

Beginning transaction in one terminal and trying to update the same record is not allowed and it is blocked as shown:

```
sudo -i -u postgres
foodsystem=# select * from review;
stars | id | cust_id | restaurant_id | order_id
-----+-----+-----+-----+-----
5 | 2 | 2 | 1 | 3
5 | 3 | 4 | 3 | 2
4 | 4 | 3 | 1 | 3
3 | 5 | 2 | 2 | 4
1 | 1 | 1 | 4 | 2
(5 rows)

foodsystem=# begin;
BEGIN
foodsystem=#
foodsystem=# update review
foodsystem=# set stars=3
foodsystem=# where cust_id=1 and restaurant_id=4 and order_id=2;
UPDATE 1
foodsystem=#
foodsystem=# select c.first_name,ra.name,r.stars
foodsystem=# from customer c,Restaurant admin ra,review r where
foodsystem=# c.cust_id=r.cust_id and r.restaurant_id=ra.id;
first_name | name | stars
-----+-----+-----
watson | Pizza Hut | 5
mand | Shri Upahar | 5
dravid | Pizza Hut | 4
watson | Dominoes | 3
ms | New Darshini Veg | 3
(5 rows)

foodsystem=#
```

```
sudo -i -u postgres
foodsystem=# select * from review;
stars | id | cust_id | restaurant_id | order_id
-----+-----+-----+-----+-----
5 | 2 | 2 | 1 | 3
5 | 3 | 4 | 3 | 2
4 | 4 | 3 | 1 | 3
3 | 5 | 2 | 2 | 4
1 | 1 | 1 | 4 | 2
(5 rows)

foodsystem=# begin;
BEGIN
foodsystem=#
foodsystem=# update review
foodsystem=# set stars=5
foodsystem=# where cust_id=1 and restaurant_id=4 and order_id=2;
[ ]
```

The moment we commit transaction 1,the transaction on terminal 2 is allowed to proceed after unblocking.Also the transaction 1 is committed:

```
sudo -i -u postgres
foodsystem=#
foodsystem=# update review
foodsystem=# set stars=3
foodsystem=# where cust_id=1 and restaurant_id=4 and order_id=2;
UPDATE 1
foodsystem=#
foodsystem=# select c.first_name,ra.name,r.stars
foodsystem=# from customer c,Restaurant admin ra,review r where
foodsystem=# c.cust_id=r.cust_id and r.restaurant_id=ra.id;
first_name | name | stars
-----+-----+-----
watson | Pizza Hut | 5
mand | Shri Upahar | 5
dravid | Pizza Hut | 4
watson | Dominoes | 3
ms | New Darshini Veg | 3
(5 rows)

foodsystem=# commit;
COMMIT
foodsystem=# select * from review;
stars | id | cust_id | restaurant_id | order_id
-----+-----+-----+-----+-----
5 | 2 | 2 | 1 | 3
5 | 3 | 4 | 3 | 2
4 | 4 | 3 | 1 | 3
3 | 5 | 2 | 2 | 4
3 | 1 | 1 | 4 | 2
(5 rows)

foodsystem=#
```

```
sudo -i -u postgres
foodsystem=# select * from review;
stars | id | cust_id | restaurant_id | order_id
-----+-----+-----+-----+-----
5 | 2 | 2 | 1 | 3
5 | 3 | 4 | 3 | 2
4 | 4 | 3 | 1 | 3
3 | 5 | 2 | 2 | 4
1 | 1 | 1 | 4 | 2
(5 rows)

foodsystem=# begin;
BEGIN
foodsystem=#
foodsystem=# update review
foodsystem=# set stars=5
foodsystem=# where cust_id=1 and restaurant_id=4 and order_id=2;
UPDATE 1
foodsystem=#
foodsystem=# select c.first_name,ra.name,r.stars
foodsystem=# from customer c,Restaurant admin ra,review r where c.cu
st_id=r.cust_id and r.restaurant_id=ra.id;[ ]
```

As we can see that upon vomiting on right hand side terminal,the change is reflected even in left hand side:

```
sudo -i -u postgres
first_name | name | stars
-----+-----+-----
watson | Pizza Hut | 5
mand | Shri Upahar | 5
dravid | Pizza Hut | 4
watson | Dominoes | 3
ms | New Darshini Veg | 3
(5 rows)

foodsystem=# commit;
COMMIT
foodsystem=# select * from review;
stars | id | cust_id | restaurant_id | order_id
-----+-----+-----+-----+-----
5 | 2 | 2 | 1 | 3
5 | 3 | 4 | 3 | 2
4 | 4 | 3 | 1 | 3
3 | 5 | 2 | 2 | 4
3 | 1 | 1 | 4 | 2
(5 rows)

foodsystem=# select * from review;
stars | id | cust_id | restaurant_id | order_id
-----+-----+-----+-----+-----
5 | 2 | 2 | 1 | 3
5 | 3 | 4 | 3 | 2
4 | 4 | 3 | 1 | 3
3 | 5 | 2 | 2 | 4
5 | 1 | 1 | 4 | 2
(5 rows)

foodsystem=#
```

```
sudo -i -u postgres
first_name | name | stars
-----+-----+-----
watson | Pizza Hut | 5
mand | Shri Upahar | 5
dravid | Pizza Hut | 4
watson | Dominoes | 3
ms | New Darshini Veg | 5
(5 rows)

foodsystem=# select * from review;
stars | id | cust_id | restaurant_id | order_id
-----+-----+-----+-----+-----
5 | 2 | 2 | 1 | 3
5 | 3 | 4 | 3 | 2
4 | 4 | 3 | 1 | 3
3 | 5 | 2 | 2 | 4
5 | 1 | 1 | 4 | 2
(5 rows)

foodsystem=# commit;
COMMIT
foodsystem=# select * from review;
stars | id | cust_id | restaurant_id | order_id
-----+-----+-----+-----+-----
5 | 2 | 2 | 1 | 3
5 | 3 | 4 | 3 | 2
4 | 4 | 3 | 1 | 3
3 | 5 | 2 | 2 | 4
5 | 1 | 1 | 4 | 2
(5 rows)

foodsystem=#
```

Initial state:

```
sudo -i -u postgres
foodsystem=# select * from dish_category
;;
category_id | cat_name
-----+-----
1 | Starter
2 | Dessert
3 | Apetizers
4 | Mid Course
5 | Breakfast
6 | Fast Food
7 | Meal
(7 rows)

foodsystem=#
```

```
sudo -i -u postgres
foodsystem=# select * from dish_category
;
category_id | cat_name
-----+-----
1 | Starter
2 | Dessert
3 | Apetizers
4 | Mid Course
5 | Breakfast
6 | Fast Food
7 | Meal
(7 rows)

foodsystem=#
```

Begin transaction on one:

+

sudo -i -u postgres

```
4 | Mid Course
5 | Breakfast
6 | Fast Food
7 | Meal
(7 rows)

foodsystem=# begin;
BEGIN
foodsystem=# delete from dish_category
foodsystem=# where cat_name='Starter';
DELETE 1
foodsystem=#
foodsystem=# select * from dish_category;
category_id | cat_name
-----+-----
2 | Dessert
3 | Apetizers
4 | Mid Course
5 | Breakfast
6 | Fast Food
7 | Meal
(6 rows)

foodsystem=#
```

+

sudo -i -u postgres

```
foodsystem=# select * from dish_category
;
category_id | cat_name
-----+-----
1 | Starter
2 | Dessert
3 | Apetizers
4 | Mid Course
5 | Breakfast
6 | Fast Food
7 | Meal
(7 rows)

foodsystem=#
```

When trying to do transaction on other,it is blocked

+

sudo -i -u postgres

```
4 | Mid Course
5 | Breakfast
6 | Fast Food
7 | Meal
(7 rows)

foodsystem=# begin;
BEGIN
foodsystem=# delete from dish_category
foodsystem=# where cat_name='Starter';
DELETE 1
foodsystem=#
foodsystem=# select * from dish_category;
category_id | cat_name
-----+-----
2 | Dessert
3 | Apetizers
4 | Mid Course
5 | Breakfast
6 | Fast Food
7 | Meal
(6 rows)

foodsystem=#
```

+

sudo -i -u postgres

```
foodsystem=# select * from dish_category
;
category_id | cat_name
-----+-----
1 | Starter
2 | Dessert
3 | Apetizers
4 | Mid Course
5 | Breakfast
6 | Fast Food
7 | Meal
(7 rows)

foodsystem=# begin;
BEGIN
foodsystem=# delete from dish category
foodsystem=# where cat_name='Starter';

```

When we commit on the left terminal,right terminal is woken from blocked state and the 'starter' dish category is removed/deleted from the table.

We also see that the right hand terminal tells that ero deleted because it was allowed to execute only after transaction one finished which had already deleted the value.

Hence left terminal had blocked the db.

+

sudo -i -u postgres

6 | Fast Food

7 | Meal

(7 rows)

foodsystem=# begin;

BEGIN

foodsystem=# delete from dish_category

foodsystem=# where cat_name='Starter';

DELETE 1

foodsystem=#

foodsystem=# select * from dish_category;

category_id | cat_name

2 | Dessert

3 | Apetizers

4 | Mid Course

5 | Breakfast

6 | Fast Food

7 | Meal

(6 rows)

foodsystem=# commit;

COMMIT

foodsystem=#

+

sudo -i -u postgres

4 | Mid Course

5 | Breakfast

6 | Fast Food

7 | Meal

(7 rows)

foodsystem=# begin;

BEGIN

foodsystem=# delete from dish_category

foodsystem=# where cat_name='Starter';

DELETE 0

foodsystem=#

foodsystem=# select * from dish_category;

category_id | cat_name

2 | Dessert

3 | Apetizers

4 | Mid Course

5 | Breakfast

6 | Fast Food

7 | Meal

(6 rows)

foodsystem=#

Committing on the right terminal:

+

sudo -i -u postgres

6 | Fast Food

7 | Meal

(7 rows)

foodsystem=# begin;

BEGIN

foodsystem=# delete from dish_category

foodsystem=# where cat_name='Starter';

DELETE 1

foodsystem=#

foodsystem=# select * from dish_category;

category_id | cat_name

2 | Dessert

3 | Apetizers

4 | Mid Course

5 | Breakfast

6 | Fast Food

7 | Meal

(6 rows)

foodsystem=# commit;

COMMIT

foodsystem=#

+

sudo -i -u postgres

6 | Fast Food

7 | Meal

(7 rows)

foodsystem=# begin;

BEGIN

foodsystem=# delete from dish_category

foodsystem=# where cat_name='Starter';

DELETE 0

foodsystem=#

foodsystem=# select * from dish_category;

category_id | cat_name

2 | Dessert

3 | Apetizers

4 | Mid Course

5 | Breakfast

6 | Fast Food

7 | Meal

(6 rows)

foodsystem=# commit;

COMMIT

foodsystem=#