Atividade 05 - Evidências
Aula 13/01/2025 PWD Criação BD MySql

Prompt 02

Como um programador de Banco de Dados, crie um Tutorial para instalar um Banco de Dados Mysql no Play with Docker. Crie um Dockerfile que cria uma imagem e em seguida cria um banco de dados chamado BD_ALUNOS com a senha de root kid_aluno e cria as tabelas TB_ALUNOS e TB_PROFESSORES.

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Criando o diretório mysql-docker e criando o arquivo Dockerfile dentro:

```
[node1] (local) root@192.168.0.13 ~
$ mkdir mysql-docker
[node1] (local) root@192.168.0.13 ~
$ cd mysql-docker
[node1] (local) root@192.168.0.13 ~/mysql-docker
$ touch Dockerfile
```

Abrindo o Dockerfile como um editor:

```
[node1] (local) root@192.168.0.13 ~/mysql-docker
$ vi Dockerfile
```

Adicionando conteúdo ao Dockerfile, utilizando a imagem oficial MySQL, definindo as variáveis de ambiente, copiando o script de inicialização para o diretório de inicialização do MySQL e expondo a porta padrão do MySQL(3306):

```
1
2 FROM mysql:latest
3
4 ENV MYSQL_ROOT_PASSWORD=kid_aluno
5 ENV MYSQL_DATABASE=BD_ALUNOS
6
7 COPY init.sql /docker-entrypoint-initdb.d/
8
9 EXPOSE 3306
```

Criando o script de inicialização init.sql:

```
[node1] (local) root@192.168.0.13 ~/mysql-docker
$ touch init.sql
```

Abrindo como um editor de texto:

```
[node1] (local) root@192.168.0.13 ~/mysql-docker
$ vi init.sql
```

Criando as tabelas TB_ALUNOS e TB_PROFESSORES no init.sql:

```
CREATE TABLE TB_ALUNOS (
  id INT AUTO_INCREMENT PRIMARY KEY,
  nome VARCHAR(100) NOT NULL,
  idade INT NOT NULL
);

CREATE TABLE TB_PROFESSORES (
  id INT AUTO_INCREMENT PRIMARY KEY,
  nome VARCHAR(100) NOT NULL,
  disciplina VARCHAR(100) NOT NULL
);
```

Construindo a imagem Docker:

```
[node1] (local) root@192.168.0.13 ~/mysql-docker
$ docker build -t mysql-alunos .
[+] Building 75.1s (7/7) FINISHED                                docker:default
 => [internal] load build definition from Dockerfile                      0.1s
 => => transferring dockerfile: 179B                                      0.0s
 => [internal] load metadata for docker.io/library/mysql:latest           2.3s
 => [internal] load .dockerignore                                         0.0s
 => => transferring context: 2B                                           0.0s
 => [internal] load build context                                         0.1s
 => => transferring context: 289B                                         0.0s
 => [1/2] FROM docker.io/library/mysql:latest@sha256:0255b469f0135a      72.3s
 => => resolve docker.io/library/mysql:latest@sha256:0255b469f0135a0      0.1s
 => => sha256:0255b469f0135a0236d672d60e3154ae2f4538 2.62kB / 2.62kB      0.0s
 => => sha256:8689c5f93826d949b43a4b7613f9216499694a 2.86kB / 2.86kB      0.0s
 => => sha256:56a8c14e14044b8ec7ffb4dd165c8dbe10d4c6 6.52kB / 6.52kB      0.0s
 => => sha256:2c0a233485c3a7b6cab556a9a9c2916ca9a3 49.10MB / 49.10MB      1.8s
 => => sha256:cb5a6a8519b2b1d789b65fe763238531f3456522a1 885B / 885B      0.5s
 => => sha256:570d30cf82c5e8cd5bde2c25ddc2d5c25e 983.00kB / 983.00kB      0.6s
 => => sha256:a841bff36f3c6803a0ea0497a2f21ed75fcc76 6.90MB / 6.90MB      1.1s
 => => sha256:80ba30c577823a1075c778315bd221b4052364 2.60kB / 2.60kB      1.1s
 => => sha256:5e49e1f26961569a4b36de1ed482bccbb9249ca5b2 340B / 340B      1.5s
 => => sha256:ced670fc7f1c77db06886a4b52dc4051543e 48.21MB / 48.21MB      5.2s
 => => sha256:0b9dc7ad7f03decfdeb7260a38115fa61c9d00a8bc 325B / 325B      1.8s
 => => sha256:1f87d67b89c62ad5e3961e9f730df83c062804 5.32kB / 5.32kB      2.3s
 => => sha256:cd0d5df9937b5e0d0634c76339346dfac141 69.09MB / 69.09MB      7.2s
 => => extracting sha256:2c0a233485c3a7b6cab556a9a9c2916ca9a3afc8c4      11.2s
 => => extracting sha256:cb5a6a8519b2b1d789b65fe763238531f3456522a13      0.0s
 => => extracting sha256:570d30cf82c5e8cd5bde2c25ddc2d5c25e9a38583f0      0.1s
 => => extracting sha256:a841bff36f3c6803a0ea0497a2f21ed75fcc7614e9f      1.7s
 => => extracting sha256:80ba30c577823a1075c778315bd221b405236429f27      0.0s
 => => extracting sha256:5e49e1f26961569a4b36de1ed482bccbb9249ca5b29      0.0s
 => => extracting sha256:ced670fc7f1c77db06886a4b52dc4051543eac07c0      10.5s
 => => extracting sha256:0b9dc7ad7f03decfdeb7260a38115fa61c9d00a8bca      0.0s
 => => extracting sha256:cd0d5df9937b5e0d0634c76339346dfac141def2ee      44.1s
 => => extracting sha256:1f87d67b89c62ad5e3961e9f730df83c0628049afd8      0.0s
 => [2/2] COPY init.sql /docker-entrypoint-initdb.d/                      0.1s
 => exporting to image                                                    0.1s
 => => exporting layers                                                   0.0s
 => => writing image sha256:40e012782b2471a889d5464f2670c2add13734a6      0.0s
 => => naming to docker.io/library/mysql-alunos                           0.0s

 1 warning found (use docker --debug to expand):
 - SecretsUsedInArgOrEnv: Do not use ARG or ENV instructions for sensitive
data (ENV "MYSQL_ROOT_PASSWORD") (line 4)
```

Executando o contêiner:

```
[node1] (local) root@192.168.0.13 ~/mysql-docker
$ docker run --name mysql-alunos -d -p 3306:3306 mysql-alunos
fcc9e6ba67bc4d05a9353fd0501f3248ab55c70d7acf5a8d2a950ed8cfa782d0
```

Acessando o MySQL:

```
[node1] (local) root@192.168.0.13 ~/mysql-docker
$ docker exec -it mysql-alunos mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 9.1.0 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input stateme
nt.

mysql>
```

Verificando as tabelas do BD_ALUNOS:

```
mysql> USE BD_ALUNOS;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> SHOW TABLES;
+----------------------+
| Tables_in_BD_ALUNOS |
+----------------------+
| TB_ALUNOS            |
| TB_PROFESSORES       |
+----------------------+
2 rows in set (0.01 sec)
```