

W06-P1: use SQL command to create shop_18 with 3 data

The screenshot shows the pgAdmin 4 interface. On the left, the 'Tables (2)' folder is expanded, showing 'category_18' and 'shop_18'. The 'shop_18' table is selected. In the center, the SQL query editor shows the following query:

```
1 SELECT * FROM public.shop_18
2 ORDER BY id ASC
```

Below the query editor, the 'Data Output' tab displays the results of the query in a table format:

id	name	cat_id	price	remote_url	local_url
1	Adidas NMD	3	220	https://i.ibb.co/0s3pdnc/adidas-nmd.png	/img/sneakers/adidas-nmd.png
2	Adidas Yeezy	3	280	https://i.ibb.co/dJbG1cT/yeezy.png	/img/sneakers/yeezy.png
3	Black Converse	3	110	https://i.ibb.co/bPmVXyP/black-converse.png	/img/sneakers/black-converse.png

The status bar at the bottom indicates 'Total rows: 3 of 3' and 'Query complete 00:00:00.097'.

The screenshot shows the Visual Studio Code interface with the 'shop_18.sql' file open. The SQL commands are as follows:

```
1 CREATE TABLE shop_18 (
2   id int NOT NULL PRIMARY KEY,
3   name varchar(255),
4   cat_id int,
5   price real,
6   remote_url varchar(255),
7   local_url varchar(255),
8   FOREIGN KEY (cat_id) REFERENCES category_18(id) ON DELETE SET NULL ON UPDATE CASCADE
9 );
10
11 INSERT INTO shop_18(id, name, cat_id, price, remote_url, local_url)
12 VALUES
13 (1, 'Adidas NMD', 3, 220, 'https://i.ibb.co/0s3pdnc/adidas-nmd.png', '/img/sneakers/adidas-nmd.png'),
14 (2, 'Adidas Yeezy', 3, 280, 'https://i.ibb.co/dJbG1cT/yeezy.png', '/img/sneakers/yeezy.png'),
15 (3, 'Black Converse', 3, 110, 'https://i.ibb.co/bPmVXyP/black-converse.png', '/img/sneakers/black-converse.png')
16
```

W06-P2: Relational Model Constraints

定義域限制 (domain constrain)

The screenshot shows the pgAdmin 4 interface. On the left, the 'shop_18' table is selected under 'Tables (2)'. The main pane displays an SQL query in the 'Query' tab:

```
1 INSERT INTO shop_18(id, name, cat_id, price, remote_url, local_url)
2 VALUES
3 (5, 'Adidas NMD', 3, 'a25', 'https://i.ibb.co/es3pdnc/adidas-nmd.png', '/img/sneakers/ac
```

The value 'a25' in the 'price' column is highlighted with a red box. Below the query, the 'Messages' tab shows an error:

```
ERROR: invalid input syntax for type real: "a25"
LINE 3: (5,'Adidas NMD', 3, 'a25', 'https://i.ibb.co/es3pdnc/adidas-...
                                ^
SQL state: 22P02
Character: 96
```

The character '5' in the 'id' column of the query is also highlighted with a red box. The status bar at the bottom indicates 'Total rows: 0 of 0' and 'Query complete 00:00:00.038'.

關聯鍵限制 (primary key constrain)

The screenshot shows the pgAdmin 4 interface. On the left, the 'shop_18' table is selected under 'Tables (2)'. The main pane displays an SQL query in the 'Query' tab:

```
1 INSERT INTO shop_18(id, name, cat_id, price, remote_url, local_url)
2 VALUES
3 (1, 'Adidas NMD', 3, 220, 'https://i.ibb.co/es3pdnc/adidas-nmd.png', '/img/sneakers/adic
```

The value '1' in the 'id' column is highlighted with a red box. Below the query, the 'Messages' tab shows an error:

```
ERROR: duplicate key value violates unique constraint "shop_18_pkey"
DETAIL: Key (id)=(1) already exists.
SQL state: 23505
```

The status bar at the bottom indicates 'Total rows: 0 of 0' and 'Query complete 00:00:00.038'.

實體完整限制 (entity integrity constrain)

pgAdmin 4

File Object Tools Help

Browser

- FTS Configurations
- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (2)
 - category_18
 - shop_18
- Columns
- Constraints
- Indexes
- RLS Policies
- Rules
- Triggers
- Trigger Functions
- Types
- Views
- Subscriptions
- dvdrental
- employees
- france
- postgres
- store
- textbook
- world

Query

```
1 INSERT INTO shop_18(id, name, cat_id, price, remote_url, local_url)
2 VALUES
3 (null, 'Adidas NMD', 3, 220, 'https://i.ibb.co/0s3pdnc/adidas-nmd.png', '/img/sneakers/
```

Data Output Messages Notifications

ERROR: null value in column "id" of relation "shop_18" violates not-null constraint
DETAIL: Failing row contains (null, Adidas NMD, 3, 220, https://i.ibb.co/0s3pdnc/adidas-nmd.png, /img/sneakers/adidas-nmd.png).
SQL state: 23502

Total rows: 0 of 0 Query complete 00:00:00.035 Ln 3, Col 103

下午 02:56 2023-03-22

參考完整限制 (referential integrity constrain)

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File Object Tools Help

Browser

- FTS Configurations
- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (2)
 - category_18
 - shop_18
- Columns
- Constraints
- Indexes
- RLS Policies
- Rules
- Triggers
- Trigger Functions
- Types
- Views
- Subscriptions
- dvdrental
- employees
- france
- postgres
- store
- textbook
- world

Query

```
1 INSERT INTO shop_18(id, name, cat_id, price, remote_url, local_url)
2 VALUES
3 (5, 'Adidas NMD', 40, 220, 'https://i.ibb.co/0s3pdnc/adidas-nmd.png', '/img/sneakers/adi
```

Data Output Messages Notifications

ERROR: insert or update on table "shop_18" violates foreign key constraint "shop_18_cat_id_fk"
DETAIL: Key (cat_id)=(40) is not present in table "category_18".
SQL state: 23503

Total rows: 0 of 0 Query complete 00:00:00.036 Ln 3, Col 101

下午 02:56 2023-03-22

W06-P3: ON UPDATE CASCADE

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Browser

- FTS Configurations
- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (2)
 - category_18
 - shop_18
 - Columns
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
- Trigger Functions
- Types
- Views
- Subscriptions
- dvdrntal
- employees
- france
- postgres
- store
- textbook
- world

SQL Statistics Dependencies Dependents public.category_18/crown_18/postgres@PostgreSQL 15 crown_18/post... public.shop_18

Query Query History

```
1 SELECT * FROM public.category_18
2 ORDER BY id ASC
```

Data Output Messages Notifications

	id [PK] integer	name character varying (255)	size character varying (20)	local_url character varying (255)	remote_url character varying (255)	link_url character varying (255)
1	1	hats	[null]	/img/homepage/hats.png	https://i.ibb.co/cvptnL1/hats.png	/crown2_18/shop_18/hats
2	2	jackets	[null]	/img/homepage/jackets.png	https://i.ibb.co/px2tCc3/jackets.png	/crown2_18/shop_18/jackets
3	9	sneakers	[null]	/img/homepage/sneakers.png	https://i.ibb.co/0jqHpnP/sneakers.png	/crown2_18/shop_18/sneakers
4	4	womens	large	https://i.ibb.co/GCCdy8t/womens.png	/img/homepage/womens.png	/crown2_18/shop_18/womens
5	5	mens	large	https://i.ibb.co/R70vBrQ/men.png	/img/homepage/men.png	/crown2_18/shop_18/men

Total rows: 5 of 5 Query complete 00:00:00.131 Ln 1, Col 1

✓ Data saved successfully. ✕

下午 03:01 2023-03-22

pgAdmin 4

File Object Tools Help

Browser

- FTS Configurations
- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (2)
 - category_18
 - shop_18
 - Columns
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
- Trigger Functions
- Types
- Views
- Subscriptions
- dvdrntal
- employees
- france
- postgres
- store
- textbook
- world

SQL Statistics Dependencies Dependents public.categor... crown_18/post... public.shop_18/crown_18/postgres@PostgreSQL 15

Query Query History

```
1 SELECT * FROM public.shop_18
2 ORDER BY id ASC
```

Data Output Messages Notifications

	id [PK] integer	name character varying (255)	cat_id integer	price real	remote_url character varying (255)	local_url character varying (255)
1	1	Adidas NMD	9	220	https://i.ibb.co/0s3pdnc/adidas-nmd.png	/img/sneakers/adidas-nmd.png
2	2	Adidas Yeezy	9	280	https://i.ibb.co/dJbG1cT/yeezy.png	/img/sneakers/yeezy.png
3	3	Black Converse	9	110	https://i.ibb.co/bPmVxYP/black-converse.png	/img/sneakers/black-converse.png

Total rows: 3 of 3 Query complete 00:00:00.048 Ln 1, Col 1

✓ Successfully run. Total query runtime: 48 msec. 3 rows affected. ✕

下午 03:03 2023-03-22

W06-P4: ON DELETE SET NULL

pgAdmin 4

File Object Tools Help

Browser

- > Casts
- > Catalogs
- > Event Triggers
- > Extensions
- > Foreign Data Wrappers
- > Languages
- > Publications
- > Schemas (1)
 - > public
 - > Aggregates
 - > Collations
 - > Domains
 - > FTS Configurations
 - > FTS Dictionaries
 - > FTS Parsers
 - > FTS Templates
 - > Foreign Tables
 - > Functions
 - > Materialized Views
 - > Operators
 - > Procedures
 - > 1.3 Sequences
 - > Tables (2)
 - > category_18
 - > shop_18
 - > Trigger Functions
 - > Types
 - > Views
 - > Subscriptions
- > postgres
- > Login/Group Roles
- > Tablespaces

public.category_18/crown_18/postgres@PostgreSQL 15

Query

```
1 SELECT * FROM public.category_18
2 ORDER BY id ASC
```

Data Output

	id [PK] integer	name character varying (255)	size character varying (20)	local_url character varying (255)	remote_url character varying (255)	link_url character varying (255)
1	1	hats	[null]	/img/homepage/hats.png	https://i.ibb.co/cvpntL1/hats.png	/crown2_18/shop
2	2	jackets	[null]	/img/homepage/jackets.png	https://i.ibb.co/px2tCc3/jackets.png	/crown2_18/shop
3	4	womens	large	https://i.ibb.co/GCCdy8t/womens.png	/img/homepage/womens.png	/crown2_18/shop
4	5	mens	large	https://i.ibb.co/R70vBrQ/men.png	/img/homepage/mens.png	/crown2_18/shop

Total rows: 5 of 5 Query complete 00:00:00.352 Ln 1, Col 1

pgAdmin 4

File Object Tools Help

Browser

- > Casts
- > Catalogs
- > Event Triggers
- > Extensions
- > Foreign Data Wrappers
- > Languages
- > Publications
- > Schemas (1)
 - > public
 - > Aggregates
 - > Collations
 - > Domains
 - > FTS Configurations
 - > FTS Dictionaries
 - > FTS Parsers
 - > FTS Templates
 - > Foreign Tables
 - > Functions
 - > Materialized Views
 - > Operators
 - > Procedures
 - > 1.3 Sequences
 - > Tables (2)
 - > category_18
 - > shop_18
 - > Trigger Functions
 - > Types
 - > Views
 - > Subscriptions
- > postgres
- > Login/Group Roles
- > Tablespaces

public.shop_18/crown_18/postgres@PostgreSQL 15

Query

```
1 SELECT * FROM public.shop_18
2 ORDER BY id ASC
```

Data Output

	id [PK] integer	name character varying (255)	cat_id integer	price real	remote_url character varying (255)	local_url character varying (255)
1	1	Adidas NMD	[null]	220	https://i.ibb.co/0s3pdnc/adidas-nmd.png	/img/sneakers/adidas-nmd.png
2	2	Adidas Yeezy	[null]	280	https://i.ibb.co/dJbG1cT/yeezy.png	/img/sneakers/yeezy.png
3	3	Black Converse	[null]	110	https://i.ibb.co/bPmVXyP/black-converse.png	/img/sneakers/black-converse.png

Total rows: 3 of 3 Query complete 00:00:00.150 Ln 1, Col 1

Github logs of Week 06

```
$ git log --pretty=format:"%h%x09%an%x09%ad%x09%s" --after="2023-03-20"
```

```
dacea23 whitestorm2346 Wed Mar 22 23:46:26 2023 +0800 Finished W06 all part and w06_18.md  
f8904df whitestorm2346 Wed Mar 22 15:06:06 2023 +0800 w06 unfinished
```