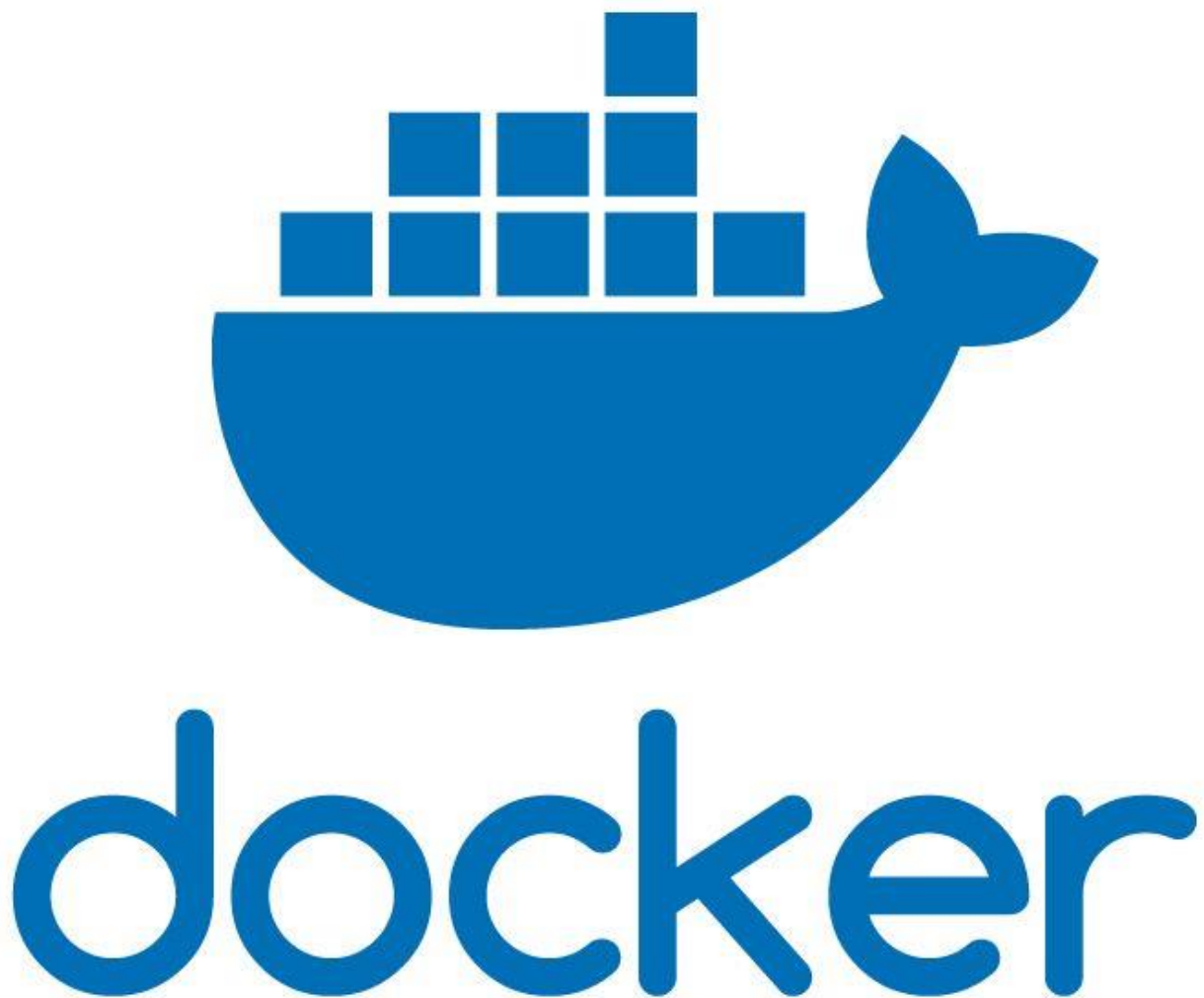


# Sistemas Operacionais



## O que é Docker?

Docker é uma plataforma aberta para desenvolvedores e administradores de sistemas para construir, entregar e rodar aplicações distribuídas.

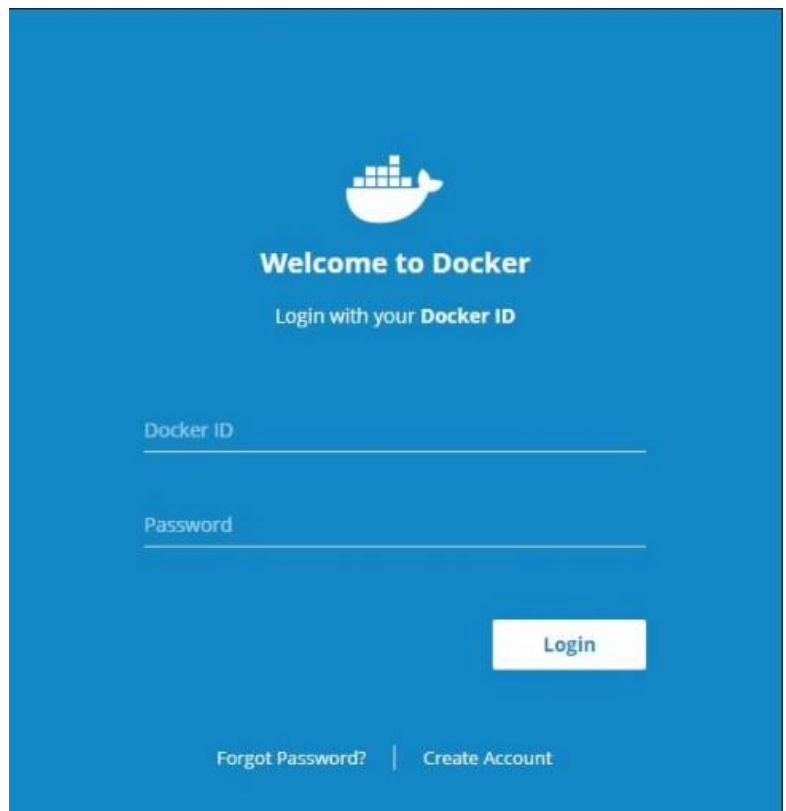
O Docker permite que as aplicações sejam rapidamente montadas e elimina o atrito e a diferença entre os ambientes de desenvolvimento, testes e produção

## O que não é Docker?

Docker não é uma ferramenta de virtualização de máquinas, ele é um ambiente de virtualização de Linux, construído sobre os Linux Containers (LxC), que utiliza a funcionalidade cgroups para criar e rodar ambientes Linux virtuais isolados em um único host.

## Iniciando Docker

Registre-se no site <https://www.docker.com/> e faça o login.



## Criando Repositório

Em Create Repository, crie um repositório.

## Create Repository

1. Choose a namespace (*Required*)
2. Add a repository name (*Required*)
3. Add a short description
4. Add markdown to the full description field
5. Set it to be a private or public repository

alexide

senac


Projeto integrador

Projeto integrador Senac

Visibility

public

Create

 Search

Dashboard Explore Organizations Create alexide

PUBLIC REPOSITORY

alexide/senac ☆

Last pushed: never

Repo Info Tags Collaborators Webhooks Settings

Short Description

Projeto integrador


Full Description

Projeto integrador Senac

Docker Pull Command

docker pull alexide/senac

Owner

 alexide

## Instalando Docker no Linux

Comandos para instalação do docker

***sudo apt-get update***

***sudo apt-key adv --keyserver hkp://p80.pool.sks-keyservers.net:80 --recv-keys58118E89F3A912897C070ADB76221572C52609D***

***sudo apt-add-repository 'deb https://apt.dockerproject.org/repo ubuntu-trusty main'***

***sudo apt-get update***

***sudo apt-get install -y docker-engine***

## Instalando Postgres Docker

Em explore escolha postgres

 <b>MySQL</b> official	STARS	PULLS	DETAILS
 <b>node</b> official	5.7K STARS	10M+ PULLS	> DETAILS
 <b>postgres</b> official	5.0K STARS	10M+ PULLS	> DETAILS
 <b>registry</b> official	2.0K STARS	10M+ PULLS	> DETAILS
 <b>golang</b> official	1.9K STARS	10M+ PULLS	> DETAILS
 <b>hello-world</b> official	561 STARS	10M+ PULLS	> DETAILS

Clique em ***'Try in PWD'***

... via docker stack deploy or docker-compose


Example stack.yml for postgres:

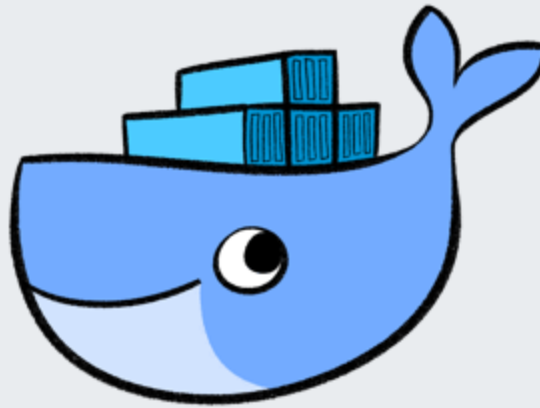
# Use postgres/example user/password credentials  
version: '3.1'

services:

db:  
 image: postgres  
 restart: always  
 environment:  
 POSTGRES\_PASSWORD: example

adminer:  
 image: adminer  
 restart: always  
 ports:  
 - 8080:8080

 Try in PWD



# Play with Docker

A simple, interactive and fun playground to learn Docker

Start

03:59:25

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.28  
node1

bcg50iki\_bcg50isikotg00em7l6g

192.168.0.28

Memory

CPU

SSH

ssh ip172-18-0-42-bcg50ikikotg00em7l60@direct.labs.play-1

DELETE

EDITOR

```
$ #####  
#                               #  
# WARNING!!!!                  #  
# This is a sandbox environment. Using personal credentials          #  
# is HIGHLY! discouraged. Any consequences of doing so are          #  
# completely the user's responsibilities.                             #  
# The PWD team.                                                       #  
#####  
[node1] (local) root@192.168.0.28 ~  
$
```

## Comandos no Docker

Para fazer login no Docker:

**\$ docker login**

```
$ #####  
#                               #  
#      WARNING!!!!             #  
# This is a sandbox environment. Using personal credentials   #  
# is HIGHLY! discouraged. Any consequences of doing so are    #  
# completely the user's responsibilities.                       #  
#                                                               #  
# The PWD team.                                                #  
# #####  
[node1] (local) root@192.168.0.28 ~  
$ docker login  
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.  
Username: alexide  
Password:  
Login Succeeded  
[node1] (local) root@192.168.0.28 ~  
$ █
```

Para executar uma imagem em um container:

**\$ docker run hello-world**

```
[node1] (local) root@192.168.0.28 ~  
$ docker run hello-world  
Unable to find image 'hello-world:latest' locally  
latest: Pulling from library/hello-world  
9bb5a5d4561a: Pull complete  
Digest: sha256:f5233545e43561214ca4891fd1157e1c3c563316ed8e237750d59bde73361e77  
Status: Downloaded newer image for hello-world:latest  
  
Hello from Docker!  
This message shows that your installation appears to be working correctly.  
  
To generate this message, Docker took the following steps:  
 1. The Docker client contacted the Docker daemon.  
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.  
    (amd64)  
 3. The Docker daemon created a new container from that image which runs the  
    executable that produces the output you are currently reading.  
 4. The Docker daemon streamed that output to the Docker client, which sent it  
    to your terminal.  
  
To try something more ambitious, you can run an Ubuntu container with:  
$ docker run -it ubuntu bash  
  
Share images, automate workflows, and more with a free Docker ID:  
https://hub.docker.com/
```

Listar os containers:

```
$ docker ps -a
```

Listar as imagens:

```
$ docker images
```

```
[node1] (local) root@192.168.0.28 ~
$ docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NA
42580ba23f34       hello-world        "/hello"           About a minute ago  Exited (0) About a minute ago
irsty_rosalind     97b80e307732      postgres:latest    "docker-entrypoint.s..." 2 minutes ago      Up 2 minutes       5432/tcp           pw
d_db.1.vfvi8bb6plu3936atia88so6b d81f074e9d14      adminer:latest     "entrypoint.sh docke..." 2 minutes ago      Up 2 minutes       8080/tcp           pw
d_adminer.1.ro9csppp8a61gt4jrb0hoppg3
[node1] (local) root@192.168.0.28 ~
$ docker images
REPOSITORY          TAG               IMAGE ID           CREATED            SIZE
postgres            latest           65bf726222e1      3 days ago        236MB
adminer             latest           9dfa6dff9392      5 days ago        69.5MB
hello-world         latest           e38bc07ac18e      2 months ago      1.85kB
```

Baixar a imagem postgres:

```
$ docker pull postgres
```

Executar a imagem postgres em um novo container:

```
$ docker run postgres
```

```
[node1] (local) root@192.168.0.28 ~
$ docker pull postgres
Using default tag: latest
latest: Pulling from library/postgres
Digest: sha256:d9c44f9fc460dd8962c388eacf88a0e252b858ccdf33bc223f68112617e81fc9
Status: Image is up to date for postgres:latest
[node1] (local) root@192.168.0.28 ~
$ docker run postgres
The files belonging to this database system will be owned by user "postgres".
This user must also own the server process.

The database cluster will be initialized with locale "en_US.utf8".
The default database encoding has accordingly been set to "UTF8".
The default text search configuration will be set to "english".

Data page checksums are disabled.

fixing permissions on existing directory /var/lib/postgresql/data ... ok
creating subdirectories ... ok
selecting default max_connections ... 100
selecting default shared_buffers ... 128MB
selecting dynamic shared memory implementation ... posix
creating configuration files ... ok
running bootstrap script ... ok
performing post-bootstrap initialization ... ok
syncing data to disk ...
```

OBS: Use 'Ctrl+C' para sair do modo texto

Para selecionar a imagem para enviar

**\$ docker commit nomeDaImagem login/repositório**

Para enviar imagem para repositório:


**\$ docker push login/repositório**

OBS: Use **\$ docker ps -a** para verificar qual o nome da imagem

```
[node1] (local) root@192.168.0.28 ~
$ docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NA
ecf8a983d046       postgres           "docker-entrypoint.s..." About a minute ago   Exited (0) About a minute ago
vial_pare         42580ba23f34       hello-world        "/hello"            4 minutes ago      Exited (0) 4 minutes ago
th
irsty_rosalind     97b80e307732       postgres:latest    "docker-entrypoint.s..." 6 minutes ago      Up 6 minutes       5432/tcp           pw
d_db.1.vfvi8bb6plu3936atia88so6b
d81f074e9d14       adminer:latest     "entrypoint.sh docke..." 6 minutes ago      Up 6 minutes       8080/tcp           pw
d_adminer.1.ro9csppp8a61gt4jrb0hoppg3
[node1] (local) root@192.168.0.28 ~
```

```
[node1] (local) root@192.168.0.28 ~
$ docker commit jovial_pare alexide/senac
sha256:284aed99f95852e5bc9a1e52c4f35d27f309333a432dce7a6cc108ee05c545bd
[node1] (local) root@192.168.0.28 ~
$ docker push alexide/senac
The push refers to repository [docker.io/alexide/senac]
b4e4cd92c9a7: Pushed
742f2f42844f: Mounted from library/postgres
2d42980cd20d: Mounted from library/postgres
ccaa9b2b12ff: Mounted from library/postgres
b2f90e2001a0: Mounted from library/postgres
1fae930fa461: Mounted from library/postgres
c330a0cad55: Mounted from library/postgres
24e6635d6743: Mounted from library/postgres
b354232874a3: Mounted from library/postgres
0cc8e17d3648: Mounted from library/postgres
55193a0db6f0: Mounted from library/postgres
b3ec50991a7b: Mounted from library/postgres
3661ba0947c0: Mounted from library/postgres
cf9f0e677740: Mounted from library/postgres
d626a8ad97a1: Mounted from library/postgres
latest: digest: sha256:6b0cad0e3eed275b7bfbab14394410578a97a5c351277c6a8f2a60599d8f9644 size: 3450
```

Em 'TAG' veja a imagem criada



DashboardExploreOrganizationsCreatealexide

PUBLIC REPOSITORY

**alexide/senac** ☆

Last pushed: 2 minutes ago

Repo InfoTagsCollaboratorsWebhooksSettings

Tag Name	Compressed Size	Last Updated
latest	86 MB	2 minutes ago



Para ter acesso ao repositório criado:

<https://hub.docker.com/r/alexide/senac/>

Imagem docker criada:

***\$ docker pull alexide/senac***