

Chichi's Learning Materials

SQL Querying with Go

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Abstract

The goal of these materials is to familiarize the student with SQL database querying techniques in Go. To this end, we are going to write a very similar thing over and over again.

1 Initial setup

In this section, we are going to set up a PostgreSQL instance in a Docker container and populate it with data from the Northwind Traders database, which is an example database created by Microsoft.

Download this file to a local directory, e. g. `~/working/northwind/northwind.sql`. In the same directory, create a file named `docker-compose.yml` with the following contents:

```
services:
  db:
    image: "postgres:17"
    environment:
      POSTGRES_DB: northwind
      POSTGRES_USER: postgres
      POSTGRES_PASSWORD: postgres
    volumes:
      - "pg_data:/var/lib/postgres/data"
      - "./northwind.sql:/docker-entrypoint-initdb.d/northwind.sql"
      - "./files:/files"

    ports:
      - "5433:5432"

volumes:
  pg_data: {}
```

In a terminal window, `cd` into the directory containing `docker-compose.yml` and `northwind.sql` and run:

```
docker compose up
```

If everything goes correct, you should be able to connect to the database using `psql` or o GUI, like TablePlus or DBeaver on port 5433:

```
$ psql "postgres://postgres:postgres@localhost:5433/northwind"
psql (17.2 (Debian 17.2-1.pgdg120+1))
Type "help" for help.
```

```
northwind=#
```

2 Service pattern: querying for a single record