

# WEEK 01

Instructor: Yanan Wu

TA: Vanchy Li

Spring 2025



WEEK 01

# SOFTWARE INSTALLATION

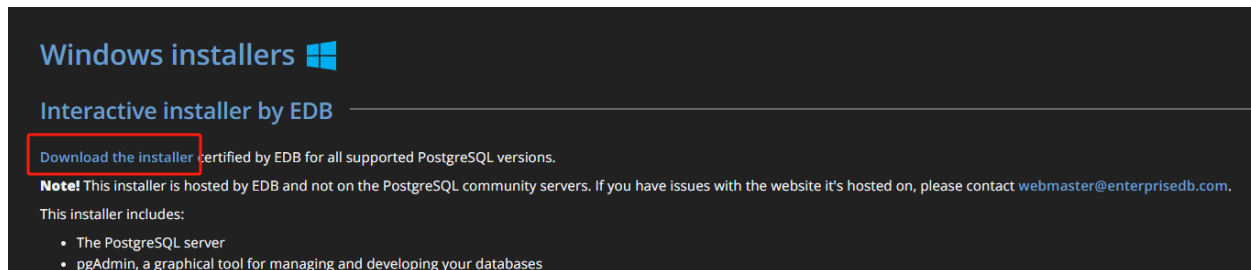
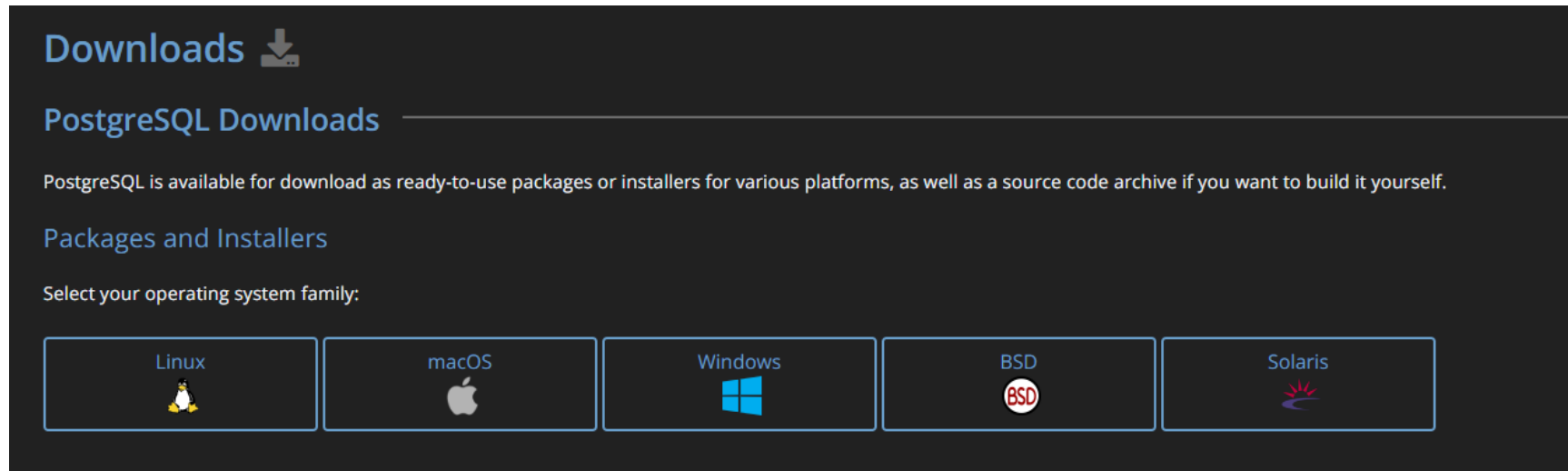
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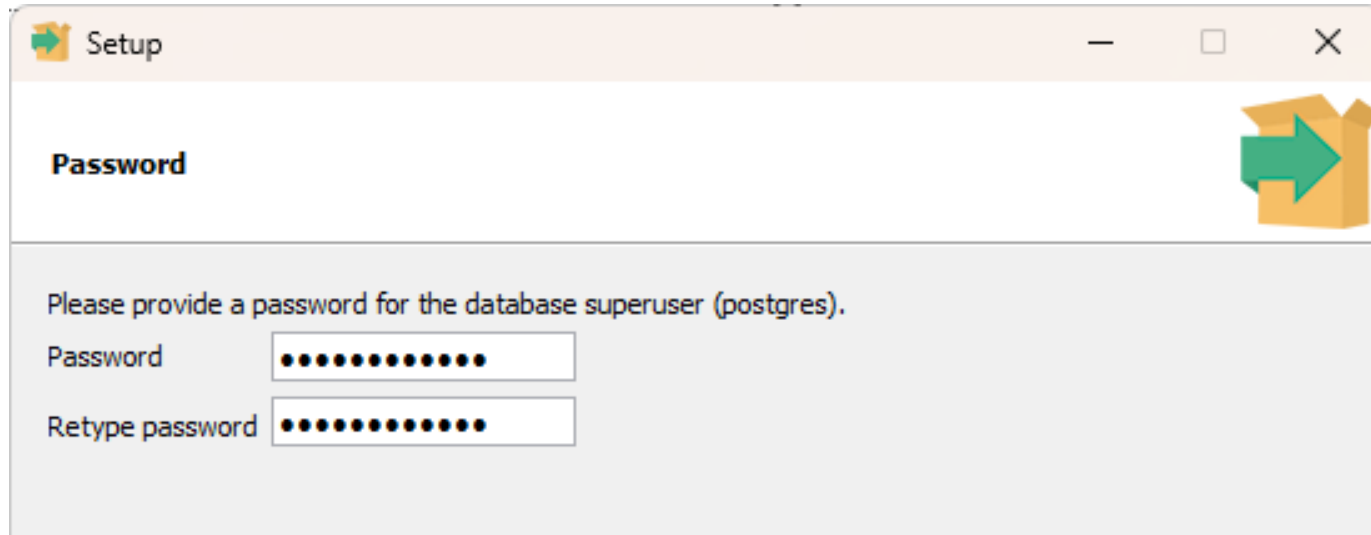
# DOWNLOAD

- PostgreSQL Download link
  - <https://www.postgresql.org/>
- Select your operating system family
- Select 'Download the installer'



# INSTALLATION

1. Set up file directory and data directory (It is recommended to stick to the path suggested by the installer)
2. Set up the password
  - 2.1 You need to use this password to access the database
  - 2.2 You will be asked multiple times for creating a password
  - 2.3 **It is wise to choose the same password for all PostgreSQL related programs**



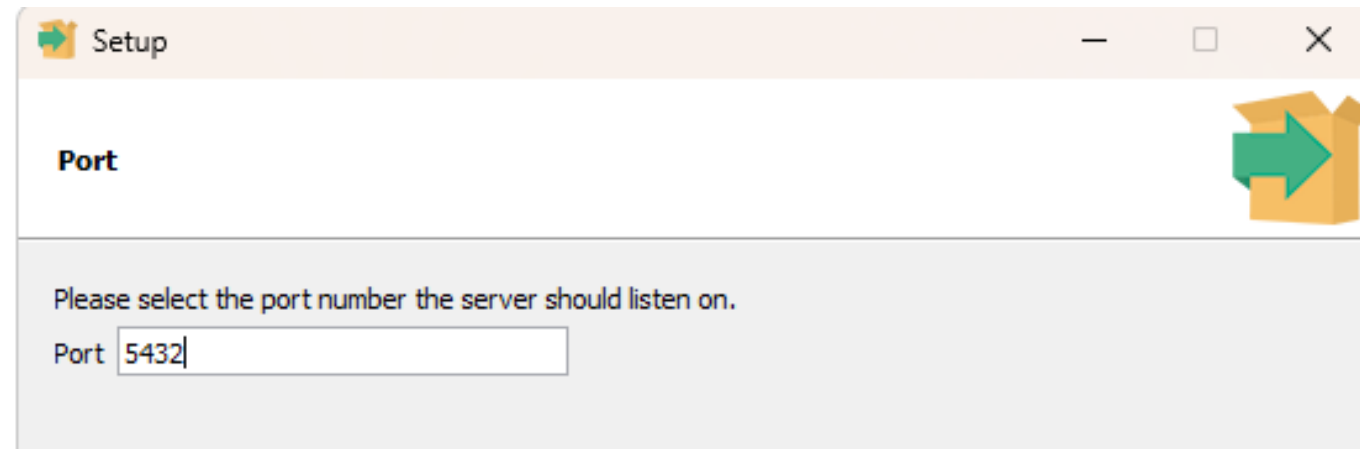
The screenshot shows a window titled "Setup" with a standard macOS-style title bar (orange, white, and grey segments). The window content has a light grey background. At the top, the word "Password" is displayed in bold black text. To the right of this text is a large green arrow pointing right, superimposed on a yellow box icon. Below this, the instruction "Please provide a password for the database superuser (postgres)." is shown in a smaller black font. Underneath the instruction are two input fields. The first field is labeled "Password" and the second is labeled "Retype password". Both fields contain ten black dots, indicating that the text is masked. The window has standard macOS window controls (minimize, maximize, close) in the top right corner.

# INSTALLATION

## 3. Set up port number

3.1 You can accept the default one as your port number

3.2 A port number is a numerical identifier used in networking to distinguish different services or applications on a device

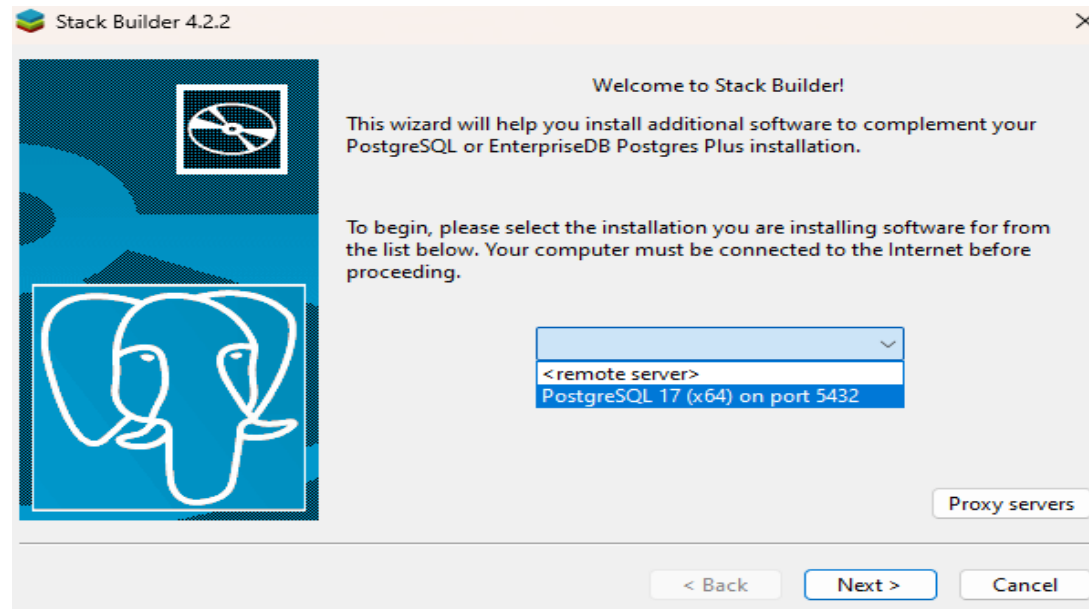
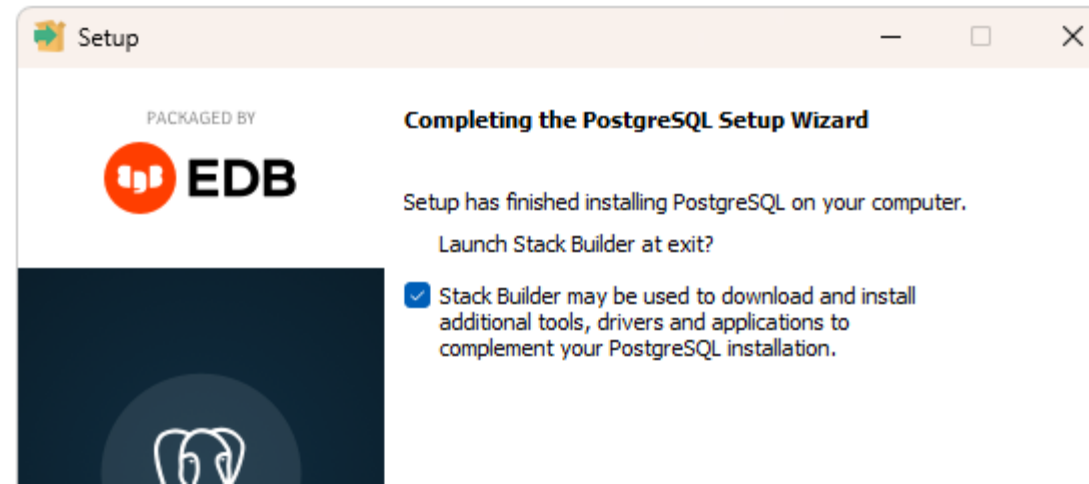


## 4. Accept default locale

## 5. Click 'next' to install the PostgreSQL

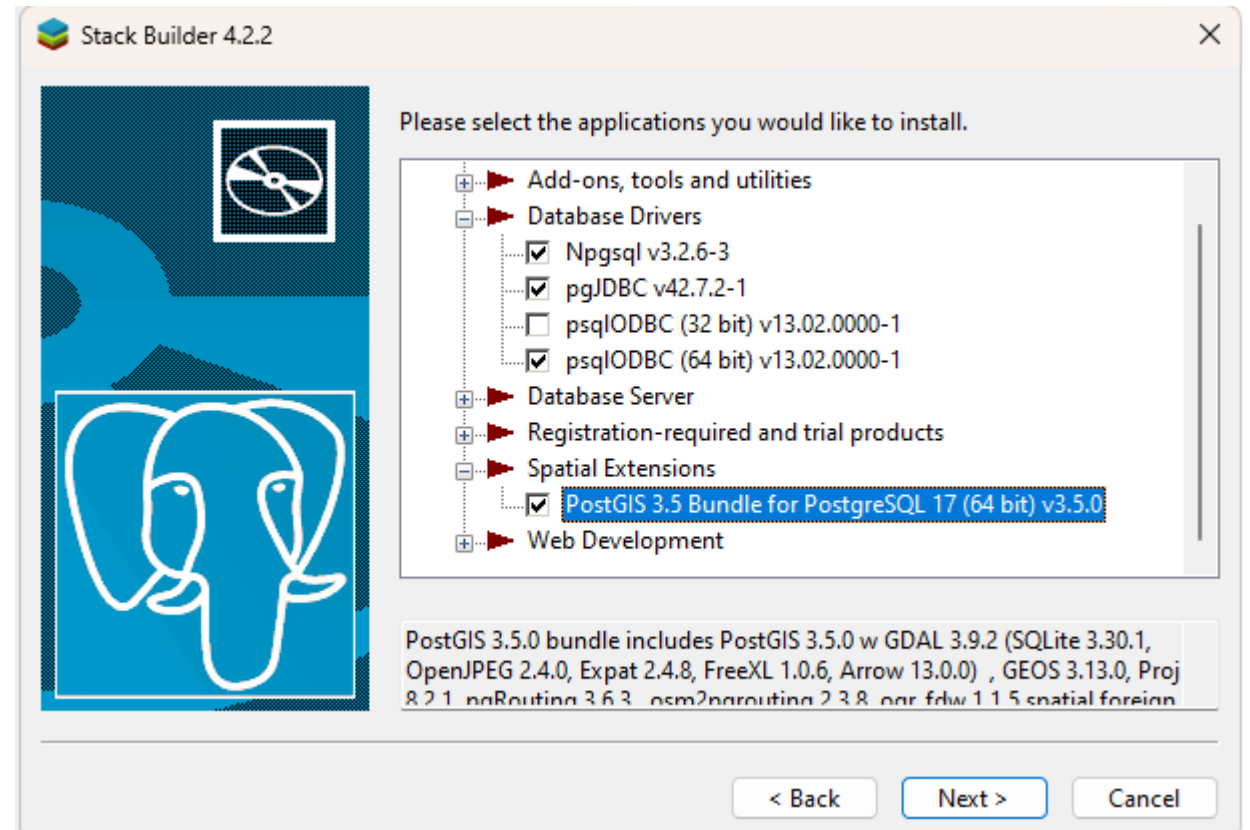
# INSTALLATION

- Select 'Stack builder'
- In the stack builder, Select your port



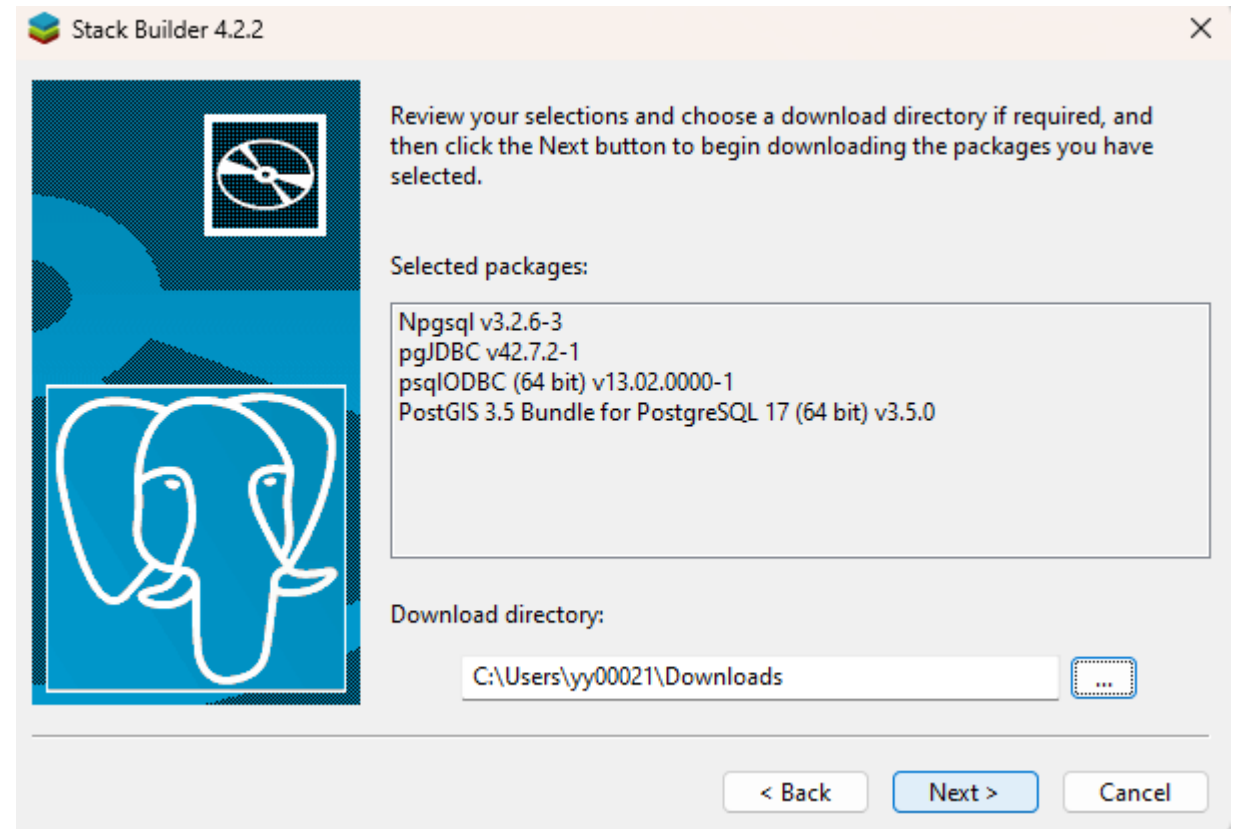
# INSTALLATION

- For now, you only need to select PostGIS under Spatial Extensions



# INSTALLATION

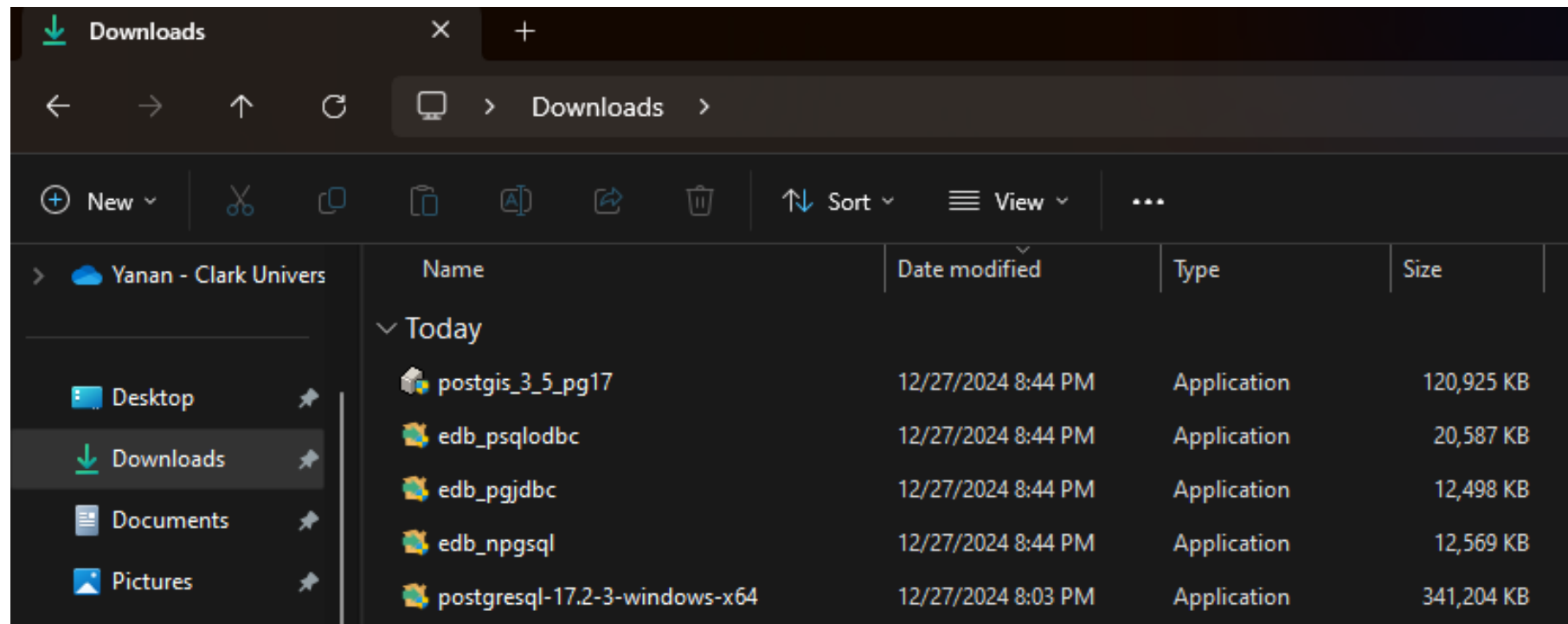
- Set up the download directory to store the installer





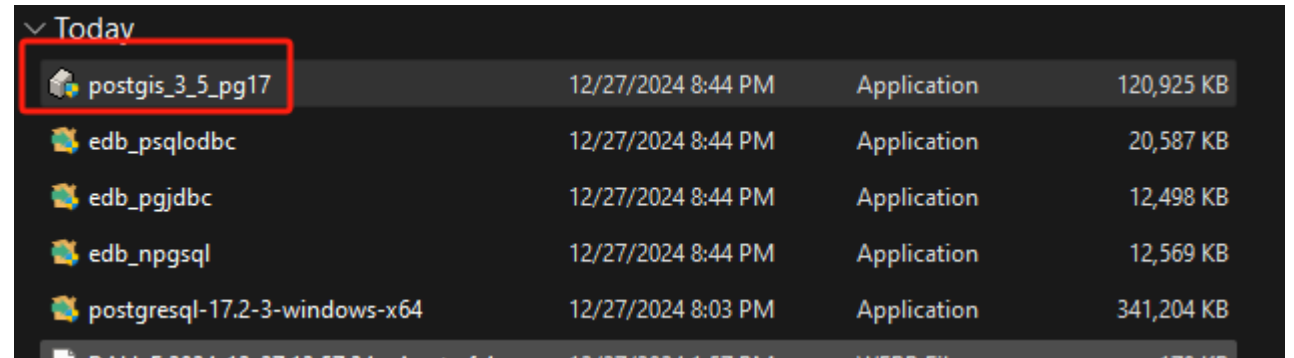
# INSTALLATION

- After download, the several installers for database server and spatial extensions should appear in your downloading directory



# INSTALLATION OF POSTGIS

- Install PostGIS extension

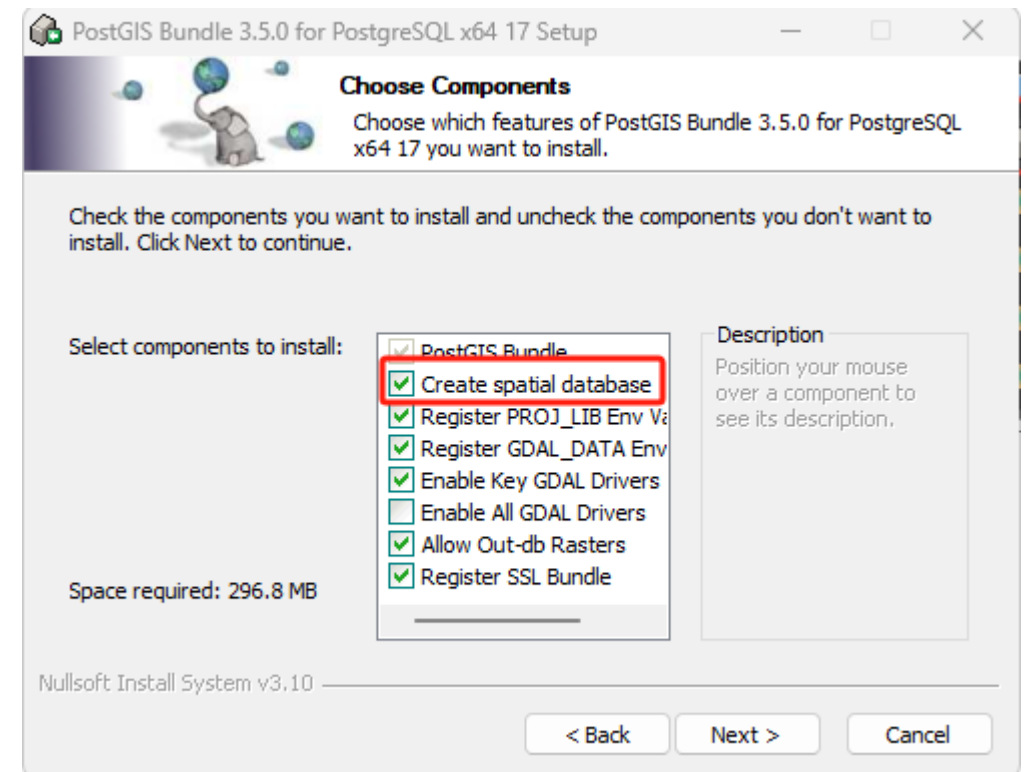


A screenshot of a Windows File Explorer window showing a list of installed applications. The 'Today' group is expanded, and the 'postgis\_3\_5\_pg17' application is highlighted with a red rectangular box. The list includes the following items:

Application Name	Installation Date	Type	Size
postgis_3_5_pg17	12/27/2024 8:44 PM	Application	120,925 KB
edb_psqldb	12/27/2024 8:44 PM	Application	20,587 KB
edb_pgjdbc	12/27/2024 8:44 PM	Application	12,498 KB
edb_npgsql	12/27/2024 8:44 PM	Application	12,569 KB
postgresql-17.2-3-windows-x64	12/27/2024 8:03 PM	Application	341,204 KB

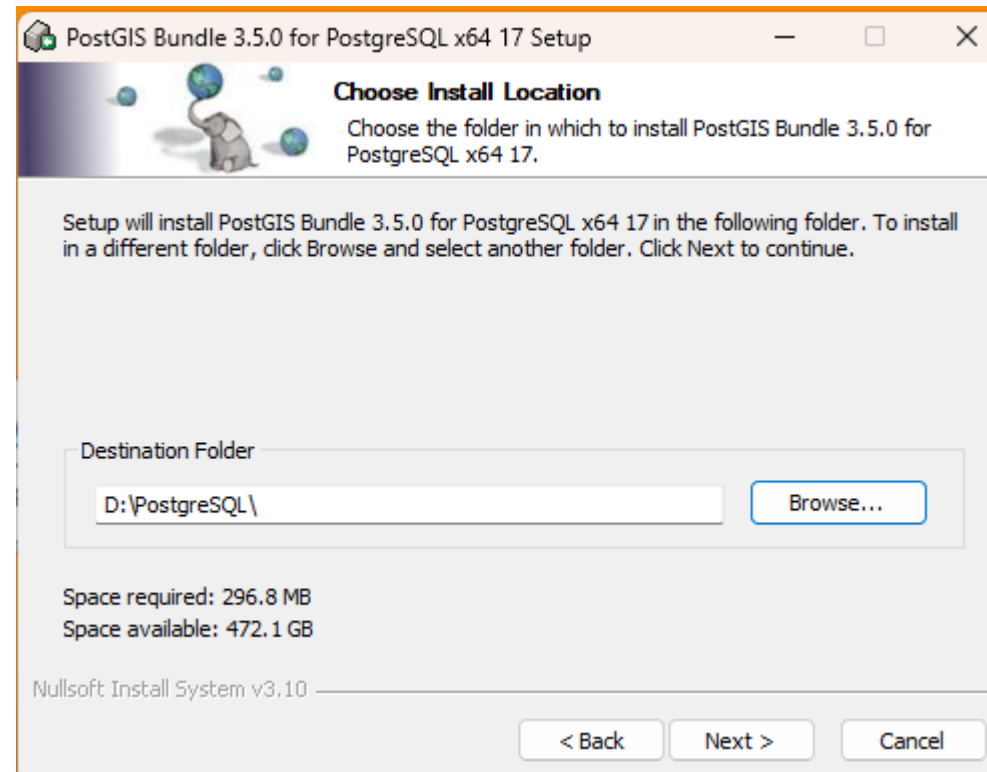
# INSTALLATION OF POSTGIS

- Select 'Create Spatial Database'



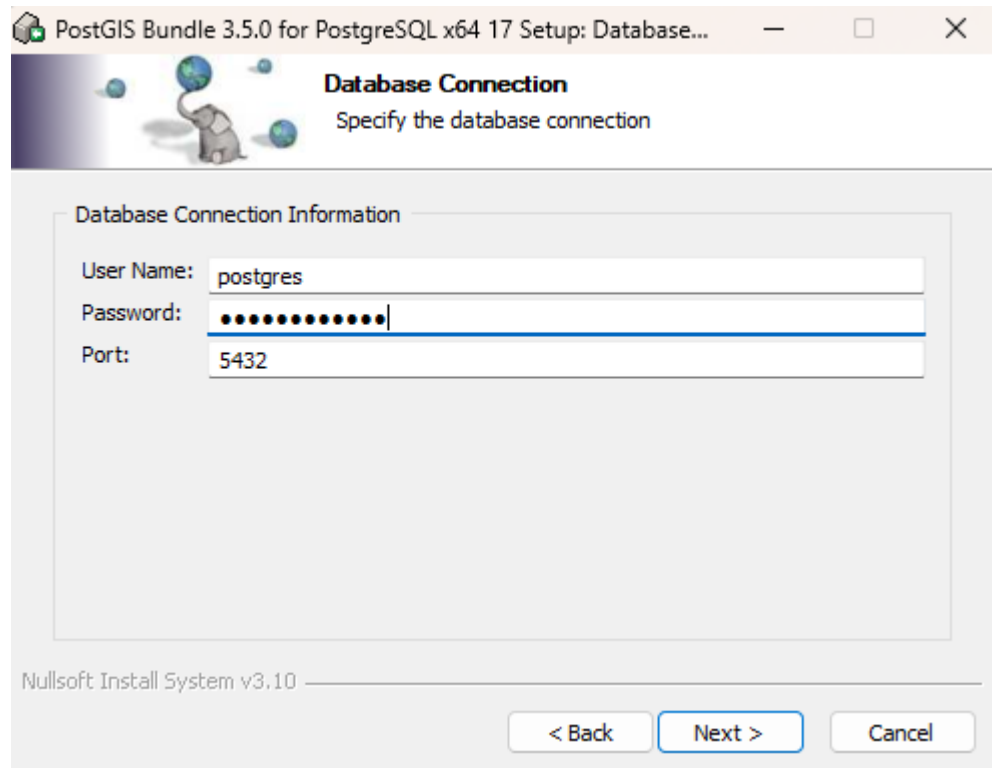
# INSTALLATION OF POSTGIS

- Set up the destination folder (PostGIS must be installed within the PostgreSQL folder where PostgreSQL is stored)
- If you accept the default path (C:\) when you install PostgreSQL, in this step, please also accept the default path



# INSTALLATION OF POSTGIS

- Type the password you set up earlier when you install PostgreSQL
- Accept all the suggested parameters



PostGIS Bundle 3.5.0 for PostgreSQL x64 17 Setup: Database...

**Database Connection**  
Specify the database connection

Database Connection Information

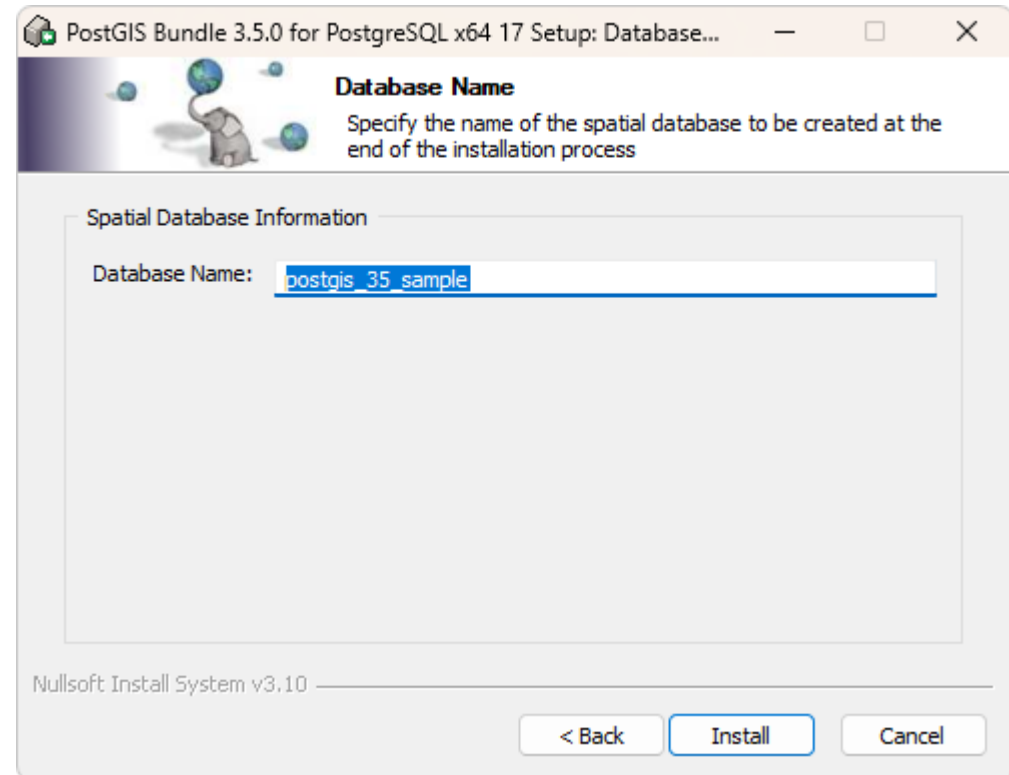
User Name: postgres

Password: ●●●●●●●●

Port: 5432

Nullsoft Install System v3.10

< Back Next > Cancel



PostGIS Bundle 3.5.0 for PostgreSQL x64 17 Setup: Database...

**Database Name**  
Specify the name of the spatial database to be created at the end of the installation process

Spatial Database Information

Database Name: postgis\_35\_sample

Nullsoft Install System v3.10

< Back Install Cancel

# TWO POPULAR TOOLS COME WITH POSTGRESQL

- pdAdmin
  - Graphical User Interface
  - SQL Editor
  - Database Management
  - Multi-Platform
  - <https://github.com/pgadmin-org/pgadmin4>
- psql
  - Command-line Interface



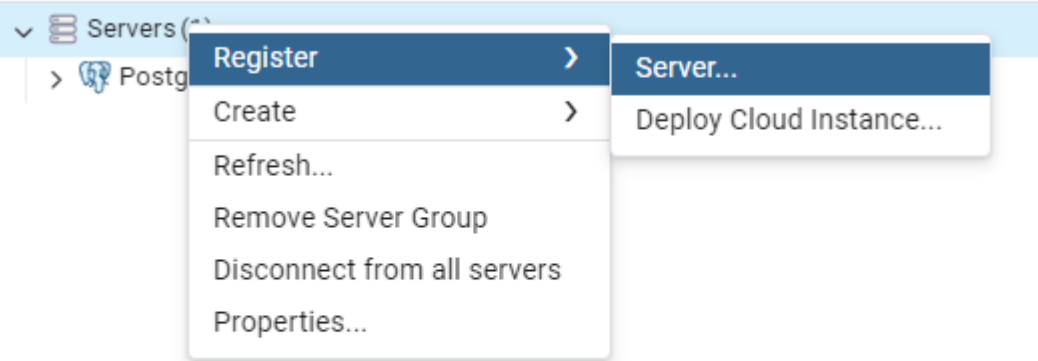
## ACCESS PGADMIN 4

- By installing PostgreSQL you will automatically get the PgAdmin as well.
- Open PgAdmin and set up the password for it (It is recommended using the password for PostgreSQL)

# ACCESS SERVER IN PGADMIN 4

- Right click the Servers in the left panel to register server
- Name your server and input relevant information

Object Explorer



A screenshot of the 'Register - Server' dialog box in pgAdmin 4. The 'General' tab is selected. The 'Name' field is filled with 'PostGIS'.

A screenshot of the 'Register - Server' dialog box in pgAdmin 4, showing the 'Connection' tab. The 'Host name/address' field is filled with 'localhost'. The 'Port' field is filled with '5432'. The 'Maintenance database' field is filled with 'postgres'. The 'Username' field is filled with 'postgres'. The 'Kerberos authentication?' checkbox is unchecked. The 'Password' field is filled with a masked password (represented by dots). The 'Save password?' checkbox is unchecked.