

# A brief journey

```
PS C:\Users\livi\OneDrive\Desktop\3-database> docker exec -it my_linux_container /bin/bash
root@54ce7c597fc8:/# ls
bin boot dev etc home lib lib32 lib64 libx32 media mnt opt proc root run sbin srv sys tmp usr var
root@54ce7c597fc8:/# cd tmp
root@54ce7c597fc8:/tmp# ls
1-linux.sh app create_large_file.sh passwd_new
root@54ce7c597fc8:/tmp# ./1-linux.sh
Home directory:
Usernames:
root
daemon
bin
sys
sync
games
man
lp
mail
news
uucp
proxy

backup
list
irc
gnats
nobody
apt
john
systemd-network
systemd-resolve
messagebus
systemd-timesync
Number of users: 24
Enter username: root
Home directory of root: /root
Users with UID between 1000 and 1010:
john
Users with standard shells:
root
john
Private IP: 172.17.0.2
Public IP: 185.177.125.213
Switched to user john
Home directory of john: /home/john
root@54ce7c597fc8:/tmp#
```

```
Switched to user john
Home directory of john: /home/john
root@54ce7c597fc8:/tmp# vi 1-linux.sh
```

```
#!/bin/bash
```

```
# 1. Print the home directory
echo "Home directory: $(getent passwd | grep 'passwd:' | cut -d ':' -f 6)"

# 2. List all usernames from the passwd file
echo "Usernames:"
cut -d ':' -f 1 /etc/passwd
```

```
# 8. Print private IP
private_ip=$(hostname -I | cut -d ' ' -f 1)
echo "Private IP: $private_ip"
:wq
```

How look scripts using vim

write & quit

The screenshot shows the Docker Desktop application window. The left sidebar contains navigation options: Containers, Images, Volumes, Builds, Dev Environments (marked BETA), Docker Scout, Extensions, and Add Extensions. The main panel is titled 'Containers' and shows a summary of container usage (CPU and memory) and a table of running containers. The table has columns for Name, Image, Status, CPU (%), Port(s), Last started, and Actions. Three containers are listed: my\_linux\_co (ubuntu, Exited), goofy\_menli (python:alpine, Exited), and mysql\_cont (mysql:latest, Exited). The bottom status bar indicates the engine is running, with RAM usage at 4.01 GB and CPU usage at 0.50%.

Name	Image	Status	CPU (%)	Port(s)	Last started	Actions
my_linux_co	ubuntu	Exited (137)	N/A		3 hours ago	[Stop] [Restart] [Logs]
goofy_menli	python:alpine	Exited	N/A		28 minutes ago	[Stop] [Restart] [Logs]
mysql_cont	mysql:latest	Exited	N/A		2 hours ago	[Stop] [Restart] [Logs]

Images

[Give feedback](#)

Local

Hub

836.59 MB / 0 Bytes in use

3 images

Last refresh: 10 hours ago

Search

<input type="checkbox"/>	Name	Tag	Status	Created	Size	Actions
<input type="checkbox"/>	<a href="#">pythonapp</a> 98ed08acalc1c1	latest	<a href="#">In use</a>	3 hours ago	126.39 MB	<div></div> <div></div> <div></div>
<input type="checkbox"/>	<a href="#">ubuntu</a> ca2b0f26964c	latest	<a href="#">In use</a>	27 days ago	77.86 MB	<div></div> <div></div> <div></div>
<input type="checkbox"/>	<a href="#">mysql</a> 019814493c7a	latest	<a href="#">In use</a>	2 months ago	632.33 MB	<div></div> <div></div> <div></div>

Showing 3 items

```
PS C:\Users\liviu\OneDrive\Desktop\2-simpleApp> docker build -t pythonapp .
[+] Building 1.5s (9/9) FINISHED
=> [internal] load build definition from Dockerfile                                docker:default 0.0s
=> => transferring dockerfile: 374B                                              0.0s
=> [internal] load metadata for docker.io/library/python:3.9-slim                1.3s
=> [auth] library/python:pull token for registry-1.docker.io                    0.0s
=> [internal] load .dockerignore                                                 0.0s
=> => transferring context: 2B                                                    0.0s
=> [1/3] FROM docker.io/library/python:3.9-slim@sha256:df78d66895cd3b12ec57c451f9776192a535688e27ab8a72c03896b17d9b4b98 0.0s
=> [internal] load build context                                                0.0s
=> => transferring context: 28B                                                  0.0s
=> CACHED [2/3] WORKDIR /2-simpleApp                                           0.0s
=> CACHED [3/3] COPY app.py .                                                  0.0s
=> exporting to image                                                           0.0s
=> => exporting layers                                                            0.0s
=> => writing image sha256:98ed08acalc16c0ff80206b69a0a16781b9e8fd8e39cadaeeaa9bcad6d5b729f 0.0s
=> => naming to docker.io/library/pythonapp                                     0.0s
```

View build details: [docker-desktop://dashboard/build/default/default/sphtuco233brcqo4vzqw38zmc](#)

```
PS C:\Users\liviu\OneDrive\Desktop\2-simpleApp> docker pull mysql
Using default tag: latest
latest: Pulling from library/mysql
9a5c778f631f: Pull complete
9e77c3a95bf2: Pull complete
8b279a2086e0: Pull complete
c8bfbcde7882: Pull complete
d35b074b68ec: Pull complete
beea5014e6af: Pull complete
dc3791a61558: Pull complete
52f9323b9f0e: Pull complete
7f7391eab49b: Pull complete
8d2f04b287ee: Pull complete
Digest: sha256:9d1c923e5f66a89607285ee2641f8a53430alccd5e4a62b35eb8a48b74b9ff48
Status: Downloaded newer image for mysql:latest
docker.io/library/mysql:latest
```

```
PS C:\Users\liviu\OneDrive\Desktop\3-database> docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                    NAMES
a94d9aefff57   mysql:latest "docker-entrypoint.s..." 6 minutes ago Up 6 minutes   3306/tcp, 33060/tcp     mysql_container
54ce7c597fc8   ubuntu    "/bin/bash"              6 hours ago   Up About an hour                my_linux_container

PS C:\Users\liviu\OneDrive\Desktop\3-database> docker exec -it mysql_container mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 9
Server version: 8.3.0 MySQL Community Server - GPL

Copyright (c) 2000, 2024, Oracle and/or its affiliates.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> SHOW DATABASES;
+-----+
| Database |
+-----+
| company |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.00 sec)
```

```
PS C:\Users\liviu\OneDrive\Desktop\3-database> docker cp "C:\Users\liviu\OneDrive\Desktop\3-database\company.sql" mysql_container:/var/lib/mysql-files/company.sql
Successfully copied 4.61kB to mysql_container:/var/lib/mysql-files/company.sql
PS C:\Users\liviu\OneDrive\Desktop\3-database> docker exec -it mysql_container mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 10
Server version: 8.3.0 MySQL Community Server - GPL
```

```
mysql> SOURCE /var/lib/mysql-files/company.sql;
Query OK, 0 rows affected (0.00 sec)
```

```
ERROR 1046 (3D000): No database selected
Query OK, 0 rows affected (0.00 sec)
```

```
ERROR 1046 (3D000): No database selected
Query OK, 0 rows affected (0.00 sec)
```

```
ERROR 1366 (HY000): Incorrect integer value: 'Consulting' for column 'department' at row 41
Query OK, 0 rows affected (0.00 sec)
```

**Problem solved**

```
mysql> CREATE USER 'john'@'localhost' IDENTIFIED BY 'parola_john';
Query OK, 0 rows affected (0.05 sec)
```

```
mysql> GRANT ALL PRIVILEGES ON company.* TO 'john'@'localhost';
Query OK, 0 rows affected, 1 warning (0.01 sec)
```

```
mysql> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> exit
Bye
PS C:\Users\liviu\OneDrive\Desktop\3-database> docker exec -it mysql_container mysql -u john -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 12
Server version: 8.3.0 MySQL Community Server - GPL
```

```
mysql> SELECT * FROM employees;
```

employee_id	first_name	last_name	position	department	salary
48	John	Doe	1	1	60000.00
49	Jane	Smith	2	2	70000.00
50	Michael	Johnson	3	3	55000.00
51	Emily	Williams	4	4	65000.00
52	William	Jones	5	2	75000.00
53	Sarah	Brown	6	5	50000.00
54	James	Taylor	1	6	62000.00
55	Olivia	Martinez	7	7	80000.00
56	David	Anderson	8	6	58000.00
57	Sophia	Garcia	9	3	48000.00
58	Benjamin	Lopez	10	8	57000.00
59	Emma	Hernandez	11	6	63000.00
60	Alexander	Scott	2	2	72000.00

```
mysql> SELECT department, AVG(salary) AS average_salary
-> FROM employees
-> GROUP BY department;
```

department	average_salary
1	60000.000000
2	76200.000000
3	53666.666667
4	67250.000000
5	51500.000000
6	63500.000000
7	82000.000000
8	58500.000000