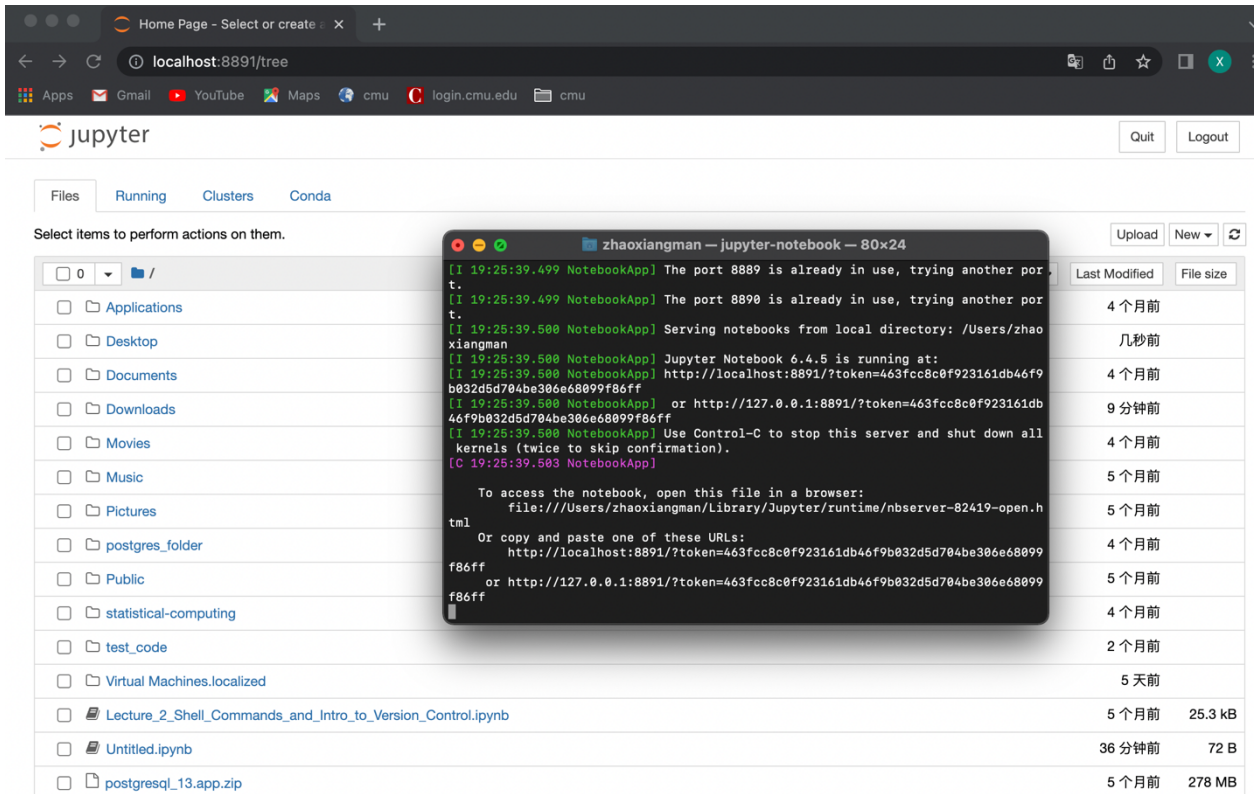


1. AnacondaPython3.x.Provideascreenshotshowingtheversion(usernamewas omitted to avoid reusability)

```
Last login: Sun Jan 23 19:11:55 on ttys001
(base) zhaoxiangman@Zhaos-Air ~ % python --version
Python 3.9.7
```

2. JupyterLab.Postascreenshotoftheappunning.



The screenshot displays the JupyterLab web interface in a browser window. The browser's address bar shows the URL `localhost:8891/tree`. The JupyterLab interface includes a top navigation bar with 'Quit' and 'Logout' buttons. Below this, there are tabs for 'Files', 'Running', 'Clusters', and 'Conda'. The 'Files' tab is selected, showing a file tree on the left with folders like 'Applications', 'Desktop', 'Documents', 'Downloads', 'Movies', 'Music', 'Pictures', 'postgres_folder', 'Public', 'statistical-computing', 'test_code', 'Virtual Machines.localized', and files like 'Lecture_2_Shell_Commands_and_Intro_to_Version_Control.ipynb', 'Untitled.ipynb', and 'postgres_13.app.zip'. A terminal window is overlaid on the interface, showing the output of the `python --version` command, which is `Python 3.9.7`.

3. PostgreSQL DB. Post a screenshot for connecting to the database via the terminal/shell.

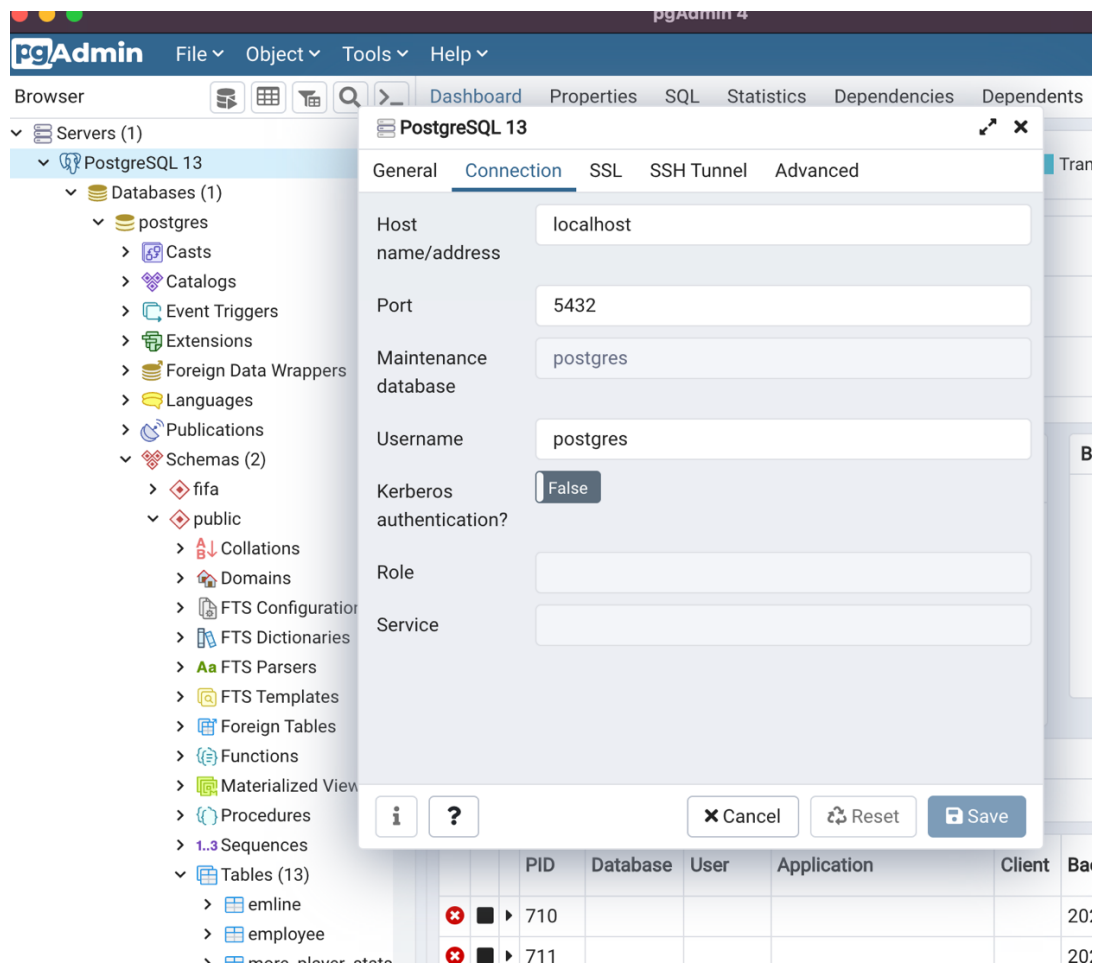
```

Last login: Sun Jan 23 19:28:05 on ttys000
/Library/PostgreSQL/13/scripts/runpsql.sh; exit
(base) zhaoxiangman@Zhaos-Air ~ % /Library/PostgreSQL/13/scripts/runpsql.sh; ex
t
Server [localhost]: localhost
Database [postgres]: postgres
Port [5432]: 5432
Username [postgres]: postgres
Password for user postgres:
psql (13.4)
Type "help" for help.

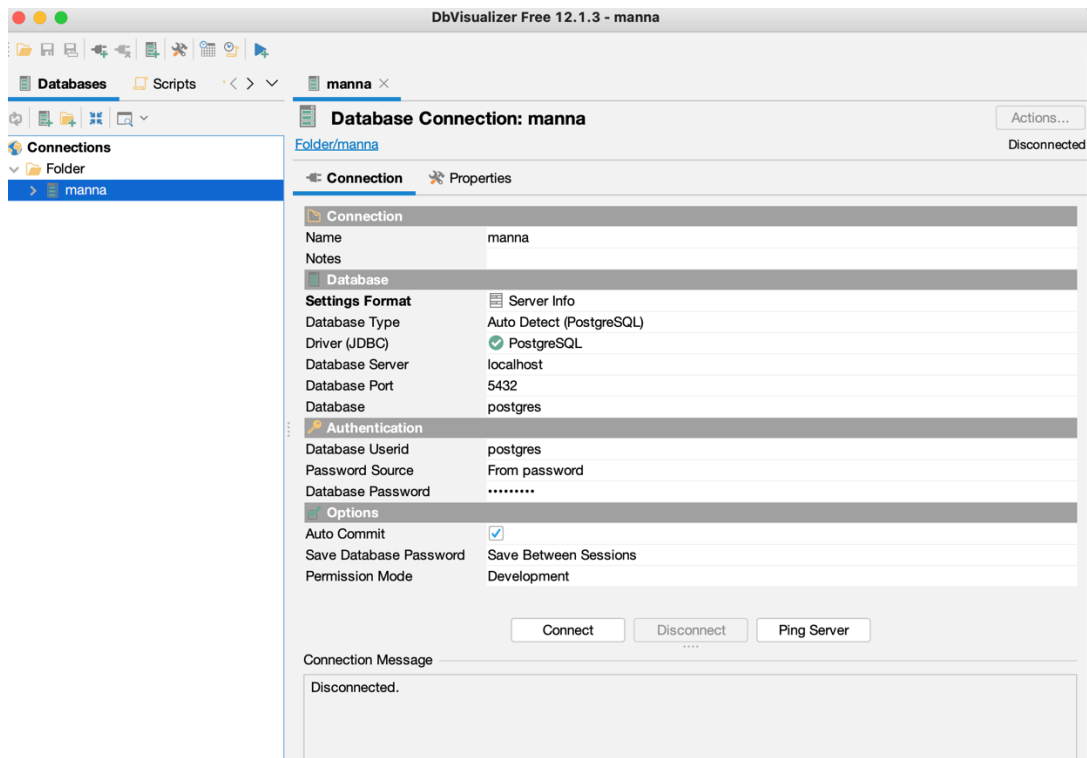
postgres=#

```

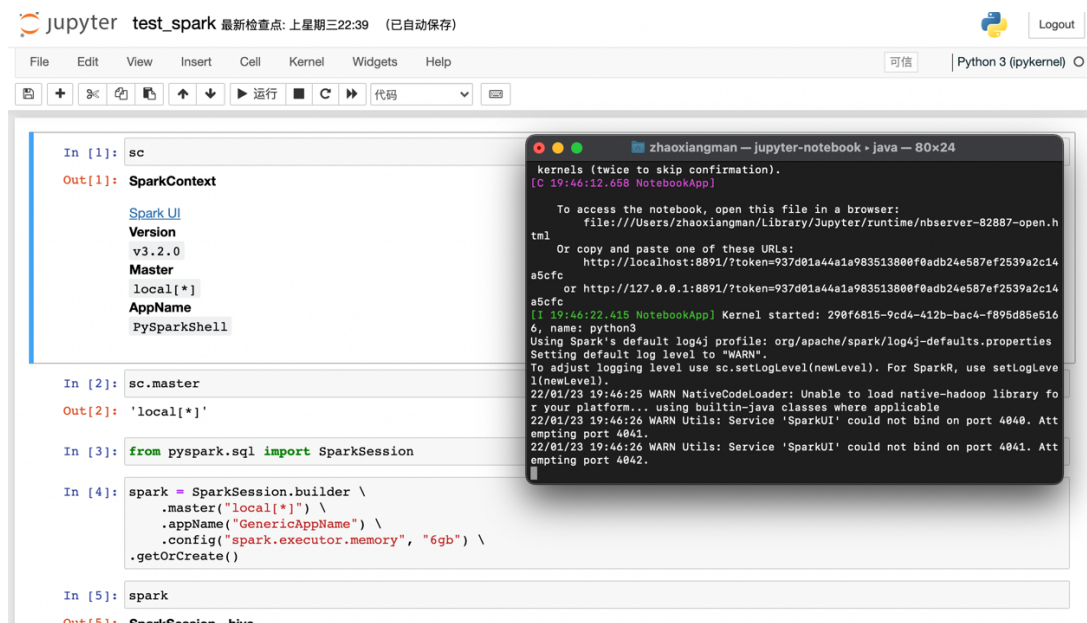
4. PgAdmin4. PgAdmin4 is a GUI for PostgreSQL DBMS. Post a screenshot showing a successful connection from PgAdmin4 to PostgreSQL DBMS



5. DbVisualizer. We will use DbVisualizer to view the relationships between database tables and verify data integrity. Post a screenshot of successful connection between DBVisualizer and your PostgreSQL database.



6. Apache Spark



7. TensorFlow

The screenshot displays a Jupyter Notebook environment. The top bar shows the Jupyter logo, the file name 'test_tensorflow', and the last check point '最新检查点: 上星期三22:42 (更改未保存)'. On the right, there is a Python logo and a 'Logout' button. Below the top bar is a menu bar with 'File', 'Edit', 'View', 'Insert', 'Cell', 'Kernel', 'Widgets', and 'Help'. A toolbar contains icons for file operations, a '可信' (Trusted) status indicator, and a dropdown menu showing 'Python 3 (pykernel)'.

The main area of the notebook shows two code cells. The first cell contains the following code:

```
In [1]: import tensorflow as tf
        print("TensorFlow version:", tf.__version__)
```

The output of this cell is 'TensorFlow version: 2.0.0'. The second cell is currently empty and shows 'In []:'.

Overlaid on the right side of the notebook is a terminal window titled 'zhaoxiangman - jupyter-notebook - python - 80x24'. It displays the following log messages:

```
[I 19:47:20.716 NotebookApp] The port 8891 is already in use, trying another port.
[I 19:47:20.716 NotebookApp] Serving notebooks from local directory: /Users/zhaoxiangman
[I 19:47:20.716 NotebookApp] Jupyter Notebook 6.4.7 is running at:
[I 19:47:20.716 NotebookApp] http://localhost:8892/?token=f5f9867a87caa7ca5580b16dbda7bfc20afa4a0537768c78
[I 19:47:20.716 NotebookApp] or http://127.0.0.1:8892/?token=f5f9867a87caa7ca5580b16dbda7bfc20afa4a0537768c78
[I 19:47:20.716 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 19:47:20.719 NotebookApp]

To access the notebook, open this file in a browser:
file:///Users/zhaoxiangman/Library/Jupyter/runtime/nbserver-82975-open.html
Or copy and paste one of these URLs:
http://localhost:8892/?token=f5f9867a87caa7ca5580b16dbda7bfc20afa4a0537768c78
or http://127.0.0.1:8892/?token=f5f9867a87caa7ca5580b16dbda7bfc20afa4a0537768c78
[I 19:47:30.749 NotebookApp] Kernel started: 5ee8e5fa-2b4f-4904-8920-29a089d76a6b, name: python3
```