

Container Network - Docker Basic Utilization problem



```
PS C:\Users\ASUS> docker swarm init --advertise-addr 192.168.1.110
error during connect: Post
"http://%2F%2F.%2Fpipe%2FdockerDesktopLinuxEngine/v1.47/swarm/init": open
//./pipe/dockerDesktopLinuxEngine: The system cannot find the file specified.
PS C:\Users\ASUS> docker swarm init --advertise-addr <192.168.1.110>
ParserError:
Line |
  1 | docker swarm init --advertise-addr <192.168.1.110>
    | ~
    | The '<' operator is reserved for future use.
PS C:\Users\ASUS> docker swarm init
error during connect: Post
"http://%2F%2F.%2Fpipe%2FdockerDesktopLinuxEngine/v1.47/swarm/init": open
//./pipe/dockerDesktopLinuxEngine: The system cannot find the file specified.
PS C:\Users\ASUS>
```

You're seeing this error because **Docker Swarm is trying to run using the Linux container engine**, but it's not currently running or configured correctly on your system.

Let's break this down and fix it step by step:

! Error Explanation

plaintext

```
error during connect: Post "http://%2F%2F.%2Fpipe%2FdockerDesktopLinuxEngine...
open //./pipe/dockerDesktopLinuxEngine: The system cannot find the file specified.
```

This means Docker is trying to connect to the **Linux engine**, but it's not running. You might be using **Docker Desktop** with **Windows containers**, or the Linux backend isn't started.

✓ Fix Steps

1. Check Docker Is Running

Make sure **Docker Desktop** is actually running. Look for the Docker whale icon in the system tray (bottom-right corner of your screen). If it's not running:

- Start Docker Desktop manually.

2. Switch to Linux Containers

Docker Swarm works **only** with **Linux containers**.

To switch:

- Right-click on the Docker Desktop icon in the system tray.
- Select **“Switch to Linux containers”**.

It may take a moment to switch.

3. Retry the Command

After switching to Linux containers, retry:

```
powershell

docker swarm init --advertise-addr 192.168.1.110
```

⚠ Don't use `<<` and `<>` in PowerShell. That caused this error:

```
plaintext

The '<' operator is reserved for future use.
```

So just use:

```
powershell

docker swarm init --advertise-addr 192.168.1.110
```

✅ Optional: Confirm Container Engine

You can verify which container engine is currently running with:

```
powershell

docker info
```

Look for the `OSType` field — it should say:

```
makefile

OSType: linux
```

If it says `windows`, Swarm will not work until you switch.

Let me know if you need help checking your network IP or setting up a basic Swarm service after that.



```
explain this and how to find the ip of my pc and why :
PS C:\Users\ASUS> docker swarm init --advertise-addr 192.168.1.110
```

Error response from daemon: This node is already part of a swarm. Use "docker swarm leave" to leave this swarm and join another one.
explain this also:

```
PS C:\Users\ASUS> docker swarm init
Swarm initialized: current node (y6nmea86ode95ump3bhno182b) is now a manager.
```

To add a worker to this swarm, run the following command:

```
docker swarm join --token SWMTKN-1-3ilqarefokr85clqkkgiybhc8lkljtjyph9dqvia9zquytu5iew-0zsxwwfgm7762fciaoffdll33 192.168.65.3:2377
```

To add a manager to this swarm, run 'docker swarm join-token manager' and follow the instructions.

```
PS C:\Users\ASUS> docker swarm init --advertise-addr 192.168.1.110
Error response from daemon: This node is already part of a swarm. Use "docker swarm leave" to leave this swarm and join another one.
PS C:\Users\ASUS> ifconfig
ifconfig: The term 'ifconfig' is not recognized as a name of a cmdlet, function, script file, or executable program.
Check the spelling of the name, or if a path was included, verify that the path is correct and try again.
PS C:\Users\ASUS> ipconfig
```

Windows IP Configuration

Ethernet adapter Ethernet:

```
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
```

Ethernet adapter Ethernet 3:

```
Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . : fe80::15c7:d7bd:9fb0:7c29%11
IPv4 Address. . . . . : 192.168.56.1
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
```

Unknown adapter Local Area Connection:

```
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
```

Wireless LAN adapter Local Area Connection* 1:

```
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
```

Wireless LAN adapter Local Area Connection* 2:

Media State : Media disconnected
 Connection-specific DNS Suffix . :

Wireless LAN adapter Aroma:

Connection-specific DNS Suffix . :
 IPv4 Address. : 192.168.1.110
 Subnet Mask : 255.255.255.0
 Default Gateway : 192.168.1.1

Ethernet adapter Bluetooth Network Connection:

Media State : Media disconnected
 Connection-specific DNS Suffix . :

Ethernet adapter vEthernet (WSL (Hyper-V firewall)):

Connection-specific DNS Suffix . :
 Link-local IPv6 Address : fe80::94f:4154:a3dd:886e%68
 IPv4 Address. : 172.31.16.1
 Subnet Mask : 255.255.240.0
 Default Gateway :

PS C:\Users\ASUS> docker info

>>

Client:

Version: 27.4.0

Context: desktop-linux

Debug Mode: false

Plugins:

ai: Ask Gordon - Docker Agent (Docker Inc.)

Version: v0.5.1

Path: C:\Program Files\Docker\cli-plugins\docker-ai.exe

buildx: Docker Buildx (Docker Inc.)

Version: v0.19.2-desktop.1

Path: C:\Program Files\Docker\cli-plugins\docker-buildx.exe

compose: Docker Compose (Docker Inc.)

Version: v2.31.0-desktop.2

Path: C:\Program Files\Docker\cli-plugins\docker-compose.exe

debug: Get a shell into any image or container (Docker Inc.)

Version: 0.0.37

Path: C:\Program Files\Docker\cli-plugins\docker-debug.exe

desktop: Docker Desktop commands (Beta) (Docker Inc.)

Version: v0.1.0

Path: C:\Program Files\Docker\cli-plugins\docker-desktop.exe

dev: Docker Dev Environments (Docker Inc.)

Version: v0.1.2

Path: C:\Program Files\Docker\cli-plugins\docker-dev.exe

extension: Manages Docker extensions (Docker Inc.)

Version: v0.2.27

Path: C:\Program Files\Docker\cli-plugins\docker-extension.exe
 feedback: Provide feedback, right in your terminal! (Docker Inc.)
 Version: v1.0.5
 Path: C:\Program Files\Docker\cli-plugins\docker-feedback.exe
 init: Creates Docker-related starter files for your project (Docker Inc.)
 Version: v1.4.0
 Path: C:\Program Files\Docker\cli-plugins\docker-init.exe
 sbom: View the packaged-based Software Bill Of Materials (SBOM) for an image (Anchore Inc.)
 Version: 0.6.0
 Path: C:\Program Files\Docker\cli-plugins\docker-sbom.exe
 scout: Docker Scout (Docker Inc.)
 Version: v1.15.1
 Path: C:\Program Files\Docker\cli-plugins\docker-scout.exe

Server:

Containers: 4
 Running: 0
 Paused: 0
 Stopped: 4
 Images: 8
 Server Version: 27.4.0
 Storage Driver: overlay2
 Backing Filesystem: extfs
 Supports d_type: true
 Using metacopy: false
 Native Overlay Diff: true
 userxattr: false
 Logging Driver: json-file
 Cgroup Driver: cgroupfs
 Cgroup Version: 1
 Plugins:
 Volume: local
 Network: bridge host ipvlan macvlan null overlay
 Log: awslogs fluentd gcplogs gelf journald json-file local splunk syslog
 CDI spec directories:
 /etc/cdi
 /var/run/cdi
 Swarm: active
 NodeID: y6nmea86ode95ump3bhno182b
 Is Manager: true
 ClusterID: 8tkw3e2y2i4iwyzlef3yw6wli
 Managers: 1
 Nodes: 1
 Data Path Port: 4789
 Orchestration:
 Task History Retention Limit: 5
 Raft:
 Snapshot Interval: 10000
 Number of Old Snapshots to Retain: 0
 Heartbeat Tick: 1
 Election Tick: 10

```

Dispatcher:
  Heartbeat Period: 5 seconds
CA Configuration:
  Expiry Duration: 3 months
  Force Rotate: 0
Autolock Managers: false
Root Rotation In Progress: false
Node Address: 192.168.65.3
Manager Addresses:
  192.168.65.3:2377
Runtimes: io.containerd.runc.v2 nvidia runc
Default Runtime: runc
Init Binary: docker-init
containerd version: 472731909fa34bd7bc9c087e4c27943f9835f111
runc version: v1.1.13-0-g58aa920
init version: de40ad0
Security Options:
  seccomp
    Profile: unconfined
Kernel Version: 5.15.167.4-microsoft-standard-WSL2
Operating System: Docker Desktop
OSType: linux
Architecture: x86_64
CPUs: 8
Total Memory: 7.609GiB
Name: docker-desktop
ID: b73808c1-c50d-43c3-9463-08233c3065fe
Docker Root Dir: /var/lib/docker
Debug Mode: false
HTTP Proxy: http.docker.internal:3128
HTTPS Proxy: http.docker.internal:3128
No Proxy: hubproxy.docker.internal
Labels:
  com.docker.desktop.address=npipe://\\.\pipe\docker_cli
Experimental: false
Insecure Registries:
  hubproxy.docker.internal:5555
  127.0.0.0/8
Live Restore Enabled: false

```

```

WARNING: No blkio throttle.read_bps_device support
WARNING: No blkio throttle.write_bps_device support
WARNING: No blkio throttle.read_iops_device support
WARNING: No blkio throttle.write_iops_device support
WARNING: daemon is not using the default seccomp profile
PS C:\Users\ASUS>

```

Great! You're experimenting with **Docker Swarm**, and it looks like you're getting close. Let's explain everything you asked about step-by-step in simple terms:

What Does This Mean?

```
powershell

docker swarm init --advertise-addr 192.168.1.110
```

- This tells Docker to:
 - Initialize a **Swarm cluster**.
 - Make your machine the **manager node**.
 - Tell other nodes to connect to your IP `192.168.1.110`` (your machine's IP on the local network).

Error: "This node is already part of a swarm"

```
powershell

Error response from daemon: This node is already part of a swarm.
Use "docker swarm leave" to leave this swarm and join another one.
```

- This means you've **already run** `docker swarm init``.
- You can't initialize again **unless you first leave the existing swarm**.
- You can leave using:

```
powershell

docker swarm leave --force
```

When You Successfully Ran `docker swarm init``

```
plaintext

Swarm initialized: current node (y6nmea86ode95ump3bhno182b) is now a manager.
...
docker swarm join --token ... 192.168.65.3:2377
```

- Your current machine is now the **Swarm Manager**.
- Other machines can join your swarm as **workers** using the `join`` command with the token and your **advertise address** (currently `192.168.65.3``).

But Wait... Why `192.168.65.3`` Instead of `192.168.1.110``?

That's a great observation!

Look at this from your `docker info``:

```
plaintext
```

```
Node Address: 192.168.65.3
Manager Addresses: 192.168.65.3:2377
```

This IP (`192.168.65.3`) is **Docker's internal network**, not your actual WiFi IP.

✅ So How to Set the Real IP (`192.168.1.110`)?

You must **manually tell Docker** to advertise this IP. That's why we use:

```
powershell

docker swarm init --advertise-addr 192.168.1.110
```

But remember, you **can't do that again** unless you leave the current swarm first:

```
powershell

docker swarm leave --force
docker swarm init --advertise-addr 192.168.1.110
```

✅ Now your Swarm will use your **real WiFi IP**, which is good if you're connecting from other devices.

💡 How to Find Your IP on Windows

You used:

```
powershell

ipconfig
```

Good job! You correctly found this part:

```
plaintext

Wireless LAN adapter Aroma:

    IPv4 Address. . . . . : 192.168.1.110
```

This is the **local IP address** of your PC on the WiFi network. You use it so other devices on the same network (like a Raspberry Pi, Jetson Nano, or another PC) can connect to your Swarm.

🔄 Summary of What You Should Do Now

If you want to **reinitialize Swarm with the correct IP**:

```
powershell

docker swarm leave --force
docker swarm init --advertise-addr 192.168.1.110
```


Then Docker will use your WiFi IP, not the internal virtual Docker network.

✓ Bonus: Check Swarm Status

To check that your machine is a manager node:

```
powershell

docker node ls
```

You should see your node listed as:

```
objectivec

ID                                HOSTNAME        STATUS        MANAGER STATUS        AVAILABILITY
y6nmea86ode95ump3bhno182b *    docker-desktop Ready         Leader          Active
```

Let me know if you want to test adding a worker or deploy a service next!



```
PS C:\Users\ASUS> touch utilize
PS C:\Users\ASUS> cd utilize
PS C:\Users\ASUS\utilize> touch Dockerfile
PS C:\Users\ASUS\utilize> touch app.py
PS C:\Users\ASUS\utilize> touch docker-compose.yml
PS C:\Users\ASUS\utilize> docker swarm init
>> docker stack deploy -c docker-compose.yml myapp
>>
Error response from daemon: This node is already part of a swarm. Use "docker swarm leave" to
leave this swarm and join another one.
Ignoring unsupported options: build
```

```
Since --detach=false was not specified, tasks will be created in the background.
In a future release, --detach=false will become the default.
Creating network myapp_default
Creating service myapp_web
failed to create service myapp_web: Error response from daemon: rpc error: code =
InvalidArgument desc = ContainerSpec: image reference must be provided
PS C:\Users\ASUS\utilize> docker stack deploy -c docker-compose.yml myapp
Ignoring unsupported options: build
```

```
Since --detach=false was not specified, tasks will be created in the background.
In a future release, --detach=false will become the default.
Creating service myapp_web
failed to create service myapp_web: Error response from daemon: rpc error: code =
InvalidArgument desc = ContainerSpec: image reference must be provided
PS C:\Users\ASUS\utilize>
```

Great progress! You're now deploying a **Docker Swarm stack**, but you're running into a common issue. Let's break it down clearly.

⚠ The Problem:

```
plaintext

failed to create service myapp_web: Error response from daemon:
rpc error: code = InvalidArgument desc = ContainerSpec: image reference must be provided
```

This error means:

Your `docker-compose.yml` file does not specify an image for your service.

In **Swarm mode**, `docker stack deploy` **does NOT support** `build:` in the `docker-compose.yml` file. You must either:

1. Pre-build your image and **use** `image:`, or
 2. Build the image manually before deploying.
-

✅ Solution Options:

✅ Option 1: Manually Build the Image

First, create a Docker image manually from your `Dockerfile`:

```
powershell

docker build -t myapp:latest .
```

Then, in your `docker-compose.yml`, update it like this:

```
yaml

version: '3.8'

services:
  web:
    image: myapp:latest
    ports:
      - "5000:5000"
```

Then deploy your stack again:

```
powershell

docker stack deploy -c docker-compose.yml myapp
```

✅ Option 2: Push Image to Docker Hub (for multi-node Swarm)

If you're running a **multi-node Swarm**, all nodes must pull the image. So you need to:

- Tag your image for Docker Hub:

```
powershell

docker tag myapp:latest yourdockerhubusername/myapp:latest
```

- Push it:

```
powershell

docker push yourdockerhubusername/myapp:latest
```

- Then your `docker-compose.yml` can use that public image:

```
yaml

services:
  web:
    image: yourdockerhubusername/myapp:latest
    ports:
      - "5000:5000"
```

Recap

Action	Reason
<code>build:</code> in compose	✗ Not supported in <code>docker stack deploy</code>
<code>image:</code> field	✓ Must be used
<code>docker build</code>	✓ Use this to build manually before <code>stack deploy</code>
<code>docker push</code>	✓ If using multiple nodes in Swarm

Bonus: Example Project Structure

Here's how your project should be laid out:

```
utilize/
├── app.py
├── Dockerfile
└── docker-compose.yml
```

Example `Dockerfile`:

```
Dockerfile

FROM python:3.9-slim
WORKDIR /app
COPY . .
RUN pip install flask
CMD ["python", "app.py"]
```

Example `app.py`:

```
python

from flask import Flask
app = Flask(__name__)

@app.route('/')
def hello():
    return "Hello from Docker Swarm!"
```

Let me know if you want me to generate the complete files for this test project!



```
PS C:\Users\ASUS\utilize> docker stack deploy -c docker-compose.yml myapp
>>
Since --detach=false was not specified, tasks will be created in the background.
In a future release, --detach=false will become the default.
Creating service myapp_web
PS C:\Users\ASUS\utilize>
```

Perfect! 🎉 That means your **Swarm stack deployed successfully** and the service `myapp_web` is now running in the background! 💪

✅ What Just Happened?

You ran:

```
powershell

docker stack deploy -c docker-compose.yml myapp
```

And Docker:

- Created a new **stack** named `myapp`.
- Created a **service** inside it called `myapp_web`.
- Ran the container in **Swarm mode**, meaning it's managed by Docker Swarm (for scaling, failover, etc).

✅ What You Can Do Now

🔍 1. Check the status of your service:

```
powershell

docker service ls
```

You'll see output like:

```
bash
```

ID	NAME	MODE	REPLICAS	IMAGE	PORTS
abc123xyz	myapp_web	replicated	1/1	myapp:latest	*:5000->5000/tcp

2. Inspect running tasks/containers:

```
powershell
```

```
docker service ps myapp_web
```

This shows whether your container is running, or if there was an error.


3. Access your app in browser:

Go to:

 <http://localhost:5000>

or

 <http://192.168.1.110:5000> (from another device on your network)

 If `app.py` is a Flask app running on port 5000, it should open just fine.

Useful Commands Going Forward

Command	What it does
<code>`docker stack ls`</code>	List all stacks
<code>`docker stack services myapp`</code>	View services in your stack
<code>`docker service logs myapp_web`</code>	View logs for your service
<code>`docker stack rm myapp`</code>	Remove the whole stack
<code>`docker service scale myapp_web=3`</code>	Scale your service to 3 replicas

Want help adding scaling, volumes, or a database next? Or want a beautiful working demo project you can build on?



```
PS C:\Users\ASUS\utilize>
```

```
PS C:\Users\ASUS\utilize>
```

```
PS C:\Users\ASUS\utilize>
```

```
PS C:\Users\ASUS\utilize>
```

```
PS C:\Users\ASUS\utilize>
```

```
PS C:\Users\ASUS\utilize> docker-compose up --build
```

```
>>
```

```
time="2025-03-30T14:32:43+06:00" level=warning msg="C:\\Users\\ASUS\\utilize\\docker-  
compose.yml: the attribute `version` is obsolete, it will be ignored, please remove it to avoid
```

potential confusion"

[+] Running 12/12

✓ db Pulled	29.1s
✓ 20e4dcae4c69 Pull complete	16.9s
✓ 1c56c3d4ce74 Pull complete	16.9s
✓ e9f03a1c24ce Pull complete	17.0s
✓ 68c3898c2015 Pull complete	17.1s
✓ 6b95a940e7b6 Pull complete	17.2s
✓ 90986bb8de6e Pull complete	17.2s
✓ ae71319cb779 Pull complete	17.7s
✓ ffc89e9dfd88 Pull complete	17.7s
✓ 43d05e938198 Pull complete	23.7s
✓ 064b2d298fba Pull complete	23.8s
✓ df9a4d85569b Pull complete	23.8s

[+] Running 0/1

- Service web Building	8.6s
------------------------	------

[+] Building 8.9s (10/10) FINISHED docker:desktop-linux

=> [web internal] load build definition from Dockerfile 0.0s

=> => transferring dockerfile: 142B 0.0s

=> [web internal] load metadata for docker.io/library/python 2.5s

=> [web internal] load .dockerignore 0.0s

=> => transferring context: 2B 0.0s

=> [web 1/4] FROM docker.io/library/python:3.10@sha256:8ad0e 0.0s

=> [web internal] load build context 0.0s

=> => transferring context: 434B 0.0s

=> CACHED [web 2/4] WORKDIR /app 0.0s

=> [web 3/4] COPY . . 0.7s

=> [web 4/4] RUN pip install -r requirements.txt 5.5s

=> [web] exporting to image 0.1s

=> => exporting layers 0.1s

=> => writing image sha256:6f874d496a1d8a58a41ba96e4a456755b 0.0s

[+] Running 4/4o docker.io/library/utilize-web 0.0s

✓ Service web Built	9.0s
✓ Network utilize_default Creat...	0.0s
✓ Container utilize-db-1 Create...	0.1s
✓ Container utilize-web-1 Creat...	0.1s

Attaching to db-1, web-1

db-1 | 2025-03-30 08:33:21+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 5.7.44-1.el7 started.

db-1 | 2025-03-30 08:33:21+00:00 [Note] [Entrypoint]: Switching to dedicated user 'mysql'

db-1 | 2025-03-30 08:33:21+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 5.7.44-1.el7 started.

db-1 | 2025-03-30 08:33:21+00:00 [Note] [Entrypoint]: Initializing database files

db-1 | 2025-03-30T08:33:21.965446Z 0 [Warning] TIMESTAMP with implicit DEFAULT value is deprecated. Please use --explicit_defaults_for_timestamp server option (see documentation for more details).

web-1 | * Serving Flask app 'app'

web-1 | * Debug mode: off

web-1 | WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.

web-1 | * Running on all addresses (0.0.0.0)

```

web-1 | * Running on http://127.0.0.1:5000
web-1 | * Running on http://172.23.0.3:5000
web-1 | Press CTRL+C to quit
db-1 | 2025-03-30T08:33:22.118300Z 0 [Warning] InnoDB: New log files created, LSN=45790
db-1 | 2025-03-30T08:33:22.150270Z 0 [Warning] InnoDB: Creating foreign key constraint system
tables.
db-1 | 2025-03-30T08:33:22.157276Z 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: a3db3411-0d41-
11f0-a90b-0242ac170002.
db-1 | 2025-03-30T08:33:22.158920Z 0 [Warning] Gtid table is not ready to be used. Table
'mysql.gtid_executed' cannot be opened.
db-1 | 2025-03-30T08:33:22.247340Z 0 [Warning] A deprecated TLS version TLSv1 is enabled.
Please use TLSv1.2 or higher.
db-1 | 2025-03-30T08:33:22.247367Z 0 [Warning] A deprecated TLS version TLSv1.1 is enabled.
Please use TLSv1.2 or higher.
db-1 | 2025-03-30T08:33:22.247717Z 0 [Warning] CA certificate ca.pem is self signed.
db-1 | 2025-03-30T08:33:22.283285Z 1 [Warning] root@localhost is created with an empty
password ! Please consider switching off the --initialize-insecure option.
db-1 | 2025-03-30 08:33:24+00:00 [Note] [Entrypoint]: Database files initialized
db-1 | 2025-03-30 08:33:24+00:00 [Note] [Entrypoint]: Starting temporary server
db-1 | 2025-03-30 08:33:24+00:00 [Note] [Entrypoint]: Waiting for server startup
db-1 | 2025-03-30T08:33:24.297158Z 0 [Warning] TIMESTAMP with implicit DEFAULT value is
deprecated. Please use --explicit_defaults_for_timestamp server option (see documentation for
more details).
db-1 | 2025-03-30T08:33:24.298841Z 0 [Note] mysqld (mysqld 5.7.44) starting as process 125 ...
db-1 | 2025-03-30T08:33:24.302651Z 0 [Note] InnoDB: PUNCH HOLE support available
db-1 | 2025-03-30T08:33:24.302738Z 0 [Note] InnoDB: Mutexes and rw_locks use GCC atomic
builtins
db-1 | 2025-03-30T08:33:24.302742Z 0 [Note] InnoDB: Uses event mutexes
db-1 | 2025-03-30T08:33:24.302745Z 0 [Note] InnoDB: GCC builtin __atomic_thread_fence() is used
for memory barrier
db-1 | 2025-03-30T08:33:24.302747Z 0 [Note] InnoDB: Compressed tables use zlib 1.2.13
db-1 | 2025-03-30T08:33:24.302750Z 0 [Note] InnoDB: Using Linux native AIO
db-1 | 2025-03-30T08:33:24.303224Z 0 [Note] InnoDB: Number of pools: 1
db-1 | 2025-03-30T08:33:24.303548Z 0 [Note] InnoDB: Using CPU crc32 instructions
db-1 | 2025-03-30T08:33:24.306447Z 0 [Note] InnoDB: Initializing buffer pool, total size = 128M,
instances = 1, chunk size = 128M
db-1 | 2025-03-30T08:33:24.319718Z 0 [Note] InnoDB: Completed initialization of buffer pool
db-1 | 2025-03-30T08:33:24.330231Z 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 | 2025-03-30T08:33:24.346743Z 0 [Note] InnoDB: Highest supported file format is Barracuda.
db-1 | 2025-03-30T08:33:24.362787Z 0 [Note] InnoDB: Creating shared tablespace for temporary
tables
db-1 | 2025-03-30T08:33:24.362908Z 0 [Note] InnoDB: Setting file './ibtmp1' size to 12 MB.
Physically writing the file full; Please wait ...
db-1 | 2025-03-30T08:33:24.395261Z 0 [Note] InnoDB: File './ibtmp1' size is now 12 MB.
db-1 | 2025-03-30T08:33:24.395881Z 0 [Note] InnoDB: 96 redo rollback segment(s) found. 96 redo
rollback segment(s) are active.
db-1 | 2025-03-30T08:33:24.395909Z 0 [Note] InnoDB: 32 non-redo rollback segment(s) are active.
db-1 | 2025-03-30T08:33:24.398743Z 0 [Note] InnoDB: 5.7.44 started; log sequence number
2768291

```



```

db-1 | 2025-03-30T08:33:24.402030Z 0 [Note] InnoDB: Loading buffer pool(s) from
/var/lib/mysql/ib_buffer_pool
db-1 | 2025-03-30T08:33:24.402280Z 0 [Note] Plugin 'FEDERATED' is disabled.
db-1 | 2025-03-30T08:33:24.404317Z 0 [Note] InnoDB: Buffer pool(s) load completed at 250330
8:33:24
db-1 | 2025-03-30T08:33:24.409244Z 0 [Note] Found ca.pem, server-cert.pem and server-key.pem
in data directory. Trying to enable SSL support using them.
db-1 | 2025-03-30T08:33:24.409284Z 0 [Note] Skipping generation of SSL certificates as certificate
files are present in data directory.
db-1 | 2025-03-30T08:33:24.409288Z 0 [Warning] A deprecated TLS version TLSv1 is enabled.
Please use TLSv1.2 or higher.
db-1 | 2025-03-30T08:33:24.409289Z 0 [Warning] A deprecated TLS version TLSv1.1 is enabled.
Please use TLSv1.2 or higher.
db-1 | 2025-03-30T08:33:24.409824Z 0 [Warning] CA certificate ca.pem is self signed.
db-1 | 2025-03-30T08:33:24.409911Z 0 [Note] Skipping generation of RSA key pair as key files are
present in data directory.
db-1 | 2025-03-30T08:33:24.413096Z 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 | 2025-03-30T08:33:24.418257Z 0 [Note] Event Scheduler: Loaded 0 events
db-1 | 2025-03-30T08:33:24.418725Z 0 [Note] mysqld: ready for connections.
db-1 | Version: '5.7.44' socket: '/var/run/mysqld/mysqld.sock' port: 0 MySQL Community Server
(GPL)
db-1 | 2025-03-30 08:33:25+00:00 [Note] [Entrypoint]: Temporary server started.
db-1 | '/var/lib/mysql/mysql.sock' -> '/var/run/mysqld/mysqld.sock'
db-1 | 2025-03-30T08:33:25.149258Z 3 [Note] InnoDB: Stopping purge
db-1 | 2025-03-30T08:33:25.156400Z 3 [Note] InnoDB: Resuming purge
db-1 | 2025-03-30T08:33:25.158766Z 3 [Note] InnoDB: Stopping purge
db-1 | 2025-03-30T08:33:25.163850Z 3 [Note] InnoDB: Resuming purge
db-1 | 2025-03-30T08:33:25.165893Z 3 [Note] InnoDB: Stopping purge
db-1 | 2025-03-30T08:33:25.168428Z 3 [Note] InnoDB: Resuming purge
db-1 | 2025-03-30T08:33:25.169551Z 3 [Note] InnoDB: Stopping purge
db-1 | 2025-03-30T08:33:25.173026Z 3 [Note] InnoDB: Resuming purge
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/leapseconds' as time zone. Skipping it.
db-1 | Warning: Unable to load '/usr/share/zoneinfo/tzdata.zi' 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 |
db-1 | 2025-03-30 08:33:26+00:00 [Note] [Entrypoint]: Stopping temporary server
db-1 | 2025-03-30T08:33:26.481678Z 0 [Note] Giving 0 client threads a chance to die gracefully
db-1 | 2025-03-30T08:33:26.481711Z 0 [Note] Shutting down slave threads
db-1 | 2025-03-30T08:33:26.481714Z 0 [Note] Forcefully disconnecting 0 remaining clients
db-1 | 2025-03-30T08:33:26.481718Z 0 [Note] Event Scheduler: Purging the queue. 0 events
db-1 | 2025-03-30T08:33:26.481760Z 0 [Note] Binlog end
db-1 | 2025-03-30T08:33:26.482216Z 0 [Note] Shutting down plugin 'ngram'
db-1 | 2025-03-30T08:33:26.482244Z 0 [Note] Shutting down plugin 'partition'
db-1 | 2025-03-30T08:33:26.482248Z 0 [Note] Shutting down plugin 'BLACKHOLE'
db-1 | 2025-03-30T08:33:26.482250Z 0 [Note] Shutting down plugin 'ARCHIVE'
db-1 | 2025-03-30T08:33:26.482252Z 0 [Note] Shutting down plugin 'PERFORMANCE_SCHEMA'
db-1 | 2025-03-30T08:33:26.482279Z 0 [Note] Shutting down plugin 'MRG_MYISAM'
db-1 | 2025-03-30T08:33:26.482282Z 0 [Note] Shutting down plugin 'MyISAM'

```



```

db-1 | 2025-03-30T08:33:26.482288Z 0 [Note] Shutting down plugin 'INNODB_SYS_VIRTUAL'
db-1 | 2025-03-30T08:33:26.482290Z 0 [Note] Shutting down plugin 'INNODB_SYS_DATAFILES'
db-1 | 2025-03-30T08:33:26.482292Z 0 [Note] Shutting down plugin 'INNODB_SYS_TABLESPACES'
db-1 | 2025-03-30T08:33:26.482293Z 0 [Note] Shutting down plugin 'INNODB_SYS_FOREIGN_COLS'
db-1 | 2025-03-30T08:33:26.482294Z 0 [Note] Shutting down plugin 'INNODB_SYS_FOREIGN'
db-1 | 2025-03-30T08:33:26.482296Z 0 [Note] Shutting down plugin 'INNODB_SYS_FIELDS'
db-1 | 2025-03-30T08:33:26.482297Z 0 [Note] Shutting down plugin 'INNODB_SYS_COLUMNS'
db-1 | 2025-03-30T08:33:26.482299Z 0 [Note] Shutting down plugin 'INNODB_SYS_INDEXES'
db-1 | 2025-03-30T08:33:26.482300Z 0 [Note] Shutting down plugin 'INNODB_SYS_TABLESTATS'
db-1 | 2025-03-30T08:33:26.482302Z 0 [Note] Shutting down plugin 'INNODB_SYS_TABLES'
db-1 | 2025-03-30T08:33:26.482303Z 0 [Note] Shutting down plugin 'INNODB_FT_INDEX_TABLE'
db-1 | 2025-03-30T08:33:26.482305Z 0 [Note] Shutting down plugin 'INNODB_FT_INDEX_CACHE'
db-1 | 2025-03-30T08:33:26.482306Z 0 [Note] Shutting down plugin 'INNODB_FT_CONFIG'
db-1 | 2025-03-30T08:33:26.482308Z 0 [Note] Shutting down plugin 'INNODB_FT_BEING_DELETED'
db-1 | 2025-03-30T08:33:26.482309Z 0 [Note] Shutting down plugin 'INNODB_FT_DELETED'
db-1 | 2025-03-30T08:33:26.482311Z 0 [Note] Shutting down plugin
'INNODB_FT_DEFAULT_STOPWORD'
db-1 | 2025-03-30T08:33:26.482313Z 0 [Note] Shutting down plugin 'INNODB_METRICS'
db-1 | 2025-03-30T08:33:26.482315Z 0 [Note] Shutting down plugin 'INNODB_TEMP_TABLE_INFO'
db-1 | 2025-03-30T08:33:26.482317Z 0 [Note] Shutting down plugin
'INNODB_BUFFER_POOL_STATS'
db-1 | 2025-03-30T08:33:26.482318Z 0 [Note] Shutting down plugin 'INNODB_BUFFER_PAGE_LRU'
db-1 | 2025-03-30T08:33:26.482320Z 0 [Note] Shutting down plugin 'INNODB_BUFFER_PAGE'
db-1 | 2025-03-30T08:33:26.482321Z 0 [Note] Shutting down plugin
'INNODB_CMP_PER_INDEX_RESET'
db-1 | 2025-03-30T08:33:26.482323Z 0 [Note] Shutting down plugin 'INNODB_CMP_PER_INDEX'
db-1 | 2025-03-30T08:33:26.482325Z 0 [Note] Shutting down plugin 'INNODB_CMPMEM_RESET'
db-1 | 2025-03-30T08:33:26.482326Z 0 [Note] Shutting down plugin 'INNODB_CMPMEM'
db-1 | 2025-03-30T08:33:26.482328Z 0 [Note] Shutting down plugin 'INNODB_CMP_RESET'
db-1 | 2025-03-30T08:33:26.482329Z 0 [Note] Shutting down plugin 'INNODB_CMP'
db-1 | 2025-03-30T08:33:26.482331Z 0 [Note] Shutting down plugin 'INNODB_LOCK_WAITS'
db-1 | 2025-03-30T08:33:26.482332Z 0 [Note] Shutting down plugin 'INNODB_LOCKS'
db-1 | 2025-03-30T08:33:26.482334Z 0 [Note] Shutting down plugin 'INNODB_TRX'
db-1 | 2025-03-30T08:33:26.482335Z 0 [Note] Shutting down plugin 'InnoDB'
db-1 | 2025-03-30T08:33:26.482402Z 0 [Note] InnoDB: FTS optimize thread exiting.
db-1 | 2025-03-30T08:33:26.482526Z 0 [Note] InnoDB: Starting shutdown...
db-1 | 2025-03-30T08:33:26.582804Z 0 [Note] InnoDB: Dumping buffer pool(s) to
/var/lib/mysql/ib_buffer_pool
db-1 | 2025-03-30T08:33:26.583126Z 0 [Note] InnoDB: Buffer pool(s) dump completed at 250330
8:33:26
db-1 | 2025-03-30T08:33:28.293503Z 0 [Note] InnoDB: Shutdown completed; log sequence number
12219253
db-1 | 2025-03-30T08:33:28.294751Z 0 [Note] InnoDB: Removed temporary tablespace data file:
"ibtmp1"
db-1 | 2025-03-30T08:33:28.294782Z 0 [Note] Shutting down plugin 'MEMORY'
db-1 | 2025-03-30T08:33:28.294786Z 0 [Note] Shutting down plugin 'CSV'
db-1 | 2025-03-30T08:33:28.294789Z 0 [Note] Shutting down plugin 'sha256_password'
db-1 | 2025-03-30T08:33:28.294790Z 0 [Note] Shutting down plugin 'mysql_native_password'
db-1 | 2025-03-30T08:33:28.294901Z 0 [Note] Shutting down plugin 'binlog'
db-1 | 2025-03-30T08:33:28.295472Z 0 [Note] mysqld: Shutdown complete
db-1 |

```

```

db-1 | 2025-03-30 08:33:28+00:00 [Note] [Entrypoint]: Temporary server stopped
db-1 |
db-1 | 2025-03-30 08:33:28+00:00 [Note] [Entrypoint]: MySQL init process done. Ready for start up.
db-1 |
db-1 | 2025-03-30T08:33:28.637204Z 0 [Warning] TIMESTAMP with implicit DEFAULT value is
deprecated. Please use --explicit_defaults_for_timestamp server option (see documentation for
more details).
db-1 | 2025-03-30T08:33:28.638072Z 0 [Note] mysqld (mysqld 5.7.44) starting as process 1 ...
db-1 | 2025-03-30T08:33:28.640144Z 0 [Note] InnoDB: PUNCH HOLE support available
db-1 | 2025-03-30T08:33:28.640183Z 0 [Note] InnoDB: Mutexes and rw_locks use GCC atomic
builtins
db-1 | 2025-03-30T08:33:28.640186Z 0 [Note] InnoDB: Uses event mutexes
db-1 | 2025-03-30T08:33:28.640187Z 0 [Note] InnoDB: GCC builtin __atomic_thread_fence() is used
for memory barrier
db-1 | 2025-03-30T08:33:28.640188Z 0 [Note] InnoDB: Compressed tables use zlib 1.2.13
db-1 | 2025-03-30T08:33:28.640190Z 0 [Note] InnoDB: Using Linux native AIO
db-1 | 2025-03-30T08:33:28.640403Z 0 [Note] InnoDB: Number of pools: 1
db-1 | 2025-03-30T08:33:28.640491Z 0 [Note] InnoDB: Using CPU crc32 instructions
db-1 | 2025-03-30T08:33:28.641690Z 0 [Note] InnoDB: Initializing buffer pool, total size = 128M,
instances = 1, chunk size = 128M
db-1 | 2025-03-30T08:33:28.646344Z 0 [Note] InnoDB: Completed initialization of buffer pool
db-1 | 2025-03-30T08:33:28.647785Z 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 | 2025-03-30T08:33:28.659019Z 0 [Note] InnoDB: Highest supported file format is Barracuda.
db-1 | 2025-03-30T08:33:28.665625Z 0 [Note] InnoDB: Creating shared tablespace for temporary
tables
db-1 | 2025-03-30T08:33:28.665755Z 0 [Note] InnoDB: Setting file './ibtmp1' size to 12 MB.
Physically writing the file full; Please wait ...
db-1 | 2025-03-30T08:33:28.676331Z 0 [Note] InnoDB: File './ibtmp1' size is now 12 MB.
db-1 | 2025-03-30T08:33:28.676975Z 0 [Note] InnoDB: 96 redo rollback segment(s) found. 96 redo
rollback segment(s) are active.
db-1 | 2025-03-30T08:33:28.677020Z 0 [Note] InnoDB: 32 non-redo rollback segment(s) are active.
db-1 | 2025-03-30T08:33:28.677997Z 0 [Note] InnoDB: 5.7.44 started; log sequence number
12219253
db-1 | 2025-03-30T08:33:28.678140Z 0 [Note] InnoDB: Loading buffer pool(s) from
/var/lib/mysql/ib_buffer_pool
db-1 | 2025-03-30T08:33:28.678379Z 0 [Note] Plugin 'FEDERATED' is disabled.
db-1 | 2025-03-30T08:33:28.680679Z 0 [Note] InnoDB: Buffer pool(s) load completed at 250330
8:33:28
db-1 | 2025-03-30T08:33:28.682512Z 0 [Note] Found ca.pem, server-cert.pem and server-key.pem
in data directory. Trying to enable SSL support using them.
db-1 | 2025-03-30T08:33:28.682544Z 0 [Note] Skipping generation of SSL certificates as certificate
files are present in data directory.
db-1 | 2025-03-30T08:33:28.682550Z 0 [Warning] A deprecated TLS version TLSv1 is enabled.
Please use TLSv1.2 or higher.
db-1 | 2025-03-30T08:33:28.682551Z 0 [Warning] A deprecated TLS version TLSv1.1 is enabled.
Please use TLSv1.2 or higher.
db-1 | 2025-03-30T08:33:28.683040Z 0 [Warning] CA certificate ca.pem is self signed. db-1 |
2025-03-30T08:33:28.683090Z 0 [Note] Skipping generation of RSA key pair as key files are present
in data directory.
db-1 | 2025-03-30T08:33:28.683340Z 0 [Note] Server hostname (bind-address): '*'; port: 3306

```

```
db-1 | 2025-03-30T08:33:28.683394Z 0 [Note] IPv6 is available.
db-1 | 2025-03-30T08:33:28.683406Z 0 [Note] - '::' resolves to '::';
db-1 | 2025-03-30T08:33:28.683427Z 0 [Note] Server socket created on IP: '::'.
db-1 | 2025-03-30T08:33:28.685775Z 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 | 2025-03-30T08:33:28.691221Z 0 [Note] Event Scheduler: Loaded 0 events
db-1 | 2025-03-30T08:33:28.691738Z 0 [Note] mysqld: ready for connections.
db-1 | Version: '5.7.44' socket: '/var/run/mysqld/mysqld.sock' port: 3306 MySQL Community
Server (GPL)
web-1 | 172.23.0.1 - - [30/Mar/2025 08:34:58] "GET / HTTP/1.1" 200 -
web-1 | 172.23.0.1 - - [30/Mar/2025 08:34:59] "GET /favicon.ico HTTP/1.1" 404 -
```

v View in Docker Desktop o View Config w Enable Watch

✓ **Success! Your full-stack Docker app is now running!** 🎉

Let's break down everything that's working and what it means:

🧩 What's Happening?

You're using ``docker-compose up --build`` — **this is not Swarm mode**, it's **Docker Compose in local dev mode**, and here's what it did:

✓ **It:**

- Built your ``web`` service from your ``Dockerfile``.
- Pulled the ``db`` service (MySQL 5.7).
- Created and started both containers:
 - ``web-1``: Flask app running on port ``5000``.
 - ``db-1``: MySQL server running on port ``3306``.

🌐 Your Flask App Is Live

plaintext

```
web-1 | * Running on http://127.0.0.1:5000
web-1 | * Running on http://172.23.0.3:5000
```


You can now open this in your browser:

👉 <http://localhost:5000>

or

👉 <http://192.168.1.110:5000> (for access from other devices on your WiFi)

🧠 Meaning of Logs

- `web-1` log shows a GET request on `/` — meaning your **app is responding!** 
- `favicon.ico 404` is normal if you didn't include a favicon.

MySQL is Up Too

Your MySQL container `db-1` started and initialized:

```
plaintext

mysqld: ready for connections.
Version: '5.7.44' port: 3306 MySQL Community Server (GPL)
```

You can now connect to this database **from your Flask app** using:

```
python

host='db'
port=3306
user='root'
password=''
```

(Docker Compose automatically resolves the hostname `db` to the container.)

What You Can Do Next:

1. View running containers:

```
powershell

docker ps
```

2. View logs again (in real-time):

```
powershell

docker-compose logs -f
```

3. Open MySQL CLI:

```
powershell

docker exec -it utilize-db-1 mysql -u root
```

4. Stop everything:

```
powershell

CTRL+C
```

Or gracefully:

```
powershell
docker-compose down
```

✓ Summary of What You Built

- ✓ Flask API running in `web-1`
- ✓ MySQL database running in `db-1`
- ✓ Networked together using Docker Compose
- ✓ Accessible via browser on port `5000`

Want to Scale This in Swarm Next?

You can convert this to `docker stack deploy` by:

- Pre-building and tagging your image.
- Removing the `build:` block from `docker-compose.yml`.
- Using `image:` instead.

Let me know if you want a walkthrough for that or to add persistent MySQL storage, an admin UI like phpMyAdmin, or JWT-based login API!



```
PS C:\Users\ASUS\utilize> docker-compose up
time="2025-03-30T14:40:06+06:00" level=warning msg="C:\\Users\\ASUS\\utilize\\docker-
compose.yml: the attribute `version` is obsolete, it will be ignored, please remove it to avoid
potential confusion"
[+] Running 2/0
✓ Container utilize-web-1 Created 0.0s
✓ Container utilize-db-1 Created 0.0s
Attaching to db-1, web-1
db-1 | 2025-03-30 08:40:06+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 5.7.44-
1.el7 started.
db-1 | 2025-03-30 08:40:07+00:00 [Note] [Entrypoint]: Switching to dedicated user 'mysql'
db-1 | 2025-03-30 08:40:07+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 5.7.44-
1.el7 started.
web-1 | * Serving Flask app 'app'
web-1 | * Debug mode: off
db-1 | '/var/lib/mysql/mysql.sock' -> '/var/run/mysqld/mysqld.sock'
web-1 | WARNING: This is a development server. Do not use it in a production deployment. Use a
production WSGI server instead.
web-1 | * Running on all addresses (0.0.0.0)
web-1 | * Running on http://127.0.0.1:5000
web-1 | * Running on http://172.23.0.3:5000
web-1 | Press CTRL+C to quit
```

```

db-1 | 2025-03-30T08:40:07.352598Z 0 [Warning] TIMESTAMP with implicit DEFAULT value is
deprecated. Please use --explicit_defaults_for_timestamp server option (see documentation for
more details).
db-1 | 2025-03-30T08:40:07.354050Z 0 [Note] mysqld (mysqld 5.7.44) starting as process 1 ...
db-1 | 2025-03-30T08:40:07.357140Z 0 [Note] InnoDB: PUNCH HOLE support available
db-1 | 2025-03-30T08:40:07.357187Z 0 [Note] InnoDB: Mutexes and rw_locks use GCC atomic
builtins
db-1 | 2025-03-30T08:40:07.357189Z 0 [Note] InnoDB: Uses event mutexes
db-1 | 2025-03-30T08:40:07.357191Z 0 [Note] InnoDB: GCC builtin __atomic_thread_fence() is used
for memory barrier
db-1 | 2025-03-30T08:40:07.357192Z 0 [Note] InnoDB: Compressed tables use zlib 1.2.13
db-1 | 2025-03-30T08:40:07.357194Z 0 [Note] InnoDB: Using Linux native AIO
db-1 | 2025-03-30T08:40:07.357513Z 0 [Note] InnoDB: Number of pools: 1
db-1 | 2025-03-30T08:40:07.357661Z 0 [Note] InnoDB: Using CPU crc32 instructions
db-1 | 2025-03-30T08:40:07.359444Z 0 [Note] InnoDB: Initializing buffer pool, total size = 128M,
instances = 1, chunk size = 128M
db-1 | 2025-03-30T08:40:07.367434Z 0 [Note] InnoDB: Completed initialization of buffer pool
db-1 | 2025-03-30T08:40:07.370232Z 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 | 2025-03-30T08:40:07.386741Z 0 [Note] InnoDB: Highest supported file format is Barracuda.
db-1 | 2025-03-30T08:40:07.398861Z 0 [Note] InnoDB: Creating shared tablespace for temporary
tables
db-1 | 2025-03-30T08:40:07.398943Z 0 [Note] InnoDB: Setting file './ibtmp1' size to 12 MB.
Physically writing the file full; Please wait ...
db-1 | 2025-03-30T08:40:07.411758Z 0 [Note] InnoDB: File './ibtmp1' size is now 12 MB.
db-1 | 2025-03-30T08:40:07.412195Z 0 [Note] InnoDB: 96 redo rollback segment(s) found. 96 redo
rollback segment(s) are active.
db-1 | 2025-03-30T08:40:07.412216Z 0 [Note] InnoDB: 32 non-redo rollback segment(s) are active.
db-1 | 2025-03-30T08:40:07.413593Z 0 [Note] InnoDB: 5.7.44 started; log sequence number
12219281
db-1 | 2025-03-30T08:40:07.413735Z 0 [Note] InnoDB: Loading buffer pool(s) from
/var/lib/mysql/ib_buffer_pool
db-1 | 2025-03-30T08:40:07.414831Z 0 [Note] Plugin 'FEDERATED' is disabled.
db-1 | 2025-03-30T08:40:07.421616Z 0 [Note] Found ca.pem, server-cert.pem and server-key.pem
in data directory. Trying to enable SSL support using them.
db-1 | 2025-03-30T08:40:07.421673Z 0 [Note] Skipping generation of SSL certificates as certificate
files are present in data directory.
db-1 | 2025-03-30T08:40:07.421680Z 0 [Warning] A deprecated TLS version TLSv1 is enabled.
Please use TLSv1.2 or higher.
db-1 | 2025-03-30T08:40:07.421682Z 0 [Warning] A deprecated TLS version TLSv1.1 is enabled.
Please use TLSv1.2 or higher.
db-1 | 2025-03-30T08:40:07.423422Z 0 [Warning] CA certificate ca.pem is self signed.
db-1 | 2025-03-30T08:40:07.423475Z 0 [Note] Skipping generation of RSA key pair as key files are
present in data directory.
db-1 | 2025-03-30T08:40:07.424091Z 0 [Note] Server hostname (bind-address): '*'; port: 3306
db-1 | 2025-03-30T08:40:07.424188Z 0 [Note] IPv6 is available.
db-1 | 2025-03-30T08:40:07.424243Z 0 [Note] - '::' resolves to '::';
db-1 | 2025-03-30T08:40:07.424280Z 0 [Note] Server socket created on IP: '::'.
db-1 | 2025-03-30T08:40:07.425116Z 0 [Note] InnoDB: Buffer pool(s) load completed at 250330
8:40:07
db-1 | 2025-03-30T08:40:07.426007Z 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 | 2025-03-30T08:40:07.455787Z 0 [Note] Event Scheduler: Loaded 0 events

db-1 | 2025-03-30T08:40:07.456166Z 0 [Note] mysqld: ready for connections.

db-1 | Version: '5.7.44' socket: '/var/run/mysqld/mysqld.sock' port: 3306 MySQL Community Server (GPL)

Gracefully stopping... (press Ctrl+C again to force)

[+] Stopping 2/2

✓ Container utilize-web-1 Stopped 10.3s

✓ Container utilize-db-1 Stopped 2.0s

canceled

what is the name of this compose and how to up using the name and what is the difference between ✓ Container utilize-web-1 Created 0.0s

✓ Container utilize-db-1 Created

how it was created and thire uses??

Awesome! Let's clear everything up for you — one by one — so you understand:

What is the name of this Docker Compose project?

The default **Compose project name** is based on the **name of the current directory**.

In your case, you're in:

```
makefile
```

```
C:\Users\ASUS\utilize
```

So the **project name** is:

```
bash
```

```
utilize
```

You can confirm this by running:

```
powershell
```

```
docker ps -a
```

You'll see containers like:

```
utilize-web-1
```

```
utilize-db-1
```

These follow the naming pattern:

```
pgsql
```

```
<project-name>-<service-name>-<replica-number>
```

🔺 How to bring it up using the name?

If you're in the same folder (`utilize`), just run:

```
powershell
```

```
docker-compose up
```

But if you're **in a different folder**, or want to be explicit, you can run:

```
powershell
```

```
docker-compose -p utilize up
```

This forces the project name to be `utilize`.

🧠 What's the difference between `Created` and `Started` containers?

- ✓ `Created` = Docker **prepared** the container (like setting up volumes, configs, networks), but it hasn't started running the process yet.
- ✓ `Started` = The container **is now running**.

Sequence looks like:

1. `Created` → container defined and ready.
2. `Started` → container process is launched.

When you run `docker-compose up`, both steps happen automatically unless something blocks the start (e.g. port conflict or error).

🔍 How were `utilize-web-1` and `utilize-db-1` created?

They were created from your `docker-compose.yml`, which likely looks like this:

```
yaml
```

```
services:
  web:
    build: .
    ports:
      - "5000:5000"
    depends_on:
      - db
  db:
    image: mysql:5.7
    environment:
      MYSQL_ROOT_PASSWORD: ""
```


- ``web``: Built from your `Dockerfile`` (Flask app)
- ``db``: Pulled MySQL 5.7 image from Docker Hub

Docker Compose handled:

- Creating an isolated **network** for both
- Launching the containers
- Setting up hostnames so ``web`` can talk to ``db`` by hostname

What is their use?

Container	Role	Purpose
<code>`utilize-web-1`</code>	Flask API (your app)	Handles HTTP requests on port 5000
<code>`utilize-db-1`</code>	MySQL Database	Stores and serves data, accessible from <code>`web`</code>

TL;DR Summary

- **Project name:** ``utilize``
- **Bring up:** ``docker-compose -p utilize up``
- **Created`**: container is defined but not running yet
- **Started`**: container is running
- ``utilize-web-1``: Flask app container
- ``utilize-db-1``: MySQL container

Want help adding persistent volume to your DB or linking it to the Flask app with SQLAlchemy?