**Laporan Tugas 1 Pengelolaan Basis Data**

“Basis Data Perpustakaan”

****

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Pengelolaan Basis Data Kelas E

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Program Studi S1 Teknik Informatika

Fakultas Teknik

Universitas Trunojoyo Madura

2020

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1. Menggunakan minimal 2 form

Form 1 Peminjaman

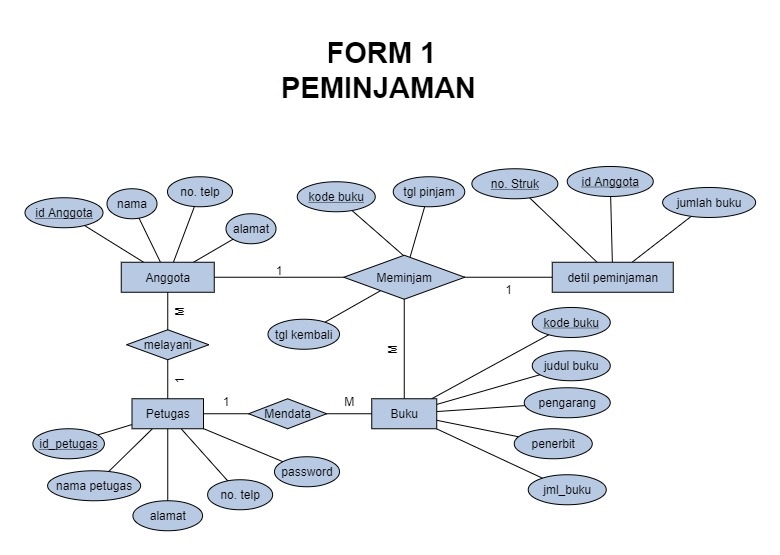


Form 2 Pengembalian

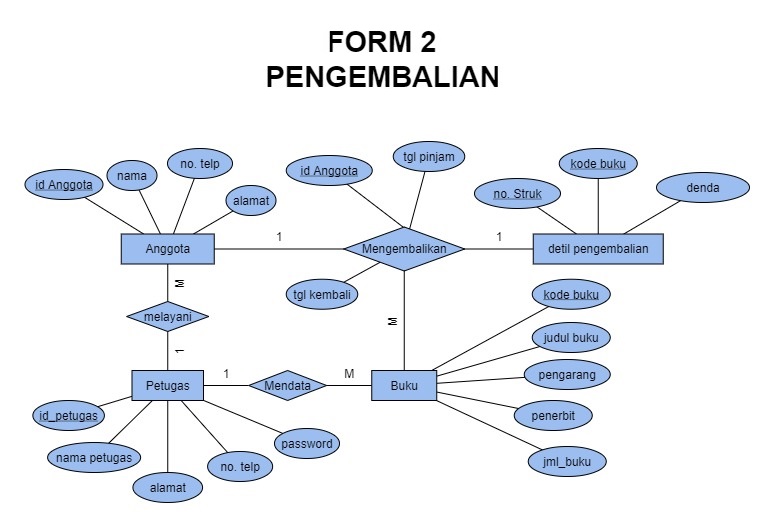


1. ER-Model per Form

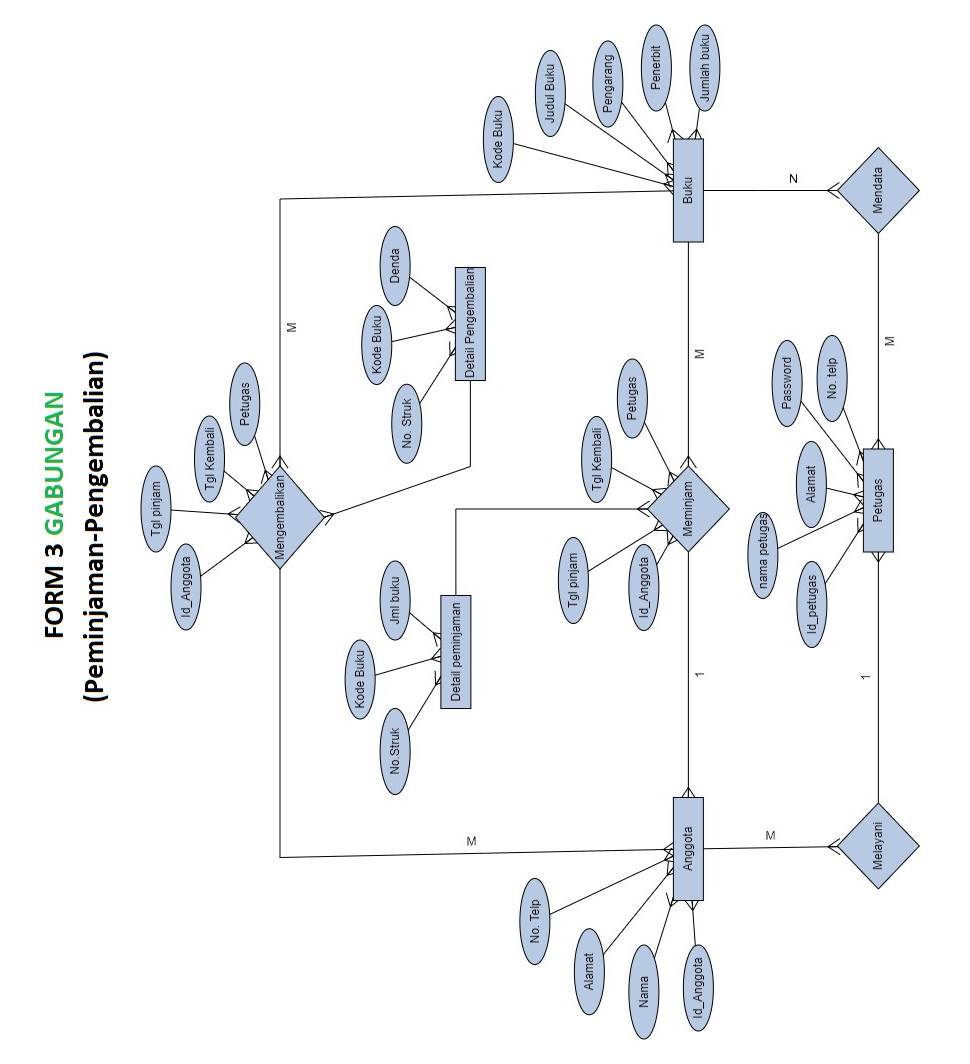
ER-Model form 1



ER-Model form 2



1. ER-Model Gabungan



1. Atruktur Model



1. Normalisasi

Unormalized Form (Bentuk tidak normal)

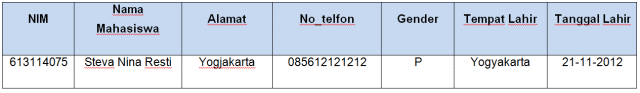


1 NF (Normalisasi Form bentuk 1)



2 NF (Normalisasi Form bentuk 2)

Tabel Mahasiswa



Tabel Peminjaman

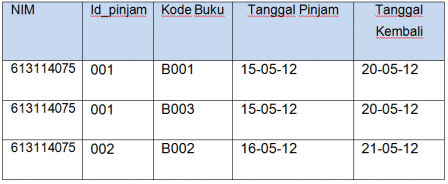


3 NF (Normalisasi Form bentuk 3)

Tabel Buku

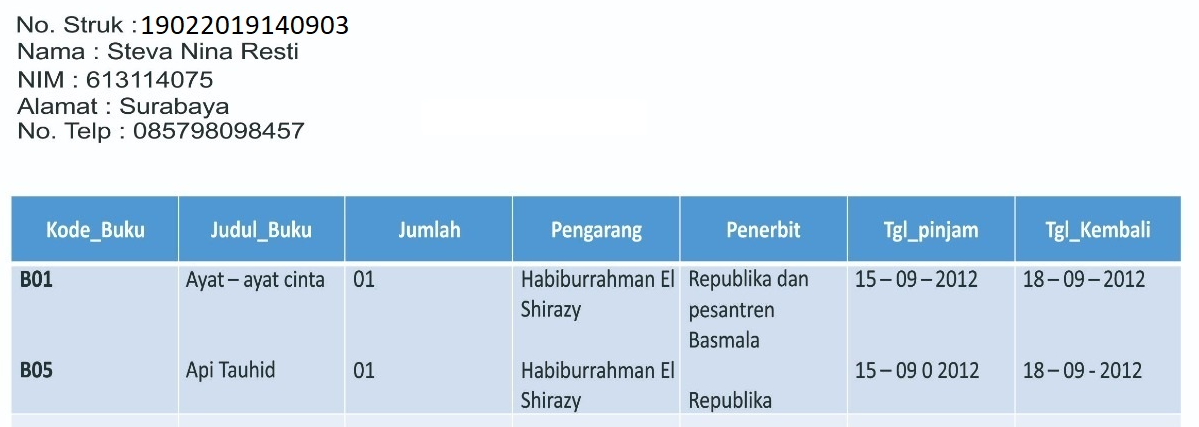


Tabel Dipinjam



BCNF (Bentuk Normal Boyce-Code)

Menghilangkan ketergantungan multivalue

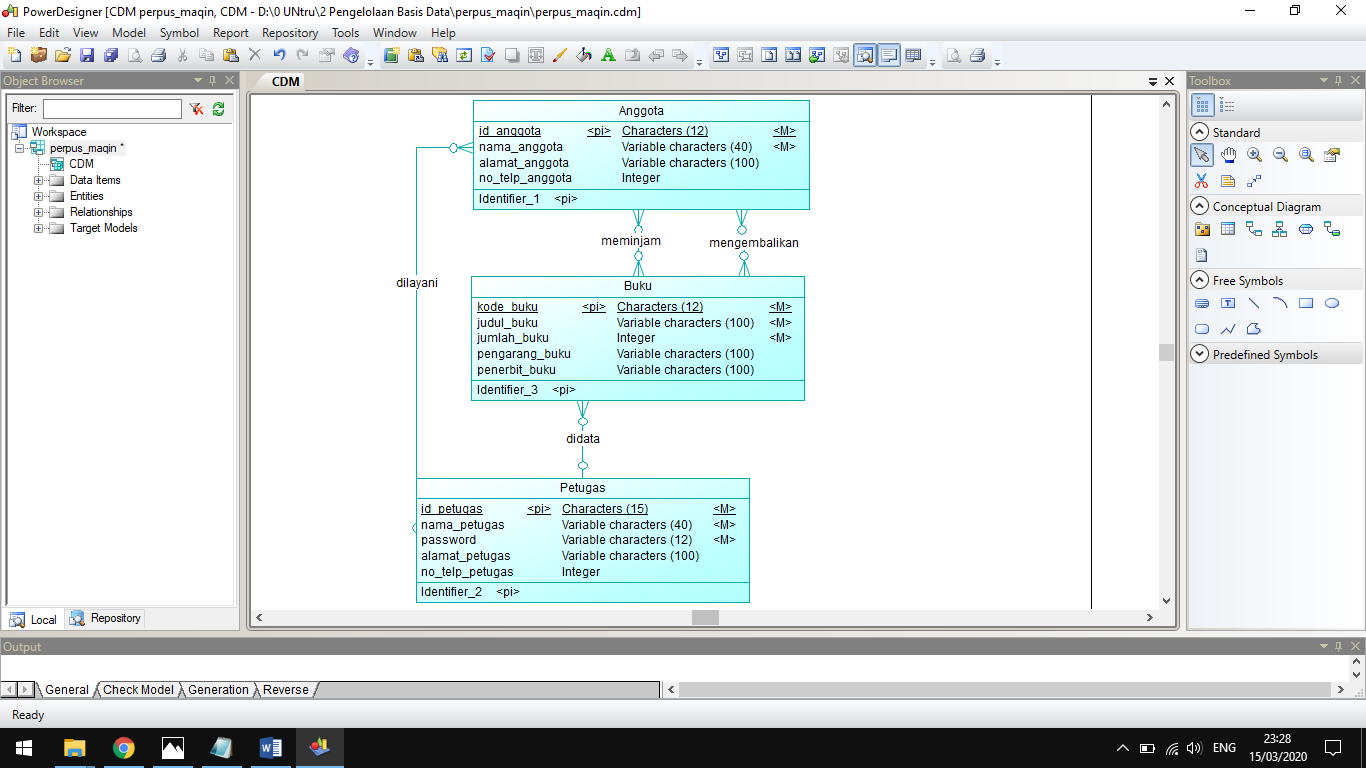


4 NF (Normalisasi Form bentuk 4)

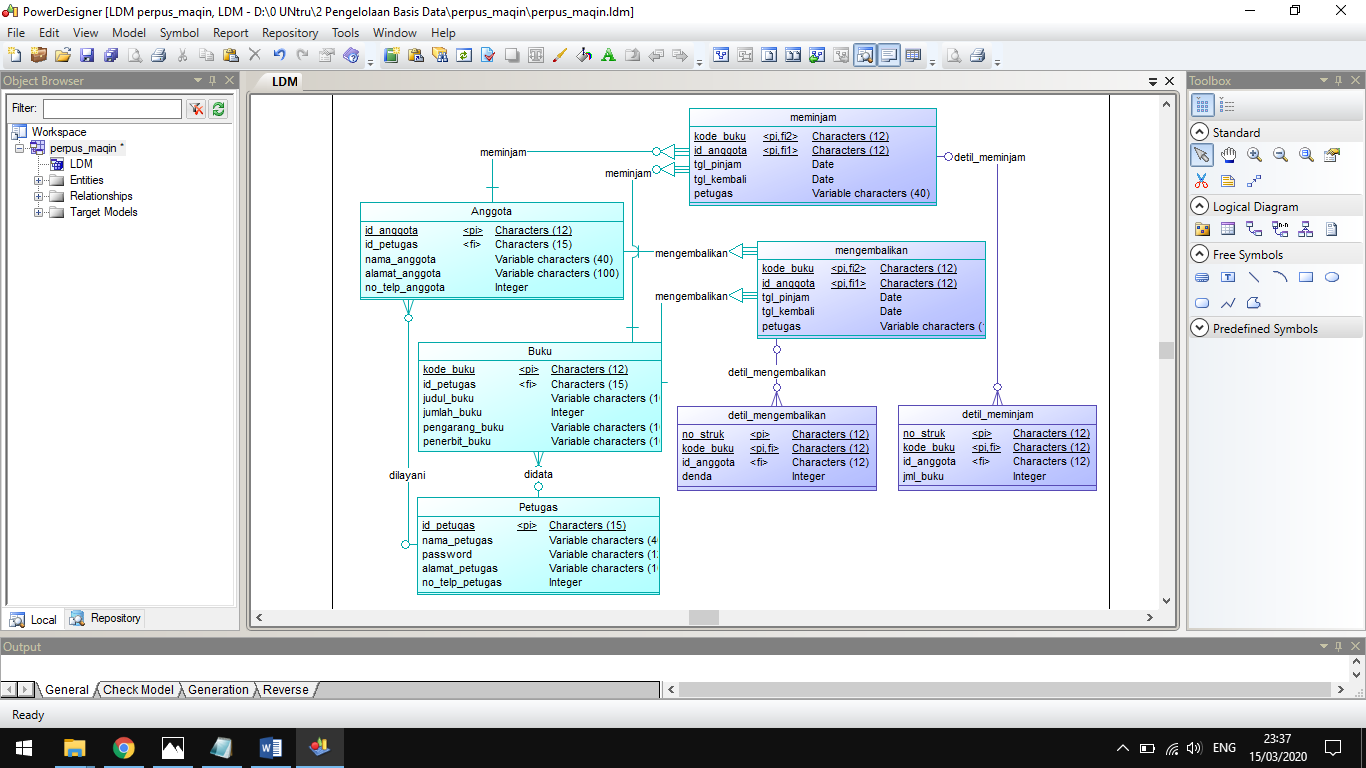


1. Power Designer

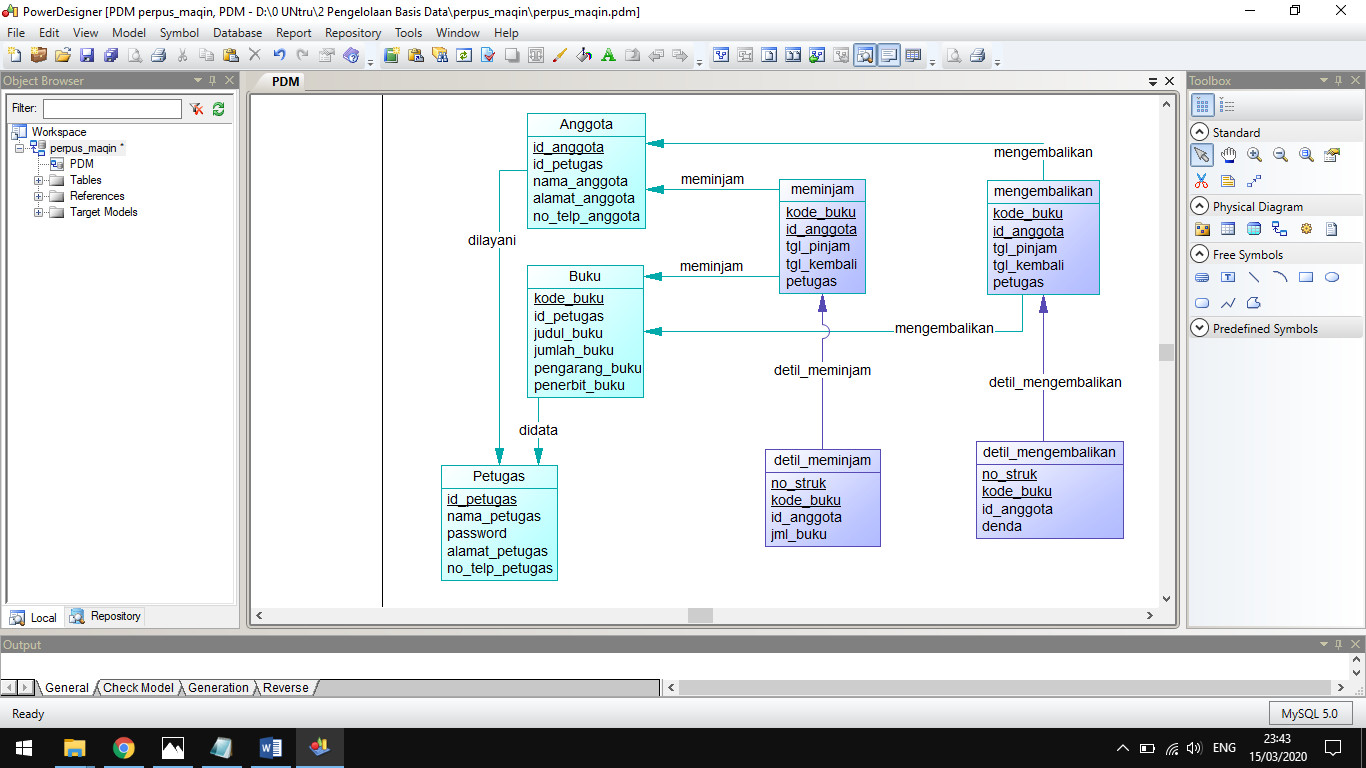
CDM



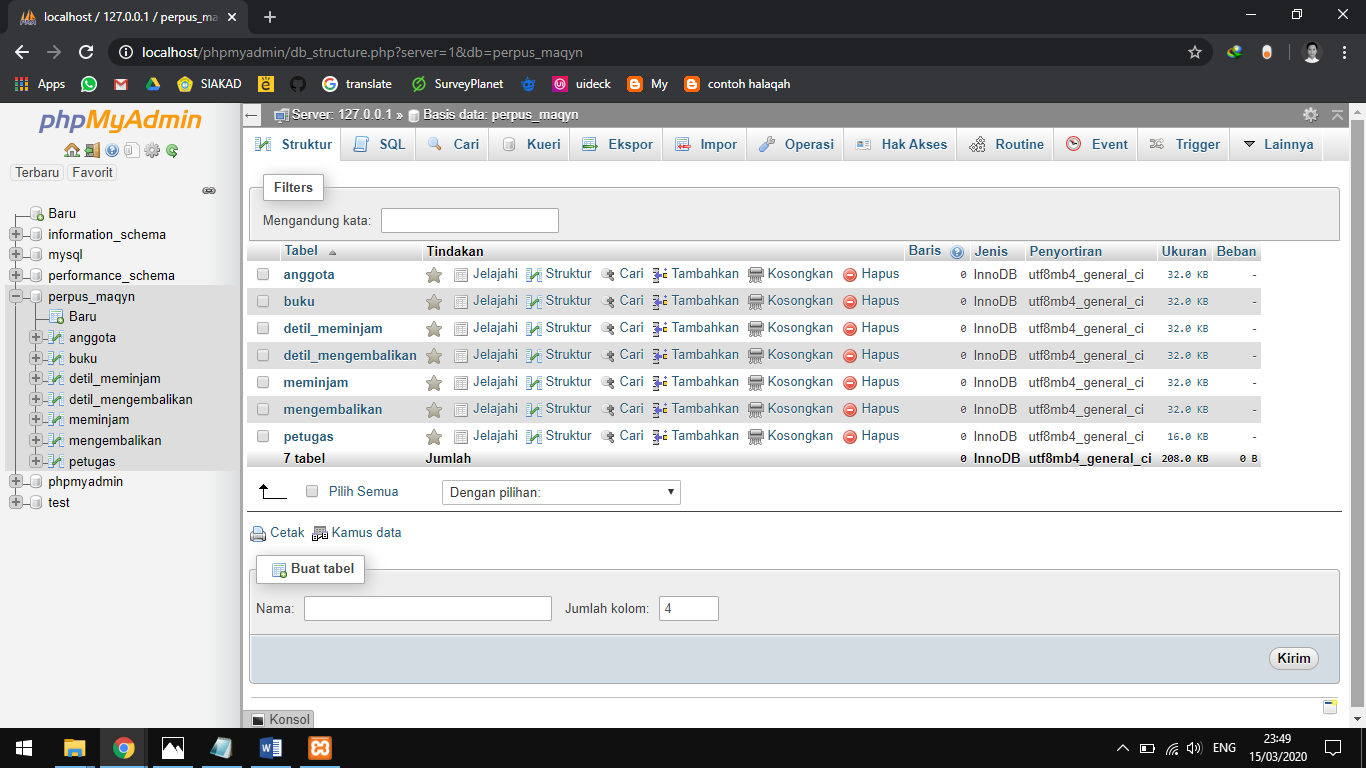
LDM

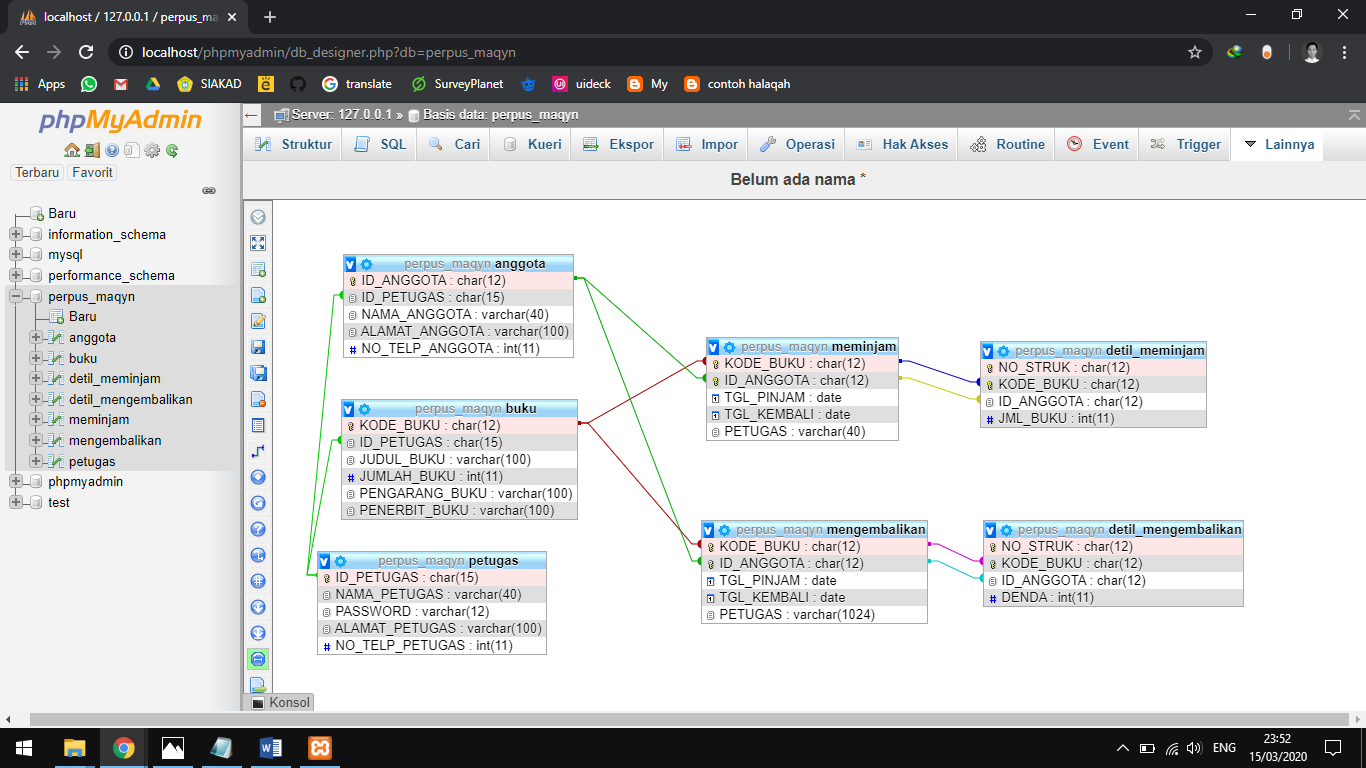


PDM



1. Mengenete pdm ke dbms mysql





/\*==============================================================\*/

/\* DBMS name: MySQL 5.0 \*/

/\* Created on: 12/03/2020 21:43:47 \*/

/\*==============================================================\*/

drop table if exists ANGGOTA;

drop table if exists BUKU;

drop table if exists DETIL\_MEMINJAM;

drop table if exists DETIL\_MENGEMBALIKAN;

drop table if exists MEMINJAM;

drop table if exists MENGEMBALIKAN;

drop table if exists PETUGAS;

/\*==============================================================\*/

/\* Table: ANGGOTA \*/

/\*==============================================================\*/

create table ANGGOTA

(

ID\_ANGGOTA char(12) not null,

ID\_PETUGAS char(15),

NAMA\_ANGGOTA varchar(40) not null,

ALAMAT\_ANGGOTA varchar(100),

NO\_TELP\_ANGGOTA int,

primary key (ID\_ANGGOTA)

);

alter table ANGGOTA comment 'tabel ini berisi identitas anggota perpustakaan';

/\*==============================================================\*/

/\* Table: BUKU \*/

/\*==============================================================\*/

create table BUKU

(

KODE\_BUKU char(12) not null,

ID\_PETUGAS char(15),

JUDUL\_BUKU varchar(100) not null,

JUMLAH\_BUKU int not null,

PENGARANG\_BUKU varchar(100),

PENERBIT\_BUKU varchar(100),

primary key (KODE\_BUKU)

);

/\*==============================================================\*/

/\* Table: DETIL\_MEMINJAM \*/

/\*==============================================================\*/

create table DETIL\_MEMINJAM

(

NO\_STRUK char(12) not null,

KODE\_BUKU char(12) not null,

ID\_ANGGOTA char(12),

JML\_BUKU int not null,

primary key (NO\_STRUK, KODE\_BUKU)

);

/\*==============================================================\*/

/\* Table: DETIL\_MENGEMBALIKAN \*/

/\*==============================================================\*/

create table DETIL\_MENGEMBALIKAN

(

NO\_STRUK char(12) not null,

KODE\_BUKU char(12) not null,

ID\_ANGGOTA char(12),

DENDA int,

primary key (NO\_STRUK, KODE\_BUKU)

);

/\*==============================================================\*/

/\* Table: MEMINJAM \*/

/\*==============================================================\*/

create table MEMINJAM

(

KODE\_BUKU char(12) not null,

ID\_ANGGOTA char(12) not null,

TGL\_PINJAM date not null,

TGL\_KEMBALI date not null,

PETUGAS varchar(40) not null,

primary key (KODE\_BUKU, ID\_ANGGOTA)

);

/\*==============================================================\*/

/\* Table: MENGEMBALIKAN \*/

/\*==============================================================\*/

create table MENGEMBALIKAN

(

KODE\_BUKU char(12) not null,

ID\_ANGGOTA char(12) not null,

TGL\_PINJAM date not null,

TGL\_KEMBALI date not null,

PETUGAS varchar(1024) not null,

primary key (KODE\_BUKU, ID\_ANGGOTA)

);

/\*==============================================================\*/

/\* Table: PETUGAS \*/

/\*==============================================================\*/

create table PETUGAS

(

ID\_PETUGAS char(15) not null,

NAMA\_PETUGAS varchar(40) not null,

PASSWORD varchar(12) not null,

ALAMAT\_PETUGAS varchar(100),

NO\_TELP\_PETUGAS int,

primary key (ID\_PETUGAS)

);

alter table ANGGOTA add constraint FK\_DILAYANI foreign key (ID\_PETUGAS)

references PETUGAS (ID\_PETUGAS) on delete restrict on update cascade;

alter table BUKU add constraint FK\_DIDATA foreign key (ID\_PETUGAS)

references PETUGAS (ID\_PETUGAS) on delete restrict on update cascade;

alter table DETIL\_MEMINJAM add constraint FK\_RELATIONSHIP\_7 foreign key (KODE\_BUKU, ID\_ANGGOTA)

references MEMINJAM (KODE\_BUKU, ID\_ANGGOTA) on delete restrict on update cascade;

alter table DETIL\_MENGEMBALIKAN add constraint FK\_DETIL\_MENGEMBALIKAN foreign key (KODE\_BUKU, ID\_ANGGOTA)

references MENGEMBALIKAN (KODE\_BUKU, ID\_ANGGOTA) on delete restrict on update cascade;

alter table MEMINJAM add constraint FK\_MEMINJAM foreign key (KODE\_BUKU)

references BUKU (KODE\_BUKU) on delete restrict on update cascade;

alter table MEMINJAM add constraint FK\_MEMINJAM2 foreign key (ID\_ANGGOTA)

references ANGGOTA (ID\_ANGGOTA) on delete restrict on update cascade;

alter table MENGEMBALIKAN add constraint FK\_MENGEMBALIKAN foreign key (KODE\_BUKU)

references BUKU (KODE\_BUKU) on delete restrict on update cascade;

alter table MENGEMBALIKAN add constraint FK\_MENGEMBALIKAN2 foreign key (ID\_ANGGOTA)

references ANGGOTA (ID\_ANGGOTA) on delete restrict on update cascade;

drop table if exists MENGEMBALIKAN;

drop table if exists PETUGAS;

/\*==============================================================\*/

/\* Table: ANGGOTA \*/

/\*==============================================================\*/

create table ANGGOTA

(

ID\_ANGGOTA char(12) not null,

ID\_PETUGAS char(15),

NAMA\_ANGGOTA varchar(40) not null,

ALAMAT\_ANGGOTA varchar(100),

NO\_TELP\_ANGGOTA int,

primary key (ID\_ANGGOTA)

);

alter table ANGGOTA comment 'tabel ini berisi identitas anggota perpustakaan';

/\*==============================================================\*/

/\* Table: BUKU \*/

/\*==============================================================\*/

create table BUKU

(

KODE\_BUKU char(12) not null,

ID\_PETUGAS char(15),

JUDUL\_BUKU varchar(100) not null,

JUMLAH\_BUKU int not null,

PENGARANG\_BUKU varchar(100),

PENERBIT\_BUKU varchar(100),

primary key (KODE\_BUKU)

);

/\*==============================================================\*/

/\* Table: DETIL\_MEMINJAM \*/

/\*==============================================================\*/

create table DETIL\_MEMINJAM

(

NO\_STRUK char(12) not null,

KODE\_BUKU char(12) not null,

ID\_ANGGOTA char(12),

JML\_BUKU int not null,

primary key (NO\_STRUK, KODE\_BUKU)

);

/\*==============================================================\*/

/\* Table: DETIL\_MENGEMBALIKAN \*/

/\*==============================================================\*/

create table DETIL\_MENGEMBALIKAN

(

NO\_STRUK char(12) not null,

KODE\_BUKU char(12) not null,

ID\_ANGGOTA char(12),

DENDA int,

primary key (NO\_STRUK, KODE\_BUKU)

);

/\*==============================================================\*/

/\* Table: MEMINJAM \*/

/\*==============================================================\*/

create table MEMINJAM

(

KODE\_BUKU char(12) not null,

ID\_ANGGOTA char(12) not null,

TGL\_PINJAM date not null,

TGL\_KEMBALI date not null,

PETUGAS varchar(40) not null,

primary key (KODE\_BUKU, ID\_ANGGOTA)

);

/\*==============================================================\*/

/\* Table: MENGEMBALIKAN \*/

/\*==============================================================\*/

create table MENGEMBALIKAN

(

KODE\_BUKU char(12) not null,

ID\_ANGGOTA char(12) not null,

TGL\_PINJAM date not null,

TGL\_KEMBALI date not null,

PETUGAS varchar(1024) not null,

primary key (KODE\_BUKU, ID\_ANGGOTA)

);

/\*==============================================================\*/

/\* Table: PETUGAS \*/

/\*==============================================================\*/

create table PETUGAS

(

ID\_PETUGAS char(15) not null,

NAMA\_PETUGAS varchar(40) not null,

PASSWORD varchar(12) not null,

ALAMAT\_PETUGAS varchar(100),

NO\_TELP\_PETUGAS int,

primary key (ID\_PETUGAS)

);

alter table ANGGOTA add constraint FK\_DILAYANI foreign key (ID\_PETUGAS)

references PETUGAS (ID\_PETUGAS) on delete restrict on update cascade;

alter table BUKU add constraint FK\_DIDATA foreign key (ID\_PETUGAS)

references PETUGAS (ID\_PETUGAS) on delete restrict on update cascade;

alter table DETIL\_MEMINJAM add constraint FK\_RELATIONSHIP\_7 foreign key (KODE\_BUKU, ID\_ANGGOTA)

references MEMINJAM (KODE\_BUKU, ID\_ANGGOTA) on delete restrict on update cascade;

alter table DETIL\_MENGEMBALIKAN add constraint FK\_DETIL\_MENGEMBALIKAN foreign key (KODE\_BUKU, ID\_ANGGOTA)

references MENGEMBALIKAN (KODE\_BUKU, ID\_ANGGOTA) on delete restrict on update cascade;

alter table MEMINJAM add constraint FK\_MEMINJAM foreign key (KODE\_BUKU)

references BUKU (KODE\_BUKU) on delete restrict on update cascade;

alter table MEMINJAM add constraint FK\_MEMINJAM2 foreign key (ID\_ANGGOTA)

references ANGGOTA (ID\_ANGGOTA) on delete restrict on update cascade;

alter table MENGEMBALIKAN add constraint FK\_MENGEMBALIKAN foreign key (KODE\_BUKU)

references BUKU (KODE\_BUKU) on delete restrict on update cascade;

alter table MENGEMBALIKAN add constraint FK\_MENGEMBALIKAN2 foreign key (ID\_ANGGOTA)

references ANGGOTA (ID\_ANGGOTA) on delete restrict on update cascade;

(

KODE\_BUKU char(12) not null,

ID\_ANGGOTA char(12) not null,

TGL\_PINJAM date not null,

TGL\_KEMBALI date not null,

PETUGAS varchar(40) not null,

primary key (KODE\_BUKU, ID\_ANGGOTA)

);

/\*==============================================================\*/

/\* Table: MENGEMBALIKAN \*/

/\*==============================================================\*/

create table MENGEMBALIKAN

(

KODE\_BUKU char(12) not null,

ID\_ANGGOTA char(12) not null,

TGL\_PINJAM date not null,

TGL\_KEMBALI date not null,

PETUGAS varchar(1024) not null,

primary key (KODE\_BUKU, ID\_ANGGOTA)

);

/\*==============================================================\*/

/\* Table: PETUGAS \*/

/\*==============================================================\*/

create table PETUGAS

(

ID\_PETUGAS char(15) not null,

NAMA\_PETUGAS varchar(40) not null,

PASSWORD varchar(12) not null,

ALAMAT\_PETUGAS varchar(100),

NO\_TELP\_PETUGAS int,

primary key (ID\_PETUGAS)

);

alter table ANGGOTA add constraint FK\_DILAYANI foreign key (ID\_PETUGAS)

references PETUGAS (ID\_PETUGAS) on delete restrict on update cascade;

alter table BUKU add constraint FK\_DIDATA foreign key (ID\_PETUGAS)

references PETUGAS (ID\_PETUGAS) on delete restrict on update cascade;

alter table DETIL\_MEMINJAM add constraint FK\_RELATIONSHIP\_7 foreign key (KODE\_BUKU, ID\_ANGGOTA)

references MEMINJAM (KODE\_BUKU, ID\_ANGGOTA) on delete restrict on update cascade;

alter table DETIL\_MENGEMBALIKAN add constraint FK\_DETIL\_MENGEMBALIKAN foreign key (KODE\_BUKU, ID\_ANGGOTA)

references MENGEMBALIKAN (KODE\_BUKU, ID\_ANGGOTA) on delete restrict on update cascade;

alter table MEMINJAM add constraint FK\_MEMINJAM foreign key (KODE\_BUKU)

references BUKU (KODE\_BUKU) on delete restrict on update cascade;

alter table MEMINJAM add constraint FK\_MEMINJAM2 foreign key (ID\_ANGGOTA)

references ANGGOTA (ID\_ANGGOTA) on delete restrict on update cascade;

alter table MENGEMBALIKAN add constraint FK\_MENGEMBALIKAN foreign key (KODE\_BUKU)

references BUKU (KODE\_BUKU) on delete restrict on update cascade;

alter table MENGEMBALIKAN add constraint FK\_MENGEMBALIKAN2 foreign key (ID\_ANGGOTA)

references ANGGOTA (ID\_ANGGOTA) on delete restrict on update cascade;

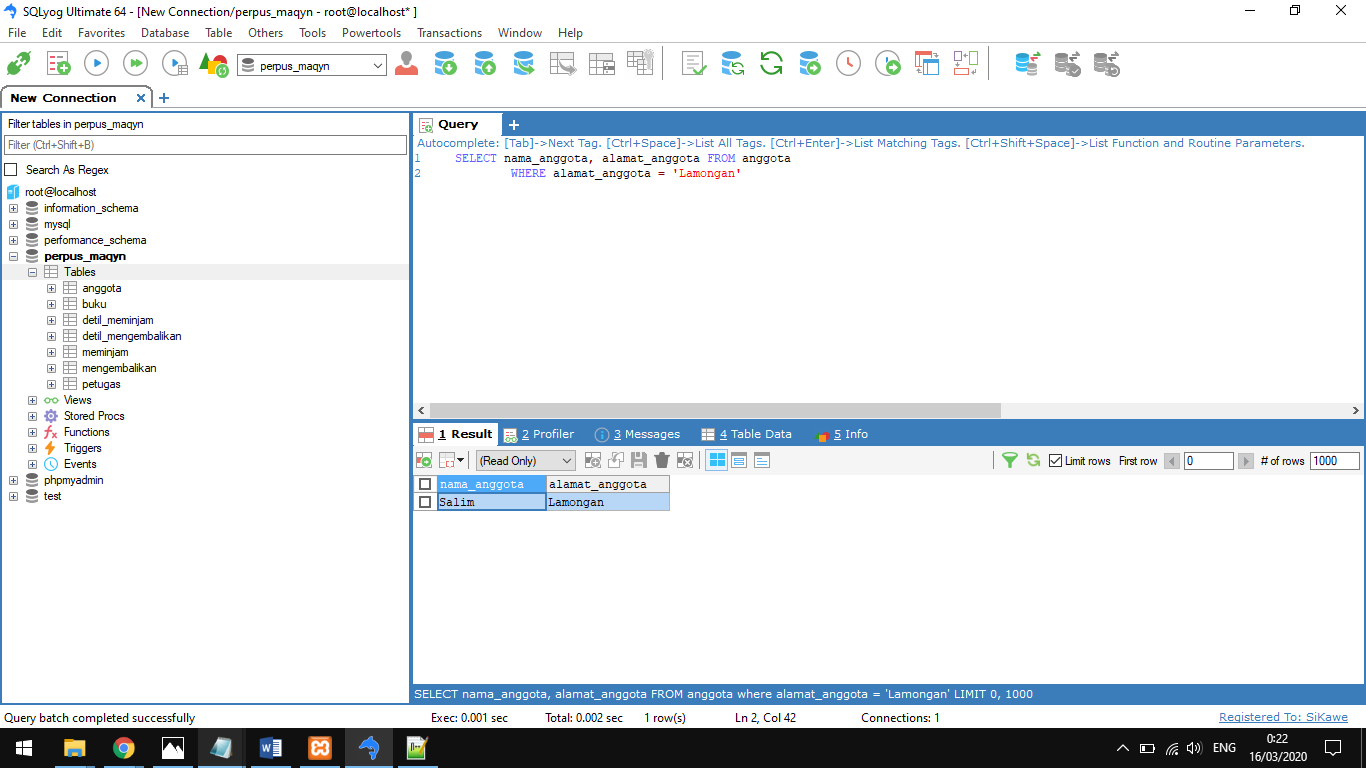
1. Run script di mysql

Query:

SELECT nama\_anggota, alamat\_anggota FROM anggota

where alamat\_anggota = 'Lamongan'

Output:

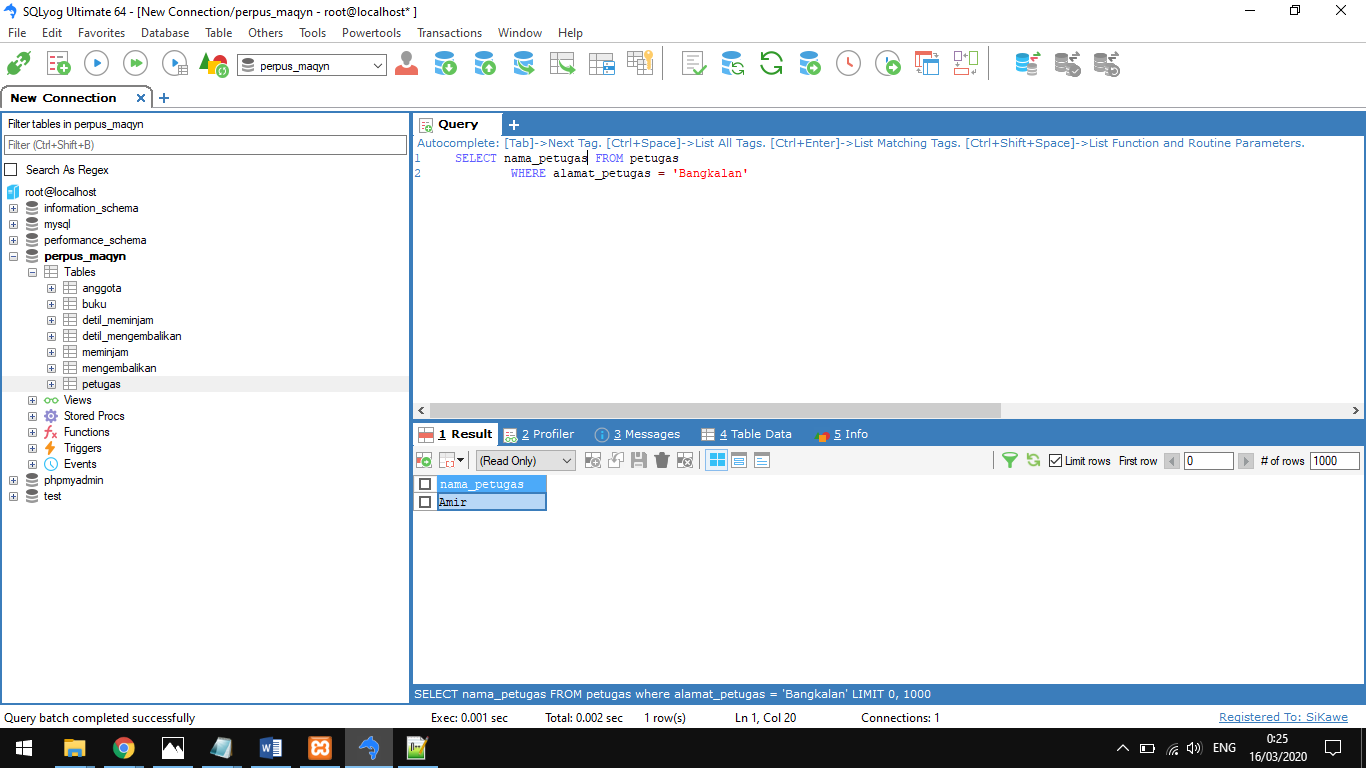


Query:

SELECT nama\_petugas FROM petugas

WHERE alamat\_petugas = 'Bangkalan'

Output:

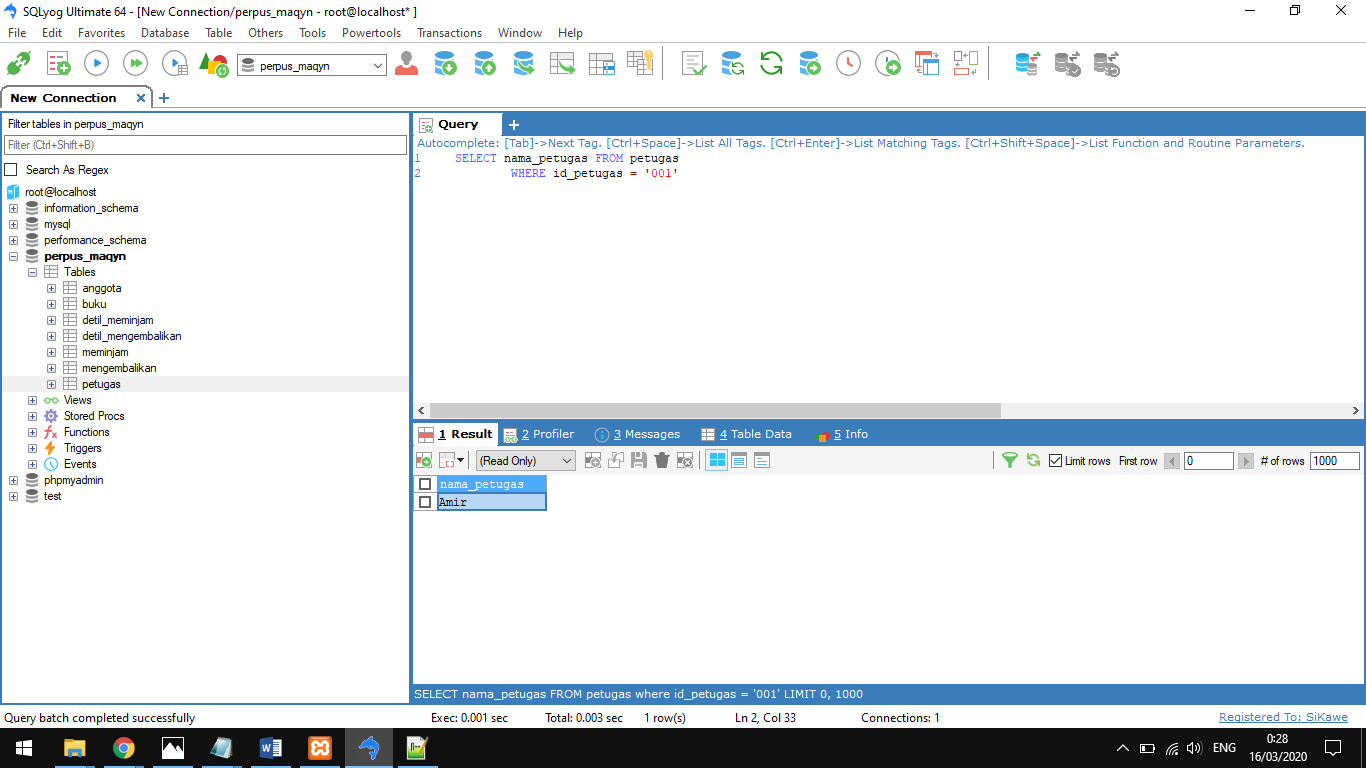


Query:

SELECT nama\_petugas FROM petugas

WHERE id\_petugas = '001'

Output:



Daftar Pustaka

<http://zonaaeb.blogspot.com/2013/11/pranbas-pt9-normalisasi.html> (diakses pada 6 maret 2020 pukul 09.30 wib)

<https://inet613111053.wordpress.com/2012/11/22/basis-data-perpustakaa/> (diakses pada 6 maret 2020 pukul 09.30 wib)

<https://mafan.web.ugm.ac.id/database-perpustakaan/> (diakses pada 7 maret 2020 pukul 10.32 wib)

<https://www.slideshare.net/binamulia/analisis-dan-perancangan-basis-data-perpustakaan> (diakses pada 12 maret 2020 pukul 19.43 wib)