

Assignment #1

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Assignment Deliverables:

Submit your assignment as a single ZIP file that has the following:

1. PDF document on Canvas that has the answers (SQL code and output) for the requirements listed below.
2. Panopto video recording of a live run (5 to 10 minutes) of your SQL/PostgreSQL code executed on your personal development computer.

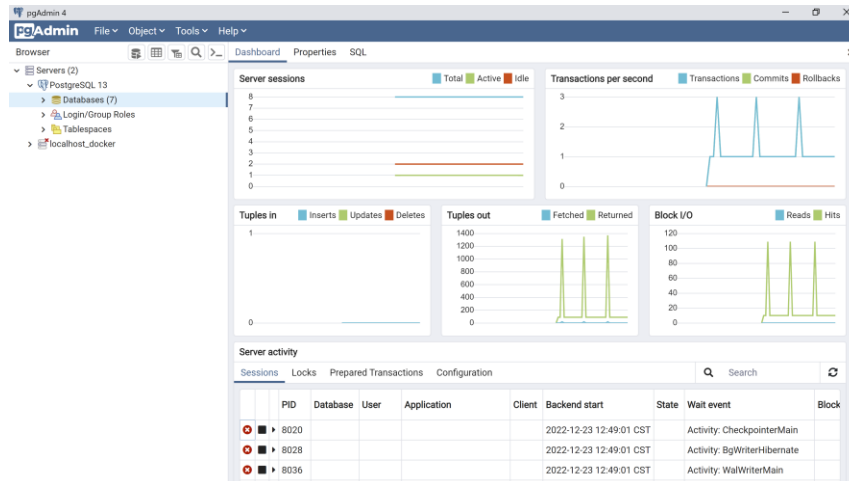
Assignment Objectives:

Use SQL/PostgreSQL to create and query a relational database application.

Assignment Instructions:

1. Read Chapter 1 (Installing PostgreSQL and pgAdmin) of your textbook
 - DeBarros, Anthony. 2022. Practical SQL: A Beginner's Guide to Storytelling with Data (second edition). San Francisco: No Starch Press. [ISBN-13: 978-1-7185-0106-5]
 - NU Library URL:
<https://learning.oreilly.com/library/view/practical-sql-2nd/9781098129866/>
 - Chapter: 1

2. Download and install PostgreSQL (13 or higher) from the following URL: <https://www.postgresql.org/download/> .
3. Startup **pgAdmin** and login using postgres/root username; you should see the following **pgAdmin** window



4. Create a subdirectory called Assignment_1 and save the following files you downloaded from Canvas to this directory:
 - 1) Build-DB-SaleCo.sql
 - 2) LoadRowsIntoDB
5. Startup a terminal/cmd window and add **psql** location/path to your computer bin PATH:

```
C:\Windows\System32\cmd.exe
C:\tmp\msds420\Assignment_1>set PATH=%PATH%;C:\Program Files\PostgreSQL\13\bin;.
C:\tmp\msds420\Assignment_1>
C:\tmp\msds420\Assignment_1>
```

6. From the terminal/Assignment_1, startup psql to start executing Build-DB-SaleCo.sql script. Type the following command in the terminal and enter your password:

- `psql -U postgres -f Build-DB-SaleCo.sql`

```
C:\Windows\System32\cmd.exe
C:\tmp\msds420\Assignment_1>psql -U postgres -f Build-DB-SaleCo.sql
Password for user postgres:
```

7. The script will start executing, and you should see something similar to this:

```
C:\Windows\System32\cmd.exe
C:\tmp\msds420\Assignment_1>psql -U postgres -f Build-DB-SaleCo.sql
Password for user postgres:
CREATE DATABASE
You are now connected to database "saleco" as user "postgres".
BEGIN
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE INDEX
CREATE INDEX
CREATE INDEX
DROP INDEX
INSERT 0 1
 v_code | v_name      | v_contact | v_areacode | v_phone | v_state | v_order
-----|-----|-----|-----|-----|-----|-----
 21225 | Bryson, Inc. | Smithson  | 615        | 223-3234 | TN      | V
(1 row)

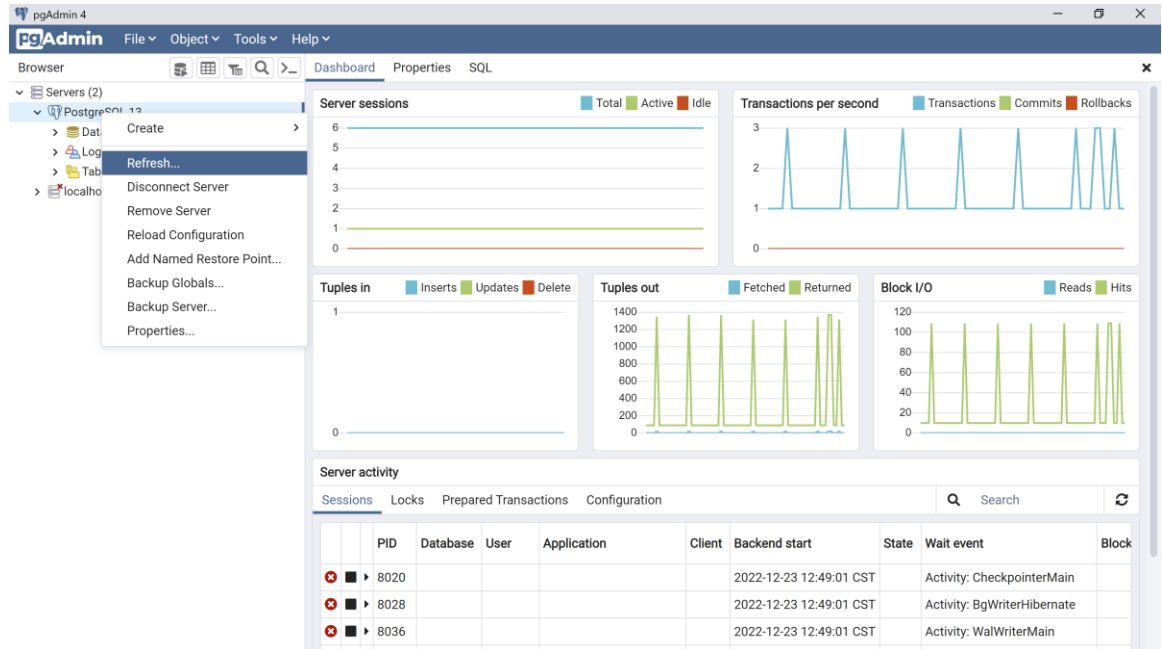
INSERT 0 1
 v_code | v_name      | v_contact | v_areacode | v_phone | v_state | v_order
-----|-----|-----|-----|-----|-----|-----
 21225 | Bryson, Inc. | Smithson  | 615        | 223-3234 | TN      | V
 21225 | Superloo, Inc. | Flushing  | 904        | 215-8995 | FL      | N
(2 rows)

INSERT 0 1
INSERT 0 1
 p_code | p_descript      | p_indate | p_qoh | p_min | p_price | p_discount | v_code
-----|-----|-----|-----|-----|-----|-----|-----
11QER/31 | Power painter, 15 psi., 3-nozzle | 2015-11-03 | 8 | 5 | 109.99 | 0.00 | 21225
13-Q2/P2 | 7.25-in. per. saw blade | 2015-12-13 | 32 | 15 | 14.99 | 0.05 | 21225
(2 rows)

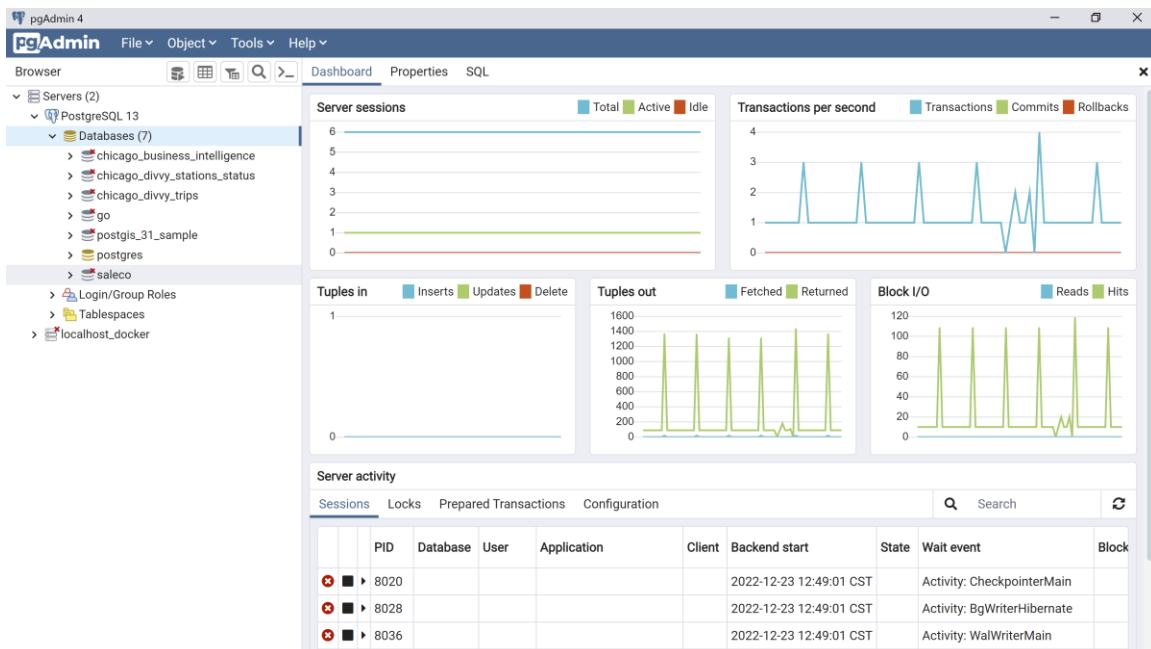
COMMIT
 p_code | p_descript      | p_indate | p_qoh | p_min | p_price | p_discount | v_code
-----|-----|-----|-----|-----|-----|-----|-----
11QER/31 | Power painter, 15 psi., 3-nozzle | 2015-11-03 | 8 | 5 | 109.99 | 0.00 | 21225
13-Q2/P2 | 7.25-in. per. saw blade | 2015-12-13 | 32 | 15 | 14.99 | 0.05 | 21225
(2 rows)

 p_code | p_descript      | p_indate | p_qoh | p_min | p_price | p_discount | v_code
-----|-----|-----|-----|-----|-----|-----|-----
11QER/31 | Power painter, 15 psi., 3-nozzle | 2015-11-03 | 8 | 5 | 109.99 | 0.00 | 21225
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(2 rows)
```

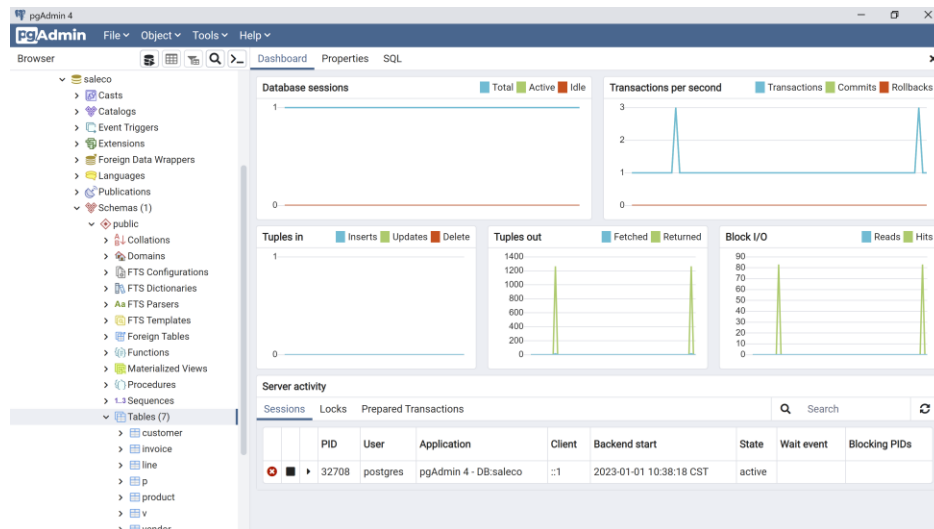
8. You could use psql or pgAdmin to inspect SaleCo database. If you use pgAdmin, right-click on Postgres and click refresh as follows:



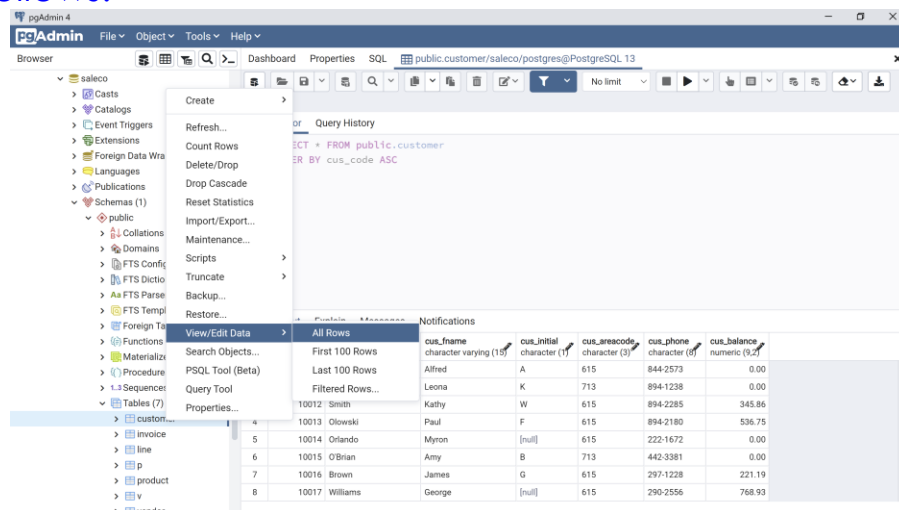
9. Click on Databases and you should see your SaleCo database as follows:



10. Click on SaleCo database, then select Schema, and after that click on tables. You should see your SaleCo database tables as follows:



11. Right-click on the Customers table, and select view all rows. You should see your SaleCo/Customers tables as follows:



12. After you verify that your SaleCo database tables are populated correctly on PostgreSQL, you are ready to start executing your SQL code for the requirements listed below.
- *Please note that you could use either pgAdmin/SQL window or psql shell/terminal to instrument and execute your code*

Assignment Requirements:

Use the SaleCo ERD listed below and the provided SQL scripts to construct its relational database and answer the following queries:

1. Write a query to count the number of invoices.
2. Write a query to count the number of customers with a customer balance over \$500.
3. Generate a listing of all purchases made by the customers
4. Generate the listing of customer purchases, including the subtotals for each of the invoice line numbers
5. List the balance characteristics of the customers who have made purchases during the current invoice cycle—that is, for the customers who appear in the INVOICE table.
6. Find the listing of customers who did not make purchases during the invoicing period.
7. Create a query to produce the summary of the value of products currently in inventory.

