

# Docker Orchestration

`docker-compose --version`

```
PS C:\Users\Ivan> docker-compose --version
Docker Compose version v2.26.1-desktop.1
```

`mkdir composeapp`

`cd composeapp`

```
PS C:\Users\Ivan\Desktop> mkdir composeapp

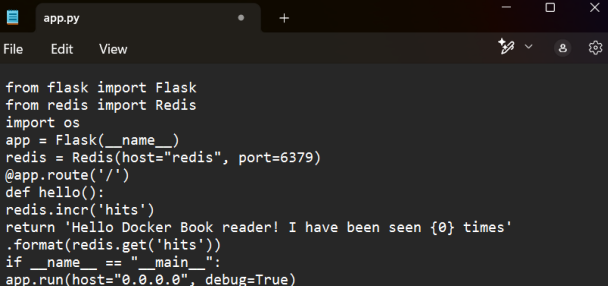
Directory: C:\Users\Ivan\Desktop

Mode                LastWriteTime         Length Name
----                -
d-----          3/24/2025   3:15 AM                composeapp

PS C:\Users\Ivan\Desktop> cd .\composeapp\
```

`notepad app.py`

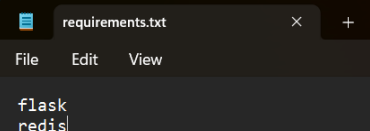
```
PS C:\Users\Ivan\Desktop\composeapp> notepad app.py
PS C:\Users\Ivan\Desktop\composeapp>
```



```
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 seen {0} times'
    .format(redis.get('hits'))
if __name__ == "__main__":
    app.run(host="0.0.0.0", debug=True)
```

`notepad requirements.txt`

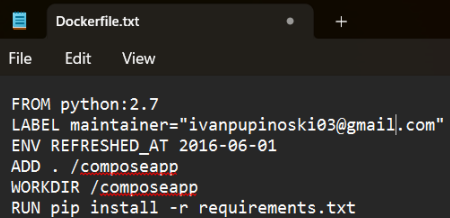
```
PS C:\Users\Ivan\Desktop\composeapp> notepad requirements.txt
PS C:\Users\Ivan\Desktop\composeapp>
```



```
flask
redis
```

`notepad Dockerfile`

```
PS C:\Users\Ivan\Desktop\composeapp> notepad Dockerfile
PS C:\Users\Ivan\Desktop\composeapp>
```



```
FROM python:2.7
LABEL maintainer="ivanpupinoski03@gmail.com"
ENV REFRESHED_AT 2016-06-01
ADD . /composeapp
WORKDIR /composeapp
RUN pip install -r requirements.txt
```

```
PS C:\Users\Ivan\Desktop\composeapp> ls

Directory: C:\Users\Ivan\Desktop\composeapp

Mode                LastWriteTime         Length Name
----                -
-a----            3/24/2025   3:17 AM             331 app.py
-a----            3/24/2025   3:17 AM              0 Dockerfile.txt
-a----            3/24/2025   3:16 AM             12 requirements.txt

PS C:\Users\Ivan\Desktop\composeapp> Rename-Item Dockerfile.txt Dockerfile
```

[docker build -t ivkeex/composeapp .](#)

```
PS C:\Users\Ivan\Desktop\composeapp> docker build -t ivkeex/composeapp .
2025/03/24 03:20:12 http2: server: error reading preface from client //./pipe/docker_engine: file has already been closed
[+] Building 0.0s (0/0) docker:default
[+] Building 4.0s (10/10) FINISHED
=> [internal] load build definition from Dockerfile                                0.0s
=> => transferring dockerfile: 206B                                              0.0s
=> [internal] load metadata for docker.io/library/python:2.7                    1.3s
=> [auth] library/python:pull token for registry-1.docker.io                    0.0s
=> [internal] load .dockerignore                                                  0.0s
=> => transferring context: 2B                                                  0.0s
=> [internal] load build context                                                  0.0s
=> => transferring context: 631B                                                0.0s
=> CACHED [1/4] FROM docker.io/library/python:2.7@sha256:cfa62318c459b1fde9e0841c619906d15ada5910d625176e24bf692cf8a2 0.0s
=> [2/4] ADD . /composeapp                                                       0.0s
=> [3/4] WORKDIR /composeapp                                                     0.0s
=> [4/4] RUN pip install -r requirements.txt                                     2.4s
=> exporting to image                                                            0.1s
=> => exporting layers                                                            0.1s
=> => writing image sha256:33e593a73b08f95fd9cecb384ffe98bc109e430a1004df7a6de4b0ce59fbe407 0.0s
=> => naming to docker.io/ivkeex/composeapp                                     0.0s
```

[docker images](#)

```
PS C:\Users\Ivan\Desktop\composeapp> docker images
REPOSITORY          TAG             IMAGE ID        CREATED         SIZE
ivkeex/composeapp   latest          33e593a73b08   14 seconds ago  907MB
```

[notepad docker-compose.yml](#)

```
PS C:\Users\Ivan\Desktop\composeapp> notepad docker-compose.yml
PS C:\Users\Ivan\Desktop\composeapp>
```

```
version: '3'
services:
  web:
    image: ivkeex/composeapp
    command: python app.py
    ports:
      - "5000:5000"
    volumes:
      - ./composeapp
  redis:
    image: redis
```

[Indentation Fixed](#)

```
version: '3'
services:
  web:
    image: ivkeex/composeapp
    command: python app.py
    ports:
      - "5000:5000"
    volumes:
      - ./composeapp

  redis:
    image: redis
```

```
docker-compose.yml  app.py  +
File Edit View

from flask import Flask
from redis import Redis
import os

app = Flask(__name__)
redis = Redis(host="redis", port=6379)

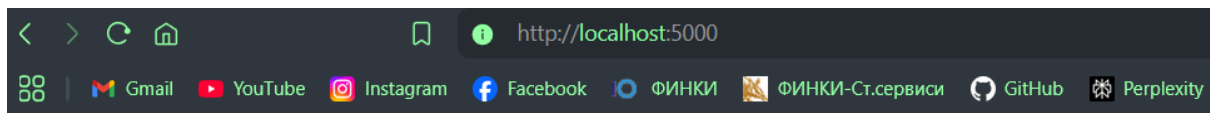
@app.route('/')
def hello():
    redis.incr('hits')
    return 'Hello Docker Book reader! I have been seen {0}
times'.format(redis.get('hits'))

if __name__ == "__main__":
    app.run(host="0.0.0.0", debug=True)
```

## docker-compose up

```
PS C:\Users\Ivan\Desktop\composeapp> docker-compose up
time="2025-03-24T03:28:29+01:00" level=warning msg="C:\\Users\\Ivan\\Desktop\\composeapp\\docker-compose.yml: 'version' is obsolete"
[+] Running 2/0
  Container composeapp-redis-1 Created 0.0s
  Container composeapp-web-1 Created 0.0s
Attaching to redis-1, web-1
redis-1 | 1:C 24 Mar 2025 02:28:29.426 * o000o000o000o Redis is starting o000o000o000o
redis-1 | 1:C 24 Mar 2025 02:28:29.426 * Redis version=7.4.2, bits=64, commit=00000000, modified=0, pid=1, just started
redis-1 | 1:C 24 Mar 2025 02:28:29.426 # Warning: no config file specified, using the default config. In order to specify a config file use redis-server /p
ath/to/redis.conf
redis-1 | 1:M 24 Mar 2025 02:28:29.426 * monotonic clock: POSIX clock_gettime
redis-1 | 1:M 24 Mar 2025 02:28:29.427 * Running mode=standalone, port=6379.
redis-1 | 1:M 24 Mar 2025 02:28:29.427 * Server initialized
redis-1 | 1:M 24 Mar 2025 02:28:29.428 * Loading RDB produced by version 7.4.2
redis-1 | 1:M 24 Mar 2025 02:28:29.428 * RDB age 93 seconds
redis-1 | 1:M 24 Mar 2025 02:28:29.428 * RDB memory usage when created 0.90 Mb
redis-1 | 1:M 24 Mar 2025 02:28:29.428 * Done loading RDB, keys loaded: 0, keys expired: 0.
redis-1 | 1:M 24 Mar 2025 02:28:29.428 * DB loaded from disk: 0.000 seconds
redis-1 | 1:M 24 Mar 2025 02:28:29.428 * Ready to accept connections tcp
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: 165-270-420
web-1 | 172.24.0.1 - - [24/Mar/2025 02:30:18] "GET / HTTP/1.1" 200 -
web-1 | 172.24.0.1 - - [24/Mar/2025 02:30:18] "GET /favicon.ico HTTP/1.1" 404 -
Gracefully stopping... (press Ctrl+C again to force)
[+] Stopping 2/2
  Container composeapp-redis-1 Stopped 0.7s
  Container composeapp-web-1 Stopped 0.5s
canceled
```

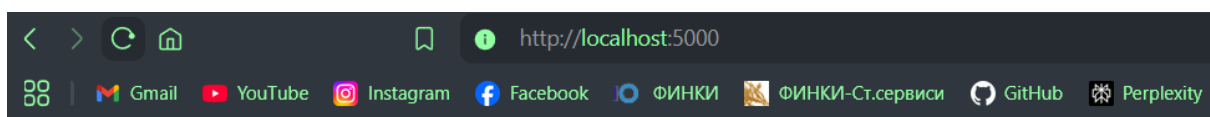
<http://localhost:5000/>



Hello Docker Book reader! I have been seen 1 times

[docker-compose up -d](#)

```
PS C:\Users\Ivan\Desktop\composeapp> docker-compose up -d
time="2025-03-24T03:31:44+01:00" level=warning msg="C:\\Users\\Ivan\\Desktop\\composeapp\\docker-compose.yml: 'version' is obsolete"
[+] Running 2/2
  Container composeapp-web-1 Started 0.0s
  Container composeapp-redis-1 Started 0.0s
```



Hello Docker Book reader! I have been seen 10 times

[docker-compose ps](#)

```
PS C:\Users\Ivan\Desktop\composeapp> docker-compose ps
time="2025-03-24T03:33:17+01:00" level=warning msg="C:\\Users\\Ivan\\Desktop\\composeapp\\docker-compose.yml: 'version' is obsolete"
NAME                IMAGE              COMMAND                  SERVICE  CREATED      STATUS      PORTS
composeapp-redis-1  redis             "docker-entrypoint.s..." redis    7 minutes ago Up About a minute 6379/tcp
composeapp-web-1    ivkeex/composeapp "python app.py"         web      7 minutes ago Up About a minute 0.0.0.0:5000->5000/tcp
```

## docker-compose logs

```
PS C:\Users\Ivan\Desktop\composeapp> docker-compose logs
time="2025-03-24T03:34:03+01:00" level=warning msg="C:\\Users\\Ivan\\Desktop\\composeapp\\docker-compose.yml: 'version' is obsolete"
web-1      |   File "app.py", line 8
web-1      |     redis.incr('hits')
redis-1    | 1:C 24 Mar 2025 02:25:53.127 * o000o000o000o Redis is starting o000o000o000o
web-1      | ^
web-1      | IndentationError: expected an indented block
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: 165-270-420
web-1      | 172.24.0.1 - - [24/Mar/2025 02:30:18] "GET / HTTP/1.1" 200 -
web-1      | 172.24.0.1 - - [24/Mar/2025 02:30:18] "GET /favicon.ico HTTP/1.1" 404 -
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: 161-257-797
web-1      | 172.24.0.1 - - [24/Mar/2025 02:32:14] "GET / HTTP/1.1" 200 -
web-1      | 172.24.0.1 - - [24/Mar/2025 02:32:14] "GET / HTTP/1.1" 200 -
web-1      | 172.24.0.1 - - [24/Mar/2025 02:32:15] "GET / HTTP/1.1" 200 -
web-1      | 172.24.0.1 - - [24/Mar/2025 02:32:15] "GET / HTTP/1.1" 200 -
web-1      | 172.24.0.1 - - [24/Mar/2025 02:32:15] "GET / HTTP/1.1" 200 -
```

...

## docker-compose stop | docker-compose kill

```
PS C:\Users\Ivan\Desktop\composeapp> docker-compose stop
time="2025-03-24T03:35:15+01:00" level=warning msg="C:\\Users\\Ivan\\Desktop\\composeapp\\docker-compose.yml: 'version' is obsolete"
[+] Stopping 2/2
  ✓Container composeapp-web-1   Stopped      0.5s
  ✓Container composeapp-redis-1 Stopped      0.6s
PS C:\Users\Ivan\Desktop\composeapp> docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
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## docker-compose rm

```
PS C:\Users\Ivan\Desktop\composeapp> docker-compose rm
? Going to remove composeapp-web-1, composeapp-redis-1 Yes
[+] Removing 2/0e composeapp-web-1, composeapp-redis-1 (y/N) y
  ✓Container composeapp-redis-1 Removed
  ✓Container composeapp-web-1   Removed
```