

# MINI-PROJET

## 1- La création du **Dockerfile**

```
mar. juil. 11 20:02:57
Dockerfile - vagrant [SSH: 192.168.56.12] - Visual Studio Code

Run Terminal Help
Dockerfile M X docker-compose.yml M index.php M

student-list > simple_api > Dockerfile > ...
1 FROM python:2.7-buster AS base
2
3 LABEL MAINTAINER="kamgaingrodrigue3@gmail.com"
4 VOLUME [ "/data" ]
5 EXPOSE 5000
6 COPY student_age.py /
7
8 FROM base AS build
9 RUN apt update -y && apt install python-dev python3-dev libsasl2-dev python-dev libldap2-dev libssl-dev -y
10
11 RUN pip install flask==1.1.2 flask_httpauth==4.1.0 flask_simpleldap python-dotenv==0.14.0
12
13 #ADD git clone https://github.com/diranetafen/student-list.git /
14
15 #RUN cd student-list/
16 |
17 FROM build AS final
18 CMD ["python", "./student_age.py"]
```

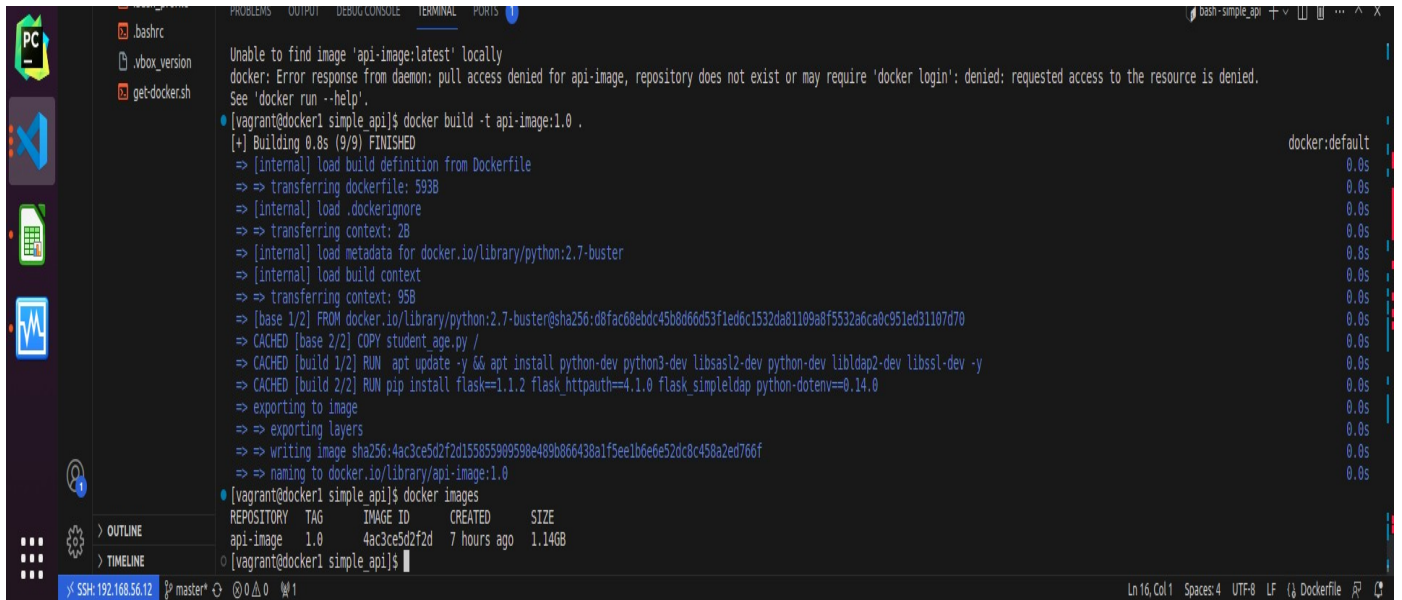
## 2- Création de l'image de l'api

**docker build -t api-image:1.0 .**

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS 1
bash - simple_api + v [ ] ... ^ X

[vagrant@docker1 simple_api]$ docker build -t api-image:1.0 .
[+] Building 0.8s (9/9) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 593B
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/python:2.7-buster
=> [internal] load build context
=> => transferring context: 95B
=> [base 1/2] FROM docker.io/library/python:2.7-buster@sha256:d8fac68ebdc45b8d66d53f1ed6c1532da81109a8f5532a6ca0c951ed31107d70
=> CACHED [base 2/2] COPY student_age.py /
=> CACHED [build 1/2] RUN apt update -y && apt install python-dev python3-dev libsasl2-dev python-dev libldap2-dev libssl-dev -y
=> CACHED [build 2/2] RUN pip install flask==1.1.2 flask_httpauth==4.1.0 flask_simpleldap python-dotenv==0.14.0
=> exporting to image
=> => exporting layers
=> => writing image sha256:4ac3ce5d2f2d155855909598e489b866438a1f5ee1b6e6e52dc8c458a2ed766f
=> => naming to docker.io/library/api-image:1.0
[vagrant@docker1 simple_api]$ docker build -t api-image:1.0 .

Ln 16, Col 1 Spaces: 4 UTF-8 LF Dockerfile
```



```
.bashrc
.vbox_version
get-docker.sh

Unable to find image 'api-image:latest' locally
docker: Error response from daemon: pull access denied for api-image, repository does not exist or may require 'docker login': denied: requested access to the resource is denied.
See 'docker run --help'.

[vagrant@docker1 simple_api]$ docker build -t api-image:1.0 .
[+] Building 0.8s (9/9) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 593B
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/python:2.7-buster
=> [internal] load build context
=> => transferring context: 95B
=> [base 1/2] FROM docker.io/library/python:2.7-buster@sha256:d8fac68ebdc45b8d66d53f1ed6c1532da81109a8f5532a6ca0c951ed31107d70
=> CACHED [base 2/2] COPY student_age.py /
=> CACHED [build 1/2] RUN apt update -y && apt install python-dev python3-dev libssl2-dev python-dev libldap2-dev libssl-dev -y
=> CACHED [build 2/2] RUN pip install flask==1.1.2 flask_httpauth==4.1.0 flask_simpleldap python-dotenv==0.14.0
=> exporting image
=> => exporting layers
=> => writing image sha256:4ac3ce5d2f2d155855909590e489b866438a1f5e1b6e6e52dc8c458a2ed766f
=> => naming to docker.io/library/api-image:1.0

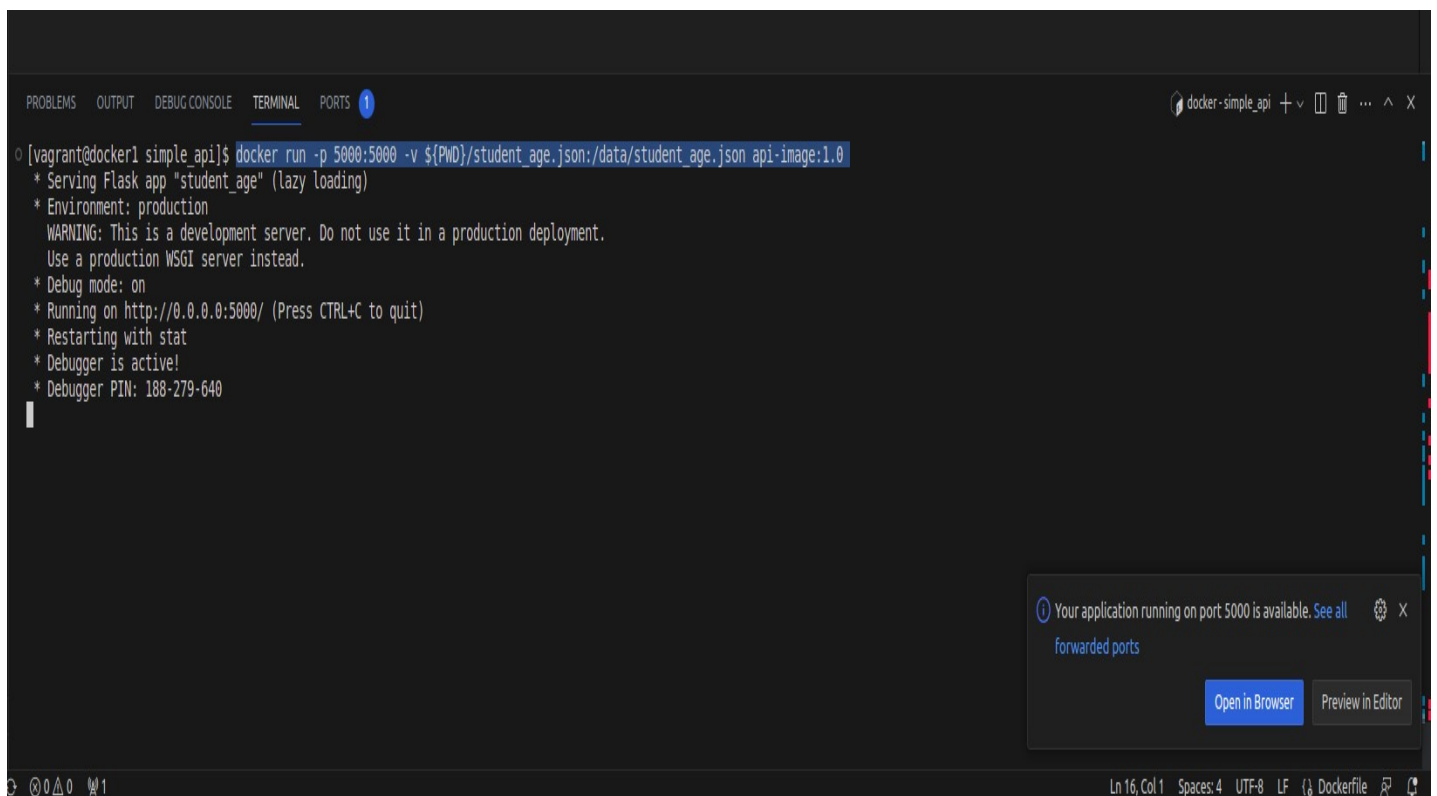
[vagrant@docker1 simple_api]$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
api-image 1.0 4ac3ce5d2f2d 7 hours ago 1.14GB

[vagrant@docker1 simple_api]$
```

Le nom de l'image créée est : **api-image**

3- Lancement du conteneur avec l'image précédente

**docker run -p 5000:5000 -v \${PWD}/student\_age.json:/data/student\_age.json api-image:1.0**

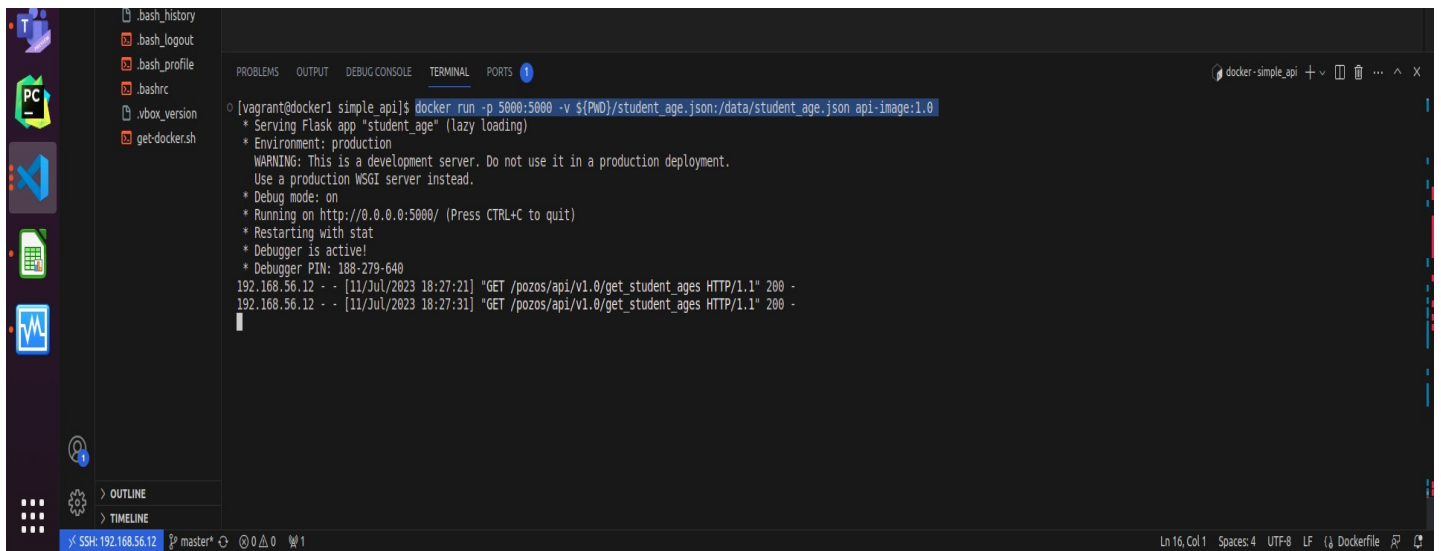


```
[vagrant@docker1 simple_api]$ docker run -p 5000:5000 -v ${PWD}/student_age.json:/data/student_age.json api-image:1.0
* Serving Flask app "student_age" (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: on
* Running on http://0.0.0.0:5000/ (Press CTRL+C to quit)
* Restarting with stat
* Debugger is active!
* Debugger PIN: 188-279-640
```

#### 4 – Test de l'api

L'adresse sur laquelle le conteneur est déployée : 192.168.56.12 sur le port 5000

**curl -u toto:python -X GET [http://192.168.56.12:5000/pozos/api/v1.0/get\\_student\\_ages](http://192.168.56.12:5000/pozos/api/v1.0/get_student_ages)**



```
[vagrant@docker1 simple_api]$ docker run -p 5000:5000 -v ${PWD}/student_age.json:/data/student_age.json api-image:1.0
* Serving Flask app "student_age" (lazy loading)
* Environment: production
WARNING: This is a development server. Do not use it in a production deployment.
Use a production WSGI server instead.
* Debug mode: on
* Running on http://0.0.0.0:5000/ (Press CTRL+C to quit)
* Restarting with stat
* Debugger is active!
* Debugger PIN: 188-279-640
192.168.56.12 - - [11/Jul/2023 18:27:21] "GET /api/v1.0/get_student_ages HTTP/1.1" 200 -
192.168.56.12 - - [11/Jul/2023 18:27:31] "GET /api/v1.0/get_student_ages HTTP/1.1" 200 -
```

Ici, on peut remarquer que l’api a reçu des requêtes



```
[vagrant@docker1 simple_api]$ curl -u toto:python -X GET http://192.168.56.12:5000/api/v1.0/get_student_ages
{
  "student_ages": {
    "alice": "12",
    "bob": "13"
  }
}
[vagrant@docker1 simple_api]$
```

Ici cest la reponse venant de notre base de données : **student\_age.json**

## 5 – Le docker-compose.yml

Après avoir supprimé le conteneur de l’image **api-image**, on crée le fichier **docker-compose.yml**.

Voici le contenu et le lancement :

Lancement: **docker-compose up -d**

Visual Studio Code interface showing the Docker Compose configuration file (docker-compose.yml) and the terminal output of the docker-compose up command.

```
version: "3"
services:
  website:
    image: php:apache
    environment:
      USERNAME: toto
      PASSWORD: python
    volumes:
      - ./website:/var/www/html
    depends_on:
      - api
    ports:
      - 80:80
  api:
    image: api-image:1.0
    volumes:
      - ./simple_api/student_age.json:/data/student_age.json
    ports:
      - 5000:5000
```

Terminal output:

```
[vagrant@docker1 student-list]$ docker-compose up -d
Pulling website (php:apache)...
apache: Pulling from library/php
faef57eae888: Pull complete
989a1d6c852e: Pull complete
0765c9c2f22d: Pull complete
621479e043ce: Pull complete
98246dcca987: Pull complete
bfd8c155cb6: Pull complete
7a7c2e908867: Pull complete
d176994b625c: Pull complete
2d8ace6a2716: Pull complete
c70df516383c: Pull complete
15e1b44fe4c7: Pull complete
65e50d44e95a: Pull complete
77f68910bc0a: Pull complete
Digest: sha256:374360de32564a59a7a92d2172b3ed2e89459a9e5206509cbdc6dd3bd9e84d4
Status: Downloaded newer image for php:apache
Creating student-list api_1 ... done
Creating student-list website_1 ... done
[vagrant@docker1 student-list]$
```

- les differents services :

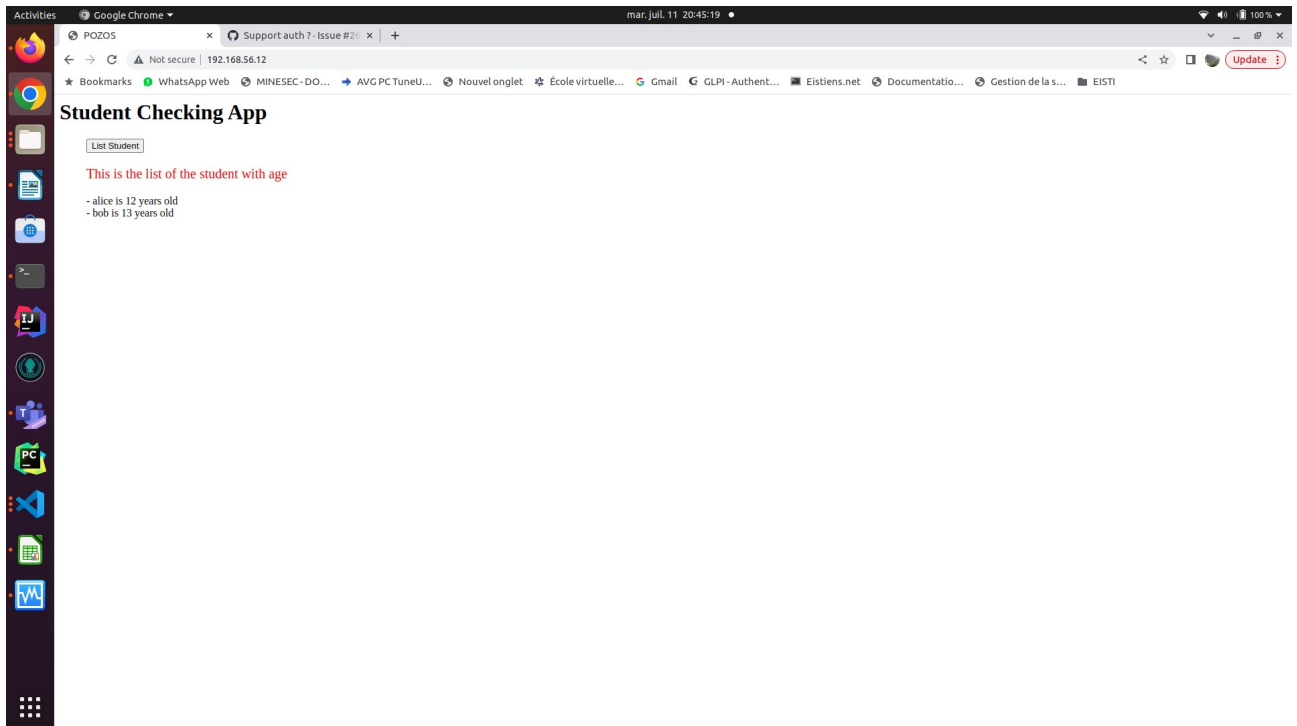
Visual Studio Code interface showing the terminal output of the docker images and docker-compose ps -a commands.

```
[vagrant@docker1 student-list]$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
api-image     1.0       4ac3ce5d2f2d   8 hours ago   1.14GB
php           apache    ca4909e5373a   21 hours ago   503MB
```

```
[vagrant@docker1 student-list]$ docker-compose ps -a
```

| Name                   | Command                        | State | Ports                                    |
|------------------------|--------------------------------|-------|--|
| student-list api_1     | python ./student_age.py        | Up    | 0.0.0.0:5000->5000/tcp,:::5000->5000/tcp |
| student-list website_1 | docker-php-entrypoint apac ... | Up    | 0.0.0.0:80->80/tcp,:::80->80/tcp         |

## Test sur le navigateur: 192.168.56.12:80



Les sources sont disponibles ici :