CSI 2132 Lab#1

- Setting up PostgreSQL

Presented by: Rana Khalil, 15 Jan 2018

About Me

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- Office Hours: Tuesdays 12:00 PM – 1:00 PM in SITE 5000D

Updates / Comments

- Lab attendance is mandatory starting next week
- Attend the lab section you're registered in

Outline

- Overview of PostgreSQL
- Using pgAdmin 4 in SITE labs
- Setting up pgAdmin 4 in your home computer.
- Overview of pgAdmin

OVERVIEW OF POSTGRESQL

PostgreSQL

- It is a powerful, open source object-relational database management system (ORDBMS)
- Since it is open source, it is not controlled by any single company. Thus, its development relies on the global community of developers and companies
- We can download, install, use and inspect its source code at no cost.

Software Tools:

- We will be using the following software products in this course:
  - PostgreSQL (database server)
  - pgAdmin 4 (client tool)
- **PostgreSQL** is the core DBMS, including command line tools, programming language libraries etc. SITE already has a PostgreSQL server, and we will connect to it regularly.
- **pgAdmin 4** is the graphical user interface(client tool) we use to connect to our database located in SITE server.

Your PostgreSQL Account

- SITE's PostgreSQL server already created accounts for you.
- Your login is the standard Infoweb account name, i.e. if your email is rkhal101@uottawa.ca,then your username is rkhal101.
- Your password is the one you use to log into the SITE computers.
- First-time users need to run the AUTOPASS feature in SITE computers to create their username and password.

SETTING UP PGADMIN 4

Using pgAdmin 4 at SITE

- pgAdmin is already installed in SITE computer labs.
- Go to
  - Start Menu > **All Programs** > **Software Development** > **pgAdmin 4** > **pgAdmin 4 v2**
- Under **Quick Links** click on **Add New Server**

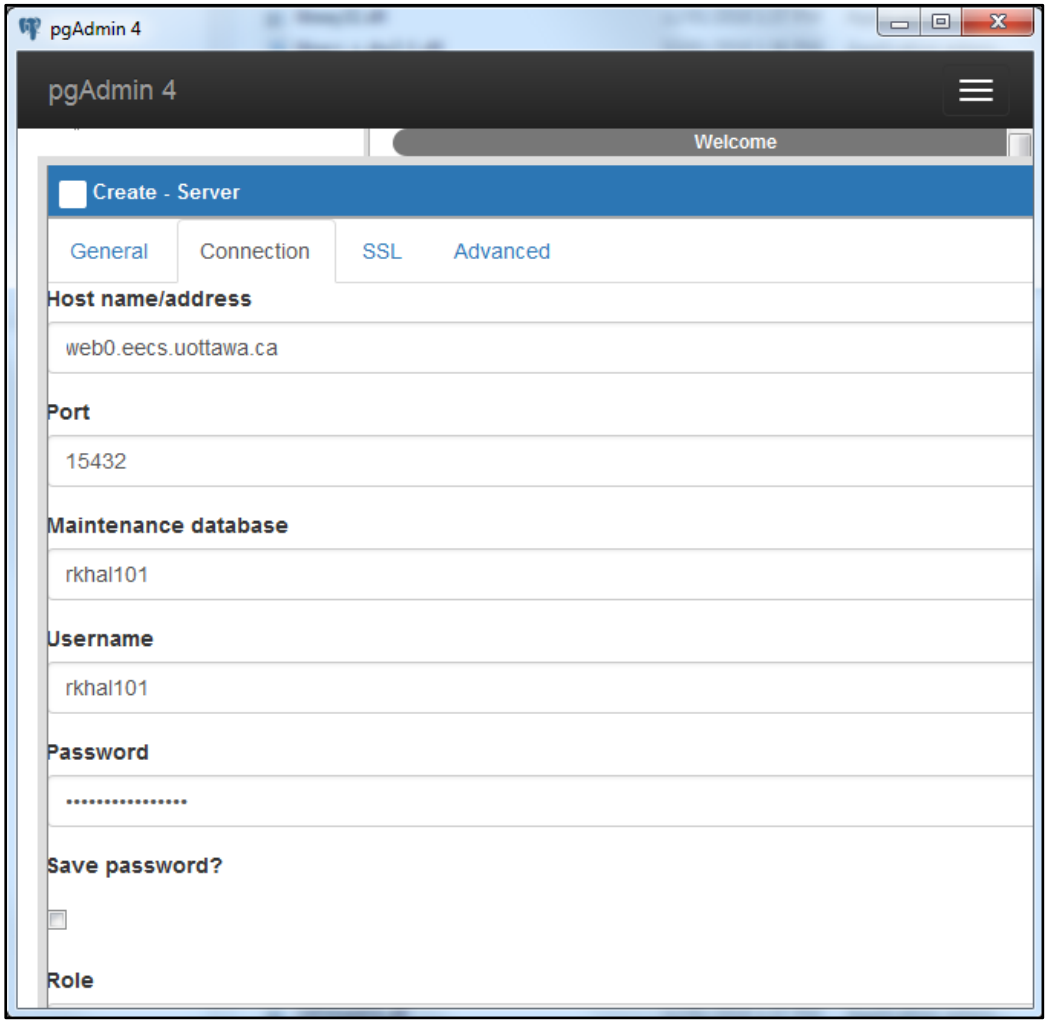
Server Parameters for SITE

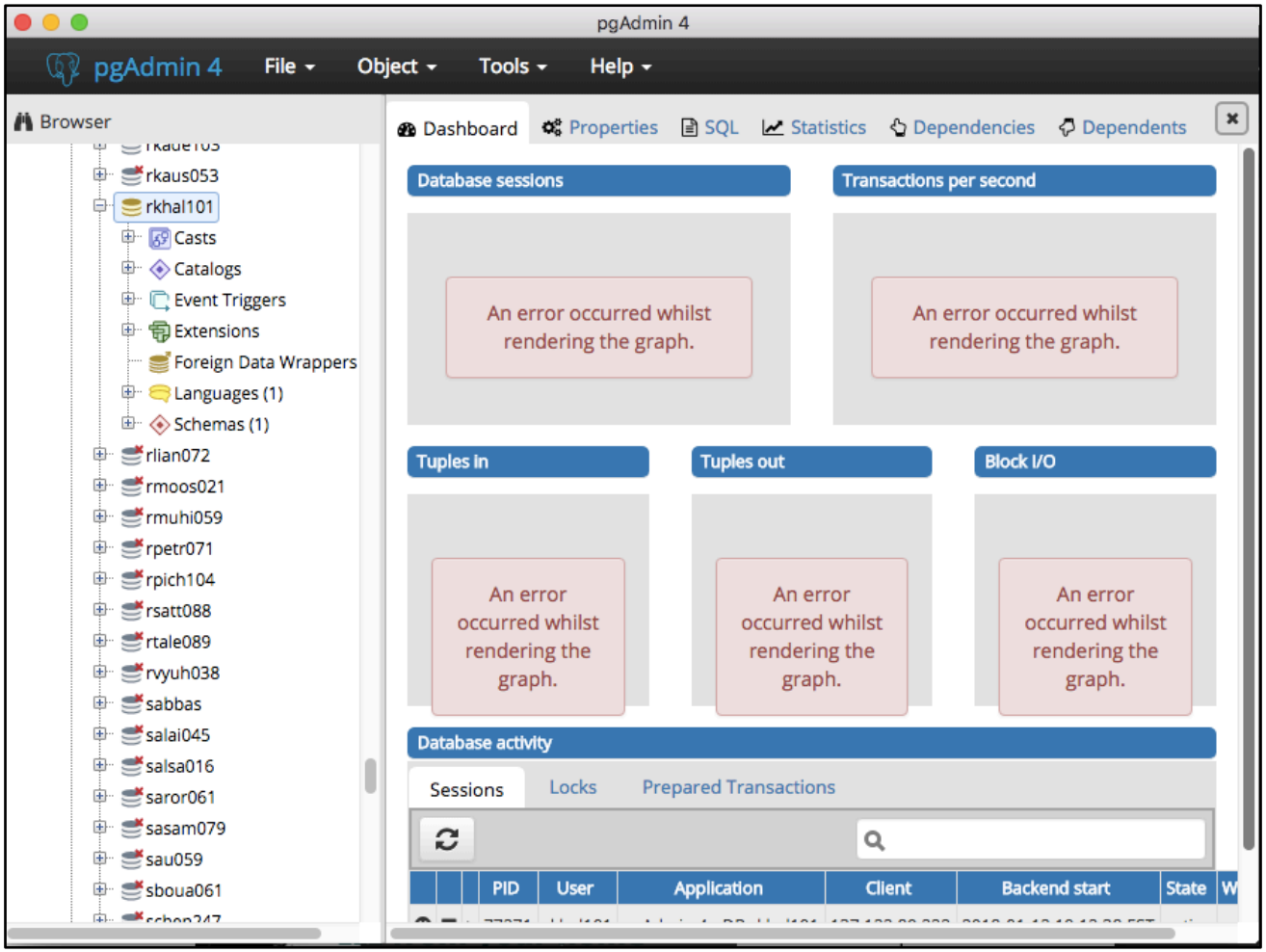
General Tab

- **Name**: Anything you want

Connection Tab

- **Host name/address**: web0.eecs.uottawa.ca
- **Port**: 15432
- **Maintenance DB & Username**: Your SITE account's username
- **Password**: Your SITE account's password





Successful connection and pgAdmin GUI.

Note that you only have access to the DB associated with your SITE account.

Setting up and using pgAdmin 4 from your home

- Go to
  - https://www.pgadmin.org/download/
- Click on the PostgreSQL mirror network link.
- Select the latest version (v2.1)
- Select your operating system (e.g. macos)
  - Click on pgadmin4-2.1.dmg (depends on your operating system)
- Extract the contents of the compressed file
  - Follow the installation instructions

Home Setup (Continued)

- Open pgAdmin 4
- In the **Dashboard** tab click on **Add New Server**
  - Warning: You may need to restart pgAdmin after adding the server.

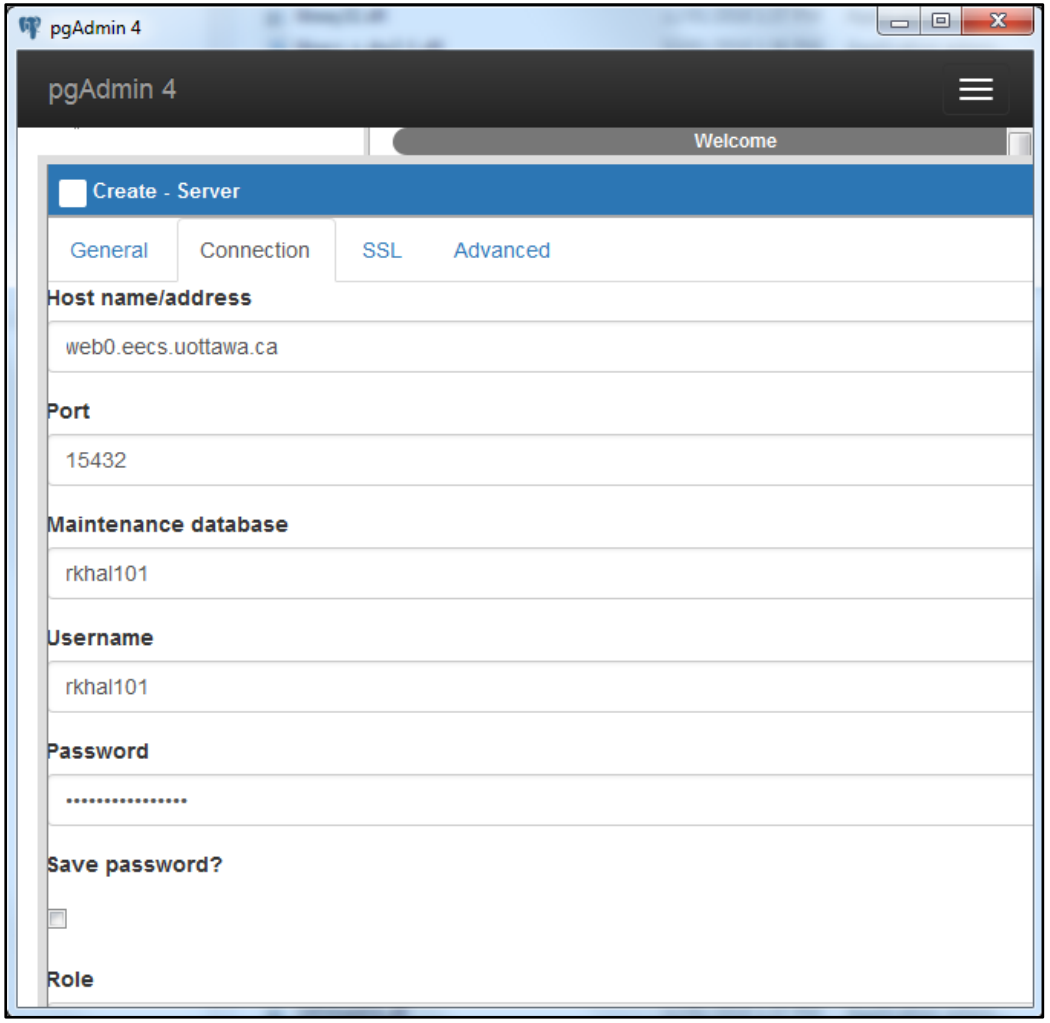
Server Parameters for Home (same as SITE)

General Tab

- **Name**: Anything you want

Connection Tab

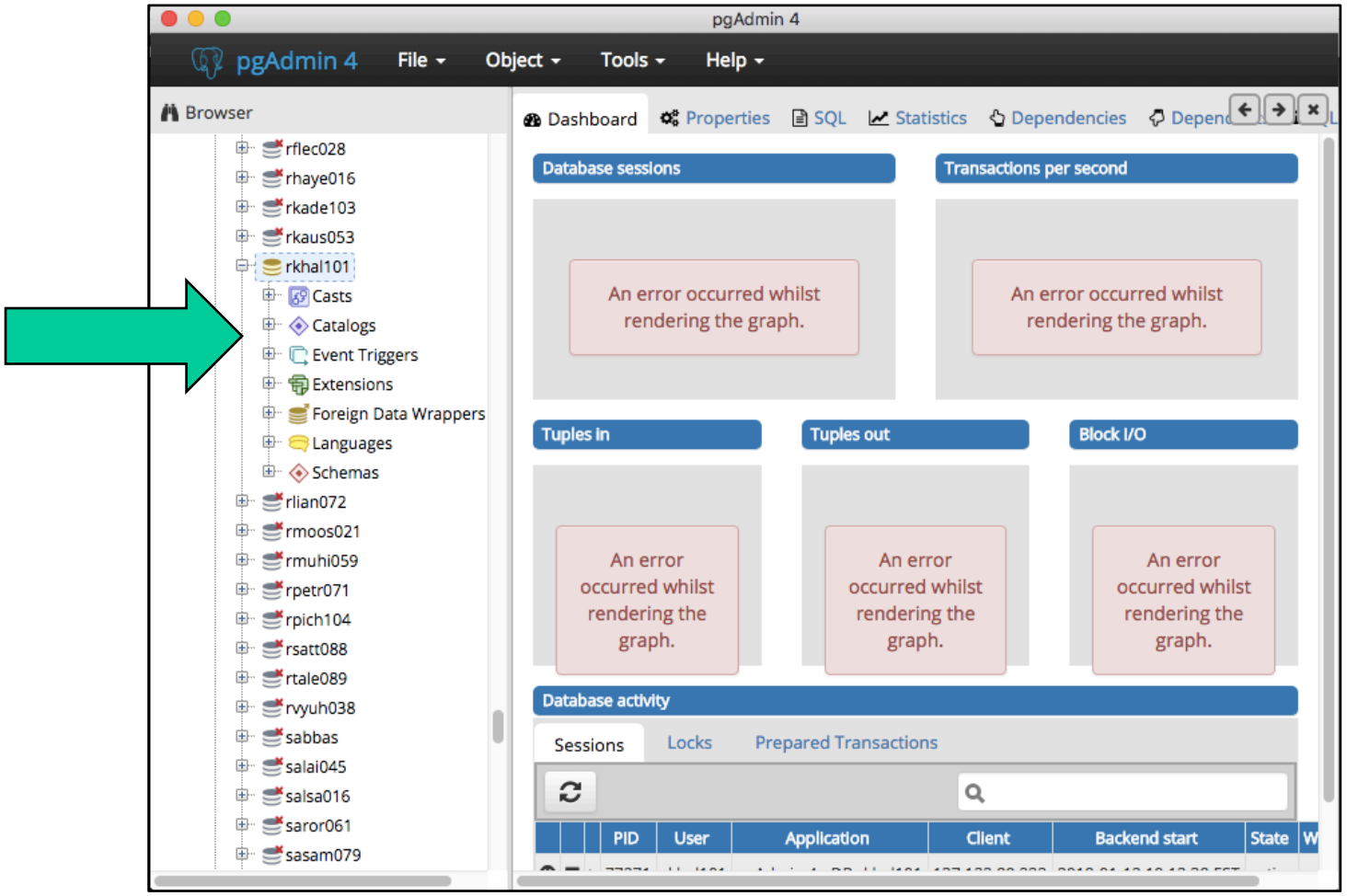
- **Host name/address**: web0.eecs.uottawa.ca
- **Port**: 15432
- **Maintenance DB & Username**: Your SITE account's username
- **Password**: Your SITE account's password



OVERVIEW OF PGADMIN

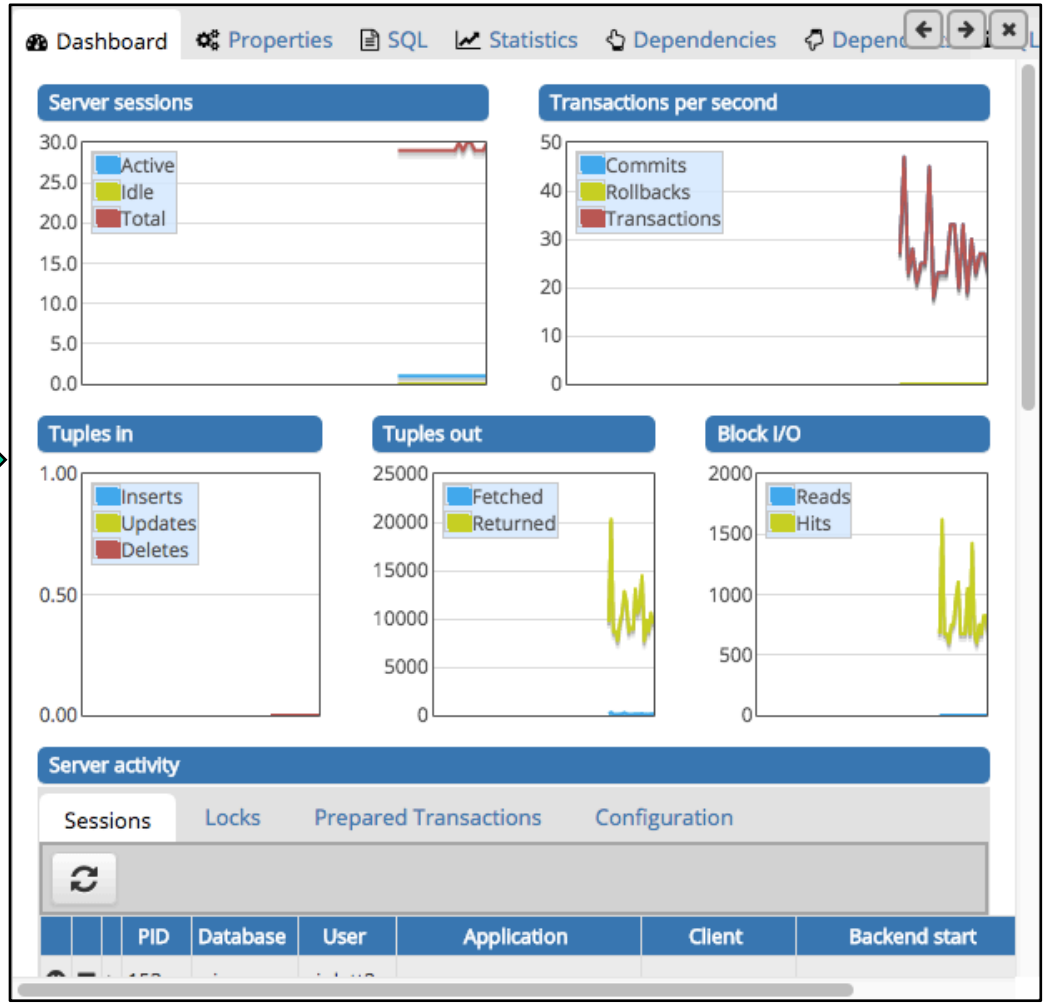
Main Window - Tree Control

Server tree and the objects objects that reside on a server.



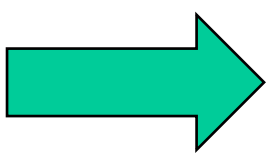
Main Window - Dashboard

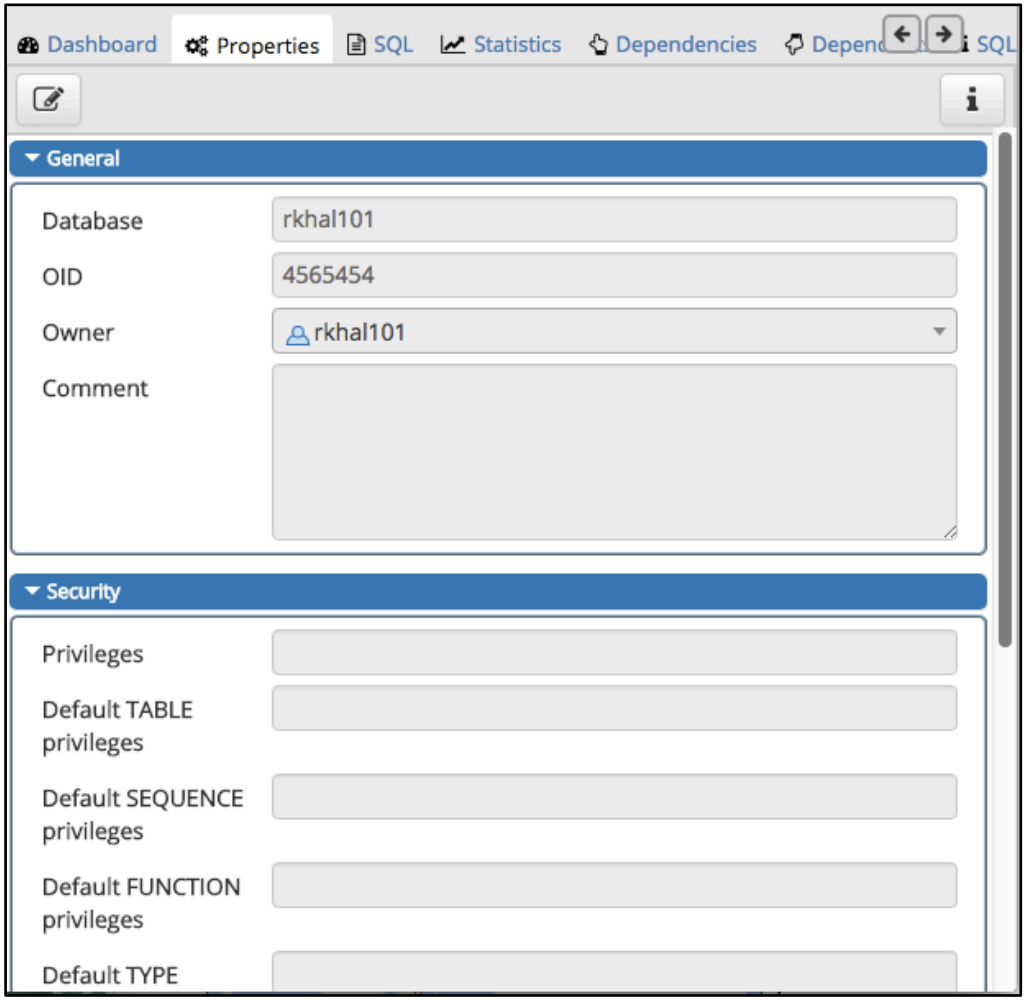
Provides an active analysis of the usage statistics for the selected server or database



Main Window - Properties

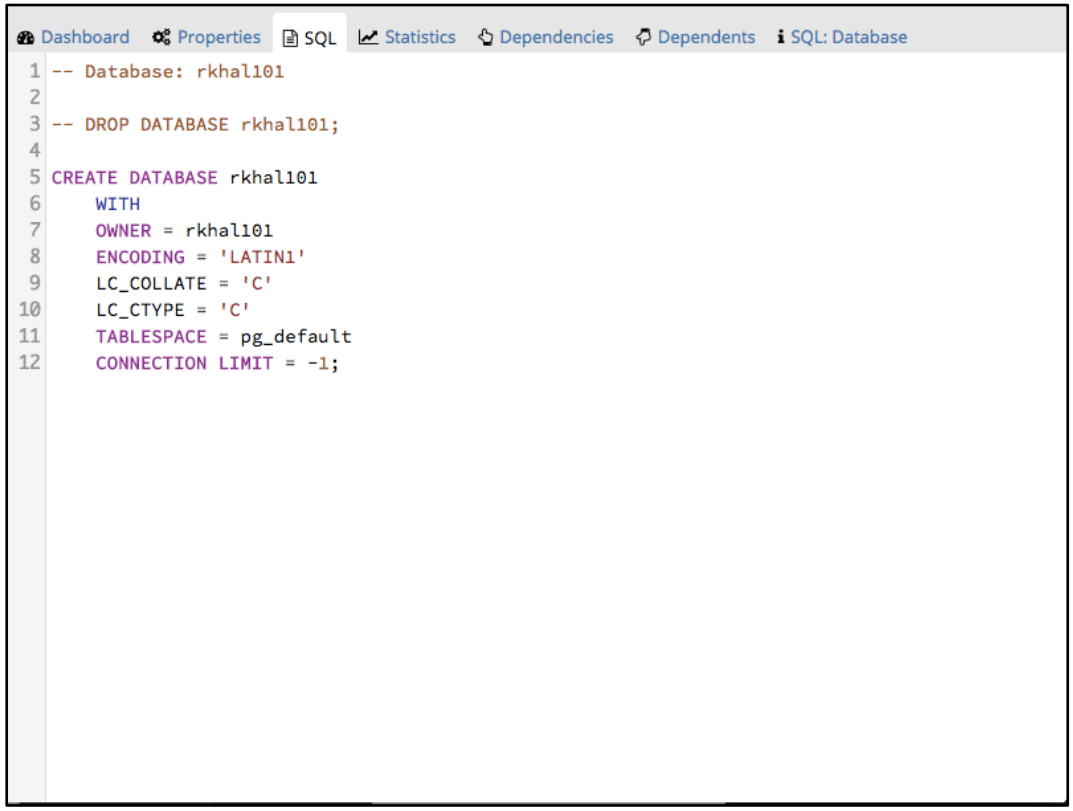
Displays information about the object selected





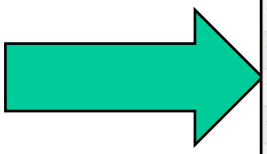
Main Window - SQL

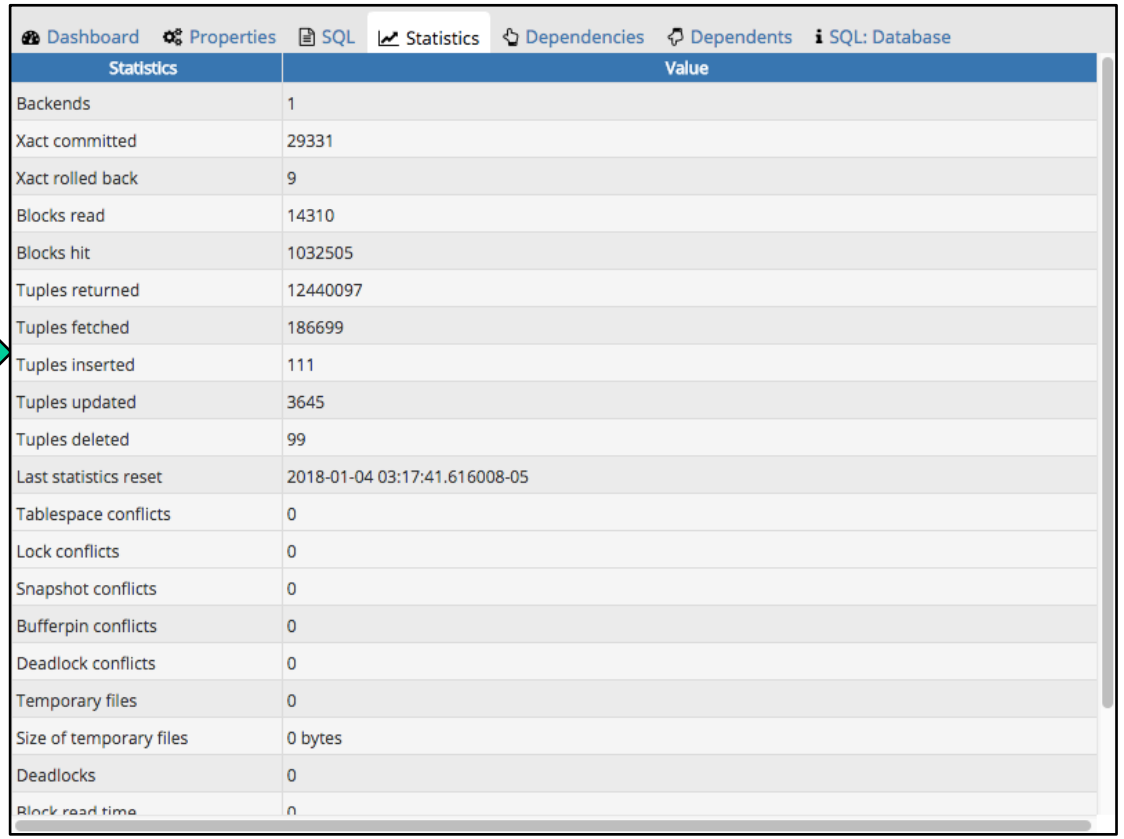
Displays the SQL script that created the highlighted object, and a (commented out) SQL statement that will *DROP* the selected object.



Main Window - Statistics

Displays the statistics gathered for each object on the tree control

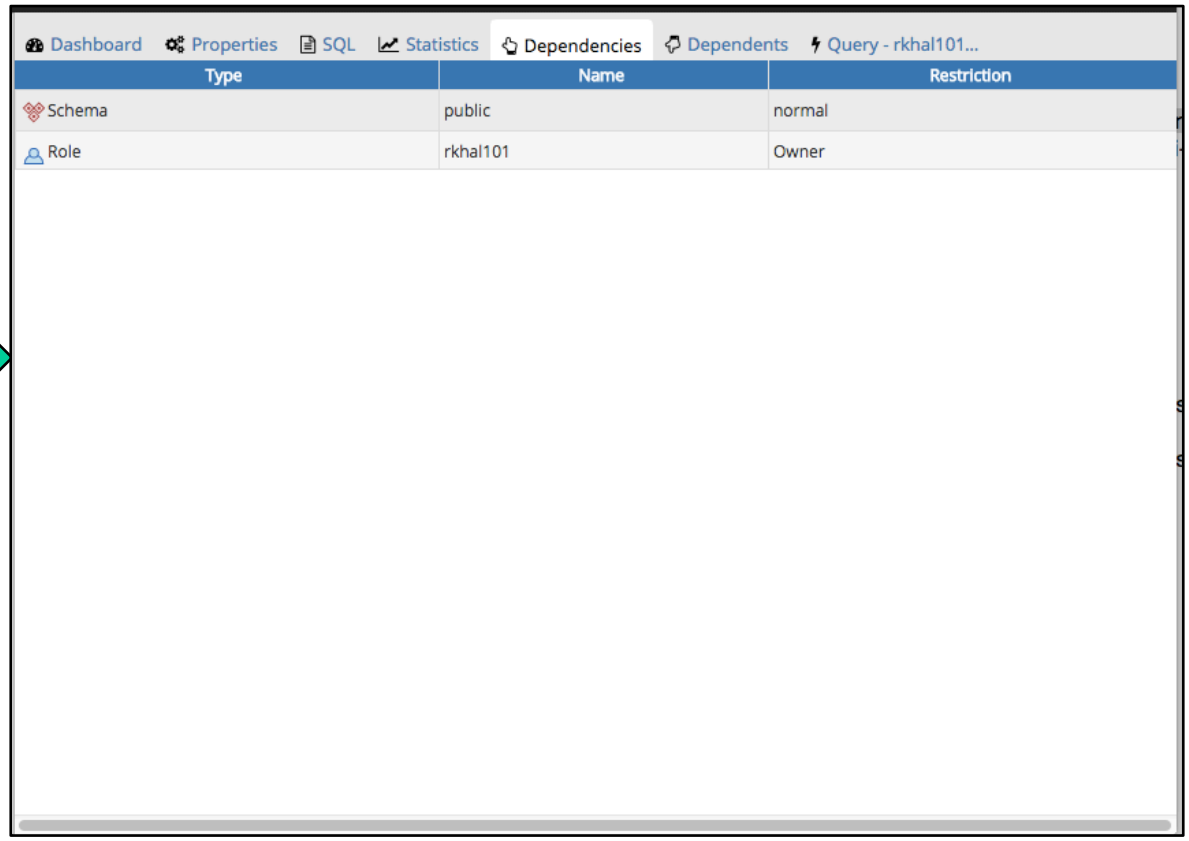




Statistics	Value
Backends	1
Xact committed	29331
Xact rolled back	9
Blocks read	14310
Blocks hit	1032505
Tuples returned	12440097
Tuples fetched	186699
Tuples inserted	111
Tuples updated	3645
Tuples deleted	99
Last statistics reset	2018-01-04 03:17:41.616008-05
Tablespace conflicts	0
Lock conflicts	0
Snapshot conflicts	0
Bufferpin conflicts	0
Deadlock conflicts	0
Temporary files	0
Size of temporary files	0 bytes
Deadlocks	0
Block read time	0

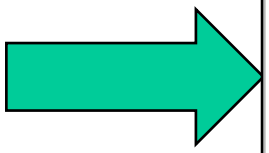
Main Window - Dependencies

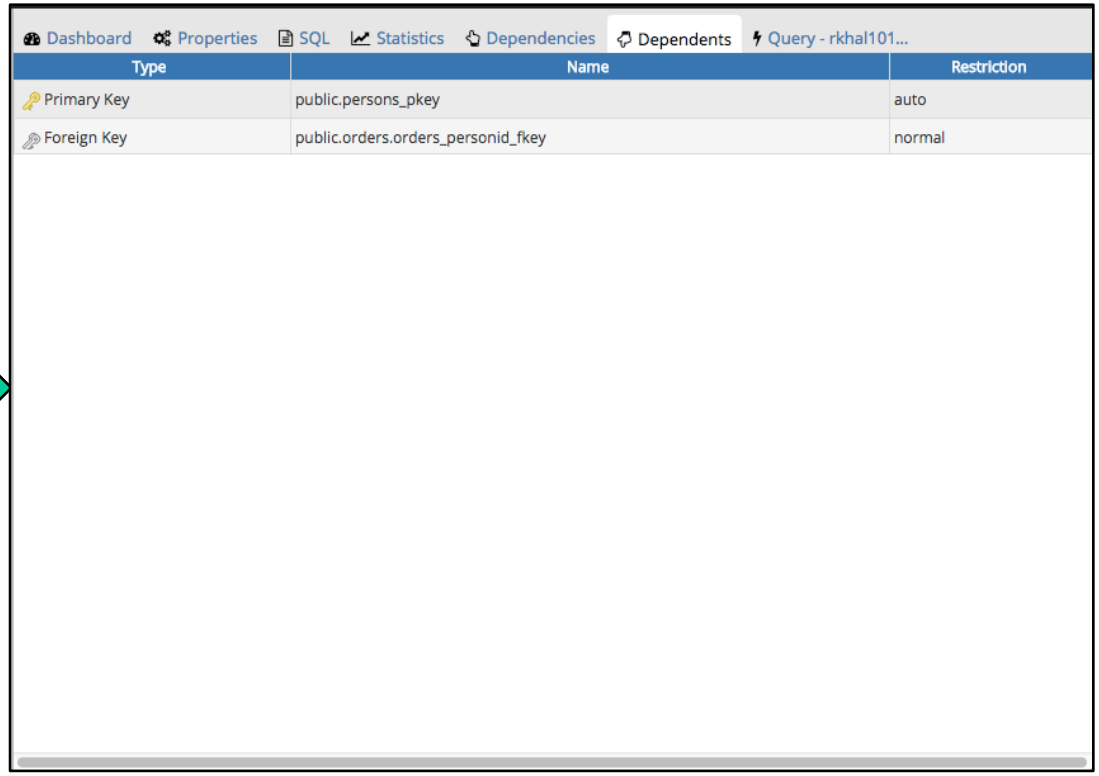
Displays the objects on which the currently selected object depends.



Main Window - Dependents

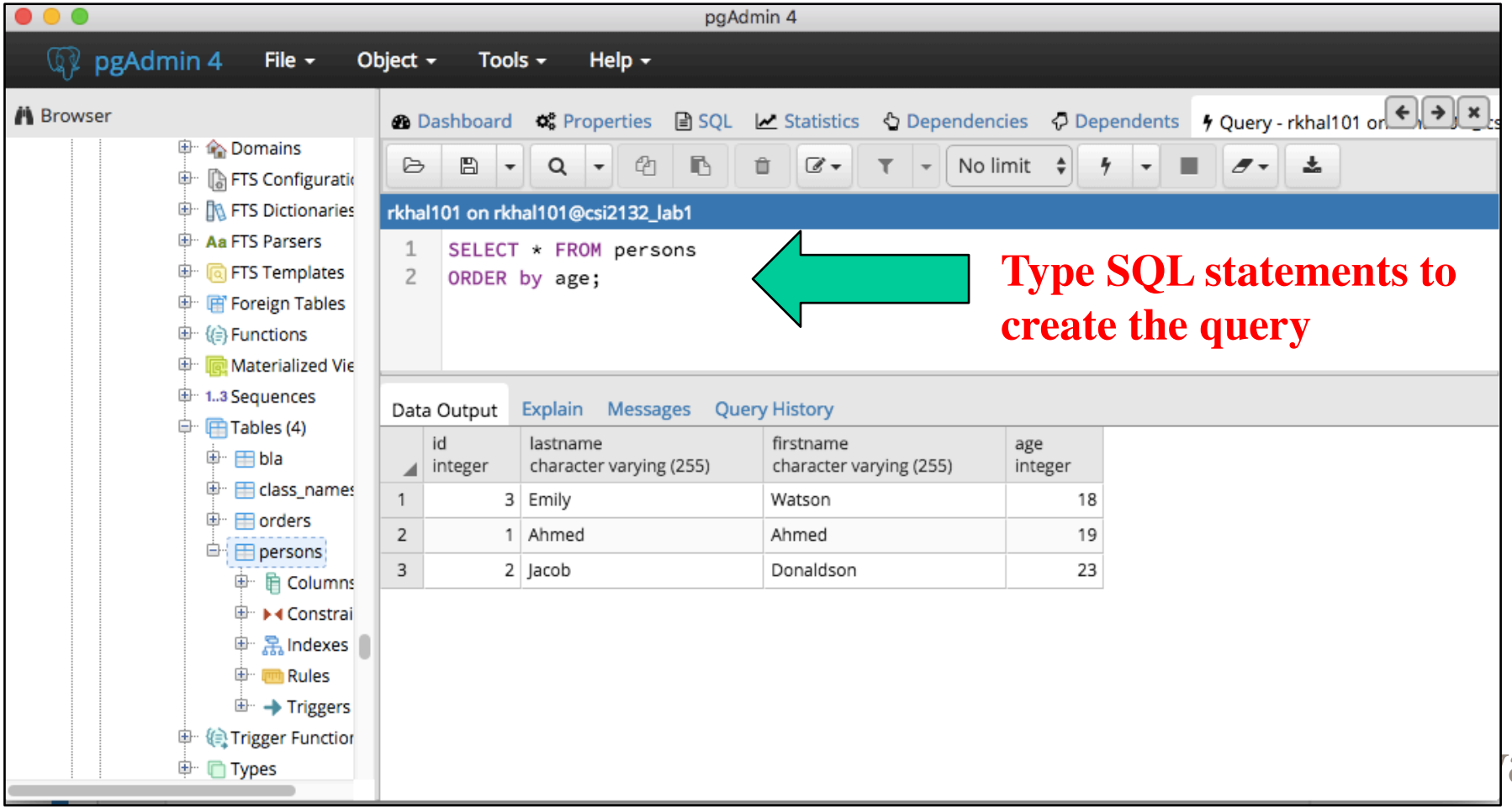
Displays a table of objects that depend on the object currently selected in the *pgAdmin* browser.





The Query Tool

- Can be accessed through **Tools** > **Query Tool**



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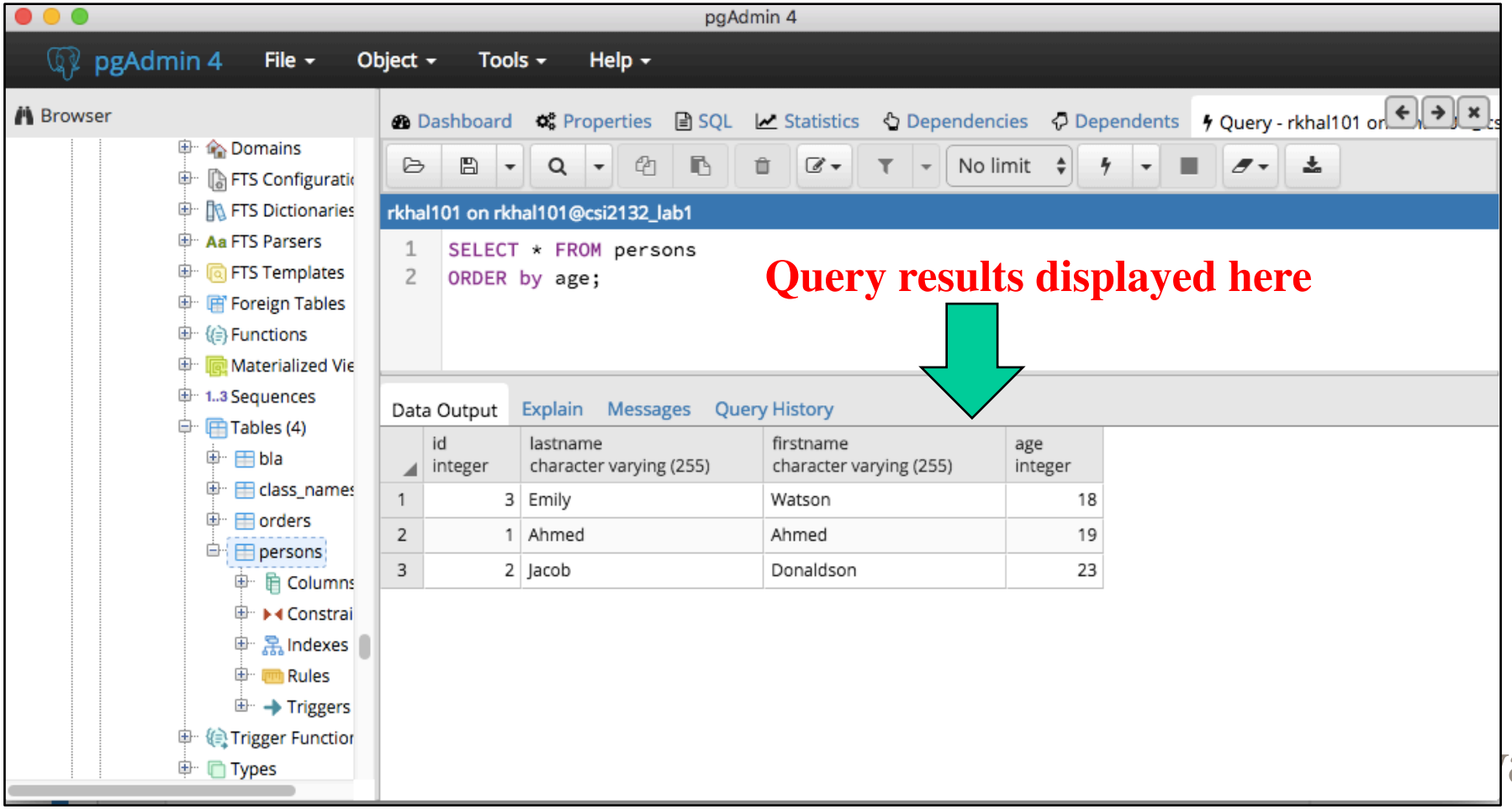

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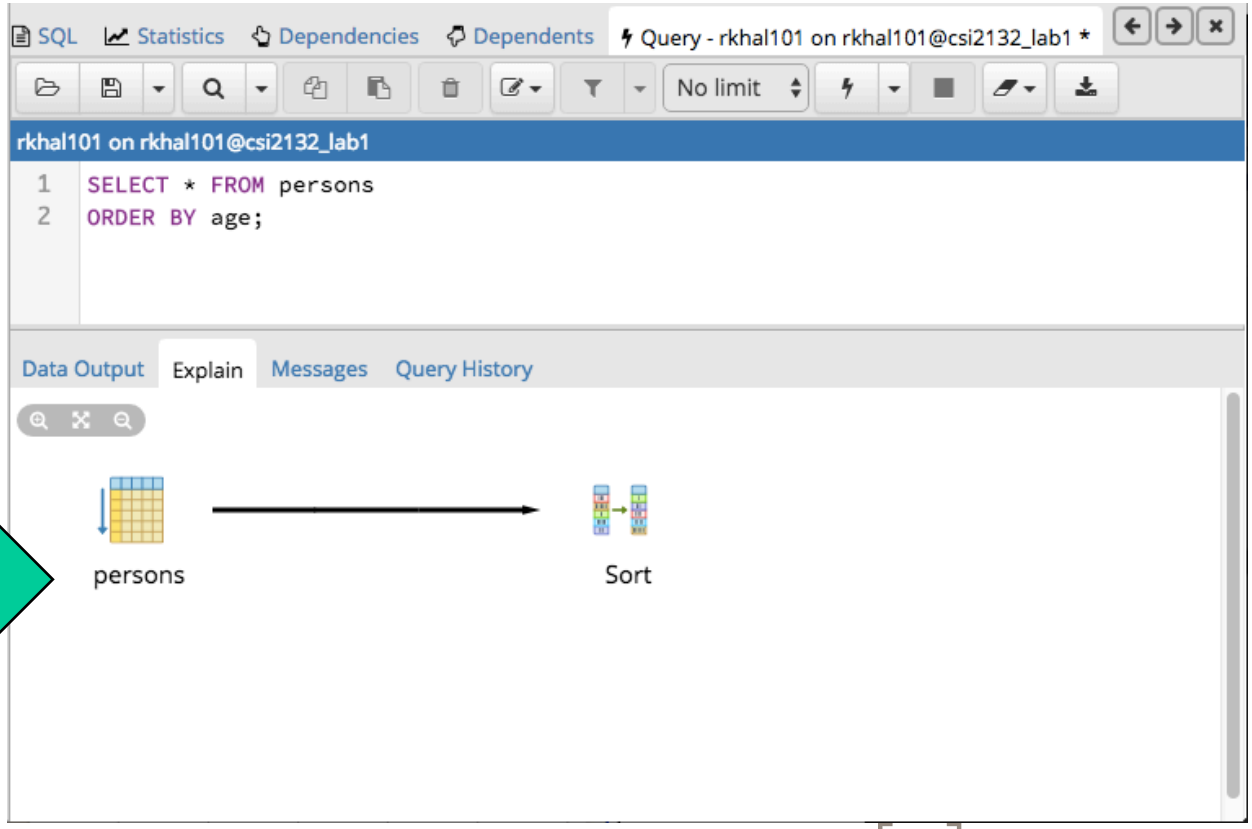

Schematic representation of the DBMS operations via the EXPLAIN command

For Detailed Information

- About PostgreSQL:
  - https://www.postgresql.org/
- About pgAdmin 4:
  - https://www.pgadmin.org/
- Connectivity for remote and SITE users
  - http://www.site.uottawa.ca/local/labinfo/software/postgresql.html