

DevOps Internship

Exercițiul 2

Pentru rezolvarea acestui exercițiu am creat un folder numit python-app în folderul ex 2. În folderul python-app am copiat fișierele calculator.py, requirments.txt și am creat un Dockerfile.

Am deschis Dockerfile-ul folosind Visual Studio Code și am scris comenzi în fișier.

```
Dockerfile x calculator.py 1
ex2 > python-app > Dockerfile
1 # Am folosit imagine de python 3.12, varianta slim
2 FROM python:3.12-slim
3 # Am creat și am copiat fișierele în calculator
4 WORKDIR /calculator
5 COPY . /calculator
6
7 # Am instalat requirments.
8 RUN pip install -r requirements.txt
9 # Am instalat și flask pentru că nu era în requirments.
10 RUN pip install flask
11
12 # Am expus portul 5000, folosit de calculator.
13 EXPOSE 5000
14
15 #Am rulat fișierul calculator.py
16 CMD ["python", "calculator.py"]
```

Apoi am creat imaginea de Docker cu numele „calculator” folosind

`docker build -t calculator .`

```
PS C:\Users\Gabriela\Desktop\DevOps\ex2\python-app> docker build -t calculator .
[+] Building 26.8s (10/10) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 488B
=> [internal] load metadata for docker.io/library/python:3.12-slim
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [1/5] FROM docker.io/library/python:3.12-slim@sha256:a866731a6b71c4a194a845d86e06568725e430ed21821d0c52e4efb385cf6c6f
=> => resolve docker.io/library/python:3.12-slim@sha256:a866731a6b71c4a194a845d86e06568725e430ed21821d0c52e4efb385cf6c6f
=> [internal] load build context
=> => transferring context: 100B
=> CACHED [2/5] WORKDIR /calculator
=> CACHED [3/5] COPY . /calculator
=> [4/5] RUN pip install -r requirements.txt
=> [5/5] RUN pip install flask
=> exporting to image
=> => exporting layers
=> => exporting manifest sha256:2cc4bc74b889b602e6b4c1fb809351b1b15ffb8200f94feca4dd3d18afc3e605
=> => exporting config sha256:19bb1ddd47e30a3bfa017b42bd99b3ea15cba52f7a695cb9d72270a026ca4cc7
=> => exporting attestation manifest sha256:8643ab37727e4fbd23518720cf5ee12523153437e1825616a3140bb8876b6345
=> => exporting manifest list sha256:ec91b259f7a2cbab426a8b3af4220c98c14a992a230ee12669495a6756a40016
=> => naming to docker.io/library/calculator:latest
=> => unpacking to docker.io/library/calculator:latest
```

```
View build details: docker-desktop:///dashboard/build/desktop-linux/desktop-linux/udbmt96jttomwtgrvোধ32bbf
PS C:\Users\Gabriela\Desktop\DevOps\ex2\python-app>
```

Am rulat imaginea mapând portul intern al containerului (5000) la portul calculatorului (8080) folosind comanda `docker run -it -p 8080:5000 calculator`

```
PS C:\Users\Gabriela\Desktop\DevOps\ex2\python-app> docker run -it -p 8080:5000 calculator
* Serving Flask app 'calculator'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://172.17.0.3:5000
Press CTRL+C to quit
```

← → ↻ 🌐 localhost:8080

Calculator API

Add or Multiply Numbers

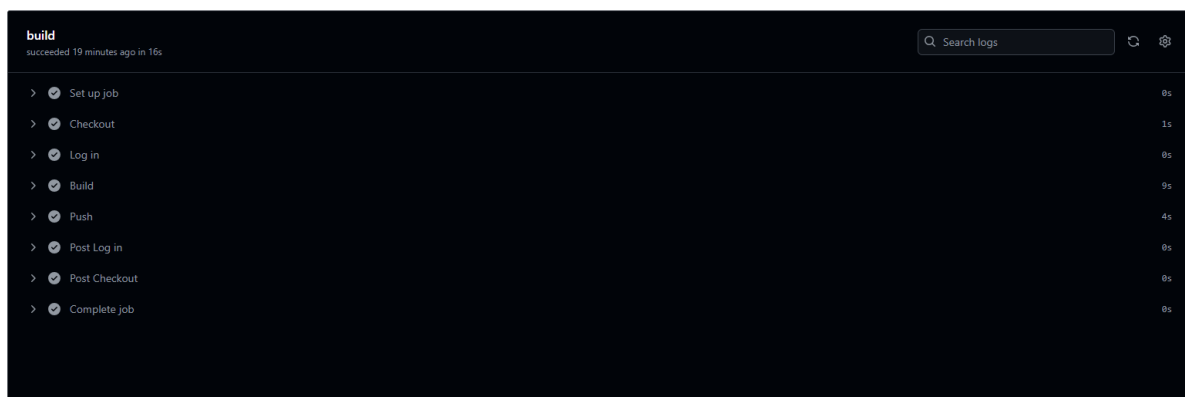
Result: 168

Link Docker Repository: <https://hub.docker.com/r/gabrielamv1/test-devops-ex2>

Mai departe am creat workflow-ul pentru github. Am creat un folder „github/workflows” in care am creat un fișier build-ex2.yml.

```
.github > workflows > ! build-ex2.yml
1  name: Build and Push ex2
2
3  # Cand se fac push-uri pe main sau master
4  on:
5    push:
6      branches:
7        - main
8        - master
9
10 jobs:
11 # job-ul de build
12   build:
13     runs-on: ubuntu-latest
14
15     steps:
16       # primul pas: checkout
17       - name: Checkout
18         uses: actions/checkout@v2
19
20       # login in docker hub
21       - name: Log in
22         uses: docker/login-action@v2
23         with:
24           username: ${ secrets.DOCKER_USERNAME }
25           password: ${ secrets.DOCKER_PASSWORD }
26
27       # build-ul imaginii
28       - name: Build
29         run: docker build -t gabrielamv1/test-devops-ex2:latest ./ex2/python-app/
30
31       # push pe docker hub
32       - name: Push
33         run: docker push gabrielamv1/test-devops-ex2:latest
```



Am urcat apoi fișierul pe github, unde am urmărit execuția.



Am verificat și pe Docker Hub și am regăsit imaginea urcată prin Github Actions

Tags

This repository contains 1 tag(s).

Tag	OS	Type	Pulled	Pushed
 latest		Image	less than 1 day	13 minutes

[See all](#)