

Tarea Docker

Comando Docker en la terminal

```
MacbookAir -- bash -- 136x41

create      Create a new container
diff        Inspect changes to files or directories on a container's filesystem
events     Get real time events from the server
exec        Run a command in a running container
export      Export a container's filesystem as a tar archive
history    Show the history of an image
images     List images
import      Import the contents from a tarball to create a filesystem image
info        Display system-wide information
inspect    Return low-level information on Docker objects
kill        Kill one or more running containers
load        Load an image from a tar archive or STDIN
login       Log in to a Docker registry
logout     Log out from a Docker registry
logs        Fetch the logs of a container
pause       Pause all processes within one or more containers
port        List port mappings or a specific mapping for the container
ps          List containers
pull        Pull an image or a repository from a registry
push        Push an image or a repository to a registry
rename     Rename a container
restart    Restart one or more containers
rm         Remove one or more containers
rmi        Remove one or more images
run         Run a command in a new container
save        Save one or more images to a tar archive (streamed to STDOUT by default)
search     Search the Docker Hub for images
start      Start one or more stopped containers
stats      Display a live stream of container(s) resource usage statistics
stop       Stop one or more running containers
tag        Create a tag TARGET_IMAGE that refers to SOURCE_IMAGE
top         Display the running processes of a container
unpause   Unpause all processes within one or more containers
update     Update configuration of one or more containers
version    Show the Docker version information
wait       Block until one or more containers stop, then print their exit codes

Run 'docker COMMAND --help' for more information on a command.

To get more help with docker, check out our guides at https://docs.docker.com/go/guides/
(base) wksalate001:~ MacbookAir$
```

```
To get more help with docker, check out our guides at https://docs.docker.com/go/guides/
(base) wksalate001:~ MacbookAir$ docker --version
Docker version 20.10.8, build 3967b7d
(base) wksalate001:~ MacbookAir$
```

Docker Hello world

```
sun 'docker COMMAND --help' for more information on a command.

To get more help with docker, check out our guides at https://docs.docker.com/go/guides/
(base) wksalate001:~ MacbookAir$ docker --version
Docker version 20.10.8, build 3967b7d
(base) wksalate001:~ MacbookAir$ docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
3288797bd35: Pull complete
Digest: sha256:37a0b92b08d4919615c3ee023f7ddb068d12b8387475d64c622ac30f45c29c51
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.
   (arm64v8)
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/

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

Docker hub pull

```
(base) wksalate001:~ MacbookAir$ docker pull busybox
Using default tag: latest
latest: Pulling from library/busybox
7560ee4921c3: Pull complete
Digest: sha256:f7ca5a32c10d51aeda3b4d01c61c6061f497893d7f6628b92f822f7117182a57
Status: Downloaded newer image for busybox:latest
docker.io/library/busybox:latest
(base) wksalate001:~ MacbookAir$
```

Docker images

```
docker.io/library/busybox:latest
(base) wksalate001:~ MacbookAir$ docker images
REPOSITORY      TAG          IMAGE ID      CREATED        SIZE
hello-world     latest       18e5af790473   4 weeks ago   9.14kB
busybox         latest       621a3fde0646   5 weeks ago   1.4MB
(base) wksalate001:~ MacbookAir$
```

Hello world from busybox

```
(base) wksalate001:~ MacbookAir$ docker run busybox echo "hello world from galileo master"
hello world from galileo master
```

Docker ps -a

```
hello world from galileo master
(base) wksalate001:~ MacbookAir$ docker ps
CONTAINER ID   IMAGE    COMMAND   CREATED   STATUS    PORTS      NAMES
(base) wksalate001:~ MacbookAir$ docker ps -a
CONTAINER ID   IMAGE    COMMAND   CREATED   STATUS    PORTS      NAMES
19c7c864a640   busybox   "echo 'hello world f..."   About a minute ago   Exited (0) About a minute ago
2b5c419c79d2   busybox   "sh"      2 minutes ago   Exited (0) 2 minutes ago
c6672d1be22d   hello-world   "/hello"   8 minutes ago   Exited (0) 8 minutes ago
(base) wksalate001:~ MacbookAir$
```

Docker run -it busybox sh

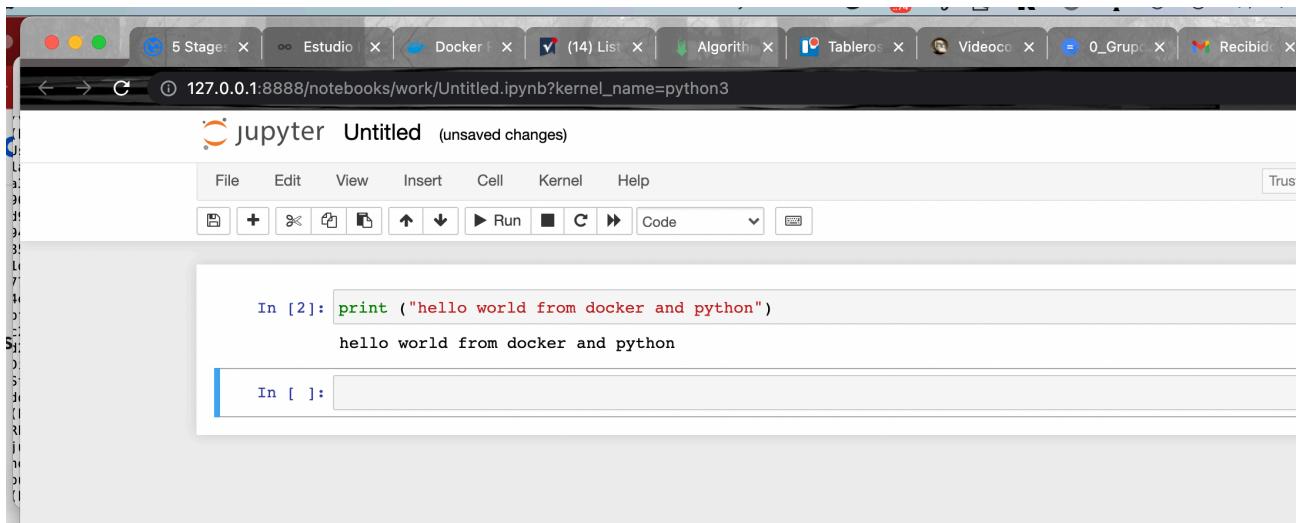
```
2021-10-23T22:00:00Z 10.0.0.10 - - [23/OCT/2021:22:00:00 +0000] "GET / HTTP/1.1" 200 134 "-" "curl/7.64.1" "-"

(base) wksalate001:~ MacbookAir$ docker run -it busybox sh
/ # ls
bin dev etc home proc root sys tmp usr var
/ # uptime
 01:55:07 up 52 min, 0 users, load average: 0.00, 0.00, 0.00
/ # cd var
/var # ls
spool www
/var #
```

Docker and Python

```
'vdr # exit
(base) wksalate001:~ MacbookAir$ docker pull jupyter/base-notebook
Using default tag: latest
latest: Pulling from jupyter/base-notebook
39c84e173f0: Pull complete
362ceab46813: Pull complete
394a7dc9ff17: Pull complete
34517ec4af9c: Pull complete
35ccce1f36ef: Pull complete
1da12142d738: Pull complete
7745354d8e22: Pull complete
1ebe2137367f: Pull complete
3fc0ab5b2b40: Pull complete
323982d5ab55: Pull complete
32a2a2335f43: Pull complete
Digest: sha256:87238323d018bdd908a5230634c5ca834e491f4f7fff5397b914684283f22eaa
Status: Downloaded newer image for jupyter/base-notebook:latest
jupyter.io/jupyter/base-notebook:latest
(base) wksalate001:~ MacbookAir$ docker images
REPOSITORY          TAG      IMAGE ID   CREATED        SIZE
jupyter/base-notebook    latest   2438e1d6d8c6  2 hours ago  541MB
hello-world           latest   18e5af790473  4 weeks ago  9.14kB
busybox               latest   621a3fde0646  5 weeks ago  1.4MB
(base) wksalate001:~ MacbookAir$ 
busybox              latest   621a3fde0646  5 weeks ago  1.4MB
(base) wksalate001:~ MacbookAir$ docker run -p 8888:8888 jupyter/base-notebook
ARN: Jupyter Notebook deprecation notice https://github.com/jupyter/docker-stacks#jupyter-notebook-deprecation-notice.
executing the command: jupyter notebook
I 18:09:49.131 NotebookApp[Writing notebook server cookie secret to /home/jovyan/.local/share/jupyter/runtime/notebook_cookie_secret
W 2021-10-23 18:09:49.759 LabApp] 'ip' has moved from NotebookApp to ServerApp. This config will be passed to ServerApp. Be sure to update your config before our next release.
W 2021-10-23 18:09:49.760 LabApp] 'port' has moved from NotebookApp to ServerApp. This config will be passed to ServerApp. Be sure to update your config before our next release.
W 2021-10-23 18:09:49.760 LabApp] 'port' has moved from NotebookApp to ServerApp. This config will be passed to ServerApp. Be sure to update your config before our next release.
W 2021-10-23 18:09:49.760 LabApp] 'port' has moved from NotebookApp to ServerApp. This config will be passed to ServerApp. Be sure to update your config before our next release.
I 2021-10-23 18:09:49.764 LabApp] JupyterLab extension loaded from /opt/conda/lib/python3.9/site-packages/jupyterlab
I 2021-10-23 18:09:49.764 LabApp] JupyterLab application directory is /opt/conda/share/jupyter/lab
I 18:09:49.767 NotebookApp[ Serving notebooks from local directory: /home/jovyan
I 18:09:49.767 NotebookApp[ Jupyter Notebook 6.4.5 is running at:
I 18:09:49.767 NotebookApp[ http://2493e93dec0c:8888/?token=ae6b42c53d3e759620907b5072ec6a29bf9f5ed6f1be06af
I 18:09:49.767 NotebookApp[ or http://127.0.0.1:8888/?token=ae6b42c53d3e759620907b5072ec6a29bf9f5ed6f1be06af
I 18:09:49.767 NotebookApp[ Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
C 18:09:49.770 NotebookApp]

To access the notebook, open this file in a browser:
file:///home/jovyan/.local/share/jupyter/runtime/nbserver-8-open.html
Or copy and paste one of these URLs:
http://2493e93dec0c:8888/?token=ae6b42c53d3e759620907b5072ec6a29bf9f5ed6f1be06af
or http://127.0.0.1:8888/?token=ae6b42c53d3e759620907b5072ec6a29bf9f5ed6f1be06af
```



Docker network

```
(base) MacBook-Pro:~ MacbookAir$ docker network create --driver bridge my_test_network
d173681e6d1c71529fb1c7b9869f6f4b2fcb044faabb1dfe09a228161476e412
(base) MacBook-Pro:~ MacbookAir$
```

Docker MySQL

Se agrego el parametro platform linux/x86_64 porque el normal no corre sobre el M1 de apple.

```
See 'docker run --help'.
(base) MacBook-Pro:~ MacbookAir$ docker run -it --network my_test_network -p 3306:3306 -e "MYSQL_ROOT_PASSWORD=root123" -e "MYSQL_DATABASE=test" -e "MYSQL_USER=test" -e "MYSQL_PASSWORD=test123" --platform linux/x86_64 mysql:5.7.35
Unable to find image 'mysql:5.7.35' locally
5.7.35: Pulling from library/mysql
b380bbd43752: Pull complete
f23cbf2ecc5d: Pull complete
30cfcc6c29c0a: Pull complete
b38609286cbe: Pull complete
8211d9e66cd6: Pull complete
2313f9eeca4a: Pull complete
7eb487d00da0: Pull complete
bb9cc5c700e7: Pull complete
88676eb32344: Pull complete
8fea0b38a348: Pull complete
3dc585bfcc693: Pull complete
Digest: sha256:b8814059bbd9c80b78fe4b2b0b70cd70fe3772b3c5d8ee1edfa46791db3224f9
Status: Downloaded newer image for mysql:5.7.35
docker: Error response from daemon: Ports are not available: listen tcp 0.0.0.0:3306: bind: address already in use.
(base) MacBook-Pro:~ MacbookAir$
```

Mysql

docker

[Import from URL](#)

Connection Type

MySQL

Host

localhost

Port

3306

Enable SSL



User

test

Password

.....

Default Database

test

SSH Tunnel

[Test](#)[Connect](#)

Save Connection

docker

 Save Passwords [?](#)[Save](#)

Beekeeper Studio

test

Filter

ENTITIES 0
There are no entities in test

Query #1

```
1
2
3
4 select current_date
5
6
7
8
9
10
```

current_date ▲

2021-10-23

Docker Network

MacbookAir — -bash — 80x24

Last login: Sat Oct 23 13:08:01 on ttys002

The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit <https://support.apple.com/kb/HT208050>.

```
[base] MacBook-Pro:~ MacbookAir$ docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              NAMES
9d247c9bea5a      jupyter/base-notebook   "tini -g -- start-no..."   51 seconds ago   Up 50 seconds   quirky_agnesi
b9cea8b53bb2      mysql:5.7.35          "docker-entrypoint.s..."   8 minutes ago    Up 8 minutes   adoring_sutherland
(base) MacBook-Pro:~ MacbookAir$
```

```
MacbookAir — bash — 132x43
{
    "Id": "d173681e6d1c71529fb1c7b9869f6f4b2fc044faabb1dfe09a228161476e412",
    "Created": "2021-10-23T18:21:37.559970387Z",
    "Scope": "local",
    "Driver": "bridge",
    "EnableIPv6": false,
    "IPAM": {
        "Driver": "default",
        "Options": {},
        "Config": [
            {
                "Subnet": "172.18.0.0/16",
                "Gateway": "172.18.0.1"
            }
        ]
    },
    "Internal": false,
    "Attachable": false,
    "Ingress": false,
    "ConfigFrom": {
        "Network": ""
    },
    "ConfigOnly": false,
    "Containers": {
        "9d247c9bea5ac96aac6bd19ea56f404608b294dde78b0f6fecea3e25e7c9dc7e": {
            "Name": "quirky_agnesi",
            "EndpointID": "5d89aa665674698e04a5e8fb0c277982764b29ab782fedf16af9fd2cc0e7e000",
            "MacAddress": "02:42:ac:12:00:03",
            "IPv4Address": "172.18.0.3/16",
            "IPv6Address": ""
        },
        "b9cea8b53bb2815f2948666f46089ccf92d60976a7e572319e1991f868cce3b7": {
            "Name": "adoring_sutherland",
            "EndpointID": "1428c0de54e1a9ab0222385bd3cace5f1a52d8143611a3047f064d53d2084efb",
            "MacAddress": "02:42:ac:12:00:02",
            "IPv4Address": "172.18.0.2/16",
            "IPv6Address": ""
        }
    },
    "Options": {},
    "Labels": {}
}
```

Conectado a la base de datos

```
127.0.0.1:8888/notebooks/Untitled.ipynb?kernel_name=python3
jupyter Untitled (unsaved changes) Logout
File Edit View Insert Cell Kernel Help Trusted Python 3 (ipykernel) ○
In [1]: from sqlalchemy import create_engine
source = create_engine('mysql+mysqlconnector://test:test123@172.18.0.2/test')
In [2]: !pip install pandas
In [2]: import pandas as pd
print (pd.read_sql ('select now()',con=source))
now()
0 2021-10-23 19:31:07
In [ ]:
```