

# Connecting with Python

This guide explains how to connect a Python application to a TimescaleDB database using the `psycopg2-binary` package. It covers environment setup, configuration, and execution of a simple query to test connectivity.

## Variables

To connect to a TimescaleDB database, you only need **one environment variable** — the connection URI.

Variable	Description	Purpose
<code>TIMESCALE_URI</code>	Full TimescaleDB (PostgreSQL-compatible) connection string from the Elestio service overview	Provides all credentials and connection details in a single URI

A typical URI format looks like:

```
postgresql://<USER>:<PASSWORD>@<HOST>:<PORT>/<DATABASE>
```

You can find the details needed in the URI from the **Elestio service overview** details. Copy and replace the variables carefully in the URI example provided above.



timescaledb-gi7jy

TimescaleDB

Cluster

Running

Open terminal

Delete cluster

Add node

Overview

Nodes

Backups

Audit

Termination protection

Disabled. VM can be powered off and terminated.

Protection deactivated



Auto-Failover

Enabled. In case of failure, the cluster will automatically attempt to recover

Auto-Failover activated



Node

1 Primary Node

Database Admin

Display your database credentials

Hide DB Credentials

Host

timescaledb-gi7jy-u7774.vm.elestio.app



Port

25432



User

postgres



Password

\*\*\*\*\*

Show password



CLI

PGPASSWORD=\*\*\*\*\* psql --host=timescaledb-gi7jy-u7774.vm.elestio.app --port=25432 --username=postgres

Show password



# Prerequisites

## Install Python

Check if Python is installed:

```
python --version
```

If not installed, download it from <https://python.org>.

## Install `psycopg2-binary`

Install the PostgreSQL driver for Python:

```
pip install psycopg2-binary
```

# Code

Once all prerequisites are set up, create a new file named `tdb.py` and add the following code and replace the `TIMESCALE_URI` with actual link or in environment setup as you wish:

```
import psycopg2
import os

def get_db_version():
    try:
        # Use the TimescaleDB URI from environment variable
        connection_uri = os.getenv('TIMESCALE_URI', 'POSTGRES_URL')
        db_connection = psycopg2.connect(connection_uri)
        db_cursor = db_connection.cursor()
        db_cursor.execute('SELECT VERSION()')
        db_version = db_cursor.fetchone()[0]
        return db_version

    except Exception as e:
        print(f"Database connection error: {e}")
        return None

    finally:
        if 'db_cursor' in locals():
            db_cursor.close()
        if 'db_connection' in locals():
            db_connection.close()

def display_version():
    version = get_db_version()
    if version:
        print(f"Connected to TimescaleDB: {version}")

if __name__ == "__main__":
    display_version()
```

“ **Tip:** Save your URI in an `.env` file or set it in your terminal session like this:

```
export TIMESCALE_URI=postgresql://user:password@host:port/database
```

To execute the script, open the terminal or command prompt and navigate to the directory where `tdb.py`. Once in the correct directory, run the script with the command

```
python tdb.py
```

If the connection is successful, you'll see:

```
Connected to TimescaleDB: PostgreSQL 14.13 (Debian 14.13-1.pgdg120+1) on x86_64-pc-linux-gnu,  
compiled by gcc (Debian 12.2.0-14) 12.2.0, 64-bit
```

---

Revision #1

Created 2025-05-13 06:58:22 UTC

Updated 2025-05-13 07:01:04 UTC