

TAREA 1

DOCKER

MAESTRÍA EN DATA SCIENCE
PRODUCT DEVELOPMENT

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Guatemala, 30 de octubre de 2021

DOCKER

```
(base) Antonios-MacBook-Pro:- Navas$  
(base) Antonios-MacBook-Pro:- Navas$  
(base) Antonios-MacBook-Pro:- Navas$ docker  
  
Usage: docker [OPTIONS] COMMAND  
  
A self-sufficient runtime for containers  
  
Options:  
  --config string      Location of client config files (default  
                      "/Users/Navas/.docker")  
  -c, --context string Name of the context to use to connect to the  
                      daemon (overrides DOCKER_HOST env var and  
                      default context set with "docker context use")  
  -D, --debug          Enable debug mode  
  -H, --host list      Daemon socket(s) to connect to  
  -L, --log-level string Set the logging level  
                      ("debug"|"info"|"warn"|"error"|"fatal")  
  (default "info")  
  --tls               Use TLS; implied by --tlsverify  
  --tlscacert string  Trust certs signed only by this CA (default  
                      "/Users/Navas/.docker/ca.pem")  
  --tlscert string    Path to TLS certificate file (default  
                      "/Users/Navas/.docker/cert.pem")  
  --tlskey string     Path to TLS key file (default  
                      "/Users/Navas/.docker/key.pem")  
  --tlsverify         Use TLS and verify the remote  
  -v, --version        Print version information and quit  
  
Management Commands:  
  builder      Manage builds  
  buildx*     Build with BuildKit (Docker Inc., v0.6.3)  
  compose*    Docker Compose (Docker Inc., v2.0.0)  
  config       Manage Docker configs  
  container   Manage containers  
  context     Manage contexts  
  image       Manage images  
  manifest   Manage Docker image manifests and manifest lists  
  network    Manage networks  
  node       Manage Swarm nodes  
  plugin    Manage plugins  
  scan*      Docker Scan (Docker Inc., v0.8.0)  
  secret     Manage Docker secrets  
  service    Manage services  
  stack      Manage Docker stacks  
  swarm      Manage Swarm  
  system    Manage Docker  
  trust      Manage trust on Docker images  
  volume     Manage volumes  
  
Commands:  
  attach      Attach local standard input, output, and error streams to a running container  
  build       Build an image from a Dockerfile  
  commit     Create a new image from a container's changes  
  cp         Copy files/folders between a container and the local filesystem  
  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 -h' for more information on a command.  
  
To get more help with docker, check out our guides at https://docs.docker.com/go/guides/  
(base) Antonios-MacBook-Pro:- Navas$  
(base) Antonios-MacBook-Pro:- Navas$  
(base) Antonios-MacBook-Pro:- Navas$ 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)
```

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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/

(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ docker pull busybox
Using default tag: latest
latest: Pulling from library/busybox
Digest: sha256:15e927f8dfcc772b70713543d6b51e3cd8378abf86b2ea4644a9fba21107f
Status: Image is up to date for busybox:latest
docker.io/library/busybox:latest
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ docker images
REPOSITORY          TAG      IMAGE ID      CREATED       SIZE
busybox             latest   cabd3ee9beed4d  3 days ago   1.24MB
jupyter/base-notebook  latest   bcb3ee9beed4d  12 days ago  670MB
mysql               5.7.35   8a8a506ccfc0c  2 weeks ago  448MB
hello-world         latest   feb5d9feaa65  5 weeks ago  13.3kB
busybox              <none>  16ea53ea7c65  6 weeks ago  1.24MB
golang               latest   52b59e9ead9e  2 years ago  883MB
nginx               latest   f949e7d76d63  2 years ago  126MB
postgres             latest   c3fe767ef0a6  2 years ago  313MB
golang               1.11-alpine3.9  991f9ef3b102  2 years ago  312MB
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ docker run busybox echo 'Hello World'
'Hello World'
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED             STATUS              PORTS               NAMES
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ docker ps -a
CONTAINER ID        IMAGE               COMMAND                  CREATED             STATUS              PORTS               NAMES
8e1cdf9add97    busybox            "echo 'Hello World'"  About a minute ago   Exited (0)  About a minute ago   sleepy_chandrasekhar
c21c517be392    hello-world        "/hello"                2 minutes ago     Exited (0)  2 minutes ago     loving_dijkstra
65204ed1f854    busybox            "echo 'Hello World'"  3 minutes ago     Exited (0)  3 minutes ago     vigorous_engelbart
e0b92f065d9d    hello-world        "/hello"                4 minutes ago     Exited (0)  4 minutes ago     loving_easley
2dc348e6f4e2    hello-world        "/hello"                4 minutes ago     Exited (0)  4 minutes ago     happy_bouman
fbfce5dd9fe7   jupyter/base-notebook  "tini -g -- start-no..."  11 days ago      Exited (0)  11 days ago     cranky_bell
b700861b00ec    mysql:5.7.35      "docker-entrypoint.s..."  11 days ago      Exited (0)  11 days ago     zealous_cray

(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ docker run -it busybox sh
# 
# 
# ls
bin dev etc home proc root sys tmp usr var
# uptime
02:35:02 up 9 min,  0 users,  load average: 0.00, 0.03, 0.01
# 
# cd var
/var # ls
spool www
/var # exit
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED             STATUS              PORTS               NAMES
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ docker ps -a
CONTAINER ID        IMAGE               COMMAND                  CREATED             STATUS              PORTS               NAMES
10f028890395    busybox            "sh"                  About a minute ago   Exited (0)  27 seconds ago   serene_galileo
8e1cdf9add97    busybox            "echo 'Hello World'"  7 minutes ago     Exited (0)  7 minutes ago     sleepy_chandrasekhar
c21c517be392    hello-world        "/hello"                8 minutes ago     Exited (0)  8 minutes ago     loving_dijkstra
65204ed1f854    busybox            "echo 'Hello World'"  9 minutes ago     Exited (0)  9 minutes ago     vigorous_engelbart
e0b92f065d9d    hello-world        "/hello"                10 minutes ago    Exited (0)  10 minutes ago    loving_easley
2dc348e6f4e2    hello-world        "/hello"                10 minutes ago    Exited (0)  10 minutes ago    happy_bouman
fbfce5dd9fe7   jupyter/base-notebook  "tini -g -- start-no..."  11 days ago      Exited (0)  11 days ago     cranky_bell
b700861b00ec    mysql:5.7.35      "docker-entrypoint.s..."  11 days ago      Exited (0)  11 days ago     zealous_cray

(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ docker rm 65204ed1f854
65204ed1f854
(base) Antonios-MacBook-Pro:~ Navas$ docker ps -a
CONTAINER ID        IMAGE               COMMAND                  CREATED             STATUS              PORTS               NAMES
10f028890395    busybox            "sh"                  2 minutes ago     Exited (0)  About a minute ago   serene_galileo
8e1cdf9add97    busybox            "echo 'Hello World'"  8 minutes ago     Exited (0)  8 minutes ago     sleepy_chandrasekhar
c21c517be392    hello-world        "/hello"                9 minutes ago     Exited (0)  9 minutes ago     loving_dijkstra
e0b92f065d9d    hello-world        "/hello"                11 minutes ago    Exited (0)  11 minutes ago    loving_easley
2dc348e6f4e2    hello-world        "/hello"                11 minutes ago    Exited (0)  11 minutes ago    happy_bouman
fbfce5dd9fe7   jupyter/base-notebook  "tini -g -- start-no..."  11 days ago      Exited (0)  11 days ago     cranky_bell
b700861b00ec    mysql:5.7.35      "docker-entrypoint.s..."  11 days ago      Exited (0)  11 days ago     zealous_cray

(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ 
(base) Antonios-MacBook-Pro:~ Navas$ docker container prune
WARNING! This will remove all stopped containers.
Are you sure you want to continue? [y/N] y
Deleted Containers:
10f028890395673rafed5bf81f37230954ebd1c67ffff9dcf12f78c519fb4fa88c

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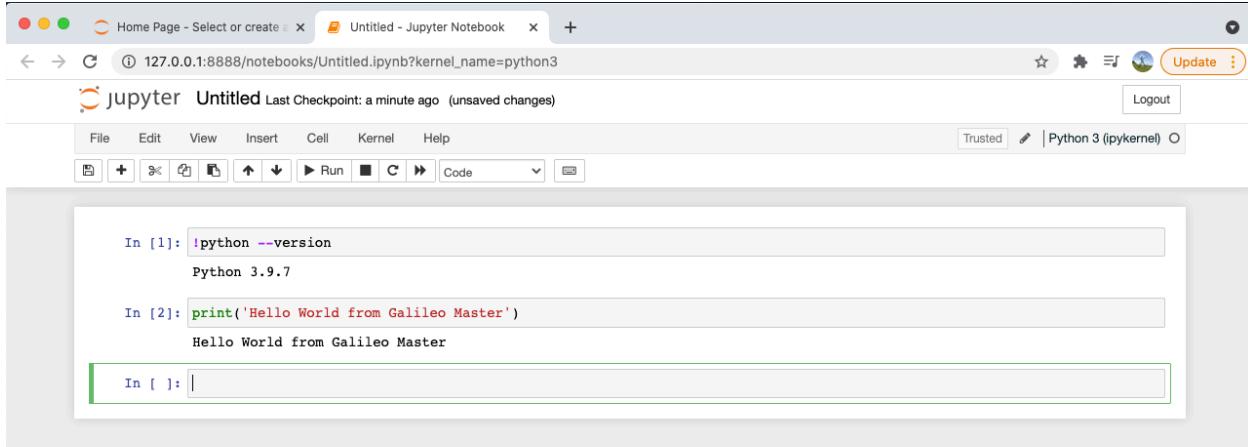
8e1cdf9add9738b3f0f4cdfd72a8db0767af53e5aab5765bb170b448547d3019
c21c517be392e0elcd10af998fd0543eacd2589fc1f31ce61dc8c316a34ab8c
e0b92f065d9d09640e44121b474f0aec313356f74478d085e6af8661a659a
2dc938fe6f4e2f7ef5273aebefc2600de08a4119c3943fe48a2d2865532dc4a6
fbcc5dd9fe71c7627419d7837064d97c56e13b5bed7e9cb786bb499386a
b700861b00ec260d1366800877d7c93c9ec09da73d03776ab0b53e2e8ae5cd

Total reclaimed space: 294.6B
(base) Antonios-MacBook-Pro:~ Navas$
(base) Antonios-MacBook-Pro:~ Navas$
(base) Antonios-MacBook-Pro:~ Navas$ docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
(base) Antonios-MacBook-Pro:~ Navas$
(base) Antonios-MacBook-Pro:~ Navas$
(base) Antonios-MacBook-Pro:~ Navas$ docker ps -as
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES SIZE
(base) Antonios-MacBook-Pro:~ Navas$
(base) Antonios-MacBook-Pro:~ Navas$
(base) Antonios-MacBook-Pro:~ Navas$ docker pull jupyter/base-notebook
Using default tag: latest
latest: Pulling from jupyter/base-notebook
7bla6a2e44d: Already exists
aae7ac7ba423: Full complete
ac5e015e0bc: Full complete
[d7ee777f580c: Full complete
a5db759ff9c8: Full complete
c464ee64a36c: Full complete
ae5313d07705: Full complete
0c52b58d46b: Full complete
6830cc7cf343: Full complete
25203b1e1b1: Full complete
464a3cf0358: Full complete
Digest: sha256:5076e42c22c5df9508080518f13f9c8e0b2c8fd50d1072519887735c14ee63f7
Status: Downloaded newer image for jupyter/base-notebook:latest
docker.io/jupyter/base-notebook:latest
(base) Antonios-MacBook-Pro:~ Navas$
(base) Antonios-MacBook-Pro:~ Navas$
(base) Antonios-MacBook-Pro:~ Navas$ docker run -p 8888:8888 jupyter/base-notebook
WARNINGS: Notebook application deprecation notice https://github.com/jupyter/docker-stacks#jupyter-notebook-deprecation-notice.
Executing command: Jupyter notebook
[1] 02:46:58.587 NotebookApp Writing notebook server cookie secret to /home/jovyan/.local/share/jupyter/runtime/notebook_cookie_secret
[1] 02:46:58.587 NotebookApp "IP" has moved from NotebookApp to ServerApp. This config will be passed to ServerApp. Be sure to update your config before our next release.
[1] 2021-10-31 02:46:41.789 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.
[1] 2021-10-31 02:46:41.789 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.
[1] 2021-10-31 02:46:41.723 LabApp JupyterLab extension loaded from /opt/conda/lib/python3.9/site-packages/jupyterlab
[1] 2021-10-31 02:46:41.723 LabApp JupyterLab application directory is /opt/conda/share/jupyter/lab
[1] 02:46:41.730 NotebookApp Serving notebooks from local directory: /home/jovyan
[1] 02:46:41.730 NotebookApp Jupyter Notebook 6.4.5 is running at:
[1] 02:46:41.730 NotebookApp http://127.0.0.1:8888/?token=9441ae6f37552207f54162fbfa4c567cc24f8a0866a12ed1
[1] 02:46:41.731 NotebookApp or http://127.0.0.1:8888/?token=9441ae6f37552207f54162fbfa4c567cc24f8a0866a12ed1
[1] 02:46:41.731 NotebookApp Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[2] 02:46:41.739 NotebookApp

To access the notebook, open this file in a browser:
file:///home/jovyan/.local/share/jupyter/runtime/nbserver-7-open.html
Or copy and paste one of these URLs:
http://127.0.0.1:8888/?token=9441ae6f37552207f54162fbfa4c567cc24f8a0866a12ed1
or http://127.0.0.1:8888/?token=9441ae6f37552207f54162fbfa4c567cc24f8a0866a12ed1
[1] 02:47:16.676 NotebookApp 302 GET /?token=9441ae6f37552207f54162fbfa4c567cc24f8a0866a12ed1 (172.17.0.1) 2,160000ms
[1] 02:49:00.021 NotebookApp [Creating new notebook in /home/jovyan/.local/share/jupyter/notebook/_secret]
[1] 02:49:00.021 NotebookApp [Time notebook-signature key to /home/jovyan/.local/share/jupyter/notebook_secret]
Exception in callback <TaskWakeUpMethWrapper object at 0x7ff5022ef220>(<Future finished result=None>)
handle: <Handle <TaskWakeUpMethWrapper object at 0x7ff5022ef220>(<Future finished result=None>)
Traceback (most recent call last):
File "/opt/conda/lib/python3.9/asyncio/events.py", line 88, in _run
    self._context.run(self._callback, *self._args)
RuntimeError: Cannot enter into task <Task pending name='Task-7' coro=<HTTP1ServerConnection._server_request_loop()> running at /opt/conda/lib/python3.9/site-packages/tornado/http1connection.py:823> wait_for=<Future finished result=None> cb=[IOLoop.add_future.<locals>.<lambda>() at /opt/conda/lib/python3.9/site-packages/tornado/ioloop.py:688> while another task <Task pending name='Task-51' coro=<MappingKernelManager.start_kernel()> running at /opt/conda/lib/python3.9/site-packages/notebook/services/kernels/kernelmanager.py:176> cb=[IOLoop.add_future.<locals>.<lambda>() at /opt/conda/lib/python3.9/site-packages/tornado/ioloop.py:688> while another task <Task pending name='Task-2' coro=<KernelManager._async_start_kernel()> running at /opt/conda/lib/python3.9/site-packages/jupyter_client/kernel_manager.py:332> i s being executed.
[1] 02:49:02.667 NotebookApp Kernel started: 0aa8decf-fa4a-4a0e-bb86-edad47bd3b6c, name: python3
[1] 02:51:02.631 NotebookApp Saving file at /Untitled.ipynb

```





```
(base) Antonios-MacBook-Pro:- Navas$ docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
ee355dac6c9d jupyter/base-notebook "tini -g -- start-no..." 5 minutes ago Up 5 minutes 0.0.0.0:8888->8888/tcp suspicious_spence
(base) Antonios-MacBook-Pro:- Navas$ 
(base) Antonios-MacBook-Pro:- Navas$ docker network create --driver bridge my_test_network
d629e545577a2d2e2a29690f50fa0d01356e9db7c1a1d987e067c645cdff811
(base) Antonios-MacBook-Pro:- Navas$ 
(base) Antonios-MacBook-Pro:- Navas$ 
(base) Antonios-MacBook-Pro:- Navas$ 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_P[REDACTED]
ASSWORD=test123" mysql:5.7.35
2021-10-31 03:02:04+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 5.7.35-1debian10 started.
2021-10-31 03:02:05+00:00 [Note] [Entrypoint]: Switching to dedicated user 'mysql'
2021-10-31 03:02:05+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 5.7.35-1debian10 started.
2021-10-31 03:02:05+00:00 [Note] [Entrypoint]: Initializing database files
2021-10-31T03:02:05 2354942 0 [Warning] TIMESTAMP with implicit DEFAULT value is deprecated. Please use --explicit_defaults_for_timestamp server option (see documentation for more details).
2021-10-31T03:02:06 8824252 0 [Warning] InnoDB: New log files created. LSN=4599
2021-10-31T03:02:06 1897772 0 [Warning] InnoDB: Creating foreign key constraint system tables.
2021-10-31T03:02:06 2625182 0 [Warning] No existing UUID has been found, so we assume that this is the first time that this server has been started. Generating a new UUID: ee31d677-39f6-11ec-b803-0242ac140802.
2021-10-31T03:02:06 2655752 0 [Warning] Gtid table is not ready to be used. Table 'mysql.gtid_executed' cannot be opened.
2021-10-31T03:02:07 5974802 0 [Warning] A deprecated TLS version TLSv1 is enabled. Please use TLSv1.2 or higher.
2021-10-31T03:02:07 5975572 0 [Warning] A deprecated TLS version TLSv1.1 is enabled. Please use TLSv1.2 or higher.
2021-10-31T03:02:07 5992142 0 [Warning] Ca certificate ca.pem is self signed.
2021-10-31T03:02:07 8865382 1 [Warning] root@localhost: is created with an empty password ! Please consider switching off the --initialize-insecure option.
2021-10-31T03:02:11+00:00 0 [Note] [Entrypoint]: Database files initialized
2021-10-31T03:02:11+00:00 0 [Note] [Entrypoint]: Starting temporary server
2021-10-31T03:02:11+00:00 0 [Note] [Entrypoint]: Waiting for server startup
2021-10-31T03:02:11 5534382 0 [Warning] TIMESTAMP with implicit DEFAULT value is deprecated. Please use --explicit_defaults_for_timestamp server option (see documentation for more details).
2021-10-31T03:02:11 5589672 0 [Note] mysqld (mysqld 5.7.35) starting as process 77 ...
2021-10-31T03:02:11 5657582 0 [Note] InnoDB: PUNCH HOLE support available
2021-10-31T03:02:11 5658182 0 [Note] InnoDB: Mutexes and rw_locks use GCC atomic builtins
2021-10-31T03:02:11 5658282 0 [Note] InnoDB: Uses event mutexes
2021-10-31T03:02:11 5658342 0 [Note] InnoDB: GCC builtin __atomic_thread_fence() is used for memory barrier
2021-10-31T03:02:11 5658482 0 [Note] InnoDB: Compressed tables use zlib 1.2.11
2021-10-31T03:02:11 5658452 0 [Note] InnoDB: Using Linux native AIO
2021-10-31T03:02:11 5670642 0 [Note] InnoDB: Number of pools: 1
2021-10-31T03:02:11 5679842 0 [Note] InnoDB: Using CPU crc32 instructions
2021-10-31T03:02:11 5684802 0 [Note] InnoDB: Initializing buffer pool total size = 128M, instances = 1, chunk size = 128M
2021-10-31T03:02:11 6057322 0 [Note] InnoDB: Completed initialization of buffer pool
2021-10-31T03:02:11 6137672 0 [Note] InnoDB: The thread pool execution user is authorized, page cleaner thread priority can be changed. See the man page of setpriority().
2021-10-31T03:02:11 6303372 0 [Note] InnoDB: Highest supported file format is Barracuda.
2021-10-31T03:02:11 6596312 0 [Note] InnoDB: Creating shared tablespace for temporary tables
2021-10-31T03:02:11 6604167 0 [Note] InnoDB: Setting file './ibtmp1' size to 12 MB. Physically writing the file full; Please wait ...
2021-10-31T03:02:11 7459322 0 [Note] InnoDB: File './ibtmp1' size is now 12 MB
2021-10-31T03:02:11 7484217 0 [Note] InnoDB: 96 redo rollback segment(s) found, 96 redo rollback segment(s) are active.
2021-10-31T03:02:11 7484897 0 [Note] InnoDB: 32 non-redo rollback segment(s) are active.
2021-10-31T03:02:11 7542672 0 [Note] InnoDB: 5.7.35 started; log sequence number 2749118
2021-10-31T03:02:11 7572552 0 [Note] InnoDB: Plugin 'FEDERATED' is disabled.
2021-10-31T03:02:11 7601512 0 [Note] InnoDB: Loading buffer pool(s) from /var/lib/mysql/ib_buffer_pool
2021-10-31T03:02:11 7664522 0 [Note] Found ca.pem, server-cert.pem and server-key.pem in data directory. Trying to enable SSL support using them.
2021-10-31T03:02:11 7665122 0 [Note] Skipping generation of SSL certificates as certificate files are present in data directory.
2021-10-31T03:02:11 7665232 0 [Warning] A deprecated TLS version TLSv1 is enabled. Please use TLSv1.2 or higher.
```

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2021-10-31T03:02:11.766528Z 0 [Warning] A deprecated TLS version TLSv1.1 is enabled. Please use TLSv1.2 or higher.
2021-10-31T03:02:11.769647Z 0 [Warning] CA certificate ca.pem is self signed.
2021-10-31T03:02:11.773476Z 0 [Warning] Insecure configuration for --pid-file: Location '/var/run/mysqld' in the path is accessible to all OS users. Consider choosing a different directory.
2021-10-31T03:02:11.793934Z 0 [Note] Event Scheduler: Loaded 0 events
2021-10-31T03:02:11.795301Z 0 [Note] mysqld: ready for connections.
Version: '5.7.35' socket: '/var/run/mysqld/mysqld.sock' port: 3306 MySQL Community Server (GPL)
2021-10-31 03:02:12+00:00 [Note] [Entrypoint]: Temporary server started.
Warning: Unable to load '/usr/share/zoneinfo/zone.tab' as time zone. Skipping it.
Warning: Unable to load '/usr/share/zoneinfo/zone.tab' as time zone. Skipping it.
Warning: Unable to load '/usr/share/zoneinfo/zone1979.tab' as time zone. Skipping it.
2021-10-31 03:02:15+00:00 [Note] [Entrypoint]: Creating database test
2021-10-31 03:02:15+00:00 [Note] [Entrypoint]: Creating user test
2021-10-31 03:02:15+00:00 [Note] [Entrypoint]: Giving user test access to schema test

2021-10-31 03:02:15+00:00 [Note] [Entrypoint]: Stopping temporary server
2021-10-31T03:02:16.624621Z 0 [Note] Giving 8 client threads a chance to die gracefully
2021-10-31T03:02:16.624661Z 0 [Note] Shutting down slave threads
2021-10-31T03:02:16.624688Z 0 [Note] Forcefully disconnecting 0 remaining clients
2021-10-31T03:02:16.624695Z 0 [Note] Event Scheduler: Purging the queue. 0 events
2021-10-31T03:02:16.624943Z 0 [Note] Binlog end
2021-10-31T03:02:16.626385Z 0 [Note] Shutting down plugin 'ngram'
2021-10-31T03:02:16.626430Z 0 [Note] Shutting down plugin 'partition'
2021-10-31T03:02:16.626444Z 0 [Note] Shutting down plugin 'BLACKHOLE'
2021-10-31T03:02:16.626471Z 0 [Note] Shutting down plugin 'ARCHIVE'
2021-10-31T03:02:16.626784Z 0 [Note] Shutting down plugin 'PERFORMANCE_SCHEMA'
2021-10-31T03:02:16.626881Z 0 [Note] Shutting down plugin 'MRG_MYISAM'
2021-10-31T03:02:16.626882Z 0 [Note] Shutting down plugin 'MyISAM'
2021-10-31T03:02:16.626957Z 0 [Note] Shutting down plugin 'INNODB_SYS_VIRTUAL'
2021-10-31T03:02:16.626975Z 0 [Note] Shutting down plugin 'INNODB_SYS_DATAFILES'
2021-10-31T03:02:16.626984Z 0 [Note] Shutting down plugin 'INNODB_SYS_TABLESPACES'
2021-10-31T03:02:16.627126Z 0 [Note] Shutting down plugin 'INNODB_SYS_FOREIGN_COLS'
2021-10-31T03:02:16.627136Z 0 [Note] Shutting down plugin 'INNODB_SYS_FOREIGN'
2021-10-31T03:02:16.628714Z 0 [Note] Shutting down plugin 'INNODB_SYS_FIELDS'
2021-10-31T03:02:16.628758Z 0 [Note] Shutting down plugin 'INNODB_SYS_COLUMNS'
2021-10-31T03:02:16.630139Z 0 [Note] Shutting down plugin 'INNODB_SYS_INDEXES'
2021-10-31T03:02:16.630174Z 0 [Note] Shutting down plugin 'INNODB_SYS_TABLESTATS'
2021-10-31T03:02:16.630185Z 0 [Note] Shutting down plugin 'INNODB_SYS_TABLES'
2021-10-31T03:02:16.630194Z 0 [Note] Shutting down plugin 'INNODB_FT_INDEX_TABLE'
2021-10-31T03:02:16.630195Z 0 [Note] Shutting down plugin 'INNODB_FT_INDEX_CACHE'
2021-10-31T03:02:16.630743Z 0 [Note] Shutting down plugin 'INNODB_FT_CONFIG'
2021-10-31T03:02:16.630795Z 0 [Note] Shutting down plugin 'INNODB_FT_BEING_DELETED'
2021-10-31T03:02:16.630806Z 0 [Note] Shutting down plugin 'INNODB_FT_DELETED'
2021-10-31T03:02:16.630813Z 0 [Note] Shutting down plugin 'INNODB_FT_DEFAULT_STOPWORD'
2021-10-31T03:02:16.630821Z 0 [Note] Shutting down plugin 'INNODB_METRICS'
2021-10-31T03:02:16.630828Z 0 [Note] Shutting down plugin 'INNODB_TEMP_TABLE_INFO'
2021-10-31T03:02:16.630836Z 0 [Note] Shutting down plugin 'INNODB_BUFFER_POOL_STATS'
2021-10-31T03:02:16.630842Z 0 [Note] Shutting down plugin 'INNODB_BUFFER_PAGE_LRU'
2021-10-31T03:02:16.630851Z 0 [Note] Shutting down plugin 'INNODB_BUFFER_PAGE'
2021-10-31T03:02:16.630992Z 0 [Note] Shutting down plugin 'INNODB_CMP_PER_INDEX_RESET'
2021-10-31T03:02:16.630994Z 0 [Note] Shutting down plugin 'INNODB_CMP_PER_INDEX'

2021-10-31T03:02:16.630995Z 0 [Note] Shutting down plugin 'INNODB_CPMEM_RESET'
2021-10-31T03:02:16.631149Z 0 [Note] Shutting down plugin 'INNODB_CPMEM'
2021-10-31T03:02:16.631160Z 0 [Note] Shutting down plugin 'INNODB_CPM_RESET'
2021-10-31T03:02:16.631171Z 0 [Note] Shutting down plugin 'INNODB_CPM'
2021-10-31T03:02:16.631179Z 0 [Note] Shutting down plugin 'INNODB_LOCK_WAITS'
2021-10-31T03:02:16.631264Z 0 [Note] Shutting down plugin 'INNODB_LOCKS'
2021-10-31T03:02:16.631534Z 0 [Note] Shutting down plugin 'INNODB_TRX'
2021-10-31T03:02:16.632391Z 0 [Note] Shutting down plugin 'InnoDB'
2021-10-31T03:02:16.632845Z 0 [Note] InnoDB: FTs optimize thread exiting.
2021-10-31T03:02:16.633872Z 0 [Note] InnoDB: Starting shutdown...
2021-10-31T03:02:16.636231Z 0 [Note] InnoDB: Dumping buffer pool(s) to /var/lib/mysql/ib_buffer_pool
2021-10-31T03:02:16.637401Z 0 [Note] InnoDB: Buffer pool(s) dump completed at 211031 3:02:16
2021-10-31T03:02:17.795835Z 0 [Note] InnoDB: Shutdown completed; log sequence number 12659585
2021-10-31T03:02:17.800257Z 0 [Note] InnoDB: Removed temporary tablespace data file: "ibtmp1"
2021-10-31T03:02:17.800584Z 0 [Note] Shutting down plugin 'MEMORY'
2021-10-31T03:02:17.800652Z 0 [Note] Shutting down plugin 'CSV'
2021-10-31T03:02:17.800453Z 0 [Note] Shutting down plugin 'sha256_password'
2021-10-31T03:02:17.800444Z 0 [Note] Shutting down plugin 'mysql_native_password'
2021-10-31T03:02:17.801101Z 0 [Note] Shutting down plugin 'binlog'
2021-10-31T03:02:17.805595Z 0 [Note] mysqld: Shutdown complete

2021-10-31 03:02:18+00:00 [Note] [Entrypoint]: Temporary server stopped

2021-10-31 03:02:18+00:00 [Note] [Entrypoint]: MySQL init process done. Ready for start up.

2021-10-31T03:02:18.226194Z 0 [Warning] TIMESTAMP with implicit DEFAULT value is deprecated. Please use --explicit_defaults_for_timestamp server option (see documentation for more details).
2021-10-31T03:02:18.229771Z 0 [Note] mysqld (mysqld 5.7.35) starting as process 1 ...
2021-10-31T03:02:18.234268Z 0 [Note] InnoDB: PUNCH HOLE support available
2021-10-31T03:02:18.234283Z 0 [Note] InnoDB: Mutexes and rw locks use GCC atomic builtins
2021-10-31T03:02:18.234301Z 0 [Note] InnoDB: Uses event mutexes
2021-10-31T03:02:18.234967Z 0 [Note] InnoDB: GCC builtin __atomic_thread_fence() is used for memory barrier
2021-10-31T03:02:18.234991Z 0 [Note] InnoDB: Compressed tables use zlib 1.2.11
2021-10-31T03:02:18.235088Z 0 [Note] InnoDB: Using Linux native AIO
2021-10-31T03:02:18.236347Z 0 [Note] InnoDB: Number of pools: 1
2021-10-31T03:02:18.236891Z 0 [Note] InnoDB: Using CPU crc32 instructions
2021-10-31T03:02:18.239147Z 0 [Note] InnoDB: Initializing buffer pool, total size = 128M, instances = 1, chunk size = 128M
2021-10-31T03:02:18.252697Z 0 [Note] InnoDB: Completed initialization of buffer pool
2021-10-31T03:02:18.255337Z 0 [Note] InnoDB: If the myisql execution user is authorized, page cleaner thread priority can be changed. See the man page of setpriority().
2021-10-31T03:02:18.267389Z 0 [Note] InnoDB: Highest supported file format is Barracuda.
2021-10-31T03:02:18.283843Z 0 [Note] InnoDB: Creating shared tablespace for temporary tables
2021-10-31T03:02:18.284215Z 0 [Note] InnoDB: Setting file './ibtmp1' size to 12 MB. Physically writing the file full; Please wait ...
2021-10-31T03:02:18.536817Z 0 [Note] InnoDB: File './ibtmp1' size is now 12 MB.
2021-10-31T03:02:18.532495Z 0 [Note] InnoDB: 96 redo rollback segment(s) found. 96 redo rollback segment(s) are active.
2021-10-31T03:02:18.532554Z 0 [Note] InnoDB: 32 non-redo rollback segment(s) are active.
2021-10-31T03:02:18.533628Z 0 [Note] InnoDB: Waiting for purge to start
2021-10-31T03:02:18.538274Z 0 [Note] InnoDB: 5.7.35 started; log sequence number 12659585
2021-10-31T03:02:18.586284Z 0 [Note] InnoDB: Loading buffer pool(s) from /var/lib/mysql/ib_buffer_pool
2021-10-31T03:02:18.586518Z 0 [Note] Plugin 'FEDERATED' is disabled.
2021-10-31T03:02:18.595313Z 0 [Note] InnoDB: Buffer pool(s) load completed at 211031 3:02:18
2021-10-31T03:02:18.596692Z 0 [Note] Found ca.pem, server-cert.pem and server-key.pem in data directory. Trying to enable SSL support using them.
2021-10-31T03:02:18.596727Z 0 [Note] Skipping generation of SSL certificates as certificate files are present in data directory.
2021-10-31T03:02:18.596852Z 0 [Warning] A deprecated TLS version TLSv1 is enabled. Please use TLSv1.2 or higher.

2021-10-31T03:02:18.596861Z 0 [Warning] A deprecated TLS version TLSv1.1 is enabled. Please use TLSv1.2 or higher.
2021-10-31T03:02:18.598554Z 0 [Warning] CA certificate ca.pem is self signed.
2021-10-31T03:02:18.598753Z 0 [Note] Skipping generation of RSA key pair as key files are present in data directory.
2021-10-31T03:02:18.600133Z 0 [Note] Server hostname (bind-address): ''*'; port: 3306
2021-10-31T03:02:18.600331Z 0 [Note] IPv6 is available.
2021-10-31T03:02:18.618040Z 0 [Note] - '::' resolves to '::'.
2021-10-31T03:02:18.618134Z 0 [Note] Server socket created on IP: '::'.
2021-10-31T03:02:18.634872Z 0 [Warning] Insecure configuration for --pid-file: Location '/var/run/mysqld' in the path is accessible to all OS users. Consider choosing a different directory.
2021-10-31T03:02:18.646086Z 0 [Note] Event Scheduler: Loaded 0 events
2021-10-31T03:02:18.647073Z 0 [Note] mysqld: ready for connections.
Version: '5.7.35' socket: '/var/run/mysqld/mysqld.sock' port: 3306 MySQL Community Server (GPL)

```

```

(base) Antonios-MacBook-Pro:- Navas$ 
(base) Antonios-MacBook-Pro:- Navas$ 
(base) Antonios-MacBook-Pro:- Navas$ docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED             STATUS              PORTS                 NAMES
0e4d4f413b1   mysql:5.7.35      "docker-entrypoint.s..."   8 minutes ago       Up 8 minutes       0.0.0.0:3306->3306/tcp, 33060/tcp   frosty_yonath
ee35dacc69d   jupyter/base-notebook "tini -g -- start-no..."  24 minutes ago     Up 24 minutes      0.0.0.0:8888->8888/tcp   suspicious_spence
(base) Antonios-MacBook-Pro:- Navas$ 
(base) Antonios-MacBook-Pro:- Navas$ docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED             STATUS              PORTS                 NAMES
5851dbbdce6   jupyter/base-notebook "tini -g -- start-no..."   About a minute ago Up About a minute  0.0.0.0:8888->8888/tcp   dreamy_joliot
ead0674f156f   mysql:5.7.35      "docker-entrypoint.s..."   2 minutes ago      Up 2 minutes       0.0.0.0:3306->3306/tcp, 33060/tcp   gifted_shamir
(base) Antonios-MacBook-Pro:- Navas$ 
(base) Antonios-MacBook-Pro:- Navas$ docker network inspect my_test_network
[{"Name": "my_test_network",
 "Id": "dd25e54577ad2d2eb6de98f50fa8301356e3dbc7b1a1d907e067c645cfdf011",
 "Created": "2021-10-31T03:00:09.159554772Z",
 "Scope": "local",
 "Driver": "bridge",
 "EnableIPv6": false,
 "IPAM": {
   "Driver": "default",
   "Options": {},
   "Config": [
     {
       "Subnet": "172.20.0.0/16",
       "Gateway": "172.20.0.1"
     }
   ]
 },
 "Internal": false,
 "Attachable": false,
 "Ingress": false,
 "ConfigFrom": {
   "Network": ""
 },
 "ConfigOnly": false,
 "Containers": {
   "5851dbbdce6b4d3ca462dc3dbc13b65a4a3541d2f59ee5086310555524a288a": {
     "Name": "dreamy_joliot",
     "EndpointID": "41d448472a0a57022321656cc64b3bb7c0f80db94e05beaddfa76fae927e9da78",
     "MacAddress": "02:42:ac:14:00:03",
     "IPv4Address": "172.20.0.3/16",
     "IPv6Address": ""
   },
   "ead0674f156f63d619eec60239fd47f78d0299576193e5ala18bf48f73833db7": {
     "Name": "gifted_shamir",
     "EndpointID": "abe7f9ea50619763ce57063f84c3365080b131fd7fc14a77ac138ac9232a5268",
     "MacAddress": "02:42:ac:14:00:02",
     "IPv4Address": "172.20.0.2/16",
     "IPv6Address": ""
   }
 },
 "Options": {},
 "Labels": {}
}
(base) Antonios-MacBook-Pro:- Navas$ 
(base) Antonios-MacBook-Pro:- Navas$ docker exec -it suspicious_spence sh
$ 
$ python --version
Python 3.9.7
$ 
$ pip --version
pip 21.3.1 from /opt/conda/lib/python3.9/site-packages/pip (python 3.9)
$ 
$ 
$ pip install mysql-connector-python
sh: 9: pip: not found
$ "[A]*[D]*C"
$ "C"
$ 
$ 
$ pip install mysql-connector-python
Collecting mysql-connector-python
  Downloading mysql_connector-python-8.0.27-commercial-cp39-cp39-manylinux1_x86_64.whl (37.5 MB)
    |████████| 37.5 MB 478 KB/s
Collecting protobuf>3.8.0
  Downloading protobuf-3.19.1-cp39-cp39-manylinux_2_17_x86_64_manylinux2014_x86_64.whl (1.1 MB)
    |████████| 1.1 MB 3.1 MB/s
Installing collected packages: protobuf, mysql-connector-python
Successfully installed mysql-connector-python-8.0.27 protobuf-3.19.1
$ 
$ 
$ 

```

The screenshot shows a Jupyter Notebook interface running on a local server at 127.0.0.1:8888. The notebook has a Python 3 kernel.

In [1]: `!pip install mysql-connector-python`

```
Collecting mysql-connector-python
  Downloading mysql_connector_python-8.0.27-1commercial-cp39-cp39-manylinux1_x86_64.whl (37.5 MB)
    |████████| 37.5 MB 421 kB/s
Collecting protobuf>=3.0.0
  Downloading protobuf-3.19.1-cp39-cp39-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (1.1 MB)
    |████████| 1.1 MB 1.1 MB/s
Installing collected packages: protobuf, mysql-connector-python
Successfully installed mysql-connector-python-8.0.27 protobuf-3.19.1
```

In [2]: `!pip install pandas`

```
Collecting pandas
  Downloading pandas-1.3.4-cp39-cp39-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (11.5 MB)
    |████████| 11.5 MB 2.7 MB/s
Requirement already satisfied: python-dateutil>=2.7.3 in /opt/conda/lib/python3.9/site-packages (from pandas) (2.8.2)
Collecting numpy>=1.17.3
  Downloading numpy-1.21.3-cp39-cp39-manylinux_2_12_x86_64.manylinux2010_x86_64.whl (15.7 MB)
    |████████| 15.7 MB 98 kB/s
Requirement already satisfied: pytz>=2017.3 in /opt/conda/lib/python3.9/site-packages (from pandas) (2021.3)
Requirement already satisfied: six>=1.5 in /opt/conda/lib/python3.9/site-packages (from python-dateutil>=2.7.3->pandas) (1.16.0)
Installing collected packages: numpy, pandas
Successfully installed numpy-1.21.3 pandas-1.3.4
```

In [3]: `from sqlalchemy import create_engine`
`source = create_engine('mysql+mysqldb://test:test123@172.20.0.2/test')`

In [4]: `import pandas as pd`
`pd.read_sql('select now()', con=source)`

Out[4]:

```
now()
0 2021-10-31 03:46:52
```

In []:

DOCKER-COMPOSE

```
(base) Antonios-MacBook-Pro:Desktop Navas$ docker-compose up
Creating network "desktop_default" with the default driver
Creating volume "desktop_db_data" with default driver
Creating desktop_db_1 ... done
Creating desktop_jupyter_1 ... done
Attaching to desktop_db_1, desktop_jupyter_1
jupyter_1 | [WARN] Jupyter Notebook deprecation notice https://github.com/jupyter/docker-stacks#jupyter-notebook-deprecation-notice.
db_1  | 2021-10-31 04:09:12+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 5.7.35-1debian10 started.
jupyter_1 | Executing the command: jupyter notebook
db_1  | 2021-10-31 04:09:12+00:00 [Note] [Entrypoint]: Switching to dedicated user 'mysql'
db_1  | 2021-10-31 04:09:12+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 5.7.35-1debian10 started.
db_1  | 2021-10-31 04:09:13+00:00 [Note] [Entrypoint]: Initializing database files
db_1  | 2021-10-31T04:09:13.073881Z 0 [Warning] TIMESTAMP with implicit DEFAULT value is deprecated. Please use --explicit_defaults_for_timestamp server option (see documentation for more details).
jupyter_1 | [I 04:09:16.071 NotebookApp] Writing notebook server cookie secret to /home/jovyan/.local/share/jupyter/runtime/notebook_cookie_secret
db_1  | 2021-10-31 04:09:16.160797Z 0 [Warning] InnoDB: New log files created, LSN=45798
db_1  | 2021-10-31T04:09:16.666843Z 0 [Warning] InnoDB: Creating foreign key constraint system tables.
db_1  | 2021-10-31 04:09:16.668437Z 0 [Warning] No existing UUID has been found, so we assume that this is the first time that this server has been started. Generating a new UUID: 508B3572-5a09-11ec-9cbc-0242ac150003.
db_1  | 2021-10-31T04:09:16.738852Z 0 [Warning] Gtid table is not ready to be used. Table 'mysql.gtid_executed' cannot be opened.
db_1  | 2021-10-31T04:09:17.513282Z 0 [Warning] A deprecated TLS version TLSv1 is enabled. Please use TLSv1.2 or higher.
db_1  | 2021-10-31T04:09:17.514262Z 0 [Warning] A deprecated TLS version TLSv1.1 is enabled. Please use TLSv1.2 or higher.
db_1  | 2021-10-31T04:09:17.516378Z 0 [Warning] CA certificate ca.pem is self signed.
jupyter_1 | [W 2021-10-31 04:09:17.684 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.
jupyter_1 | [W 2021-10-31 04:09:17.684 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.
jupyter_1 | [W 2021-10-31 04:09:17.684 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.
jupyter_1 | [W 2021-10-31 04:09:17.685 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.
jupyter_1 | [I 2021-10-31 04:09:17.703 LabApp] JupyterLab extension loaded from /opt/conda/lib/python3.9/site-packages/jupyterlab
jupyter_1 | [I 2021-10-31 04:09:17.704 LabApp] JupyterLab application directory is /opt/conda/share/jupyter/lab
jupyter_1 | [I 04:09:17.714 NotebookApp] Serving notebooks from local directory: /home/jovyan
jupyter_1 | [I 04:09:17.714 NotebookApp] Jupyter Notebook 6.4.5 is running at:
jupyter_1 | [I 04:09:17.714 NotebookApp] http://888450a1e76:8888/?token=lab92817753c9d8ccdf75393deca20baa9849c71431d6f8b
jupyter_1 | [I 04:09:17.715 NotebookApp] http://127.0.0.1:8888/?token=lab92817753c9d8ccdf75393deca20baa9849c71431d6f8b
jupyter_1 | [I 04:09:17.715 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
jupyter_1 | [C 04:09:17.726 NotebookApp]
jupyter_1 | To access the notebook, open this file in a browser:
jupyter_1 |   file:///home/jovyan/.local/share/jupyter/runtime/nbserver-7-open.html
jupyter_1 | Or copy and paste one of these URLs:
jupyter_1 |   http://888450a1e76:8888/?token=lab92817753c9d8ccdf75393deca20baa9849c71431d6f8b
jupyter_1 |   or http://127.0.0.1:8888/?token=lab92817753c9d8ccdf75393deca20baa9849c71431d6f8b
db_1  | 2021-10-31T04:09:17.951736Z 1 [Warning] root@localhost is created with an empty password ! Please consider switching off the --initialize-insecure option.
db_1  | 2021-10-31 04:09:20+00:00 [Note] [Entrypoint]: Database files initialized
db_1  | 2021-10-31 04:09:20+00:00 [Note] [Entrypoint]: Starting temporary server
db_1  | 2021-10-31T04:09:20+00:00 [Note] [Entrypoint]: Waiting for server startup
db_1  | 2021-10-31T04:09:20.960788Z 0 [Warning] TIMESTAMP with implicit DEFAULT value is deprecated. Please use --explicit_defaults_for_timestamp server option (see documentation for more details).
db_1  | 2021-10-31T04:09:20.962321Z 0 [Note] mysqld (mysqld 5.7.35) starting as process 77 ...
db_1  | 2021-10-31T04:09:20.962321Z 0 [Note] InnoDB: PUNCH HOLE support available
db_1  | 2021-10-31T04:09:20.987282Z 0 [Note] InnoDB: Mutexes and rw_locks use GCC atomic builtins
db_1  | 2021-10-31T04:09:20.987282Z 0 [Note] InnoDB: OS mutexes
db_1  | 2021-10-31T04:09:20.987282Z 0 [Note] InnoDB: GDB builtin __atomic_thread_fence() is used for memory barrier
db_1  | 2021-10-31T04:09:20.987282Z 0 [Note] InnoDB: Compressed tables use zlib 1.2.11
db_1  | 2021-10-31T04:09:20.987282Z 0 [Note] InnoDB: Using Linux native AIO
db_1  | 2021-10-31T04:09:20.987282Z 0 [Note] InnoDB: Number of pools: 1
db_1  | 2021-10-31T04:09:20.987282Z 0 [Note] InnoDB: Using CPU crc32 instructions
db_1  | 2021-10-31T04:09:20.987282Z 0 [Note] InnoDB: Initializing buffer pool, total size = 128M, instances = 1, chunk size = 128M
db_1  | 2021-10-31T04:09:20.987282Z 0 [Note] InnoDB: Completed initialization of buffer pool
db_1  | 2021-10-31T04:09:20.986344Z 0 [Note] InnoDB: If the mysqld execution user is authorized, page cleaner thread priority can be changed. See the man page of setpriority().
db_1  | 2021-10-31T04:09:20.998563Z 0 [Note] InnoDB: Highest supported file format is Barracuda.
db_1  | 2021-10-31T04:09:21.011188Z 0 [Note] InnoDB: Creating shared tablespace for temporary tables
db_1  | 2021-10-31T04:09:21.011248Z 0 [Note] InnoDB: Setting file './ibtmp1' size to 12 MB. Physically writing the file full; Please wait ...
db_1  | 2021-10-31T04:09:21.064105Z 0 [Note] InnoDB: File './ibtmp1' size is now 12 MB.
db_1  | 2021-10-31T04:09:21.065581Z 0 [Note] InnoDB: 96 redo rollback segments found. 96 redo rollback segment(s) are active.
db_1  | 2021-10-31T04:09:21.065634Z 0 [Note] InnoDB: 32 non-redo rollback segment(s) are active.
db_1  | 2021-10-31T04:09:21.066334Z 0 [Note] InnoDB: Waiting for purge to start
db_1  | 2021-10-31T04:09:21.120856Z 0 [Note] InnoDB: 5.7.35 started; log sequence number 2749110
db_1  | 2021-10-31T04:09:21.121953Z 0 [Note] InnoDB: Loading buffer pool(s) from /var/lib/mysql/ib_buffer_pool
db_1  | 2021-10-31T04:09:21.121954Z 0 [Note] InnoDB: Plugin 'FEDERATED' is disabled.
db_1  | 2021-10-31T04:09:21.125477Z 0 [Note] InnoDB: Buffer pool(s) load completed at 211031  4:09:21
db_1  | 2021-10-31T04:09:21.131711Z 0 [Note] Found cap.pem, server-cert.pem and server-key.pem in data directory. Trying to enable SSL support using them.
db_1  | 2021-10-31T04:09:21.132467Z 0 [Note] Skipping generation of SSL certificates as certificate files are present in data directory.
db_1  | 2021-10-31T04:09:21.133773Z 0 [Warning] A deprecated TLS version TLSv1 is enabled. Please use TLSv1.2 or higher.
db_1  | 2021-10-31T04:09:21.133797Z 0 [Warning] A deprecated TLS version TLSv1.1 is enabled. Please use TLSv1.2 or higher.
db_1  | 2021-10-31T04:09:21.135279Z 0 [Warning] CA certificate ca.pem is self signed.
db_1  | 2021-10-31T04:09:21.135379Z 0 [Note] Skipping generation of RSA key pair as key files are present in data directory.
db_1  | 2021-10-31T04:09:21.138297Z 0 [Warning] Insecure configuration for --pid-file: Location '/var/run/mysql' in the path is accessible to all OS users. Consider choosing a different directory.
db_1  | 2021-10-31T04:09:21.151930Z 0 [Note] Event Scheduler: Loaded 0 events
db_1  | 2021-10-31T04:09:21.152954Z 0 [Note] mysqld: ready for connections.
db_1  | Version: '5.7.35' socket: '/var/run/mysqld/mysqld.sock' port: 0 MySQL Community Server (GPL)
db_1  | 2021-10-31 04:09:21+00:00 [Note] [Entrypoint]: Temporary server started.
db_1  | Warning: Unable to load '/usr/share/zoneinfo/iso3166.tab' as time zone. Skipping it.
db_1  | Warning: Unable to load '/usr/share/zoneinfo/leap-seconds.list' as time zone. Skipping it.
db_1  | Warning: Unable to load '/usr/share/zoneinfo/zone.tab' as time zone. Skipping it.
db_1  | Warning: Unable to load '/usr/share/zoneinfo/zone1970.tab' as time zone. Skipping it.
db_1  | 2021-10-31 04:09:25+00:00 [Note] [Entrypoint]: Creating database test
db_1  | 2021-10-31 04:09:25+00:00 [Note] [Entrypoint]: Creating user test
db_1  | 2021-10-31 04:09:25+00:00 [Note] [Entrypoint]: Giving user test access to schema test
db_1  | 2021-10-31 04:09:25+00:00 [Note] [Entrypoint]: Stopping temporary server
db_1  | 2021-10-31T04:09:25.252826Z 0 [Note] Giving 0 client threads a chance to die gracefully
db_1  | 2021-10-31T04:09:25.252889Z 0 [Note] Shutting down slave threads
db_1  | 2021-10-31T04:09:25.252895Z 0 [Note] Forcefully disconnecting 0 remaining clients
db_1  | 2021-10-31T04:09:25.252902Z 0 [Note] Event Scheduler: Purging the queue. 0 events
db_1  | 2021-10-31T04:09:25.253373Z 0 [Note] Binlog end
db_1  | 2021-10-31T04:09:25.255761Z 0 [Note] Shutting down plugin 'innodb'
db_1  | 2021-10-31T04:09:25.255809Z 0 [Note] Shutting down plugin 'partition'
db_1  | 2021-10-31T04:09:25.255814Z 0 [Note] Shutting down plugin 'BLACKHOLE'
db_1  | 2021-10-31T04:09:25.255817Z 0 [Note] Shutting down plugin 'ARCHIVE'
db_1  | 2021-10-31T04:09:25.255819Z 0 [Note] Shutting down plugin 'PERFORMANCE_SCHEMA'
db_1  | 2021-10-31T04:09:25.255840Z 0 [Note] Shutting down plugin 'MRG_MYISAM'
```

[db_1] | 2021-10-31T04: 09:25 2558432 0 [Note] Shutting down plugin 'MYISAM'
[db_1] | 2021-10-31T04: 09:25 2558522 0 [Note] Shutting down plugin 'INNODB_SYS_VIRTUAL'
[db_1] | 2021-10-31T04: 09:25 2558552 0 [Note] Shutting down plugin 'INNODB_SYS_DATAFILES'
[db_1] | 2021-10-31T04: 09:25 2558572 0 [Note] Shutting down plugin 'INNODB_SYS_TABLESPACES'
[db_1] | 2021-10-31T04: 09:25 2559572 0 [Note] Shutting down plugin 'INNODB_SYS_FOREIGN_COLS'
[db_1] | 2021-10-31T04: 09:25 2559549 0 [Note] Shutting down plugin 'INNODB_SYS_FOREIGN'
[db_1] | 2021-10-31T04: 09:25 2559542 0 [Note] Shutting down plugin 'INNODB_SYS_FIELDS'
[db_1] | 2021-10-31T04: 09:25 2559592 0 [Note] Shutting down plugin 'INNODB_SYS_COLUMNS'
[db_1] | 2021-10-31T04: 09:25 2559632 0 [Note] Shutting down plugin 'INNODB_SYS_INDEXES'
[db_1] | 2021-10-31T04: 09:25 2559682 0 [Note] Shutting down plugin 'INNODB_SYS_TABLESTATS'
[db_1] | 2021-10-31T04: 09:25 2559722 0 [Note] Shutting down plugin 'INNODB_SYS_TABLES'
[db_1] | 2021-10-31T04: 09:25 2559762 0 [Note] Shutting down plugin 'INNODB_FT_INDEX_TABLE'
[db_1] | 2021-10-31T04: 09:25 2559802 0 [Note] Shutting down plugin 'INNODB_FT_INDEX_CACHE'
[db_1] | 2021-10-31T04: 09:25 2559852 0 [Note] Shutting down plugin 'INNODB_FT_CONFIG'
[db_1] | 2021-10-31T04: 09:25 2559892 0 [Note] Shutting down plugin 'INNODB_FT_BEING_DELETED'
[db_1] | 2021-10-31T04: 09:25 2559942 0 [Note] Shutting down plugin 'INNODB_FT_DELETED'
[db_1] | 2021-10-31T04: 09:25 2559992 0 [Note] Shutting down plugin 'INNODB_FT_DEFAULT_STOPWORD'
[db_1] | 2021-10-31T04: 09:25 2559993 0 [Note] Shutting down plugin 'INNODB_METRICS'
[db_1] | 2021-10-31T04: 09:25 2560082 0 [Note] Shutting down plugin 'INNODB_TEMP_TABLE_INFO'
[db_1] | 2021-10-31T04: 09:25 2596132 0 [Note] Shutting down plugin 'INNODB_BUFFER_POOL_STATS'
[db_1] | 2021-10-31T04: 09:25 2596180 0 [Note] Shutting down plugin 'INNODB_BUFFER_PAGE_LRU'
[db_1] | 2021-10-31T04: 09:25 2596230 0 [Note] Shutting down plugin 'INNODB_BUFFER_PAGE'
[db_1] | 2021-10-31T04: 09:25 2596272 0 [Note] Shutting down plugin 'INNODB_CMP_PER_INDEX_RESET'
[db_1] | 2021-10-31T04: 09:25 2596312 0 [Note] Shutting down plugin 'INNODB_CMP_PER_INDEX'
[db_1] | 2021-10-31T04: 09:25 2596362 0 [Note] Shutting down plugin 'INNODB_CMPMEM_RESET'
[db_1] | 2021-10-31T04: 09:25 2596402 0 [Note] Shutting down plugin 'INNODB_CMPMEM'
[db_1] | 2021-10-31T04: 09:25 2596432 0 [Note] Shutting down plugin 'INNODB_CMP_RESET'
[db_1] | 2021-10-31T04: 09:25 2596472 0 [Note] Shutting down plugin 'INNODB_CMP'
[db_1] | 2021-10-31T04: 09:25 2596532 0 [Note] Shutting down plugin 'INNODB_LOCK_WAITS'
[db_1] | 2021-10-31T04: 09:25 2596622 0 [Note] Shutting down plugin 'INNODB_LOCKS'
[db_1] | 2021-10-31T04: 09:25 2596712 0 [Note] Shutting down plugin 'INNODB_TRX'
[db_1] | 2021-10-31T04: 09:25 2601932 0 [Note] Shutting down plugin 'Innodb'
[db_1] | 2021-10-31T04: 09:25 2608712 0 [Note] InnoDB: FLS optimize thread exiting.
[db_1] | 2021-10-31T04: 09:25 2616982 0 [Note] InnoDB: Starting shutdown...
[db_1] | 2021-10-31T04: 09:25 3655462 0 [Note] InnoDB: Dumping buffer pools) to /var/lib/mysql/ib_buffer_pool
[db_1] | 2021-10-31T04: 09:25 3663482 0 [Note] InnoDB: Buffer pool(s) dump completed at 210801 4:09:25
[db_1] | 2021-10-31T04: 09:25 3711932 0 [Note] InnoDB: Shutdown completed; log sequence number 126595065
[db_1] | 2021-10-31T04: 09:25 3714762 0 [Note] InnoDB: Removed temporary tablespace data file: "ibtmp1"
[db_1] | 2021-10-31T04: 09:27 1216652 0 [Note] Shutting down plugin 'MEMORY'
[db_1] | 2021-10-31T04: 09:27 1216652 0 [Note] Shutting down plugin 'CSV'
[db_1] | 2021-10-31T04: 09:27 1216652 0 [Note] Shutting down plugin 'sha256_password'
[db_1] | 2021-10-31T04: 09:27 1216642 0 [Note] Shutting down plugin 'mysql_native_password'
[db_1] | 2021-10-31T04: 09:27 1224282 0 [Note] Shutting down plugin 'binlog'
[db_1] | 2021-10-31T04: 09:27 1270682 0 [Note] mysqld: Shutdown complete
[db_1] |
[db_1] | 2021-10-31 04:09:27+00:00 [Note] [Entrypoint]: Temporary server stopped
[db_1] |
[db_1] | 2021-10-31 04:09:27+00:00 [Note] [Entrypoint]: MySQL init process done. Ready for start up.
[db_1] |
[db_1] | 2021-10-31T04: 09:27 4391472 0 [Warning] TIMESTAMP with implicit DEFAULT value is deprecated. Please use --explicit_defaults_for_timestamp server option (see documentation for more details).
[db_1] | 2021-10-31T04: 09:27 4404532 0 [Note] mysqld (mysqld 5.7.35) starting as process 1 ...
[db_1] | 2021-10-31T04: 09:27 4404632 0 [Note] InnoDB: PUNCH HOLE support available
[db_1] |
[db_1] | 2021-10-31T04: 09:27 4446962 0 [Note] InnoDB: Mutexes and rw_locks use GCC atomic builtins
[db_1] | 2021-10-31T04: 09:27 4447022 0 [Note] InnoDB: Uses event mutexes
[db_1] | 2021-10-31T04: 09:27 4447062 0 [Note] InnoDB: GCC builtin __atomic_thread_fence() is used for memory barrier
[db_1] | 2021-10-31T04: 09:27 4447092 0 [Note] InnoDB: Compressed tables use zlib 1.2.11
[db_1] | 2021-10-31T04: 09:27 4447122 0 [Note] InnoDB: Using Linux native AIO
[db_1] | 2021-10-31T04: 09:27 4445682 0 [Note] InnoDB: Number of pools: 1
[db_1] | 2021-10-31T04: 09:27 4445628 0 [Note] InnoDB: Using CPU crc32 instructions
[db_1] | 2021-10-31T04: 09:27 4446982 0 [Note] InnoDB: Initializing buffer pool, total size = 128M, instances = 1, chunk size = 128M
[db_1] | 2021-10-31T04: 09:27 4625362 0 [Note] InnoDB: Completed initialization of buffer pool
[db_1] | 2021-10-31T04: 09:27 4674742 0 [Note] InnoDB: If the mysqld execution user is authorized, page cleaner thread priority can be changed. See the man page of setpriority().
[db_1] | 2021-10-31T04: 09:27 4793642 0 [Note] InnoDB: Highest supported file format is Barracuda.
[db_1] | 2021-10-31T04: 09:27 4927462 0 [Note] InnoDB: Creating shared tablespace for temporary tables
[db_1] | 2021-10-31T04: 09:27 4928302 0 [Note] InnoDB: Setting file './ibtmp1' size to 12 MB. Physically writing the file full; Please wait ...
[db_1] | 2021-10-31T04: 09:27 6662452 0 [Note] InnoDB: File './ibtmp1' size is now 12 MB.
[db_1] | 2021-10-31T04: 09:27 6702262 0 [Note] InnoDB: 96 redo rollback segment(s) found. 96 redo rollback segment(s) are active.
[db_1] | 2021-10-31T04: 09:27 6703852 0 [Note] InnoDB: 32 non-redo rollback segment(s) are active.
[db_1] | 2021-10-31T04: 09:27 6721732 0 [Note] InnoDB: Waiting for purge to start
[db_1] | 2021-10-31T04: 09:27 7222682 0 [Note] InnoDB: 5.7.35 started; log sequence number 126595085
[db_1] | 2021-10-31T04: 09:27 7242962 0 [Note] Plugin 'FEDERATED' is disabled.
[db_1] | 2021-10-31T04: 09:27 7322722 0 [Note] Found ca.pem, server-cert.pem and server-key.pem in data directory. Trying to enable SSL support using them.
[db_1] | 2021-10-31T04: 09:27 7350882 0 [Note] Skipping generation of SSL certificates as certificate files are present in data directory.
[db_1] | 2021-10-31T04: 09:27 7358512 0 [Warning] A deprecated TLS version TSLv1 is enabled. Please use TSLv1.2 or higher.
[db_1] | 2021-10-31T04: 09:27 7358512 0 [Warning] A deprecated TLS version TSLv1.1 is enabled. Please use TSLv1.2 or higher.
[db_1] | 2021-10-31T04: 09:27 7357472 0 [Note] InnoDB: 100MB of reading buffer pools) from /var/lib/mysql/ib_buffer_pool
[db_1] | 2021-10-31T04: 09:27 7357792 0 [Warning] CX certificate ca.pem is self-signed.
[db_1] | 2021-10-31T04: 09:27 7359202 0 [Note] Skipping generation of RSA key pair as key files are present in data directory.
[db_1] | 2021-10-31T04: 09:27 7381612 0 [Note] Server hostname (bind-address): '*' port: 3306
[db_1] | 2021-10-31T04: 09:27 7383762 0 [Note] IPv6 is available.
[db_1] | 2021-10-31T04: 09:27 7421662 0 [Note] InnoDB: Buffer pool(s) load completed at 211081 4:09:27
[db_1] | 2021-10-31T04: 09:27 7422702 0 [Note] - '::' resolves to ' '::'.
[db_1] | 2021-10-31T04: 09:27 7423802 0 [Note] Server socket created on IP: ' ::'.
[db_1] | 2021-10-31T04: 09:27 7485242 0 [Warning] Insecure configuration for --pid-file: Location '/var/run/mysqld' in the path is accessible to all OS users. Consider choosing a different directory.
[db_1] | 2021-10-31T04: 09:27 7613622 0 [Note] Event Scheduler: Loaded 0 events
[db_1] | 2021-10-31T04: 09:27 7619892 0 [Note] mysqld: ready for connections.
[db_1] | Version: '5.7.35' socket: '/var/run/mysqld/mysqld.sock' port: 3306 MySQL Community Server (GPL)
jupyter_1 | [I 04:11:29.933 NotebookApp] 302 GET /?token=ab28e17559c9d88cdff75393dec20baa9849c71431dd6f6b (172.21.8.1) 1.170000ms
jupyter_1 | [I 04:11:36.118 NotebookApp] Creating new notebook in
jupyter_1 | [I 04:11:36.129 NotebookApp] Writing notebook-signing key to /home/jovyan/.local/share/jupyter/notebook_secret
jupyter_1 | Exception in callback: <TaskStepMethodWrapper object at 0x7fae4572be0>()
jupyter_1 | handle: <Handle <TaskStepMethodWrapper object at 0x7fae4572be0>()
jupyter_1 | Traceback (most recent call last):
jupyter_1 | File "/opt/conda/lib/python3.9/asyncio/events.py", line 80, in _run
jupyter_1 | self._context.run(self._callback, *self._args)
jupyter_1 | RuntimeError: Cannot enter into task <Task pending name='Task-32' coro=<RequestHandler._execute()> running at /opt/conda/lib/python3.9/site-packages/tornado/web.py:1660>
jupyter_1 | cb=_HandlerDelegate.execute(<locals>, <lambda>) at /opt/conda/lib/python3.9/site-packages/tornado/web.py:2326> while another task <Task pending name='Task-31' coro=<MappingKernelManager.start_kernel()> running at /opt/conda/lib/python3.9/site-packages/tornado/services/kernels/kernelmanager.py:176> cb=[IOLoop.add_future,<locals>,<lambda>()] at /opt/conda/lib/python3.9/site-packages/tornado/ioloop.py:688> is being executed.
jupyter_1 | /opt/conda/lib/python3.9/site-packages/jupyter/client/ioloop/restart.py:13: RuntimeWarning: coroutine 'RequestHandler._execute' was never awaited
jupyter_1 | from jupyter_client.restarter import KernelRestarter
jupyter_1 | RuntimeWarning: Enable tracemalloc to get the object allocation traceback
jupyter_1 | Task was destroyed but it is pending!
jupyter_1 | task: <Task pending name='Task-32' coro=<RequestHandler._execute()> running at /opt/conda/lib/python3.9/site-packages/tornado/web.py:1660> cb=_HandlerDelegate.execute.<locals>,<lambda>()
locals_<lambda>() at /opt/conda/lib/python3.9/site-packages/tornado/web.py:2326>
jupyter_1 | Exception in callback: <TaskStepMethodWrapper object at 0x7fae4602b670>(<Future finis... GHTvrrnlnr\n>)
jupyter_1 | handle: <Handle <TaskStepMethodWrapper object at 0x7fae4602b670>(<Future finis... GHTvrrnlnr\n>)>
jupyter_1 | Traceback (most recent call last):
jupyter_1 | File "/opt/conda/lib/python3.9/asyncio/events.py", line 80, in _run
jupyter_1 | self._context.run(self._callback, *self._args)
jupyter_1 | RuntimeError: Cannot enter into task <Task pending name='Task-1' coro=<HTTPServerConnection._server_request_loop()> running at /opt/conda/lib/python3.9/site-packages/tornado/web.py:1660> cb=_HandlerDelegate.execute(<locals>,<lambda>()) at /opt/conda/lib/python3.9/site-packages/tornado/web.py:2326> while another task <Task pending name='Task-31' coro=<MappingKernelManager.start_kernel()> running at /opt/conda/lib/python3.9/site-packages/tornado/services/kernels/kernelmanager.py:176> cb=[IOLoop.add_future,<locals>,<lambda>()] at /opt/conda/lib/python3.9/site-packages/tornado/ioloop.py:688> is being executed.
jupyter_1 | [I 04:11:37.884 NotebookApp] Kernel started: 66bc04-0045-6240-b7d5-62af0b6bd2
jupyter_1 | [I 04:11:37.884 NotebookApp] 404 GET /hbextensions/widgets/notebook/js/extension.js?v=2021031040916 (172.21.8.1) 53.940000ms referer=http://127.0.0.1:8888/notebooks/Untitled.ipynb
jupyter_1 | [I 04:13:37.774 NotebookApp] Saving file at /Untitled.ipynb

The screenshot shows a Jupyter Notebook interface with the following details:

- Title Bar:** Home Page - Select or create > Untitled - Jupyter Notebook
- Toolbar:** File, Edit, View, Insert, Cell, Kernel, Help, Trusted, Python 3 (ipykernel) O, Logout.
- Cells:**
 - In [1]: `!pip install mysql-connector-python`
 - In [2]: `!pip install pandas`
 - In [6]: `from sqlalchemy import create_engine`
source = create_engine('mysql+mysqldb://test:test123@db/test')
 - In [7]: `import pandas as pd`
pd.read_sql('select now()', con=source)
 - Out[7]: `now()`
0 2021-10-31 04:13:18
 - In []: (empty cell)

YML FILE

```
version: '3.7'

services:

db:
  image: mysql:5.7.35
  volumes:
    - db_data:/var/lib/mysql
  restart: always
  ports:
    - 3306:3306
  environment:
    MYSQL_ROOT_PASSWORD: test123
    MYSQL_DATABASE: test
    MYSQL_USER: test
    MYSQL_PASSWORD: test123

jupyter:
  image: jupyter/base-notebook
  ports:
    - 8888:8888

volumes:
  db_data:
```

COMMANDS

```
$ docker <command> --help # Nos da ayuda de los comandos

$ docker run hello-world:latest # Corre y si no existe el contenedor lo descarga

$ docker pull busybox # Solamente descarga el contenedor

$ docker images # Ver imágenes

$ docker run busybox echo 'Hello World' # Envía parámetros al contenedor para ejecutarlos

$ docker ps # Ver contenedores corriendo

$ docker ps -a # Ver contenedores detenidos, Recomendable borrarlos

$ docker run -it busybox sh # Corre el contenedor en modo interactivo

$ docker rm <CONTAINER ID or NAME> # Borra los contenedores detenidos, varios separados por espacio

$ docker container prune # Borra todos los contenedores detenidos

$ docker pull jupyter/base-notebook # Imagen de python jupyter
$ docker run -p 8888:8888 jupyter/base-notebook # Para correr jupyter, nos da un link con token
$ docker run -p 8888:8888 -d jupyter/base-notebook # Corre el contenedor "detached" sin mandarnos a consola
$ docker stop <CONTAINER ID or NAME> # Para detener un contenedor

$ docker network create --driver bridge my_test_network # Crear una red para comunicación entre containers

$ 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" mysql:5.7.35 # Correr contenedor de MySQL y agregarlo a la red que se creó

$ docker run --network my_test_network -p 8888:8888 jupyter/base-notebook # Correr contenedor de jupyter y agregarlo a la red que se creó

$ docker network inspect my_test_network # Inspeccionar la red, para ver IP de los contenedores
```

```
$ docker exec -it <container NAME> sh          # Para entrar al sh del contenedor  
  
$ pip install mysql-connector-python          # Para instalar conector de SQL desde  
jupyter python  
$ pip install pandas                         # Para instalar pandas desde jupyter  
python  
  
# Para ejecutar desde el jupyter notebook  
  
from sqlalchemy import create_engine  
source = create_engine('mysql+mysqlconnector://test:test123@172.20.0.2/test')  
    motor_DB + driver :: user:password@IP_Address /  
nombre_schema  
  
import pandas as pd  
pd.read_sql('select now()', con=source)
```

<https://docs.docker.com/compose/install/>

Después de correr el docker-compose

```
!pip install mysql-connector-python          # Para instalar conector de SQL desde  
jupyter python  
!pip install pandas                         # Para instalar pandas desde jupyter  
python
```

Reiniciar el kernel de jupyter

```
from sqlalchemy import create_engine  
source = create_engine('mysql+mysqlconnector://test:test123@db/test')  
    motor_DB + driver :: user:password@DNS_Name_by_compose /  
nombre_schema
```

```
import pandas as pd  
pd.read_sql('select now()', con=source)
```