

PRÁCTICA Nro 2 – COMANDOS DOCKER

Nombre: Gonzales Suyo Franz Reinaldo

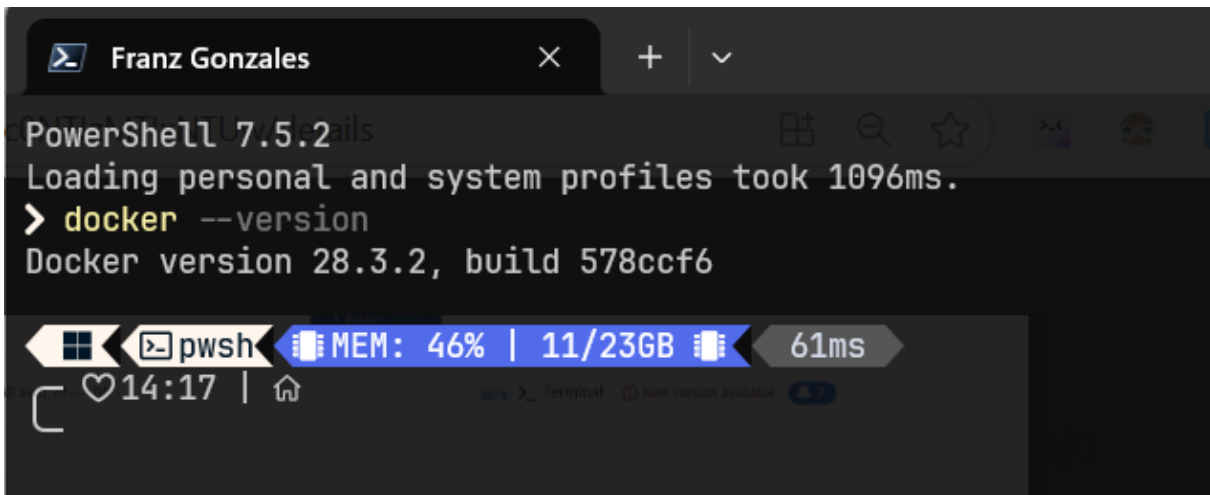
CU: 111-500 y 35-5335

Carrera: Ing. Ciencias de la Computación y Ing. Sistemas

Primeros pasos

1. Comprueba la versión de Docker:

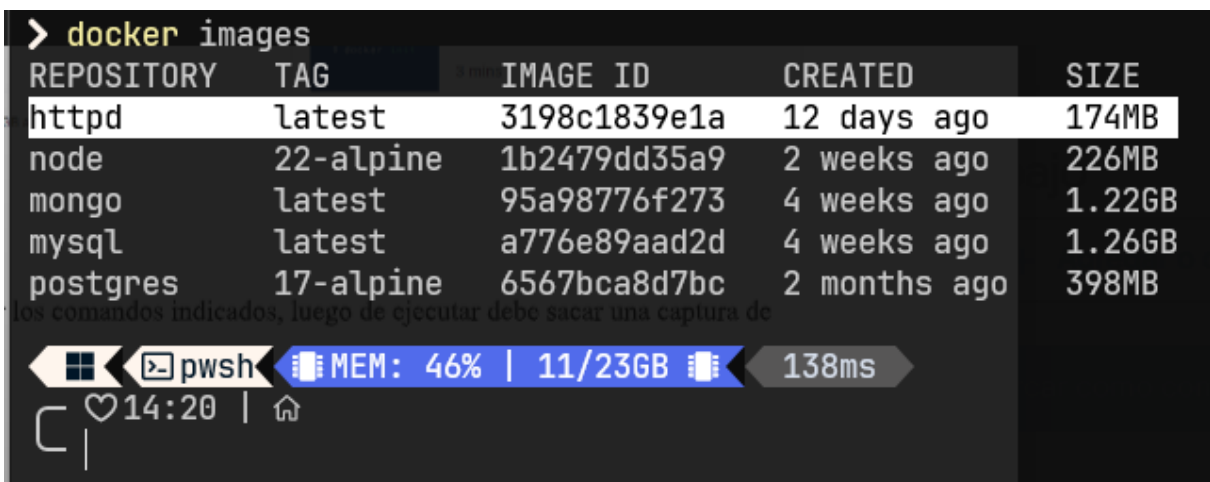
```
docker --version`
```



```
PowerShell 7.5.2
Loading personal and system profiles took 1096ms.
> docker --version
Docker version 28.3.2, build 578ccf6
```

2. Descarga una imagen de Docker, por ejemplo, httpd (Apache):

```
docker pull httpd
```



```
> docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
httpd	latest	3198c1839e1a	12 days ago	174MB
node	22-alpine	1b2479dd35a9	2 weeks ago	226MB
mongo	latest	95a98776f273	4 weeks ago	1.22GB
mysql	latest	a776e89aad2d	4 weeks ago	1.26GB
postgres	17-alpine	6567bca8d7bc	2 months ago	398MB

3. Consulta las imágenes descargadas:

```
docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
httpd	latest	3198c1839e1a	12 days ago	174MB
node	22-alpine	1b2479dd35a9	2 weeks ago	226MB
mongo	latest	95a98776f273	4 weeks ago	1.22GB
mysql	latest	a776e89aad2d	4 weeks ago	1.26GB
postgres	17-alpine	6567bca8d7bc	2 months ago	398MB

4. Ejecuta una instancia (contenedor) de la imagen descargada (httpd):

`docker run -it -d -p 8080:80 httpd`

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
1ebd10d731fc0ace447dd5026920909558bf77f452e7dcd4a617354b9241f967	httpd	"httpd-foreground"	23 seconds ago	Up 22 seconds	0.0.0.0:8080→80/tcp, [::]:8080→80/tcp

5. Consulta todas los contenedores creadores:

`docker ps`

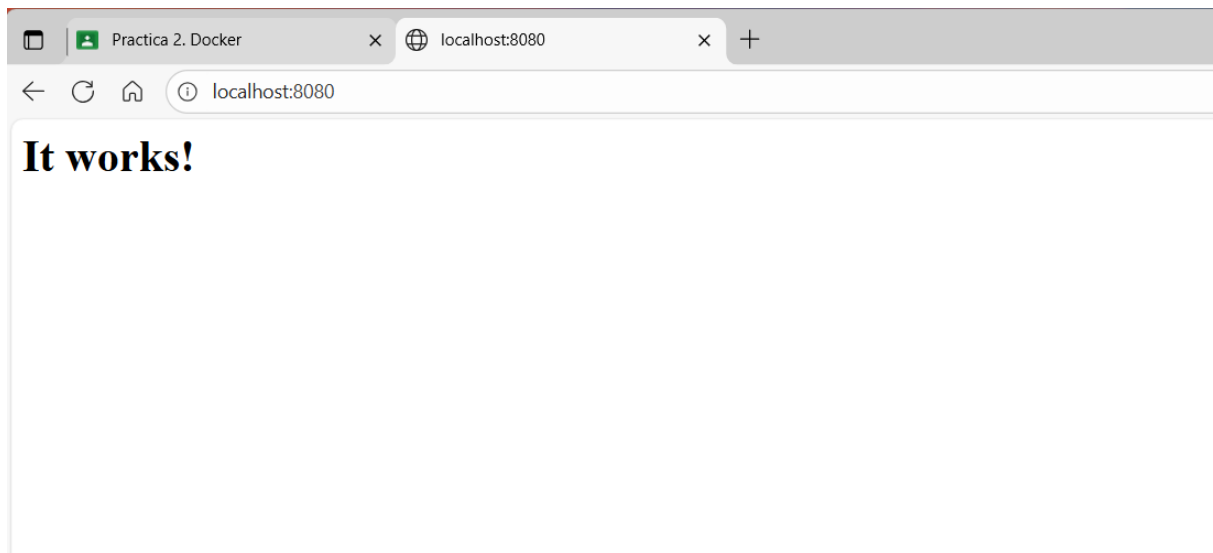
CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
1ebd10d731fc	httpd	"httpd-foreground"	23 seconds ago	Up 22 seconds	0.0.0.0:8080→80/tcp, [::]:8080→80/tcp

`docker ps -a`

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
1ebd10d731fc	httpd	"httpd-foreground"	39 seconds ago	Up 38 seconds	0.0.0.0:8080→80/t
600be77e0f14	postgres:17-alpine	"docker-entrypoint.s..."	10 days ago	Exited (0) 8 days ago	
objective_tesla					

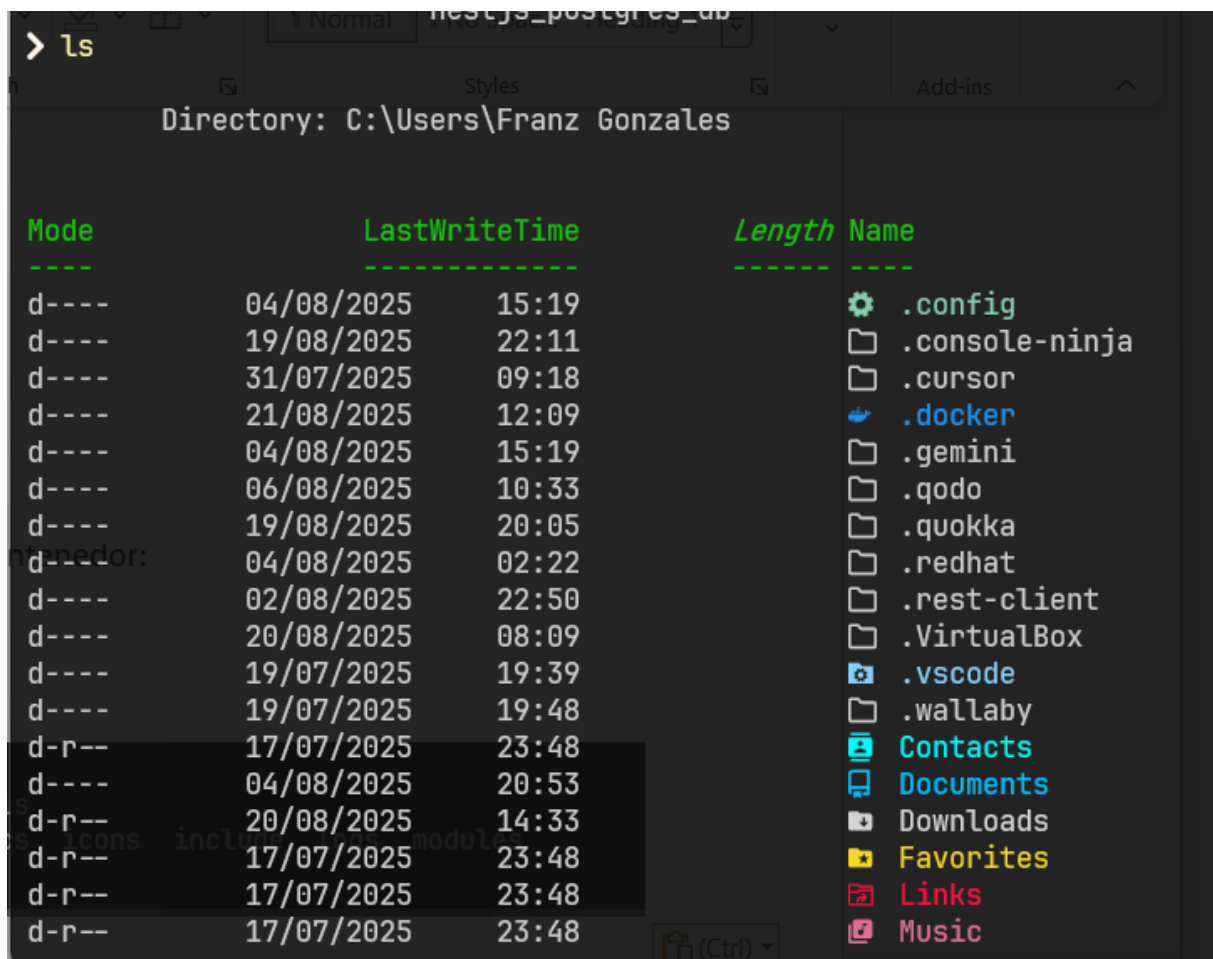
6. Comprueba el funcionamiento del contenedor desde el host:

<http://localhost:8080>



7. Ejecuta la terminal de Linux dentro del contenedor:

Ls



docker exec -it 2e50e06a5c84

```
> docker exec -it 1ebd10d731fc bash
root@1ebd10d731fc:/usr/local/apache2# ls
bin build cgi-bin conf error htdocs icons include logs modules
root@1ebd10d731fc:/usr/local/apache2# |
```

8. Borra el contenedor creado:

`docker rm CONTAINER_ID`

```
> docker rm 1ebd10d731fc
1ebd10d731fc
(Contenedor antes de borrarlo)
```

`docker stop 2e50e06a5c84` (para el contenedor antes de borrarlo)

`docker rm 2e50e06a5c84`

```
> docker stop 1ebd10d731fc
1ebd10d731fc
```

9. Comprueba que el contenedor ha sido eliminado:

`docker ps -a`

```
> docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
600be77e0f14	postgres:17-alpine	"docker-entrypoint.s..."	10 days ago	Exited (0) 8 days ago		nestjs_postgres_db

10. Borra la imagen usando la identificación del Contenedor. Comprueba que el contenedor ha sido eliminado:

`docker rmi IMAGE_ID`

`docker images`

```
> docker images
REPOSITORY    TAG                IMAGE ID           CREATED            SIZE
httpd          latest             3198c1839e1a      12 days ago       174MB
node           22-alpine          1b2479dd35a9      2 weeks ago       226MB
mongo          latest             95a98776f273      4 weeks ago       1.22GB
mysql          latest             a776e89aad2d      4 weeks ago       1.26GB
postgres       17-alpine          6567bca8d7bc      2 months ago      398MB
```

pwsh MEM: 46% | 11/23GB 131ms

docker rmi a8ea074f4566

docker rmi -f a8ea074f4566 (forzar el borrado)

```
> docker rmi -f 3198c1839e1a
Untagged: httpd:latest
Deleted: sha256:3198c1839e1a875f8b83803083758a7635f1ae999f0601f30f2f3b8ce2ac99e3
```

pwsh MEM: 46% | 11/23GB 338ms

11. Reinicia el contenedor:

```
> docker pull httpd
Using default tag: latest
latest: Pulling from library/httpd
779ccd583397: Pull complete
396b1da7636e: Pull complete
7e8bbac53823: Pull complete
4f4fb700ef54: Pull complete
40712a21826a: Pull complete
d2b1a5ae8cd3: Pull complete
Digest: sha256:3198c1839e1a875f8b83803083758a7635f1ae999f0601f30f2f3b8ce2ac99e3
Status: Downloaded newer image for httpd:latest
docker.io/library/httpd:latest
```

docker restart CONTAINER_ID

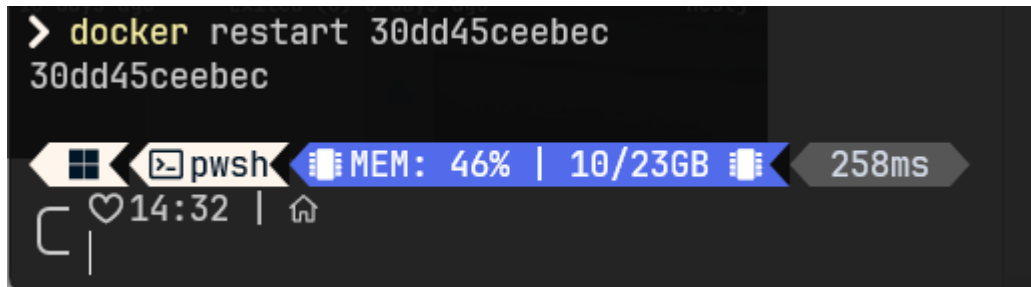
docker ps -a

```
> docker ps -a
CONTAINER ID   IMAGE                COMMAND             CREATED             STATUS              PORTS             NAMES
30dd45ceebec   httpd                "httpd-foreground"  35 seconds ago     Exited (0) 7 seconds ago              suspi
cious_johnson   postgres:17-alpine   "docker-entrypoint.s..."  10 days ago        Exited (0) 8 days ago              nestj
s_postgres_db
```

pwsh MEM: 46% | 10/23GB 91ms

docker restart 2e50e06a5c84

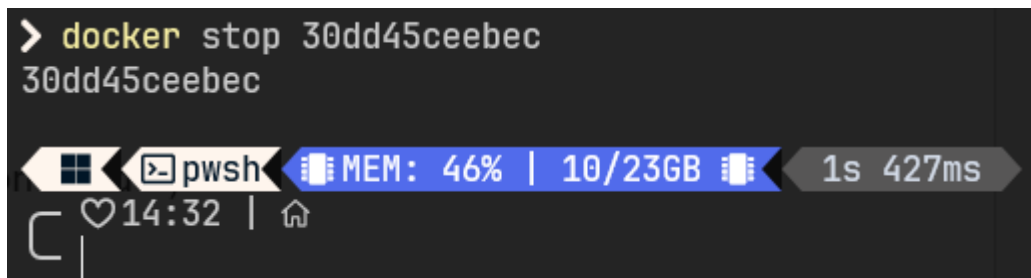
```
> docker restart 30dd45ceebecc
30dd45ceebecc
```



12. Detén y levanta el contenedor:

`docker stop CONTAINER_ID`

```
> docker stop 30dd45ceebecc
30dd45ceebecc
```



`docker stop 2e50e06a5c84`

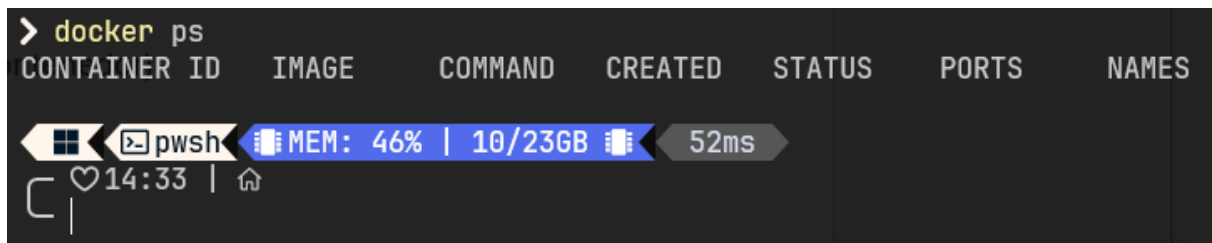
`docker ps` (comprueba que está parado el contenedor)

`docker start 2e50e06a5c84`

`docker ps`

```
> docker ps
```

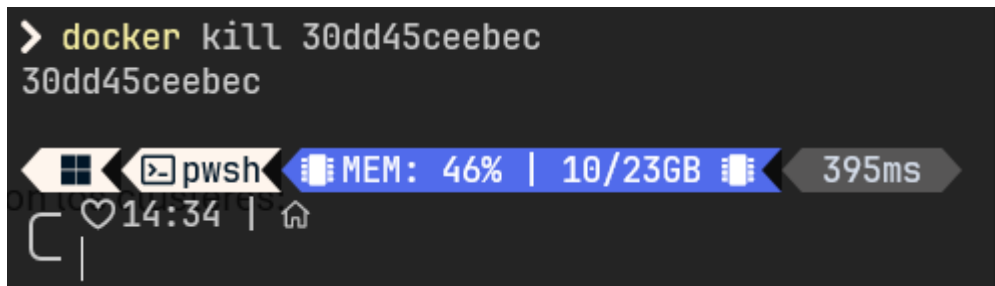
CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
--------------	-------	---------	---------	--------	-------	-------



13. Mata el contenedor:

`docker kill 2e50e06a5c84`

```
> docker kill 30dd45ceebecc
30dd45ceebecc
```



`docker ps`

```
> docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
--------------	-------	---------	---------	--------	-------	-------

14. Visualiza los detalles de la red definida con los clústeres:

docker network

```
> docker network
```

Usage: docker network COMMAND

on los clústeres:

Manage networks

Commands:

- connect Connect a container to a network
- create Create a network
- disconnect Disconnect a container from a network
- inspect Display detailed information on one or more networks
- ls List networks
- prune Remove all unused networks
- rm Remove one or more networks

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

docker network ls

```
> docker network ls
```

NETWORK ID	NAME	DRIVER	SCOPE
c80bff317bf4	bridge	bridge	local
64553c1024f2	docker-postgresql_nestjs_network	bridge	local
e6cf00247f62	host	host	local
a8a0c0770861	none	null	local

docker ps

> docker ps						
CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
<div> <div> <div></div> <div>pwsh</div> </div> <div>MEM: 46% 10/23GB</div> <div>55ms</div> </div> <div> <div>14:35</div> <div></div> </div> <div>(Ctrl)</div>						

15. Obtén información detallada sobre los recursos de Docker:

docker Info

```
> docker info
Client:
  Version: 28.3.2
  Context: desktop-linux
  Debug Mode: false
  Plugins:
    ai: Docker AI Agent - Ask Gordon (Docker Inc.)
        Version: v1.9.11
        Path: C:\Program Files\Docker\cli-plugins\docker-ai.exe
    buildx: Docker Buildx (Docker Inc.)
        Version: v0.26.1-desktop.1
        Path: C:\Program Files\Docker\cli-plugins\docker-buildx.exe
    cloud: Docker Cloud (Docker Inc.)
        Version: v0.4.18
        Path: C:\Program Files\Docker\cli-plugins\docker-cloud.exe
    compose: Docker Compose (Docker Inc.)
        Version: v2.39.1-desktop.1
        Path: C:\Program Files\Docker\cli-plugins\docker-compose.exe
    debug: Get a shell into any image or container (Docker Inc.)
        Version: 0.0.42
        Path: C:\Program Files\Docker\cli-plugins\docker-debug.exe
    desktop: Docker Desktop commands (Docker Inc.)
        Version: v0.2.0
        Path: C:\Program Files\Docker\cli-plugins\docker-desktop.exe
    extension: Manages Docker extensions (Docker Inc.)
        Version: v0.2.29
        Path: C:\Program Files\Docker\cli-plugins\docker-extension.exe
    init: Creates Docker-related starter files for your project (Docker Inc.)
        Version: v1.4.0
        Path: C:\Program Files\Docker\cli-plugins\docker-init.exe
    mcp: Docker MCP Plugin (Docker Inc.)
        Version: v0.13.0
        Path: C:\Program Files\Docker\cli-plugins\docker-mcp.exe
    model: Docker Model Runner (EXPERIMENTAL) (Docker Inc.)
        Version: v0.1.36
        Path: C:\Program Files\Docker\cli-plugins\docker-model.exe
    sbom: View the packaged-based Software Bill Of Materials (SBOM) for an image (Anchore Inc.)
        Version: 0.6.0
        Path: C:\Program Files\Docker\cli-plugins\docker-sbom.exe
    scout: Docker Scout (Docker Inc.)
        Version: v1.18.3
        Path: C:\Users\Franz Gonzales\.docker\cli-plugins\docker-scout.exe

Server:
```



```
Server:
Containers: 2
Running: 0
Paused: 0
Stopped: 2
Images: 5
Server Version: 28.3.2
Storage Driver: overlayfs
  driver-type: io.containerd.snapshotter.v1
Logging Driver: json-file
Cgroup Driver: cgroupfs
Cgroup Version: 2
Plugins:
  Volume: local
  Network: bridge host ipvlan macvlan null overlay
  Log: awslogs fluentd gcplogs gelf journald json-file local splunk syslog
CDI spec directories:
  /etc/cdi
  /var/run/cdi
Discovered Devices:
  cdi: docker.com/gpu=webgpu
Swarm: inactive
Runtimes: runc io.containerd.runc.v2 nvidia
Default Runtime: runc
Init Binary: docker-init
containerd version: 05044ec0a9a75232cad458027ca83437aae3f4da
runc version: v1.2.5-0-g59923ef
init version: de40ad0
Security Options:
  seccomp
  Profile: builtin
  cgroupns
Kernel Version: 6.6.87.2-microsoft-standard-WSL2
Operating System: Docker Desktop
OSType: linux
Architecture: x86_64
CPUs: 8
Total Memory: 11.51GiB
Name: docker-desktop
ID: 0a3eb14c-f249-466e-ad29-eeff4610145d
Docker Root Dir: /var/lib/docker
Debug Mode: false
HTTP Proxy: http.docker.internal:3128
```

16. Revisa el historial de una imagen:

docker history httpd

```
> docker history httpd
IMAGE          CREATED          CREATED BY          SIZE      COMMENT
3198c1839e1a  13 days ago     CMD ["httpd-foreground"]  0B        buildkit.dockerfile.v0
<missing>     13 days ago     EXPOSE map[80/tcp:{}]    0B        buildkit.dockerfile.v0
<missing>     13 days ago     COPY httpd-foreground /usr/local/bin/ # buil... 20.5kB    buildkit.dockerfile.v0
<missing>     13 days ago     STOPSIGNAL SIGWINCH      0B        buildkit.dockerfile.v0
<missing>     13 days ago     RUN /bin/sh -c set -eux; savedAptMark="$(a... 34.8MB    buildkit.dockerfile.v0
<missing>     13 days ago     ENV HTTPD_PATCHES=       0B        buildkit.dockerfile.v0
<missing>     13 days ago     ENV HTTPD_SHA256=58b8be97d9940ec17f7656c0c6b... 0B        buildkit.dockerfile.v0
<missing>     13 days ago     ENV HTTPD_VERSION=2.4.65 0B        buildkit.dockerfile.v0
<missing>     13 days ago     RUN /bin/sh -c set -eux; apt-get install --... 7MB       buildkit.dockerfile.v0
<missing>     13 days ago     WORKDIR /usr/local/apache2 4.1kB     buildkit.dockerfile.v0
<missing>     13 days ago     RUN /bin/sh -c mkdir -p "$HTTPD_PREFIX" && ... 16.4kB    buildkit.dockerfile.v0
<missing>     13 days ago     ENV PATH=/usr/local/apache2/bin:/usr/local/s... 0B        buildkit.dockerfile.v0
<missing>     13 days ago     ENV HTTPD_PREFIX=/usr/local/apache2          0B        buildkit.dockerfile.v0
<missing>     13 days ago     # debian.sh --arch 'amd64' out/ 'trixie' '@1... 87.4MB    debuerreotype 0.15
```

17. Busca una imagen según el nombre:

docker search mongo

```
> docker search mongo
NAME                DESCRIPTION                STARS      OFFICIAL
mongo               MongoDB document databases provide high avai... 10617      [OK]
circleci/mongo      CircleCI images for MongoDB 16
corpusops/mongo      https://github.com/corpusops/docker-images/ 0
rootpublic/mongo     0
uselagoon/mongo      0
ekesken/mongo        docker image for mongo that is configurable ... 1
vepo/mongo           Mongo image with default settings 1
litmuschaos/mongo    1
jelastic/mongo       An image of the MongoDB database server main... 0
arm64v8/mongo        MongoDB document databases provide high avai... 36
zinobe/mongo         mongo with custom user 0
s390x/mongo          MongoDB document databases provide high avai... 1
kubedb/mongo         0
cescoferraro/mongo   docker alpine mongo 0
ccitest/mongo        CircleCI test images for Mongo 0
amd64/mongo          MongoDB document databases provide high avai... 0
excellalabs/mongo    Dockerfile and scripts to setup a production... 2
sacashgit/mongo      0
winamd64/mongo       MongoDB document databases provide high avai... 1
healthcheck/mongo    https://github.com/docker-library/healthchec... 5
mongodb/mongodb-community-server The Official MongoDB Community Server 164
pagarme/mongo        0
pastvu/mongo         0
sscpac/mongo         alpine mongo 0
dreamquark/mongo     Mongo DB with custom entrypoints 0
```