Bitnami Stack and pgAdmin Installation

Download the Bitnami Software

Download the M/W/LAPP stack according to your system: MAPP for Mac,
WAPP for Windows and LAPP for Linux.

1. MAPP 7.1.21-0 (64-bit): https://bitnami.com/stack/mapp/installer
2. WAPP 7.1.21-0 (64-bit): https://bitnami.com/stack/wapp/installer
3. LAPP 7.1.21-0 (64-bit): https://bitnami.com/stack/lapp/installer

Install Bitnami Stack

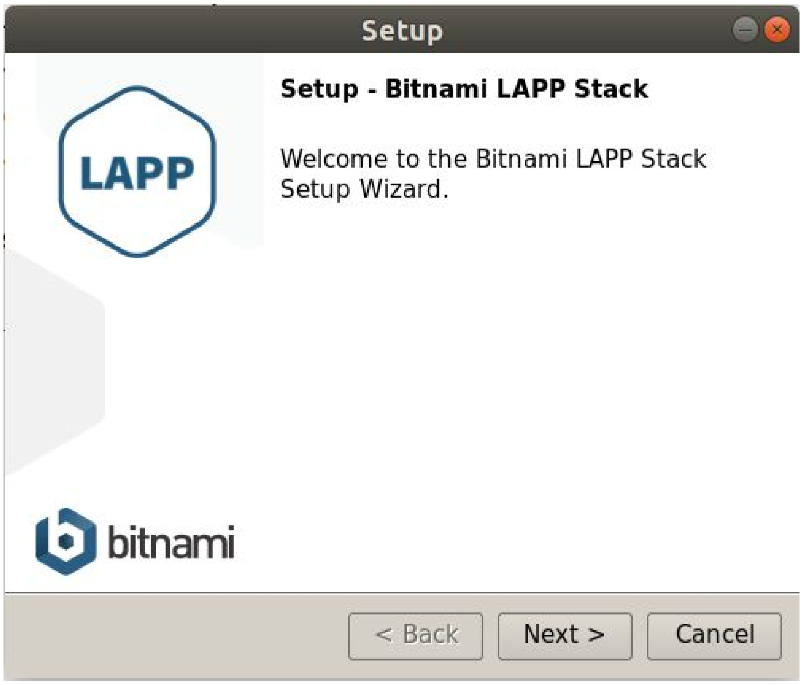
These steps are only necessary if you are installing LAPP (Linux OS):

1. Open a terminal and go to the folder where you downloaded LAPP installer (For example: ~/Downloads folder).
2. Add execution permission to the downloaded installation script:
   ```
   chmod +x bitnami-lappstack-7.1.21-0-linux-x64-installer.run
   ```
3. Execute the script:
   ```
   ./bitnami-lappstack-7.1.21-0-linux-x64-installer.run
   ```

For WAPP (Windows) and MAPP (Mac), you just need to run or activate the .exe or .dmg file, respectively.

The following steps are same for every OS:

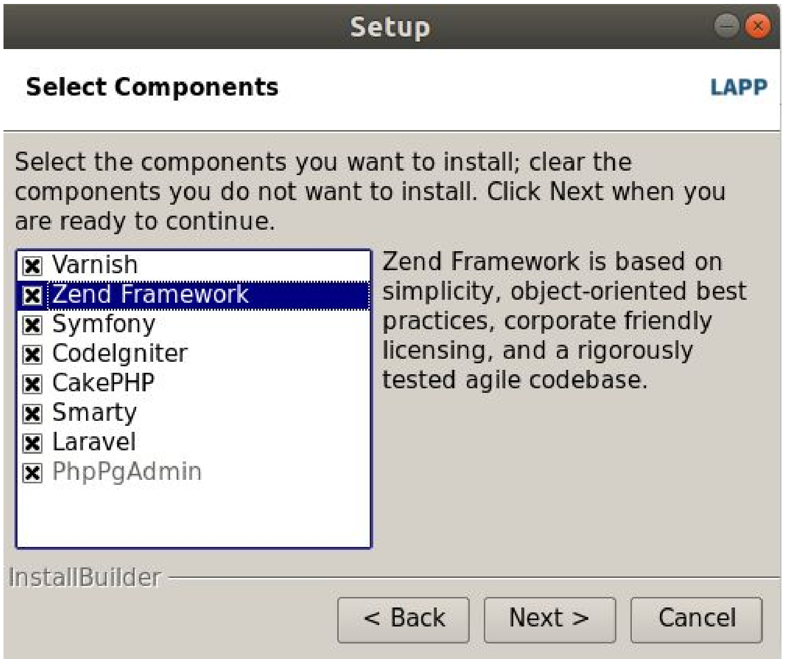
1. Click **Next** on the first page.



Setup - Bitnami LAPP Stack

Welcome to the Bitnami LAPP Stack Setup Wizard.

2. Click **Next** on Select Components. You can uncheck other components than PhpPgAdmin if you want to save space on your computer disk.



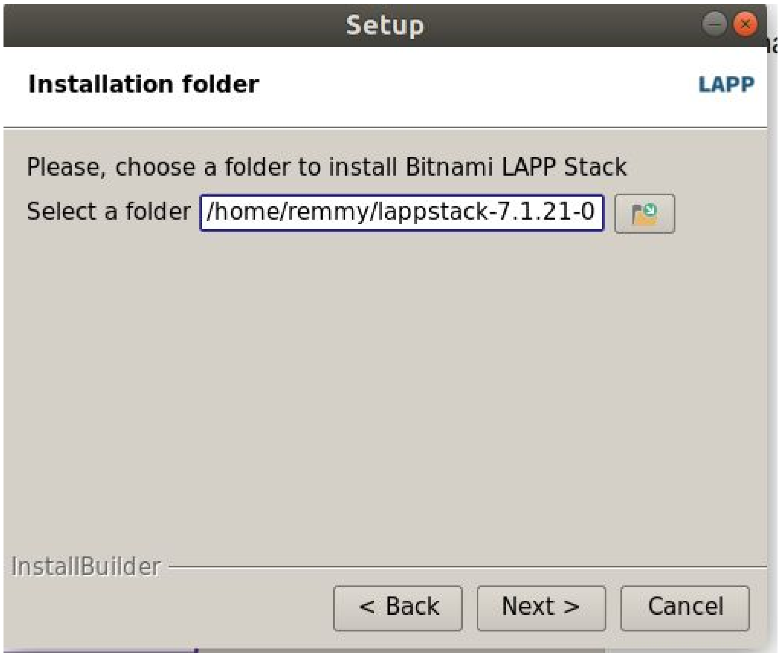
Select Components

Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.

☒ Varnish
☒ Zend Framework
☒ Symfony
☒ CodeIgniter
☒ CakePHP
☒ Smarty
☒ Laravel
☒ PhpPgAdmin

Zend Framework is based on simplicity, object-oriented best practices, corporate friendly licensing, and a rigorously tested agile codebase.

3. Choose the installation directory, after that click **Next**

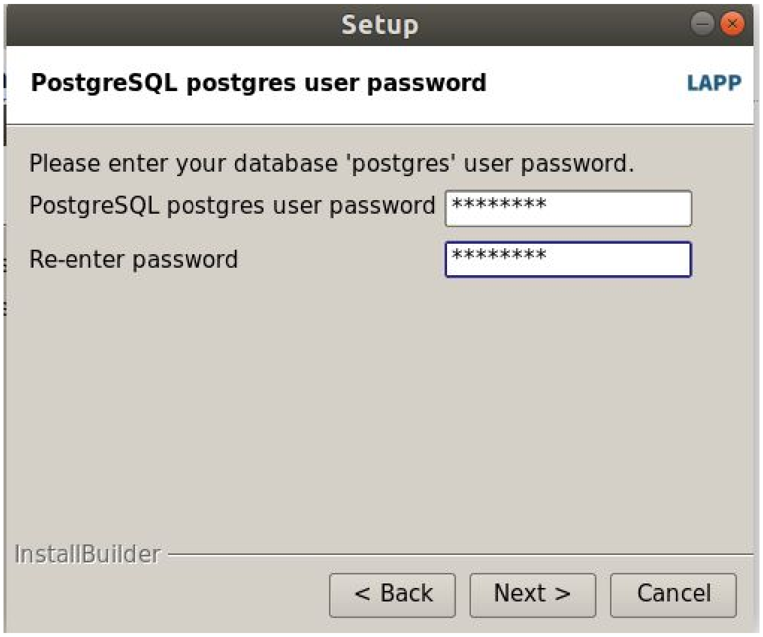


Installation folder

Please, choose a folder to install Bitnami LAPP Stack

Select a folder /home/remmy/lappstack-7.1.21-0

4. Choose your database password for user **`postgres`**. **Remember your password!!**
   Note: If you are installing on a personal computer, we suggest you to choose a very easy password (for example: **`postgres`**), re-enter the password, and click **Next**.



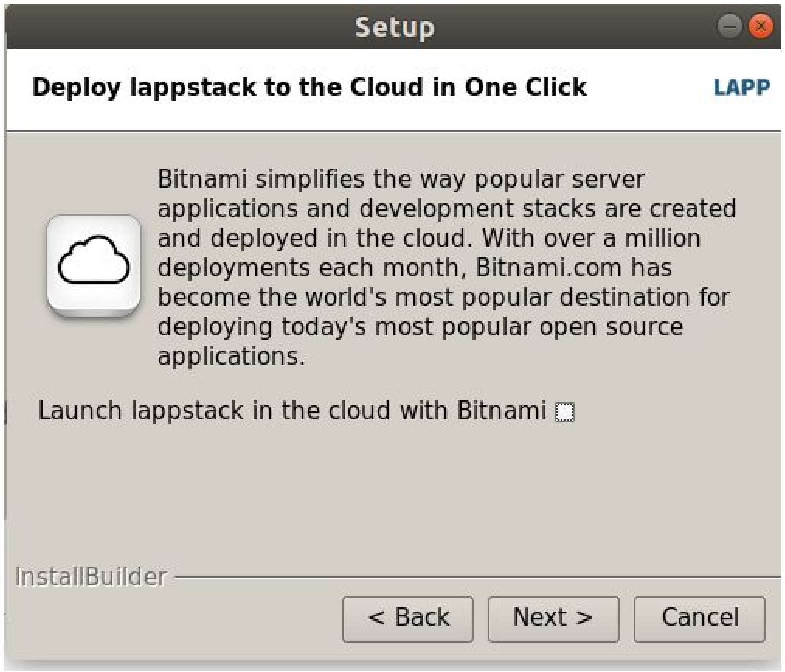
PostgreSQL postgres user password

Please enter your database 'postgres' user password.

PostgreSQL postgres user password ********

Re-enter password ********

5. Disable the cloud launch and click **Next**.

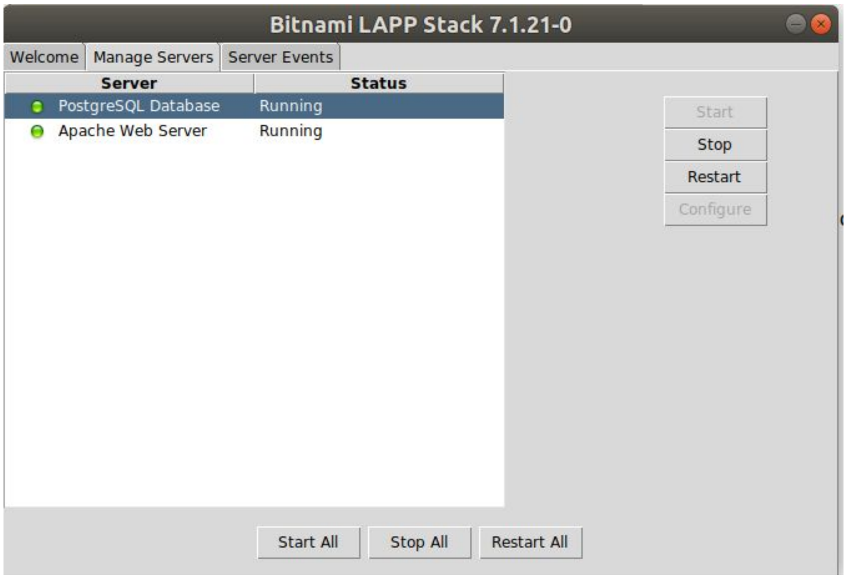


Deploy lappstack to the Cloud in One Click

Bitnami simplifies the way popular server applications and development stacks are created and deployed in the cloud. With over a million deployments each month, Bitnami.com has become the world's most popular destination for deploying today's most popular open source applications.

Launch lappstack in the cloud with Bitnami □

6. Wait for the installation to complete and the installation is done.
7. You can now launch the application (For mac users it might be called `manager-osx`), go to **Manage Servers** tab and Start or Stop the PostgreSQL database server.



Server	Status
● PostgreSQL Database	Running
● Apache Web Server	Running

Install pgAdmin 3 / 4

It is recommended to install pgAdmin 4 but if you have any difficulty after the installation try to install pgAdmin 3 instead.

For Windows and Mac users:

1. Download pgAdmin 4 v3.2 from the following link:
    a. Mac: https://www.pgadmin.org/download/pgadmin-4-macos/
    b. Windows: https://www.pgadmin.org/download/pgadmin-4-windows/
2. Activate the installation dmg (for Mac) or exe (for Windows).
3. Click "Agree" and keep clicking **Next** until the installation finished.

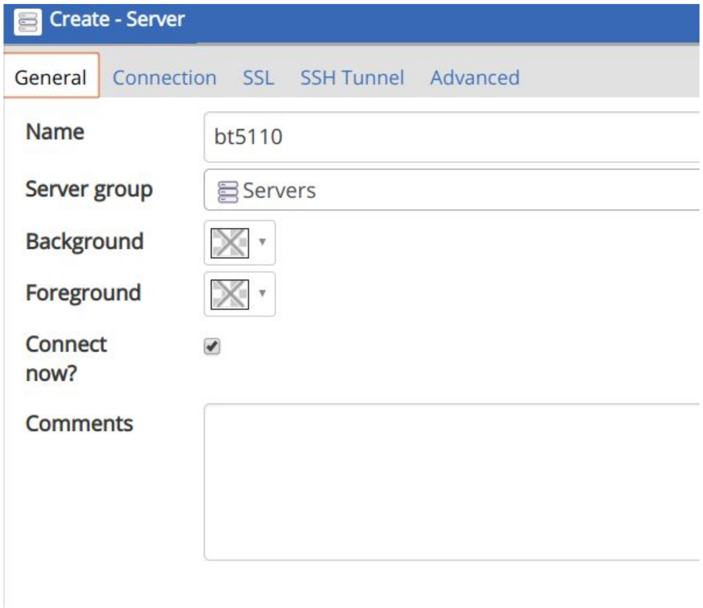
For Linux users:

You will need to use Python environment to use pgAdmin. We assume that you have installed Python from the previous Project.

1. Download the Python wheel for pgAdmin 4 v3.2 from the following link: https://www.pgadmin.org/download/pgadmin-4-python-wheel/
2. Install virtual environment for Python:
    ```
    sudo -H pip install virtualenv
    ```
3. Create a pgAdmin folder and create a virtual environment there:
    ```
    mkdir pgAdmin
    cd pgAdmin
    virtualenv pgAdmin4
    source pgAdmin4/bin/activate
    ```
4. Move the wheel file that you have downloaded into the pgAdmin folder and install the wheel file.
    ```
    mv <yourfilepath> ~/pgAdmin
    cd ~/pgAdmin
    pip install ./pgadmin4-3.2-py2.py3-none-any.whl
    ```
5. After installing, run the python file with the following command:
    ```
    python
    ~/pgAdmin/pgAdmin4/lib/python2.7/site-packages/pgadmin4/pgAdmin4.py
    ```
6. After that you will be asked to insert your email address and password.
7. Navigate to your browser and open http://127.0.0.1:5050. Use your email address and password to login.

Test the Installations

1. Run your database server in Bitnami and run the pgAdmin.
2. Download the **transactions.sql** file from IVLE Workbin.
3. Click **Add New Server** on your pgAdmin.
4. In the General tab, give your server a name. For example: **`bt5110.`**



Name: bt5110

Server group: Servers

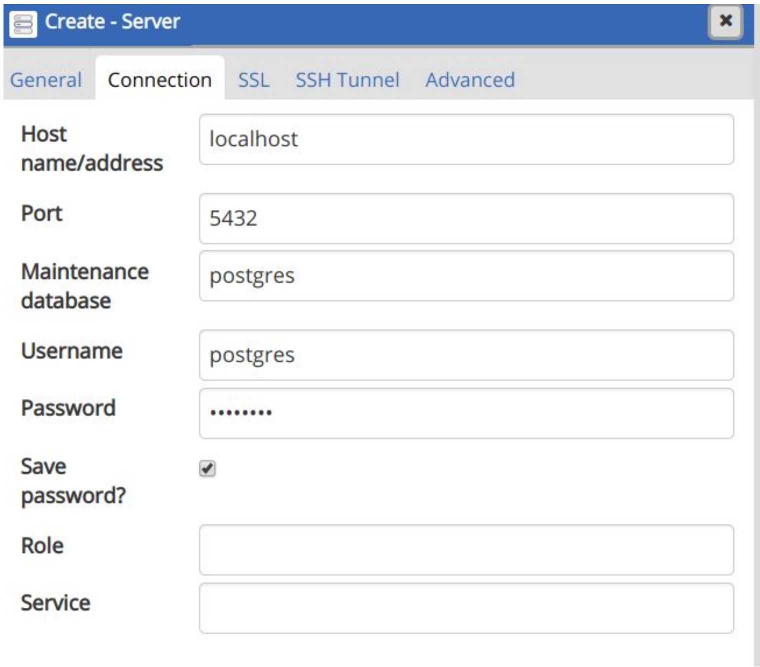
Background

Foreground

Connect now? ☑

Comments

5. Click the Connection tab and fill the field as following and then click **Save**.



Host name/address: localhost

Port: 5432

Maintenance database: postgres

Username: postgres

Password: ••••••••

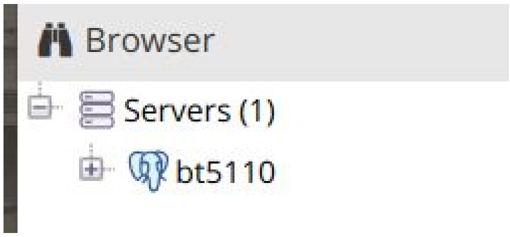
Save password? ☑

Role

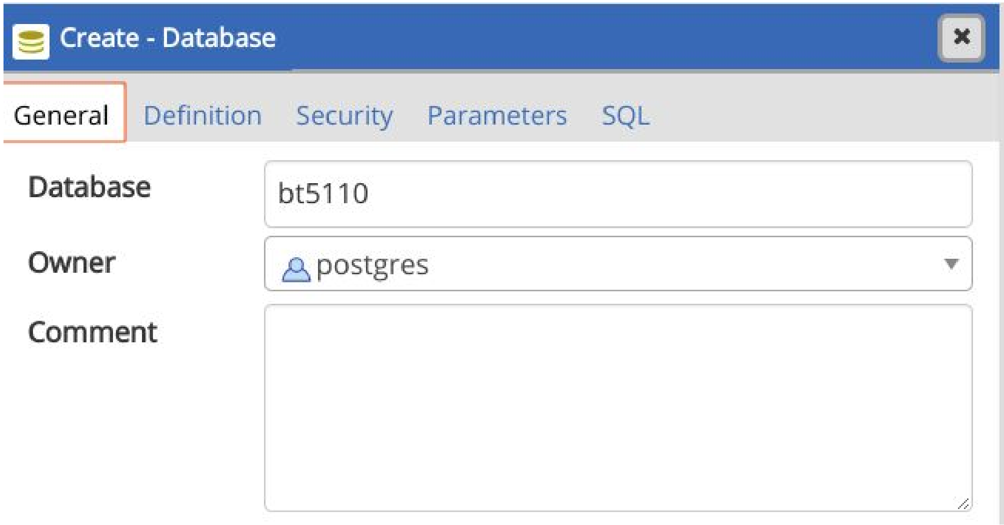
Service

Password should be the password that you give in the Bitnami installation.

6. It should now be shown in the Server browser



7. Click on the server and press **Object > Create Database.** Give the name in the Database field and create **Save.**

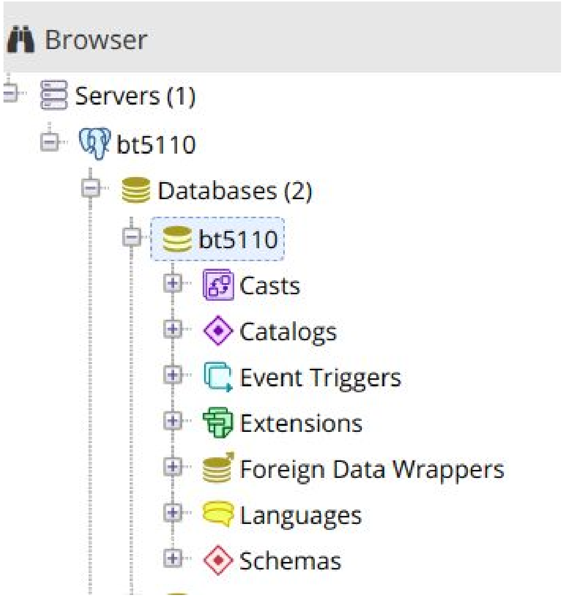


Database: bt5110

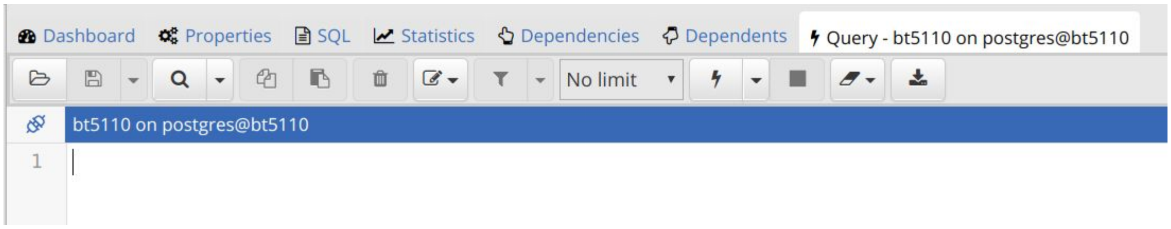
Owner: postgres

Comment:

8. The database should be shown in the Object explorer

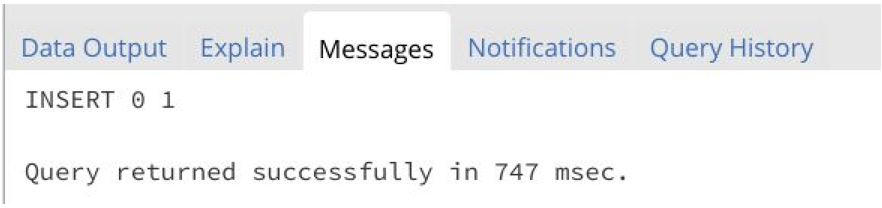


9. Click on the Database and then press **Tools > Query Tool.**



bt5110 on postgres@bt5110

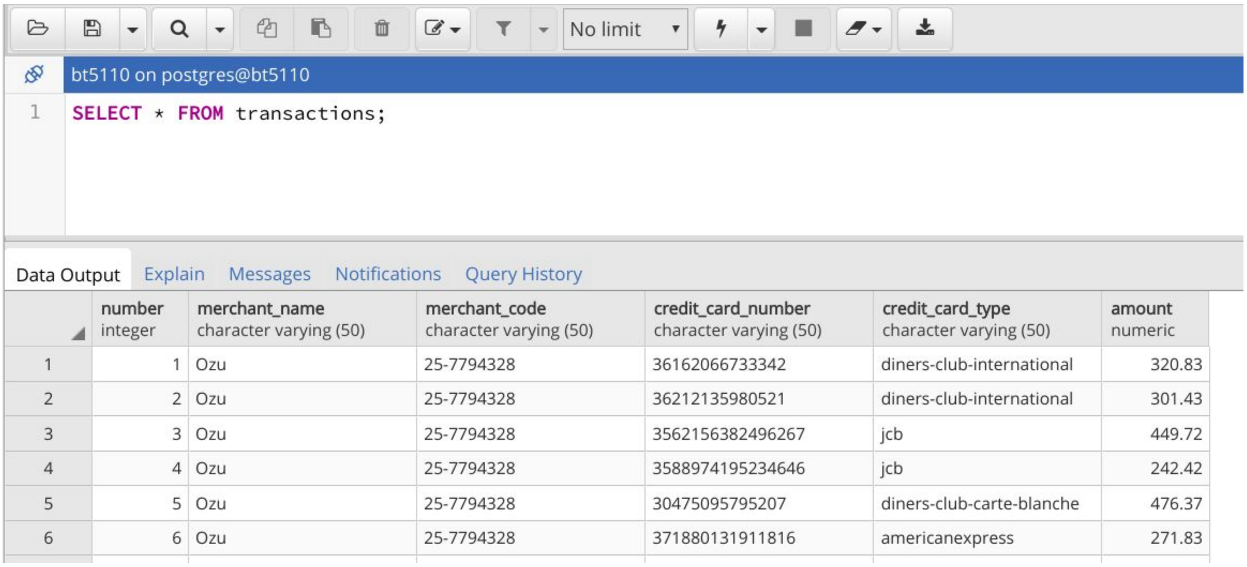
10. Press the Open button (folder icon) and load the **transactions.sql** from IVLE or you can copy paste the content of the **transactions.sql** file into the editor.
11. Click the Run button (thunder icon) to run the SQL file.
12. The data should be inserted.



```
INSERT 0 1

Query returned successfully in 747 msec.
```

13. Now, you can query to the Transactions table.
14. Open a new Query tool,run `SELECT * FROM transactions;` , and it should list all the transactions



bt5110 on postgres@bt5110

```
SELECT * FROM transactions;
```

	number integer	merchant_name character varying (50)	merchant_code character varying (50)	credit_card_number character varying (50)	credit_card_type character varying (50)	amount numeric
1	1	Ozu	25-7794328	36162066733342	diners-club-international	320.83
2	2	Ozu	25-7794328	36212135980521	diners-club-international	301.43
3	3	Ozu	25-7794328	3562156382496267	jcb	449.72
4	4	Ozu	25-7794328	3588974195234646	jcb	242.42
5	5	Ozu	25-7794328	30475095795207	diners-club-carte-blanche	476.37
6	6	Ozu	25-7794328	371880131911816	americanexpress	271.83

SQLAlchemy with Postgres

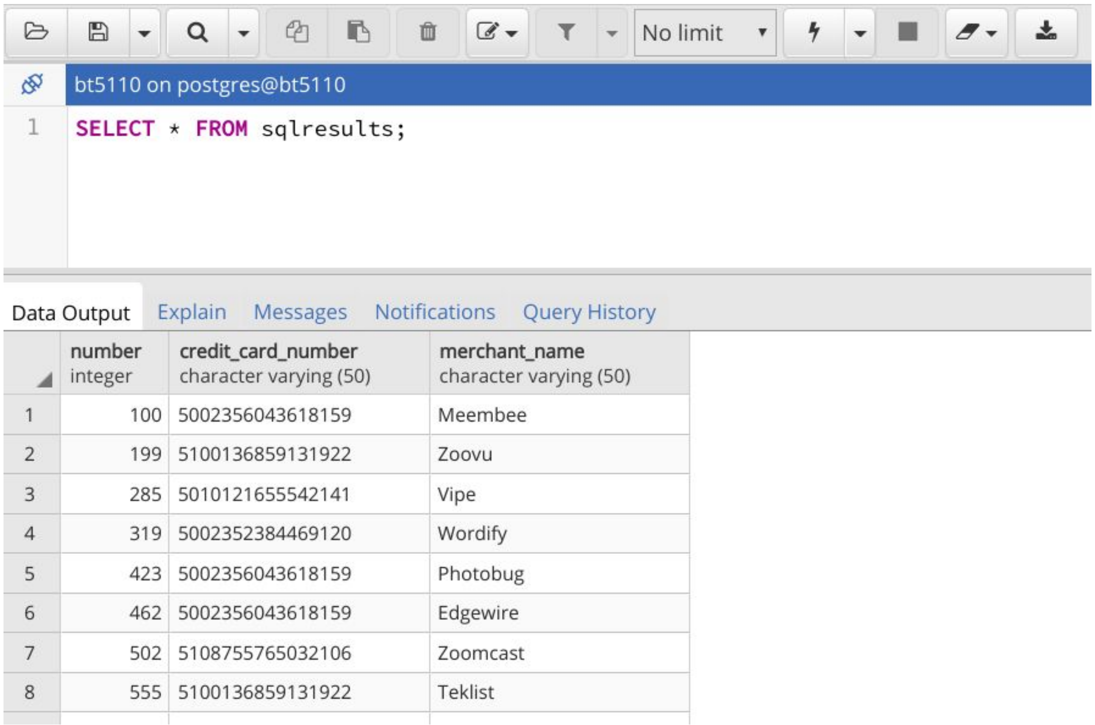
1. Keep your database server in Bitnami and the pgAdmin running.
2. Download the **project1_postgres.py** file from IVLE Workbin.
3. This file contains the example solution for your Project 1. Now, we want to use this with the PostgreSQL. With SQLAlchemy, we only need to change the connection string to the database.
4. Open the code and see the create_engine part:

```
## old create engine code to load SQLite library
# engine = create_engine('sqlite:///project1.db')

username = 'postgres'
password = 'postgres'
dbname = 'bt5110'
engine = create_engine('postgres://%s:%s@localhost:5432/%s' %
(username, password, dbname))
```

5. Change the username, password, and dbname with your installation configuration.

6. Run the code.
7. Check the content of the **sqlresults** table in the pgAdmin (you might need to refresh the database first).



```
SELECT * FROM sqlresults;
```

	number integer	credit_card_number character varying (50)	merchant_name character varying (50)
1	100	5002356043618159	Meembee
2	199	5100136859131922	Zoovu
3	285	5010121655542141	Vipe
4	319	5002352384469120	Wordify
5	423	5002356043618159	Photobug
6	462	5002356043618159	Edgewire
7	502	5108755765032106	Zoomcast
8	555	5100136859131922	Teklist

If you have any questions please email Remmy (remmy@u.nus.edu) or come to the consultation slot (details to be published later).