

Advanced Database

COMP412

CHAPTER: 04 USING PGADMIN



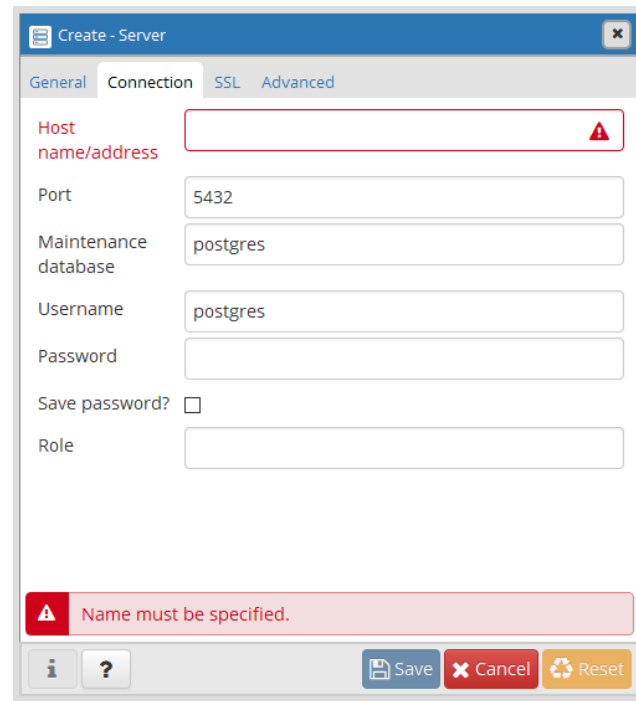
Introduction

- Because the PostgreSQL developers position pgAdmin as the most commonly used graphical administration tool for PostgreSQL and it is packaged with many binary distributions of PostgreSQL, the developers have taken on the responsibility of keeping pgAdmin always in sync with the latest PostgreSQL releases.
- If a new release of PostgreSQL introduces new features, you can count on the latest pgAdmin to let you manage it.

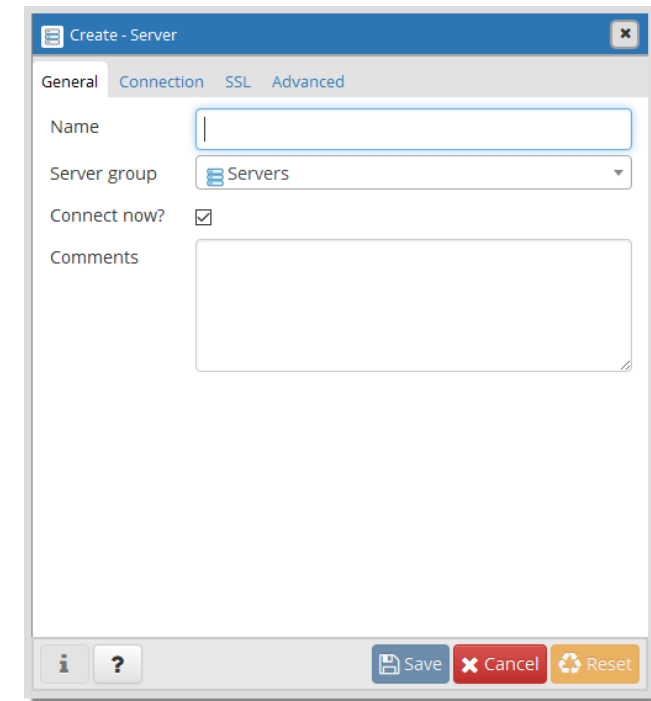
PgAdmin Features

Connecting to a PostgreSQL Server

- Connecting to a PostgreSQL server with pgAdmin is straightforward.



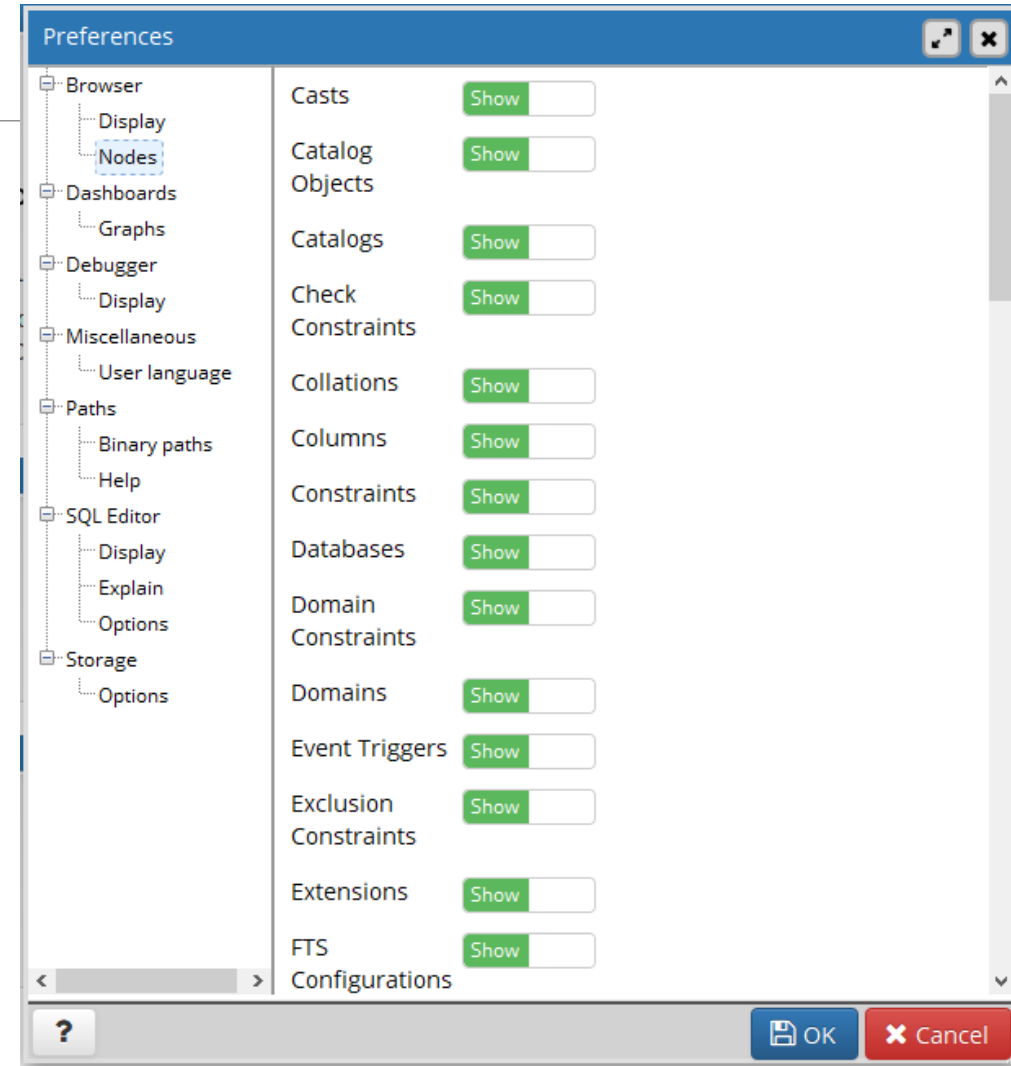
The 'Create - Server' dialog box in pgAdmin, with the 'Connection' tab selected. The 'Host name/address' field is empty and highlighted with a red border and a warning icon. The 'Port' is set to 5432, 'Maintenance database' is 'postgres', 'Username' is 'postgres', and 'Password' is empty. The 'Save password?' checkbox is unchecked. The 'Role' field is empty. A red error message at the bottom states: 'Name must be specified.' The bottom buttons are 'Save', 'Cancel', and 'Reset'.



The 'Create - Server' dialog box in pgAdmin, with the 'General' tab selected. The 'Name' field is empty. The 'Server group' dropdown is set to 'Servers'. The 'Connect now?' checkbox is checked. The 'Comments' field is empty. The bottom buttons are 'Save', 'Cancel', and 'Reset'.

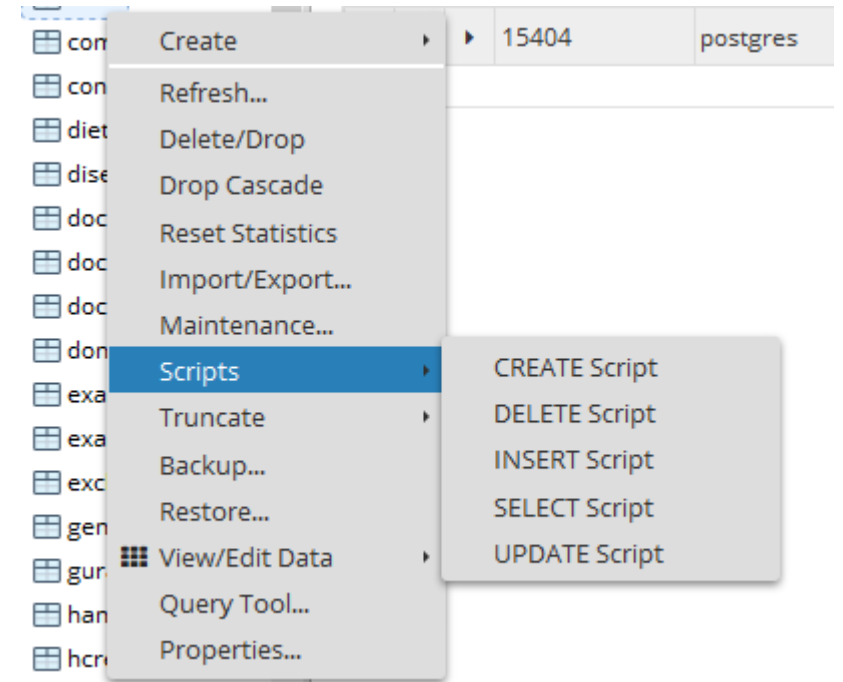
Navigating pgAdmin

- The tree layout of pgAdmin is intuitive to follow but does engender some possible anxiety.
- You can pare down the tree display by going into the Browser section of Preferences and deselecting objects that you would rather not have to stare at every time you use pgAdmin.
- To declutter the browse tree sections, go to Files→Preferences→Browser→Nodes.



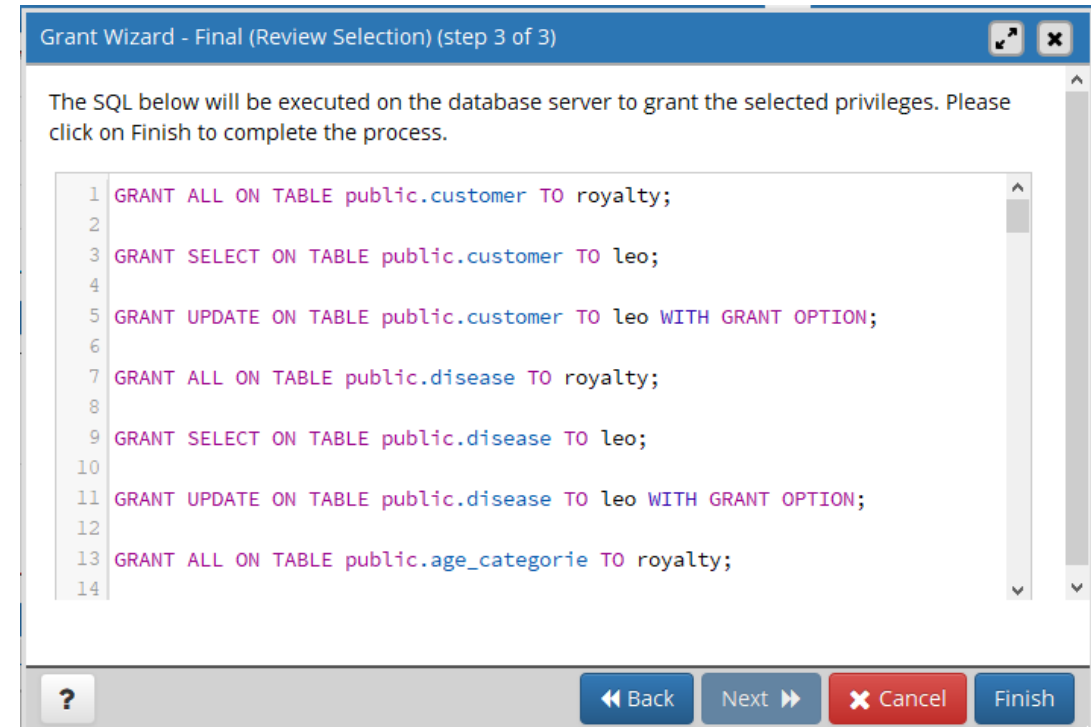
Autogenerating Queries from Table Definitions

- pgAdmin has this menu option that will autogenerate a template for SELECT, INSERT, and UPDATE statements from a table definition. You access this feature by right-clicking the table and accessing the SCRIPTS context menu option



Creating Database Assets and Setting Privileges

- Creating databases and other database assets.
- Privilege management
 - access from the Tools→Grant Wizard menu
 - right-click the schema or database, select Properties, and then go to the Default Privileges tab



Import and Export

- Like psql, pgAdmin allows you to import and export text files.
 - right-click the table you want to import/export data to

The image displays two side-by-side screenshots of the 'Import/Export data' dialog box in pgAdmin, specifically for the table 'u_fact_types'.

Left Screenshot (Import mode):

- Options tab:** The 'Import' button is highlighted in green.
- File Info:** Includes fields for 'Filename' (with a browse button), 'Format' (set to 'CSV'), and 'Encoding' (set to 'Select from the list').
- Miscellaneous:** Includes checkboxes for 'OID' and 'Header' (both set to 'No'), a 'Delimiter' dropdown (set to ':'), a 'Quote' dropdown (set to '"'), and an 'Escape' dropdown (set to 'Select from list...').

Right Screenshot (Export mode):

- Columns tab:** The 'Columns' sub-tab is active.
- Columns to import:** A list of columns is shown, including 'fact_type_id', 'category', 'fact_subcats', and 'short_name'.
- NULL Strings:** A text field for specifying the null string, with a description: 'Specifies the string that represents a null value. The default is \N (backslash-N) in text format, and an unquoted empty string in CSV format. You might prefer an empty string even in text format for cases where you don't want to distinguish nulls from empty strings. This option is not allowed when using binary format.'
- Not null columns:** A text field for specifying columns to exclude, with a description: 'Do not match the specified column values against the null string. In the default case where the null string is empty, this means that empty values will be read as zero-length strings rather than nulls, even when they are not quoted. This option is allowed only in import, and only when using CSV format.'

Backing up an entire database

- pgAdmin offers a graphical interface to pg_dump and pg_restore

The screenshot shows the 'Import/Export data - table 'aa'' dialog box in pgAdmin. The 'Columns' tab is selected. The 'Import/Export' section has an 'Export' button. The 'File Info' section includes a 'Filename' field with a browse button, a 'Format' dropdown set to 'CSV', and an 'Encoding' dropdown set to 'Select from the list'. The 'Miscellaneous' section includes 'OID' and 'Header' checkboxes both set to 'No', a 'Delimiter' dropdown set to 'Select from list...', a 'Quote' dropdown set to '"', and an 'Escape' dropdown set to 'Select from list...'. A descriptive text for the delimiter states: 'Specifies the character that separates columns within each row (line) of the file. The default is a tab character in text format, a comma in CSV format. This must be a single one-byte character. This option is not allowed when using binary format.' The bottom of the dialog has 'OK' and 'Cancel' buttons.

Graphical Explain

- One of the great gems in pgAdmin is its at-a-glance graphical explain of the query plan.

