

1. CREATE TABLE customer (
 custno varchar(10) NOT NULL,
 custname varchar(30) NOT NULL,
 address varchar(30) NOT NULL,
 Internal varchar(1) NOT NULL,
 contact varchar(30) NOT NULL,
 phone varchar(10) NOT NULL,
 city varchar(15) NOT NULL,
 state varchar(2) NOT NULL,
 zip varchar(5) NOT NULL,
 CONSTRAINT custno_ PRIMARY KEY (custno)
);

The screenshot shows the PostgreSQL Query Editor interface. The query editor contains the following SQL code:

```

2  custno varchar(10) NOT NULL,
3  custname varchar(30) NOT NULL,
4  address varchar(30) NOT NULL,
5  Internal varchar(1) NOT NULL,
6  contact varchar(30) NOT NULL,
7  phone varchar(10) NOT NULL,
8  city varchar(15) NOT NULL,
9  state varchar(2) NOT NULL,
10 zip varchar(5) NOT NULL,
11 CONSTRAINT custno_ PRIMARY KEY (custno)
12 );
13

```

The Messages tab is selected, showing the following output:

```

CREATE TABLE
Query returned successfully in 71 msec.

```

<input type="checkbox"/>	Name	Owner	Partitioned table?	Comment
<input type="checkbox"/>	customer	postgres	<input type="checkbox"/> False	

2. CREATE TABLE facility (
 facno varchar(10) NOT NULL,
 facname varchar(30) NOT NULL,
 CONSTRAINT facno_ PRIMARY KEY (facno)
);

The screenshot shows the PostgreSQL Query Editor interface. The query editor contains the following SQL code:

```

1  CREATE TABLE facility (
2  facno varchar(10) NOT NULL,
3  facname varchar(30) NOT NULL,
4  CONSTRAINT facno_ PRIMARY KEY (facno)
5  );
6

```

The Messages tab is selected, showing the following output:

```

CREATE TABLE
Query returned successfully in 47 msec.

```

<input type="checkbox"/>	Name	Owner	Partitioned table?	Comment
<input type="checkbox"/>	customer	postgres	<input type="checkbox"/> False	
<input checked="" type="checkbox"/>	facility	postgres	<input type="checkbox"/> False	

3. CREATE TABLE location (
 locno varchar(10) NOT NULL,
 facno varchar(10) NOT NULL,
 locname varchar(30) NOT NULL,
 CONSTRAINT locno_ PRIMARY KEY (locno)
);

The screenshot shows a PostgreSQL Query Editor window with the following SQL code:

```
1 CREATE TABLE location (
2   locno varchar(10) NOT NULL,
3   facno varchar(10) NOT NULL,
4   locname varchar(30) NOT NULL,
5   CONSTRAINT locno_ PRIMARY KEY (locno)
6 );
7
```

The Messages tab at the bottom indicates: "CREATE TABLE" and "Query returned successfully in 54 msec."

<input type="checkbox"/>	Name	Owner	Partitioned table?	Comment
<input type="checkbox"/>	customer	postgres	<input type="button" value="False"/>	
<input type="checkbox"/>	facility	postgres	<input type="button" value="False"/>	
<input checked="" type="checkbox"/>	location	postgres	<input type="button" value="False"/>	

4. Hanya ada satu tabel yang saling berhubungan. Table yang berhubungan adalah tabel facility dengan tabel location dimana table facility merupakan parent dari tabel location, karna tabel location mengambil data dari tabel facility.

5. alter table location
 add constraint _locno
 foreign key (facno) references facility (facno);

The screenshot shows a PostgreSQL Query Editor window with the following SQL code:

```
1 alter table location
2 add constraint _locno
3 foreign key (facno) references facility (facno);
```

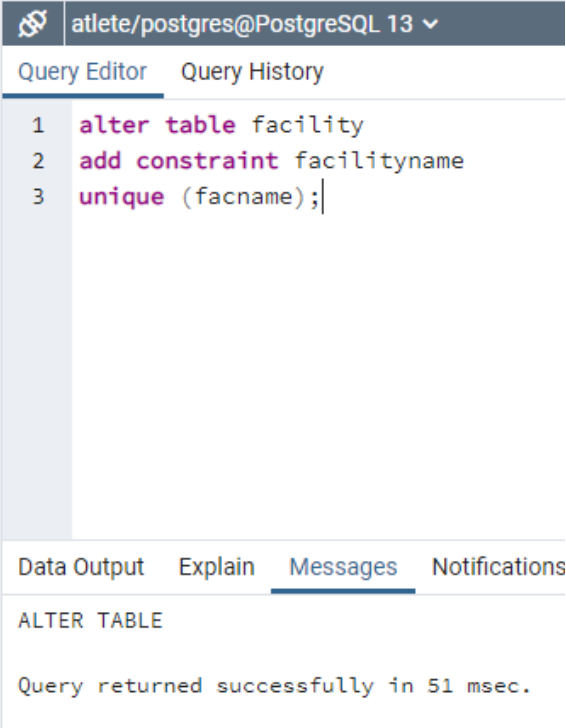
The Messages tab at the bottom indicates: "ALTER TABLE" and "Query returned successfully in 60 msec."

6. yang saya ketahui, null tidak boleh digunakan dalam foreign key. Saya ingin menjelaskan mengapa foreign key mungkin perlu nol atau mungkin perlu unik atau tidak unik. Pertama, ingat foreign key hanya mengharuskan nilai di bidang itu harus ada terlebih dahulu di tabel yang berbeda (tabel induk). Itu semua adalah definisi FK. Null menurut definisi bukanlah nilai. Null artinya kita belum tahu berapa nilainya.

7. alter table facility

Add constraint facilityname

Unique (facname);



The screenshot shows a PostgreSQL Query Editor window. The title bar indicates the user is 'atlete/postgres@PostgreSQL 13'. The 'Query Editor' tab is active, displaying a SQL query with line numbers 1 through 3. The query is: `1 alter table facility`, `2 add constraint facilityname`, and `3 unique (facname);`. Below the query editor, the 'Messages' tab is selected, showing the output: 'ALTER TABLE' and 'Query returned successfully in 51 msec.'

```
atlete/postgres@PostgreSQL 13
Query Editor  Query History
1  alter table facility
2  add constraint facilityname
3  unique (facname);

Data Output  Explain  Messages  Notifications
ALTER TABLE
Query returned successfully in 51 msec.
```

Pengisian Data Customer

atlete/postgres@PostgreSQL 13

Query Editor Query History

```
1 INSERT INTO customer
2   (custno, custname, address, Internal, contact, phone, city, state, zip)
3   VALUES ('C100','Football','Box352200','Y','Mary Manager','6857100','Boulder','CO','
4
5 INSERT INTO customer
6   (custno, custname, address, Internal, contact, phone, city, state, zip)
7   VALUES ('C101','Men s Basketball','Box352400','Y','Sally Supervisor','5413700','Bou
8
9 INSERT INTO customer
10  (custno, custname, address, Internal, contact, phone, city, state, zip)
11  VALUES ('C103','Basebal','Box352020','Y','Bill Baseball','5431234','Boulder','CO','
12
```

Data Output Explain Messages Notifications

INSERT 0 1

Query returned successfully in 51 msec.

pgAdmin 4

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atlete/postgres@PostgreSQL 13

Query Editor Query History Scratch Pad

```
1 select * from customer
```

Data Output Explain Messages Notifications

	custno [PK] character varying (10)	custname character varying (30)	address character varying (30)	internal character varying (1)	contact character varying (30)	phone character varying (10)	city character varying (15)	state charact
1	C100	Football	Box352200	Y	Mary Manager	6857100	Boulder	CO
2	C101	Men s Basketball	Box352400	Y	Sally Supervisor	5413700	Boulder	CO
3	C103	Basebal	Box352020	Y	Bill Baseball	5431234	Boulder	CO
4	C104	Women s Softball	Box351200	Y	Sue Softball	5434321	Boulder	CO
5	C105	High School Football	123 AnyStreet	N	Coach Bob	4441234	Louisville	CO

Pengisian Data Facility

atlete/postgres@PostgreSQL 13 ▾

Query Editor Query History

```
1 INSERT INTO facility
2     (facno, facname)
3     VALUES ('F100','Football stadium');
4
5
6 INSERT INTO facility
7     (facno, facname)
8     VALUES ('F101','Basketball arena');
9
10 INSERT INTO facility
11     (facno, facname)
12     VALUES ('F102','Basketball field');
```

Data Output Explain Messages Notifications

INSERT 0 1

Query returned successfully in 43 msec.

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atlete/postgres@PostgreSQL 13 ▾

Query Editor Query History Scratch Pad

```
1 select * from facility
```

Data Output Explain Messages Notifications

facno	facname
F100	Football stadium
F101	Basketball arena
F102	Basketball field
F103	Recreation room

Windows taskbar: 17:56

Pengisian Data Location

atlete/postgres@PostgreSQL 13

Query Editor Query History

```
22      (locno, facno, locname)
23      VALUES ('L104', 'F100', 'Ticket Booth');
24
25
26  INSERT INTO location
27      (locno, facno, locname)
28      VALUES ('L105', 'F101', 'Gate');
29
30
31  INSERT INTO location
32      (locno, facno, locname)
33      VALUES ('L106', 'F100', 'Pedestrian gate');
```

Data Output Explain Messages Notifications

INSERT 0 1

Query returned successfully in 48 msec.

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pgAdmin File Object Tools Help

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atlete/postgres@PostgreSQL 13

Query Editor Query History Scratch Pad

```
1  select * from location
```

Data Output Explain Messages Notifications

locno	facno	locname
[PK] character varying (10)	character varying (10)	character varying (30)
1 L100	F100	Locker room
2 L101	F100	Plaza
3 L102	F100	Vehicle gate
4 L103	F101	Locker room
5 L104	F100	Ticket Booth
6 L105	F101	Gate
7 L106	F100	Pedestrian gate