

## W06-P1: use SQL command to create shop\_xx with 3 data (category is your ID's last digit)

The screenshot shows the pgAdmin 4 interface. On the left, the 'Browser' pane displays the database structure. The 'shop\_28' table is selected, showing its columns: id, name, cat\_id, price, remote\_url, and local\_url. The 'Constraints' section shows a foreign key constraint 'shop\_28\_cat\_id\_fkey' and a primary key constraint 'shop\_28\_pkey'. The 'Query' pane shows the following SQL command:

```
1 SELECT * FROM public.shop_28
2 ORDER BY id ASC
```

The 'Data Output' pane shows the results of the query:

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 00:00:00.432'.

The screenshot shows the Visual Studio Code interface with the 'shop\_28.sql' file open. The SQL script is as follows:

```
1 CREATE TABLE shop_28(
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_28(id) ON DELETE SET NULL ON UPDATE CASCADE
9 );
10
11 INSERT INTO shop_28 (id, name, cat_id, price, remote_url, local_url) VALUES
12 (1, 'Adidas NMD', 3, 220, 'https://i.ibb.co/0s3pdnc/adidas-nmd.png', 'img/sneakers/adidas-nmd.png'),
13 (2, 'Adidas Yeezy', 3, 280, 'https://i.ibb.co/dJbG1cT/yeezy.png', 'img/sneakers/yeezy.png'),
14 (3, 'Black Converse', 3, 110, 'https://i.ibb.co/bPmVXyP/black-converse.png', 'img/sneakers/black-converse.png')
```

The Explorer pane on the left shows the project structure, including the 'data' folder where the 'shop\_28.sql' file is located. The Terminal pane at the bottom shows the command prompt with the current directory set to '/d/database/1112-2A-db-demo-410410228'.

# W06-P2: Relational Model Constraints

## 定義域限制 (domain constraints)

The screenshot shows the pgAdmin 4 interface. On the left, the 'Browser' pane displays the database structure, including the 'shop\_28' table with its columns: id, name, cat\_id, price, remote\_url, and local\_url. The 'Constraints' section for 'shop\_28' is expanded, showing 'shop\_28\_cat\_id\_fkey' and 'shop\_28\_pkey'. The main pane shows the SQL editor with the following query:

```
1 INSERT INTO shop_28 (id, name, cat_id, price, remote_url, local_url) VALU
2 (40, 'Adidas NMD', 3, 'a220', 'https://i.ibb.co/0s3pdnc/adidas-nmd.png', 'img
```

The 'Data Output' pane at the bottom displays the following error message:

```
ERROR: invalid input syntax for type real: "a220"
LINE 2: (40, 'Adidas NMD', 3, 'a220', 'https://i.ibb.co/0s3pdnc/adidas-...
```

The status bar at the bottom indicates 'Total rows: 0 of 0' and 'Query complete 00:00:00.060'.

## 關聯鍵限制 (primary key constraints)

The screenshot shows the pgAdmin 4 interface. On the left, the 'Browser' pane displays the database structure, including the 'shop\_28' table with its columns: id, name, cat\_id, price, remote\_url, and local\_url. The 'Constraints' section for 'shop\_28' is expanded, showing 'shop\_28\_cat\_id\_fkey' and 'shop\_28\_pkey'. The main pane shows the SQL editor with the following query:

```
1 INSERT INTO shop_28 (id, name, cat_id, price, remote_url, local_url) VALU
2 (2, 'Adidas NMD', 3, 220, 'https://i.ibb.co/0s3pdnc/adidas-nmd.png', 'img/sne
```

The 'Data Output' pane at the bottom displays the following error message:

```
ERROR: duplicate key value violates unique constraint "shop_28_pkey"
DETAIL: Key (id)=(2) already exists.
SQL state: 23505
```

The status bar at the bottom indicates 'Total rows: 0 of 0' and 'Query complete 00:00:00.054'.

## 實體完整限制 (entity integrity constraints)

pgAdmin 4

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      - price
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SQL Statistics Dependencies Dependents Processes public.categor... crown2\_28/postgres@PostgreSQL 15\*

Query

```
1 INSERT INTO shop_28 (id, name, cat_id, price, remote_url, local_url) VALU
2 null, 'Adidas NMD' ,3,220,'https://i.1bb.co/0s3pdnc/adidas-nmd.png', 'img/
```

Data Output Messages Notifications

ERROR: null value in column "id" of relation "shop\_28" violates not-null constraint  
DETAIL: Failing row contains (null, Adidas NMD, 3, 220, https://i.1bb.co/0s3pdnc/adidas-nmd.png, img/sneakers/adidas-nmd.png).  
SQL state: 23502

Total rows: 0 of 0 Query complete 00:00:00.053 Ln 2, Col 99

## 參考完整限制 (referential integrity constraint)

pgAdmin 4

File Object Tools Help

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    - > Columns (6)
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      - name
      - cat\_id
      - price
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  - > Types
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SQL Statistics Dependencies Dependents Processes public.categor... crown2\_28/postgres@PostgreSQL 15\*

Query

```
1 INSERT INTO shop_28 (id, name, cat_id, price, remote_url, local_url) VALU
2 (40, 'Adidas NMD' ,6,220,'https://i.1bb.co/0s3pdnc/adidas-nmd.png', 'img/sn
```

Data Output Messages Notifications

ERROR: insert or update on table "shop\_28" violates foreign key constraint "shop\_28\_cat\_id\_fkey"  
DETAIL: Key (cat\_id)=(6) is not present in table "category\_28".  
SQL state: 23503

Total rows: 0 of 0 Query complete 00:00:00.057 Ln 2, Col 97

# W06-P3: ON UPDATE CASCADE

pgAdmin 4

File Object Tools Help

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      - cat\_id
      - price
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      - local\_url
    - Constraints (2)
      - shop\_28\_cat\_id\_fkey
      - shop\_28\_pkey
    - Indexes

public.category\_28/crown2\_28/postgres@PostgreSQL 15

Query

```
1 SELECT * FROM public.category_28
2 ORDER BY id ASC
```

Data Output

	id	name	size	local_url	remote_url	link_url
1	1	hats	[null]	https://i.ibb.co/cvpntL1/hats.png	/img/homepage/hats.png	/crown2
2	2	jackets	[null]	https://i.ibb.co/px2tCc3/jackets.png	/img/homepage/jackets.png	/crown2
3	9	sneakers	[null]	https://i.ibb.co/0jqHpnP/sneakers.png	/img/homepage/sneakers.png	/crown2
4	4	womens	large	https://i.ibb.co/GCCdy8t/womens.png	/img/homepage/womens.png	/crown2
5	5	mens	large	https://i.ibb.co/R70vBrQ/men.png	/img/homepage/men.png	/crown2

Total rows: 5 of 5 Query complete 00:00:00.247 Ln 1, Col 1

pgAdmin 4

File Object Tools Help

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  - category\_28
  - shop\_28
    - Columns (6)
      - id
      - name
      - cat\_id
      - price
      - remote\_url
      - local\_url
    - Constraints (2)
      - shop\_28\_cat\_id\_fkey
      - shop\_28\_pkey
    - Indexes

public.shop\_28/crown2\_28/postgres@PostgreSQL 15

Query

```
1 SELECT * FROM public.shop_28
2 ORDER BY id ASC
```

Data Output

	id	name	cat_id	price	remote_url	local_url
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 00:00:00.103 Ln 1, Col 1

# W06-P4: ON DELETE SET NULL

pgAdmin 4

File Object Tools Help

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Statistics Dependencies Dependents Processes crown2\_28/postgres@PostgreSQL 15\*

Query

```
1 DELETE from category_28
2 WHERE id = 3
```

Data Output Messages Notifications

DELETE 1

Query returned successfully in 93 msec.

Total rows: 0 of 0 Query complete 00:00:00.093 Ln 2, Col 13

pgAdmin 4

File Object Tools Help

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  - shop\_28
    - Trigger Functions
- Subscriptions
- crown\_28
- dvdrental
- postgres
- textbook

Statistics Dependencies Dependents Processes crown2\_28/postgres@PostgreSQL 15 public.category\_28 public.shop\_28/crown2

Query

```
1 SELECT * FROM public.shop_28
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	[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 00:00:00.455 Ln 1, Col 1

## Github logs of Week 06

```
$ git log --pretty=format:"%h%x09%an%x09%ad%x09%s" --after="2023-3-21"  
589cd292 Daineair Thu Mar 23 01:45:37 2023 +0800 delete w3schools  
7ed8b0fc Daineair Thu Mar 23 01:34:02 2023 +0800 w06 p4 not 0323
```