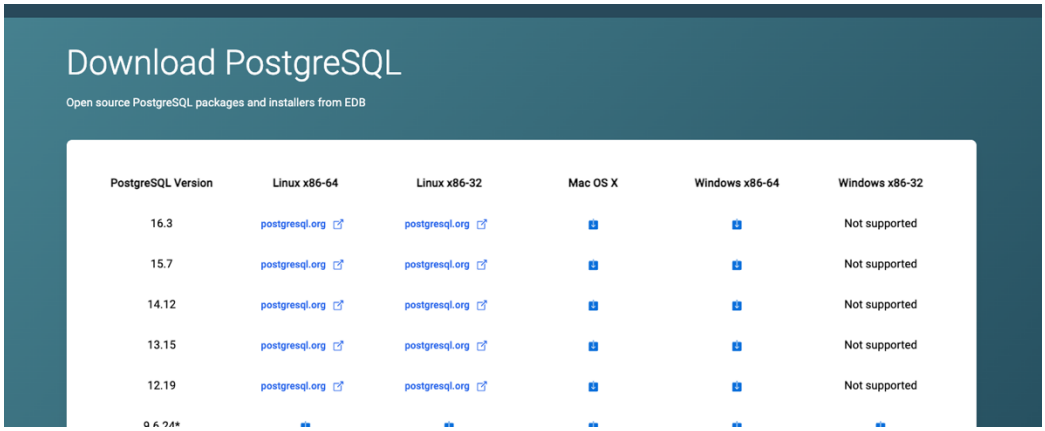
CS 236353 Databases course. Spring 2024

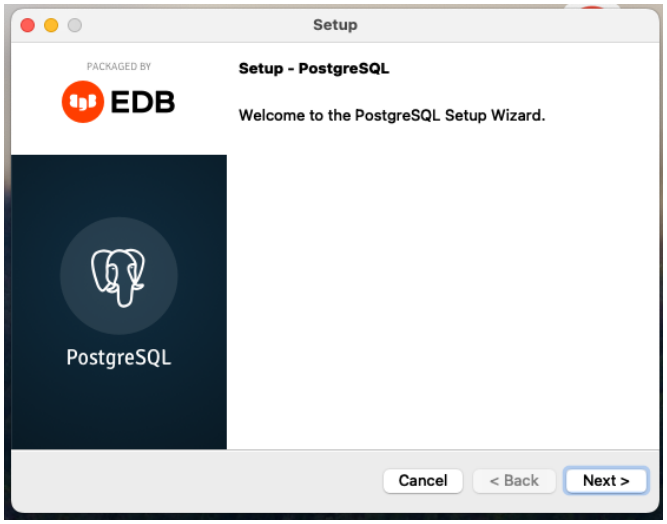
Installing PostgreSQL on local machine

- For mac users- installation might be easier with brew (might prevent issues later)- https://formulae.brew.sh/formula/postgresql@16

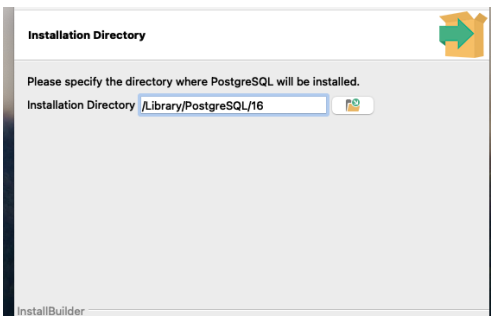
1. Go to https://www.enterprisedb.com/downloads/postgres-postgresql-downloads and download the latest version that fits your OS.



2. Download and run installer

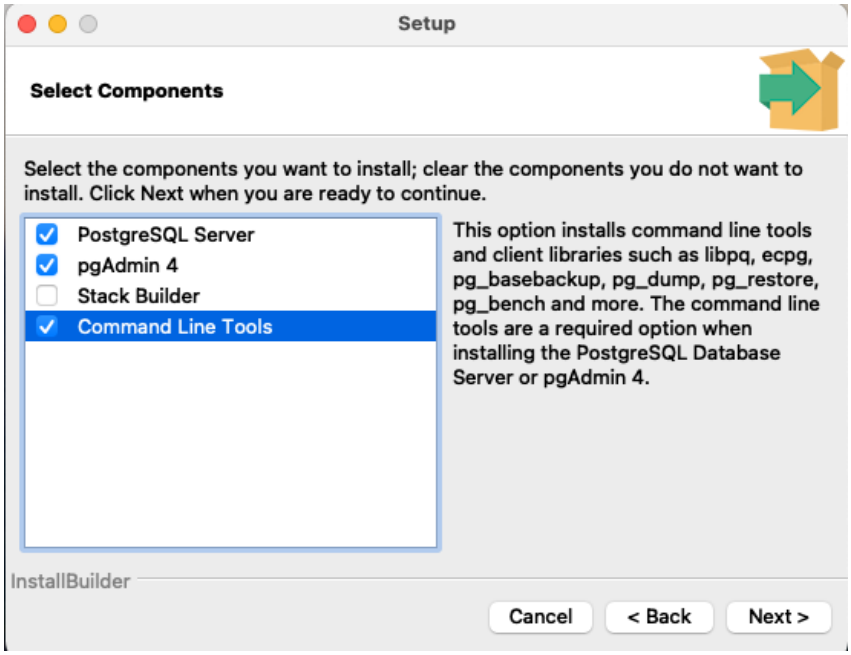


2. Choose installation directory

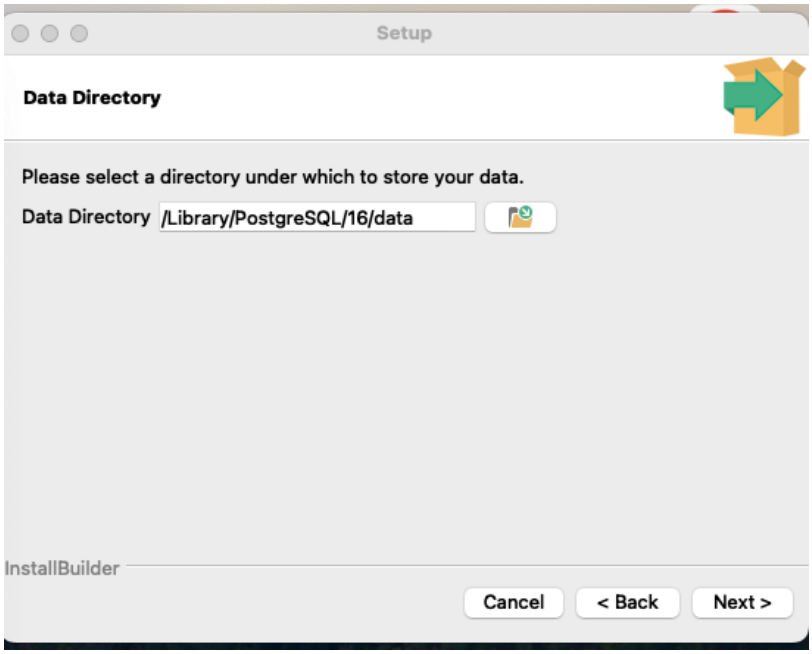


3. Select Components for PostgreSQL Installation:

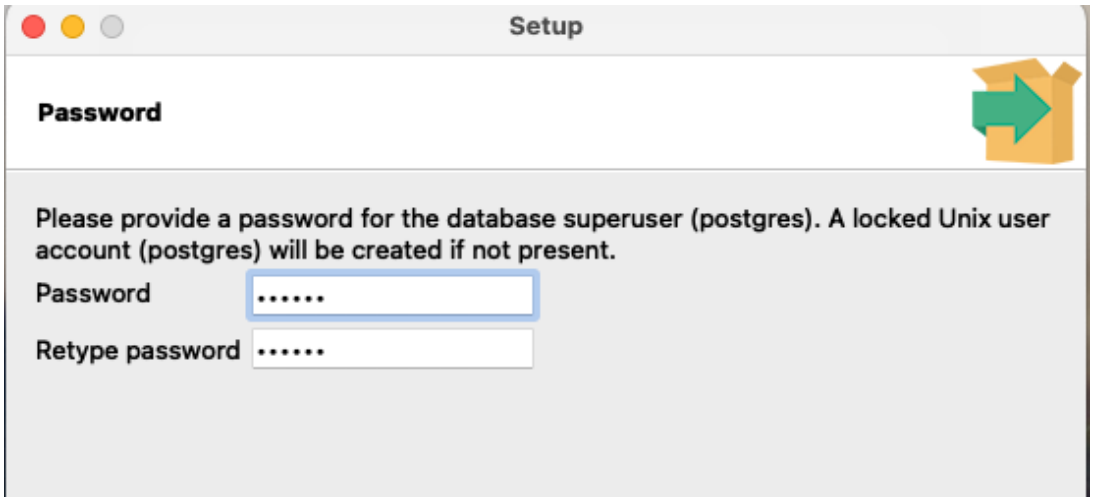
   - **PostgreSQL Server:** This component is the core of PostgreSQL. It includes the database server and the necessary files to run PostgreSQL.
   - **pgAdmin 4:** This component is a web-based administration tool for managing PostgreSQL databases. It provides a graphical interface to perform various database operations.
   - **Command Line Tools**: This option installs command-line tools and client libraries. These tools are required for performing various database tasks via the command line.



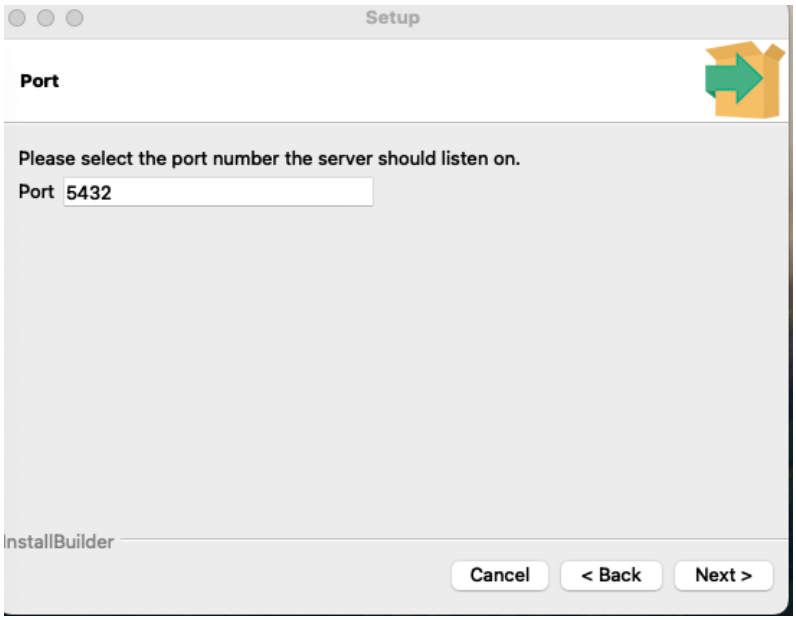
4. Choose data directory



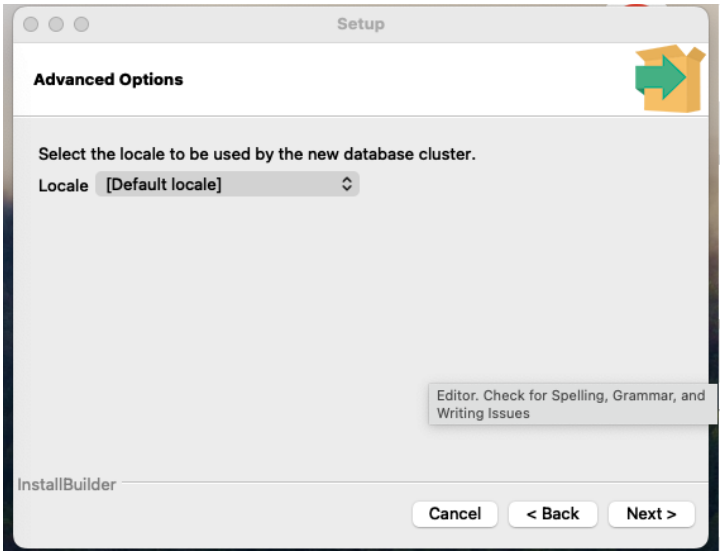
5. Provide a password for superuser Postgres (you can choose anything you want but remember it!)



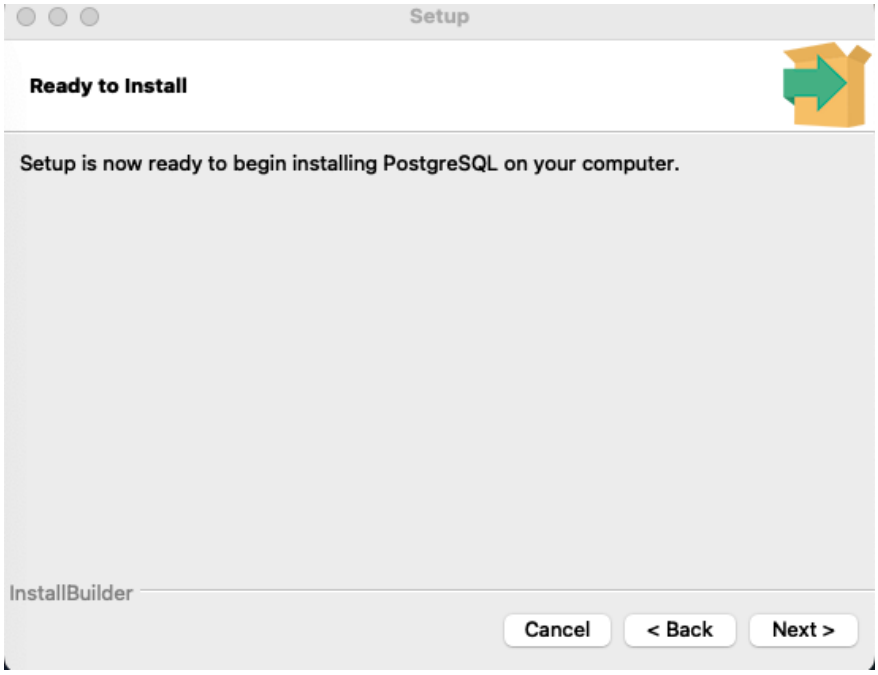
6. Select the port the server listens on (default is 5432)



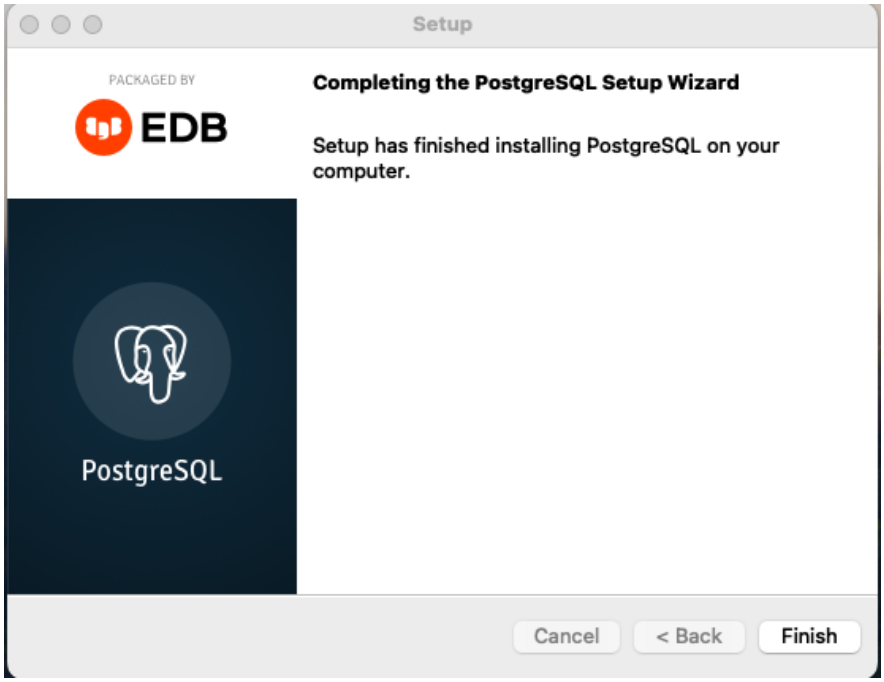
7. Select the locale for DB cluster as “default locale”



8. Install the software



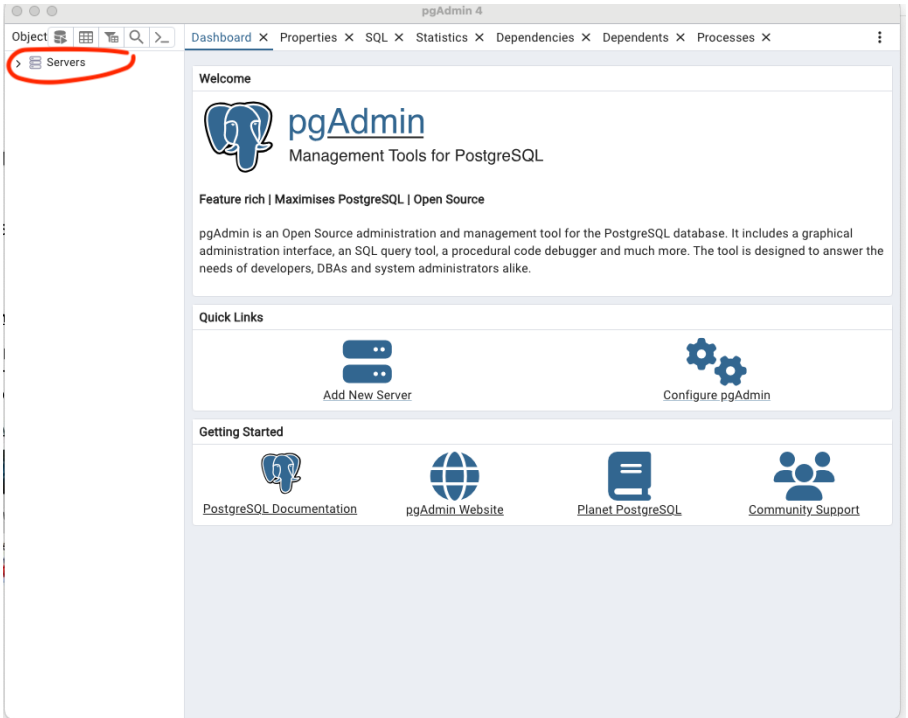
9. Finish installation.



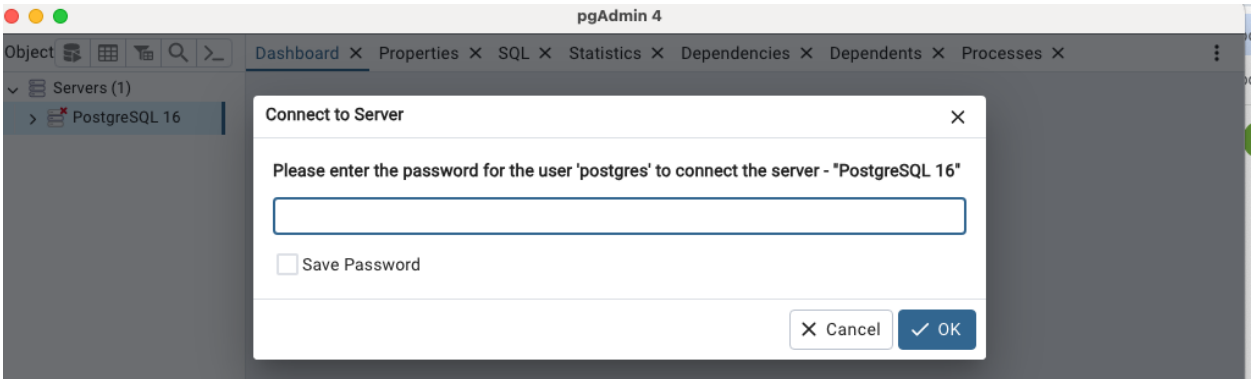
First sign in (as superuser)

1. Run pgAdmin
    a. For Mac users: You can find pgAdmin in the Applications folder.
    b. For Windows users: It is located under {installation directory}\pgAdmin 4\bin.

You should see the following dashboard after entering the app:

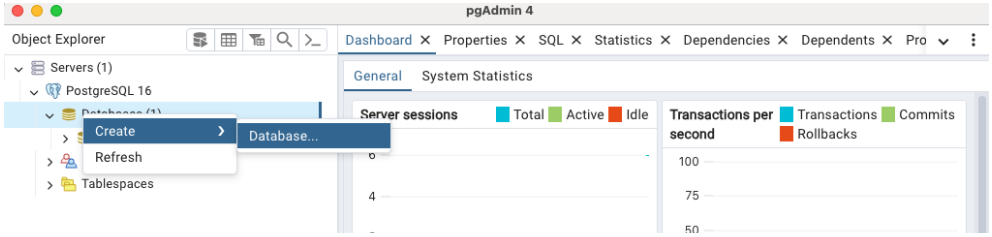


2. Connect to your server (right click on “PostgreSQL 16” and click “Connect Server”). Enter password for postgres user if prompted.

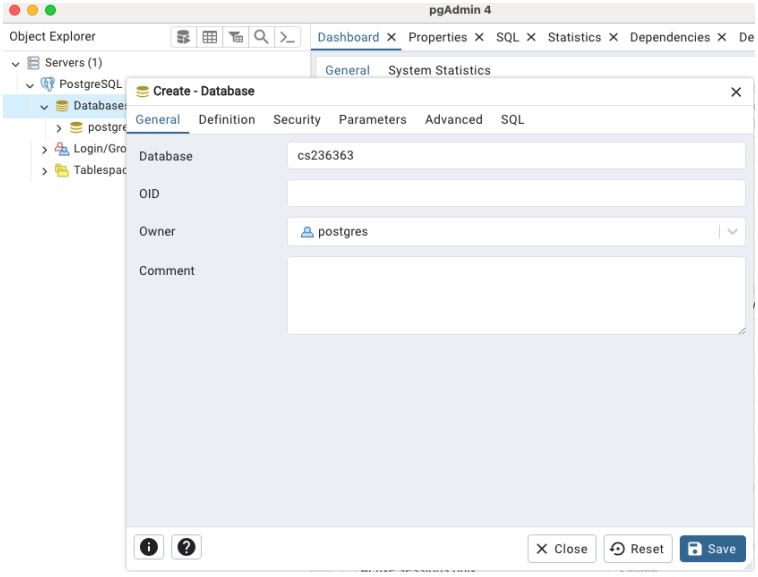


Create Database

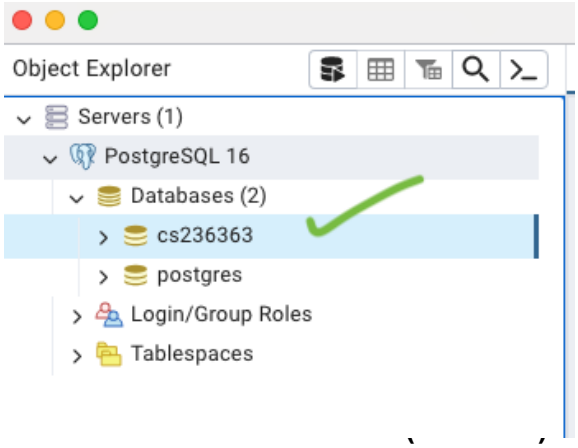
1. Right click on “databases” and choose “create”->”database”



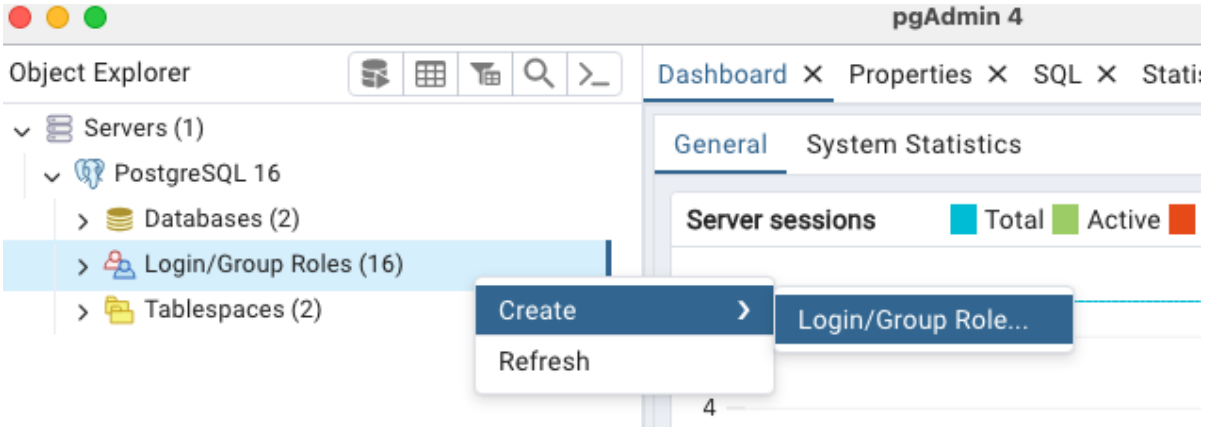
2. Call the database “cs236363” and save it:



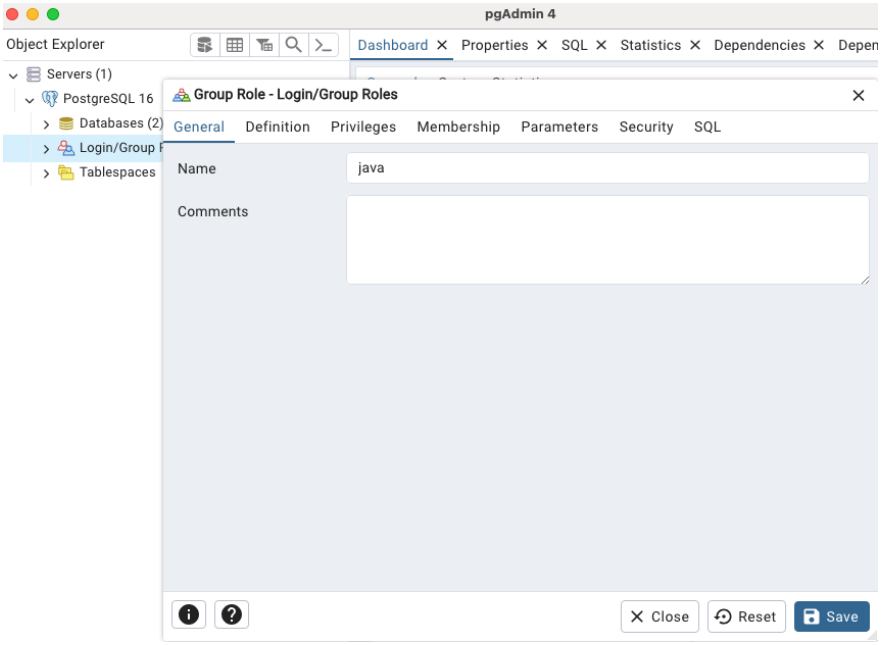
3. You should see the new database under Databases after you save it:



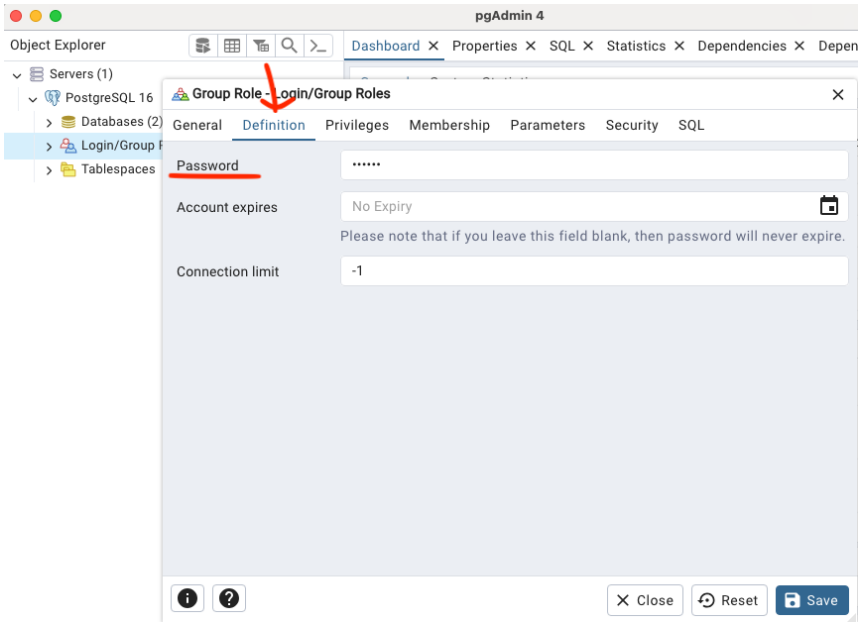
1. Right click on “Login/Group Roles”->”create”->”Login/Group Role”.



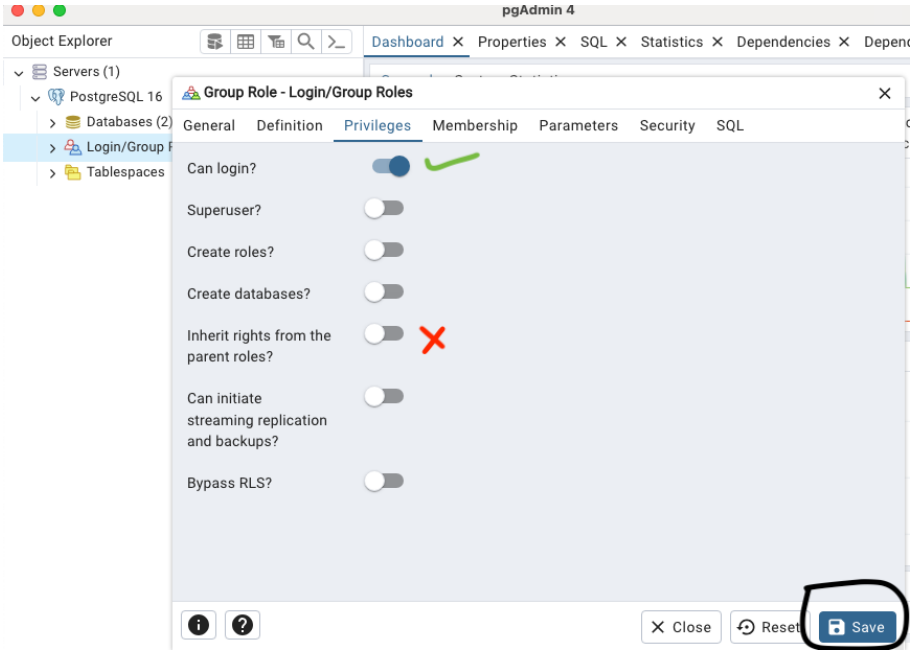
2. In the “general” tab, give your user a name (I used the name “java”, for example)



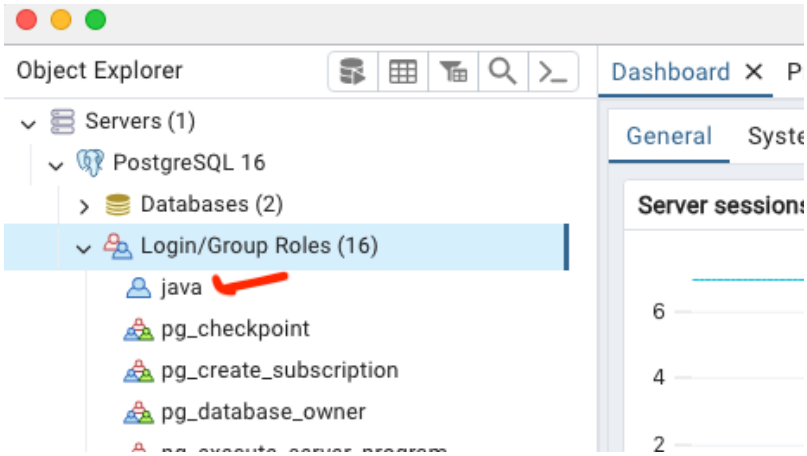
3. In the “Definition” tab, set a password for your user (please remember this user password, in addition to the superuser password you entered earlier)



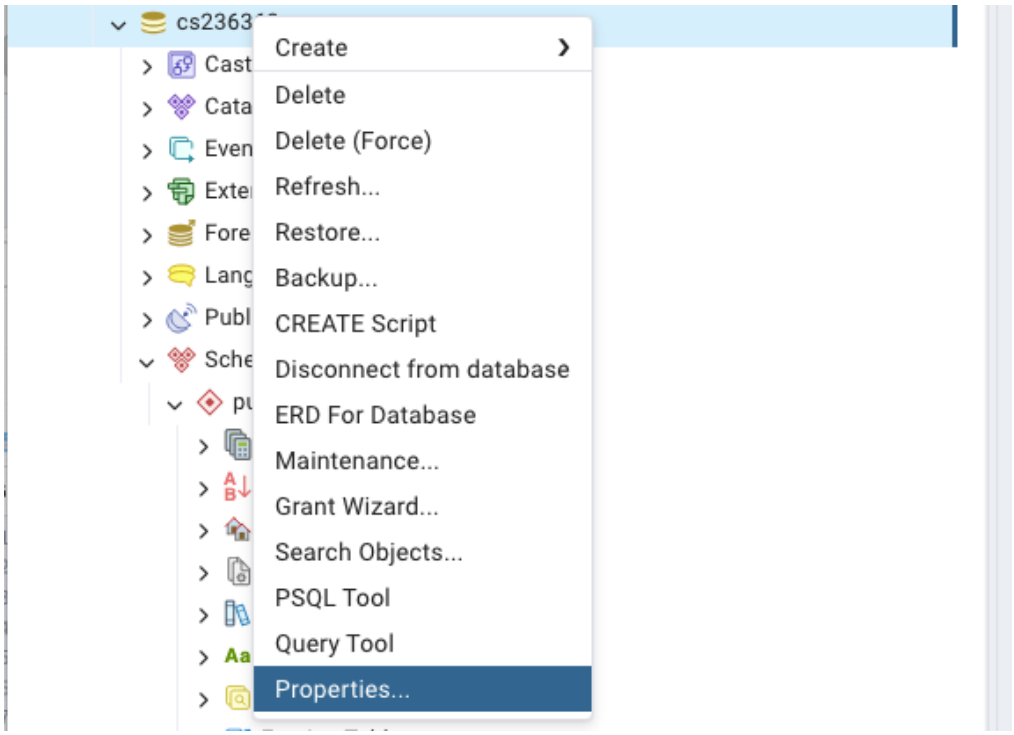
4. In “previliges” tab mark “can login” and umark “inherit rights from the parent roles?” and click save



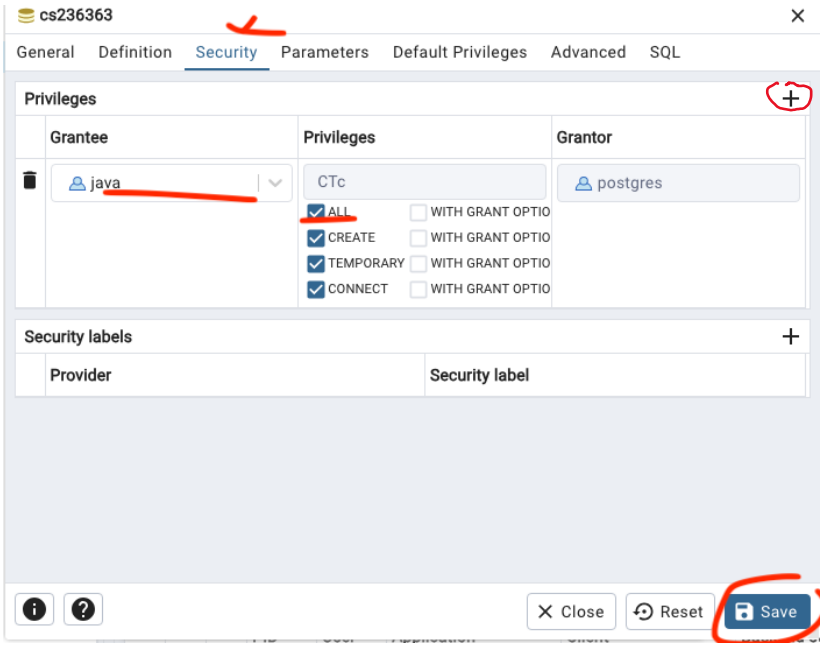
5. You should see your new user under Login/Group roles section.



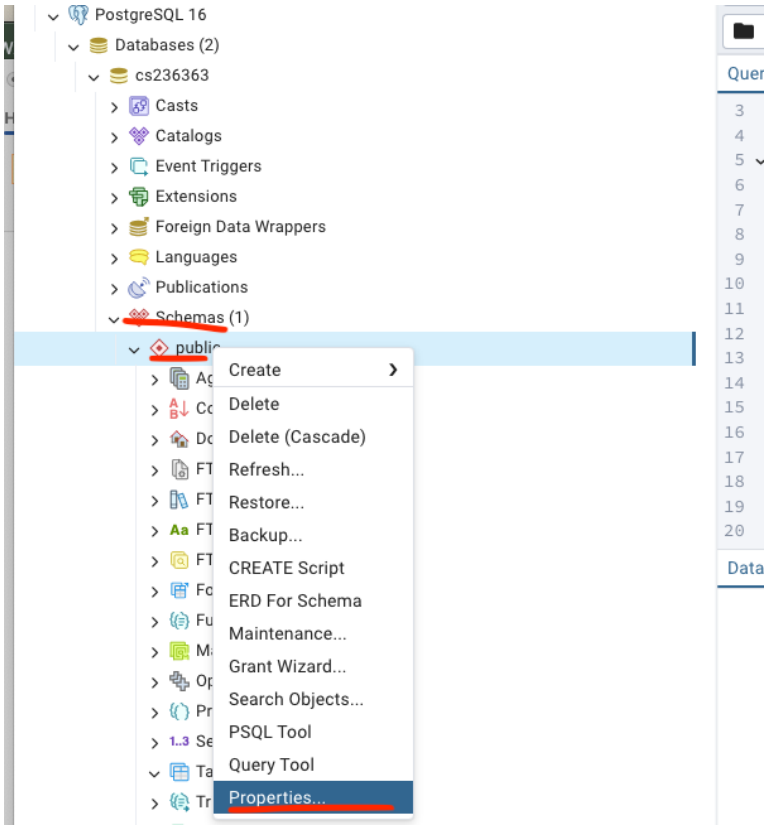
6. On the database “cs236363” go to “Properties”



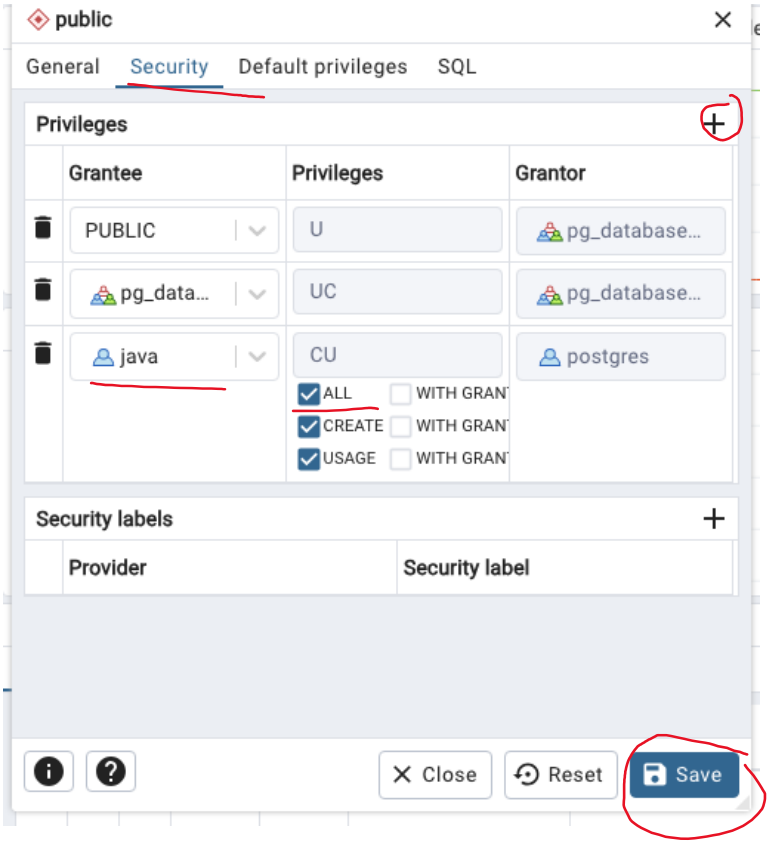
7. In the "Security" tab, click the plus sign to add a row in privileges. Select the new user you created in the "Grantee" field (e.g., "java") and check the box for "ALL" privileges. Click "Save" to apply the changes.



8. On te database “cs236363” go to “schemas”->”public”->right click on “Properties”



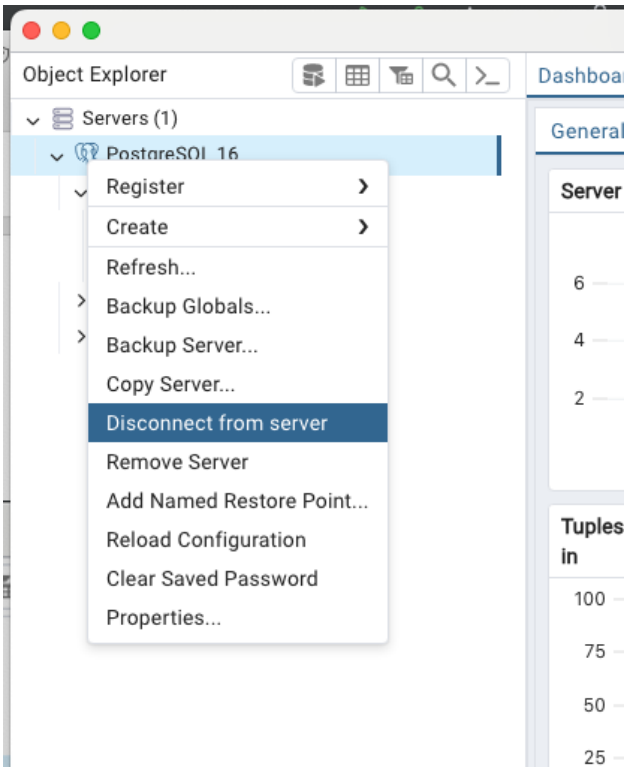
9. In the "Security" tab, click the plus sign to add a row in privileges. Select the new user you created in the "Grantee" field (e.g., "java") and check the box for "ALL" privileges. Click "Save" to apply the changes.



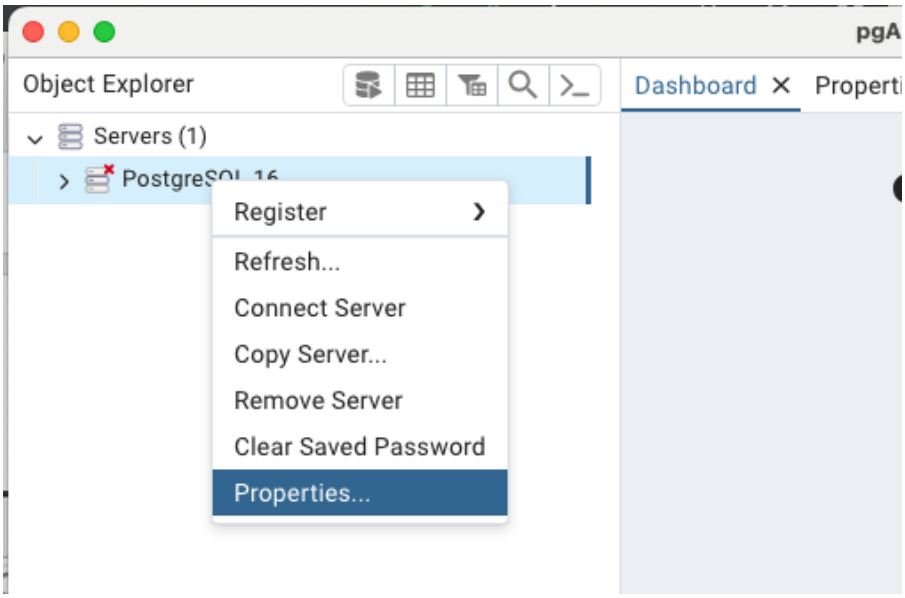
Sign in as your user

1. Please sign in as your user to prevent any unnecessary mistakes, caused by superuser privileges.

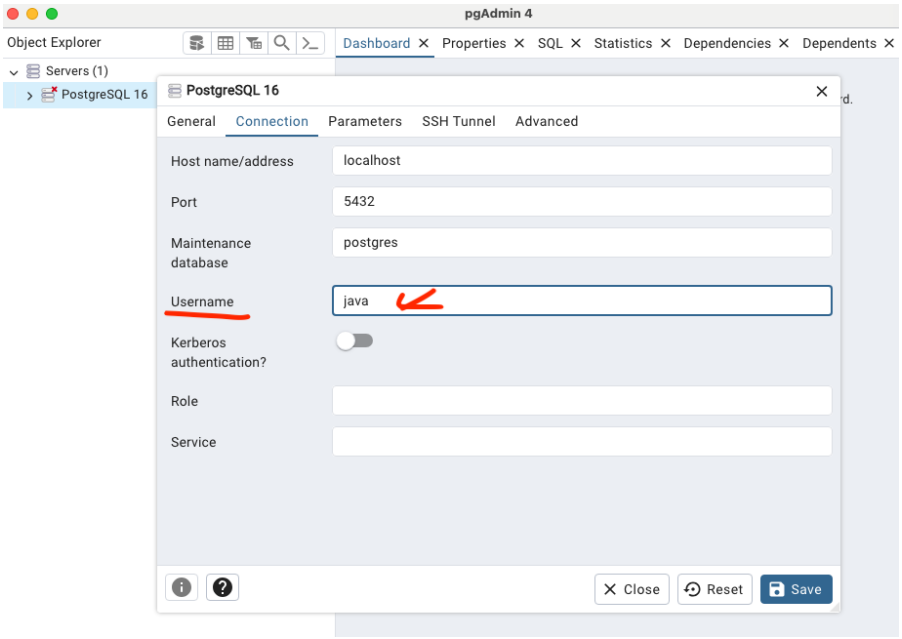
   Right click on “postgerSQLl 16” server and choose “disconnect server”.



2. Right click on “PostgreSQL 16” server and choose “properties.”

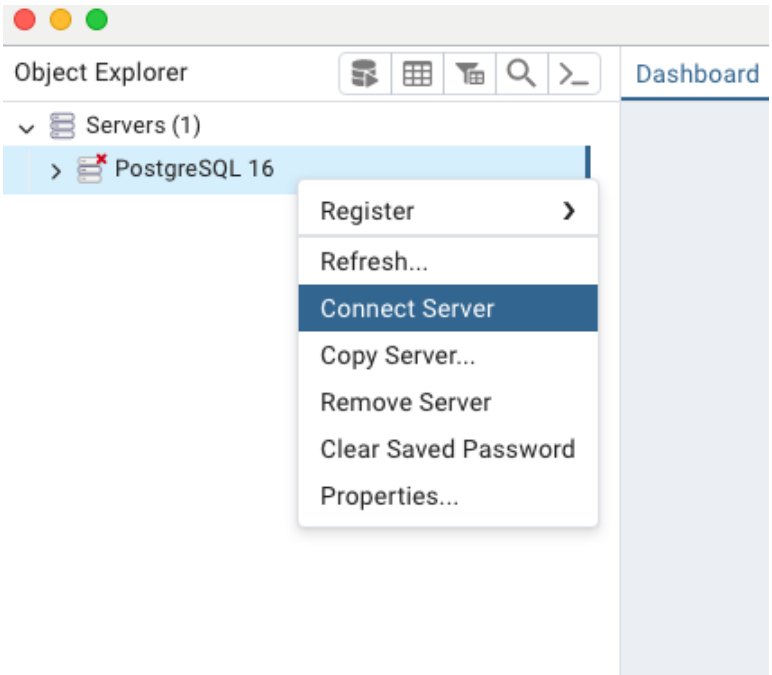


3. On the “connection” tab, change the user from “postgres” to your username and save



4. Right click on “postgerSQLl 16” server and choose “connect server”.

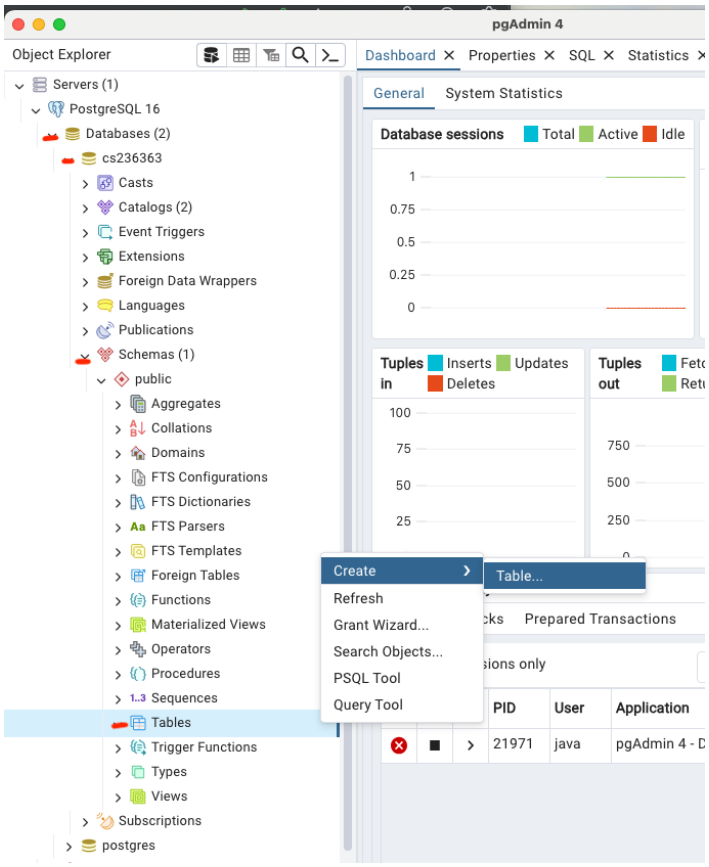
   Enter password if prompted



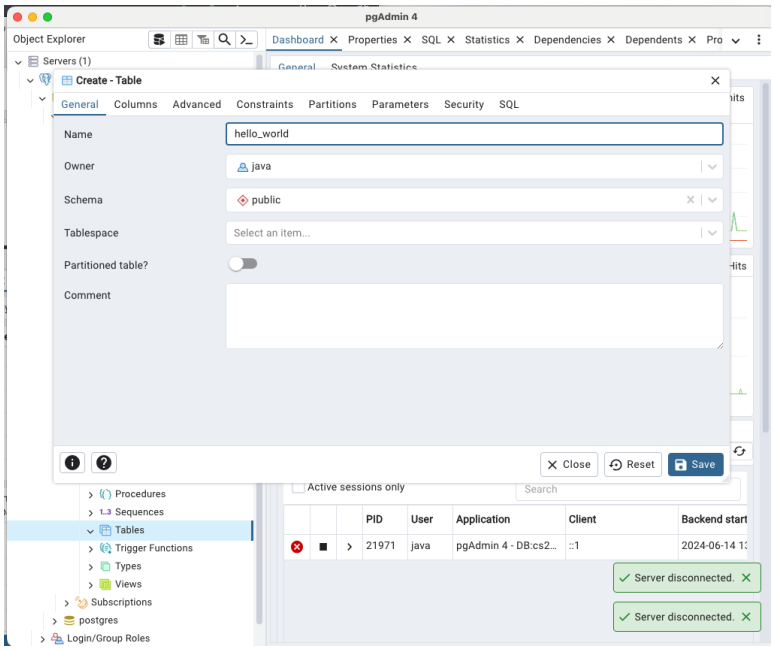
Notice: before you run any DB’s command in python you must configure the project with your account in postgreSQL as explained in the HW PDF file in section 5.2 (Connecting to the Database using JDBC) – Do it before you try to run the Example.py you got in the zip file.

Hello world

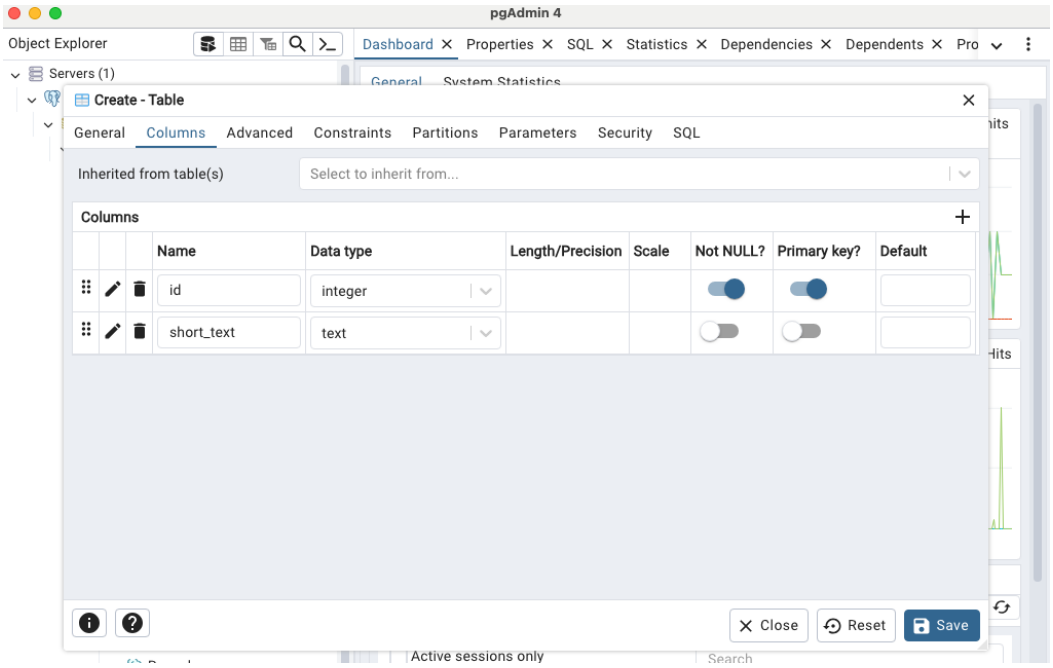
1. On the database “cs236363” go to “schemas”->”public”->right click on “tables”->”create table”



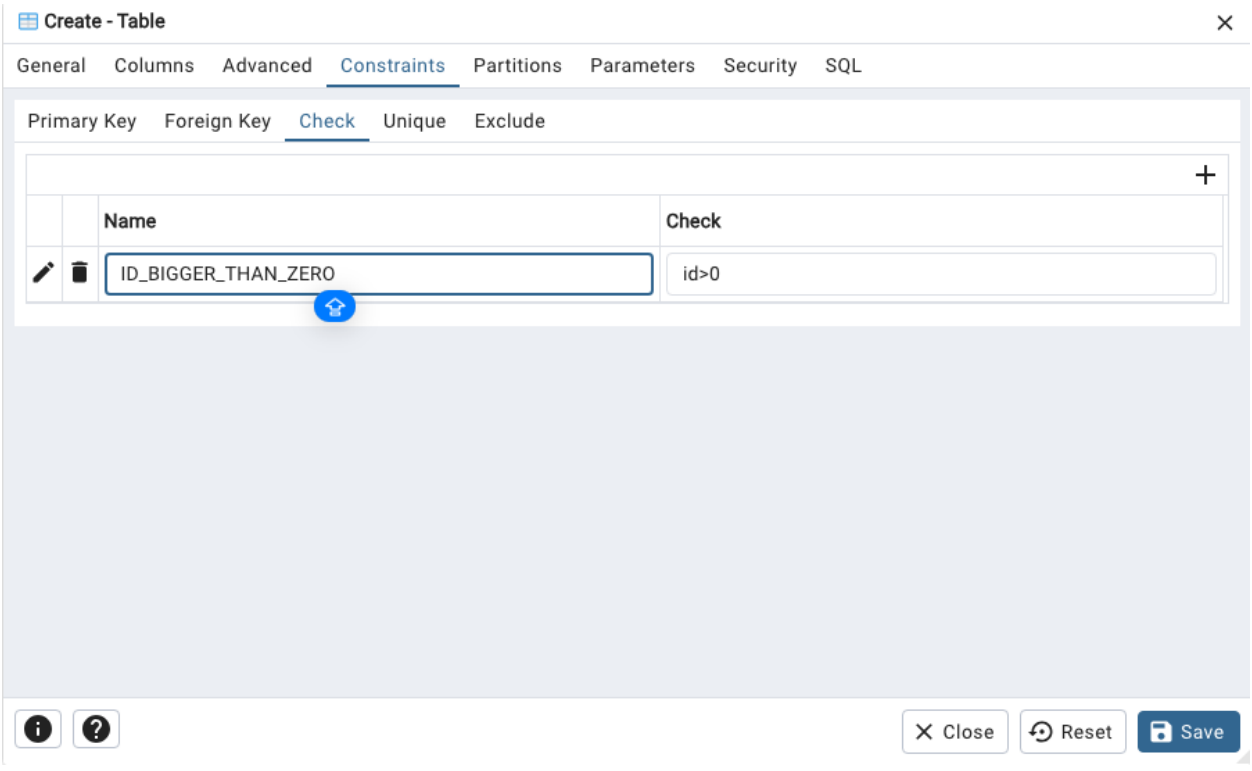
2. In the “general” tab, give your table a name



3. Create the columns you like with the “+” button

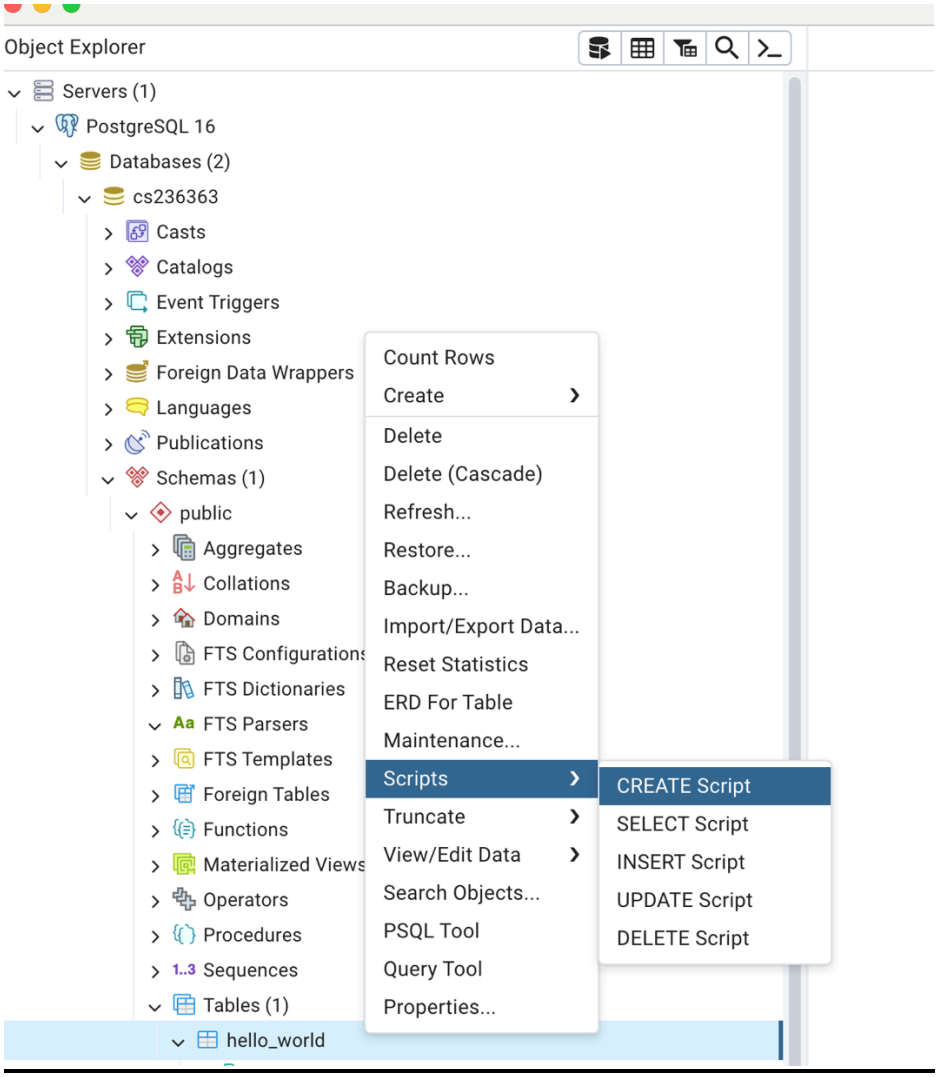


4. Notice that in the “Constrains” tab you can set everything we talked about in tutorial 1 (foreign keys, unique, check etc..)



5. When done, click save

   Hint: right click on the table, and choosing scripts, will auto generate a script for you, for example, and insert script



6. **You can try to run Queries , for example :**

   (To execute click execute “script” button)