

DATABASE SYSTEM



Disusun oleh:

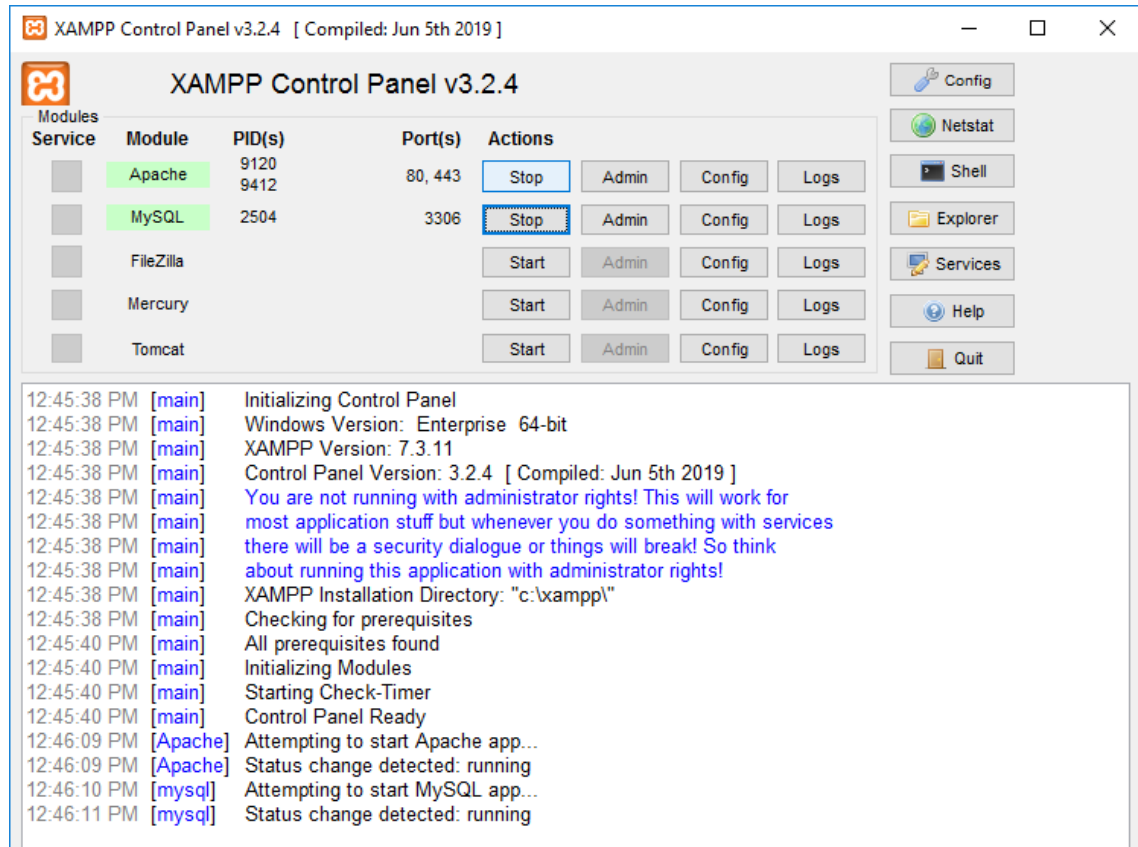
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LATIHAN

1. Run the XAMPP Control Panel
2. Running Apache and MySQL servers



3. Login as root to MySQL in the Command Prompt

```
Command Prompt - mysql -u root

Microsoft Windows [Version 10.0.10586]
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C:\Users\hp>cd\

C:\>cd C:\xampp\mysql\bin

C:\xampp\mysql\bin>mysql -u root
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 8
Server version: 10.4.8-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.
```

4. Enter the banking database

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

5. Show bank names and bank addresses for all bank branches, sorted by bank name

```
MariaDB [perbankan]> SELECT nama_cabang, alamat_cabang FROM cabang_bank ORDER BY nama_cabang;  
+-----+-----+  
| nama_cabang | alamat_cabang |  
+-----+-----+  
| Bank Rut Unit Ambon | Jl. Manggis 8 |  
| Bank Rut Unit Boyolali | Jl. Ahmad Yani 45 |  
| Bank Rut Unit Cilacap | Jl. Melati 76 |  
| Bank Rut Unit Demak | Jl. Sutoyo 43 |  
| Bank Rut Unit Enarotali | Jl. Mawar 32 |  
| Bank Rut Unit Gorontalo | Jl. Naga 17 |  
| Bank Rut Unit Indramayu | Jl. MT Haryono 20 |  
| Bank Rut Unit Jakarta | Jl. Hasanudin 54 |  
| Bank Rut Unit Klaten | Jl. Suparman 23 |  
| Bank Rut Unit Lamongan | Jl. Kantil 3 |  
| Bank Rut Unit Palembang | Jl. Pattimura 6 |  
| Bank Rut Unit Surakarta | Jl. Slamet Riyadi 18 |  
| Bank Rut Unit Tangerang | Jl. Jendral Sudirman 11 |  
| Bank Rut Unit Wonogiri | Jl. Ahmad Yani No.23 |  
| Bank Rut Unit Yogyakarta | Jl. Anggrek 21 |  
+-----+-----+  
15 rows in set (0.001 sec)
```

6. Show account numbers, pins, and balance amounts for all accounts, sorted by the amount of balance from the largest to the smallest

```
MariaDB [perbankan]> SELECT no_rekening, pin, saldo FROM rekening ORDER BY saldo DESC;  
+-----+-----+-----+  
| no_rekening | pin | saldo |  
+-----+-----+-----+  
| 121 | 7890 | 7000000 |  
| 108 | 8888 | 5000000 |  
| 119 | 5678 | 5000000 |  
| 106 | 6666 | 3000000 |  
| 105 | 5555 | 2000000 |  
| 107 | 7777 | 1000000 |  
| 104 | 4444 | 900000 |  
| 103 | 3333 | 750000 |  
| 118 | 4567 | 700000 |  
| 116 | 2345 | 650000 |  
| 110 | 1234 | 550000 |  
| 123 | 9012 | 550000 |  
| 101 | 1111 | 500000 |  
| 114 | 1023 | 400000 |  
| 115 | 1203 | 350000 |  
| 102 | 2222 | 350000 |  
| 112 | 0123 | 300000 |  
| 120 | 6789 | 300000 |  
| 113 | 8888 | 255000 |  
| 117 | 3456 | 250000 |  
| 111 | 4321 | 150000 |  
| 109 | 9999 | 0 |  
| 122 | 8901 | 0 |  
+-----+-----+-----+  
23 rows in set (0.001 sec)
```

ASSIGNMENT

1. Show customer names and customer addresses sorted by customer name

```
MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah FROM nasabah ORDER BY nama_nasabah;
```

nama_nasabah	alamat_nasabah
Aldila	Jl. Merpati 82
Annisa Nugraheni	Jl. Hasanudin 57
Ayu Setia	Jl. MT Haryono 21
Azzahra Sintaa	Jl. Slamet Riyadi 24
Budi Eko Prayogo	Jl. Kantil 30
Budi Murtono	Jl. Merak 22
Butsaina Nur	Jl. Pattimura 3
Canka Lokananta	Jl. Tidar 86
Fahrunnisa	Jl. Naga 18
Fatikha	Jl. Sutoyo 5
Kartika Padmasari	Jl. Manggis 15
Maryati	Jl. MT Haryono 31
Nadya Ayu	Jl. Melati 48
Pasha Bhima	Jl. Manggis 23
Rias Wahyuni	Jl. Mawar 22
Sari Murti	Jl. Pangandaran 11
Satria Eka Jaya	Jl. Slamet Riyadi 45
Suparman	Jl. Hasanudin 81
Sutopo	Jl. Jendral Sudirman 12

19 rows in set (0.044 sec)

2. Displays the type of transaction and the number of transactions that are credit type

```
MariaDB [perbankan]> SELECT jenis_transaksi, jumlah FROM transaksi WHERE jenis_transaksi = 'kredit';
```

jenis_transaksi	jumlah
kredit	20000
kredit	30000
kredit	200000
kredit	150000
kredit	50000
kredit	200000
kredit	100000
kredit	20000
kredit	50000
kredit	200000
kredit	100000
kredit	100000
kredit	400000
kredit	30000
kredit	900000
kredit	650000
kredit	800000
kredit	500000
kredit	800000
kredit	100000
kredit	250000
kredit	2000000

22 rows in set (0.092 sec)

3. Shows the types of transactions and the number of transactions made on November 21, 2009 and sorted by number of transactions

```
MariaDB [perbankan]> SELECT jenis_transaksi, jumlah FROM transaksi WHERE tanggal = '2009-11-21' ORDER BY jumlah;
+-----+-----+
| jenis_transaksi | jumlah |
+-----+-----+
| debit          | 40000  |
+-----+-----+
1 row in set (0.086 sec)
```

4. Shows the name of the customer, type of transaction, and number of transactions where the total transaction = IDR 20,000

```
MariaDB [perbankan]> SELECT DISTINCT nama_nasabah, jenis_transaksi, jumlah FROM nasabah, transaksi WHERE jumlah = 20000;
+-----+-----+-----+
| nama_nasabah | jenis_transaksi | jumlah |
+-----+-----+-----+
| Sutopo       | kredit         | 20000  |
| Maryati     | kredit         | 20000  |
| Suparman    | kredit         | 20000  |
| Kartika Padmasari | kredit       | 20000  |
| Budi Eko Prayogo | kredit       | 20000  |
| Satria Eka Jaya | kredit       | 20000  |
| Sari Murti   | kredit         | 20000  |
| Canka Lokananta | kredit       | 20000  |
| Budi Murtono | kredit         | 20000  |
| Annisa Nugraheni | kredit      | 20000  |
| Pasha Bhima  | kredit         | 20000  |
| Nadya Ayu    | kredit         | 20000  |
| Aldila      | kredit         | 20000  |
| Fatikha     | kredit         | 20000  |
| Azzahra Sintaa | kredit       | 20000  |
| Ayu Setia   | kredit         | 20000  |
| Butsaina Nur | kredit         | 20000  |
| Rias Wahyuni | kredit         | 20000  |
| Fahrurnnisa | kredit         | 20000  |
| Sutopo       | debit          | 20000  |
| Maryati     | debit          | 20000  |
| Suparman    | debit          | 20000  |
| Kartika Padmasari | debit       | 20000  |
| Budi Eko Prayogo | debit       | 20000  |
| Satria Eka Jaya | debit       | 20000  |
| Sari Murti   | debit          | 20000  |
| Canka Lokananta | debit       | 20000  |
| Budi Murtono | debit          | 20000  |
| Annisa Nugraheni | debit      | 20000  |
| Pasha Bhima  | debit          | 20000  |
| Nadya Ayu    | debit          | 20000  |
| Aldila      | debit          | 20000  |
| Fatikha     | debit          | 20000  |
| Azzahra Sintaa | debit       | 20000  |
| Ayu Setia   | debit          | 20000  |
| Butsaina Nur | debit          | 20000  |
| Rias Wahyuni | debit          | 20000  |
| Fahrurnnisa | debit          | 20000  |
+-----+-----+-----+
```

5. Show the customer's name and address of the customer where the customer's name begins with the word 'Su'

```
MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah FROM nasabah WHERE nama_nasabah LIKE 'Su%';
+-----+-----+
| nama_nasabah | alamat_nasabah |
+-----+-----+
| Sutopo       | Jl. Jendral Sudirman 12 |
| Suparman    | Jl. Hasanudin 81 |
+-----+-----+
2 rows in set (0.001 sec)
```

6. Make a question and also the answer that uses 2 conditions in the

'WHERE' clause

- Show no_rekening, branch_codes, and balances of the customer that save their money in Bank Rut Unit Surakarta and have a saldo less than 1.000.000

```
MariaDB [perbankan]> SELECT no_rekening, kode_cabangFK, saldo FROM rekening WHERE kode_cabangFK = 'BRUS' AND saldo < 1000000;
```

no_rekening	kode_cabangFK	saldo
101	BRUS	500000
102	BRUS	350000
103	BRUS	750000
120	BRUS	300000

4 rows in set (0.000 sec)

7. Make a question and also the answer that uses 3 conditions in the

'WHERE' clause

- Show no_transaksi and no_rekening that are debit type made in 19 November 2009 with an amount of more than 100.000

```
MariaDB [perbankan]> SELECT no_transaksi, no_rekeningFK FROM transaksi  
-> WHERE jenis_transaksi = 'debit' AND tanggal = '2009-11-19' AND jumlah >= 100000;
```

no_transaksi	no_rekeningFK
10	4
11	2

2 rows in set (0.001 sec)

8. Make a question and also the answer that uses 'ORDER', 'LIMIT', and

'OFFSET' clause

- Show name the name and address of nasabah that sorted by their name with limit 5 and offset 3

```
MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah FROM nasabah ORDER BY nama_nasabah LIMIT 5 OFFSET 3;
```

nama_nasabah	alamat_nasabah
Azzahra Sintaa	Jl. Slamet Riyadi 24
Budi Eko Prayogo	Jl. Kantil 30
Budi Murtono	Jl. Merak 22
Butsaina Nur	Jl. Pattimura 3
Canka Lokananta	Jl. Tidar 86

5 rows in set (0.000 sec)

9. Make a question using string search conditions and NULL search

- Show name and address of nasabah whose first name A and the id is not null

```
MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah FROM nasabah WHERE nama_nasabah  
-> LIKE 'A%' and id_nasabah IS NOT NULL;
```

nama_nasabah	alamat_nasabah
Annisa Nugraheni	Jl. Hasanudin 57
Aldila	Jl. Merpati 82
Azzahra Sintaa	Jl. Slamet Riyadi 24
Ayu Setia	Jl. MT Haryono 21

4 rows in set (0.001 sec)

10. Make a question using string search condition, NULL search, and 'ORDER', 'LIMIT', 'OFFSET' clause

- Show no_transaksi, no_rekening and amount of customer that have transaction type kredit and amount is not null, sorted by amount from small to large with limit 10 and offset 2

```
MariaDB [perbankan]> SELECT no_transaksi, no_rekeningFK, jumlah FROM transaksi WHERE jenis_transaksi = 'kredit'  
-> AND jumlah IS NOT NULL ORDER BY jumlah ASC LIMIT 10 OFFSET 2;
```

no_transaksi	no_rekeningFK	jumlah
33	4	30000
5	5	30000
20	3	50000
9	3	50000
27	2	100000
22	3	100000
45	1	100000
15	1	100000
7	9	150000
13	4	200000

10 rows in set (0.000 sec)

11. Make 5 question

- a) Show no_rekening, kode_cabang, and saldo of the customer that save their money in Bank Rut Unit Yogyakarta, sorted by amount from small to large

```
MariaDB [perbankan]> SELECT no_rekening, kode_cabangFK, saldo FROM rekening WHERE kode_cabangFK = 'BRUY'  
-> ORDER BY saldo ASC;
```

no_rekening	kode_cabangFK	saldo
113	BRUY	255000
110	BRUY	550000
123	BRUY	550000

3 rows in set (0.001 sec)

- b) show data from table cabang_bank sorted by kode_cabang with limit 5

```
MariaDB [perbankan]> SELECT * FROM cabang_bank ORDER BY kode_cabang LIMIT 5;
```

kode_cabang	nama_cabang	alamat_cabang
BRUA	Bank Rut Unit Ambon	Jl. Manggis 8
BRUB	Bank Rut Unit Boyolali	Jl. Ahmad Yani 45
BRUC	Bank Rut Unit Cilacap	Jl. Melati 76
BRUD	Bank Rut Unit Demak	Jl. Sutoyo 43
BRUE	Bank Rut Unit Enarotali	Jl. Mawar 32

5 rows in set (0.001 sec)

- c) show data from table nasabah that has first name 'S' sorted by their name

```
MariaDB [perbankan]> SELECT * FROM nasabah WHERE nama_nasabah LIKE 'S%' ORDER BY nama_nasabah;
```

id_nasabah	nama_nasabah	alamat_nasabah
8	Sari Murti	Jl. Pangandaran 11
6	Satria Eka Jaya	Jl. Slamet Riyadi 45
3	Suparman	Jl. Hasanudin 81
1	Sutopo	Jl. Jendral Sudirman 12

4 rows in set (0.000 sec)

- d) show data from table transaksi made on 10 Desember 2009 with credit type sorted by amount from small to large

```
MariaDB [perbankan]> SELECT * FROM transaksi WHERE tanggal = '2009-12-10'
-> AND jenis_transaksi = 'kredit' ORDER BY jumlah ASC;
```

no_transaksi	id_nasabahFK	no_rekeningFK	jenis_transaksi	tanggal	jumlah
41	123	2	kredit	2009-12-10 00:00:00	500000
39	122	3	kredit	2009-12-10 00:00:00	650000
40	108	4	kredit	2009-12-10 00:00:00	800000

3 rows in set (0.001 sec)

- e) show data from transactions table that has debit type sorted by amount from small to large with limit 5

```
MariaDB [perbankan]> SELECT * FROM transaksi WHERE jenis_transaksi = 'debit' ORDER BY jumlah ASC LIMIT 5;
```

no_transaksi	id_nasabahFK	no_rekeningFK	jenis_transaksi	tanggal	jumlah
23	102	5	debit	2009-11-30 00:00:00	20000
8	102	5	debit	2009-11-16 00:00:00	20000
30	110	9	debit	2009-12-06 00:00:00	20000
25	103	2	debit	2009-12-02 00:00:00	40000
14	105	3	debit	2009-11-21 00:00:00	40000

5 rows in set (0.001 sec)