Criando conteiners Linux com Docker

Nos já abordamos a questão dos conteiners. Atualmente a AWS refere-se como um sistema operacional. Vamos instalar e confinar uma aplicação. Não fazem parte o Docker Compose que é o orquestrador.
Em modo terminal faça:

Atualize os pacotes

ubuntu sudo apt update

sudo apt install docker.io

```
marise@marise-notebook:~$ sudo apt install docker.io
[sudo] senha para marise:
```

Você quer continuar? S
agora vamos usar o gerenciador de processos do linux o systemctl para iniciar

o docker sudo systemctl start docker

```
marise@marise-notebook:~$ sudo systemctl start docker
```

sudo systemctl enable docker

```
marise@marise-notebook:~$ sudo systemctl enable docker
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /lib/systemd/system/docker.service.
```

Vamos ver um pouco de serviços:

systemctl -t service

Voltando ao docker

docker –version

```
marise@marise-notebook:~$ docker --version
Docker version 19.03.6, build 369ce74a3c
```

sudo docker ps

```
marise@marise-notebook:~$ sudo docker ps
CONTAINER ID    IMAGE        COMMAND        CREATED        STATUS        PORTS        NAMES
```

sudo docker pull mysql:5.7

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```
marise@marise-notebook:~$ sudo docker pull mysql:5.7
5.7: Pulling from library/mysql
8559a31e96f4: Pull complete

d51ce1c2e575: Pull complete

c2344adc4858: Pull complete
```

```
3dcd2a278b4a: Pull complete

Digest: sha256:32f9d9a069f7a735e28fd44ea944d53c61f990ba71460c5
c183e610854ca4854
Status: Downloaded newer image for mysql:5.7
docker.io/library/mysql:5.7
```

sudo docker images

```
marise@marise-notebook:~$ sudo docker images
REPOSITORY        TAG        IMAGE ID        CREATED        SIZE
mysql             5.7        9cfcce23593a    10 hours ago   448MB
```

Vamos executar o conteiner que contém o mysql

sudo docker run -d -p 3306:3306 --name ContainerBD -e "MYSQL_DATABASE=banco1" -e "MYSQL_ROOT_PASSWORD=urubu100" mysql:5.7

```
marise@marise-notebook:~$ sudo docker run -d -p 3306:3306 --name ContainerBD -e "MYSQL_DATABASE=banco1" -e "MYSQL_ROOT_PASSWORD=urubu100" mysq
l:5.7
bfb9d172522104e581074257f07720235e83b4afc976edcbd53448cb1c71c49b
```

Vamos tentar ver o que tem no conteiner sudo docker ps

```
marise@marise-notebook:~$ sudo docker ps
CONTAINER ID   IMAGE       COMMAND               CREATED        STATUS        PORTS                                          N
AMES
bfb9d1725221   mysql:5.7   "docker-entrypoint.s…"  2 minutes ago  Up 2 minutes  0.0.0.0:3306->3306/tcp, 33060/tcp              C
onteinerBD
```

CONTAINER ID	IMAGE	COMMAND	CREATED
STATUS	PORTS	NAMES	
bfb9d1725221	mysql:5.7	"docker-entrypoint.s…"	5 minutes ago
Up 5 minutes	0.0.0.0:3306->3306/tcp, 33060/tcp	ConteinerBD	

Vamos ver novamente o que tem no conteiner e a quanto tempo está rodando, veja o tempo

sudo docker ps -a

```
marise@marise-notebook:~$ sudo docker ps -a
CONTAINER ID       IMAGE        COMMAND             CREATED        STATUS        PORTS                              N
AMES
bfb9d1725221       mysql:5.7    "docker-entrypoint.s…"  5 minutes ago  Up 5 minutes  0.0.0.0:3306->3306/tcp, 33060/tcp  C
onteinerBD
```

Vamos ver as estatísticas do conteiner:

sudo docker stats ConteinerBD

CONTAINER ID	NAME	CPU %	MEM USAGE / LIMIT
MEM %	NET I/O	BLOCK I/O	PIDS
bfb9d1725221	ConteinerBD	0.13%	188.6MiB / 7.691GiB
2.39%	8.21kB / 0B	36.9kB / 291MB	27

```
marise@marise-notebook:~$ sudo docker stats ConteinerBD

CONTAINER ID       NAME          CPU %     MEM USAGE / LIMIT     MEM %     NET I/O         BLOCK I/O
PIDS
bfb9d1725221       ConteinerBD   0.13%     188.6MiB / 7.691GiB   2.39%     8.21kB / 0B     36.9kB / 291MB
27
```

veja as mudanças e dê crtl C para parar

sudo docker exec -it id container bash

mysql -u root -p

Enter password: ******(senha criada para mysql)

Depois que entrar no Mysql pode dar todos os comandos que você conhece SHOW DATABASES;

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```
marise@marise-notebook:~$ sudo docker exec -it bfb9d1725221 bash
root@bfb9d1725221:/# mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2
Server version: 5.7.30 MySQL Community Server (GPL)

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owners.

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

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| banco1             |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
```

Vc pode stopar o serviço, lembre-se que está no banco dentro do conteiner
exit // para terminar mysql
exit // para encerrar o bash

```
mysql> exit
Bye
root@bfb9d1725221:/# exit
exit
```

saia do conteiner:

```
marise@marise-notebook:~$ sudo docker stop bfb9d1725221
bfb9d1725221
```

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