ITS 180 WEEK 2 ZOOM MEETING

FRIDAY, APRIL 16, 2021 @ 5:00PM

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CHAPTERS 4-6

ACCESSING YOUR DATA

POSTGRESQL COMMAND-LINE AND GRAPHICAL TOOLS

DATA INTERFACING

COMMAND-LINE VS. GRAPHICAL USER INTERFACE

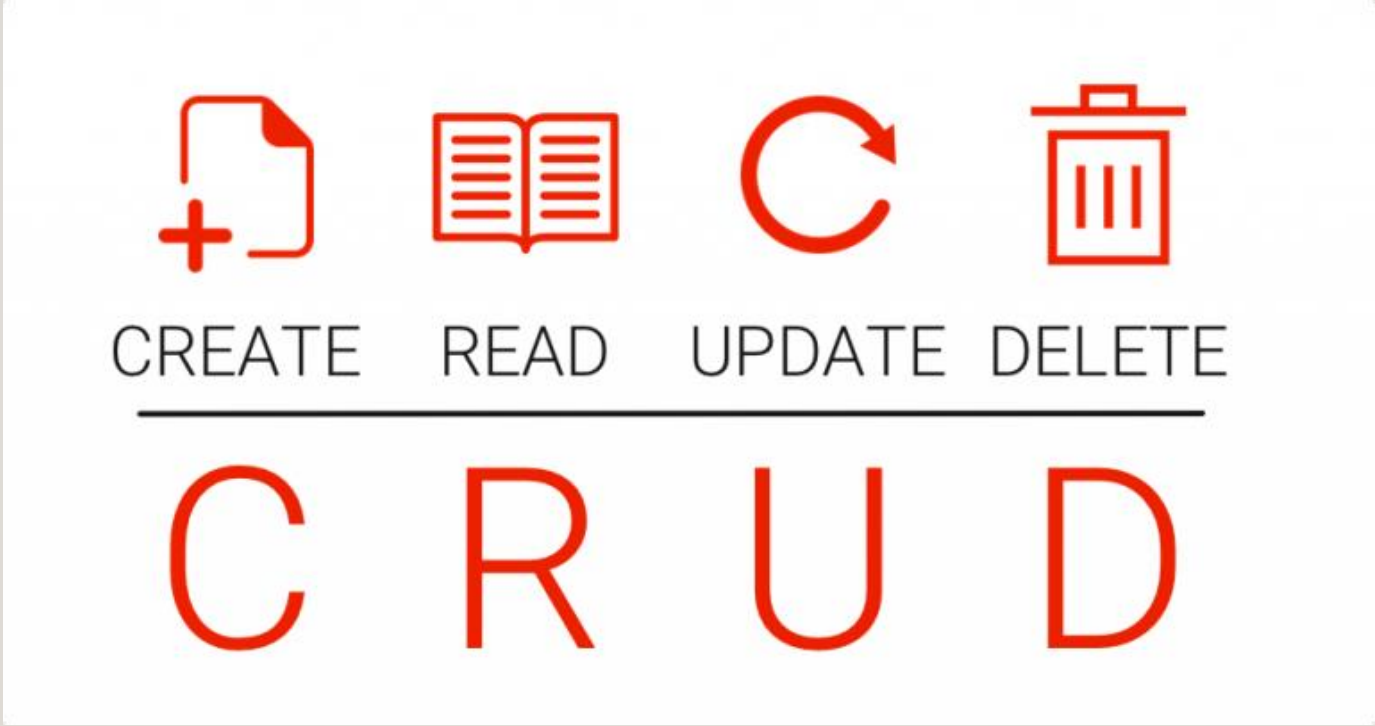
- COMMAND-LINE
- Psql (PostgreSQL SQL Shell)
- Must know SQL commands to effectively use this interface
- Quick if SQL statements are saved in a text file (*.sql) called "scripts."
- Much difficult to use than GUI
- Fast performance and less overhead than GUI

- GUI
- PgAdmin 4 (PostgreSQL GUI)
- User friendly
- Easier to navigate
- Knowing SQL commands is not that urgent or necessary to use
- Much easier to use than command-line
- More overhead due to the "graphical portion"

BASIC PSQL COMMANDS, P. 78

- \c – connects to a database that you specify
- \l – displays a list of databases
- \dt – displays a list of tables of your database
- \i – execute commands read from the filename <*.sql>
- \r – reset buffer
- \q – quit psql

COMMON DATABASE OPERATIONS: "C.R.U.D."



‘SELECT’ STATEMENTS

- Data is retrieved using ‘SELECT’ statements
- Example:
  - SELECT * FROM item;
- ‘*’ indicates that you are selecting ALL of the items.
- ‘item’ is the name of a table in your database.
- What is the output after executing this SQL statement?

SELECT NAMED COLUMNS IN A SPECIFIC ORDER

- SELECT town, lname FROM customer;
- Note: The semicolon (;) indicates the end of the SQL statement. This is similar to C/C++ and Java
- What are ‘town’ and ‘lname’?
- What is ‘customer’?

PSQL COMMAND-LINE & INTERNAL COMMANDS QUICK REFERENCE

- Psql Command-Line Quick Reference, p. 118-119
- Psql Internal Commands Quick Reference, p. 119-121
- If you are new to these commands, it is always good to use a quick reference guide.
- The more you use the same commands, it will become second nature to you.
- The best way to learn SQL is to "DO IT!" The more you experiment and practice these commands, the more you will get comfortable in using them.

ODBC

- Stands for "Open Database Connectivity"
- Defines a common interface for databases
- To use ODBC, you need both an application written for the ODBC interface and a driver for the particular database you want to use
- This is where you need to install the appropriate ODBC driver for your platform

PGADMIN 4

- Latest version is 4
- PostgreSQL latest version is 13.2
- Full-featured graphical interface for PostgreSQL databases
- Community-maintained
- URL: http://www.pgadmin.org

‘INSERT’ STATEMENTS

- ‘INSERT’ is the keyword used to add data to PostgreSQL.
- Data is added to only a single table at any one time and generally we do that one row at a time
- SYNTAX:
  - INSERT INTO tablename VALUES (list of column values);

SQL INSERT STATEMENT

- A single SQL statement can be broken up and entered into multiple command-line prompts.
- Example:
  - bpsimple=#: INSERT INTO customer VALUES(14, 'Mr', 'George', 'Johnson',
  - bpsimple-#: '7 Firestone', 'Milltown', 'ST9 7RF', '585 2347');

WHAT IS THE OUTPUT OF THIS SQL STATEMENT?

- SELECT customer_id, fname, lname, addressline FROM customer;

‘UPDATE’ STATEMENT

- The keyword ‘UPDATE’ is used to update or change data in the database.
- SYNTAX:
  - UPDATE tablename SET columnname = value WHERE condition;
- Example:
  - bpsimple=# SELECT fname, lname, phone FROM tcust
  - bpsimple-# WHERE fname = ‘Peter’ AND lname = ‘Bradley’;

‘DELETE’ STATEMENT

- The ‘DELETE’ keyword is used to delete data from the database.
- SYNTAX:
  - DELETE FROM tablename WHERE condition

Example:

```
bpsimple=# SELECT fname, lname FROM tcust WHERE town = ‘Lincoln’;
```