KIII homework 3

Listing 7.3: Testing Docker Compose is working

```
root@JONY-PC:/home/jony102# docker compose version
Docker Compose version v2.16.0
root@JONY-PC:/home/jony102#
```

Listing 7.4: Creating the composeapp directory

```
root@JONY-PC:/home/jony102# mkdir kiii-homework_3
root@JONY-PC:/home/jony102# cd kiii-homework_3
root@JONY-PC:/home/jony102/kiii-homework_3# mkdir composeapp
root@JONY-PC:/home/jony102/kiii-homework_3# cd composeapp/
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp#
```

Listing 7.5: The app.py file

```
  GNU nano 6.2                                    app.py *
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)
```

Listing 7.6: The requirements.txt file

```
  GNU nano 6.2                                    requirements.txt *
flask
redis
```

Listing 7.7: The composeapp Dockerfile

```
  GNU nano 6.2                                    Dockerfile *
# Compose Sample application image
FROM python:2.7
LABEL maintainer="andrej.bardakoski@students.finki.ukim.mk"
ADD . /composeapp
WORKDIR /composeapp
RUN pip install -r requirements.txt
```

Listing 7.8: Building the composeapp application

```
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp# docker build -t "andre102/composeapp" .
[+] Building 82.4s (10/10) FINISHED
 => [internal] load .dockerignore                                              0.0s
 => => transferring context: 2B                                                0.0s
 => [internal] load build definition from Dockerfile                           0.0s
 => => transferring dockerfile: 224B                                           0.0s
 => [internal] load metadata for docker.io/library/python:2.7                  2.4s
```

Listing 7.9: Creating the docker-compose.yml file

Listing 7.10: The docker-compose.yml file

```
  GNU nano 6.2                                    docker-compose.yml
version: "3"
services:
  webapp_container:
    image: andre102/composeapp
    command: python app.py
    ports:
      - "5000:5000"
    volumes:
      - .:/composeapp
  redis_db_container:
    image: redis
```

Listing 7.13: Running docker-compose up with our sample application

```
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp# docker compose up
[+] Running 7/7
 ⠿ redis_db_container Pulled                                          12.5s
   ⠿ 3f9582a2cbe7 Pull complete                                        9.3s
   ⠿ 241c2d338588 Pull complete                                        9.4s
   ⠿ 89515d93a23e Pull complete                                        9.5s
   ⠿ 65e8ba9473fe Pull complete                                        9.8s
   ⠿ 585124038cab Pull complete                                        9.8s
   ⠿ b483de716ad7 Pull complete                                        9.9s
[+] Running 3/3
 ⠿ Network composeapp_default             Created                      0.6s
 ⠿ Container composeapp-webapp_container-1   Created                   0.3s
 ⠿ Container composeapp-redis_db_container-1  Created                  0.3s
Attaching to composeapp-redis_db_container-1, composeapp-webapp_container-1
composeapp-redis_db_container-1  | 1:C 14 Mar 2023 09:54:29.905 # oO0OoO0OoO0Oo Redis is starting oO0OoO0OoO0Oo
```

Listing 7.15: Running Compose daemonized

```
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp# docker compose up -d
[+] Running 2/0
 ⠿ Container composeapp-webapp_container-1    Running                  0.0s
 ⠿ Container composeapp-redis_db_container-1  Running                  0.0s
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp#
```

Listing 7.17: Running the docker-compose ps command

```
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp# docker compose ps
NAME                              IMAGE              COMMAND               SERVICE              CREATED
    STATUS              PORTS
composeapp-redis_db_container-1   redis              "docker-entrypoint.s…"   redis_db_container   5 seconds ago
   Up 3 seconds        6379/tcp
composeapp-webapp_container-1     andre102/composeapp  "python app.py"        webapp_container     5 seconds ago
   Up 3 seconds        0.0.0.0:5000->5000/tcp, :::5000->5000/tcp
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp#
```

Listing 7.18: Showing a Compose services logs

```
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp# docker compose logs
composeapp-webapp_container-1     |  * Serving Flask app "app" (lazy loading)
composeapp-webapp_container-1     |  * Environment: production
composeapp-webapp_container-1     |    WARNING: This is a development server. Do not use it in a production deployment.
composeapp-redis_db_container-1  | 1:C 14 Mar 2023 10:13:19.437 # oO0OoO0OoO0Oo Redis is starting oO0OoO0OoO0Oo
composeapp-redis_db_container-1  | 1:C 14 Mar 2023 10:13:19.437 # Redis version=7.0.9, bits=64, commit=00000000, modifie
d=0, pid=1, just started
composeapp-redis_db_container-1  | 1:C 14 Mar 2023 10:13:19.437 # Warning: no config file specified, using the default c
onfig. In order to specify a config file use redis-server /path/to/redis.conf
composeapp-redis_db_container-1  | 1:M 14 Mar 2023 10:13:19.438 * monotonic clock: POSIX clock_gettime
composeapp-redis_db_container-1  | 1:M 14 Mar 2023 10:13:19.438 * Running mode=standalone, port=6379.
composeapp-redis_db_container-1  | 1:M 14 Mar 2023 10:13:19.438 # Server initialized
composeapp-redis_db_container-1  | 1:M 14 Mar 2023 10:13:19.438 # WARNING Memory overcommit must be enabled! Without it,
 a background save or replication may fail under low memory condition. Being disabled, it can can also cause failures wi
thout low memory condition, see https://github.com/jemalloc/jemalloc/issues/1328. To fix this issue add 'vm.overcommit_m
emory = 1' to /etc/sysctl.conf and then reboot or run the command 'sysctl vm.overcommit_memory=1' for this to take effec
t.
composeapp-redis_db_container-1  | 1:M 14 Mar 2023 10:13:19.438 * Ready to accept connections
composeapp-webapp_container-1     |    Use a production WSGI server instead.
composeapp-webapp_container-1     |  * Debug mode: on
```

Listing 7.19: Stopping running services

```
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp# docker compose stop
[+] Running 2/2
 # Container composeapp-redis_db_container-1   Stopped
 # Container composeapp-webapp_container-1     Stopped
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp#
```

Listing 7.20: Verifying our Compose services have been stopped

```
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp# docker compose ps -a
NAME                             IMAGE              COMMAND               SERVICE           CREATED         STATUS                 PORTS
composeapp-redis_db_container-1  redis              "docker-entrypoint.s…" redis_db_container 14 minutes ago  Exited (0) 2 minutes ago
composeapp-webapp_container-1    andre102/composeapp "python app.py"       webapp_container   14 minutes ago  Exited (0) 2 minutes ago
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp#
```

Listing 7.21: Removing Compose services

```
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp# docker compose rm
? Going to remove composeapp-webapp_container-1, composeapp-redis_db_container-1 Yes
[+] Running 2/0
 # Container composeapp-redis_db_container-1   Removed
 # Container composeapp-webapp_container-1     Removed
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp#
```

Listing 7.22: Showing no Compose services

```
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp# docker compose ps -a
NAME                    IMAGE              COMMAND               SERVICE           CREATED
root@JONY-PC:/home/jony102/kiii-homework_3/composeapp#
```