

Mencoba perintah DDL

Login dari psql

```
Server [localhost]:
Database [postgres]: movie
Port [5432]:
Username [postgres]:
Password for user postgres:
psql (16.3)
WARNING: Console code page (850) differs from Windows code page (1252)
        8-bit characters might not work correctly. See psql reference
        page "Notes for Windows users" for details.
Type "help" for help.
```

Menambah table baru

```
movie=# create table ninja (
movie(#      id int primary key,
movie(#      nama varchar,
movie(#      umur int,
movie(#      desa varchar,
movie(#      tgl_regis date
movie(# );
CREATE TABLE
```

Melihat Hasil

```
movie=# \d

              List of relations
Schema |      Name      | Type  | Owner
-----+-----+-----+-----
public | actor           | table | postgres
public | director        | table | postgres
public | genres          | table | postgres
public | movie           | table | postgres
public | movie_cast      | table | postgres
public | movie_direction | table | postgres
public | movie_genres    | table | postgres
public | ninja           | table | postgres
public | rating          | table | postgres
public | reviewer        | table | postgres
(10 rows)
```

Menambah dan menghapus kolom di tabel

```
movie=# alter table ninja add column email varchar;
ALTER TABLE
movie=# alter table ninja drop column umur;
ALTER TABLE
```

Melihat hasil kolom table ninja setelah dirubah fieldnya

```
movie=# \d+ ninja

              Table "public.ninja"
  Column   |      Type      | Collation | Nullable | Default | Storage  | Compression | Stats target | Description
-----+-----+-----+-----+-----+-----+-----+-----+-----
id         | integer        |           | not null |         | plain    |             |             |
nama      | character varying |           |          |         | extended |             |             |
desa      | character varying |           |          |         | extended |             |             |
tgl_regis | date           |           |          |         | plain    |             |             |
email     | character varying |           |          |         | extended |             |             |
Indexes:
    "ninja_pkey" PRIMARY KEY, btree (id)
Access method: heap
```

Merubah tipe data

Tipe data awal

```
movie=# \d+ ninja
```

Table "public.ninja"								
Column	Type	Collation	Nullable	Default	Storage	Compression	Stats target	Description
id	integer		not null		plain			
nama	character varying				extended			
desa	character varying				extended			
tgl_regis	date				plain			
email	character varying				extended			

Indexes:
"ninja_pkey" PRIMARY KEY, btree (id)
Access method: heap

Dirubah ke bigint

```
movie=# alter table ninja alter column id type bigint;  
ALTER TABLE
```

Hasil

```
movie=# \d+ ninja
```

Table "public.ninja"								
Column	Type	Collation	Nullable	Default	Storage	Compression	Stats target	Description
id	bigint		not null		plain			
nama	character varying				extended			
desa	character varying				extended			
tgl_regis	date				plain			
email	character varying				extended			

Indexes:
"ninja_pkey" PRIMARY KEY, btree (id)
Access method: heap

Mengganti nama kolom

```
movie=# alter table ninja rename column tgl_regis to regis_date;  
ALTER TABLE
```

Hasil

```
movie=# \d+ ninja
```

Table "public.ninja"								
Column	Type	Collation	Nullable	Default	Storage	Compression	Stats target	Description
id	bigint		not null		plain			
nama	character varying				extended			
desa	character varying				extended			
regis_date	date				plain			
email	character varying				extended			

Indexes:
"ninja_pkey" PRIMARY KEY, btree (id)
Access method: heap

Perintah DML

```
movie=# insert into ninja (id, nama, desa, email) values (3, 'sasuke', 'konoha', 'sasuke@mail.com');  
INSERT 0 1
```

```
movie=# update ninja set desa='gajelas' where nama='sasuke';  
UPDATE 1
```

```
movie=# delete from ninja where nama='sasuke';  
DELETE 1
```

Pemakaian fungsi di sql : concat()

Menggabungkan nama depan dan belakang

```
movie=# select act_id, concat(act_fname, ' ', act_lname) nama_lengkap from actor;
```

act_id	nama_lengkap
101	James Stewart
102	Deborah Kerr
103	Peter OToole
104	Robert De Niro
105	F. Murray Abraham
106	Harrison Ford
107	Nicole Kidman
108	Stephen Baldwin
109	Jack Nicholson

```

110 | Mark Wahlberg
111 | Woody Allen
112 | Claire Danes
113 | Tim Robbins
114 | Kevin Spacey
115 | Kate Winslet
116 | Robin Williams
117 | Jon Voight
118 | Ewan McGregor
119 | Christian Bale
120 | Maggie Gyllenhaal
121 | Dev Patel
122 | Sigourney Weaver
123 | David Aston
124 | Ali Astin
(24 rows)

```

Ambil hanya 10 karakter dari kiri
Sebelum

```

movie=# select mov_title from movie limit 2;
      mov_title
-----
Vertigo
The Innocents
(2 rows)

```

Sesudah

```

movie=# select left(mov_title, 10) from movie limit 2;
      left
-----
Vertigo
The Innoce
(2 rows)

```

Ambil karakter 5 dari sebelah kiri

```

movie=# select left(mov_title, 5) from movie limit 5;
      left
-----
Verti
The I
Lawre
The D
Amade
(5 rows)

```

Output berupa json format

```

movie=# select json_agg(film)
movie=# from (select * from movie) film limit 5;
                                     json_agg
-----
[{"mov_id":901,"mov_title":"Vertigo","mov_year":1958,"mov_time":128,"mov_lang":"English","mov_dt_rel":"1958-08-24","mov_rel_country":"UK"},
{"mov_id":902,"mov_title":"The Innocents","mov_year":1961,"mov_time":100,"mov_lang":"English","mov_dt_rel":"1962-02-19","mov_rel_country":"SM"},
{"mov_id":903,"mov_title":"Lawrence of Arabia","mov_year":1962,"mov_time":216,"mov_lang":"English","mov_dt_rel":"1962-12-11","mov_rel_country":"UK"},
{"mov_id":904,"mov_title":"The Deer Hunter","mov_year":1978,"mov_time":183,"mov_lang":"English","mov_dt_rel":"1979-03-08","mov_rel_country":"UK"},
{"mov_id":905,"mov_title":"Amadeus","mov_year":1984,"mov_time":160,"mov_lang":"English","mov_dt_rel":"1985-01-07","mov_rel_country":"UK"},
{"mov_id":906,"mov_title":"Blade Runner","mov_year":1982,"mov_time":117,"mov_lang":"English","mov_dt_rel":"1982-09-09","mov_rel_country":"UK"},
{"mov_id":907,"mov_title":"Eyes Wide Shut","mov_year":1999,"mov_time":159,"mov_lang":"English","mov_dt_rel":null,"mov_rel_country":"UK"},
{"mov_id":908,"mov_title":"The Usual Suspects","mov_year":1995,"mov_time":106,"mov_lang":"English","mov_dt_rel":"1995-08-25","mov_rel_country":"UK"},
{"mov_id":909,"mov_title":"Chinatown","mov_year":1974,"mov_time":130,"mov_lang":"English","mov_dt_rel":"1974-08-08","mov_rel_country":"UK"},
{"mov_id":910,"mov_title":"Boogie Nights","mov_year":1997,"mov_time":155,"mov_lang":"English","mov_dt_rel":"1998-02-16","mov_rel_country":"UK"},
{"mov_id":911,"mov_title":"Annie Hall","mov_year":1977,"mov_time":93,"mov_lang":"English","mov_dt_rel":"1977-04-20","mov_rel_country":"USA"},
{"mov_id":912,"mov_title":"Princess Mononoke","mov_year":1997,"mov_time":134,"mov_lang":"Japanese","mov_dt_rel":"2001-10-19","mov_rel_country":"UK"},
{"mov_id":913,"mov_title":"The Shawshank Redemption","mov_year":1994,"mov_time":142,"mov_lang":"English","mov_dt_rel":
-- More --

```

Store Procedure

Stor Procedure merupakan sebuah fungsi dari SQL untuk menyimpan syntax SQL dan dapat digunakan berulang kali

Contoh disini buat table baru diisi dengan nilai tertentu kemudian membuat prosedure untuk melakukan transfer nilai dari satu baris ke baris yang lain

Mengcreate table baru dan mengisi

```

movie=# create table kucing (
movie(#      id smallserial primary key,
movie(#      name varchar not null,
movie(#      balance numeric(15, 2) not null
movie(# );

```

```
CREATE TABLE
movie=# insert into kucing(name, balance) values('ciki', 5000);
INSERT 0 1
movie=# insert into kucing(name, balance) values('bella', 12000);
INSERT 0 1
movie=#
```

melihat isi table

```
movie=# select * from kucing;
 id | name  | balance
-----+-----+-----
  1 | ciki  |  5000.00
  2 | bella | 12000.00
(2 rows)
```

Sintax Store Procedure

```
CREATE PROCEDURE nama_procedure(parameter)
LANGUAGE plpgsql AS $$
declare
-- variable
BEGIN
-- store procedure
END; $$;
```

Membuat Store Procedure transfer nilai

```
movie=# create or replace procedure transfer_duit(
movie(#   sender int,
movie(#   receiver int,
movie(#   amount dec
movie(# )
movie=# language plpgsql
movie=# as $$
movie$# begin
movie$#   -- subtracting the amount from the sender's account
movie$#   update kucing
movie$#   set balance = balance - amount
movie$#   where id = sender;
movie$#
movie$#   -- adding the amount to the receiver's account
movie$#   update kucing
movie$#   set balance = balance + amount
movie$#   where id = receiver;
movie$#
movie$#   commit;
movie$# end;$$;
CREATE PROCEDURE
```

Menjalankan store Procedure

```
movie=# call transfer_duit(2,1,3000);
CALL
```

Melihat hasilnya

awal

```
movie=# select * from kucing;
 id | name  | balance
-----+-----+-----
  1 | ciki  |  5000.00
  2 | bella | 12000.00
(2 rows)
```

Jalankan store

```
movie=# call transfer_duit(2,1,3000);
CALL
```

hasil

```
movie=# select * from kucing;
 id | name  | balance
-----+-----+-----
  2 | bella | 9000.00
  1 | ciki  | 8000.00
(2 rows)
```

Melihat store procedure yang dimiliki

```
movie=# \df

```

Schema	Name	Result data type	Argument data types	Type
public	transfer_duit		IN sender integer, IN receiver integer, IN amount numeric	proc

```
(1 row)
```