WEEK 02

Instructor: Yanan Wu
TA: Vanchy Li

Spring 2025

WEEK 02

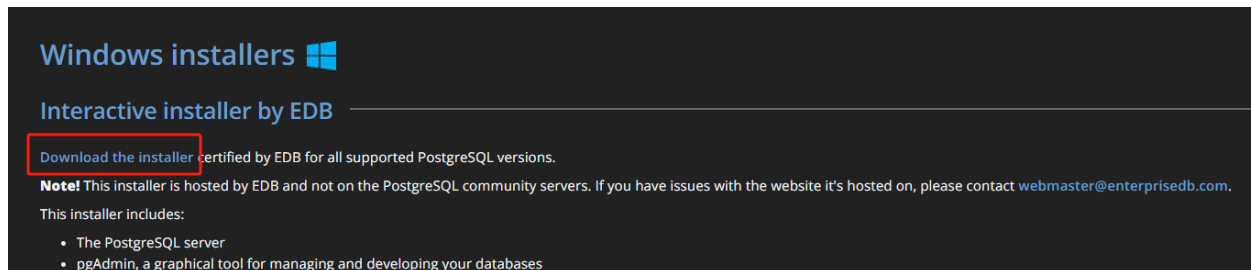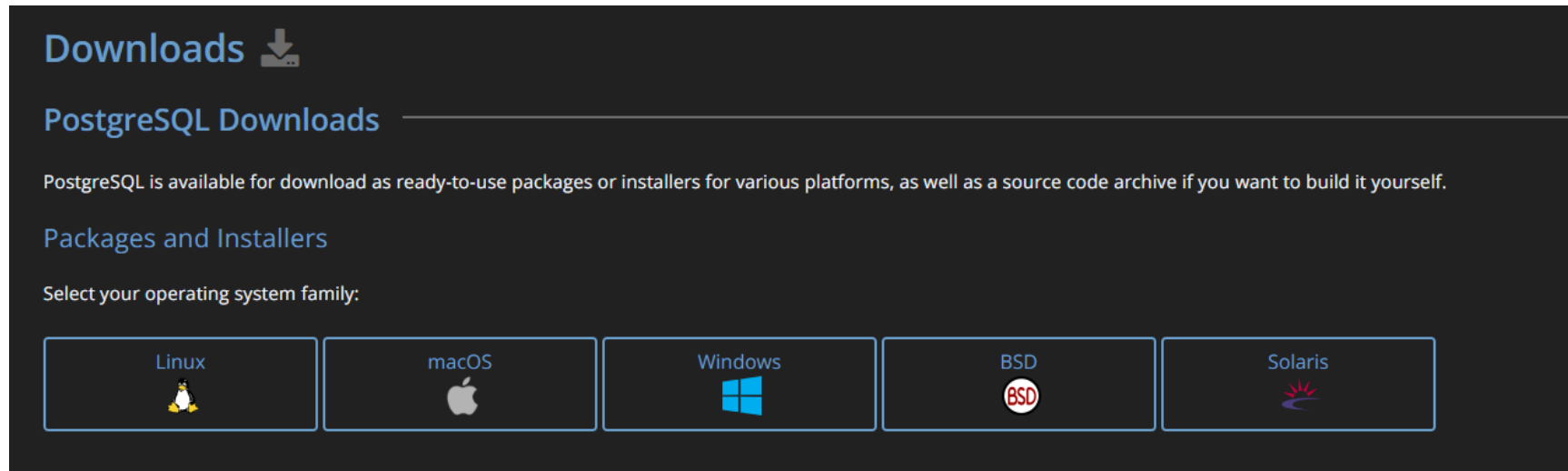# LECTURE SESSION

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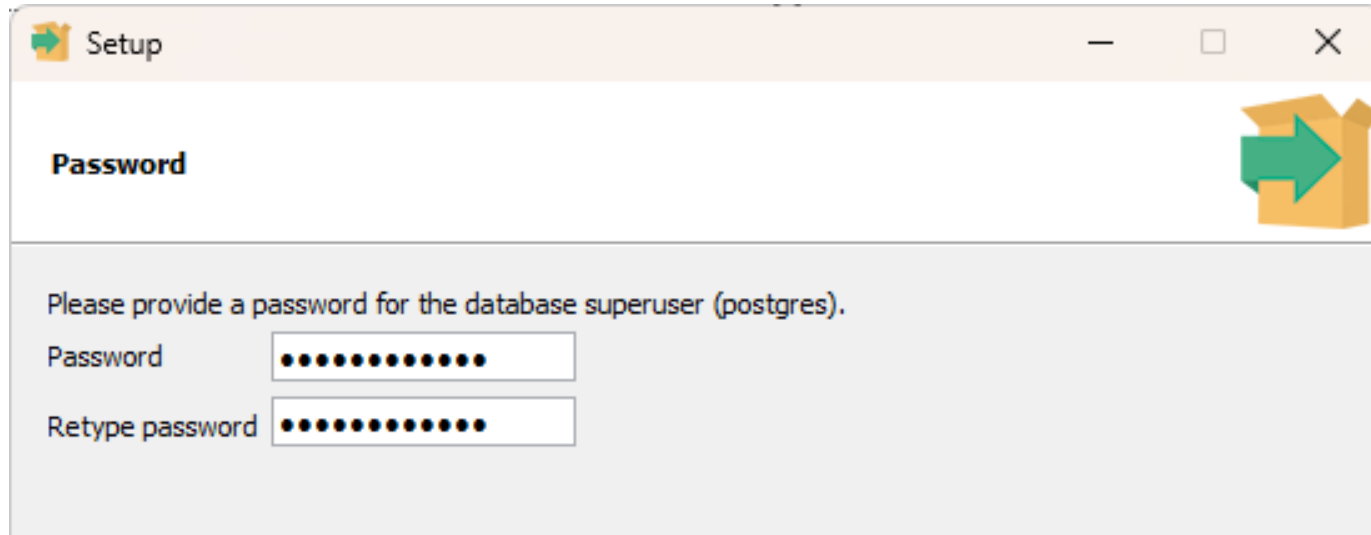Spring 2025

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

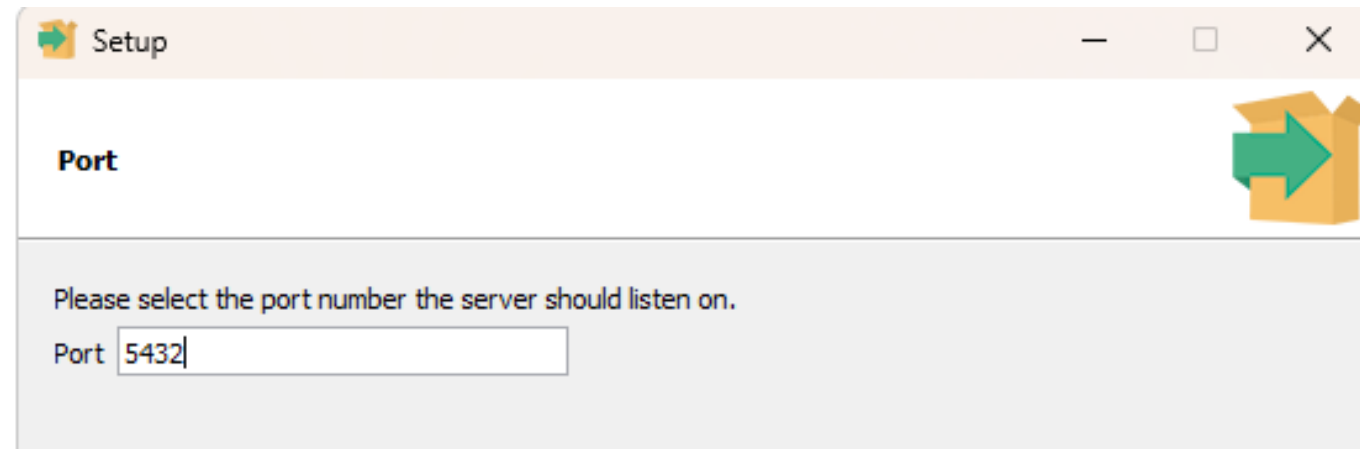   **2.3 It is wise to choose the same password for all PostgreSQL related programs**

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
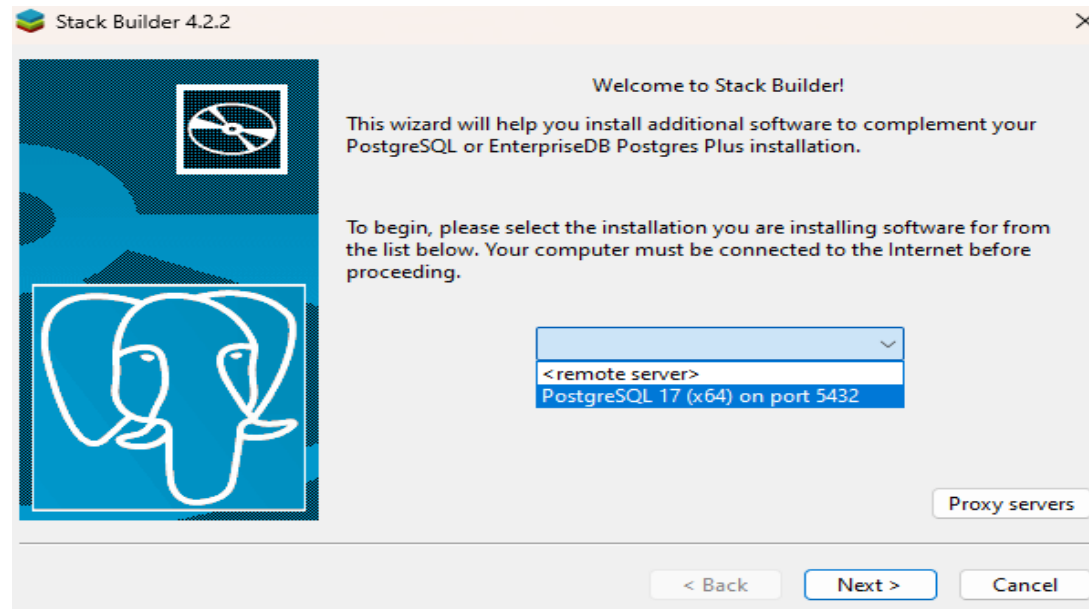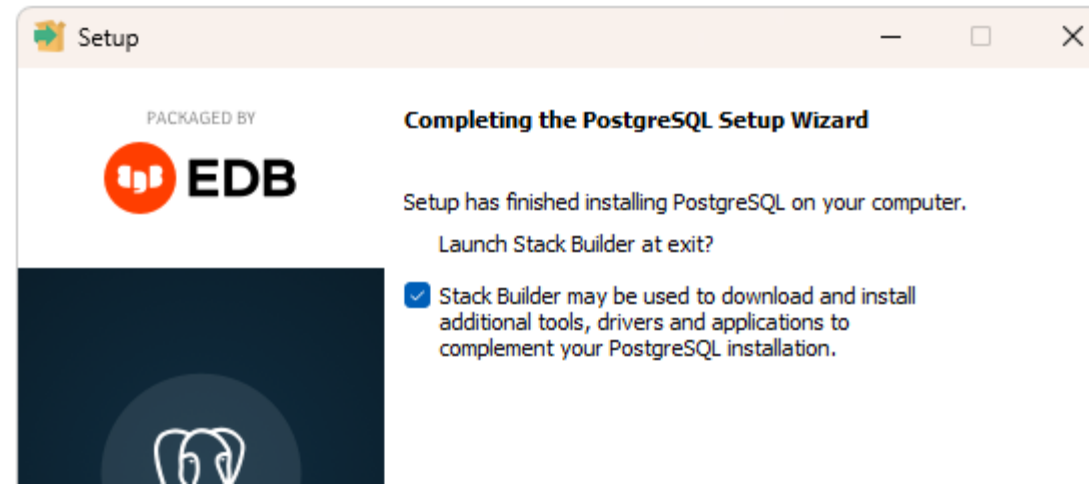

4. Accept default locale
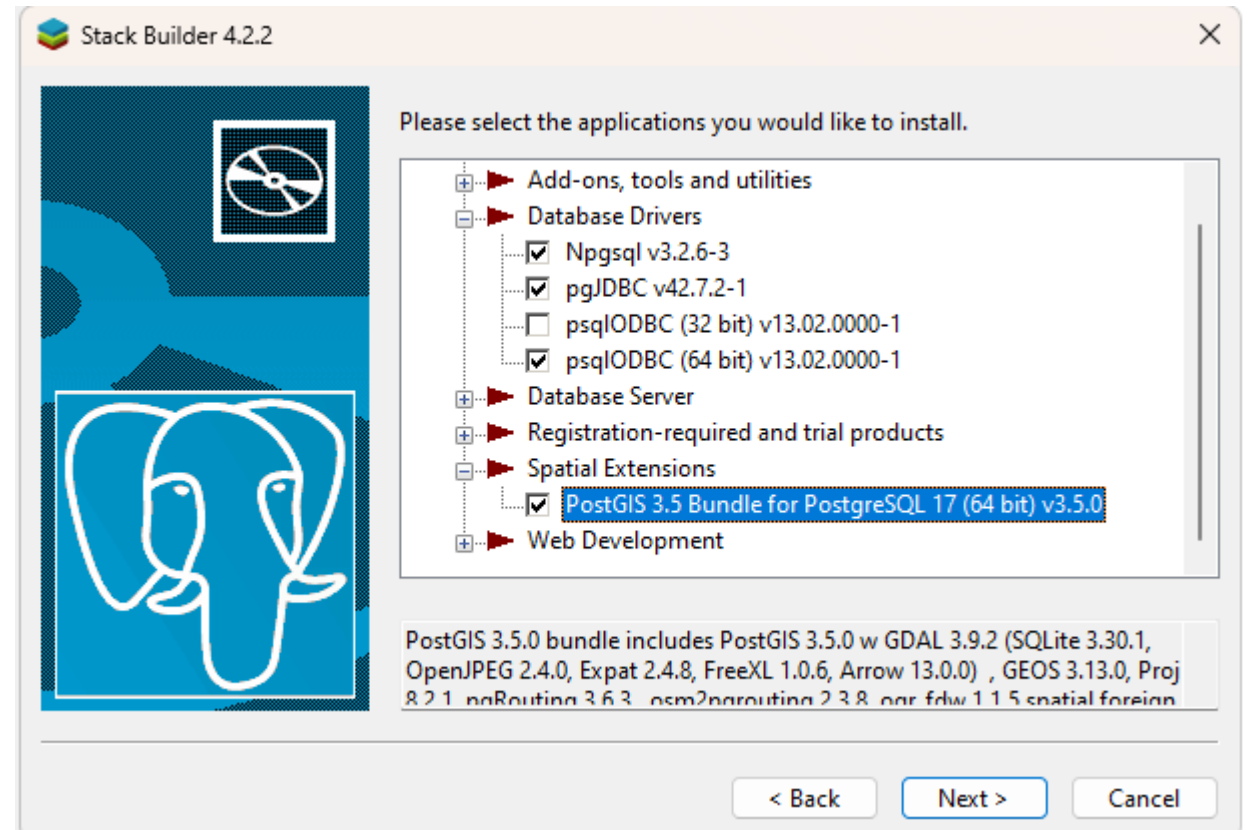5. Click 'next' to install the PostgreSQL

INSTALLATION

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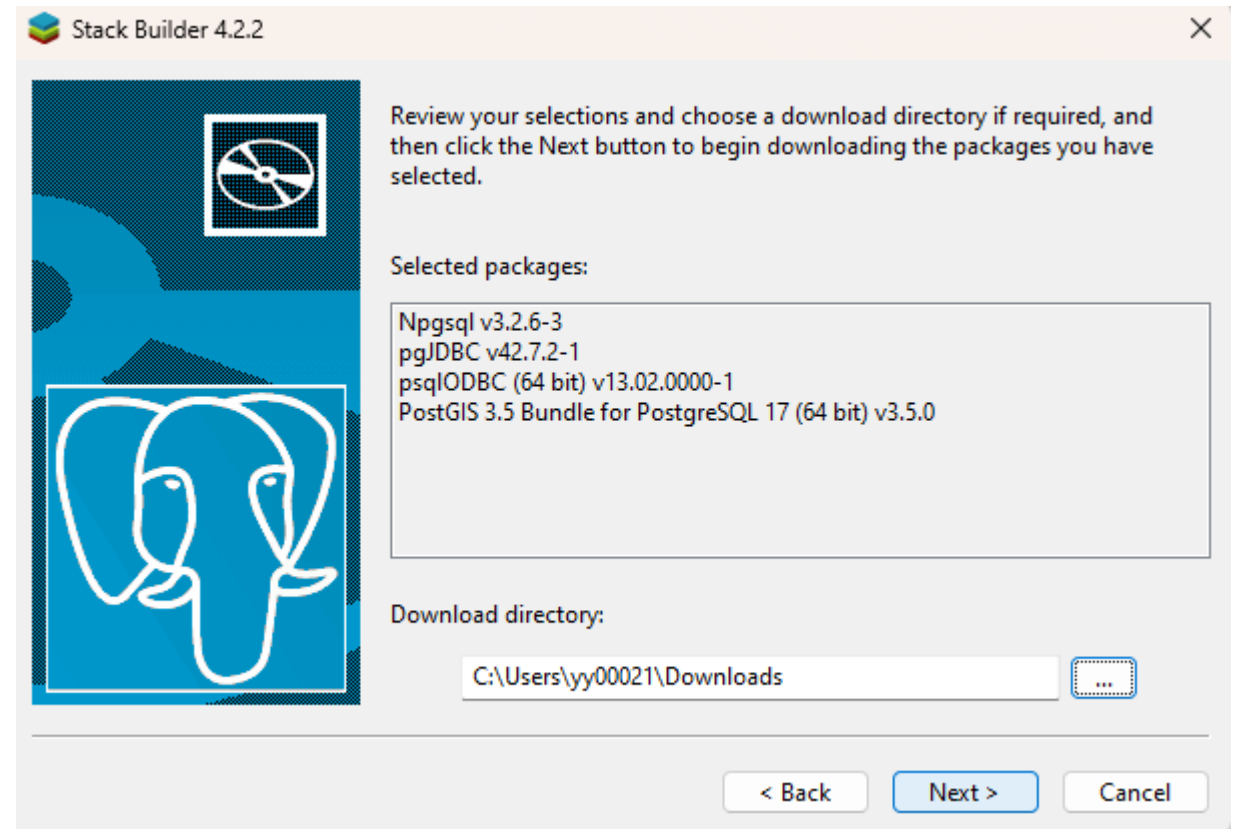
- In the stack builder, Select your port

INSTALLATION

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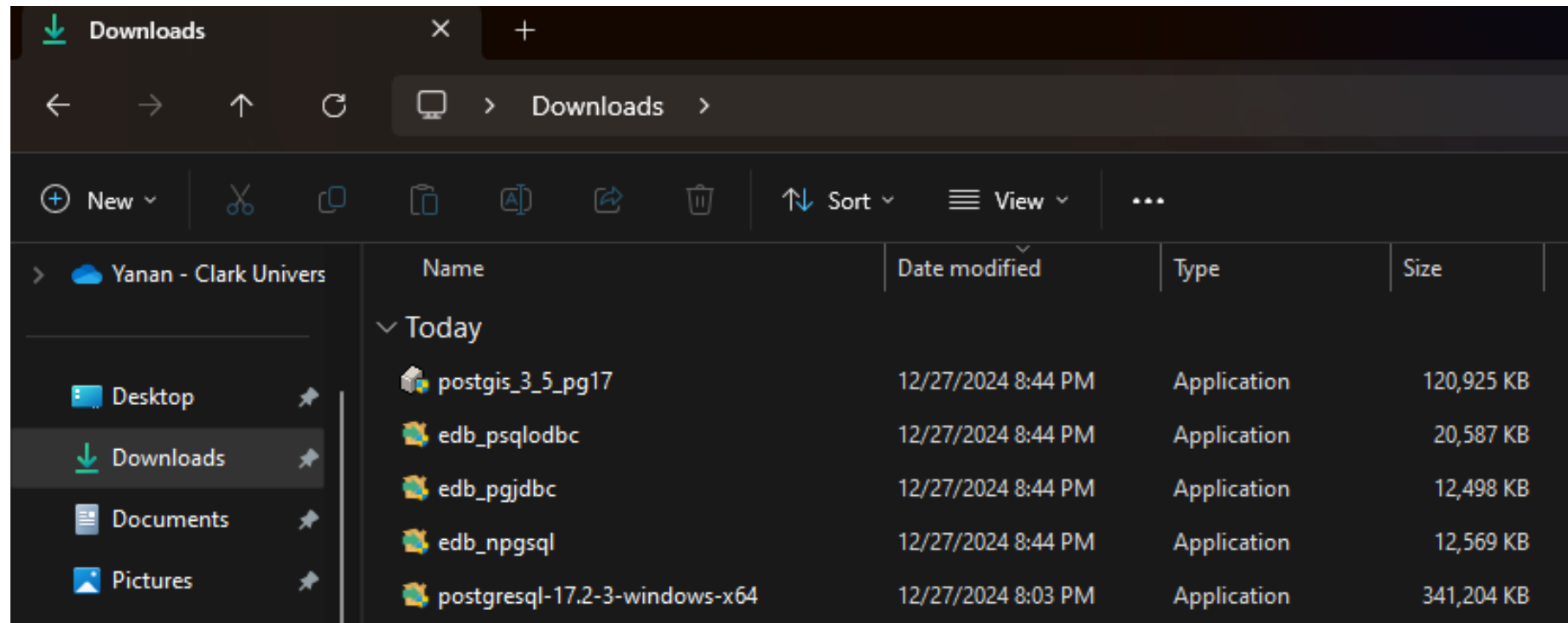
INSTALLATION

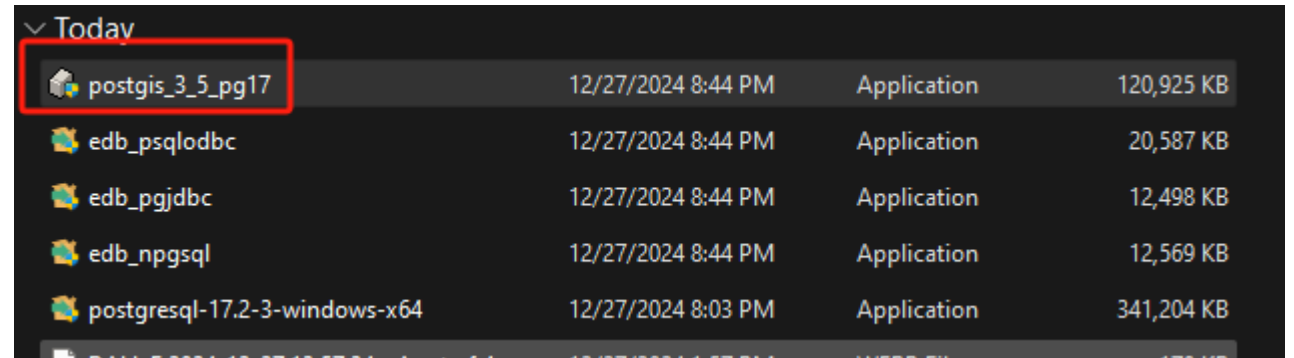- Set up the download directory to store the installer

INSTALLATION

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

INSTALLATION OF POSTGIS
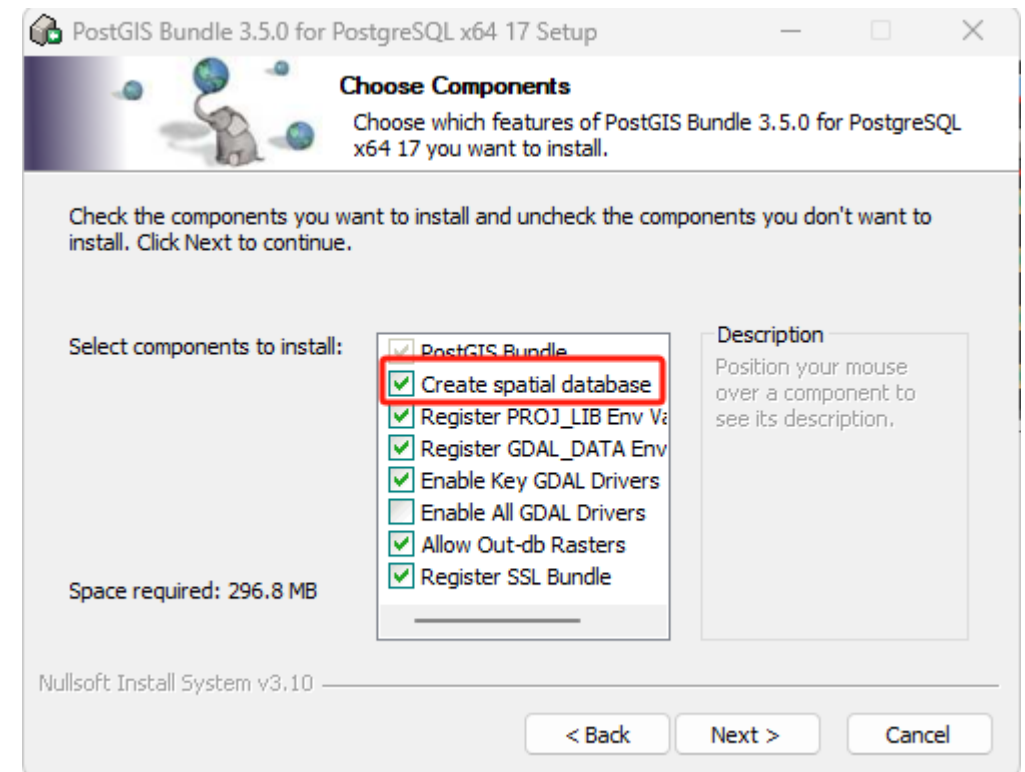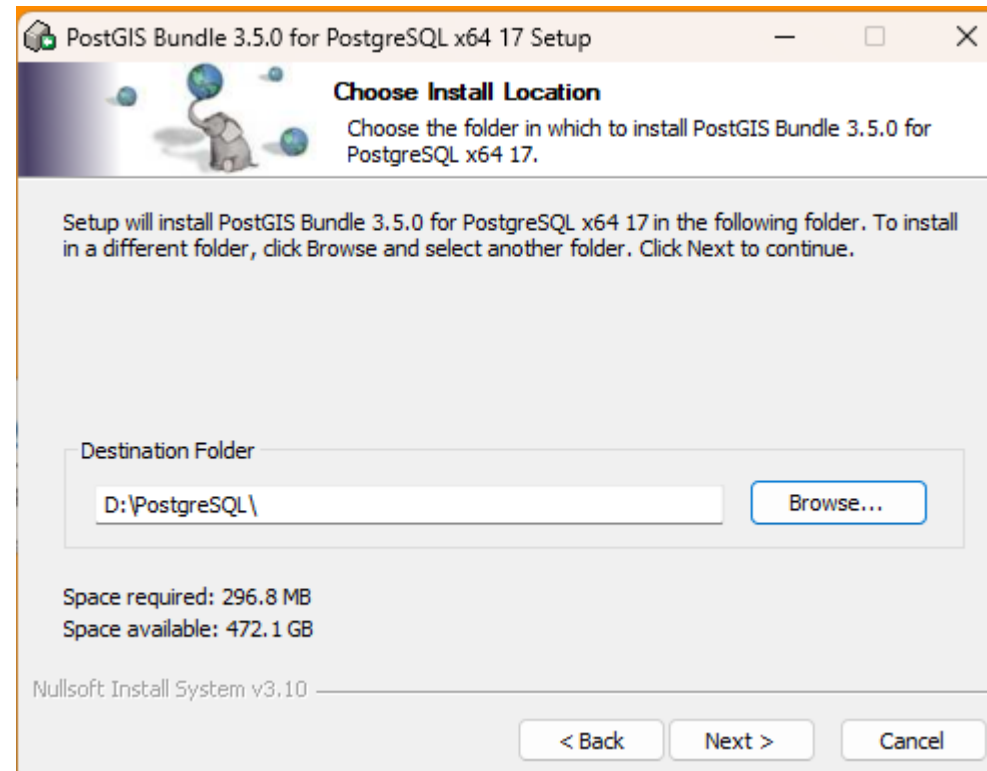
- Install PostGIS extension

INSTALLATION OF POSTGIS
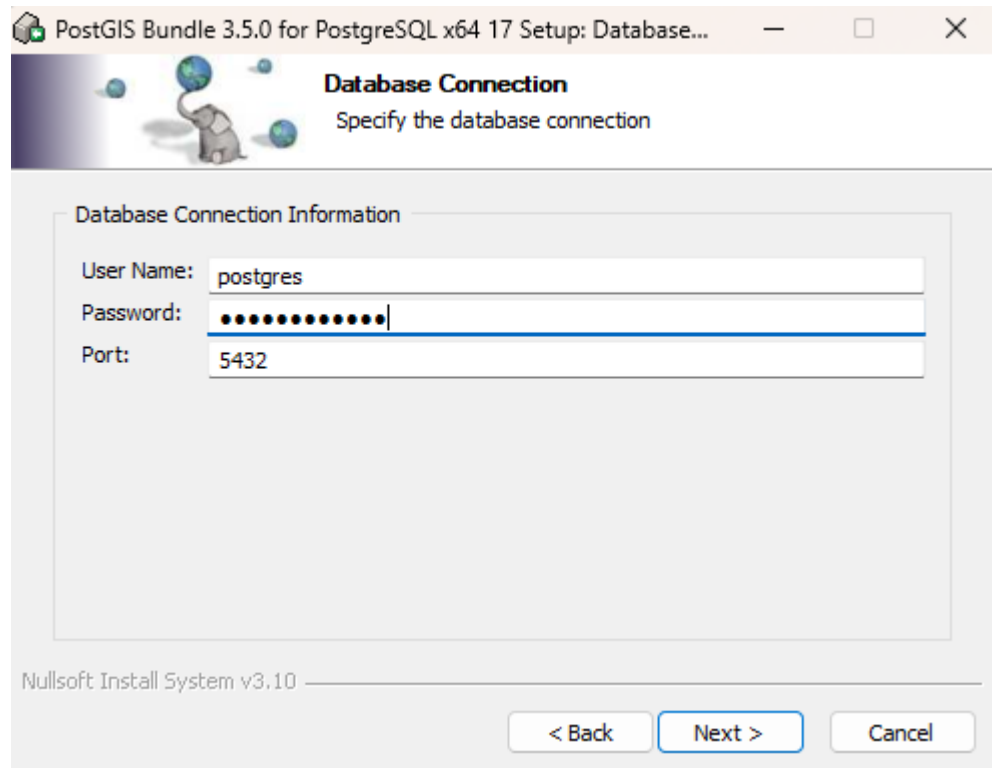
- Select 'Create Spatial Database'

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

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)

DATABASES UNDER SERVER

- The server contains two databases

  - One is the default postgres database

  - The other one is the database we created while installing PostgreSQL

  - If one of the servers has a red cross on it means that it is not connected

    - You can check on it to have access

    - Sometimes you are required to provide the password
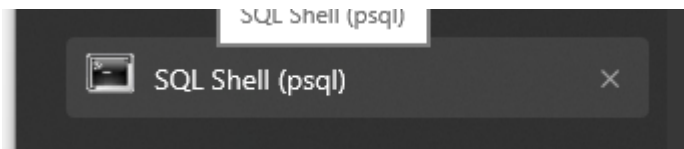
Object Explorer

- ∨ 🗒 Servers (1)
  - ∨ 🐘 PostgreSQL17
    - ∨ 🗄 Databases (3)
      - › 🗄 postgis_35_sample
      - › 🗄 postgres

CHECK EXTENSION UNDER

- The default extension is plpgsql

- Adding postgis extension through Query tool

- Type ''CREATE EXTENSION postgis'' in Query

- Then the postgis extension was created under Extensions
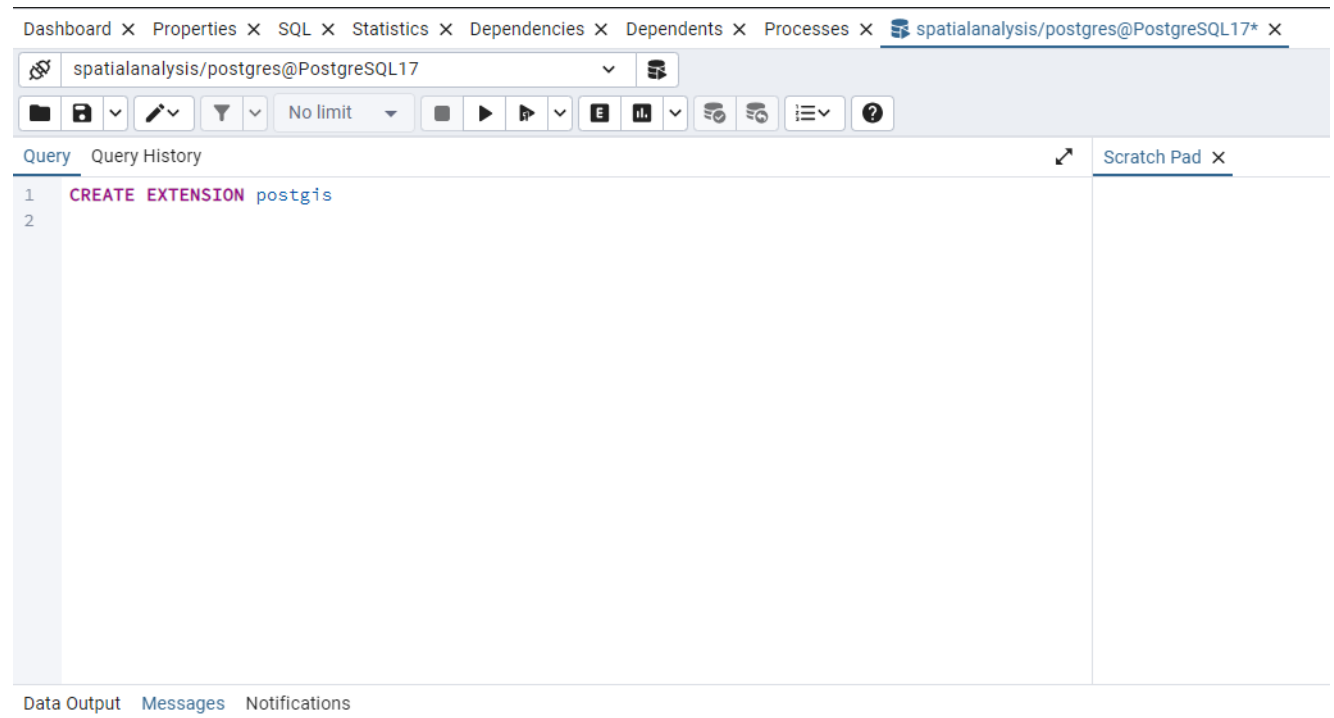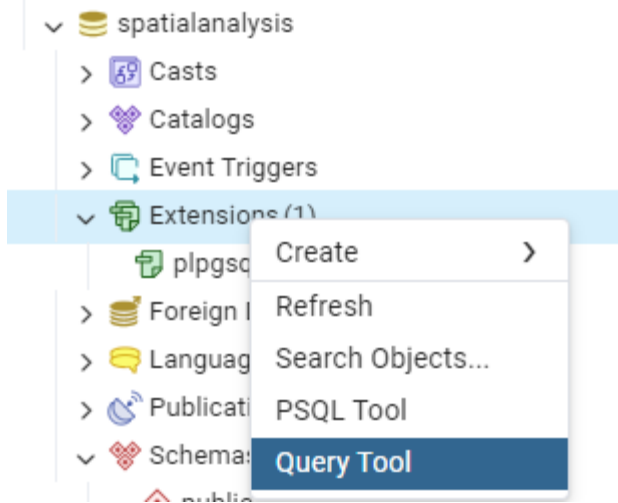
WHAT IF I DO NOT (WANT TO) USE PGADMIN

- PSQL
- Search SQL Shell in tool

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LAB SESSION

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