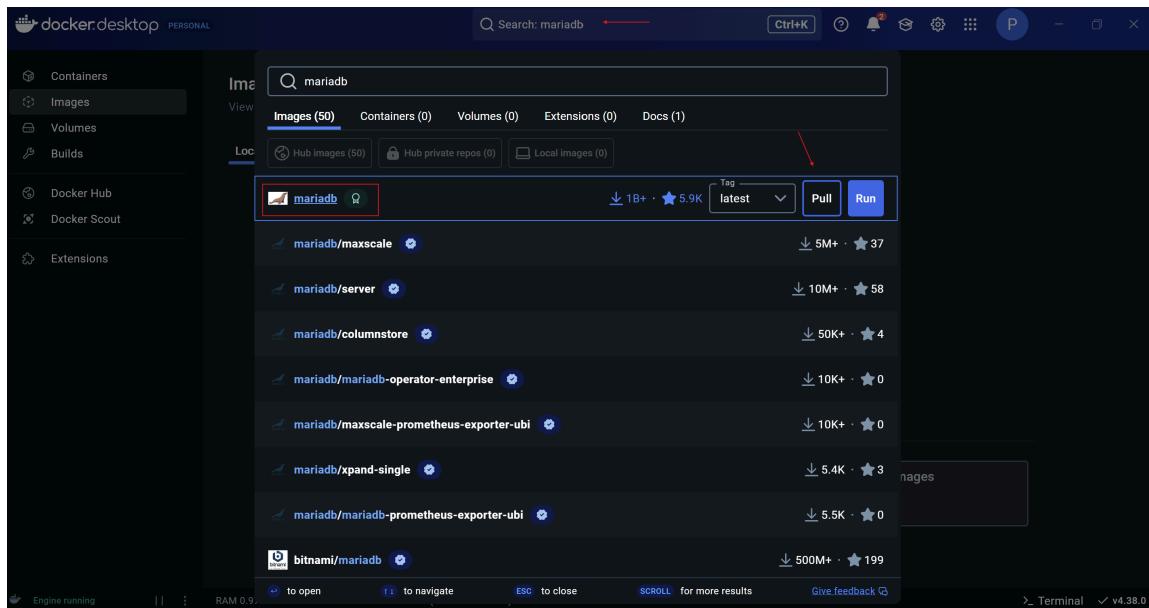
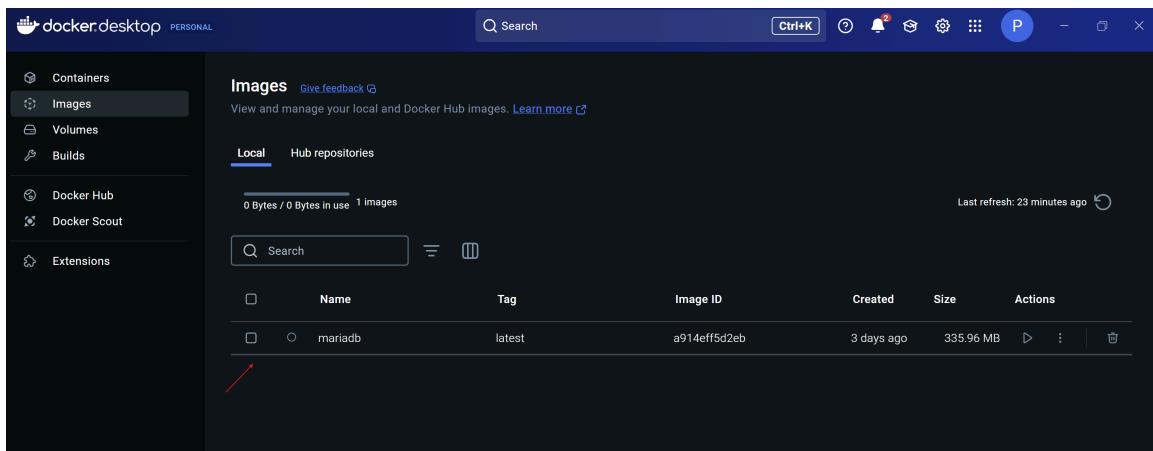


## Ejercicio 2 - Servidor de base de datos

1. Abro Docker Desktop. Busco `mariadb` en la sección de imágenes. Seleciono la imagen oficial. La descargo haciendo click en Pull.

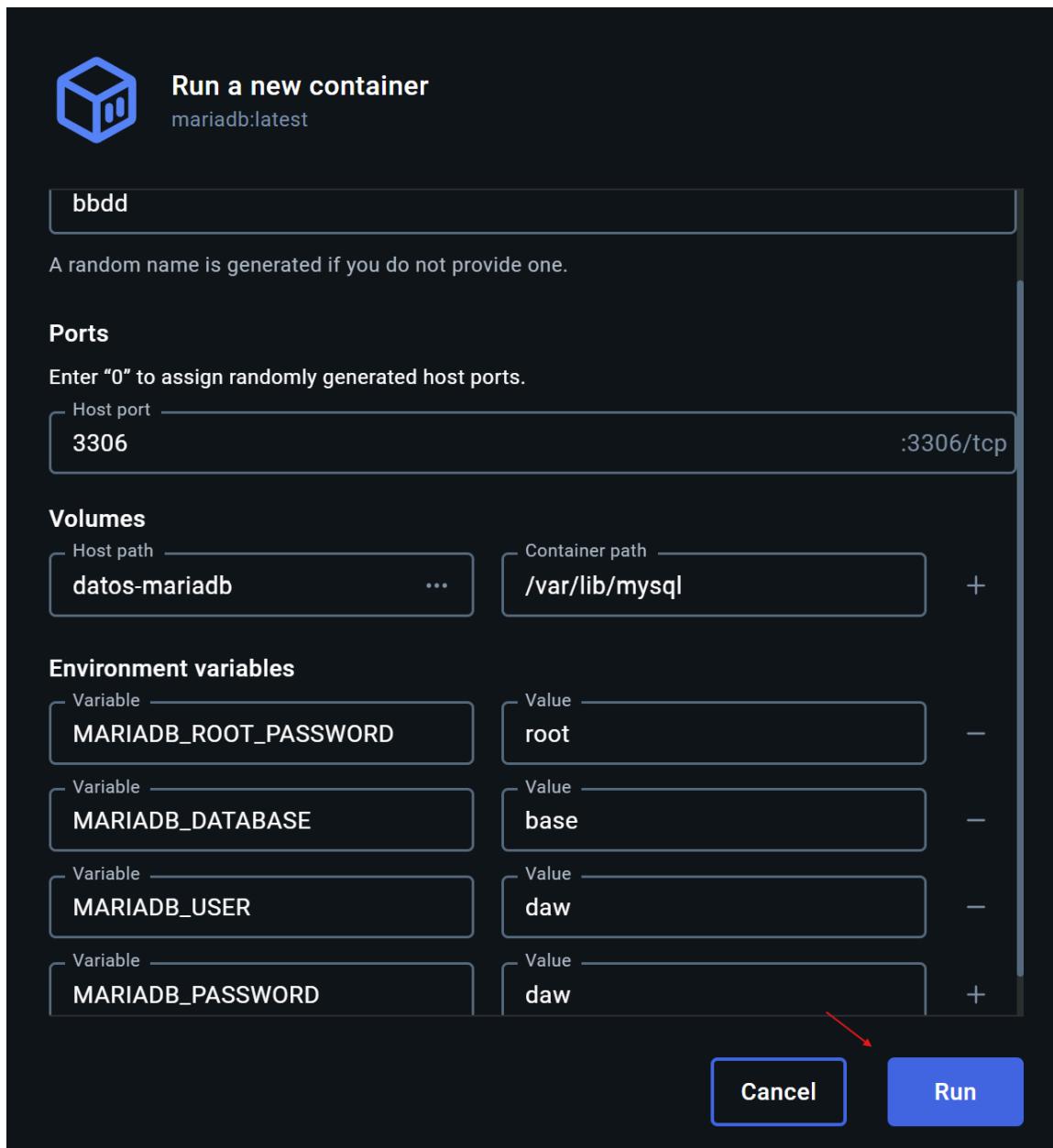




Aquí puedo ver la imagen de mariadb descargada.

## 2. Despliego un contenedor utilizando esa imagen. Características:

- a. Nombre del contenedor: bbdd .
- b. Puerto: 3306 - debe poder conectarse externamente
- c. Utiliza un volumen llamado datos-mariadb .
- d. Uso las variables de entorno necesarias para que el usuario root tenga la password root , la base de datos por defecto sea base y se cree un usuario daw , con password daw .



3. Arranco el contenedor.

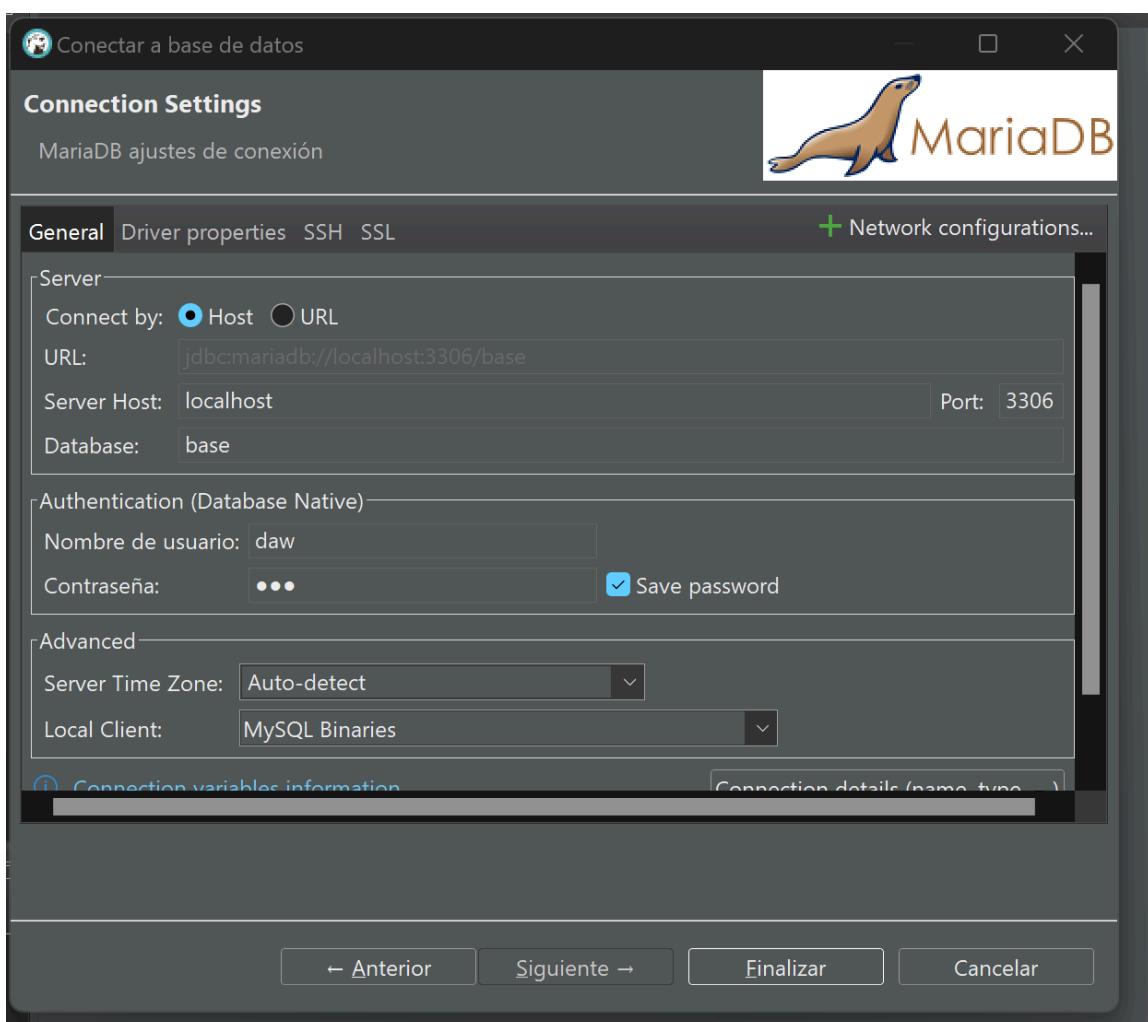
```

server_ uid KjyHnznkRQEiHSuvi0dggeYc as process 1
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: Compressed tables use zlib 1.3
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: Number of transaction pools: 1
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: Using AVX512 instructions
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] mariadb: _TMPFILE is not supported on /tmp (disabling future attempts)
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: Using liburing
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: Initializing buffer pool, total size = 128.000MB, chunk size = 2.000MB
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: Completed initialization of buffer pool
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: File system buffers for log disabled (block size=4096 bytes)
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: End of log at LSN=47763
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: Opened 3 undo tablespaces
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: 128 rollback segments in 3 undo tablespaces are active.
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: Setting file './ibtmp1' size to 12.000MB. Physically writing the file full; Please wait
...
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: File './ibtmp1' size is now 12.000MB.
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: log sequence number 47763; transaction id 14
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] Plugin 'FEEDBACK' is disabled.
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: Loading buffer pools) from /var/lib/mysql/ib_buffer_pool
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] Plugin 'wsrep-provider' is disabled.
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] InnoDB: Buffer pool(s) load completed at 250217 17:30:01
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] Server socket created on IP: '0.0.0.0'.
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] Server socket created on IP: '::'.
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] mariadb: Event Scheduler: Loaded 0 events
2025-02-17 18:30:01 2025-02-17 17:30:01 0 [Note] mariadb: ready for connections.
2025-02-17 18:30:01 Version: '11.7.2-MariaDB-ubuntu2404' socket: '/run/mysqld/mysqld.sock' port: 3306 mariadb.org binary distribution

```

Engine running | RAM 1.43 GB CPU 0.00% Disk: 1.47 GB used (limit 1006.85 GB) | Terminal v4.38.0

4. Accedo a la base de datos usando una herramienta gráfica, como, por ejemplo `dbeaver`. Me conecto con el usuario `daw`. Creo una base de datos y alguna tabla.



The screenshot shows the MySQL Workbench interface. On the left, the 'Navegador de Bases de Datos' (Database Navigator) displays a database named 'base' with a table 'tarea\_docker'. On the right, the 'Script' editor contains the following SQL code:

```
CREATE TABLE tarea_docker (
    id INT PRIMARY KEY AUTO_INCREMENT,
    nombre VARCHAR(50)
);

INSERT INTO tarea_docker (nombre) VALUES ('Ejemplo');
```

Creo un script con el código de la creación de una tabla con dos atributos (Id y nombre) e inserto una fila con nombre 'Ejemplo'.

The screenshot shows the MySQL Workbench data grid for the 'tarea\_docker' table. The grid has two columns: 'id' and 'nombre'. There is one visible row with the values 1 and Ejemplo. To the right of the grid is a 'Valor' (Value) panel showing the value 1.

Grilla	id	nombre
1	1	Ejemplo

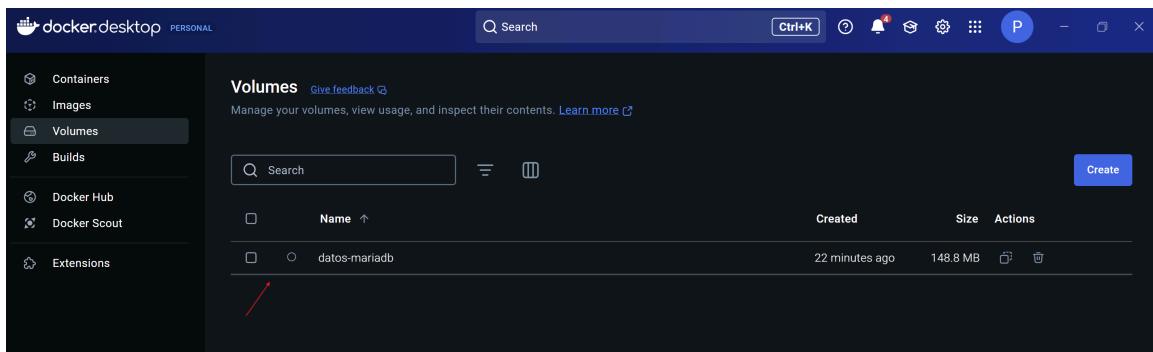
Visualizo los datos de la tabla.

## 5. Borro el contenedor.

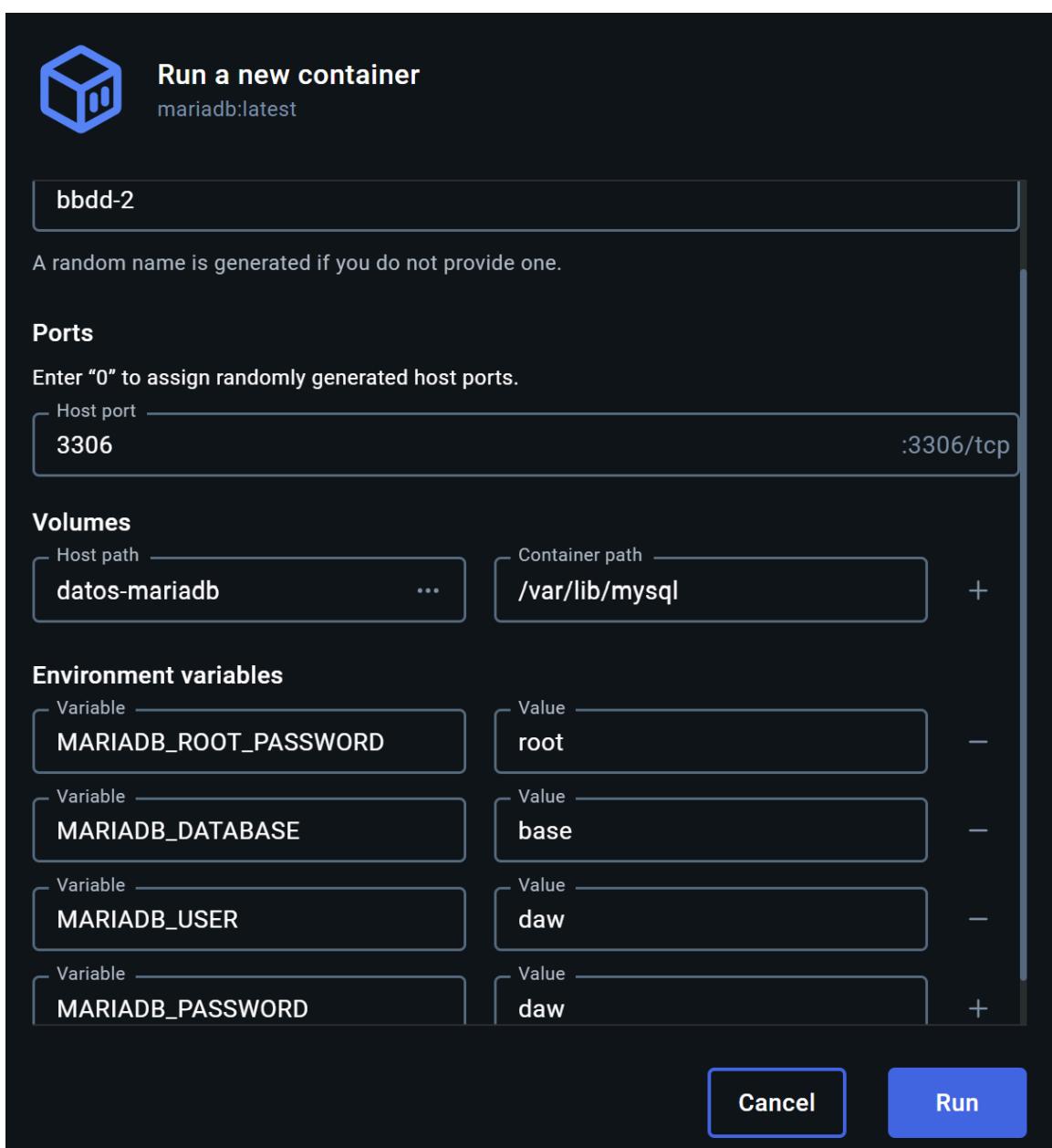
The screenshot shows the Docker Desktop application window. The left sidebar has 'Containers' selected. The main area displays a table of running containers. One container, named 'bbdd', is highlighted with a red box. The table columns include Name, Container ID, Image, Port(s), CPU (%), Last started, Actions, and Delete.

Name	Container ID	Image	Port(s)	CPU (%)	Last started	Actions	Delete
bbdd	c20df473761f	mariadb:latest	3306:3306	N/A	14 minutes ago		

## 6. Veo en Docker Desktop que el volumen que contiene los datos no se ha borrado.



7. Creo otro contenedor con un servidor de base de datos que use el mismo volumen. Llamo al contenedor **bbdd-2**. Compruebo que la base de datos y la tabla creada anteriormente siguen ahí.



Containers / bbdd-2

**bddd-2**

↳ a00e5f6b93a0 ⚡ mariadb:latest  
3306:3306 ↳

STATUS  
Running (0 seconds ago)

Logs Inspect Bind mounts Exec Files Stats

```
server_1id KjyTHYnzkkxRQEElhSvvt04ggeY= as process 1
2025-02-17 18:48:06 2025-02-17 17:48:06 0 [Note] InnoDB: Compressed tables use zlib 1.3
2025-02-17 18:48:06 2025-02-17 17:48:06 0 [Note] InnoDB: Number of transaction pools: 1
2025-02-17 18:48:06 2025-02-17 17:48:06 0 [Note] InnoDB: Using AVX512 instructions
2025-02-17 18:48:06 2025-02-17 17:48:06 0 [Note] mariadb: O_TMPFILE is not supported on /tmp (disabling future attempts)
2025-02-17 18:48:06 2025-02-17 17:48:06 0 [Note] InnoDB: Using liburing
2025-02-17 18:48:06 2025-02-17 17:48:06 0 [Note] InnoDB: Initializing buffer pool, total size = 128.000MiB, chunk size = 2.000MiB
2025-02-17 18:48:06 2025-02-17 17:48:06 0 [Note] InnoDB: Completed initialization of buffer pool
2025-02-17 18:48:06 2025-02-17 17:48:06 0 [Note] InnoDB: File system buffers for log disabled (block size=4096 bytes)
2025-02-17 18:48:06 2025-02-17 17:48:06 0 [Note] InnoDB: End of log at LSN=50426
2025-02-17 18:48:07 2025-02-17 17:48:07 0 [Note] InnoDB: Opened 3 undo tablespaces
2025-02-17 18:48:07 2025-02-17 17:48:07 0 [Note] InnoDB: 128 rollback segments in 3 undo tablespaces are active.
2025-02-17 18:48:07 2025-02-17 17:48:07 0 [Note] InnoDB: Setting file './ibtmp1' size to 12.000MiB. Physically writing the file full; Please wait
...
2025-02-17 18:48:07 2025-02-17 17:48:07 0 [Note] InnoDB: File './ibtmp1' size is now 12.000MiB.
2025-02-17 18:48:07 2025-02-17 17:48:07 0 [Note] InnoDB: log sequence number 50426; transaction id 22
2025-02-17 18:48:07 2025-02-17 17:48:07 0 [Note] Plugin 'FEEDBACK' is disabled.
2025-02-17 18:48:07 2025-02-17 17:48:07 0 [Note] InnoDB: Loading buffer pool(s) from /var/lib/mysql/ib_buffer_pool
2025-02-17 18:48:07 2025-02-17 17:48:07 0 [Note] InnoDB: Buffer pool(s) load completed at 250217 17:48:06
2025-02-17 18:48:07 2025-02-17 17:48:07 0 [Note] Server socket created on IP: '0.0.0.0'.
2025-02-17 18:48:07 2025-02-17 17:48:07 0 [Note] Server socket created on IP: '::'.
2025-02-17 18:48:07 2025-02-17 17:48:07 0 [Note] mariadb: Event Scheduler: Loaded 0 events
2025-02-17 18:48:07 2025-02-17 17:48:07 0 [Note] mariadb: ready for connections.
2025-02-17 18:48:07 Version: '11.7.2-MariaDB-ubuntu2404' socket: '/run/mysql/mysqld.sock' port: 3306 mariadb.org binary distribution
```

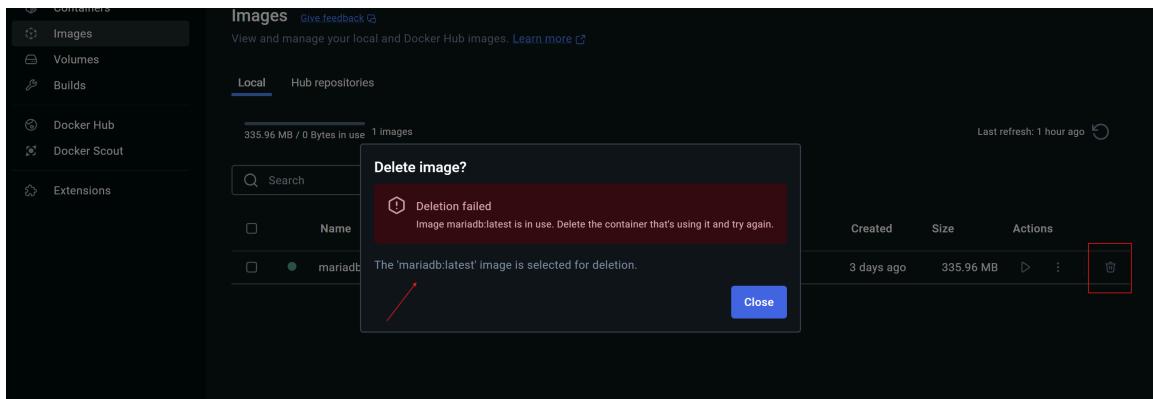
```
SELECT * FROM tarea_docker;
```

Resultados 1 tarea\_docker 2

Enter a SQL expression to filter results (use Ctrl+Space)

Grilla	123	id	A-Z	nombre
Grilla	1	1	Ejemplo	
O				

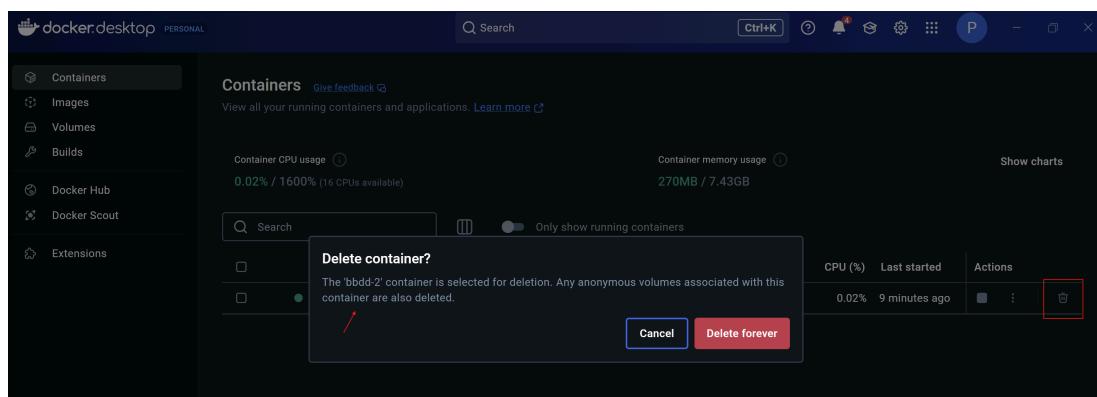
8. Intento borrar la imagen de `mariadb` ¿Qué sucede?



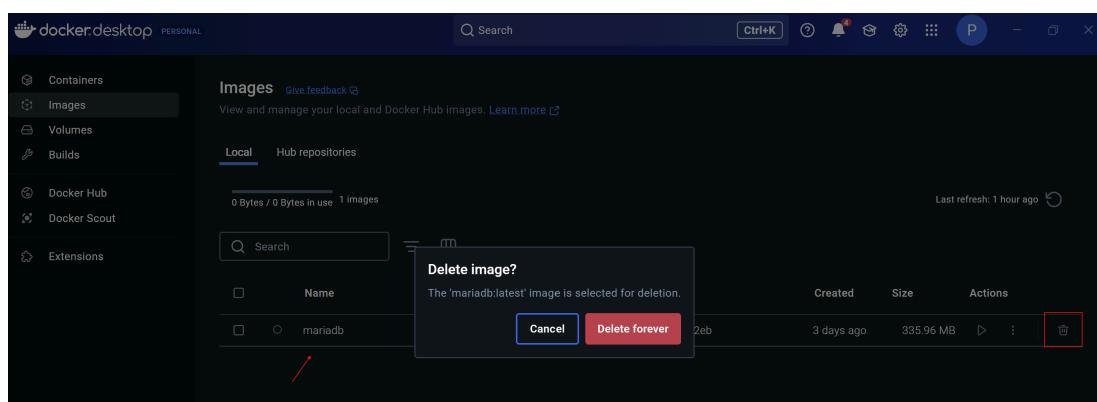
No se puede borrar la imagen porque `bbdd-2` la está usando.

## 9. Borro todo, volumen, imagen y contenedor.

- Borro el contenedor



- Borro la imagen



- Borro el volumen

