CS 166: PostgreSQL Quick Start Guide

April 18, 2018

There are two ways of setting the postgreSQL database. First method is to use the scripts provided in ilearn. Second method is to type the command line arguments manually. Choose the method you are more comfortable with. Please do not forget to shut down the database after your work is complete.

Method 1

1. Create a folder under /tmp as the environment of your test database in **bolt**.cs.ucr.edu **or local computer**:

   $ mkdir /tmp/$USER

2. Copy the three sh scripts attached in ilearn to your home location and then copy them to the above created folder

   ```
   $ cp startPostgreSQL.sh createPostgreDB.sh stopPostgreDB.sh /tmp/$USER
   ```

3. Go to the folder created in the first step.

   ```
   $ cd /tmp/$USER
   ```

4. Open startPostgreSQL.sh. Change the port number and DB_Name (currently set as 1024 and mydb respectively) to different values. Run startPostgreSQL.sh. This step will initialize the database.

5. Run createPostgreDB.sh. This will create the database.

6. Start the interactive environment

   ```
   $ psql -p $PGPORT $DB_NAME
   ```

   The Postgre prompt like "mydb=#" will show up to accept your SQL commands, where "mydb" is the database name you specified in $DB_NAME. You can also pipeline a SQL script into the interactive environment to execute it in bulk:

   ```
   $ psql -p $PGPORT $DB_NAME < your_script.sql
   ```

7. SQL Administrator Cook List Show all databases in your Postgre instance:

   ```
   mydb=# SELECT datname FROM pg_database;
   ```

Show all tables viewable to you:

```
mydb=# SELECT table_name
mydb=# FROM information_schema.tables
mydb=# WHERE table_schema='public';
```

8. Use "\q" to quit the interactive environment.

9. To Stop the database instance run stopPostgreDB.sh

OR

Method 2

1. Log in to lab computer with your CS account.

2. Setup your PostgreSQL environment

   (a) Create a folder under /tmp as the environment of your test database:

   ```
   $ mkdir /tmp/$USER
   ```

   (b) Create a data folder under your environment, which will contain Postgre data files:

   ```
   $ mkdir /tmp/$USER/data
   $ echo "export PGDATA=/tmp/$USER/data" >> ~/.bashrc
   $ source ~/.bashrc
   ```

   (c) Initialize the database environment:

   ```
   $ cd /tmp/$USER
   $ initdb
   ```

3. Start the PostgreSQL database server (make sure to **substitute YOUR_RANDOM_PORT** with any port number in range (1024, 65535])

   ```
   $ echo "export PGPORT=<YOUR_RANDOM_PORT>" >> ~/.bashrc
   $ source ~/.bashrc
   $ pg_ctl -o "-p $PGPORT" -D $PGDATA -l logfile start
   ```

   You can test whether your PostgreSQL instance is started or not using the following command:

   ```
   $ pg_ctl status
   ```

4. Create your database (Replace $DB_NAME with your database name)

   ```
   $ echo "export DB_NAME=mydb" >> ~/.bashrc
   $ source ~/.bashrc
   $ createdb -p $PGPORT $DB_NAME
   ```

5. Start the interactive environment

   ```
   $ psql -p $PGPORT $DB_NAME
   ```

The Postgre prompt like "mydb=#" will show up to accept your SQL commands, where "mydb" is the database name you specified in $DB_NAME. Use "\q" to quit the interactive environment. You can also pipeline a SQL script into the interactive environment to execute it in bulk:

```
$ psql -p $PGPORT $DB_NAME < your_script.sql
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6. SQL Administrator Cook List Show all databases in your Postgre instance:

```
mydb=# SELECT datname FROM pg_database;
```

Show all tables viewable to you:

```
mydb=# SELECT table_name
mydb=# FROM information_schema.tables
mydb=# WHERE table_schema='public';
```

7. Stop the database instance

```
$ pg_ctl -p $PGPORT stop
```