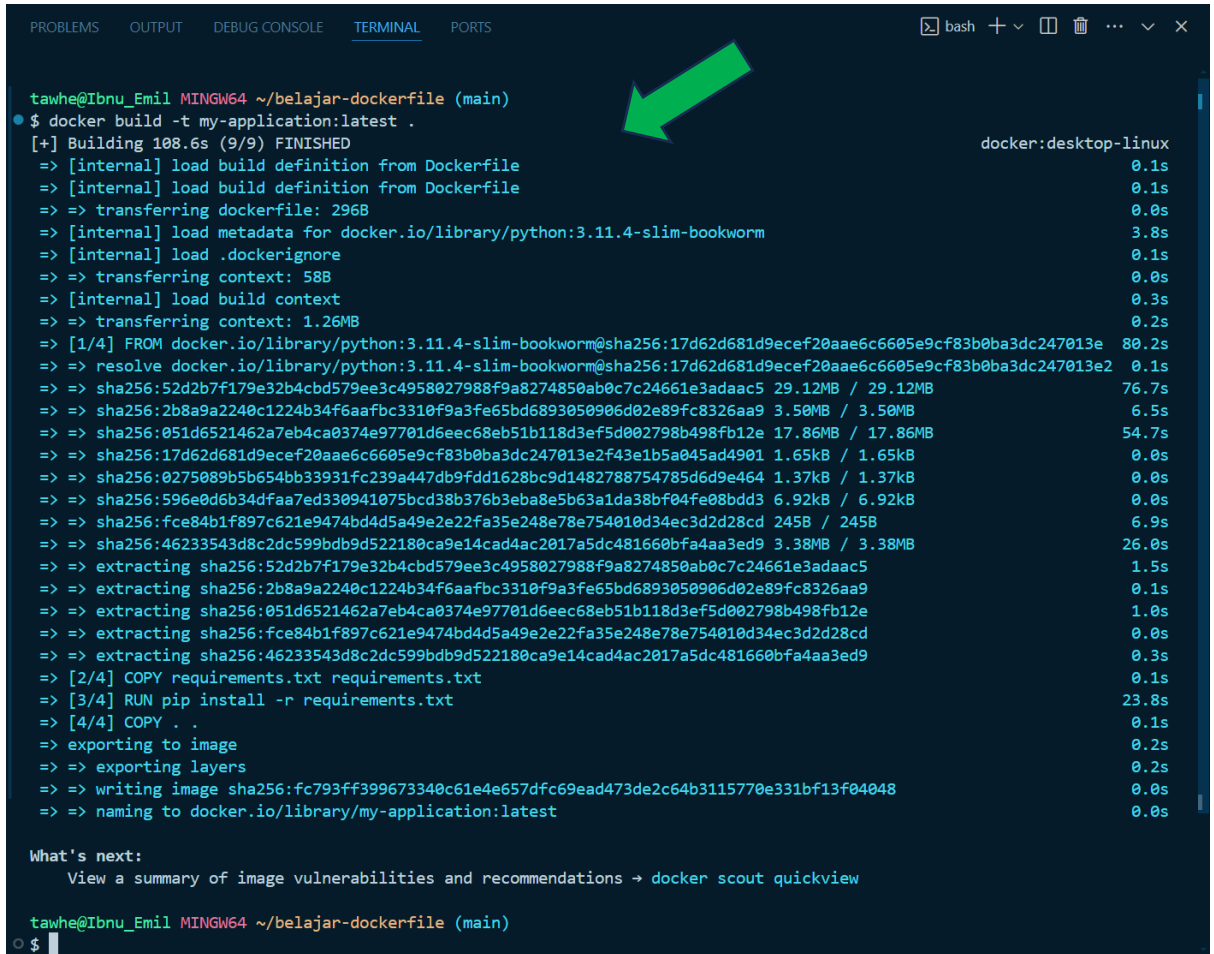


## Part 2 – Dockerfile

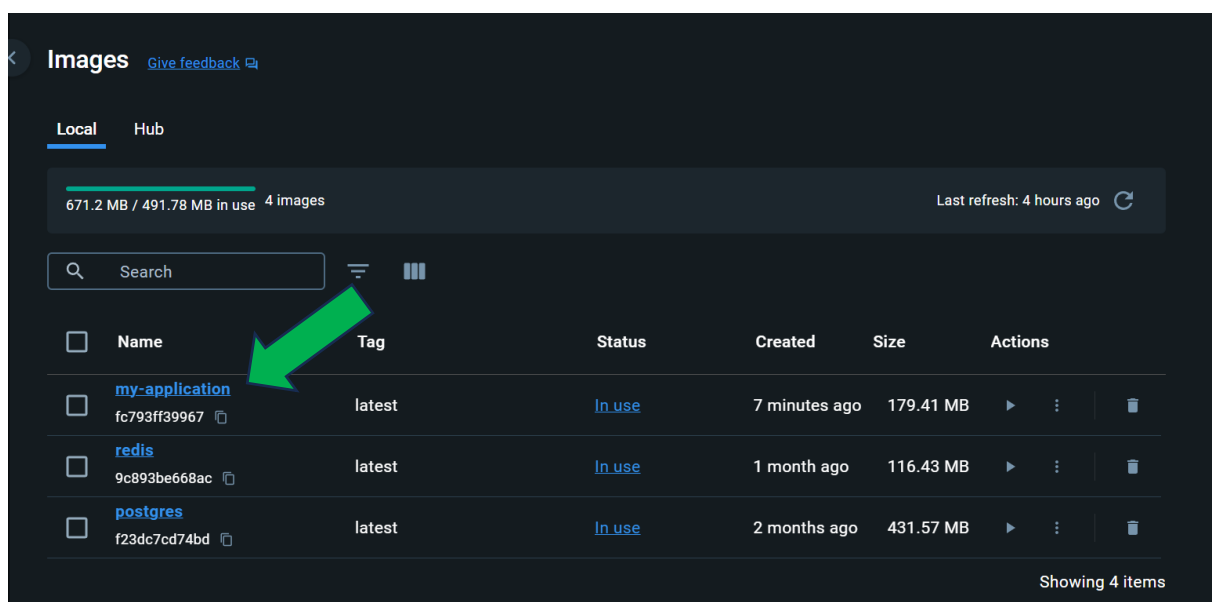
### 1. Build docker image



```
tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$ docker build -t my-application:latest .
[+] Building 108.6s (9/9) FINISHED
=> [internal] load build definition from Dockerfile
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 296B
=> [internal] load metadata for docker.io/library/python:3.11.4-slim-bookworm
=> [internal] load .dockerignore
=> => transferring context: 58B
=> [internal] load build context
=> => transferring context: 1.26MB
=> [1/4] FROM docker.io/library/python:3.11.4-slim-bookworm@sha256:17d62d681d9ecef20aae6c6605e9cf83b0ba3dc247013e
=> => resolve docker.io/library/python:3.11.4-slim-bookworm@sha256:17d62d681d9ecef20aae6c6605e9cf83b0ba3dc247013e2
=> => sha256:52d2b7f179e32b4cbd579ee3c4958027988f9a8274850ab0c7c24661e3adaac5 29.12MB / 29.12MB
=> => sha256:2b8a9a2240c1224b34f6aafbc3310f9a3fe65bd6893050906d02e89fc8326aa9 3.50MB / 3.50MB
=> => sha256:051d6521462a7eb4ca0374e97701d6eec68eb51b118d3ef5d002798b498fb12e 17.86MB / 17.86MB
=> => sha256:17d62d681d9ecef20aae6c6605e9cf83b0ba3dc247013e2f43e1b5a045ad4901 1.65kB / 1.65kB
=> => sha256:0275089b5b654bb33931fc239a447db9fdd1628bc9d1482788754785d6d9e464 1.37kB / 1.37kB
=> => sha256:596e0d6b34dfaa7ed330941075bcd38b376b3eba8e5b63a1da38bf04fe08bdd3 6.92kB / 6.92kB
=> => sha256:fce84b1f897c621e9474bd4d5a49e2e22fa35e248e78e754010d34ec3d2d28cd 245B / 245B
=> => sha256:46233543d8c2dc599bdb9d522180ca9e14cad4ac2017a5dc481660bfa4aa3ed9 3.38MB / 3.38MB
=> => extracting sha256:52d2b7f179e32b4cbd579ee3c4958027988f9a8274850ab0c7c24661e3adaac5
=> => extracting sha256:2b8a9a2240c1224b34f6aafbc3310f9a3fe65bd6893050906d02e89fc8326aa9
=> => extracting sha256:051d6521462a7eb4ca0374e97701d6eec68eb51b118d3ef5d002798b498fb12e
=> => extracting sha256:fce84b1f897c621e9474bd4d5a49e2e22fa35e248e78e754010d34ec3d2d28cd
=> => extracting sha256:46233543d8c2dc599bdb9d522180ca9e14cad4ac2017a5dc481660bfa4aa3ed9
=> [2/4] COPY requirements.txt requirements.txt
=> [3/4] RUN pip install -r requirements.txt
=> [4/4] COPY . .
=> exporting to image
=> => exporting layers
=> => writing image sha256:fc793ff399673340c61e4e657dfc69ead473de2c64b3115770e331bf13f04048
=> => naming to docker.io/library/my-application:latest

What's next:
  View a summary of image vulnerabilities and recommendations → docker scout quickview

tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$
```



➤ Command `$ docker build -t my-application:latest .` berhasil.

## 2. Buat + jalankan docker container

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$ docker run --name my-application-container -p 3000:8000 -e USER_NAME=fiqar -d my-application:latest
tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$
```

Containers [Give feedback](#)

Container CPU usage 0.21% / 1200% (12 CPUs available) Container memory usage 36.73MB / 7.21GB [Show charts](#)

Search  Only show running containers

	Name	Image	Status	Port(s)	CPU (%)	Last started	Actions
<input type="checkbox"/>	9432f0985e	postgres	Exited (1)		0%	19 hours ago	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑️</a>
<input type="checkbox"/>	clever-he	docker/welcome	Exited	8080:80	0%	19 hours ago	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑️</a>
<input type="checkbox"/>	my-applic	my-application:la	Running	3000:8000	0.21%	11 minutes ago	<a href="#">■</a> <a href="#">⋮</a> <a href="#">🗑️</a>

Showing 4 items

- Command `$ docker run --name my-application-container -p 3000:8000 -e USER_NAME=fiqar -d my-application:latest` berhasil.

## 3. Stop container

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$ docker stop my-application-container
my-application-container
tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$
```

Containers [Give feedback](#)

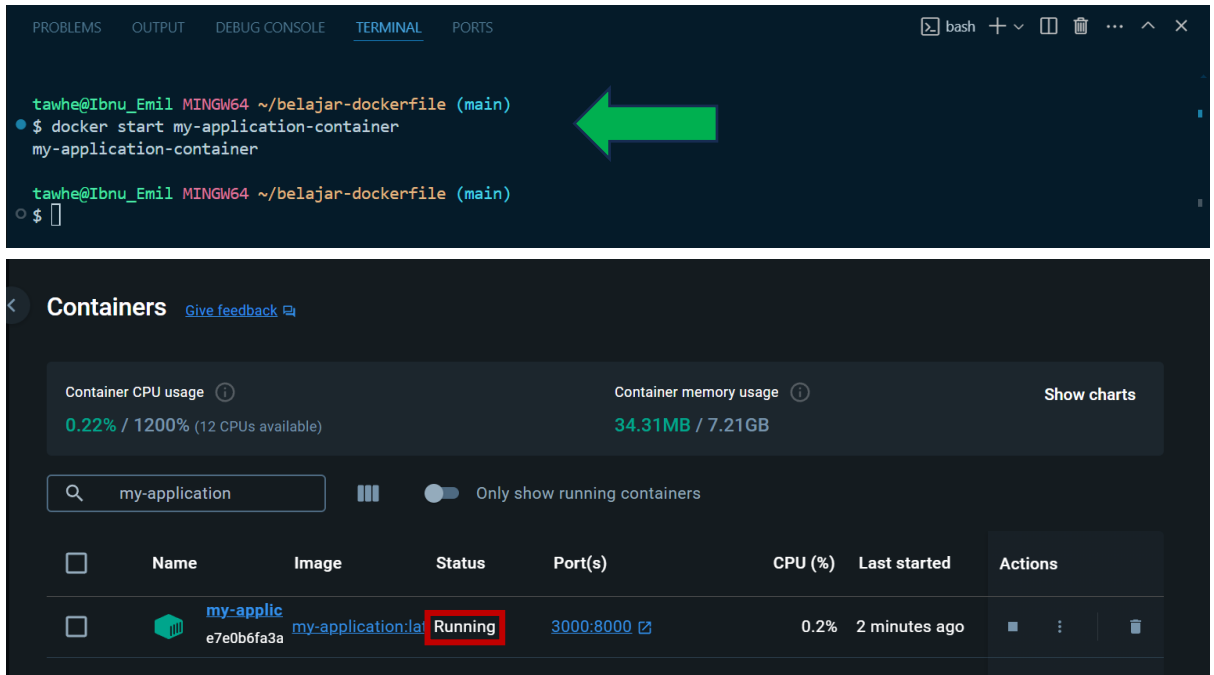
Container CPU usage No containers are running. Container memory usage No containers are running. [Show charts](#)

Search  my-application Only show running containers

	Name	Image	Status	Port(s)	CPU (%)	Last started	Actions
<input type="checkbox"/>	my-applic	my-application:la	Exited (137)	3000:8000	N/A	19 minutes ago	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑️</a>

- Command `$ docker stop my-application-container` berhasil.

#### 4. Start container

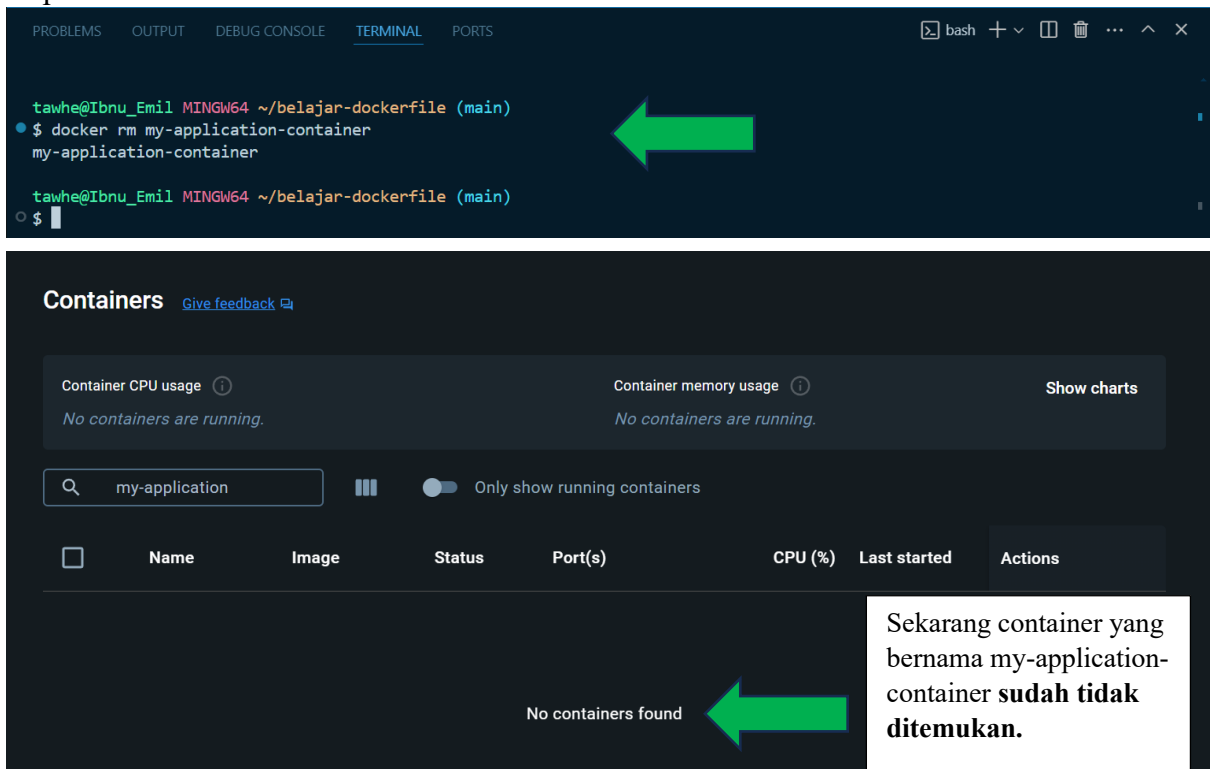


The top screenshot shows a terminal window with the command `$ docker start my-application-container` being executed. A green arrow points to the command. The bottom screenshot shows the Docker Desktop interface. The 'Containers' tab is active, displaying CPU usage at 0.22% and memory usage at 34.31MB. A table lists the container 'my-applic' with status 'Running' (highlighted in red), port '3000:8000', and 'Last started' 2 minutes ago. A green arrow points to the 'Running' status.

Name	Image	Status	Port(s)	CPU (%)	Last started
my-applic	my-application:la	Running	3000:8000	0.2%	2 minutes ago

Command `$ docker start my-application-container` berhasil.

#### 5. Hapus container




The top screenshot shows a terminal window with the command `$ docker rm my-application-container` being executed. A green arrow points to the command. The bottom screenshot shows the Docker Desktop interface. The 'Containers' tab is active, displaying 'No containers are running.' for both CPU and memory usage. A table with headers 'Name', 'Image', 'Status', 'Port(s)', 'CPU (%)', 'Last started', and 'Actions' is shown, but it is empty. A green arrow points to the 'No containers found' message. A text box on the right states: 'Sekarang container yang bernama my-application-container sudah tidak ditemukan.'

Command `$ docker rm my-application-container` berhasil.

## 6. List image

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$ docker images
REPOSITORY          TAG       IMAGE ID       CREATED        SIZE
my-application       latest    fc793ff39967   39 minutes ago 179MB
redis                latest    9c893be668ac   6 weeks ago   116MB
postgres            latest    f23dc7cd74bd   7 weeks ago   432MB
docker/welcome-to-docker latest    c1f619b6477e   8 months ago   18.6MB
```



**Images** [Give feedback](#)

Local Hub

491.78 MB / 491.78 MB in use 4 images Last refresh: 4 hours ago

<input type="checkbox"/>	Name	Tag	Status	Created	Size	Actions
<input type="checkbox"/>	<a href="#">my-application</a> fc793ff39967	latest	Unused	34 minutes ag	179.41 MB	
<input type="checkbox"/>	<a href="#">redis</a> 9c893be668ac	latest	<a href="#">In use</a>	1 month ago	116.43 MB	
<input type="checkbox"/>	<a href="#">postgres</a> f23dc7cd74bd	latest	<a href="#">In use</a>	2 months ago	431.57 MB	
<input type="checkbox"/>	<a href="#">docker/welcome-to-docker</a> c1f619b6477e	latest	<a href="#">In use</a>	8 months ago	18.55 MB	

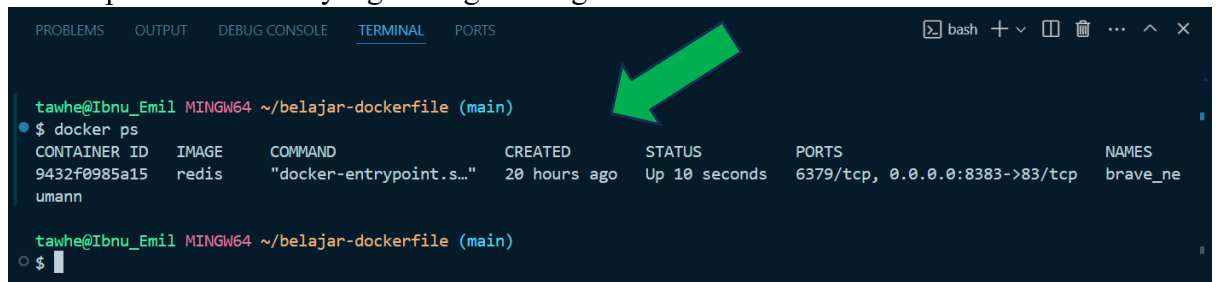
Pada terminal dan docker sama sama menampilkan 4 image

Showing 4 items

- Command \$ docker images berhasil.

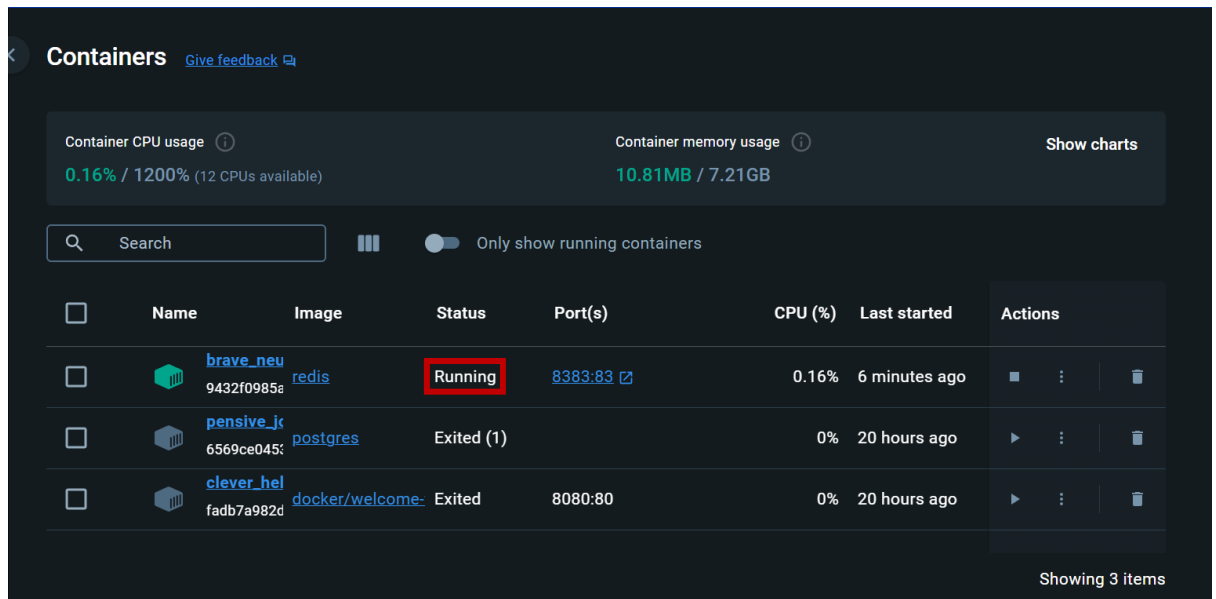
## 7. List container

Menampilkan container yang sedang running



```
tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$ docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                               NAMES
9432f0985a15   redis     "docker-entrypoint.s..." 20 hours ago  Up 10 seconds  6379/tcp, 0.0.0.0:8383->83/tcp      brave_neumann

tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$
```



Containers [Give feedback](#)

Container CPU usage 0.16% / 1200% (12 CPUs available) Container memory usage 10.81MB / 7.21GB [Show charts](#)

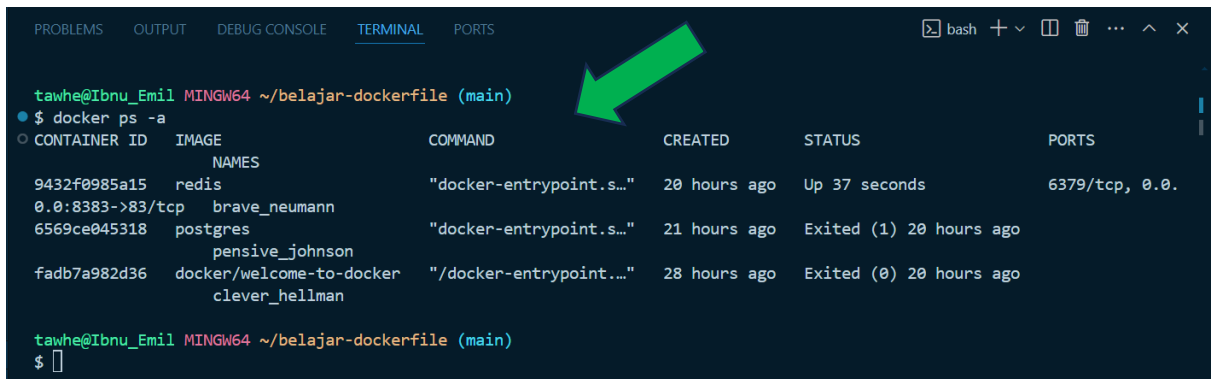
Search  ☐ Only show running containers

<input type="checkbox"/>	Name	Image	Status	Port(s)	CPU (%)	Last started	Actions
<input type="checkbox"/>	<a href="#">brave_neu</a> 9432f0985a15 <a href="#">redis</a>		Running	<a href="#">8383:83</a>	0.16%	6 minutes ago	
<input type="checkbox"/>	<a href="#">pensive_jk</a> 6569ce045f <a href="#">postgres</a>		Exited (1)		0%	20 hours ago	
<input type="checkbox"/>	<a href="#">clever_hel</a> fadb7a982d <a href="#">docker/welcome-</a>		Exited	8080:80	0%	20 hours ago	

Showing 3 items

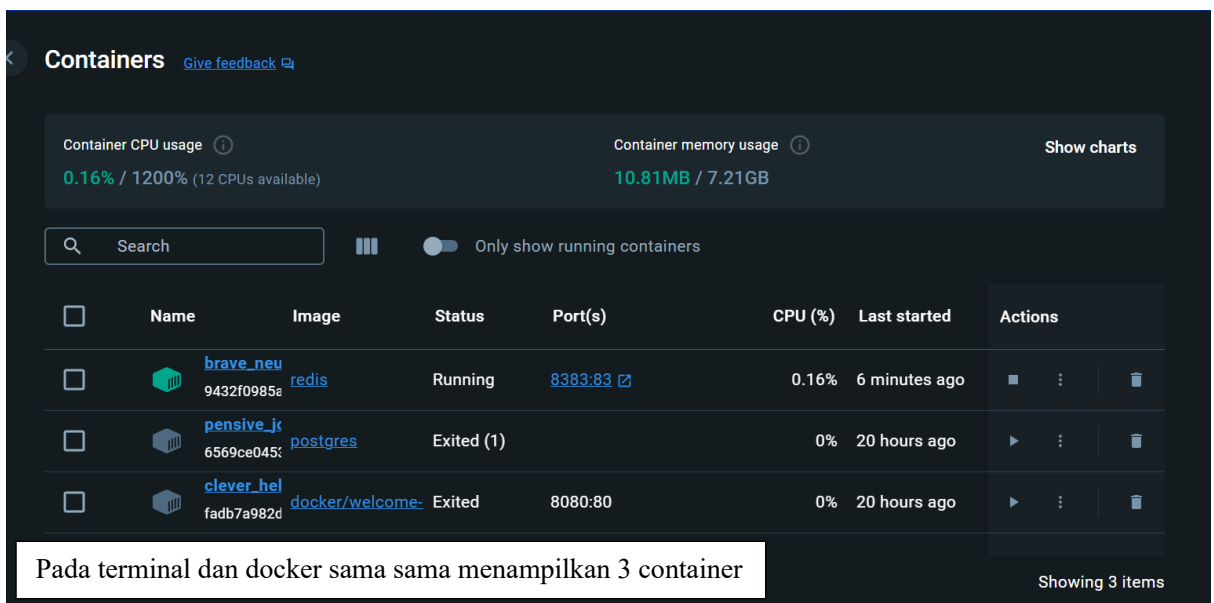
➤ Command `$ docker ps` berhasil.

## Menampilkan list semua container



```
tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$ docker ps -a
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS
9432f0985a15   redis                               "docker-entrypoint.s..." 20 hours ago   Up 37 seconds  6379/tcp, 0.0.
0.0:8383->83/tcp brave_neumann                      "docker-entrypoint.s..." 21 hours ago   Exited (1) 20 hours ago
6569ce045318   postgres                           "docker-entrypoint.s..." 21 hours ago   Exited (1) 20 hours ago
fadb7a982d36   docker/welcome-to-docker-clever_hellman "/docker-entrypoint..." 28 hours ago   Exited (0) 20 hours ago

tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$
```



Containers [Give feedback](#)

Container CPU usage 0.16% / 1200% (12 CPUs available) Container memory usage 10.81MB / 7.21GB [Show charts](#)

Search  Only show running containers

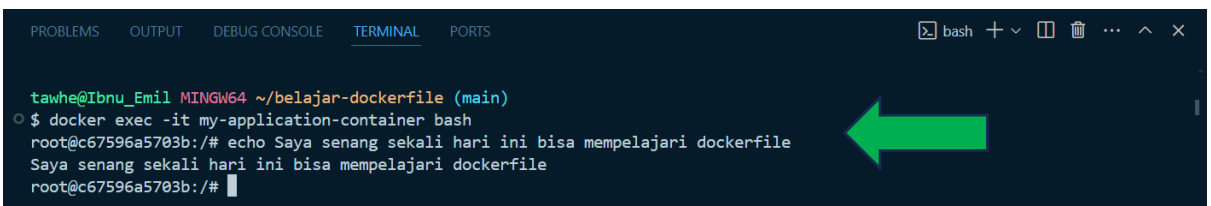
<input type="checkbox"/>	Name	Image	Status	Port(s)	CPU (%)	Last started	Actions
<input type="checkbox"/>	brave_neu 9432f0985a15 <a href="#">redis</a>	Running	<a href="#">8383:83</a>	0.16%	6 minutes ago		
<input type="checkbox"/>	pensive_jc 6569ce045318 <a href="#">postgres</a>	Exited (1)		0%	20 hours ago		
<input type="checkbox"/>	clever_hel fadb7a982d36 <a href="#">docker/welcome-to-docker-clever_hellman</a>	Exited	8080:80	0%	20 hours ago		

Pada terminal dan docker sama sama menampilkan 3 container

Showing 3 items

➤ Command `$ docker ps -a` **berhasil**.

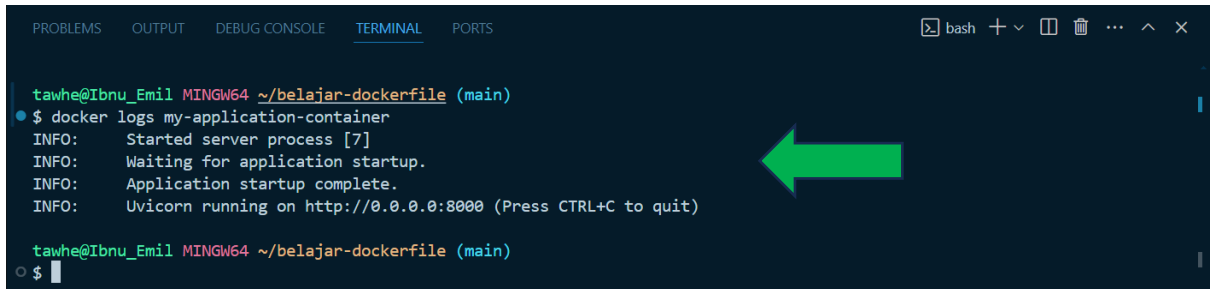
## 8. Remote container



```
tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$ docker exec -it my-application-container bash
root@c67596a5703b:/# echo Saya senang sekali hari ini bisa mempelajari dockerfile
Saya senang sekali hari ini bisa mempelajari dockerfile
root@c67596a5703b:/#
```

➤ Command `$ docker exec -it my-application-container bash` **berhasil**.


## 9. Munculin log



```
tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$ docker logs my-application-container
INFO: Started server process [7]
INFO: Waiting for application startup.
INFO: Application startup complete.
INFO: Uvicorn running on http://0.0.0.0:8000 (Press CTRL+C to quit)

tawhe@Ibnu_Emil MINGW64 ~/belajar-dockerfile (main)
$
```

A green arrow points to the output of the `docker logs` command.



my-application-container  
my-application:latest  
c67596a5703b  
3000:8000

STATUS  
Running (5 minutes ago)

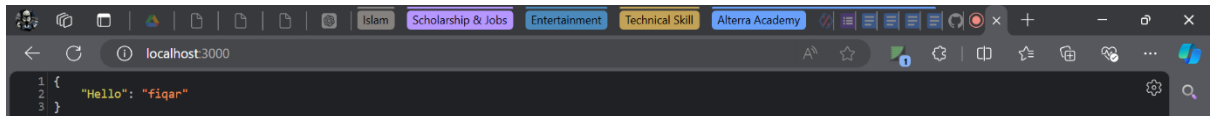
Logs Inspect Bind mounts Exec Files Stats

```
2024-07-05 00:35:49 INFO: Started server process [7]
2024-07-05 00:35:49 INFO: Waiting for application startup.
2024-07-05 00:35:49 INFO: Application startup complete.
2024-07-05 00:35:49 INFO: Uvicorn running on http://0.0.0.0:8000 (Press CTRL+C to quit)
```

Pada terminal dan docker sama sama menampilkan isi log yang sama

- Command `$ docker logs my-application-container` **berhasil**.

## 10. Result



```
1 {
2   "Hello": "fiqar"
3 }
```

- Pada browser, localhost telah **berhasil dibuat**.