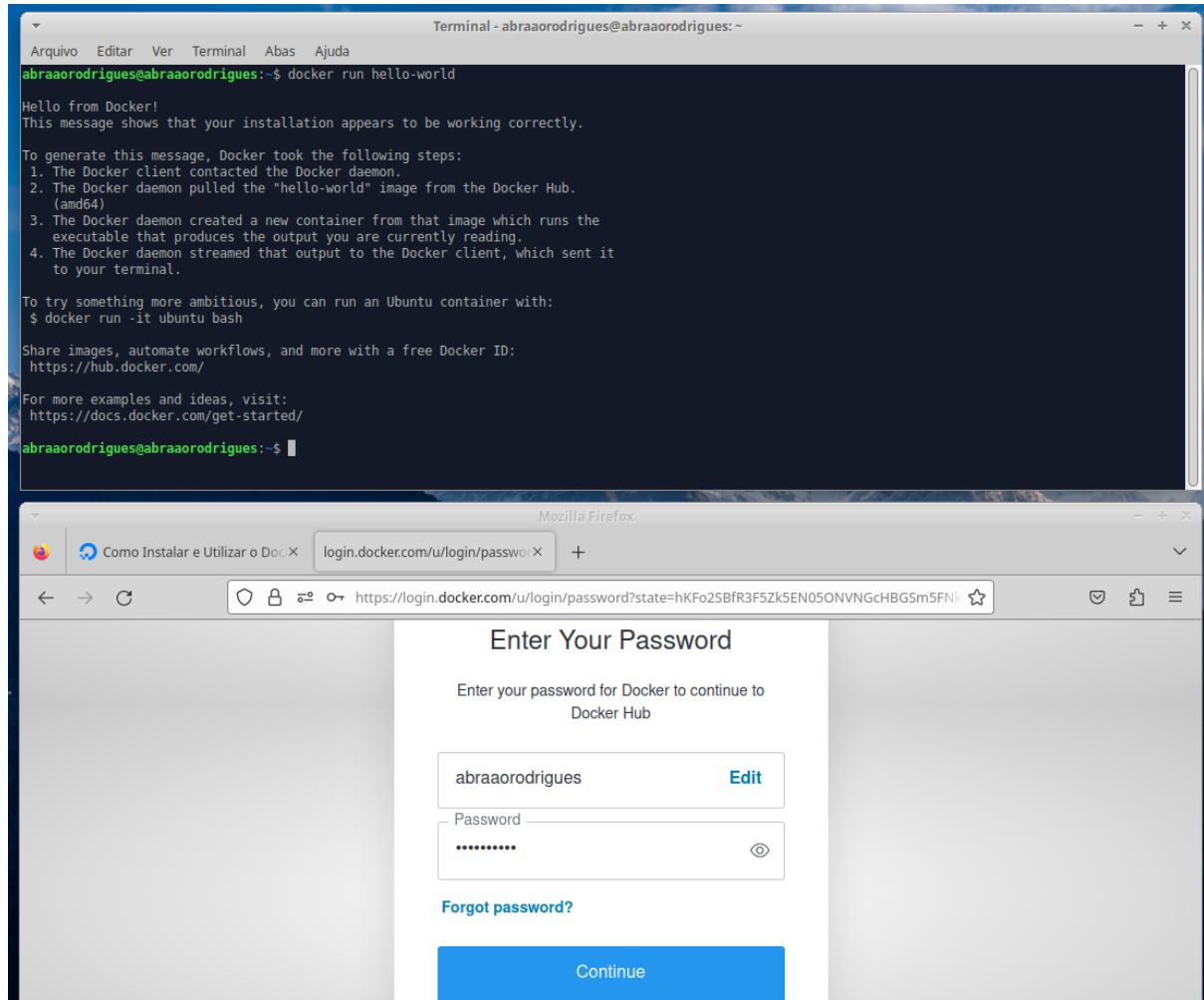


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Informática - SOR2 - Taveira

Etapa 1 - Trabalhar com imagens no Docker



```
Terminal - abraaorodrigues@abraaorodrigues: ~
Arquivo Editar Ver Terminal Abas Ajuda
abraaorodrigues@abraaorodrigues:~$ docker run hello-world

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/

For more examples and ideas, visit:
https://docs.docker.com/get-started/

abraaorodrigues@abraaorodrigues:~$ docker search ubuntu
NAME                DESCRIPTION                                     STARS     OFFICIAL   AUTOMATED
ubuntu              Ubuntu is a Debian-based Linux operating sys... 15934     [OK]
webosphere-liberty  WebSphere Liberty multi-architecture images ... 294       [OK]
open-liberty        Open Liberty multi-architecture images based... 59        [OK]
neurodebian         NeuroDebian provides neuroscience research s... 99        [OK]
ubuntu-debootstrap  DEPRECATED; use "ubuntu" instead              51        [OK]
ubuntu-upstart      DEPRECATED; as is Upstart (find other proces... 114       [OK]
ubuntu/nginx        Nginx, a high-performance reverse proxy & we... 89
ubuntu/cortex       Cortex provides storage for Prometheus. Long... 3
ubuntu/squid        Squid is a caching proxy for the Web. Long-t... 56
ubuntu/apache2      Apache, a secure & extensible open-source HT... 58
ubuntu/mysql        MySQL open source fast, stable, multi-thread... 46
ubuntu/kafka        Apache Kafka, a distributed event streaming ... 31
ubuntu/bind9        BIND 9 is a very flexible, full-featured DNS... 51
ubuntu/redis        Redis, an open source key-value store. Long-... 18
ubuntu/prometheus   Prometheus is a systems and service monitori... 40
ubuntu/postgres     PostgreSQL is an open source object-relatio... 27
ubuntu/zookeeper    ZooKeeper maintains configuration informatio... 5
ubuntu/grafana       Grafana, a feature rich metrics dashboard & ... 9
ubuntu/memcached    Memcached, in-memory keyvalue store for smal... 5
ubuntu/prometheus-alertmanager Alertmanager handles client alerts from Prom... 8
ubuntu/dotnet-deps  Chiselled Ubuntu for self-contained .NET & A... 8
ubuntu/dotnet-runtime Chiselled Ubuntu runtime image for .NET apps... 5
ubuntu/dotnet-aspnet Chiselled Ubuntu runtime image for ASP.NET a... 6
ubuntu/cassandra    Cassandra, an open source NoSQL distributed ... 2
ubuntu/telegraf     Telegraf collects, processes, aggregates & w... 4

abraaorodrigues@abraaorodrigues:~$ docker pull ubuntu
Using default tag: latest
```

```
Terminal - abraaorodrigues@abraaorodrigues: ~
Arquivo Editar Ver Terminal Abas Ajuda
ubuntu/cassandra    Cassandra, an open source NoSQL distributed ... 2
ubuntu/telegraf     Telegraf collects, processes, aggregates & w... 4
abraaorodrigues@abraaorodrigues:~$ docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
dbf6a9befcde: Pull complete
Digest: sha256:dfd64a3b4296d8c9b62aa3309984f8620b98d87e47492599ee20739e8eb54fbf
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
abraaorodrigues@abraaorodrigues:~$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
hello-world   latest   9c7a54a9a43c   6 days ago    13.3kB
ubuntu        latest   3b418d7b466a   2 weeks ago    77.8MB
abraaorodrigues@abraaorodrigues:~$ docker run -it ubuntu
root@27ff078de566:/# apt update
Get:1 http://archive.ubuntu.com/ubuntu jammy InRelease [270 kB]
Get:2 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [108 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy/main amd64 Packages [1792 kB]
Get:6 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [266 kB]
Get:7 http://archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [17.5 MB]
Get:8 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [457 kB]
Get:9 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [901 kB]
Get:10 http://archive.ubuntu.com/ubuntu jammy/restricted amd64 Packages [164 kB]
Get:11 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1135 kB]
Get:12 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [292 kB]
Get:13 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [735 kB]
Get:14 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [41.8 kB]
Get:15 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [36.3 kB]
Get:16 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [291 kB]
Get:17 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [49.4 kB]
Get:18 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [25.6 kB]
Fetched 24.3 MB in 3s (8846 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
4 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@27ff078de566:/# apt install nodejs
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  ca-certificates javascript-common libbrotli1 libc-ares2 libicu70 libjs-highlight.js libnghttp2-14 libnode72 libuv1 nodejs-doc openssl
Suggested packages:
  apache2 | lighttpd | httpd npm
The following NEW packages will be installed:
  ca-certificates javascript-common libbrotli1 libc-ares2 libicu70 libjs-highlight.js libnghttp2-14 libnode72 libuv1 nodejs nodejs-doc openssl
0 upgraded, 12 newly installed, 0 to remove and 4 not upgraded.
Need to get 26.1 MB of archives.
After this operation, 93.0 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
```

```
Terminal - abraaorodrigues@abraaorodrigues: ~
Arquivo  Editar  Ver  Terminal  Abas  Ajuda
Unpacking javascript-common (11+nmu1) ...
Selecting previously unselected package libbrotli1:amd64.
Preparing to unpack .../06-libbrotli1_1.0.9-2build6_amd64.deb ...
Unpacking libbrotli1:amd64 (1.0.9-2build6) ...
Selecting previously unselected package libjs-highlight.js.
Preparing to unpack .../07-libjs-highlight.js_9.18.5+dfsg1-1_all.deb ...
Unpacking libjs-highlight.js (9.18.5+dfsg1-1) ...
Selecting previously unselected package libc-ares2:amd64.
Preparing to unpack .../08-libc-ares2_1.18.1-1ubuntu0.22.04.1_amd64.deb ...
Unpacking libc-ares2:amd64 (1.18.1-1ubuntu0.22.04.1) ...
Selecting previously unselected package libnode72:amd64.
Preparing to unpack .../09-libnode72_12.22.9-dfsg-1ubuntu3_amd64.deb ...
Unpacking libnode72:amd64 (12.22.9-dfsg-1ubuntu3) ...
Selecting previously unselected package nodejs-doc.
Preparing to unpack .../10-nodejs-doc_12.22.9-dfsg-1ubuntu3_all.deb ...
Unpacking nodejs-doc (12.22.9-dfsg-1ubuntu3) ...
Selecting previously unselected package nodejs.
Preparing to unpack .../11-nodejs_12.22.9-dfsg-1ubuntu3_amd64.deb ...
Unpacking nodejs (12.22.9-dfsg-1ubuntu3) ...
Setting up javascript-common (11+nmu1) ...
Setting up libbrotli1:amd64 (1.0.9-2build6) ...
Setting up libnghttp2-14:amd64 (1.43.0-1build3) ...
Setting up libc-ares2:amd64 (1.18.1-1ubuntu0.22.04.1) ...
Setting up libuv1:amd64 (1.43.0-1) ...
Setting up libjs-highlight.js (9.18.5+dfsg1-1) ...
Setting up openssl (3.0.2-0ubuntu1.9) ...
Setting up libc-ares2:amd64 (1.18.1-1ubuntu0.22.04.1) ...
Setting up libnode72:amd64 (12.22.9-dfsg-1ubuntu3) ...
Setting up ca-certificates (20211016ubuntu0.22.04.1) ...
debconf: unable to initialize frontend: Dialog
debconf: (No usable dialog-like program is installed, so the dialog based frontend cannot be used. at /usr/share/perl5/Debconf/FrontEnd/Dialog.pm line 78.)
debconf: falling back to frontend: Readline
debconf: unable to initialize frontend: Readline
debconf: (Can't locate Term/ReadLine.pm in @INC (you may need to install the Term::ReadLine module) (@INC contains: /etc/perl /usr/local/lib/x86_64-linux-gnu/perl/5.34.0 /usr/local/share/perl/5.34.0 /usr/lib/x86_64-linux-gnu/perl/5.34 /usr/share/perl5 /usr/lib/x86_64-linux-gnu/perl-base /usr/lib/x86_64-linux-gnu/perl/5.34 /usr/share/perl/5.34 /usr/local/lib/site_perl) at /usr/share/perl5/Debconf/FrontEnd/Readline.pm line 7.)
debconf: falling back to frontend: Teletype
Updating certificates in /etc/ssl/certs...
124 added, 0 removed; done.
Setting up nodejs-doc (12.22.9-dfsg-1ubuntu3) ...
Setting up nodejs (12.22.9-dfsg-1ubuntu3) ...
update-alternatives: using /usr/bin/nodejs to provide /usr/bin/js (js) in auto mode
update-alternatives: warning: skip creation of /usr/share/man/man1/js.1.gz because associated file /usr/share/man/man1/nodejs.1.gz (of link group js) does not exist
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
Processing triggers for ca-certificates (20211016ubuntu0.22.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...
done.
root@27ff078de566:/# node -v
```

```
Terminal - abraaorodrigues@abraaorodrigues: ~
Arquivo  Editar  Ver  Terminal  Abas  Ajuda
root@27ff078de566:/# node -v
v12.22.9
root@27ff078de566:/# exit
exit
abraaorodrigues@abraaorodrigues:~$ docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
abraaorodrigues@abraaorodrigues:~$ docker ps -a
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
27ff078de566   ubuntu   "/bin/bash"   4 minutes ago   Exited (0) 37 seconds ago           admiring_turing
84b6d42e45d2   hello-world   "/hello"   24 minutes ago   Exited (0) 24 minutes ago           romantic_newton
a98c30e2e90e   hello-world   "/hello"   24 minutes ago   Exited (0) 24 minutes ago           dazzling_mirzakhani
abraaorodrigues@abraaorodrigues:~$ docker ps -l
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
27ff078de566   ubuntu   "/bin/bash"   5 minutes ago   Exited (0) About a minute ago           admiring_turing
abraaorodrigues@abraaorodrigues:~$ docker start 27ff078de566
27ff078de566
abraaorodrigues@abraaorodrigues:~$ docker stop quizzical_mcnulty
Error response from daemon: No such container: quizzical_mcnulty
abraaorodrigues@abraaorodrigues:~$ docker stop admiring_turing
admiring_turing
abraaorodrigues@abraaorodrigues:~$ docker rm romantic_newton
romantic_newton
abraaorodrigues@abraaorodrigues:~$ docker rm dazzling_mirzakhani
dazzling_mirzakhani
abraaorodrigues@abraaorodrigues:~$ docker commit -m "added Node.js" -a "abraaorodrigues" 27ff078de566 abraaorodrigues/ubuntu-nodejs
sha256:847c7738a6c15629918956c21d1e6e16f1235f876dbf4cc50d3cd5c6cb76a33e
abraaorodrigues@abraaorodrigues:~$ docker images
REPOSITORY      TAG       IMAGE ID       CREATED        SIZE
abraaorodrigues/ubuntu-nodejs   latest    847c7738a6c1   34 seconds ago  201MB
hello-world      latest    9c7a54a9a43c   6 days ago     13.3kB
ubuntu           latest    3b418d7b466a   2 weeks ago    77.8MB
abraaorodrigues@abraaorodrigues:~$ docker login -u docker-registry-username
Password:
Error response from daemon: Get "https://registry-1.docker.io/v2/": unauthorized: incorrect username or password
abraaorodrigues@abraaorodrigues:~$ docker login -u abraaorodrigues
Password:
Error response from daemon: Get "https://registry-1.docker.io/v2/": unauthorized: incorrect username or password
abraaorodrigues@abraaorodrigues:~$ docker login -u abraaorodrigues
Password:
WARNING! Your password will be stored unencrypted in /home/abraaorodrigues/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
abraaorodrigues@abraaorodrigues:~$ docker tag abraaorodrigues/ubuntu-nodejs abraaorodrigues/ubuntu-nodejs
abraaorodrigues@abraaorodrigues:~$ docker push abraaorodrigues/ubuntu-nodejs
Using default tag: latest
The push refers to repository [docker.io/abraaorodrigues/ubuntu-nodejs]
5a58448144be: Pushed
b8a36d10656a: Mounted from library/ubuntu
latest: digest: sha256:e96bee76a34688b94efcc40c838396a3b865460861e407310cf50cdcf447b8d8 size: 741
abraaorodrigues@abraaorodrigues:~$
```

