

# Documentation

**TASK 1:** To connect PostgreSQL using docker container.

1. Pull docker Postgres image using docker run.

```
> docker run --name postgres-server -p 5432:5432 -e  
POSTGRES_PASSWORD=mysecretpassword -d postgres
```

```
Microsoft Windows [Version 10.0.19045.5608]  
(c) Microsoft Corporation. All rights reserved.  
  
C:\Users\pranesh.kamble>docker run --name postgres-server -p 5432:5432 -e POSTGRES_PASSWORD=mysecretpassword -d postgres  
Unable to find image 'postgres:latest' locally  
latest: Pulling from library/postgres  
db9643c6baf3: Pull complete  
fec99121872b: Pull complete  
e7a2d9e24ab0: Pull complete  
a96cb29b0d13: Pull complete  
133acbc970df: Pull complete  
6e909acdb790: Pull complete  
140970538145: Pull complete  
e02d97322fc6: Pull complete  
1824bd6b75d7: Pull complete  
fbad2bf2d5e6: Pull complete  
9bcedd9434e7: Pull complete  
fc8982ec96d9: Pull complete  
221788d72606: Pull complete  
e5f43b682bc0: Pull complete  
Digest: sha256:7f29c02ba9eeff4de9a9f414d803faa0e6fe5e8d15ebe217e3e418c82e652b35  
Status: Downloaded newer image for postgres:latest  
7f20f4e5416270ba796d1aacff66abcf84532933f3e0788b748f1b0a253eac61  
C:\Users\pranesh.kamble>
```

Here postgres-server is name of the container, 5432 is default port number of PostgreSQL, -e is environment variable for POSTGRES\_PASSWORD, -d is detach mode this will run postgres in background & we can use command on terminal.

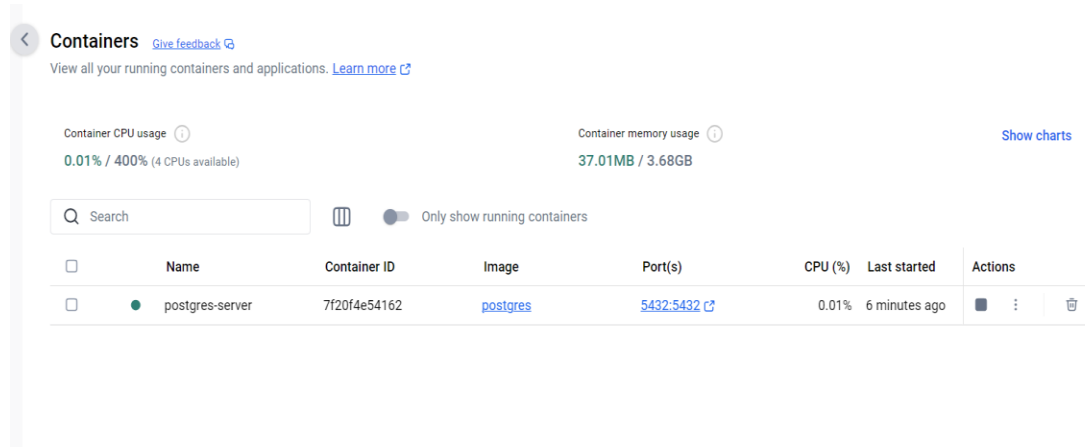
This will create a docker container with name postgres-server and you can run this container.

2. Check if the container is running using both terminal & docker desktop.

> docker ps

```
C:\Users\pranesh.kamble>docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                    NAMES
7f20f4e54162   postgres  "docker-entrypoint.s..." 4 minutes ago  Up 4 minutes  0.0.0.0:5432->5432/tcp    postgres-server
```

Also in docker desktop:



3. Connect to docker psql terminal:

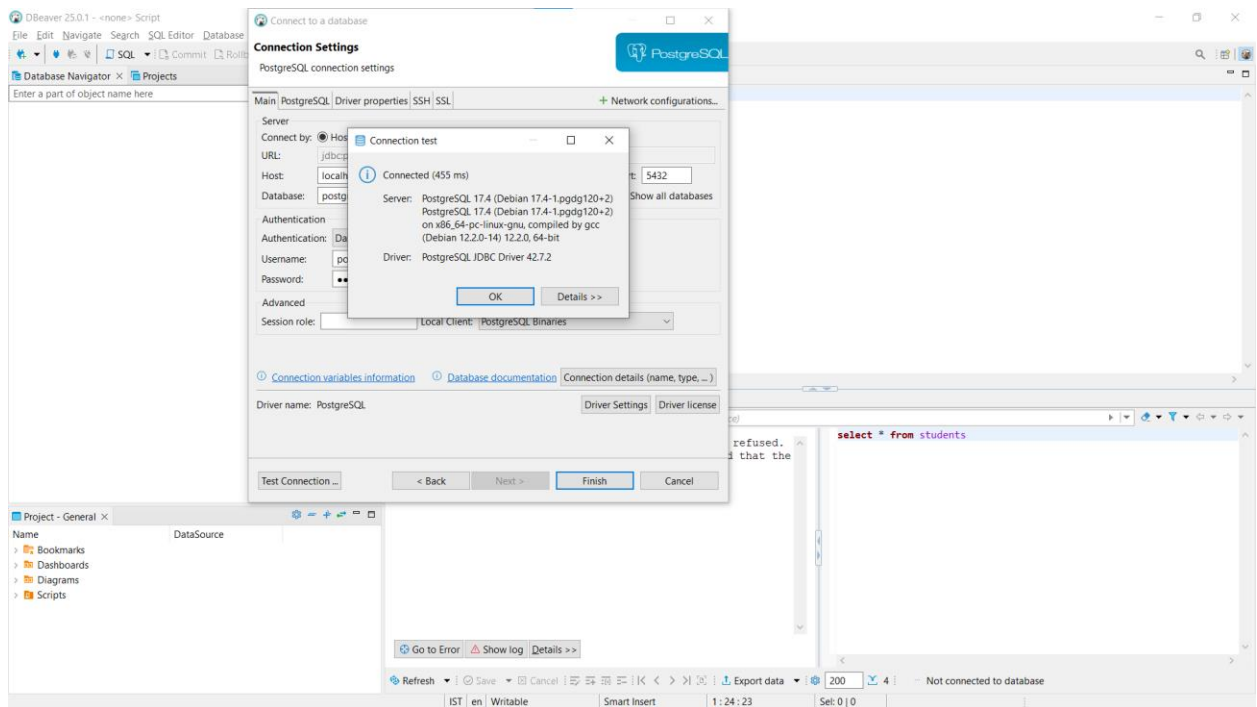
> docker exec -it postgres-server psql -U postgres

```
C:\Users\pranesh.kamble>docker exec -it postgres-server psql -U postgres
psql (17.4 (Debian 17.4-1.pgdg120+2))
Type "help" for help.

postgres=#
```

Here docker exec command runs a new command in a running container, -i is for interactive, t is for terminal session, container name, psql -U postgres for postgres for interactive terminal to run queries for user as postgres. -U is for username instead of default.

#### 4. Connect to Dbeaver:



#### 5. Create table using psql:

```
> CREATE TABLE items (  
    itm_id SERIAL PRIMARY KEY,  
    prod_name varchar(20) not null,  
    price int not null  
);
```

This will create a table items with columns as itm\_id, prod\_name, price.

```
postgres=#  
postgres=# CREATE TABLE items (  
postgres#     itm_id SERIAL PRIMARY KEY,  
postgres#     prod_name varchar(20) not null,  
postgres#     price int not null  
postgres# );  
CREATE TABLE
```

6. Insert into table using terminal & dbeaver:

```
> insert into items(prod_name, price)
```

```
values ('Toor Dal',50),
```

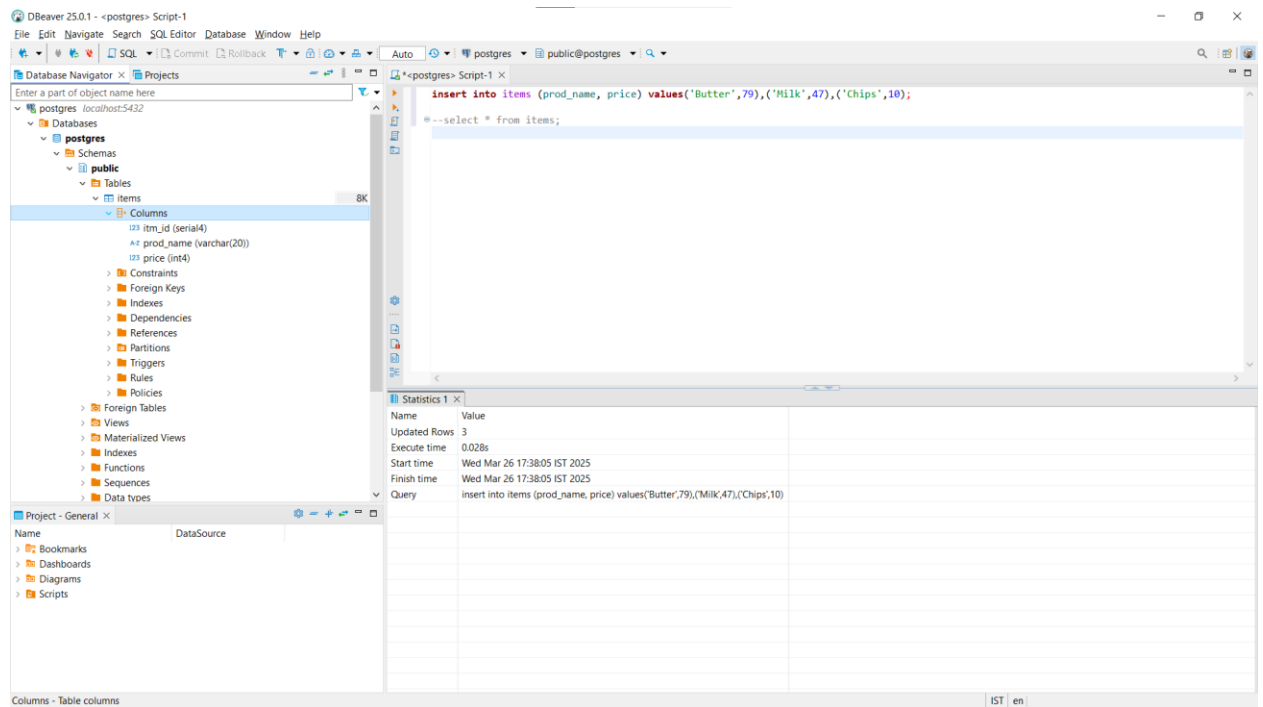
```
('Basmati Rice',101),
```

```
('Soap',500),
```

```
('Shampoo',366);
```

This will insert element/rows in table items.

```
postgres=# insert into items(prod_name, price)
postgres=# values ('Toor Dal',50),('Basmati Rice',101),('Soap',500),('Shampoo',366);
INSERT 0 4
```



7. Return what inside the table items.

> select \* from items;

```
postgres=# select * from items;
itm_id | prod_name | price
-----+-----+-----
1      | Toor Dal  | 50
2      | Basmati Rice | 101
3      | Soap      | 500
4      | Shampoo   | 366
(4 rows)
```

The screenshot shows the DBeaver 25.0.1 interface. On the left, the 'Database Navigator' shows the 'postgres' database with a 'public' schema containing an 'items' table. The table's columns are 'itm\_id' (serial4), 'prod\_name' (varchar(20)), and 'price' (int4). The 'SQL Editor' shows a script with an insert statement and a select statement. The 'Items 1' table view displays the following data:

itm_id	prod_name	price
1	Toor Dal	50
2	Basmati Rice	101
3	Soap	500
4	Shampoo	366
5	Butter	79
6	Milk	47
7	Chips	10

```
postgres=# select * from items;
itm_id | prod_name | price
-----+-----+-----
1      | Toor Dal  | 50
2      | Basmati Rice | 101
3      | Soap      | 500
4      | Shampoo   | 366
5      | Butter    | 79
6      | Milk      | 47
7      | Chips     | 10
(7 rows)
```