

AVALIAÇÃO 9 – DOCKER COMPOSE

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>>> Conceito do Docker Compose

Quando falamos de um sistema mais complexo que tenha a necessidade de usar vários containers diferentes, usar apenas o Docker convencional por meio de comandos pode ser confuso e acabar gerando algum erro. Para resolver esse problema, podemos utilizar o Docker Compose. Nele, é possível configurar os serviços necessários em um único arquivo YAML, criando e iniciando todos com apenas um comando, o que facilita muito na hora de desenvolver um sistema mais robusto.

>>> Tutorial

1. Instalação do Docker compose dentro do ambiente de teste

```
renan@renanzada:~/ComposeTestes$ sudo apt install docker-compose
Lendo listas de pacotes... Pronto
Construindo árvore de dependências
Lendo informação de estado... Pronto
Os pacotes adicionais seguintes serão instalados:
  containerd.io python3-attr python3-cached-property python3-distutils
  python3-docker python3-dockerpty python3-docopt
  python3-importlib-metadata python3-jjsonschema python3-lib2to3
  python3-more-itertools python3-pyrsistent python3-setuptools
  python3-texttable python3-websocket python3-zipp
Pacotes sugeridos:
  python-attr-doc python-jjsonschema-doc python-setuptools-doc
Pacotes recomendados:
  docker.io
Os NOVOS pacotes a seguir serão instalados:
  docker-compose python3-attr python3-cached-property python3-distutils
  python3-docker python3-dockerpty python3-docopt
  python3-importlib-metadata python3-jjsonschema python3-lib2to3
  python3-more-itertools python3-pyrsistent python3-setuptools
  python3-texttable python3-websocket python3-zipp
Os pacotes a seguir serão atualizados:
  containerd.io
1 pacotes atualizados, 16 pacotes novos instalados, 0 a serem removidos e 32
não atualizados.
É preciso baixar 28,7 MB de arquivos.
Depois desta operação, 6.172 kB adicionais de espaço em disco serão usados.
Você quer continuar? [S/n] S
```

2. Criação do arquivo docker-compose.yml dentro do ambiente de teste

```
docker-compose.yml x
docker-compose.yml
1  version: '3'
2
3  services:
4    teste-postgres-compose:
5      image: postgres
6      environment:
7        POSTGRES_PASSWORD: "Postgres2019!"
8      ports:
9        - "15432:5432"
10     volumes:
11       - /home/renan/ComposeTestes/PostgreSQL:/var/lib/postgresql/data
12     networks:
13       - postgres-compose-network
14
15     teste-pgadmin-compose:
16       image: dpage/pgadmin4
17       environment:
18         PGADMIN_DEFAULT_EMAIL: "emailreserva0589@gmail.com"
19         PGADMIN_DEFAULT_PASSWORD: "PgAdmin2019!"
20       ports:
21         - "16543:80"
22       depends_on:
23         - teste-postgres-compose
24       networks:
25         - postgres-compose-network
26
27     networks:
28       postgres-compose-network:
29         driver: bridge
```

3. Aplicando o comando de execução do arquivo docker-compose, para baixar e criar a imagem postgres, executando um container para a mesma.

```
renan@renanzada:~/ComposeTestes$ sudo docker-compose up -d
Creating network "composetestes_postgres-compose-network" with driver "bridge"
Pulling teste-postgres-compose (postgres:...)
latest: Pulling from library/postgres
025c56f98b67: Pull complete
26dc25c16f4e: Pull complete
a032d8a894de: Pull complete
40dba7d35750: Pull complete
8ebb44a56070: Pull complete
813fd6cf203b: Pull complete
7024f61bf8f5: Pull complete
23f986b322e8: Pull complete
1fb05ff7a8d6: Pull complete
74afc7d9bc5c: Pull complete
7c2c7eebef2f: Pull complete
bdd9df7f1d37: Pull complete
33d269a3a052: Pull complete
Digest: sha256:10d6e725f9b2f5531617d93164f4fc85b1739e04cab62cbfbfb81ccd866513b8
Status: Downloaded newer image for postgres:latest
Pulling teste-pgadmin-compose (dpage/pgadmin4:...)
latest: Pulling from dpage/pgadmin4
ca7dd9ec2225: Pull complete
239c7c08c598: Pull complete
96528202a796: Pull complete
```

```

status: Downloaded newer image for postgres:latest
Pulling teste-pgadmin-compose (dpage/pgadmin4)...
atest: Pulling from dpage/pgadmin4
a7dd9ec2225: Pull complete
39c7c08c598: Pull complete
6528202a796: Pull complete
52eac98d4d0: Pull complete
96dff0917f8: Pull complete
669cc6c32bc: Pull complete
7eb4951c967: Pull complete
ec496e62b87: Pull complete
376692967d7: Pull complete
6881266b9c2: Pull complete
b35cc859e08: Pull complete
613bbab0161: Pull complete
d91e12622a9: Pull complete
e80feca838b: Pull complete
Digest: sha256:503f7328901d772c46c819a2e8dc50e0a8755a6cb3d81b2d80c76b9aee35e8
status: Downloaded newer image for dpage/pgadmin4:latest
Creating composetestes_teste-postgres-compose_1 ... done
Creating composetestes_teste-pgadmin-compose_1 ... done
renan@renanzada:~/ComposeTestes$ sudo docker network ls

```

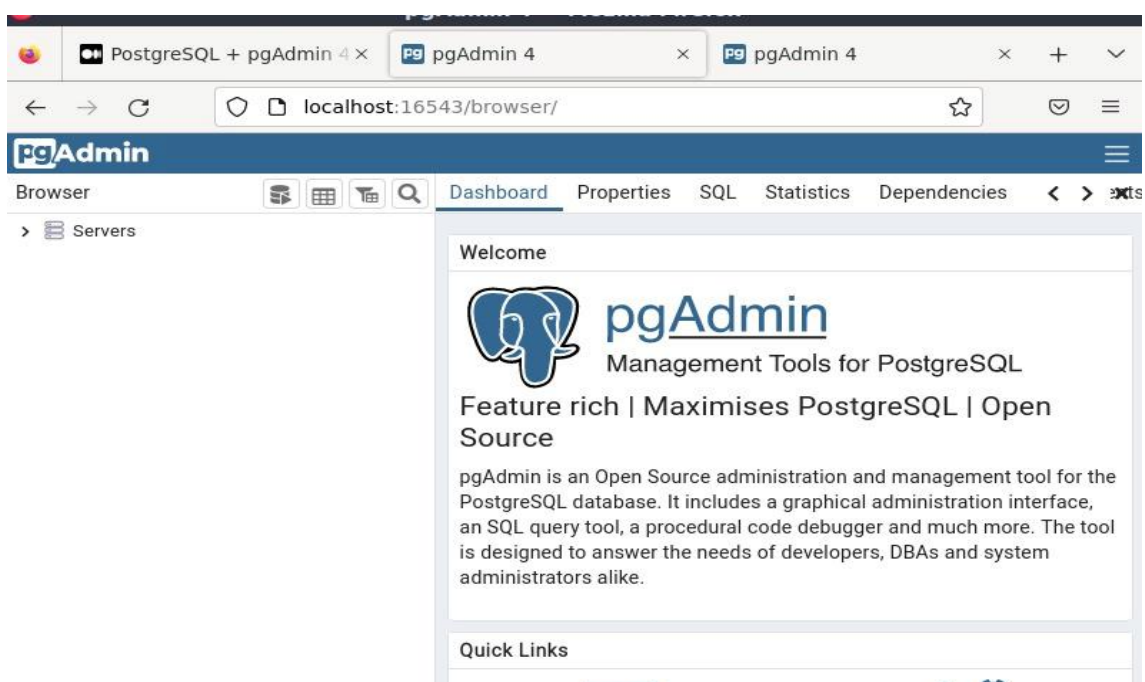
4. Confirmando a criação da rede postgres e tbm os containers criados e status

```

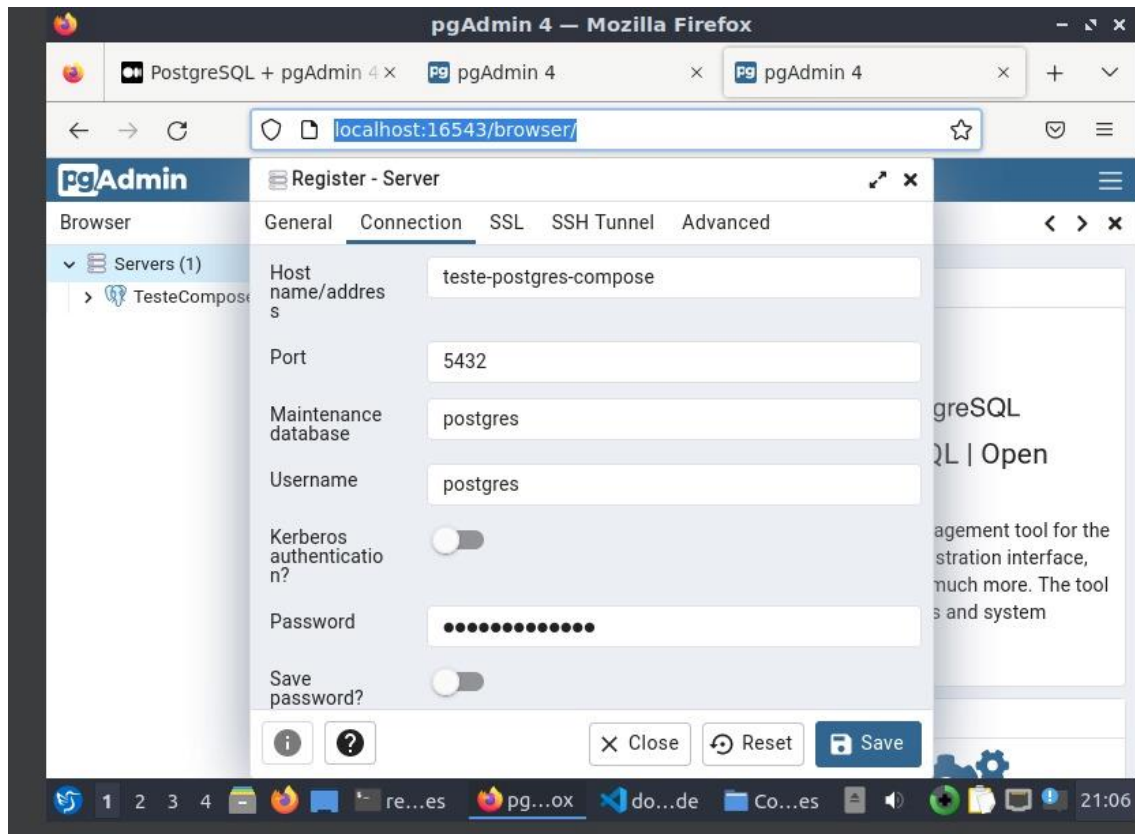
renan@renanzada:~/ComposeTestes$ docker network ls
NETWORK ID          NAME                                     DRIVER              SCOPE
50c4d7ec6128        bridge                                bridge              local
a7f78bd28255        composetestes_postgres-compose-network bridge              local
8fc0e983e319        host                                 host                local
32278cc94608        none                                 null                local
renan@renanzada:~/ComposeTestes$ docker compose ps
NAME                                COMMAND                                SERVICE
STATUS                              PORTS                                SERVICE
composetestes_teste-pgadmin-compose_1  "/entrypoint.sh"                    teste-pgadm
in-compose                            running                             443/tcp, 0.0.0.0:16543->80/tcp, :::16543->80/tcp
composetestes_teste-postgres-compose_1  "docker-entrypoint.s..."          teste-postg
res-compose                            running                             0.0.0.0:15432->5432/tcp, :::15432->5432/tcp
renan@renanzada:~/ComposeTestes$

```

5. Acessando o ambiente criado com: localhost:16543, usando e-mail e senha especificado no arquivo de criação docker-compose



6. Criando uma conexão servidor com cliente via browser



7. Conexão criada e funcionando normalmente

