

Task-02:

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Deploy a stack to a swarm

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm
$ docker swarm init
Swarm initialized: current node (wrg41odpi2bo6797ox7mwft0g) is now a manager.

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

    docker swarm join --token SWMTKN-1-4ut4vu2j3sc8qj2jklulnwn3keclnbjsrcfqwp2d5
sq1msp9uo-en9ho4h1gx8x9gtkvbm0h3vts 192.168.65.3:2377

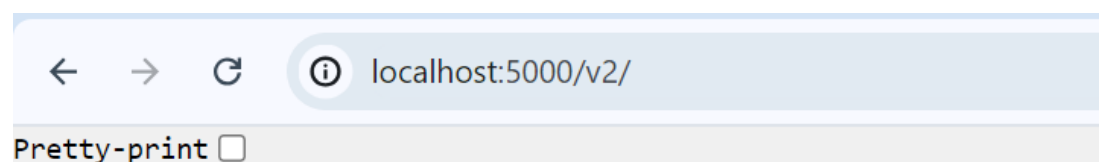
To add a manager to this swarm, run 'docker swarm join-token manager' and follow
the instructions.
```

[Set up a Docker registry](#)

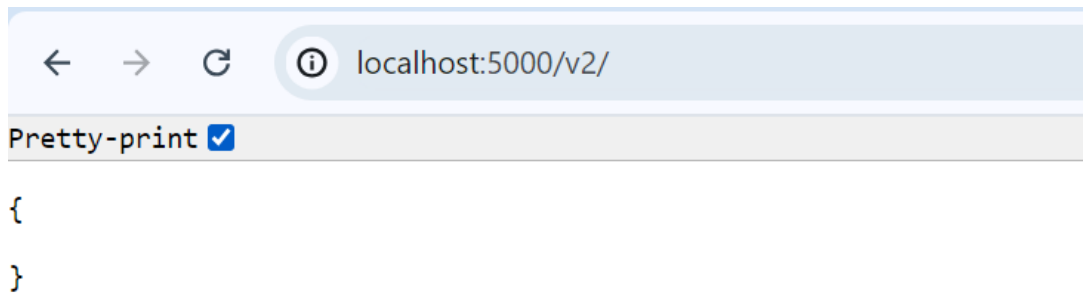
```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm
$ docker service create --name registry --publish published=5000,target=5000 registry:2
nwbkzhx0o4i7c2jteu8ukr70k
overall progress: 0 out of 1 tasks
1/1:
overall progress: 0 out of 1 tasks
overall progress: 0 out of 1 tasks
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```

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm
$ docker service ls
ID                NAME      MODE     REPLICAS  IMAGE      PORTS
nwbkzhx0o4i7     registry  replicated 1/1        registry:2 *:5000->5000/tcp

User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm
$ curl http://localhost:5000/v2/
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           %             %             Dload  Upload   Total   Spent    Left   Speed
100    2    100    2    0    0    324      0  --:--:-- --:--:-- --:--:--   333{}
```



```
{}
```



[Create the example application](#)

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm
$ mkdir stackdemo

User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm
$ cd stackdemo/

User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ ls
app.py  requirements.txt

User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ vi Dockerfile

User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ cat Dockerfile
# syntax=docker/dockerfile:1
FROM python:3.4-alpine
ADD . /code
WORKDIR /code
RUN pip install -r requirements.txt
CMD ["python", "app.py"]
```

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ vi compose.yml

User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ cat compose.yml
services:
  web:
    image: 127.0.0.1:5000/stackdemo
    build: .
    ports:
      - "8000:8000"
  redis:
    image: redis:alpine
```

[Test the app with Compose](#)

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ docker compose up -d
```

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ docker compose ps
NAME                IMAGE              COMMAND                                SERVICE    CREATED        STATUS
stackdemo-redis-1   redis:alpine       "docker-entrypoint.s..."            redis      32 seconds ago Up 30 second
stackdemo-web-1     127.0.0.1:5000/stackdemo "python app.py"                        web        32 seconds ago Up 30 second

User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ curl http://localhost:8000
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left     Speed
100    39  100    39    0     0   6649      0 --:--:-- --:--:-- --:--:--   7800Hello World! I have been seen 1
times.

User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ curl http://localhost:8000
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left     Speed
100    39  100    39    0     0   7006      0 --:--:-- --:--:-- --:--:--   7800Hello World! I have been seen 2 t
imes.
```

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ curl http://localhost:8000
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left     Speed
100    39  100    39    0     0   8835      0 --:--:-- --:--:-- --:--:--   9750Hello World! I have been seen 8 t
imes.
```



Hello World! I have been seen 9 times.

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ docker compose down --volumes
Container stackdemo-web-1 Stopping
Container stackdemo-redis-1 Stopping
Container stackdemo-web-1 Stopped
Container stackdemo-web-1 Removing
Container stackdemo-web-1 Removed
Container stackdemo-redis-1 Stopped
Container stackdemo-redis-1 Removing
Container stackdemo-redis-1 Removed
Network stackdemo_default Removing
Network stackdemo_default Removed
```

[Push the generated image to the registry](#)

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ docker compose push
```

Deploy the stack to the swarm

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ docker stack deploy --compose-file compose.yml stackdemo
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 stackdemo_default
Creating service stackdemo_web
Creating service stackdemo_redis

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
```

```
$ docker stack services stackdemo
```

ID	NAME	MODE	REPLICAS	IMAGE	PORTS
0fsmcy3021m4	stackdemo_redis	replicated	1/1	redis:alpine	
n1burbl8dy61	stackdemo_web	replicated	1/1	127.0.0.1:5000/stackdemo:latest	*:8000->8000/tcp

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
```

```
$ curl http://localhost:8000
```

% Total	% Received	% Xferd	Average Dload	Speed Upload	Time Total	Time Spent	Time Left	Current Speed
100	39	100	39	0	0	5382	0	--:--:--

5571Hello World! I have been seen 1 times.

← → ↻ ⓘ localhost:8000

Hello World! I have been seen 2 times.

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ docker stack rm stackdemo
Removing service stackdemo_redis
Removing service stackdemo_web
Removing network stackdemo_default
```

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ docker service rm registry
registry
```

```
User@DESKTOP-2NEPDBV MINGW64 /e/devops/docker-swarm/stackdemo
$ docker swarm leave --force
Node left the swarm.
```