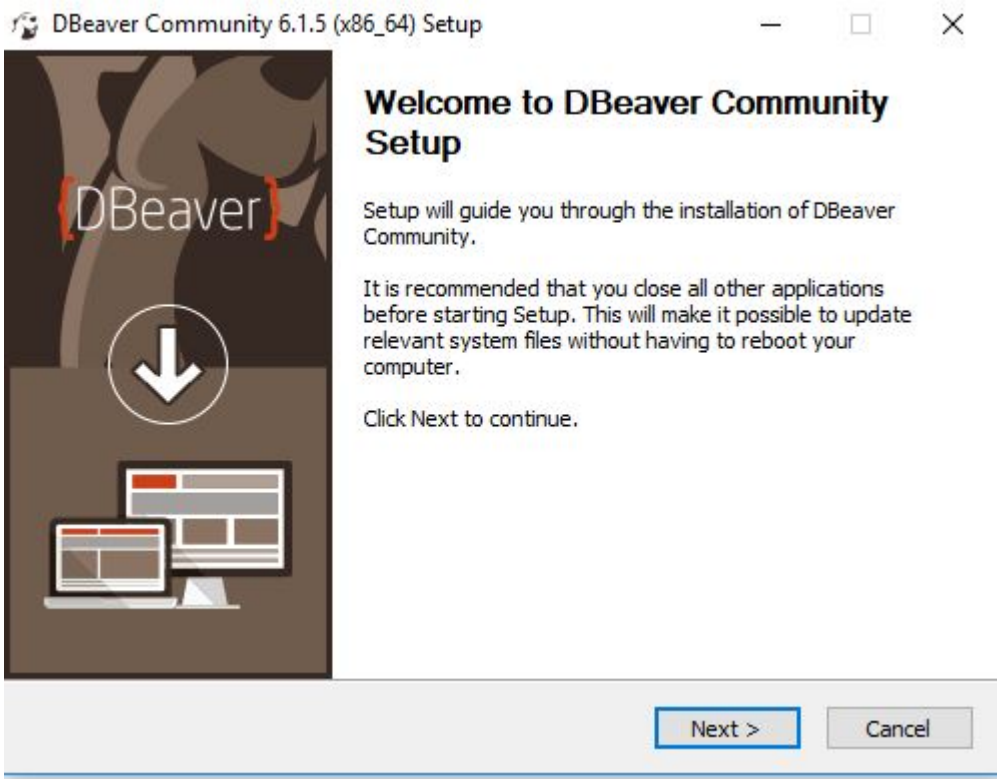
Retrieving weather station data from database

Client installation

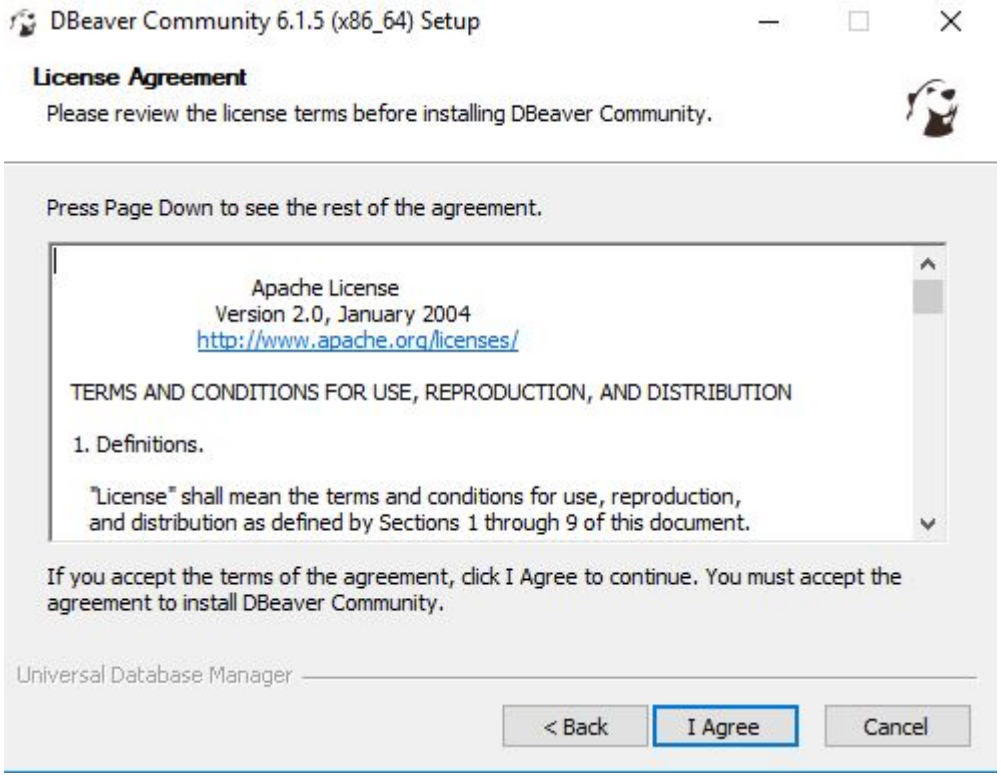
Download dbeaver from https://dbeaver.io

Doubleclick on the downloaded file to begin installation. Then select language.

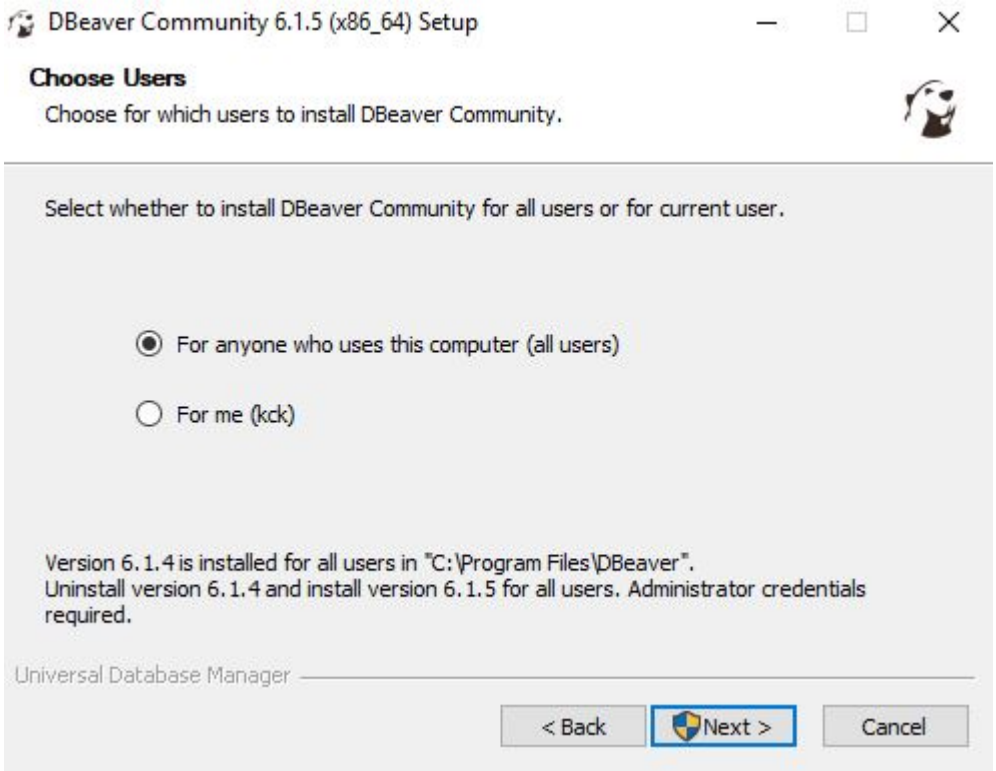
Click “Next”.



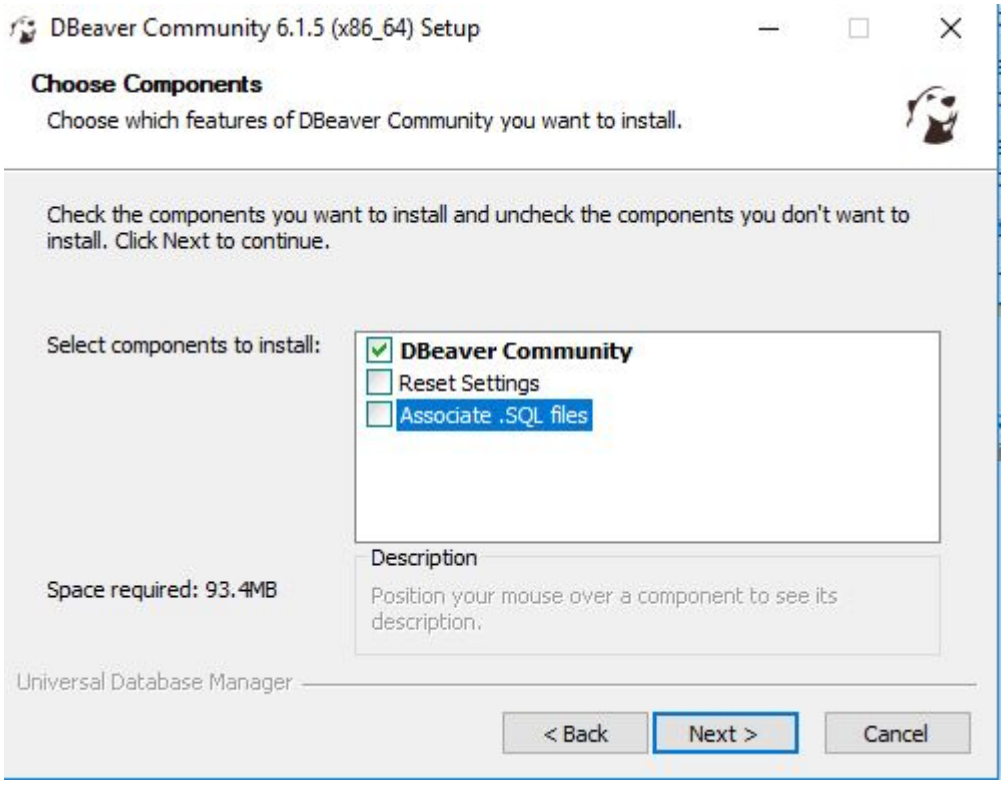
Click “I Agree”.



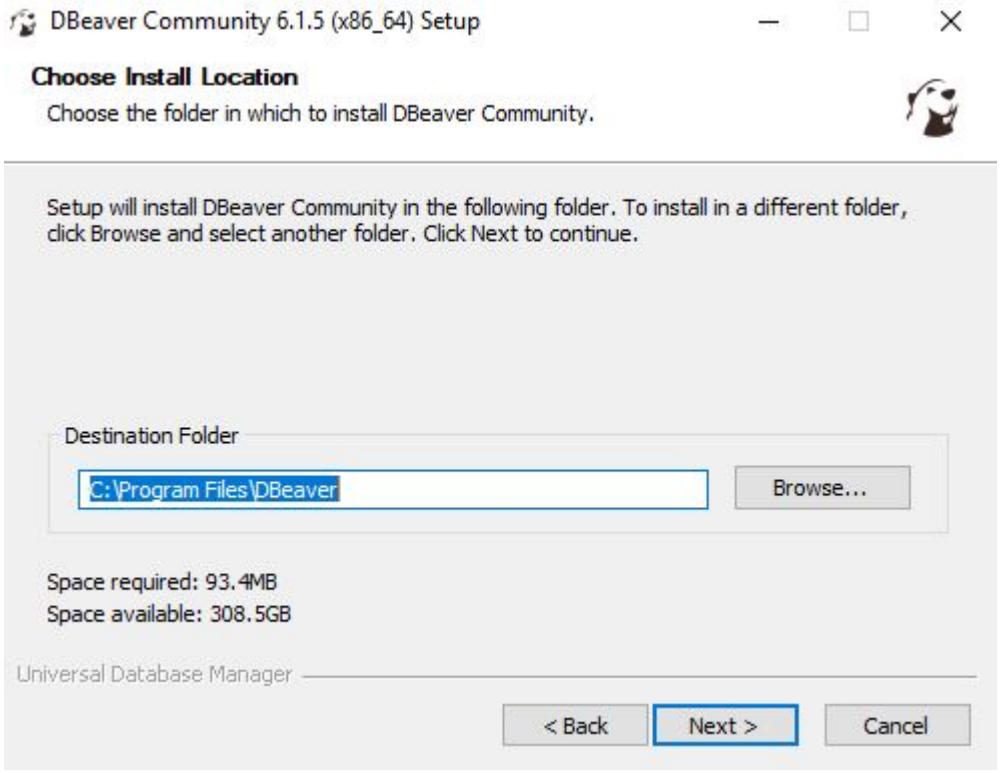
Choose “For anyone who uses this computer (all users)” and click “Next”.



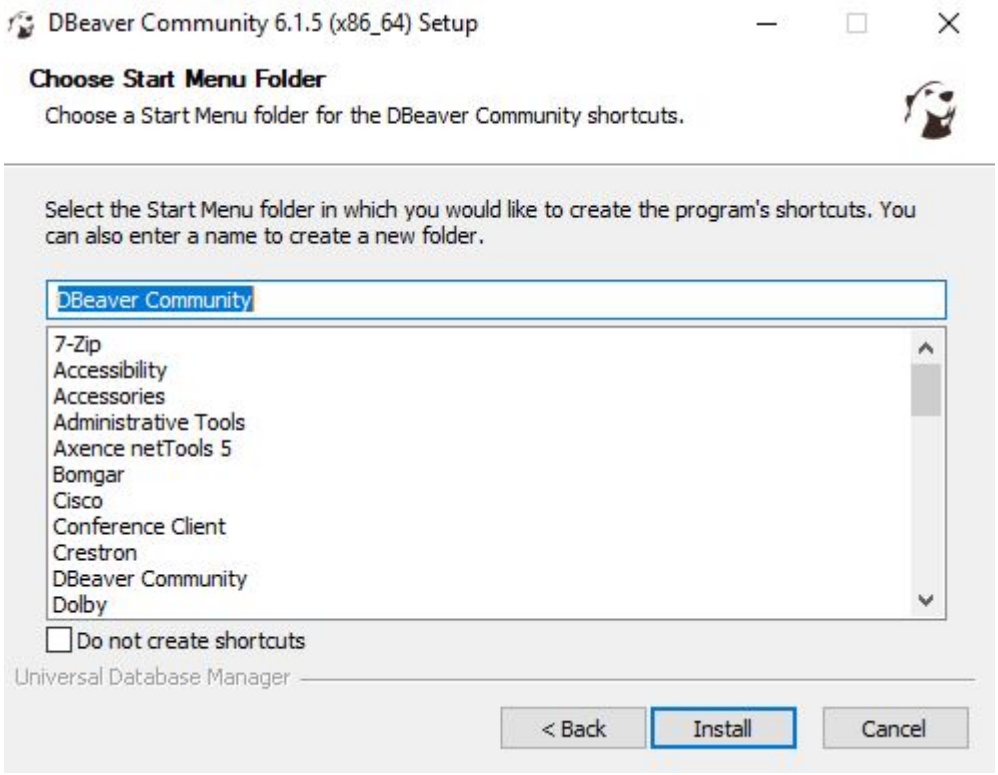
Choose “DBeaver Community”.



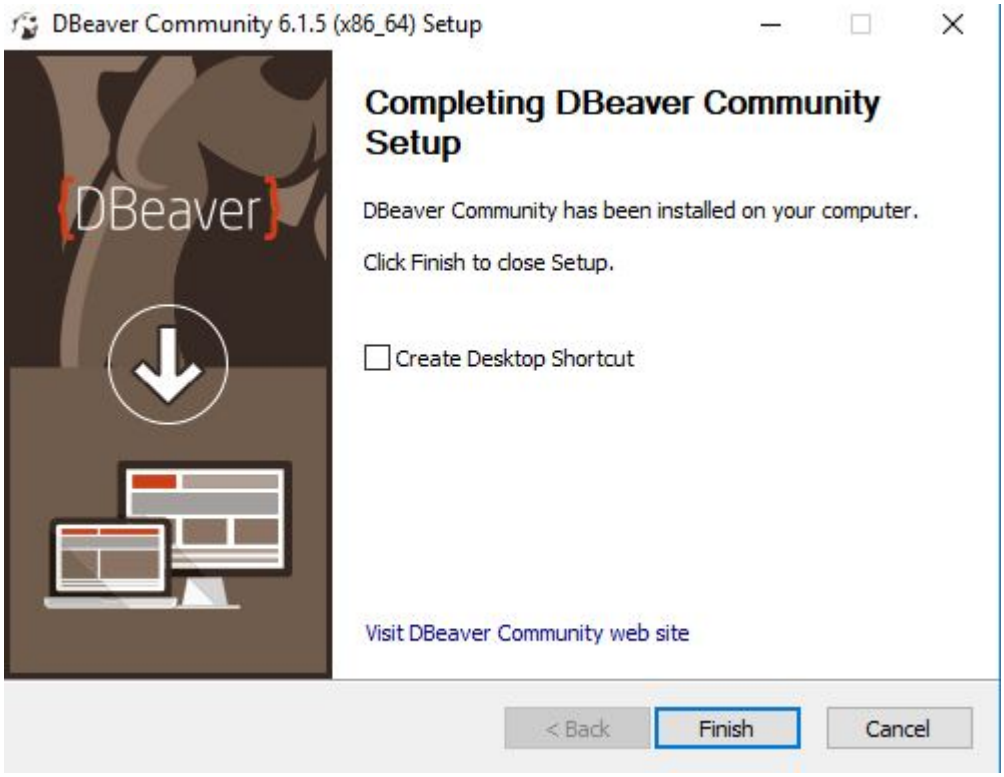
Choose Install Location



Choose Start Menu Folder

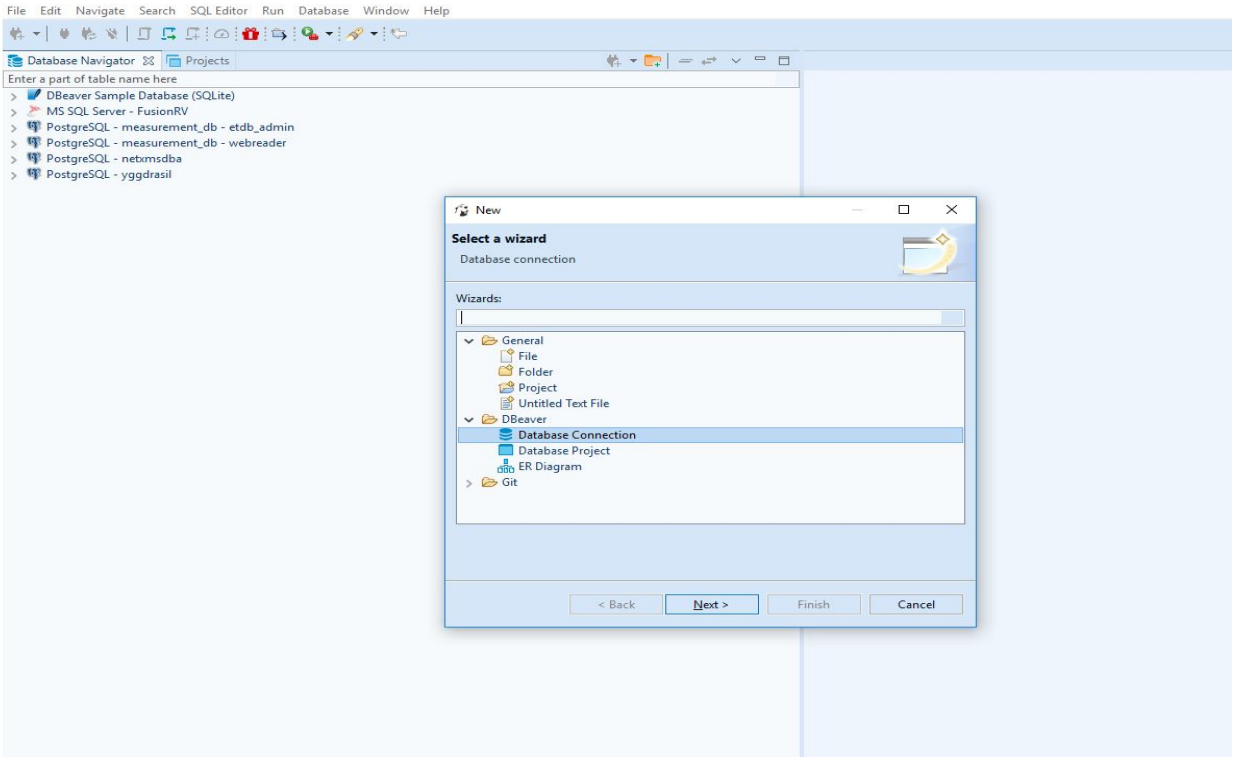


Click "Finish"

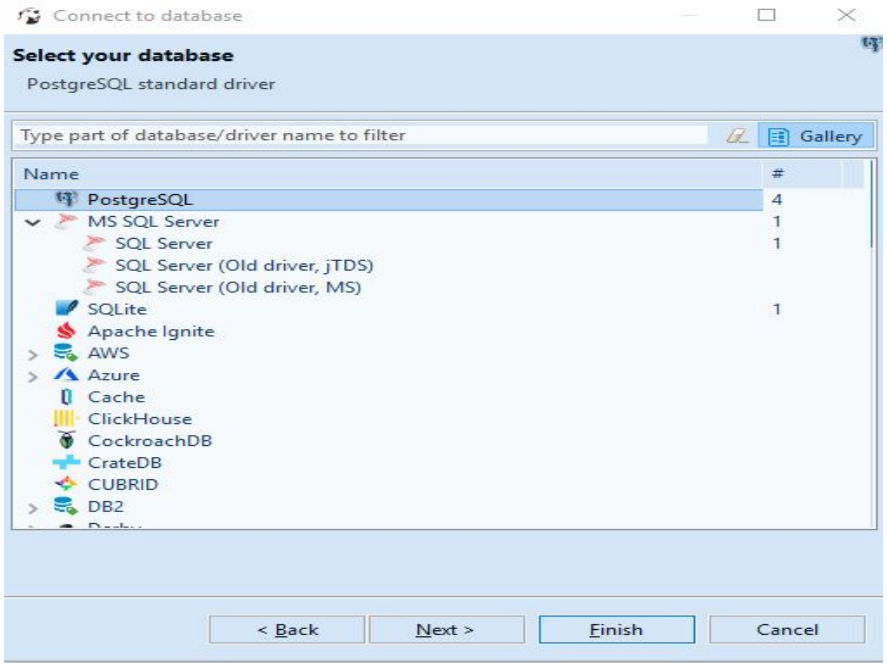


Connect to database

In the menu bar, choose “File -> New” to open the wizard. Select “Database Connection” and press “Next”.



Choose “PostgreSQL”



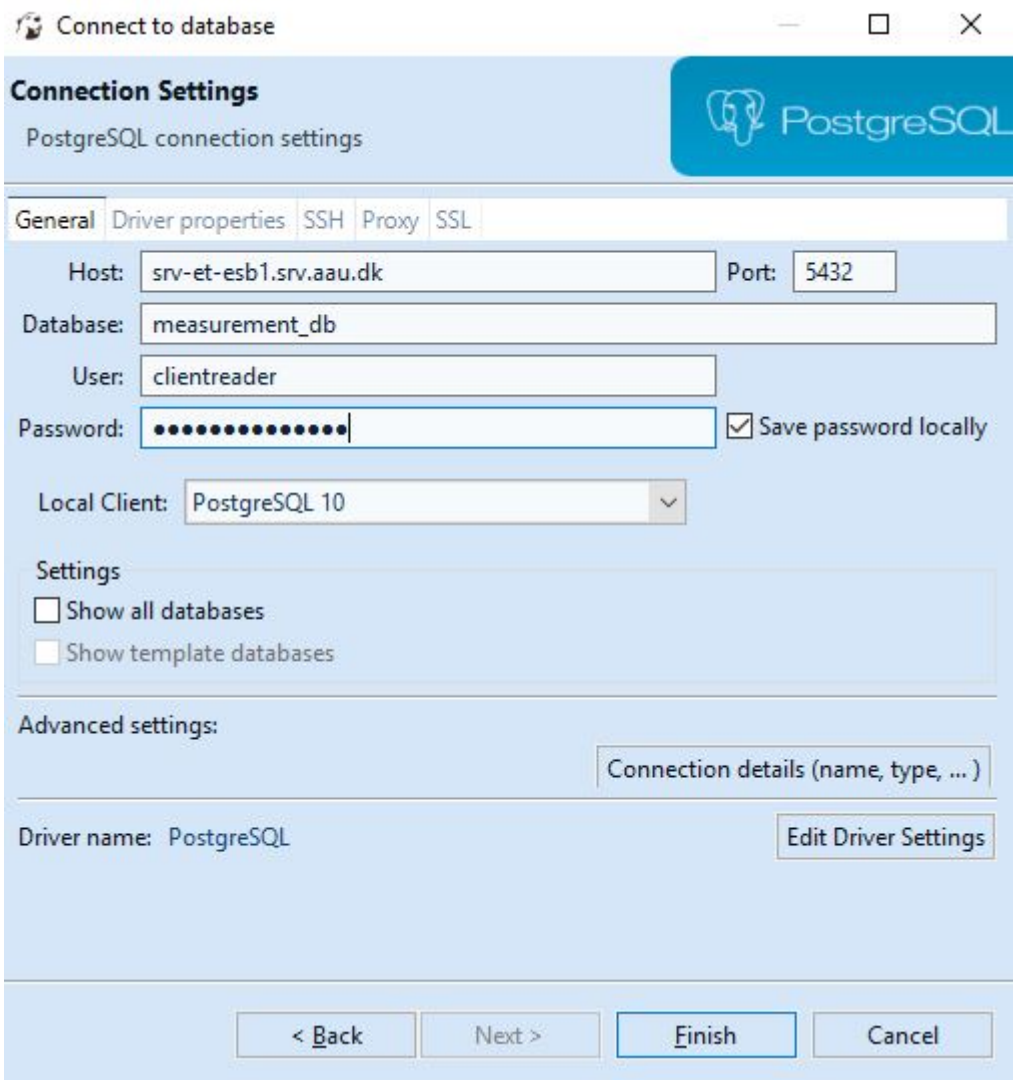
Fill in the following values:

Host: srv-et-esb1.srv.aau.dk

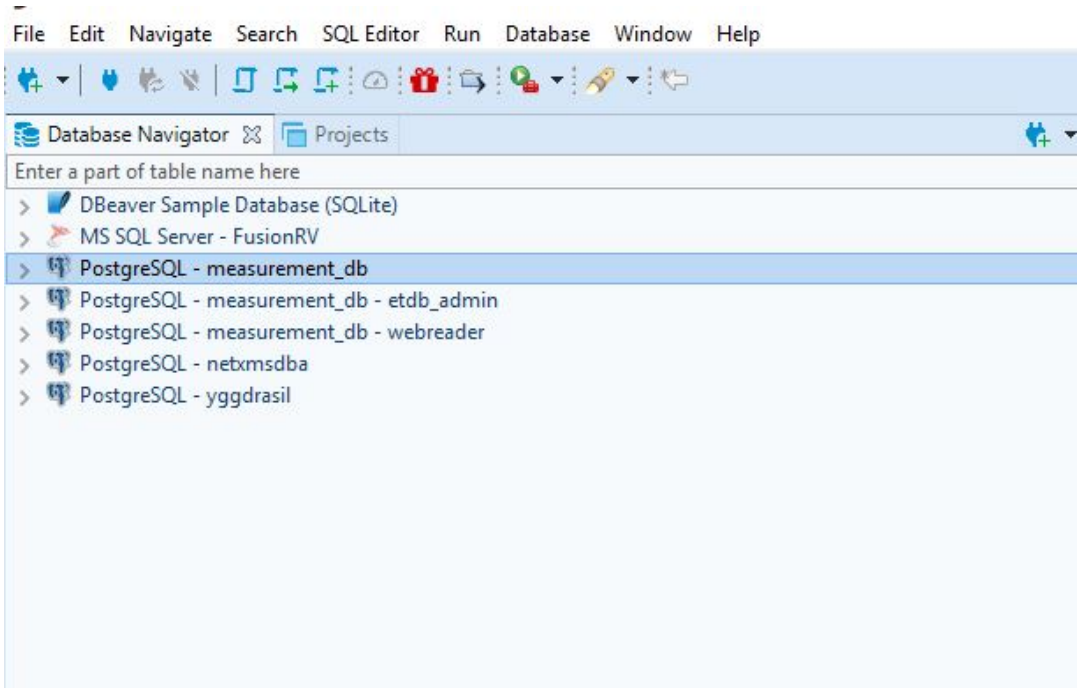
Database: measurement_db

User: clientreader

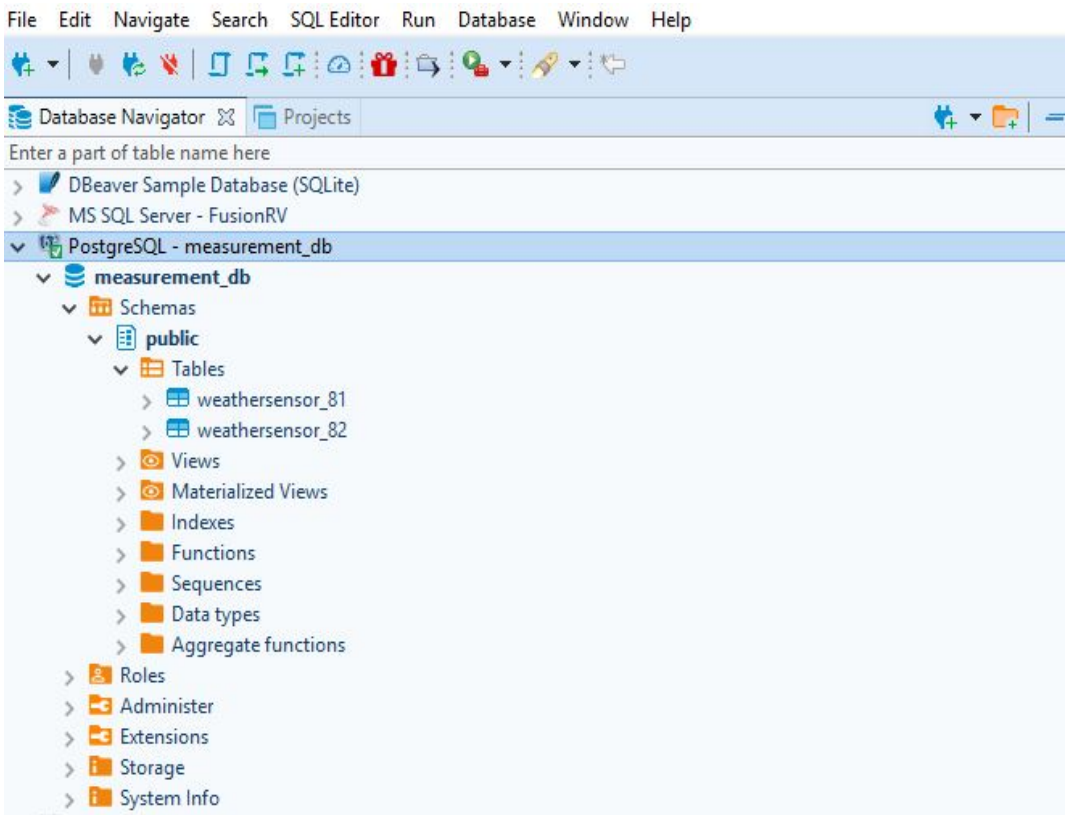
Password: ET@6700esbjerg



Afterwards press “Finish”. Your connection will be visible in the window.



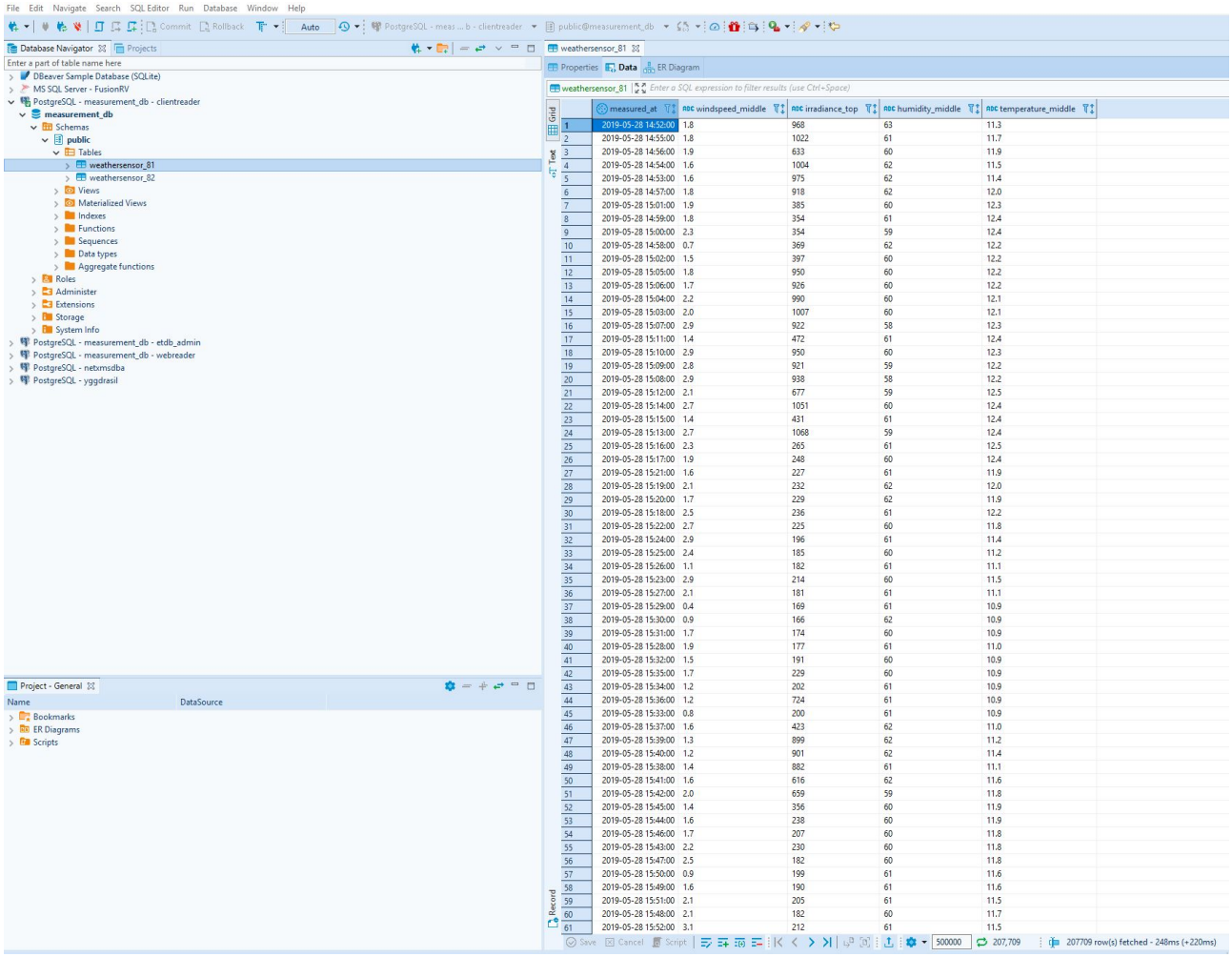
To connect to the database, right click on the connection and choose “Connect”. A green marker will show that you are connected. Traverse the connection to find tables (weathersensor_81 and weathersensor_82) with weather data.



See and retrieve data from database

See data from table

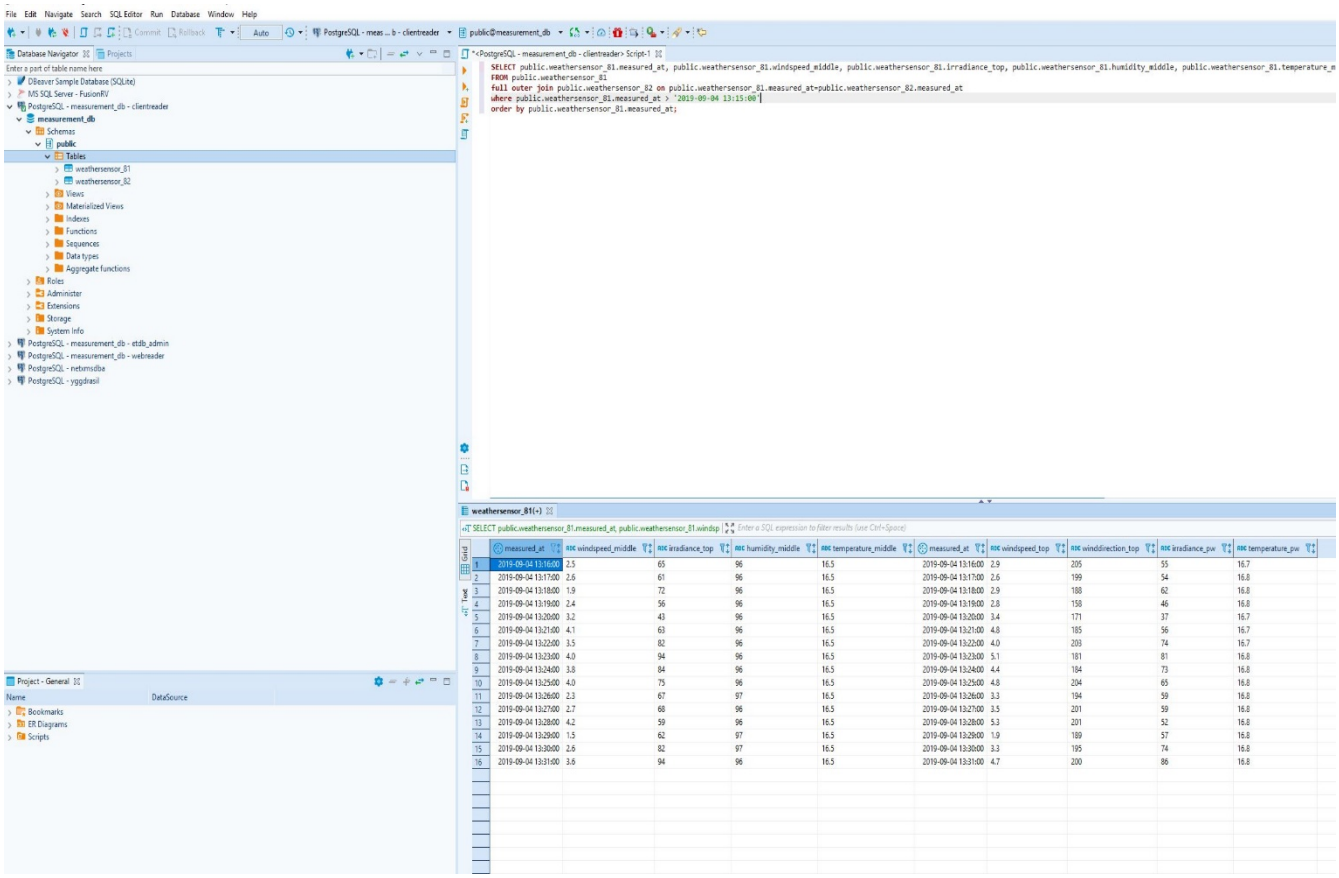
Go to the table you want to see data from, right click on the table and choose “View data”. Data will be shown in the right side of the program.



Retrieve data from tables using SQL

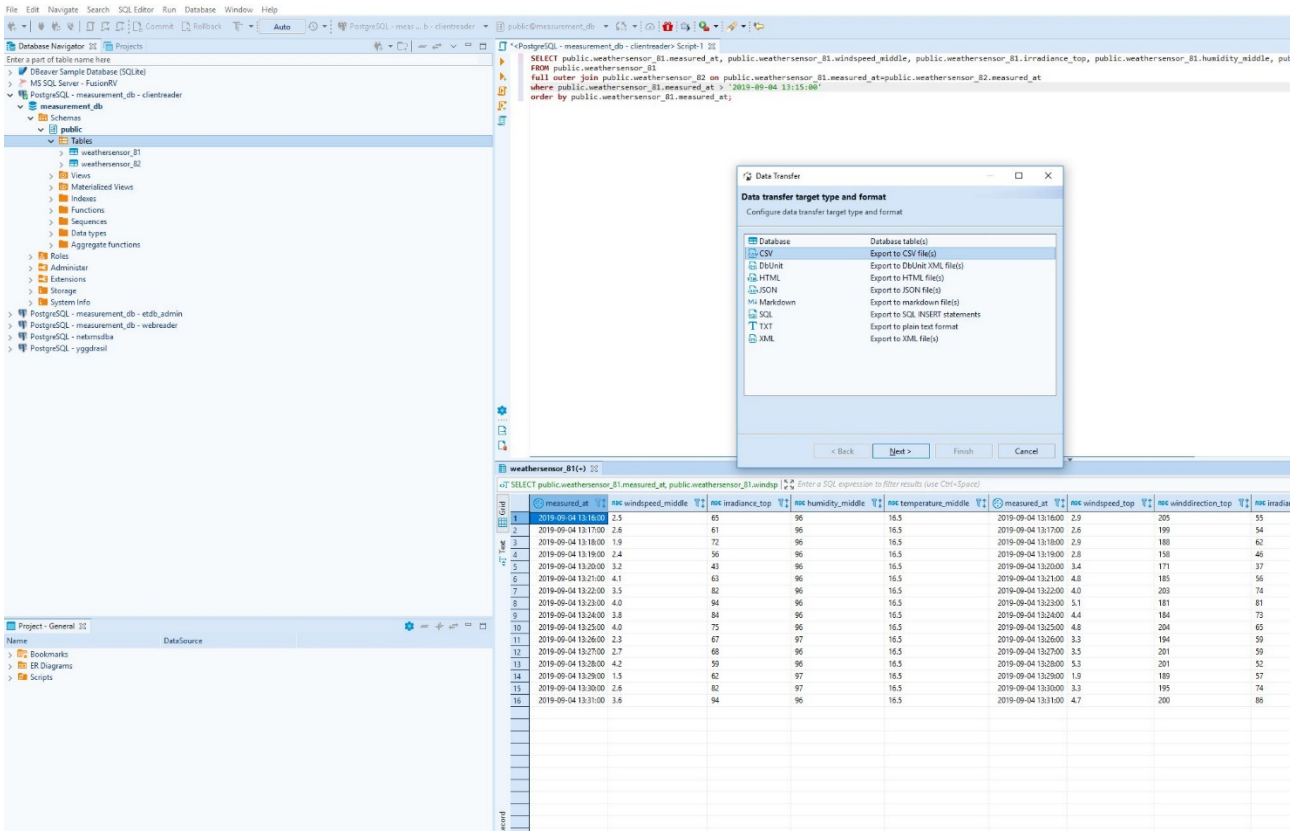
It is possible to retrieve data using SQL as well. In the next section there some SQL examples and links to tutorials about SQL.

In the menu bar, choose “SQL Editor -> SQL Editor”. A new window will show up in the right side of the program. Type your SQL statement in top window and run it by clicking on the orange arrow near the top of the left side of the new window. The result of the SQL request will be shown in the window below the window for the SQL statement.



Exporting data

The data retrieved in the program can be exported into different file formats. To do so, left click in the window containing the retrieved data, then right click and choose “Export data”. Choose the file format you want to export data to , click “Next”and follow the instructions.



SQL - examples and resources

Examples

The examples below can be copied to the SQL editor and executed. You may need to adjust dates to be within the last 6 months.

Select all fields and rows from a table (in this case weathersonsor_81):

```
select * from public.weathersensor_81;
```

Select specific fields (in this case the fields measured_at, windspeed_middle, irradiance_top, humidity_middle, temperature_middle) and all rows from a table:

```
SELECT measured_at, windspeed_middle, irradiance_top, humidity_middle,
temperature_middle FROM public.weathersensor_81;
```

Select all fields and specific rows from a table after a specific date and time:

```
SELECT * FROM public.weathersensor_81 where measured_at > '2019-06-01 12:00:00';
```

Select all fields and specific rows from a table before a specific date and time:

```
SELECT * FROM public.weathersensor_81 where measured_at < '2019-06-01 12:00:00';
```

Select all fields and specific rows from a table between two specific dates and times:

```
SELECT measured_at, windspeed_middle, irradiance_top, humidity_middle,
temperature_middle FROM public.weathersensor_81 where measured_at between '2019-06-01
12:00:00' and '2019-06-02 12:00:00';
```

Select specific fields and all rows from two tables (weathersensor_81 and weathersensor_82) where date and time are equal and order them by measured_at from weathersensor_81:

```
SELECT public.weathersensor_81.measured_at, public.weathersensor_81.windspeed_middle,
public.weathersensor_81.irradiance_top, public.weathersensor_81.humidity_middle,
public.weathersensor_81.temperature_middle, public.weathersensor_82.measured_at,
public.weathersensor_82.windspeed_top, public.weathersensor_82.winddirection_top,
public.weathersensor_82.irradiance_pw, public.weathersensor_82.temperature_pw
FROM public.weathersensor_81
full outer join public.weathersensor_82 on
public.weathersensor_81.measured_at=public.weathersensor_82.measured_at
order by public.weathersensor_81.measured_at;
```

Select specific fields and specific rows from two tables (weathersensor_81 and weathersensor_82) after a specific date and time where date and time are equal and order them by measured_at from weathersensor_81:

```
SELECT public.weathersensor_81.measured_at, public.weathersensor_81.windspeed_middle,
public.weathersensor_81.irradiance_top, public.weathersensor_81.humidity_middle,
public.weathersensor_81.temperature_middle, public.weathersensor_82.measured_at,
public.weathersensor_82.windspeed_top, public.weathersensor_82.winddirection_top,
public.weathersensor_82.irradiance_pw, public.weathersensor_82.temperature_pw
FROM public.weathersensor_81 full outer join public.weathersensor_82 on
public.weathersensor_81.measured_at=public.weathersensor_82.measured_at where
public.weathersensor_81.measured_at > '2019-09-04 12:00:00' order by
public.weathersensor_81.measured_at;
```

Resources

SQL tutorials:

https://www.w3schools.com/sql/default.asp

http://www.postgresqltutorial.com/

https://w3resource.com/PostgreSQL/tutorial.php

https://beginner-sql-tutorial.com/sql.htm