

# Docker Compose

## 1. Docker version and docker compose version

```
C:\Windows\System32\cmd.e  X  +  v

Microsoft Windows [Version 10.0.26100.2605]
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F:\Repo\KIII\ Docker Compose>docker --version
Docker version 28.0.1, build 068a01e

F:\Repo\KIII\ Docker Compose>docker-compose --version
Docker Compose version v2.33.1-desktop.1

F:\Repo\KIII\ Docker Compose>docker compose --version
Usage:  docker compose [OPTIONS] COMMAND

Define and run multi-container applications with Docker

Options:
  --all-resources          Include all resources, even those not
                           used by services
  --ansi string            Control when to print ANSI control
                           characters (6: "never", "always", "auto")
```

## 2. Creating the directory and the app.py file writing the code, and testing it locally before docker

```
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F:\Repo\KIII\ Docker Compose>mkdir composeapp
F:\Repo\KIII\ Docker Compose>cd composeapp
F:\Repo\KIII\ Docker Compose\composeapp>vim app.py
F:\Repo\KIII\ Docker Compose\composeapp>
```

```
C:\Windows\System32\cmd.e  X  +  v

F:\Repo\KIII\ Docker Compose\composeapp>python -m venv venv
F:\Repo\KIII\ Docker Compose\composeapp>venv\Scripts\activate
(venv) F:\Repo\KIII\ Docker Compose\composeapp>
```

```
app.py + (F:\Repo\KIII\Docker) × + ▾  
  
from flask import Flask  
from redis import Redis  
import os  
  
app = Flask(__name__)  
redis = Redis(host="redis", port=6379)  
  
@app.route('/')  
def hello():  
    redis.incr('hits')  
    return 'Hello Docker Book reader! I have been {} times'.format(redis.get('hits'))  
  
if __name__ == "__main__":  
    app.run(host="0.0.0.0", debug=True)  
~
```

3.

```
C:\Windows\System32\cmd.e × + ▾  
  
Microsoft Windows [Version 10.0.26100.2605]  
(c) Microsoft Corporation. All rights reserved.  
  
F:\Repo\KIII\Docker Compose\composeapp>vim requirement.txt  
  
F:\Repo\KIII\Docker Compose\composeapp>vim Dockerfile  
  
F:\Repo\KIII\Docker Compose\composeapp>
```

4.Dockerfile

```
Dockerfile (F:\Repo\KIII\Dock) × + ▾  
  
FROM python:3.9  
LABEL maintainer="fazlibeqir@gmail.com"  
ENV REFRESHED_AT 2016-06-01  
  
ADD . /composeapp  
  
WORKDIR /composeapp  
  
RUN pip install -r requirement.txt  
~
```

## 5. Building the dockerfile

```
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F:\Repo\KIII\Docker Compose\composeapp>docker build -t redbfs/composeapp .

[+] Building 10.8s (9/9) FINISHED                                docker:desktop-linux
=> [internal] load build definition from Dockerfile                0.1s
=> => transferring dockerfile: 208B                                0.0s
=> [internal] load metadata for docker.io/library/python:2.7      0.8s
=> [internal] load .dockerignore                                  0.0s
=> => transferring context: 2B                                       0.0s
=> [internal] load build context                                  0.1s
=> => transferring context: 98.17kB                                  0.1s
=> CACHED [1/4] FROM docker.io/library/python:2.7@sha256:cfa62318c459b1fde9e0841c619906d15ada5910d62517 0.1s
=> => resolve docker.io/library/python:2.7@sha256:cfa62318c459b1fde9e0841c619906d15ada5910d625176e24bf6 0.1s
=> [2/4] ADD . /composeapp                                         0.7s
=> [3/4] WORKDIR /composeapp                                       0.3s
=> [4/4] RUN pip install -r requirement.txt                        4.8s
=> exporting to image                                              3.2s
=> => exporting layers                                              1.6s
=> => exporting manifest sha256:6cf8725acc8924ac87b227e3f8366a9785ac499f67c448d22c17dddacc49d2ba 0.1s
=> => exporting config sha256:15530df5207eb6b16ae857d43aaeae097a163a2da11c8706a7c97c20d14ebf3c 0.1s
=> => exporting attestation manifest sha256:568d01d417d51ba20d40239904d62766711e3d28bbd74fa93f54ccec5b5 0.4s
=> => exporting manifest list sha256:14d82283cf3b923b4e6e113bc412789851ca42edaef78147ad0342a18714052f 0.2s
=> => naming to docker.io/redbfs/composeapp:latest                0.0s
=> => unpacking to docker.io/redbfs/composeapp:latest              0.7s

View build details: docker-desktop://dashboard/build/desktop-linux/desktop-linux/j4ma70kkzi5rde75kpyktz4e8

1 warning found (use docker --debug to expand):
- LegacyKeyValueFormat: "ENV key=value" should be used instead of legacy "ENV key value" format (line 3)

F:\Repo\KIII\Docker Compose\composeapp>
```

## 6. docker-compose.yml file

```
docker-compose.yml (F:\Repo\KIII\composeapp) x + v

version: '3.8'
services:
  web:
    build: .
    command: python app.py
    ports:
      - "5000:5000"
    links:
      - redis
  redis:
    image: "redis:alpine"
    restart: always
```

## 7. docker-compose up with build

```
C:\Windows\System32\cmd.e x + v

F:\Repo\KIII\Docker Compose\composeapp>docker-compose up --build
time="2025-03-24T16:40:16+01:00" level=warning msg="F:\Repo\KIII\Docker Compose\composeapp\docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion"
[+] Running 3/3
✔ Network composeapp_default    Creat ...    0.0s
✔ Container composeapp-web-1     Creat ...    0.3s
✔ Container composeapp-redis-1   Creat ...    0.3s
Attaching to redis-1, web-1
redis-1 | exec /usr/local/bin/docker-entrypoint.sh: exec format error
redis-1 exited with code 255
web-1 | * Serving Flask app "app" (lazy loading)
web-1 | * Environment: production
web-1 | WARNING: This is a development server. Do not use it in a production deployment.
web-1 | Use a production WSGI server instead.
web-1 | * Debug mode: on
web-1 | * Running on http://0.0.0.0:5000/ (Press CTRL+C to quit)
web-1 | * Restarting with stat
web-1 | * Debugger is active!
web-1 | * Debugger PIN: 223-235-195
```

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## 8. docker-compose up with build and demonizieng

```
C:\Windows\System32\cmd.exe
F:\Repo\KIII\Docker Compose\composeapp>docker-compose up -d
time="2025-03-24T16:41:31+01:00" level=warning msg="F:\Repo\KIII\Docker Compose\composeapp\docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion"
[+] Running 2/2
  ✓ Container composeapp-redis-1   Started      0.3s
  ✓ Container composeapp-web-1     Started      0.4s
F:\Repo\KIII\Docker Compose\composeapp>
```

## 9. Watching the containe are they running

```
F:\Repo\KIII\Docker Compose\composeapp>docker-compose ps
time="2025-03-24T16:44:58+01:00" level=warning msg="F:\Repo\KIII\Docker Compose\composeapp\docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion"
NAME                IMAGE              COMMAND                SERVICE    CREATED      STATUS          PORTS
composeapp-redis-1  redis             "docker-entrypoint.s..."  redis      9 seconds ago Up Less than a second 6379/tcp
composeapp-web-1    redbf/composeapp  "python app.py"          web        9 seconds ago Up 8 seconds      0.0.0.0:5000→5000/tcp
F:\Repo\KIII\Docker Compose\composeapp>
```

## 10.The logs for redis and flask(web) and the browser

```
(venv) F:\Repo\KIII\Docker Compose\composeapp>docker compose logs redis
time="2025-03-24T22:18:17+01:00" level=warning msg="F:\Repo\KIII\Docker Compose\composeapp\docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion"
redis-1 | 1:C 24 Mar 2025 21:18:11.628 * o080o080o080o Redis is starting o080o080o080o
redis-1 | 1:C 24 Mar 2025 21:18:11.628 * Redis version=7.4.2, bits=64, commit=00000000, modified=0, pid=1, just started
redis-1 | 1:C 24 Mar 2025 21:18:11.628 # Warning: no config file specified, using the default config. In order to specify a config file use redis-serve r /path/to/redis.conf
redis-1 | 1:M 24 Mar 2025 21:18:11.628 * monotonic clock: POSIX clock_gettime
redis-1 | 1:M 24 Mar 2025 21:18:11.629 * Running mode=standalone, port=6379
redis-1 | 1:M 24 Mar 2025 21:18:11.629 * Server initialized
redis-1 | 1:M 24 Mar 2025 21:18:11.629 * Ready to accept connections tcp

(venv) F:\Repo\KIII\Docker Compose\composeapp>docker compose logs web
time="2025-03-24T22:18:32+01:00" level=warning msg="F:\Repo\KIII\Docker Compose\composeapp\docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion"
web-1 | * Serving Flask app 'app'
web-1 | * Debug mode: on
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://172.19.0.3:5000
web-1 | Press CTRL+C to quit
web-1 | * Restarting with stat
web-1 | * Debugger is active!
web-1 | * Debugger PIN: 652-163-390

(venv) F:\Repo\KIII\Docker Compose\composeapp>
```

127.0.0.1:5000

ПРЕДМЕТНИК - ... ФИНКИ СНИМКИ... Projects-CI-CD=KIII Delemang/MS Ла...

Hello Docker Book reader! I have been seen 5 times

## 11. All logs for the web app from one command

```

C:\Windows\System32\cmd.e  X  +  v  -  □  X

(venv) F:\Repo\KIII\Docke Compose\composeapp>docker compose logs
time="2025-03-24T22:20:02+01:00" level=warning msg="F:\\Repo\\KIII\\Docke C
ompose\\composeapp\\docker-compose.yml: the attribute 'version' is obsolete,
it will be ignored, please remove it to avoid potential confusion"
web-1 | * Serving Flask app 'app'
redis-1 | 1:C 24 Mar 2025 21:18:11.628 * o000o000o000o Redis is starting o0
00o000o000o
redis-1 | 1:C 24 Mar 2025 21:18:11.628 * Redis version=7.4.2, bits=64, comm
it=000000000, modified=0, pid=1, just started
redis-1 | 1:C 24 Mar 2025 21:18:11.628 # Warning: no config file specified,
using the default config. In order to specify a config file use redis-serve
r /path/to/redis.conf
redis-1 | 1:M 24 Mar 2025 21:18:11.628 * monotonic clock: POSIX clock_getti
me
redis-1 | 1:M 24 Mar 2025 21:18:11.629 * Running mode=standalone, port=6379
.
redis-1 | 1:M 24 Mar 2025 21:18:11.629 * Server initialized
redis-1 | 1:M 24 Mar 2025 21:18:11.629 * Ready to accept connections tcp
web-1 | * Debug mode: on
web-1 | WARNING: This is a development server. Do not use it in a product
ion 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://172.19.0.3:5000
web-1 | Press CTRL+C to quit
web-1 | * Restarting with stat
web-1 | * Debugger is active!
web-1 | * Debugger PIN: 652-163-390
web-1 | 172.19.0.1 - - [24/Mar/2025 21:18:50] "GET / HTTP/1.1" 200 -
web-1 | 172.19.0.1 - - [24/Mar/2025 21:18:51] "GET /favicon.ico HTTP/1.1"
404 -
web-1 | 172.19.0.1 - - [24/Mar/2025 21:18:53] "GET / HTTP/1.1" 200 -
web-1 | 172.19.0.1 - - [24/Mar/2025 21:18:55] "GET / HTTP/1.1" 200 -
web-1 | 172.19.0.1 - - [24/Mar/2025 21:18:57] "GET / HTTP/1.1" 200 -
web-1 | 172.19.0.1 - - [24/Mar/2025 21:19:08] "GET / HTTP/1.1" 200 -
web-1 | 172.19.0.1 - - [24/Mar/2025 21:19:41] "GET / HTTP/1.1" 200 -

(venv) F:\Repo\KIII\Docke Compose\composeapp>

```

## 12. Stopping the containers and we see they arent active in docker-compose ps

```

C:\Windows\System32\cmd.e  X  +  v  -  □  X

(venv) F:\Repo\KIII\Docke Compose\composeapp>docker-compose stop
time="2025-03-24T22:20:57+01:00" level=warning msg="F:\\Repo\\KIII\\Docke Compose\\composeapp\\docker-compose.yml: the attribute 'version' is obsolete, it
will be ignored, please remove it to avoid potential confusion"
[+] Stopping 2/2
  ✓ Container composeapp-web-1  Stopp ...      0.6s
  ✓ Container composeapp-redis-1 Stopp ...      0.5s

(venv) F:\Repo\KIII\Docke Compose\composeapp>docker-compose ps
time="2025-03-24T22:21:09+01:00" level=warning msg="F:\\Repo\\KIII\\Docke Compose\\composeapp\\docker-compose.yml: the attribute 'version' is obsolete, it
will be ignored, please remove it to avoid potential confusion"
NAME          IMAGE          COMMAND          SERVICE    CREATED    STATUS    PORTS
(venv) F:\Repo\KIII\Docke Compose\composeapp>

```

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13. Removing the containers with rm (but we could have done the stopping and removing with docker-compose down all in one)

```
C:\Windows\System32\cmd.exe x + v
(venv) F:\Repo\KIII\Docker Compose\composeapp>docker compose rm
time="2025-03-24T22:23:24+01:00" level=warning msg="F:\\Repo\\KIII\\Docker Compose\\composeapp\\docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion"
? Going to remove composeapp-web-1, composeapp-redis-1 Yes
[+] Removing 2/2
✓Container composeapp-redis-1 Rem ... 0.1s
✓Container composeapp-web-1 Remov ... 0.1s
(venv) F:\Repo\KIII\Docker Compose\composeapp>
```

14. The last time checking we dont have anything running

```
C:\Windows\System32\cmd.exe x + v
(venv) F:\Repo\KIII\Docker Compose\composeapp>docker compose ps
time="2025-03-24T22:24:10+01:00" level=warning msg="F:\\Repo\\KIII\\Docker Compose\\composeapp\\docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion"
NAME          IMAGE          COMMAND          SERVICE    CREATED   STATUS    PORTS
(venv) F:\Repo\KIII\Docker Compose\composeapp>
```