

Task 3 – Data Manipulation Language

Release 1: Create, Update, and Delete Data

1. Insert

a. Insert 3 Product Type

Query Query History

```
1 SELECT * from product_type;
2 -- a. Insert 3 Product Type
3 INSERT INTO product_type (id, nama) values
4     ('1','Smartphone'),
5     ('2','Laptop'),
6     ('3','Aksesoris');
7
```

Data Output Messages Notifications

	id [PK] integer	nama text
1	1	Smartphone
2	2	Laptop
3	3	Aksesoris

b. Insert 2 Product dengan Product type id=1

```
8 SELECT * from product;
9 INSERT INTO product (id, nama, stok, harga, product_type_id) values
10     (1,'Iphone 15',10,20000000,1),
11     (2,'Iphone 15 Pro Max',10,30000000,1);
```

Data Output Messages Notifications

	id [PK] integer	nama text	stok integer	harga integer	product_type_id integer	product_desc. integer
1	1	Iphone 15	10	20000000	1	
2	2	Iphone 15 Pro Max	10	30000000	1	

c. Insert 3 Product dengan Product type id=2

```

12 SELECT * FROM product where product_type_id=2;
13 INSERT INTO product (id, nama, stok, harga, product_type_id) values
14     (3,'Laptop HP Victus',15,14000000,2),
15     (4,'MacBook Air M2',5,20000000,2),
16     (5,'Asus ROG Flow',10,20000000,2);

```

	id [PK] integer	nama text	stok integer	harga integer	product_type_id integer	product_desc_id integer
1	3	Laptop HP Victus	15	14000000	2	
2	4	MacBook Air M2	5	20000000	2	
3	5	Asus ROG Flow	10	20000000	2	

d. Insert 3 Product dengan Product type id=3

```

17 SELECT * FROM product where product_type_id=3;
18 INSERT INTO product (id, nama, stok, harga, product_type_id) values
19     (6,'Keyboard Gamen Titan',25,300000,3),
20     (7,'Apple AirPods Gen2',20,1700000,3),
21     (8,'Headset Sony WH-1000',10,3800000,3);

```

	id [PK] integer	nama text	stok integer	harga integer	product_type_id integer	product_desc_id integer
1	6	Keyboard Gamen Titan	25	300000	3	
2	7	Apple AirPods Gen2	20	1700000	3	
3	8	Headset Sony WH-1000	10	3800000	3	

e. Insert Product description pada setiap product

```

24 INSERT INTO product_description (id, description) values
25     (1,'Iphone Terbaru, Memory 256 GB'),
26     (2,'Iphone Terbaik, Memory 512 GB'),
27     (3,'AMD Ryzen 5, RAM 16 GB'),
28     (4,'M2 Chip 8Core, RAM 8 GB'),
29     (5,'Intel i9, RAM 16 GB'),
30     (6,'RGB, Ergonomic Design'),
31     (7,'High Fidelity, Noice Cancelling'),
32     (8,'Noice Cancelling, Audio Soc');
33 update product set product_desc_id = 1 where id = 1;
34 update product set product_desc_id = 2 where id = 2;
35 update product set product_desc_id = 3 where id = 3;
36 update product set product_desc_id = 4 where id = 4;
37 update product set product_desc_id = 5 where id = 5;
38 update product set product_desc_id = 6 where id = 6;
39 update product set product_desc_id = 7 where id = 7;
40 update product set product_desc_id = 8 where id = 8;

```

	id [PK] integer	nama text	stok integer	harga integer	product_type_id integer	product_desc_id integer	merk integer
1	1	Iphone 15	10	20000000	1	1	
2	2	Iphone 15 Pro Max	10	30000000	1	2	
3	3	Laptop HP Victus	15	14000000	2	3	
4	4	MacBook Air M2	5	20000000	2	4	
5	5	Asus ROG Flow	10	20000000	2	5	

Total rows: 8 of 8 Query complete 00:00:00.469

f. Insert 3 Payment Methods

```
42 SELECT * FROM payment_method;
43 INSERT INTO payment_method (id, nama) values
44     (1,'Cash/Tunai'),
45     (2,'Debit'),
46     (3,'e-Wallet');
```

Data Output	Messages	Notifications												
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	id [PK] integer	nama text												
1	1	Cash/Tunai												
2	2	Debit												
3	3	e-Wallet												

g. Insert 5 pelanggan pada tabel pelanggan

```
SELECT * FROM pelanggan;
INSERT INTO pelanggan (id, nama, alamat, tanggal_lahir, gender, created_at, email) values
(1,'Adam','Jakarta Pusat','2000-01-01','Laki-Laki','2023-09-15','adam@gm.com'),
(2,'Nurul','Bekasi','2000-02-02','Perempuan','2023-09-05','nurul@gm.com'),
(3,'Taufik','Jakarta Utara','2000-03-03','Laki-Laki','2023-09-01','taufik@gm.com'),
(4,'Kurrahman','Malang','2000-04-04','Laki-Laki','2023-09-10','kurrahman@gm.com'),
(5,'Amanda Nisa','Bandung','2000-05-09','Perempuan','2023-09-09','mandanisa@gm.com');
```

Output

Messages

Notifications

▼

▼

id [PK] integer	nama text	alamat text	tanggal_lahir date	gender gender	created_at date	email text
1	Adam	Jakarta Pusat	2000-01-01	Laki-Laki	2023-09-15	adam@gm.com
2	Nurul	Bekasi	2000-02-02	Perempuan	2023-09-05	nurul@gm.com
3	Taufik	Jakarta Utara	2000-03-03	Laki-Laki	2023-09-01	taufik@gm.com
4	Kurrahman	Malang	2000-04-04	Laki-Laki	2023-09-10	kurrahman@gm.com
5	Amanda Nisa	Bandung	2000-05-09	Perempuan	2023-09-09	mandanisa@gm.com

h. Insert 3 Transaksi di masing-masing user (min. 3 User)

```
SELECT * FROM transaksi;
INSERT INTO transaksi (id, pelanggan_id, payment_method_id, tanggal, paid_amount) values
(1,1,1,'2023-09-01',20000000),
(2,1,2,'2023-09-02',5000000),
(3,1,3,'2023-09-03',10000000),
(4,2,1,'2023-09-02',20000000),
(5,2,2,'2023-09-03',15000000),
(6,2,3,'2023-09-04',25000000),
(7,3,1,'2023-09-05',20000000),
(8,3,2,'2023-09-06',10000000),
(9,3,3,'2023-09-07',20000000),
(10,4,2,'2023-09-09',50000000),
(11,5,3,'2023-09-12',30000000);
```

Output

Messages

Notifications

id [PK] integer	pelanggan_id integer	payment_method_id integer	tanggal date	paid_amount integer
1	1	1	2023-09-01	20000000
2	1	2	2023-09-02	5000000
3	1	3	2023-09-03	10000000
4	2	1	2023-09-02	20000000
5	2	2	2023-09-03	15000000
6	2	3	2023-09-04	25000000

al rows: 11 of 11

Query complete 00:00:00.561

all rows: 11 of 11 Query complete 00:00:00.561

- i. Insert 3 Product di masing-masing transaksi

```
SELECT * FROM transaksi_detail;
INSERT INTO transaksi_detail (id, transaksi_id, product_id, qty, harga) values
(1,1,3,1,14000000),
(2,1,6,1,300000),
(3,1,8,1,3800000),
(4,2,8,1,3800000),
(5,2,6,1,300000),
(6,2,3,1,3000000),
(7,3,1,1,20000000),
(8,3,4,1,20000000),
(9,3,7,1,17000000),
(10,4,2,1,30000000),
(11,4,5,1,20000000),
(12,4,7,1,17000000),
(13,5,1,1,20000000).
```

Output Messages Notifications

id [PK] integer	product_id integer	transaksi_id integer	qty integer	harga integer
1	3	1	1	14000000
2	6	1	1	300000
3	8	1	1	3800000
4	8	2	1	3800000
5	6	2	1	300000
6	3	2	1	3000000

rows: 33 of 33 Query complete 00:00:00.294

2. Select

- a. Tampilkan nama user/pelanggan dengan gender Laki-laki/M

```
106 SELECT nama, gender FROM pelanggan WHERE gender='Laki-Laki';
```

Data Output Messages Notifications

	nama text	gender gender
1	Adam	Laki-Laki
2	Taufik	Laki-Laki
3	Kurrahman	Laki-Laki

- b. Tampilkan product dengan id=3

```
108 SELECT * FROM product WHERE id=3;
```

Data Output Messages Notifications

	id [PK] integer	nama text	stok integer	harga integer	product_type_id integer	product_desc_id integer
1	3	Laptop HP Victus	15	14000000	2	3

- c. Tampilkan data pelanggan yang created_at dalam range 7 hari kebelakang dan mempunyai nama mengandung kata 'a'

```
110 SELECT * FROM pelanggan
111 WHERE created_at=current_date - interval '7 days' AND nama like '%a%';
```

Data Output Messages Notifications

	id [PK] integer	nama text	alamat text	tanggal_lahir date	gender gender	created_at date	email text
1	4	Kurrahman	Malang	2000-04-04	Laki-Laki	2023-09-10	kurrahman@gm.com

Successfully run. Total query runtime: 220 msec. 1 rows affected.

Total rows: 1 of 1 Query complete 00:00:00.220 Ln 110, Col 1

- d. Hitung jumlah user/pelanggan dengan status gender Perempuan

```
113 SELECT COUNT(*) AS Jumlah_User_Perempuan FROM pelanggan
114 WHERE gender='Perempuan';
```

Data Output Messages Notifications

	jumlah_user_perempuan bigint
1	2

Successfully run. Total query runtime: 192 msec. 1 rows affected.

Total rows: 1 of 1 Query complete 00:00:00.192 Ln 113, Col 1

- e. Tampilkan data pelanggan dengan urutan sesuai nama abjad

```
116 SELECT * FROM pelanggan order by nama asc;
```

Data Output Messages Notifications

	id [PK] integer	nama text	alamat text	tanggal_lahir date	gender gender	created_at date	email text
1	1	Adam	Jakarta Pusat	2000-01-01	Laki-Laki	2023-09-15	adam@gm.cor
2	5	Amanda Nisa	Bandung	2000-05-09	Perempuan	2023-09-09	mandanisa@gr
3	4	Kurrahman	Malang	2000-04-04	Laki-Laki	2023-09-10	kurrahman@gr
4	2	Nurul	Bekasi	2000-02-02	Perempuan	2023-09-05	nurul@gm.com
5	3	Taufik	Jakarta Utara	2000-03-03	Laki-Laki	2023-09-01	taufik@gm.com

Successfully run. Total query runtime: 470 msec. 5 rows affected.

Total rows: 5 of 5 Query complete 00:00:00.470 Ln 116, Col 1

- f. Tampilkan 5 data transaksi dengan product id=3

```
118 SELECT * FROM transaksi_detail WHERE product_id=3;
```

Data Output Messages Notifications

	id [PK] integer	product_id integer	transaksi_id integer	qty integer	harga integer
1	1	3	1	1	14000000
2	6	3	2	1	3000000
3	15	3	5	1	14000000
4	22	3	8	1	14000000
5	33	3	11	1	14000000

✓ Successfully run. Total query runtime: 276 msec. 5 rows affected.

Total rows: 5 of 5 Query complete 00:00:00.276

Ln 1

```
120 SELECT transaksi.id, product_id, qty, harga, pelanggan_id, tanggal FROM transaksi
121 JOIN transaksi_detail on transaksi.id=transaksi_detail.transaksi_id
122 WHERE product_id=3;
```

Data Output Messages Notifications

	id integer	product_id integer	qty integer	harga integer	pelanggan_id integer	tanggal date
1	1	3	1	14000000	1	2023-09-01
2	2	3	1	3000000	1	2023-09-02
3	5	3	1	14000000	2	2023-09-03
4	8	3	1	14000000	3	2023-09-06
5	11	3	1	14000000	5	2023-09-12

✓ Successfully run. Total query runtime: 224 msec. 5 rows affected. >

Total rows: 5 of 5 Query complete 00:00:00.224

Ln 120, C

3. Update

- a. Ubah data product id=1 dengan nama 'product dummy'

```
126 UPDATE product SET nama='product dummy' WHERE id=1;
```

Data Output Messages Notifications

UPDATE 1

Query returned successfully in 597 msec.

```
SELECT * FROM product WHERE id=1;
```

Output Messages Notifications

id [PK] integer	nama text	stok integer	harga integer	product_type_id integer	product_desc_id integer
1	product dummy	10	20000000	1	1

- b. Update qty=3 pada transaksi detail dengan product id=1

```
128 UPDATE transaksi_detail SET qty=3 WHERE product_id=1;
```

Data Output Messages Notifications

UPDATE 3

Query returned successfully in 802 msec.

✓ Query returned successfully in 802 msec. ✕

Total rows: 3 of 3 Query complete 00:00:00.802 Ln 128, Col 1

```
SELECT * FROM transaksi_detail WHERE product_id=1;
```

Output Messages Notifications

id [PK] integer	product_id integer	transaksi_id integer	qty integer	harga integer
7	1	3	3	20000000
13	1	5	3	20000000
21	1	7	3	20000000

4. Delete

- a. Delete data pada tabel product dengan id=1

***Gagal krn tabel product terhubung dengan foreign_key di tabel transaksi_detail**

```
132 DELETE FROM product WHERE id=1;
```

Data Output Messages Notifications

ERROR: Key (id)=(1) is still referenced from table "transaksi_detail".update or delete on table "product" violates foreign key constraint "transaksi_detail_product_id_fkey" on table "transaksi_detail"

ERROR: update or delete on table "product" violates foreign key constraint "transaksi_detail_product_id_fkey" on table "transaksi_detail"

SQL state: 23503

Detail: Key (id)=(1) is still referenced from table "transaksi_detail".

- b. Delete pada tabel product dengan product_type id=1

***Gagal krn tabel product terhubung dengan foreign_key di tabel transaksi_detail**

```
132 DELETE FROM product WHERE product_type_id=1;
```

Data Output Messages Notifications

ERROR: Key (id)=(2) is still referenced from table "transaksi_detail".update or delete on table "product" violates foreign key constraint "transaksi_detail_product_id_fkey" on table "transaksi_detail"

ERROR: update or delete on table "product" violates foreign key constraint "transaksi_detail_product_id_fkey" on table "transaksi_detail"

SQL state: 23503

Detail: Key (id)=(2) is still referenced from table "transaksi_detail".

Release 2: Join, Union, Sub-query, Function

1. Gabungan data transaksi dari user id=1 dan user id=2

```
134 SELECT * FROM transaksi WHERE pelanggan_id=1
135 UNION
136 SELECT * FROM transaksi WHERE pelanggan_id=2;
```

Data Output Messages Notifications

	id integer	pelanggan_id integer	payment_method_id integer	tanggal date	paid_amount integer
1	6	2	3	2023-09-04	25000000
2	1	1	1	2023-09-01	20000000
3	2	1	2	2023-09-02	5000000
4	3	1	3	2023-09-03	10000000
5	4	2	1	2023-09-02	20000000
6	5	2	2	2023-09-03	15000000

2. Tampilkan jumlah harga transaksi user id=1

```
138 SELECT SUM(paid_amount) AS Total_Harga
139 FROM transaksi WHERE pelanggan_id=1;
```

Data Output Messages Notifications

	total_harga bigint
1	35000000

```
138 SELECT pelanggan.id, pelanggan.nama, SUM(paid_amount) AS Total_Harga
139 FROM transaksi
140 JOIN pelanggan ON transaksi.pelanggan_id=pelanggan.id
141 WHERE pelanggan_id=1 GROUP BY pelanggan.id, nama;
142
143
```

Data Output Messages Notifications

	id [PK] integer	nama text	total_harga bigint
1	1	Adam	35000000

3. Tampilkan total transaksi dengan product type 2

```

143 SELECT COUNT(transaksi.id) AS Total_Transaksi FROM transaksi
144 JOIN transaksi_detail ON transaksi.id=transaksi_detail.transaksi_id
145 JOIN product ON product.id=transaksi_detail.product_id
146 WHERE product_type_id=2;
147
148 SELECT * FROM transaksi_detail;

```

Data Output Messages Notifications

	total_transaksi bigint
1	13

4. Tampilkan semua field tabel product dan field name table product type yang saling berhubungan

```

149 SELECT * FROM product
150 JOIN product_type ON product.product_type_id=product_type.id;

```

Data Output Messages Notifications

	id integer	nama text	stok integer	harga integer	product_type_id integer	product_desc_id integer	id integer	nama text
1	2	Iphone 15 Pro Max	10	30000000	1	2	1	Smartphone
2	3	Laptop HP Victus	15	14000000	2	3	2	Laptop
3	4	MacBook Air M2	5	20000000	2	4	2	Laptop
4	5	Asus ROG Flow	10	20000000	2	5	2	Laptop
5	6	Keyboard Gamen Titan	25	300000	3	6	3	Aksesoris
6	7	Apple AirPods Gen2	20	1700000	3	7	3	Aksesoris
7	8	Headset Sony WH-1000	10	3800000	3	8	3	Aksesoris
8	1	product dummy	10	20000000	1	1	1	Smartphone

Total rows: 8 of 8 Query complete 00:00:00.114

5. Tampilkan semua field table transaksi, field name table product dan field name table user

```

151 SELECT transaksi.id AS Id_Transaksi, pelanggan.id, payment_method_id, tanggal, paid_amount,
152 product.nama AS Nama_Product, pelanggan.nama AS Nama_Pelanggan FROM transaksi
153 JOIN pelanggan ON transaksi.pelanggan_id=pelanggan.id
154 JOIN transaksi_detail ON transaksi.id=transaksi_detail.transaksi_id
155 JOIN product ON product.id=transaksi_detail.product_id;
156

```

Data Output Messages Notifications

	id_transaksi integer	pelanggan_id integer	payment_method_id integer	tanggal date	paid_amount integer	nama_product text	nama_pelanggan text
1	1	1	1	2023-09-01	20000000	Headset Sony WH-10...	Adam
2	1	1	1	2023-09-01	20000000	Keyboard Gamen Titan	Adam
3	1	1	1	2023-09-01	20000000	Laptop HP Victus	Adam
4	2	1	2	2023-09-02	5000000	Headset Sony WH-10...	Adam
5	2	1	2	2023-09-02	5000000	Keyboard Gamen Titan	Adam
6	2	1	2	2023-09-02	5000000	Laptop HP Victus	Adam
7	3	1	3	2023-09-03	10000000	product dummy	Adam
8	3	1	3	2023-09-03	10000000		

Total rows: 33 of 33 Query complete 00:00:00.316

Ln 151, Col 1

✓ Successfully run. Total query runtime: 316 msec. 33 rows affected. ✕

6. Tampilkan data product yang tidak pernah ada di tabel transaksi detail dgn sub-query

```
155 SELECT * FROM product WHERE product.id NOT IN
156 (SELECT product_id FROM transaksi_detail);
```

Data Output Messages Notifications

	id	nama	stok	harga	product_type_id	product_desc_id
	[PK] integer	text	integer	integer	integer	integer

Successfully run. Total query runtime: 609 msec. 0 rows affected.

Total rows: 0 of 0 Query complete 00:00:00.609 Ln 155, Col 1