**PROJECT BASIS DATA**

**PADA SISTEM INFORMASI (APLIKASI)**

**BAJU MUSLIMAH SMKN 1 KARANG BARU**

****

**OLEH:**

**AMELLYA**

**NISN. 0086119098**

**REKAYASA PERANGKAT LUNAK**

**SMK NEGERI 1 KARANG BARU**

**PEMERINTAH PROVINSI ACEH**

**2024**

**Langkah-langkah Membuat ERD**

1. Menentukan entitas
2. Menentukan atribut termasuk atribut kunci (Primary key)
3. Identifikasi relasi
4. Menentukan kardinalitas
5. **Menentukan Entitas**

Berdasarkan aturan-aturan yang di definisikan di atas dapat kita tentukan jumlah entitas ada sebanyak 4 yakni:



**b. Menentukan Atribut**

Selanjutnya dari Keempat entitas tersebut kita jabarkan atribut-atribut yang melekat pada masing-masing entitas. Atribut yang bersifat unik akan di jadikan sebagai atribut kunci (*primary key*).

**1. Pelanggan (S1)**

**2. Petugas (S2)**

**3. Layanan**

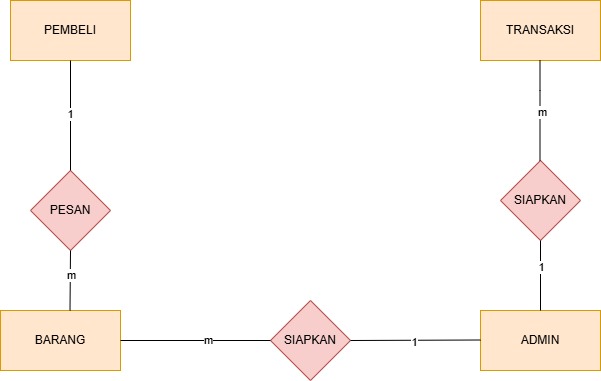


**4. Transaksi**



*Atribut dengan kode (PK) akan menjadi atribut kunci (primary key) pada masing-masing entitas.*

1. **Menentukan Relasi & Kardinalitasnya**

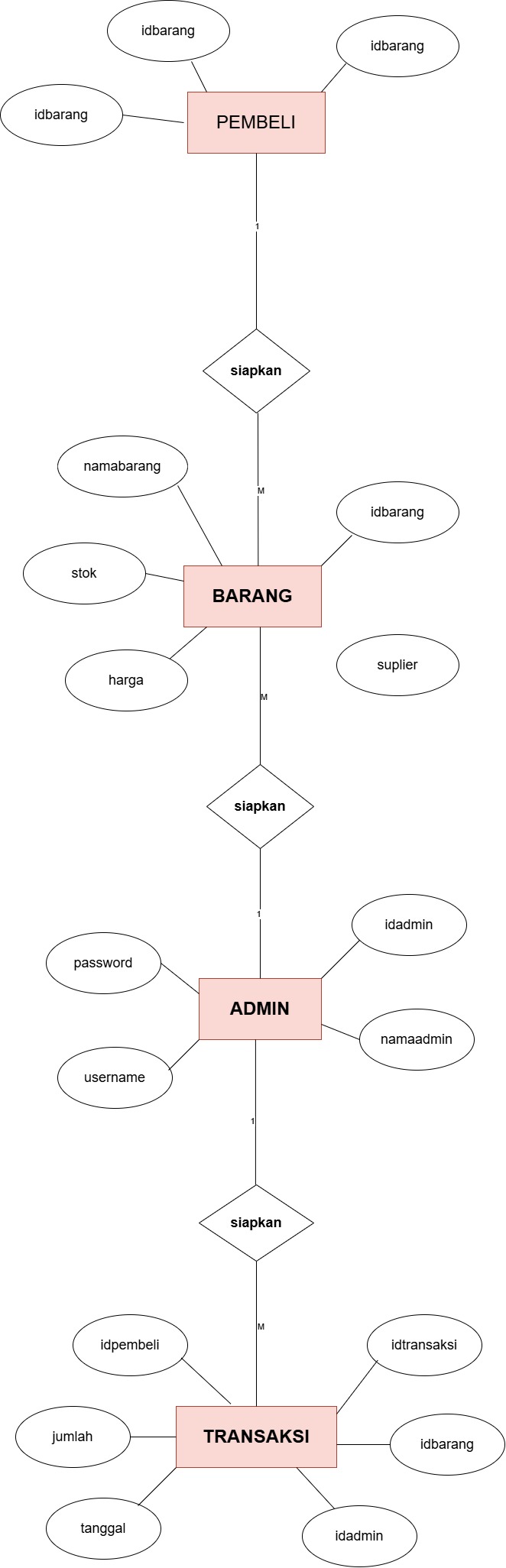
****

**Hasil ERD Penjualan Layanan Baju Muslimah**

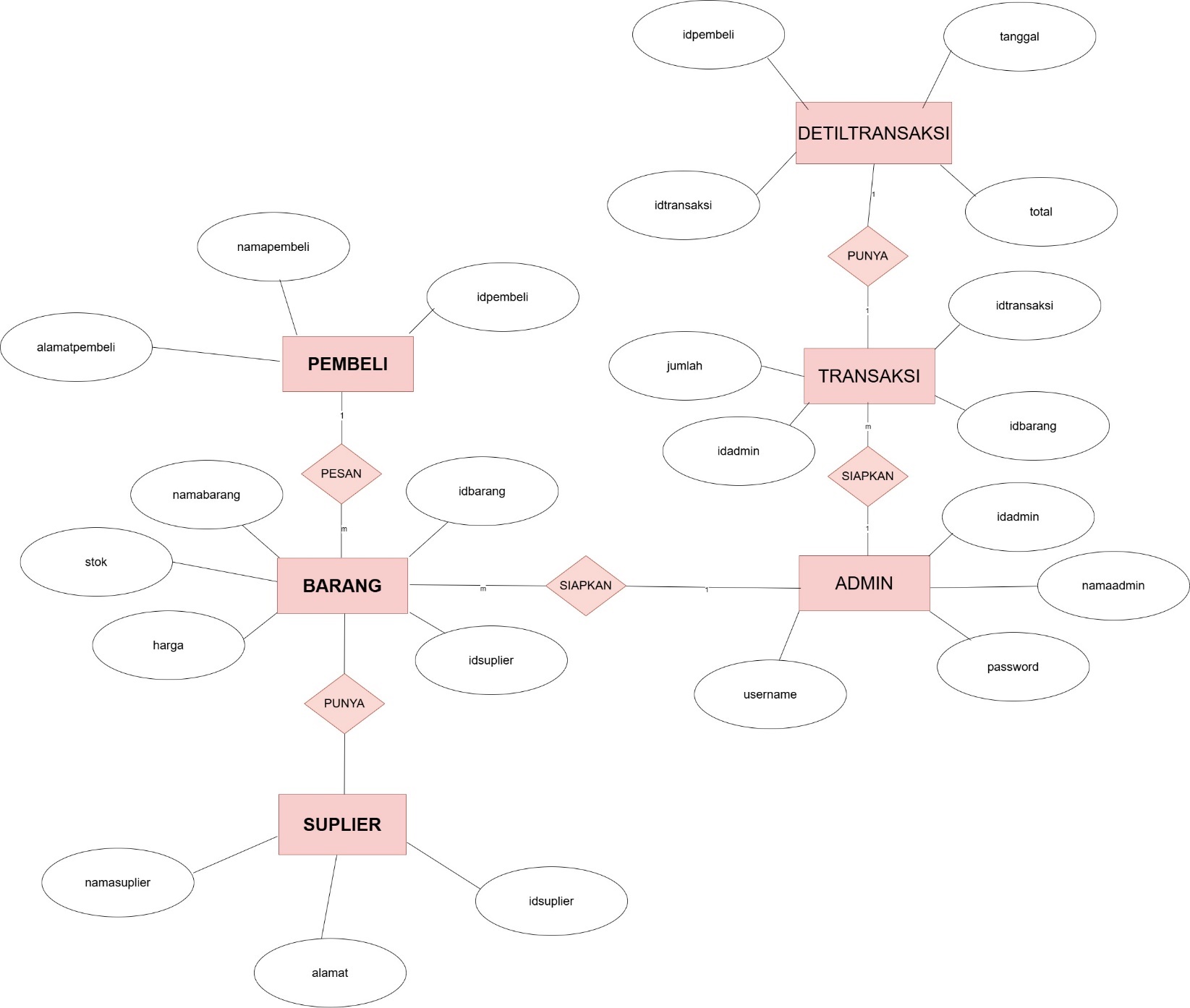
Dari tahap-tahap di atas maka dapat di buat rancangan ERD petugasan layanan baju muslimah adalah sebagai berikut:

ED

**ERD Baju Muslimah Sebelum Normalisasi**

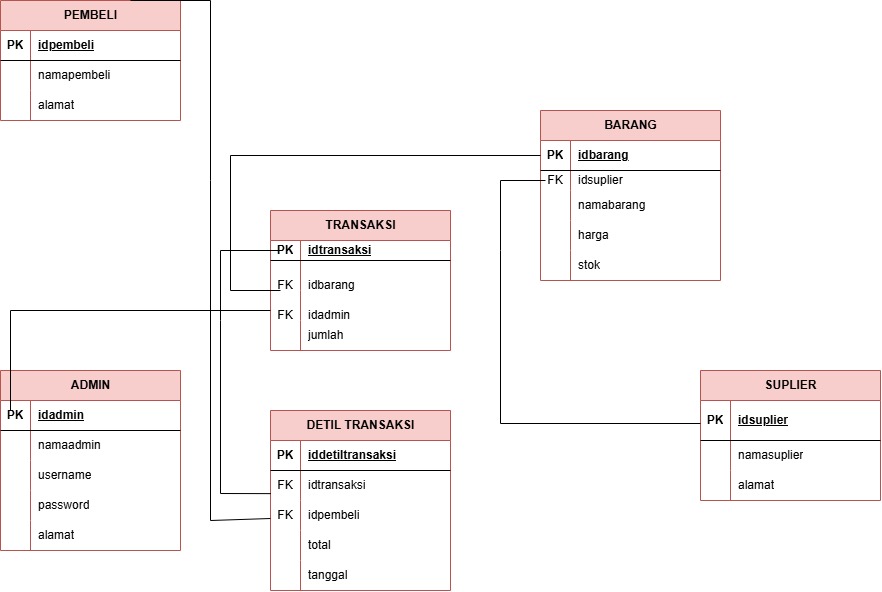


**ERD Baju Muslimah Setelah Normalisasi**

****

**DESAIN LOGIKAL**

Desain logikal yaitu proses pembuatan model dari informasi yang digunakan perusahaan berdasarkan model dan data spesifik. Deskripsi implementasi *database* berdasarkan hasil desain logikal dengan *Entity Relationship Diagram* (ERD) pada *Database Management System* (DBMS) menghasilkan ERT sebagai berikut



**DESAIN FISIKAL & SOURCE SQL**

**Menggambarkan Rancangan Entitas Pada Basisdata Secara Fisikal (Physical Data Disaign) serta Membuat Source SQL pembuatan Masing-Masing Tabel/Entitas**

**Tabel pembeli**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Nama kolom** | **Tipe data** | **Lebar** | **Null** | **kunci** | **keterangan** |
|  | **idpembeli** | int | 11 | no | pk | ai |
|  | namapembeli | varchar | 30 |  |  |  |
|  | alamat | varchar | 100 |  |  |  |

create table pembeli (

**idpembeli** int (11) not null auto\_increment,

namapembeli varchar (30),

alamat varchar (100),

primary key (idpembeli)

) ;

**Tabel admin**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Nama kolom** | **Tipe data** | **Lebar** | **Null** | **kunci** | **keterangan** |
|  | **idadmin** | int | 11 |  |  |  |
|  | namaadmin | varchar | 30 |  |  |  |
|  | username | varchar | 100 |  |  |  |
|  | password | varchar | 30 |  |  |  |
|  | alamat | varchar | 100 |  |  |  |

create table admin (

idadmin int (11) primary key not null auto\_increment,

namaadmin varchar (30),

username varchar (100),

password varchar (30),

alamat varchar (100)

) ;

**Tabel suplier**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Nama kolom** | **Tipe data** | **Lebar** | **Null** | **kunci** | **keterangan** |
|  | **Idsuplier** | Int | 11 | no | pk | ai |
|  | namasuplier | Varchar | 30 |  |  |  |
|  | alamat | varchar | 100 |  |  |  |

create table suplier (

**Idsuplier** int (11) not null primary key auto\_increment,

namasuplier varchar (30),

alamat varchar (100)

);

**Tabel barang**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Nama kolom** | **Tipe data** | **Lebar** | **Null** | **kunci** | **keterangan** |
|  | **idbarang** | int | 11 | no | Pk | ai |
|  | idsuplier | int | 11 | no | fk |  |
|  | namabarang | varchar | 100 |  |  |  |
|  | harga | float | 15 |  |  |  |
|  | stok | int | 11 |  |  |  |

create table barang (

idbarang int (11) not null primary key auto\_increment,

idsuplier int (11),

namabarang varchar (100),

harga float (15),

stok int (11),

constraint idsuplier foreign key (idsuplier) references suplier (idsuplier)

);

**Tabel transaksi**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Nama kolom** | **Tipe data** | **Lebar** | **Null** | **kunci** | **keterangan** |
|  | **idtransaksi** | **Int** | **11** | **No** | **Pk** | **ai** |
|  | *Idbarang* | Int | 11 | No | Fk |  |
|  | *Idadmin* | Int | 11 | no | fk |  |
|  | jumlah | Int | 11 |  |  |  |

create table transaksi (

idtransaksi int (11) primary key not null auto\_increment,

idbarang int (11),

idadmin int (11),

jumlah int (11),

constraint idbarang foreign key (idbarang) references barang (idbarang),

constraint idadmin foreign key (idadmin)references admin (idadmin)

) ;

**Tabel detiltransaksi**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Nama kolom** | **Tipe data** | **Lebar** | **Null** | **kunci** | **keterangan** |
|  | **iddetiltransaksi** | **Int** | **11** | **no** | **pk** | **ai** |
|  | *Idtransaksi* | Int | 11 | no | fk |  |
|  | *Idpembeli* | Int | 11 | no | fk |  |
|  | Total | Float | 15 |  |  |  |
|  | tanggal | date |  |  |  |  |

create table detiltransaksi (

iddetiltransaksi int (11) primary key not null auto\_increment,

idtransaksi int (11),

idpembeli int (10),

total float (15),

tanggal date,

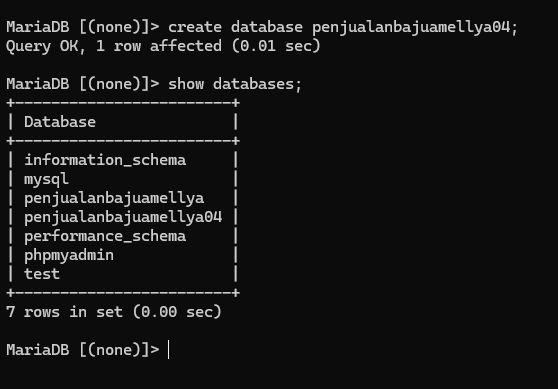
constraint idtransaksi foreign key (idtransaksi) references transaksi (idtransaksi),

constraint idpembeli foreign key (idpembeli)references pembeli (idpembeli)

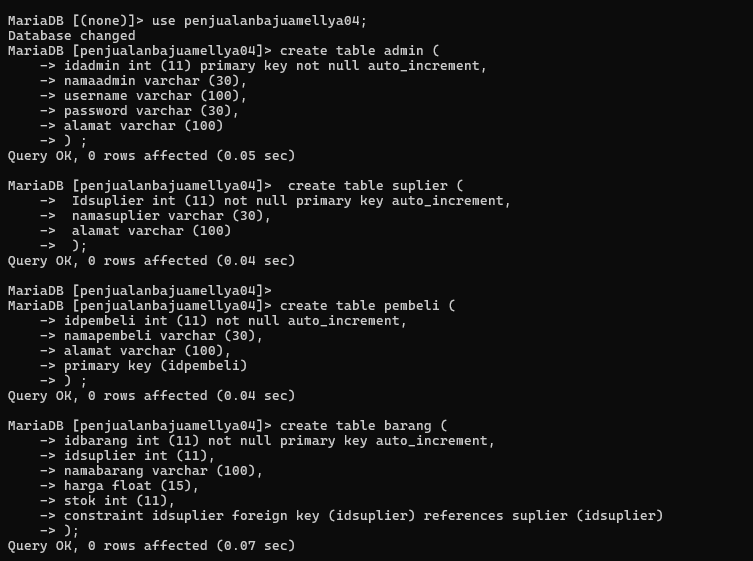
) ;

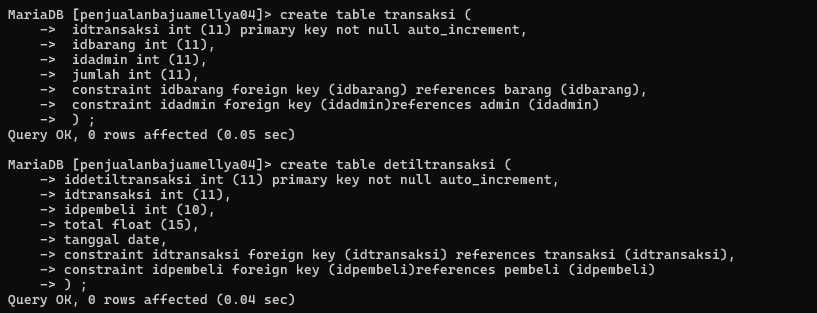
**Implementasi Syntax Sql Database Melalui Cmd**

1. **Membuat Basisdata**

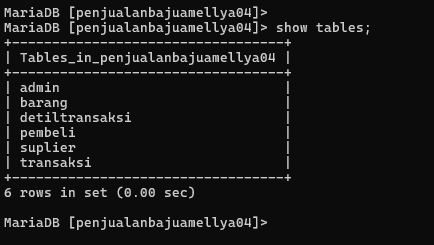
****

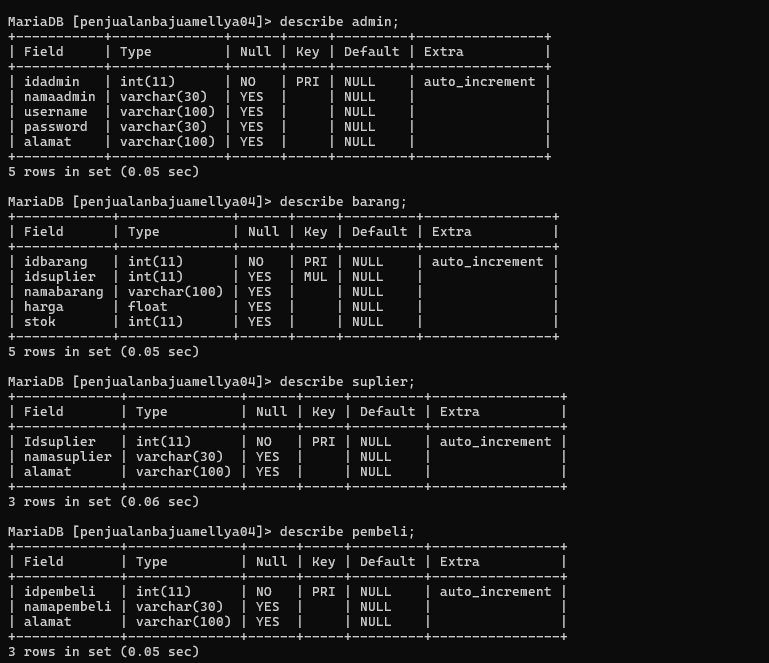
1. **Membuat Tabel**

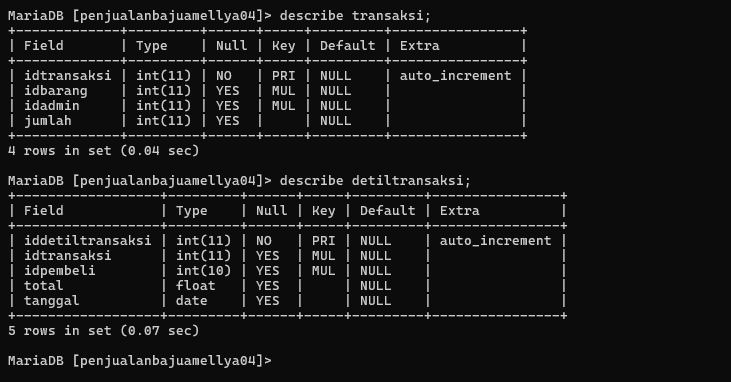
****



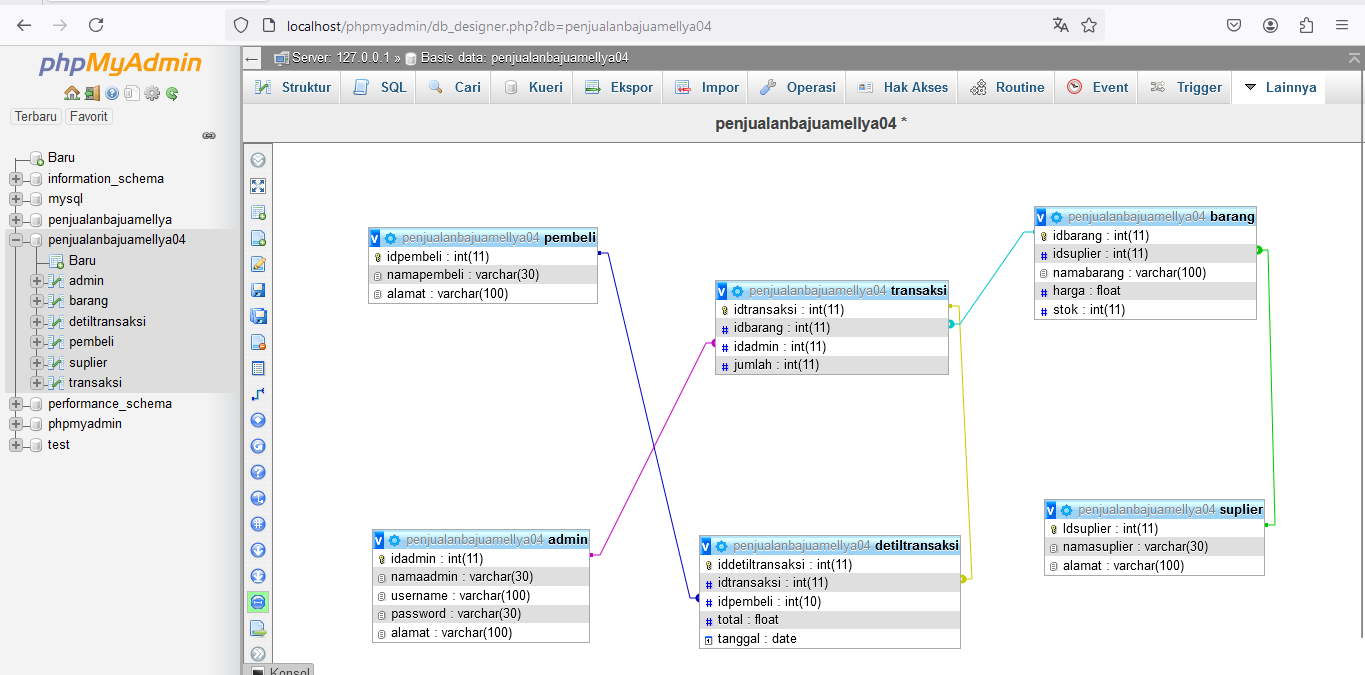
1. **Medeskripsikan table**

****

****

****

**Hasil Desain Konseptual Skema Relasi Database Di Phpmyadmin**

****

**MENGISI DATA RECORD**

**Cara Manual Dengan Source Code**

Memasukkan data dalam jumlah banyak

Insert into namatabel1

Values

(‘variable1’,’variable2’,’variabel3’,’dst’),

(‘variable1’,’variable2’,’variabel3’,’dst’),

(‘variable1’,’variable2’,’variabel3’,’dst’),

(‘variable1’,’variable2’,’variabel3’,’dst’);

**Tabel pembeli**

INSERT INTO `pembeli` (`idpembeli`, `namapembeli`, `alamat`)

VALUES

('null','Ahmad Arjun Trisula','Kebun Tengah'),

('null','M Afriansyah','Sekerak'),

('null','Amellya','Pulau 3'),

('null','Meylisa Eka Putry','Bundar'),

('null','Dewi Puspitasari','Prapen'),

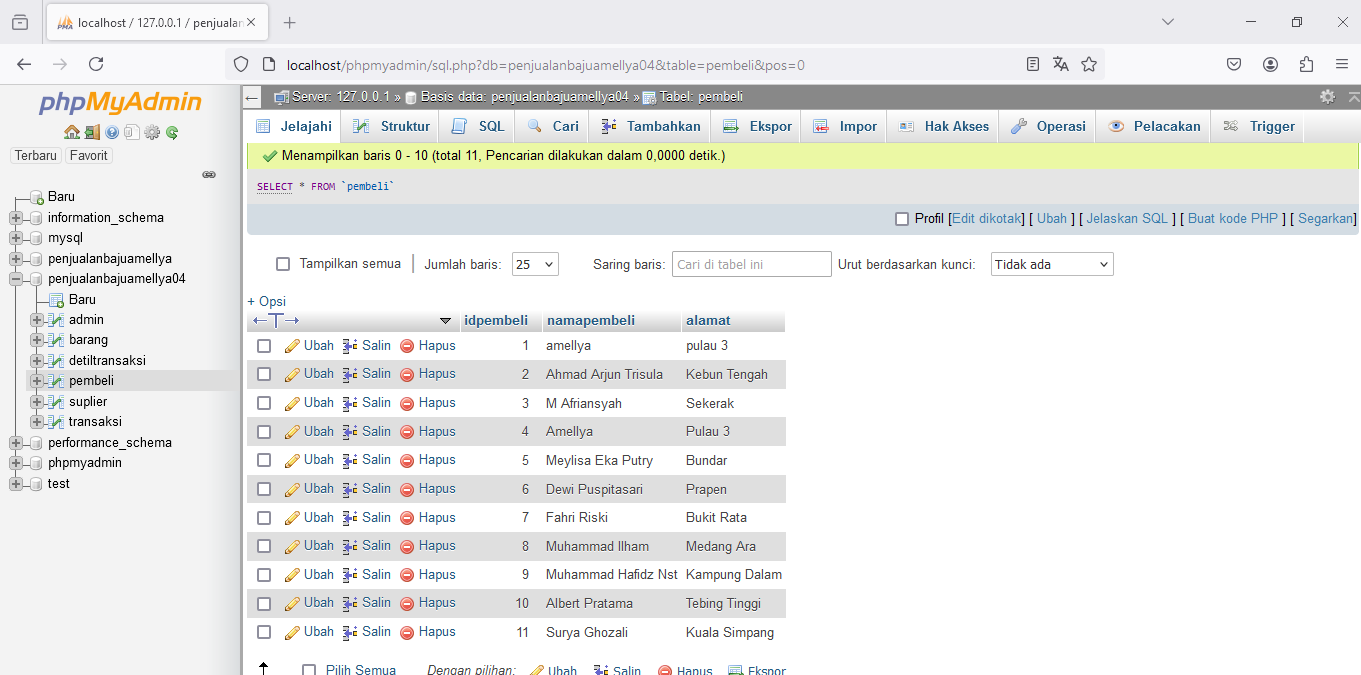
('null','Fahri Riski','Bukit Rata'),

('null','Muhammad Ilham','Medang Ara'),

('null','Muhammad Hafidz Nst','Kampung Dalam'),

('null','Albert Pratama','Tebing Tinggi'),

('null','Surya Ghozali','Kuala Simpang');



**Tabel admin**

INSERT INTO `admin` (`idadmin`, `namaadmin`, `username`, `password`, `alamat`)

VALUES

('null','Ahmad Arjun Trisula','Ahma','ahma','Kebun Tengah'),

('null','Amellya','Amel','amel','Pulau 3'),

('null','Dewi Puspitasari','Dewi','dewi','Prapen'),

('null','Fahri Riski','Fahr','fahr','Bukit Rata'),

('null','Meylisa Eka Putry','Meyl','meyl','Bundar'),

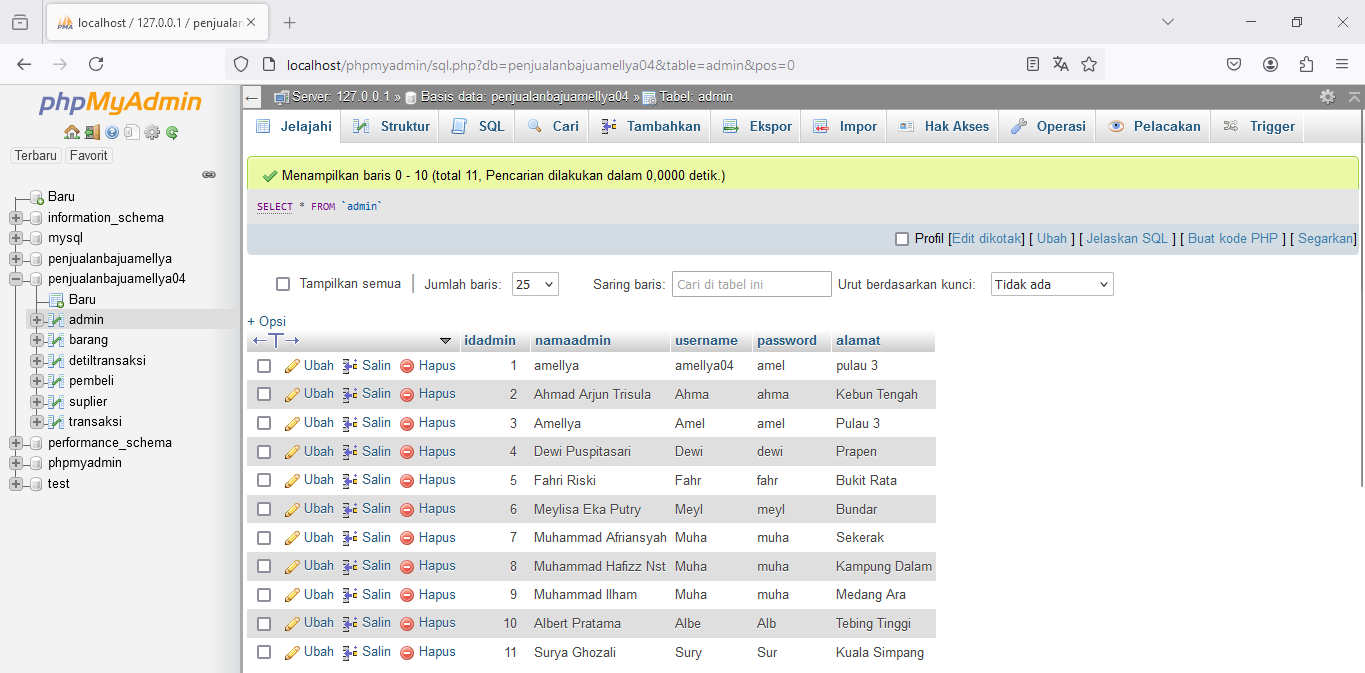
('null','Muhammad Afriansyah','Muha','muha','Sekerak'),

('null','Muhammad Hafizz Nst','Muha','muha','Kampung Dalam'),

('null','Muhammad Ilham','Muha','muha','Medang Ara'),

('null','Albert Pratama','Albe','Alb','Tebing Tinggi'),

('null','Surya Ghozali','Sury','Sur','Kuala Simpang');



**Tabel suplier**

**INSERT INTO `suplier` (`Idsuplier`, `namasuplier`, `alamat`)**

**VALUES**

('null','Ahmad Arjun Trisula','Kebun Tengah'),

('null','M Afriansyah','Sekerak'),

('null','Amellya','Pulau 3'),

('null','Meylisa Eka Putry','Bundar'),

('null','Dewi Puspitasari','Prapen'),

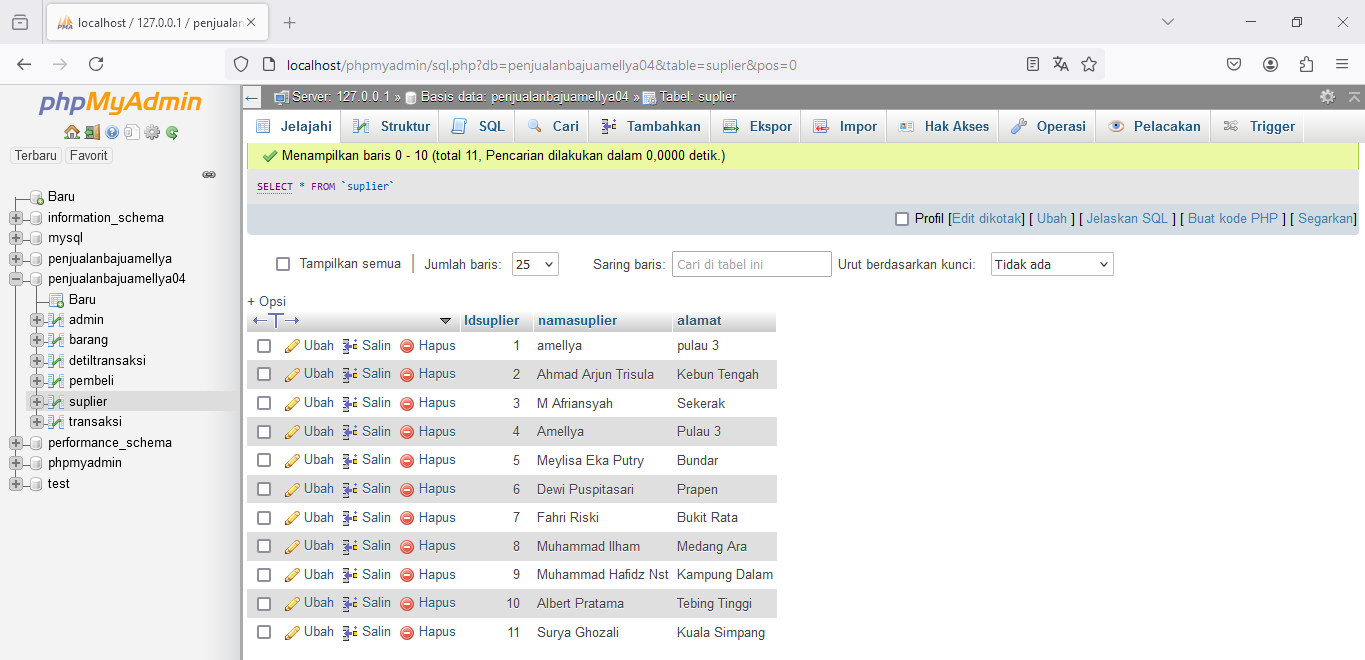
('null','Fahri Riski','Bukit Rata'),

('null','Muhammad Ilham','Medang Ara'),

('null','Muhammad Hafidz Nst','Kampung Dalam'),

('null','Albert Pratama','Tebing Tinggi'),

('null','Surya Ghozali','Kuala Simpang');



**Tabel barang**

**INSERT INTO `barang` (`idbarang`, `idsuplier`, `namabarang`, `harga`, `stok`)**

**VALUES**

('null','1','Baju abaya','150000','100'),

('null','2','Baju Gamis','170000','150'),

('null','3','Baju kaftan','155000','155'),

('null','4','Baju Tunik','160000','160'),

('null','5','Baju Jubah','175000','120'),

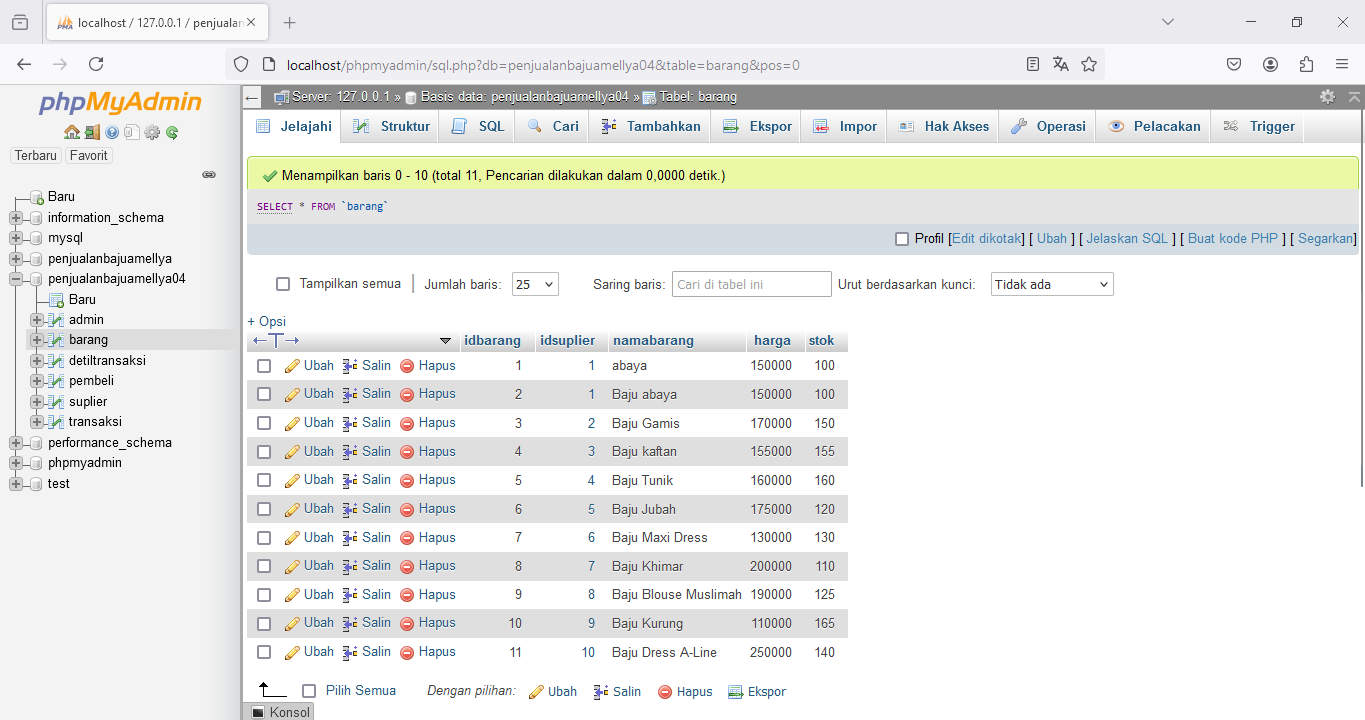
('null','6','Baju Maxi Dress','130000','130'),

('null','7','Baju Khimar','200000','110'),

('null','8','Baju Blouse Muslimah','190000','125'),

('null','9','Baju Kurung','110000','165'),

('null','10','Baju Dress A-Line','250000','140');



**Tabel transaksi**

INSERT INTO `transaksi` (`idtransaksi`, `idbarang`, `idadmin`, `jumlah`)

VALUES

('null','2','2','1'),

('null','3','3','1'),

('null','5','1','1'),

('null','4','4','1'),

('null','6','1','1'),

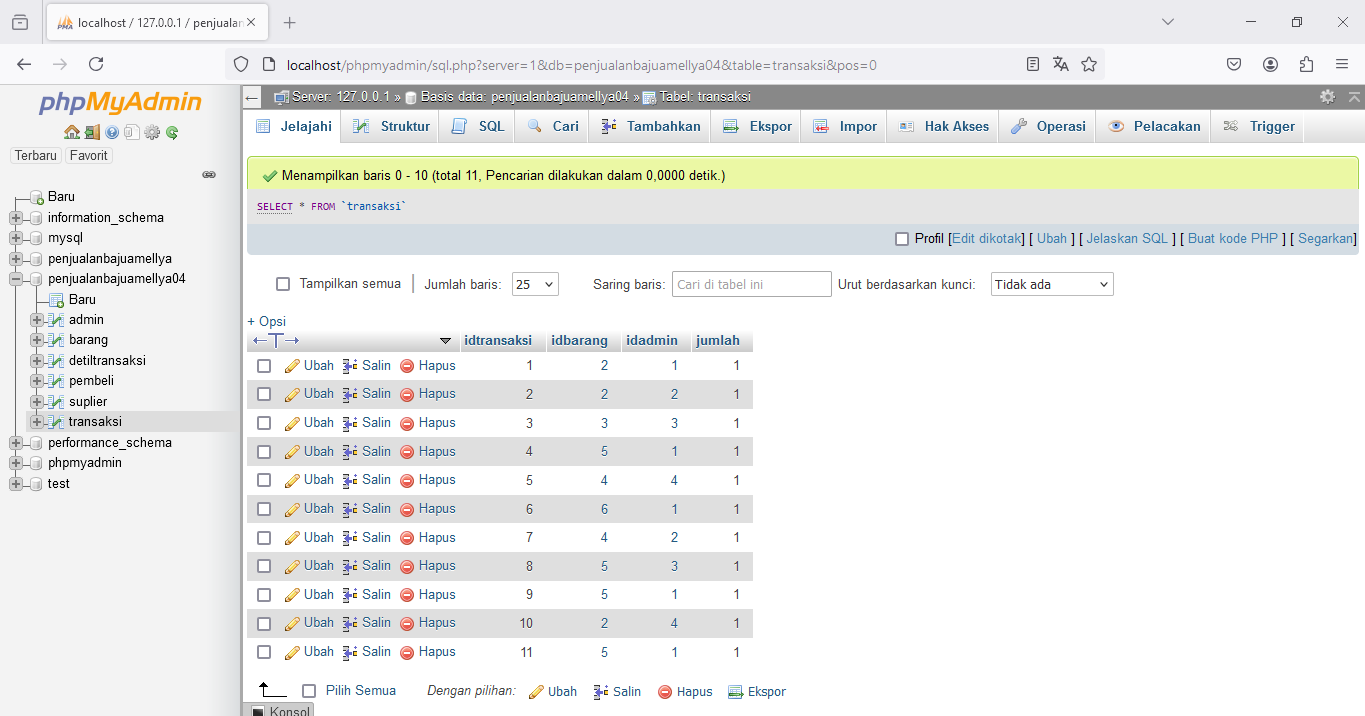
('null','4','2','1'),

('null','5','3','1'),

('null','5','1','1'),

('null','2','4','1'),

('null','5','1','1');



**Tabel detiltransaksi**

INSERT INTO `detiltransaksi` (`iddetiltransaksi`, `idtransaksi`, `idpembeli`, `total`, `tanggal`)

VALUES

('NULL','1','1','200000','2024-11-09'),

('NULL','1','1','200000','2024-11-09'),

('NULL','1','1','200000','2024-11-09'),

('NULL','1','1','200000','2024-11-09'),

('NULL','1','1','200000','2024-11-09'),

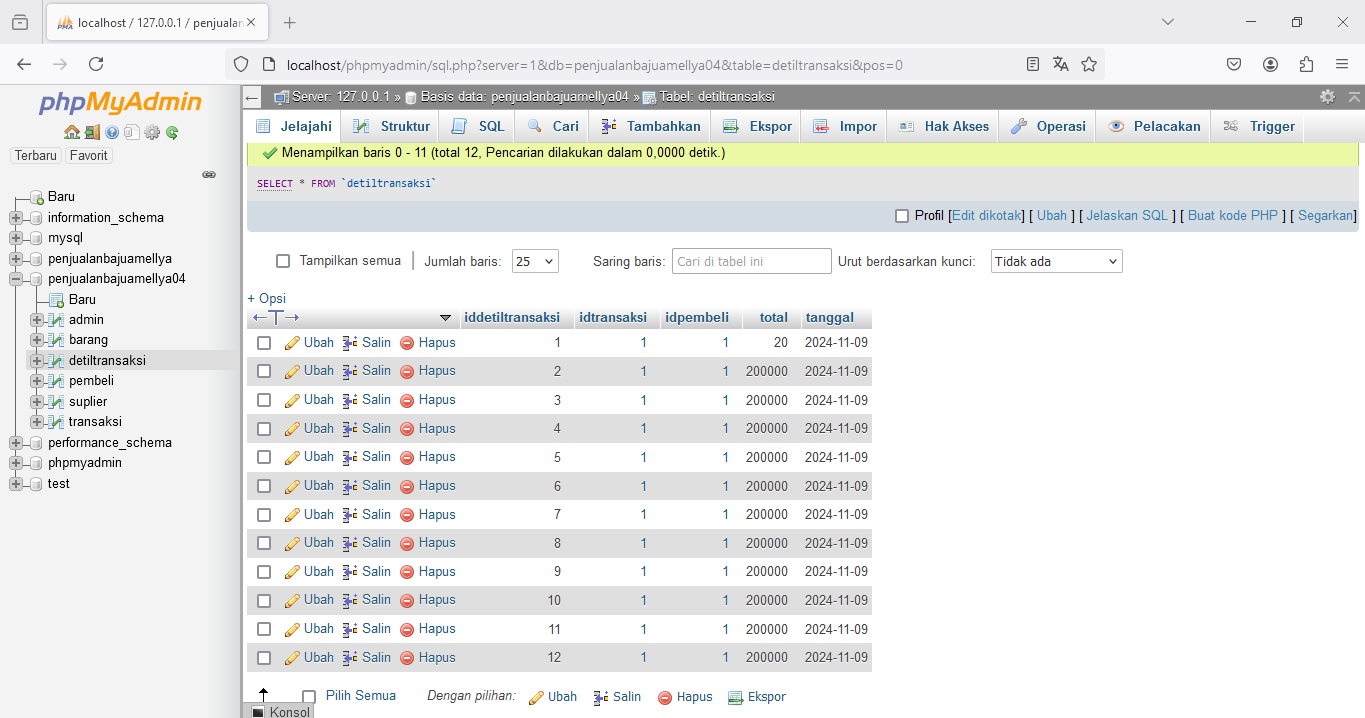
('NULL','1','1','200000','2024-11-09'),

('NULL','1','1','200000','2024-11-09'),

('NULL','1','1','200000','2024-11-09'),

('NULL','1','1','200000','2024-11-09'),

('NULL','1','1','200000','2024-11-09');



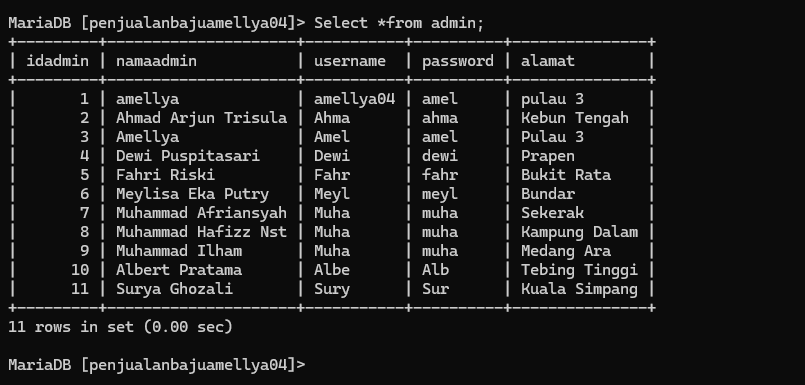
**SELECT:**

Bentuk umum.

Select \*from namatabel1

Select \*from admin;

**Output :**

****

Memilih kolom tertentu.

SELECT nama\_kolom1, nama\_kolom2 FROM nama\_tabel;

SELECT namaadmin, password FROM admin;

**Output :**

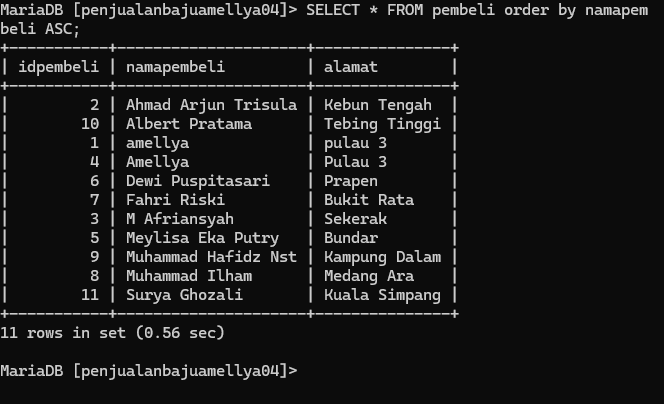


Memilih kolom dengan mengurutkan dari terkecil.

SELECT \* FROM nama\_tabel order by kolom\_dipilih ASC;

SELECT \* FROM pembeli order by namapembeli ASC;

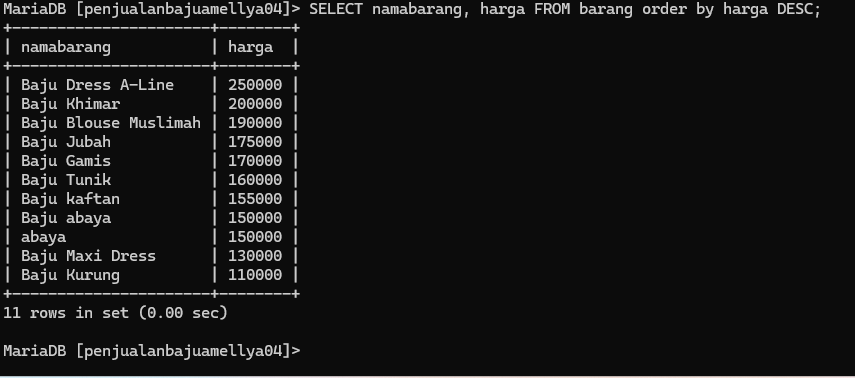
**Output :**



Memilih kolom dengan mengurutkan dari terbesar.

SELECT \* FROM nama\_tabel order by kolom\_dipilih DESC;

SELECT namabarang, harga FROM barang order by harga DESC;

**Output :** ****

**UPDATE**

Update sebaris data record.

UPDATE nama\_tabel SET kolom1=data1, kolom2=data2,... WHERE kolom=data;

UPDATE admin SET namaadmin=’amellya’, username=’amellya04’, password=’amel’, alamat=’pulau 3’ WHERE idadmin=1;

**Output :**

****

**DELETE**

Delete sebaris data record.

DELETE FROM nama\_tabel WHERE kolom=data;

**Output :**

Delete sebuah tabel.

DELETE FROM nama\_tabel;

**Output :**

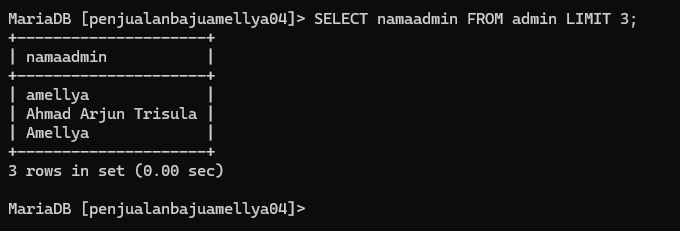
**SELECT SUBQUERY:**

SELECT nama\_produk FROM ms\_produk LIMIT 3;

SELECT nama\_layanan FROM layanan LIMIT 3;

SELECT namaadmin FROM admin LIMIT 3;

**Output :**

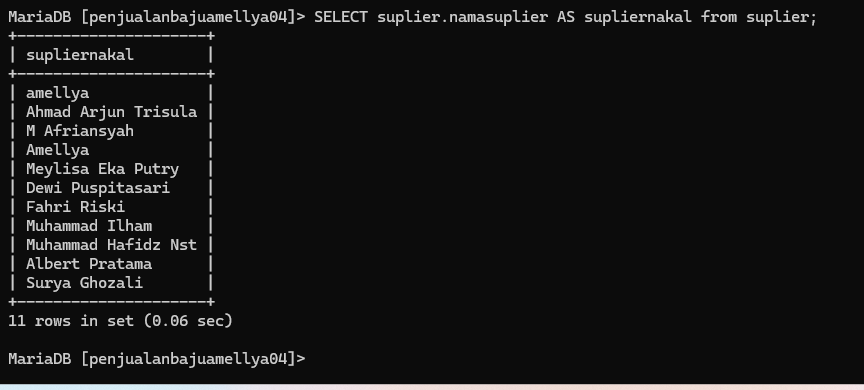
****

SELECT ms\_produk.nama\_produk AS nama from ms\_produk;

SELECT layanan.nama\_layanan AS layanan\_yang\_tersedia from layanan;

SELECT suplier.namasuplier AS supliernakal from suplier;

**Output :**

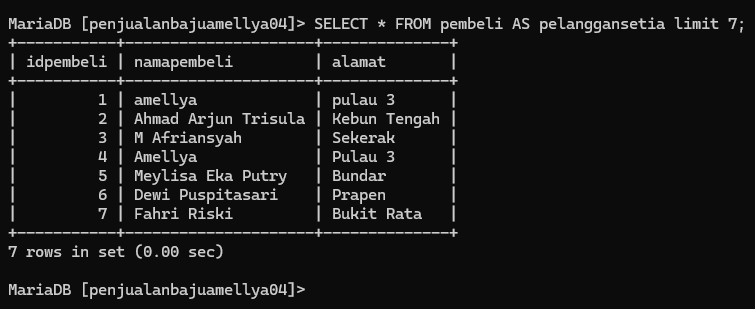
****

SELECT \* FROM ms\_produk AS t1;

## SELECT \* FROM petugas AS P1;

SELECT \* FROM pembeli AS pelanggansetia limit 7;

**Output :**

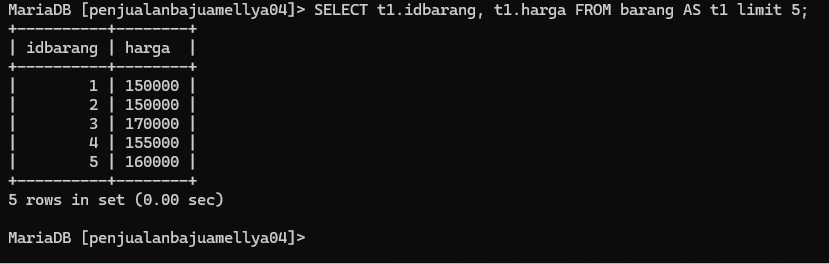


SELECT t1.kode\_produk, t1.nama\_produk FROM ms\_produk AS t1;

SELECT t1.kode\_layanan, t1.nama\_layanan FROM layanan AS t1;

SELECT t1.idbarang, t1.harga FROM barang AS t1 limit 5;

**Output :**

****

SELECT \* FROM ms\_produk WHERE nama\_produk = 'Gantungan Kunci DQLab';

SELECT \* FROM layanan WHERE nama\_layanan = ‘ganti Hardisk';

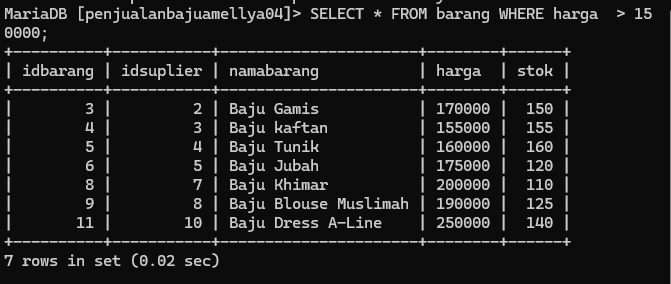
c

**Output :**

SELECT \* FROM ms\_produk WHERE harga < 50000;

SELECT \* FROM barang WHERE harga > 150000;

**Output :**

****

SELECT \* FROM ms\_produk WHERE nama\_produk = 'Gantungan Kunci DQLab' AND harga < 50000;

SELECT \* FROM layanan WHERE nama\_layanan = 'Lambat / Lemot ' AND harga\_layanan < 50000;

SELECT \* FROM barang WHERE namabarang = 'Baju abaya ' AND harga < 150000;

Output :

**SELECT nama\_layanan, COUNT(id\_layanan) as jumlah FROM layanan WHERE harga\_layanan=’50000’ GROUP BY harga\_layanan HAVING COUNT(id\_layanan)>2;**

**SELECT idpembeli, COUNT(idpembeli) as jumlah FROM detiltransaksi WHERE total=’** **250000’ GROUP BY total HAVING COUNT(iddetiltransaksi)>2;**

**Output :**

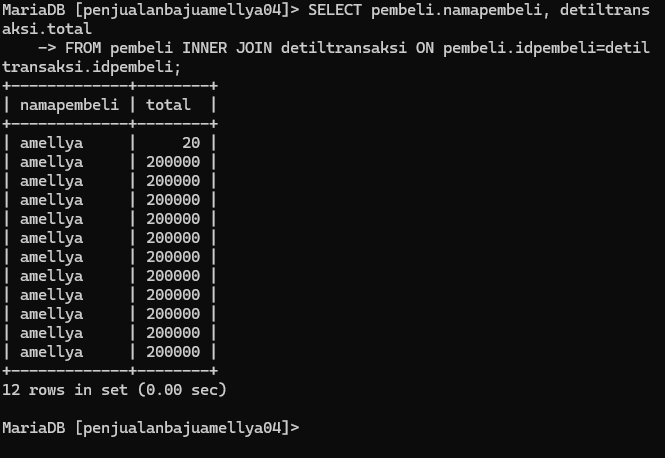
**SELECT JOINT MULTITABLE:**

SELECT pembeli.nama pembeli, detiltransaksi.total

FROM pembeli INNER JOIN detiltransaksi ON pembeli.idpembeli=detiltransaksi.idpembeli;

SELECT pembeli.namapembeli, detiltransaksi.total

FROM pembeli INNER JOIN detiltransaksi ON pembeli.idpembeli=detiltransaksi.idpembeli;  
**Output :**

****

SELECT petugas.nama\_petugas, layanan.nama\_layanan, transaksi.jumlah

FROM petugas

INNER JOIN transaksi ON petugas.id\_petugas = transaksi.id\_petugas

INNER JOIN layanan ON transaksi.id\_layanan = layanan.id\_layanan;

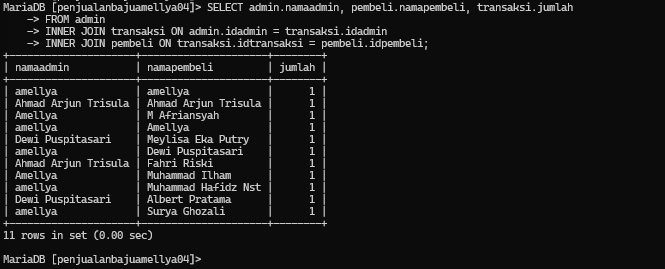
SELECT admin.namaadmin, pembeli.namapembeli, transaksi.jumlah

FROM admin

INNER JOIN transaksi ON admin.idadmin = transaksi.idadmin

INNER JOIN pembeli ON transaksi.idtransaksi = pembeli.idpembeli;

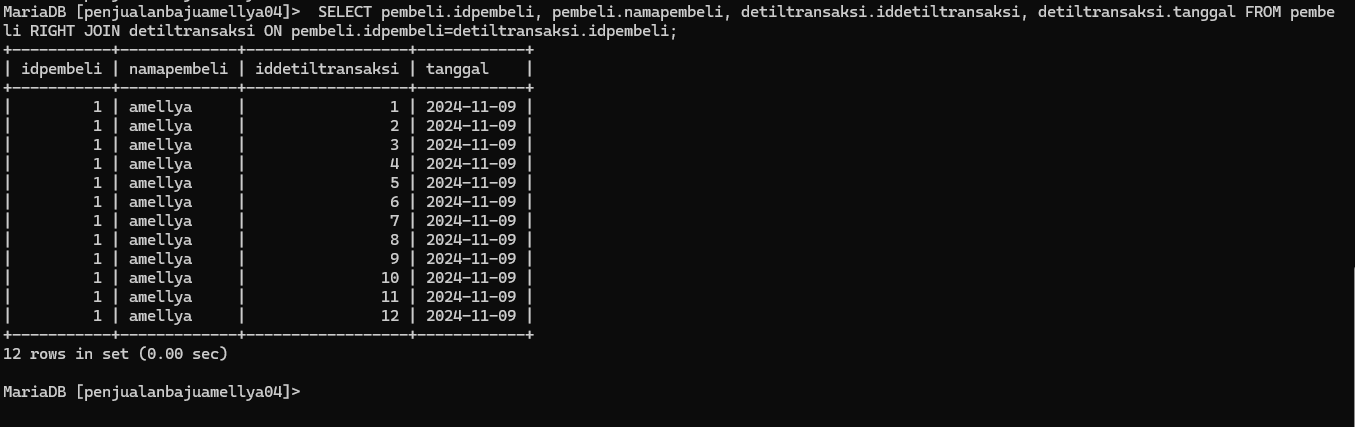
**Output :**

****

SELECT pelanggan.id\_pelanggan, pelanggan.nama\_pelanggan, pembayaran.id\_bayar, pembayaran.tanggal\_bayar FROM pelanggan RIGHT JOIN pembayaran ON pelanggan.id\_pelanggan=pembayaran.id\_pelanggan;

SELECT pembeli.idpembeli, pembeli.namapembeli, detiltransaksi.iddetiltransaksi, detiltransaksi.tanggal FROM pembeli RIGHT JOIN detiltransaksi ON pembeli.idpembeli=detiltransaksi.idpembeli;

**Output :**

****

select a.\*, b.\*

from pembeli a

join pembeli b using (idpembeli);

select a.\*, b.\*

from pembeli a

join pembeli b using (idpembeli);

**Output :**

****

select a.\*, b.\*

from pembeli a

left join detiltransaksi b

using (idpembeli);

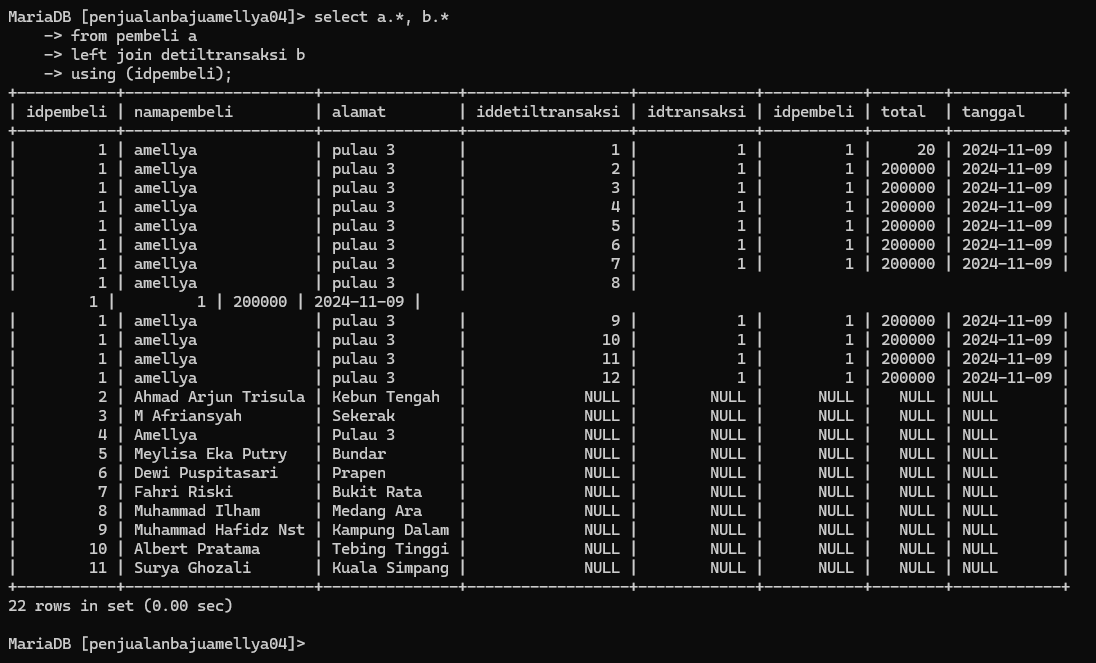
select a.\*, b.\*

from pembeli a

left join detiltransaksi b

using (idpembeli);

**Output :**

****

select a.\*, b.\*

from pembeli a

right join pembeli b

using (idpembeli);

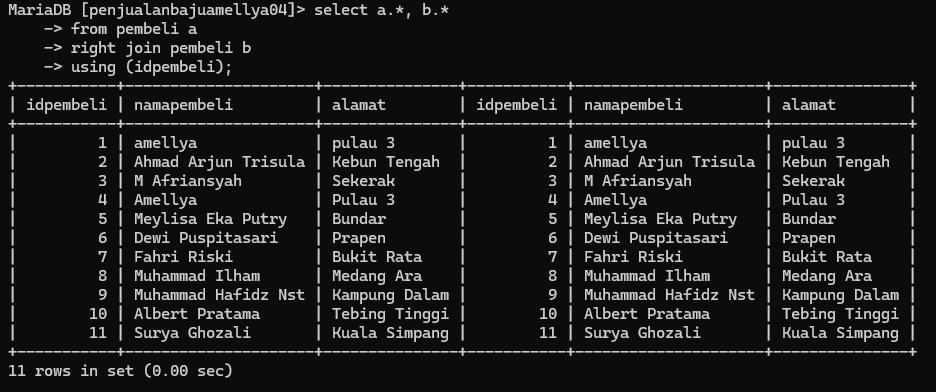
select a.\*, b.\*

from pembeli a

right join pembeli b

using (idpembeli);

**Output :**

****

select a.\*, b.\*

from pelanggan a

right join pembayaran b

using (id\_pembeli)

union all

select a.\*, b.\*

from pembeli a

left join pembayaran b

using (id\_pembeli);

select a.\*, b.\*

from pembeli a

right join detiltransaksi b

using (idpembeli)

union all

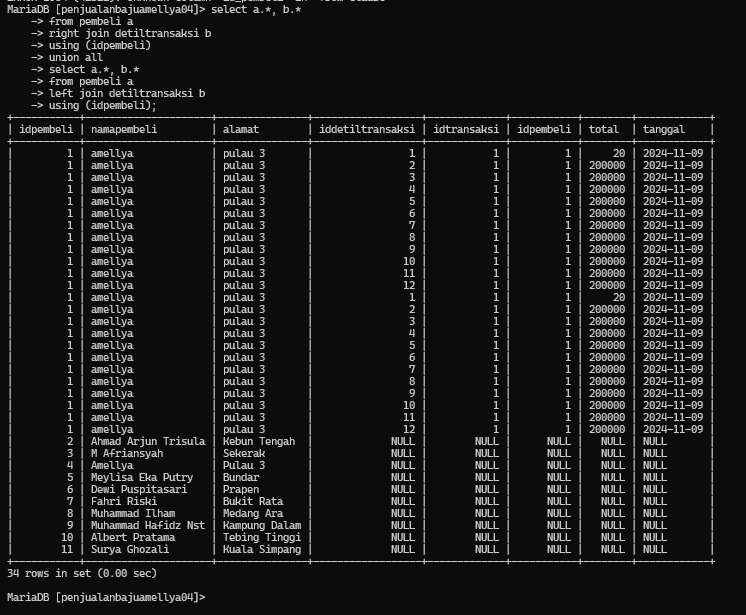
select a.\*, b.\*

from pembeli a

left join detiltransaksi b

using (idpembeli);

**Output :**

****

select a.nama\_pelanggan, b.total\_bayar

from pelanggan a

right join pembayaran b

using (id\_pelanggan)

union all

select a.nama\_pelanggan, b.total\_bayar

from pelanggan a

left join pembayaran b

using (id\_pelanggan);

select a.namabarang, b.jumlah

from barang a

right join transaksi b

using (idbarang)

union all

select a.namabarang, b.jumlah

from barang a

left join transaksi b

using (idbarang);

**Output:**

