang\_bank' table with 6 rows. The row for Bank Rut Unit Boyolali is highlighted, and the 'alamat\_cabang' column is updated.

```
Command Prompt - mysql -u root -p
-> (20,106,3,'kredit',2009-11-27,50000),
-> (21,103,2,'kredit',2009-11-28,200000),
-> (22,105,3,'kredit',2009-11-28,100000),
-> (23,102,5,'debit',2009-11-30,100000),
-> (24,104,1,'debit',2009-12-1,50000),
-> (25,103,2,'debit',2009-12-2,40000),
-> (26,101,4,'debit',2009-12-4,50000),
-> (27,103,2,'kredit',2009-12-5,100000),
-> (28,102,5,'kredit',2009-12-5,200000),
-> (29,109,7,'debit',2009-12-5,100000),
-> (30,110,9,'debit',2009-12-6,20000);
Query OK, 30 rows affected, 30 warnings (0.08 sec)
Records: 30 Duplicates: 0 Warnings: 30

MariaDB [perbankan]> UPDATE nasabah SET alamat_nasabah = 'Jl. Slamet Riyadi No. 34'
WHERE nama_nasabah = 'Indri Hapsari';
Query OK, 1 row affected (0.06 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [perbankan]> UPDATE cabang_bank SET alamat_cabang = 'Jl. A. Yani No. 23'
WHERE kode_cabang = 'BRUB';
Query OK, 1 row affected (0.07 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [perbankan]>
```

phpMyAdmin interface showing the 'cabang\_bank' table with 6 rows. The row for Bank Rut Unit Boyolali is highlighted, and the 'alamat\_cabang' column is updated.

kode_cabang	nama_cabang	alamat_cabang
BRUB	Bank Rut Unit Boyolali	Jl. Ahmad Yani 45
BRUK	Bank Rut Unit Klaten	Jl. Suparman 23
BRUM	Bank Rut Unit Magelang	Jl. P. Tendean 63
BRUS	Bank Rut Unit Surakarta	Jl. Slamet Riyadi 18
BRUW	Bank Rut Unit Wonogiri	Jl. A. Yani No. 23
BRUY	Bank Rut Unit Yogyakarta	Jl. Anggrek 21



## 10. Menghapus salah satu data pada salah satu table.

```
Command Prompt - mysql -u root -p
-> (20,106,3,'kredit',2009-11-27,50000),
-> (21,103,2,'kredit',2009-11-28,200000),
-> (22,105,3,'kredit',2009-11-28,100000),
-> (23,102,5,'debit',2009-11-30,100000),
-> (24,104,1,'debit',2009-12-1,50000),
-> (25,103,2,'debit',2009-12-2,40000),
-> (26,101,4,'debit',2009-12-4,50000),
-> (27,103,2,'kredit',2009-12-5,100000),
-> (28,102,5,'kredit',2009-12-5,200000),
-> (29,109,7,'debit',2009-12-5,100000),
-> (30,110,9,'debit',2009-12-6,20000);
Query OK, 30 rows affected, 30 warnings (0.08 sec)
Records: 30 Duplicates: 0 Warnings: 30

MariaDB [perbankan]> UPDATE nasabah SET alamat_nasabah = 'Jl. Slamet Riyadi No. 34'
WHERE nama_nasabah = 'Indri Hapsari';
Query OK, 1 row affected (0.06 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [perbankan]> UPDATE cabang_bank SET alamat_cabang = 'Jl. A. Yani No. 23' WH
ERE kode_cabang = 'BRUM';
Query OK, 1 row affected (0.07 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [perbankan]> DELETE FROM nasabah WHERE id_nasabah = 7;
Query OK, 1 row affected (0.07 sec)

MariaDB [perbankan]>
```

localhost / 127.0.0.1 / perbankan

Server: 127.0.0.1 » Basis data: perbankan » Tabel: nasabah

Menampilkan baris 0 - 8 (total 9, Pencarian dilakukan dalam 0,0000 detik)

SELECT \* FROM 'nasabah'

Profil [Edit dikotak] [Ubah] [Jelaskan SQL] [Buat kode PHP] [Segarkan]

Tampilkan semua | Jumlah baris: 25

	id_nasabah	nama_nasabah	alamat_nasabah
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	1	Sutopo	Jl. Jendral Sudirman 12
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	2	Maryati	Jl. MT. Haryono 31
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	3	Suparman	Jl. Hasanudin 81
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	4	Kartika Padmasari	Jl. Manggis 15
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	5	Budi Eko Prayogo	Jl. Kantil 30
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	6	Satria Eka Jaya	Jl. Slamet Riyadi 45
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	8	Sari Murti	Jl. Pangdaran 11
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	9	Canka Lokananta	Jl. Tidar 86
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	10	Budi Murtono	Jl. Merak 22

Pilih Semua Dengan pilihan: Ubah Salin Hapus Ekspor

Tampilkan semua | Jumlah baris: 25

Operasi hasil kueri

Konsol

## 11. Menghapus salah satu data pada table cabang bank.

```
Command Prompt - mysql -u root -p
-> (20,106,3,'kredit',2009-11-27,50000),
-> (21,103,2,'kredit',2009-11-28,200000),
-> (22,105,3,'kredit',2009-11-28,100000),
-> (23,102,5,'debit',2009-11-30,100000),
-> (24,104,1,'debit',2009-12-1,50000),
-> (25,103,2,'debit',2009-12-2,40000),
-> (26,101,4,'debit',2009-12-4,50000),
-> (27,103,2,'kredit',2009-12-5,100000),
-> (28,102,5,'kredit',2009-12-5,200000),
-> (29,109,7,'debit',2009-12-5,100000),
-> (30,110,9,'debit',2009-12-6,20000);
Query OK, 30 rows affected, 30 warnings (0.08 sec)
Records: 30 Duplicates: 0 Warnings: 30

MariaDB [perbankan]> UPDATE nasabah SET alamat_nasabah = 'Jl. Slamet Riyadi No. 34'
WHERE nama_nasabah = 'Indri Hapsari';
Query OK, 1 row affected (0.06 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [perbankan]> UPDATE cabang_bank SET alamat_cabang = 'Jl. A. Yani No. 23' WH
ERE kode_cabang = 'BRUM';
Query OK, 1 row affected (0.07 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [perbankan]> DELETE FROM nasabah WHERE id_nasabah = 7;
Query OK, 1 row affected (0.07 sec)

MariaDB [perbankan]> DELETE FROM cabang_bank WHERE nama_cabang = 'Bank Rut Unit Mag
elang';
Query OK, 1 row affected (0.12 sec)

MariaDB [perbankan]>
```

localhost / 127.0.0.1 / perbankan

Server: 127.0.0.1 » Basis data: perbankan » Tabel: cabang\_bank

Menampilkan baris 0 - 4 (total 5, Pencarian dilakukan dalam 0,0000 detik)

SELECT \* FROM 'cabang\_bank'

Profil [Edit dikotak] [Ubah] [Jelaskan SQL] [Buat kode PHP] [Segarkan]

Tampilkan semua | Jumlah baris: 25

	kode_cabang	nama_cabang	alamat_cabang
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	BRUB	Bank Rut Unit Boyolali	Jl. Ahmad Yani 45
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	BRUK	Bank Rut Unit Klaten	Jl. Suparman 23
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	BRUS	Bank Rut Unit Surakarta	Jl. Slamet Riyadi 18
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	BRUW	Bank Rut Unit Wonogiri	Jl. A. Yani No. 23
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	BRUY	Bank Rut Unit Yogyakarta	Jl. Anggrek 21

Pilih Semua Dengan pilihan: Ubah Salin Hapus Ekspor

Tampilkan semua | Jumlah baris: 25

Operasi hasil kueri

Cetak Salin ke clipboard Ekspor Tampilkan bagan Buat tampilan

Markahi kueri SQL ini

Konsol

Izinkan semua pengguna untuk mengakses markahi ini