gerassimos remove the dgs19 from paths

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2 contributors

class: center, middle

Section 9 - Persistent Data and Volumes

3 Persistent Data - LAB

Objective:

In this LAB you are going to use a named volume and a bind mount to setup a postgres DB with the following configuration:

- postgres image: postgres:10 (official image)
- DB name: "db-test1"
- DB user: "db-user1"
- DB password: "db-pw1"
- Named volume: "db-data" to preserve the DB data after the container is deleted
- Bind mount: `init.sql:/docker-entrypoint-initdb.d/init.sql` to init the DB

- init.sql: init sql script to create a table "person" with the following columns:
  - ID [int]
  - last_name [text]
  - first_name [text]
- container "DNS" name: "postgres10"
- virtual bridge network: `net-db`
- Setup a second container "pgadmin" (DB web client) to access the postgres DB
- Use the minimal configuration possible for the second "pgadmin" container
- The postgres container should not be accessible from the Docker host
- The "pgadmin" container should be accessible from the Docker host port 8080

Key points:

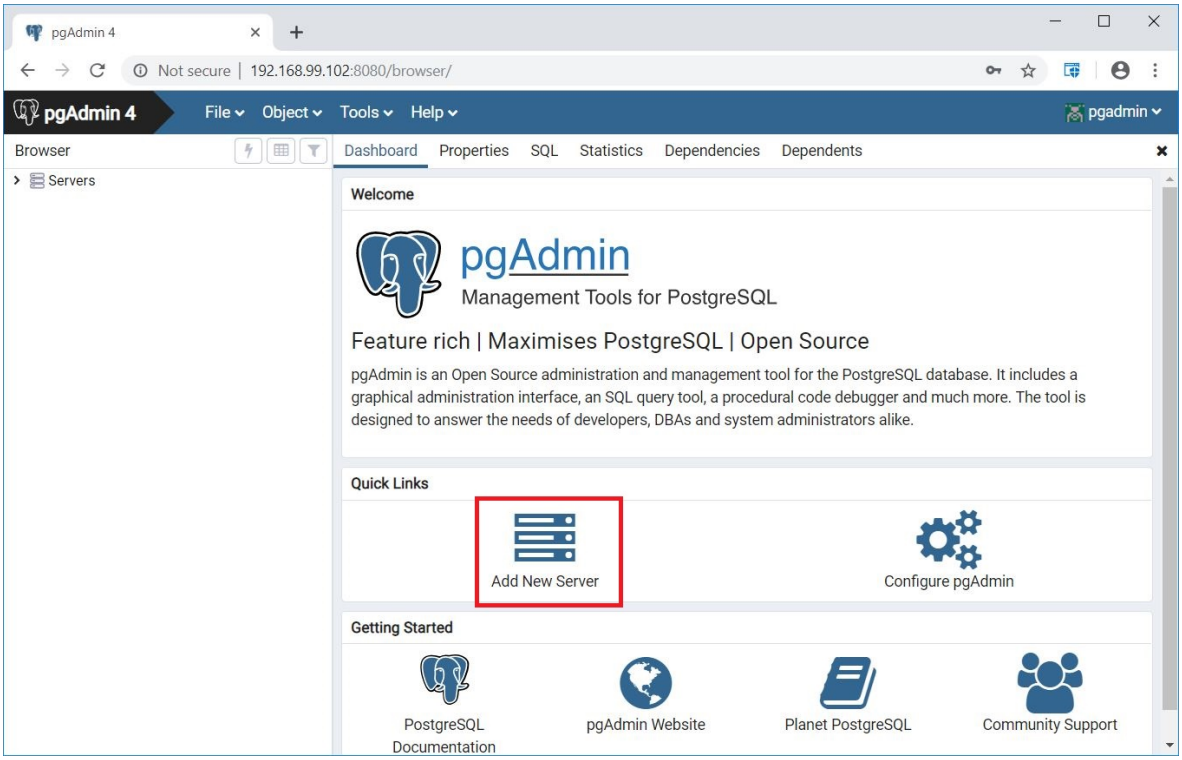
- From the official documentation of the postgres Docker image find:
  - Which are the environment variables to use to setup a default database, DB user and DB password.
  - Which is the data directory of postgres. This will be used for the named volume.
  - Where to place a sql script to initialize the DB. This will be used for the bind mount.
- From Docker hub find the most popular pgadmin image. Follow the instructions from the related Docker Hub page to create a running container. The "pgadmin" container should have access to the postgres container.
- From the WEB UI of pgadmin access the postgres DB.
- [optionally] Execute a psql command on the postrges container to list the tables of the "db-test1" DB.

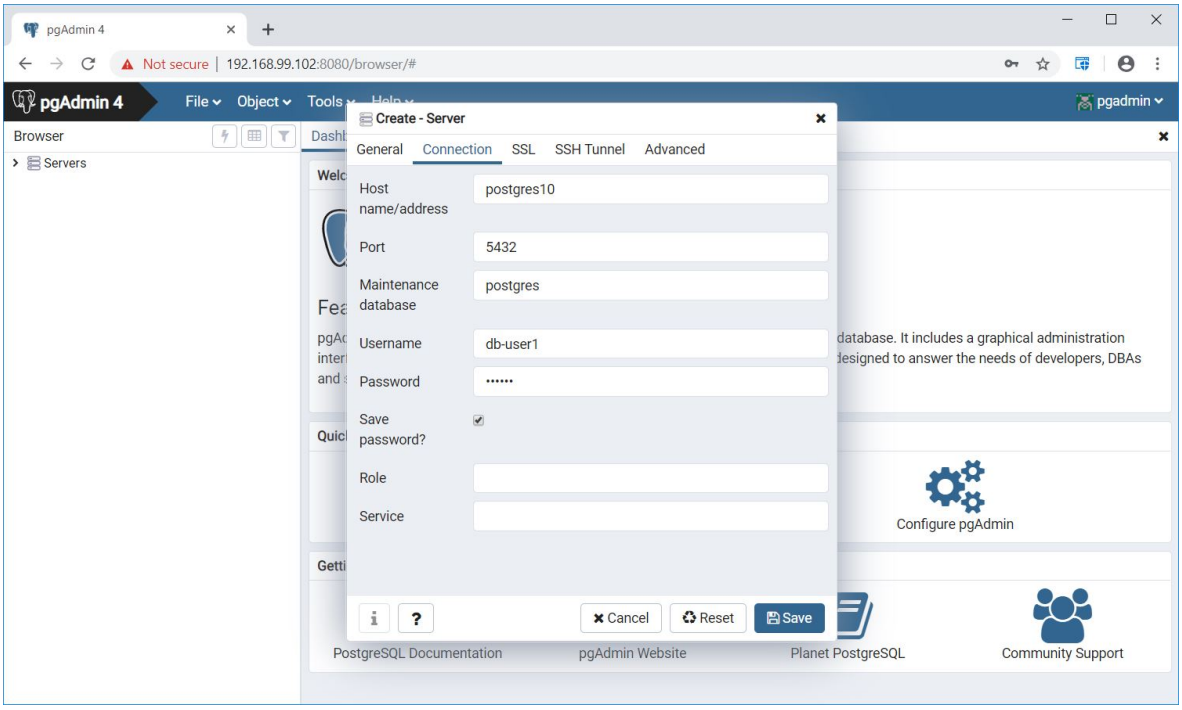
Solution

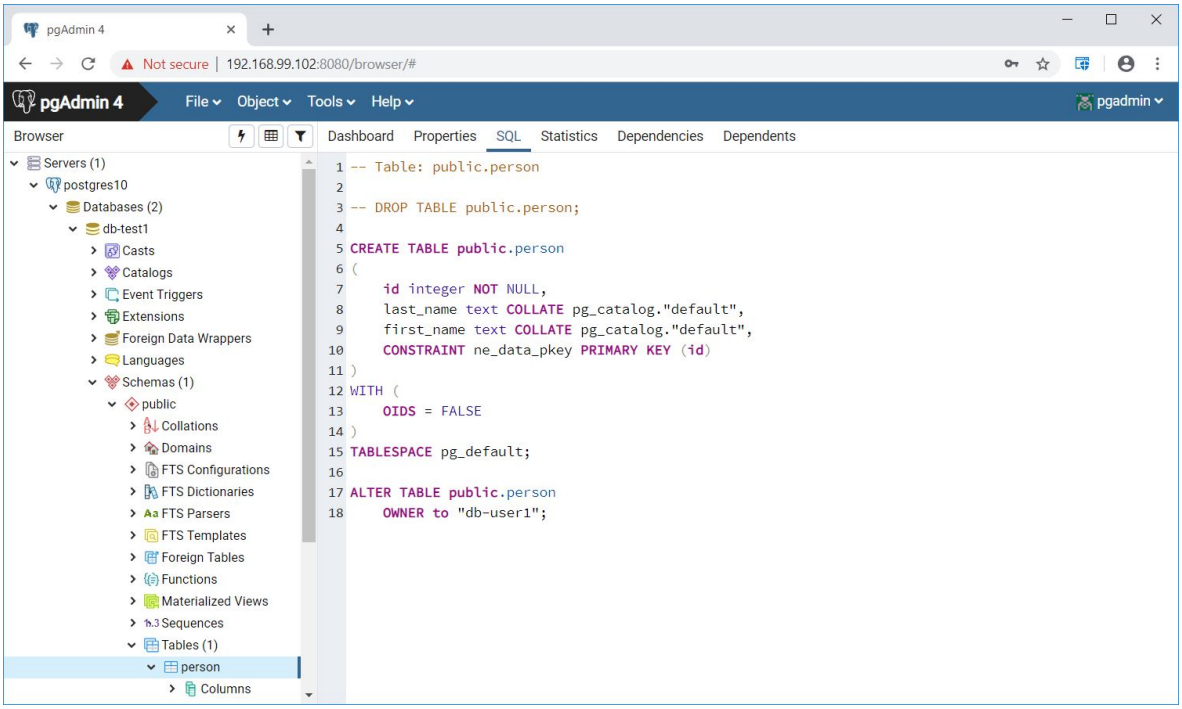
```
# cd  resources/volume-lab-1
# docker network create net-db
# docker container run -e POSTGRES_DB=db-test1 \
  -e POSTGRES_USER=db-user1 -e POSTGRES_PASSWORD=db-pw1 \
  -v db-data:/var/lib/postgresql/data \
  -v $(pwd)/init.sql:/docker-entrypoint-initdb.d/init.sql \
  --net net-db -d \
  --name postgres10 postgres:10

# docker run -p 8080:80 \
  -e PGADMIN_DEFAULT_EMAIL=pgadmin \
  -e PGADMIN_DEFAULT_PASSWORD=pgadmin \
  --net net-db -d \
  --name pgadmin4 dpage/pgadmin4:4.6
```

```
# docker exec postgres10  psql -U db-user1 -d db-test1 -c "\dt"
          List of relations
 Schema |  Name   | Type  |  Owner
--------+---------+-------+----------
 public | ne_data | table | db-user1
(1 row)
```

- 

- 

- 
pgAdmin 4
Not secure | 192.168.99.102:8080/browser/#
pgAdmin 4
File
Object
Tools
Help
pgadmin
Browser
Dashboard
Properties
SQL
Statistics
Dependencies
Dependents
Servers (1)
postgres10
Databases (2)
db-test1
Casts
Catalogs
Event Triggers
Extensions
Foreign Data Wrappers
Languages
Schemas (1)
public
Collations
Domains
FTS Configurations
FTS Dictionaries
FTS Parsers
FTS Templates
Foreign Tables
Functions
Materialized Views
Sequences
Tables (1)
person
Columns
-- Table: public.person
-- DROP TABLE public.person;
CREATE TABLE public.person
(
id integer NOT NULL,
last_name text COLLATE pg_catalog."default",
first_name text COLLATE pg_catalog."default",
CONSTRAINT ne_data_pkey PRIMARY KEY (id)
)
WITH (
OIDS = FALSE
)
TABLESPACE pg_default;
ALTER TABLE public.person
OWNER to "db-user1";