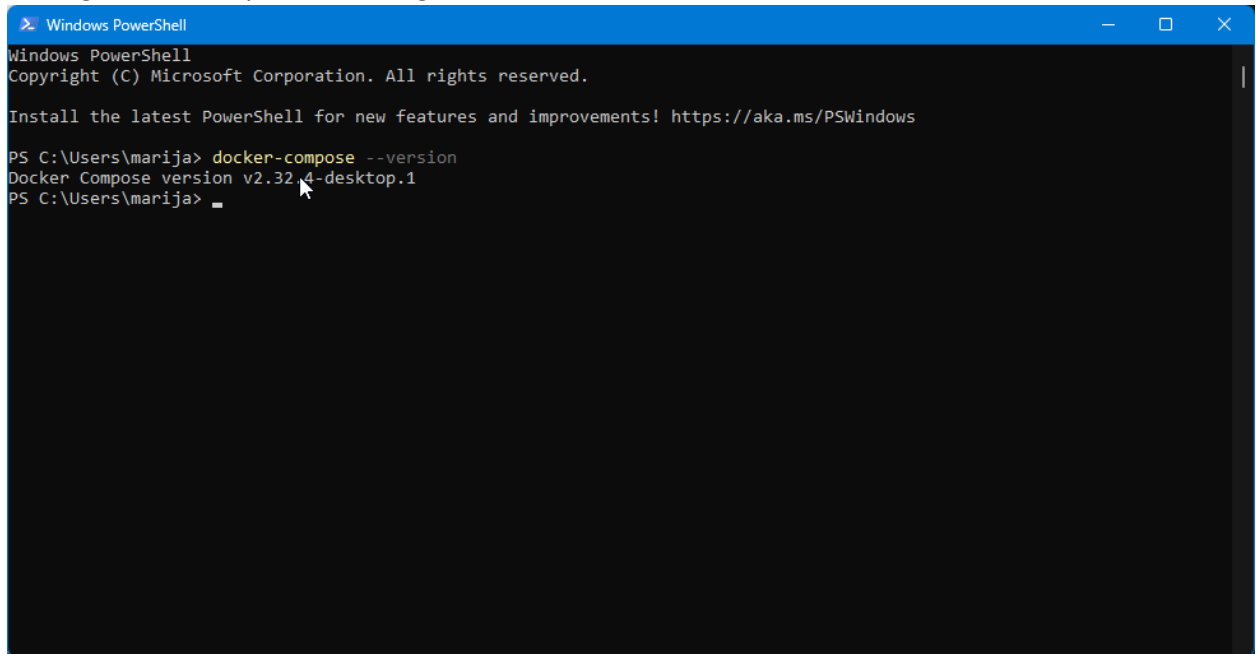


Лабораториска вежба 3

1. Testing Docker Compose is working

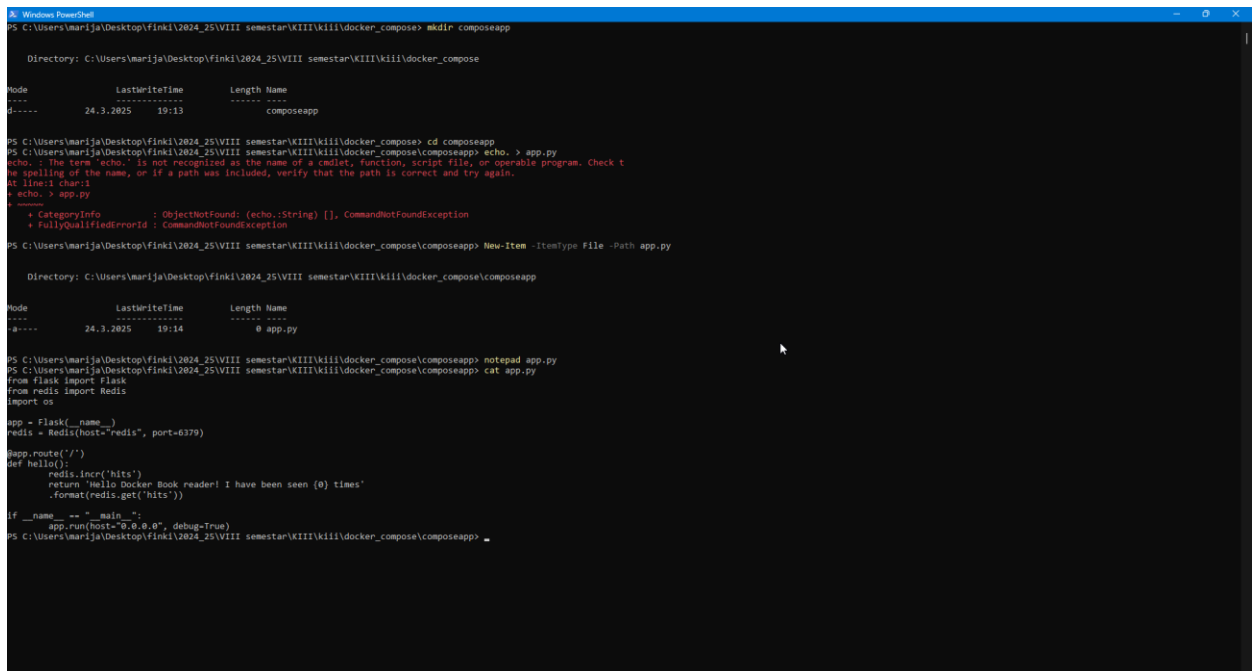


```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\marija> docker-compose --version
Docker Compose version v2.32.4-desktop.1
PS C:\Users\marija>
```

2. Creating the composeapp directory and required files



```
PS C:\Users\marija\Desktop\Finki\2024_25\VIII semestar\KIII\kiii\docker_compose> mkdir composeapp

Directory: C:\Users\marija\Desktop\Finki\2024_25\VIII semestar\KIII\kiii\docker_compose

Mode                LastWriteTime         Length Name
----                -
d-----          24.3.2025   19:13             composeapp

PS C:\Users\marija\Desktop\Finki\2024_25\VIII semestar\KIII\kiii\docker_compose> cd composeapp
PS C:\Users\marija\Desktop\Finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> echo > app.py
echo: The term 'echo' is not recognized as the name of a cmdlet, function, script file, or operable program. Check the
spelling of the name, or if a path was included, verify that the path is correct and try again.
At line:1 char:1
+ echo > app.py
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (echo:String) [], CommandNotFoundException
+ FullyQualifiedErrorId : CommandNotFoundException

PS C:\Users\marija\Desktop\Finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> New-Item -ItemType File -Path app.py

Directory: C:\Users\marija\Desktop\Finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp

Mode                LastWriteTime         Length Name
----                -
-a-----          24.3.2025   19:14             0 app.py

PS C:\Users\marija\Desktop\Finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> notepad app.py
PS C:\Users\marija\Desktop\Finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> cat 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 {} times'.format(redis.get('hits'))

if __name__ == '__main__':
    app.run(host="0.0.0.0", debug=True)
PS C:\Users\marija\Desktop\Finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp>
```

```

PS C:\Windows> PowerShell
PS C:\Users\marija\Desktop\FinkI\2024_25\VIII semestar\KIII\kiii\docker_compose> cat 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():
    hits = 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)
PS C:\Users\marija\Desktop\FinkI\2024_25\VIII semestar\KIII\kiii\docker_compose> New-Item -ItemType File -Path requirements.txt

Directory: C:\Users\marija\Desktop\FinkI\2024_25\VIII semestar\KIII\kiii\docker_compose

Mode                LastWriteTime         Length Name
----                -
d-----          24.3.2025    10:16             @ requirements.txt

PS C:\Users\marija\Desktop\FinkI\2024_25\VIII semestar\KIII\kiii\docker_compose> notepad requirements.txt
PS C:\Users\marija\Desktop\FinkI\2024_25\VIII semestar\KIII\kiii\docker_compose> cat requirements.txt
flask
redis
PS C:\Users\marija\Desktop\FinkI\2024_25\VIII semestar\KIII\kiii\docker_compose> New-Item -ItemType File -Path Dockerfile

Directory: C:\Users\marija\Desktop\FinkI\2024_25\VIII semestar\KIII\kiii\docker_compose

Mode                LastWriteTime         Length Name
----                -
d-----          24.3.2025    10:17             @ Dockerfile

PS C:\Users\marija\Desktop\FinkI\2024_25\VIII semestar\KIII\kiii\docker_compose> notepad Dockerfile
PS C:\Users\marija\Desktop\FinkI\2024_25\VIII semestar\KIII\kiii\docker_compose> cat Dockerfile
FROM python:2.7
LABEL maintainer="james@example.com"
ENV REFRESHED_AT 2016-06-01

ADD . /composeapp
WORKDIR /composeapp

RUN pip install -r requirements.txt
PS C:\Users\marija\Desktop\FinkI\2024_25\VIII semestar\KIII\kiii\docker_compose>

```

3. Building the composeapp application

[illegible]

4. Creating the docker-compose.yml file

```
Windows PowerShell
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> New-Item -ItemType File -Path
docker-compose.yml

Directory: C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp

Mode                LastWriteTime         Length Name
----                -
-a----            24.3.2025         19:25             0 docker-compose.yml

PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> notepad docker-compose.yml
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> cat docker-compose.yml
version: '3'
services:
  web:
    image: jamtur01/composeapp
    command: python app.py
    ports:
      - "5000:5000"
    volumes:
      - ../composeapp

  redis:
    image: redis

PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> notepad docker-compose.yml
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> cat docker-compose.yml
version: '3'
services:
  web:
    image: myimage
    command: python app.py
    ports:
      - "5000:5000"
    volumes:
      - ../composeapp

  redis:
    image: redis
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> At line:1 char:1
+ 0
```

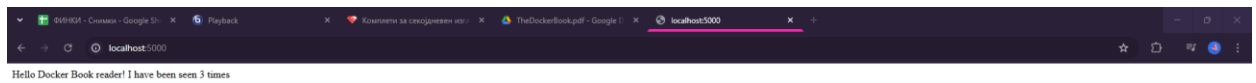
5. Running docker-compose up with a sample application

```
localhost:5000
Hello Docker Book reader! I have been seen 1 times

Windows PowerShell
-----
-a----            24.3.2025         19:15             339 app.py
-a----            24.3.2025         19:30             163 docker-compose.yml
-a----            24.3.2025         19:18             165 Dockerfile
-a----            24.3.2025         19:16              12 requirements.txt

PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> notepad app.py
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> docker-compose up
[+] Running 2/2
  Container composeapp-web-1 Created
  Container composeapp-redis-1 Created
Attaching to redis-1, web-1
redis-1 1:1C 24 Mar 2025 18:35:42.565 * oO00u000u000u Redis is starting oO00u000u000u
redis-1 1:1C 24 Mar 2025 18:35:42.565 * Redis version=7.4.2, bits=64, commit=00000000, modified=0, pid=1, just started
redis-1 1:1C 24 Mar 2025 18:35:42.565 # Warning: no config file specified, using the default config. In order to spec
y a config file use redis-server (path/to/redis.conf)
redis-1 1:1M 24 Mar 2025 18:35:42.565 * Monotonic clock: POSIX clock_gettime
redis-1 1:1M 24 Mar 2025 18:35:42.566 * Running mode=standalone, port=6379.
redis-1 1:1M 24 Mar 2025 18:35:42.566 * Server initialized
redis-1 1:1M 24 Mar 2025 18:35:42.566 * Loading RDB produced by version 7.4.2
redis-1 1:1M 24 Mar 2025 18:35:42.566 * RDB age 79 seconds
redis-1 1:1M 24 Mar 2025 18:35:42.566 * RDB memory usage when created 0.00 Mb
redis-1 1:1M 24 Mar 2025 18:35:42.566 * Done loading RDB, keys loaded: 0, keys expired: 0.
redis-1 1:1M 24 Mar 2025 18:35:42.566 * DB loaded from disk: 0.000 seconds
redis-1 1:1M 24 Mar 2025 18:35:42.566 * Ready to accept connections tcp
web-1 1:1M 24 Mar 2025 18:35:42.566 * Serving Flask app "app" (lazy loading)
web-1 1:1M 24 Mar 2025 18:35:42.566 * Environment: production
web-1 1:1M 24 Mar 2025 18:35:42.566 WARNING: This is a development server. Do not use it in a production deployment.
web-1 1:1M 24 Mar 2025 18:35:42.566 Use a production WSGI server instead.
web-1 1:1M 24 Mar 2025 18:35:42.566 * Debug mode: on
web-1 1:1M 24 Mar 2025 18:35:42.566 * Running on http://0.0.0.0:5000/ (Press CTRL+C to quit)
web-1 1:1M 24 Mar 2025 18:35:42.566 * Restarting with stat
web-1 1:1M 24 Mar 2025 18:35:42.566 * Debugger is active!
web-1 1:1M 24 Mar 2025 18:35:42.566 * Debugger PIN: 120-629-707
web-1 1:1M 24 Mar 2025 18:35:48.566 "GET / HTTP/1.1" 200 -
web-1 1:1M 24 Mar 2025 18:35:48.566 "GET /favicon.ico HTTP/1.1" 404 -
```

6. Running Compose daemonized



```
Windows PowerShell
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> docker-compose up -d
[+] Running 2/2
  Container composeapp-redis-1 Started 0.4s
  Container composeapp-web-1 Started 0.4s
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp>
```

7. Running the docker-compose ps command

```
Windows PowerShell
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> docker-compose up -d
[+] Running 2/2
  Container composeapp-redis-1 Started 0.4s
  Container composeapp-web-1 Started 0.4s
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> docker-compose ps
NAME                IMAGE             COMMAND                  SERVICE    CREATED         STATUS           PORTS
composeapp-redis-1  redis            "docker-entrypoint.s..." redis      6 minutes ago   Up About a minute 6379/tcp
composeapp-web-1    myimage          "python app.py"         web        6 minutes ago   Up About a minute 0.0.0.0:5000->5000/tcp
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp>
```

8. Stopping running services

```
Windows PowerShell
[+] Stopping 2/2
  ✓ Container composeapp-web-1 Stopped 0.6s
  ✓ Container composeapp-redis-1 Stopped 0.5s
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> docker-compose up -d
[+] Running 2/2
  ✓ Container composeapp-redis-1 Started 0.4s
  ✓ Container composeapp-web-1 Started 0.4s
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> docker-compose ps
NAME                IMAGE              COMMAND              SERVICE  CREATED      STATUS      PORTS
composeapp-redis-1  redis             "docker-entrypoint.s..." redis    6 minutes ago Up About a minute 6379/tcp
composeapp-web-1    myimage          "python app.py"      web      6 minutes ago Up About a minute 0.0.0.0:5000->5000/tcp
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> docker-compose stop
[+] Stopping 2/2
  ✓ Container composeapp-redis-1 Stopped 0.4s
  ✓ Container composeapp-web-1 Stopped 0.6s
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> docker-compose ps
NAME                IMAGE              COMMAND              SERVICE  CREATED      STATUS      PORTS
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp>
```

9. Removing Compose services

```
Windows PowerShell
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> docker-compose ps
NAME                IMAGE              COMMAND              SERVICE  CREATED      STATUS      PORTS
composeapp-redis-1  redis             "docker-entrypoint.s..." redis    6 minutes ago Up About a minute 6379/tcp
composeapp-web-1    myimage          "python app.py"      web      6 minutes ago Up About a minute 0.0.0.0:5000->5000/tcp
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> docker-compose stop
[+] Stopping 2/2
  ✓ Container composeapp-redis-1 Stopped 0.4s
  ✓ Container composeapp-web-1 Stopped 0.6s
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> docker-compose ps
NAME                IMAGE              COMMAND              SERVICE  CREATED      STATUS      PORTS
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> docker-compose rm
? Going to remove composeapp-redis-1, composeapp-web-1 Yes
[+] Removing 2/2
  ✓ Container composeapp-web-1 Removed 0.0s
  ✓ Container composeapp-redis-1 Removed 0.0s
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp> docker-compose ps
NAME                IMAGE              COMMAND              SERVICE  CREATED      STATUS      PORTS
PS C:\Users\marija\Desktop\finki\2024_25\VIII semestar\KIII\kiii\docker_compose\composeapp>
```