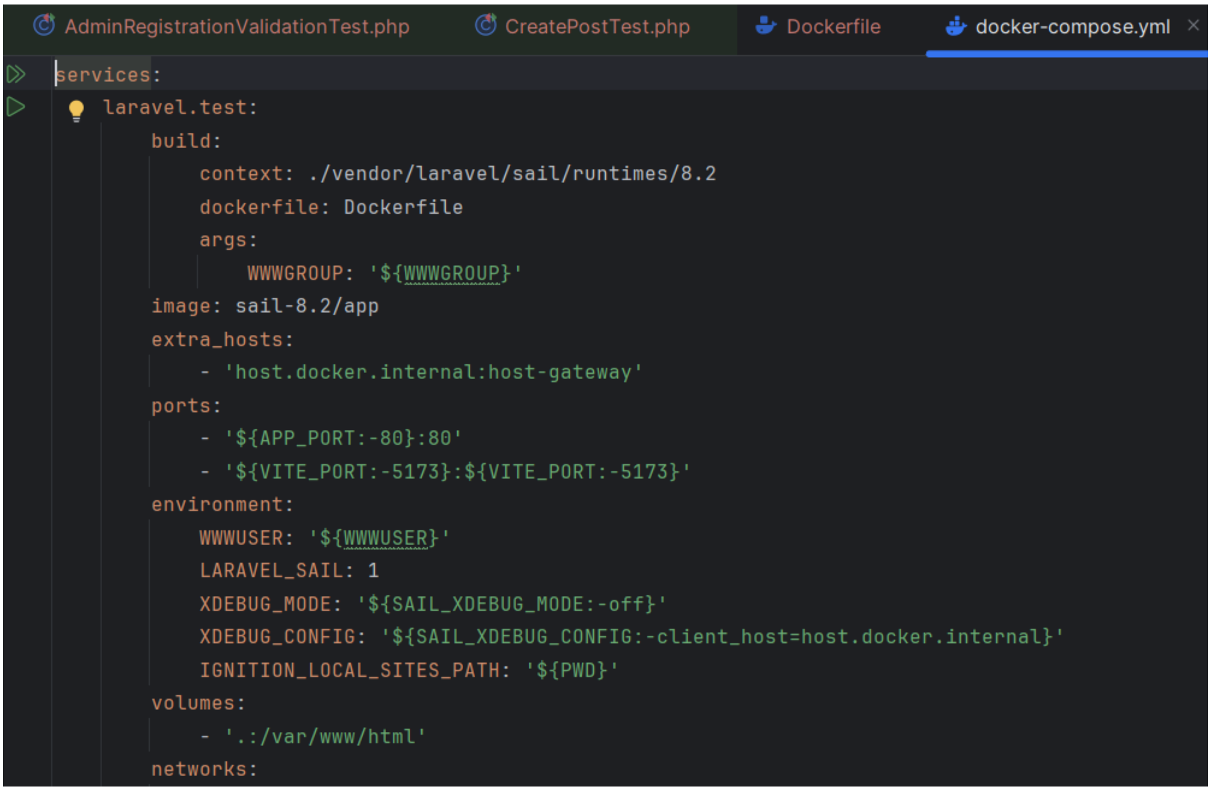
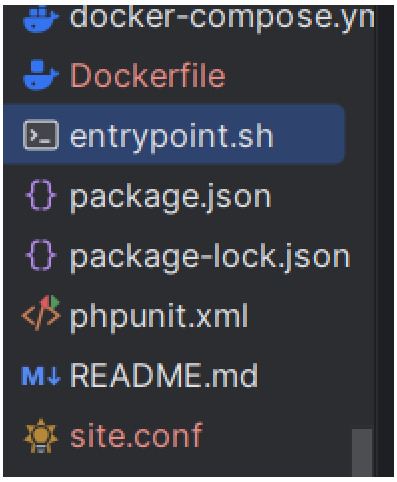
Assignment 1: Manual Docker file LAMP/LEMP stack

1. Install docker on your system by visiting https://www.docker.com/products/docker-desktop download the suitable extension for your system.
2. In PHP Storm, I created a 'docker-compose.yml' file to define the services and how they interact. I chose to use MySQL. It is needed for the AMP stack.

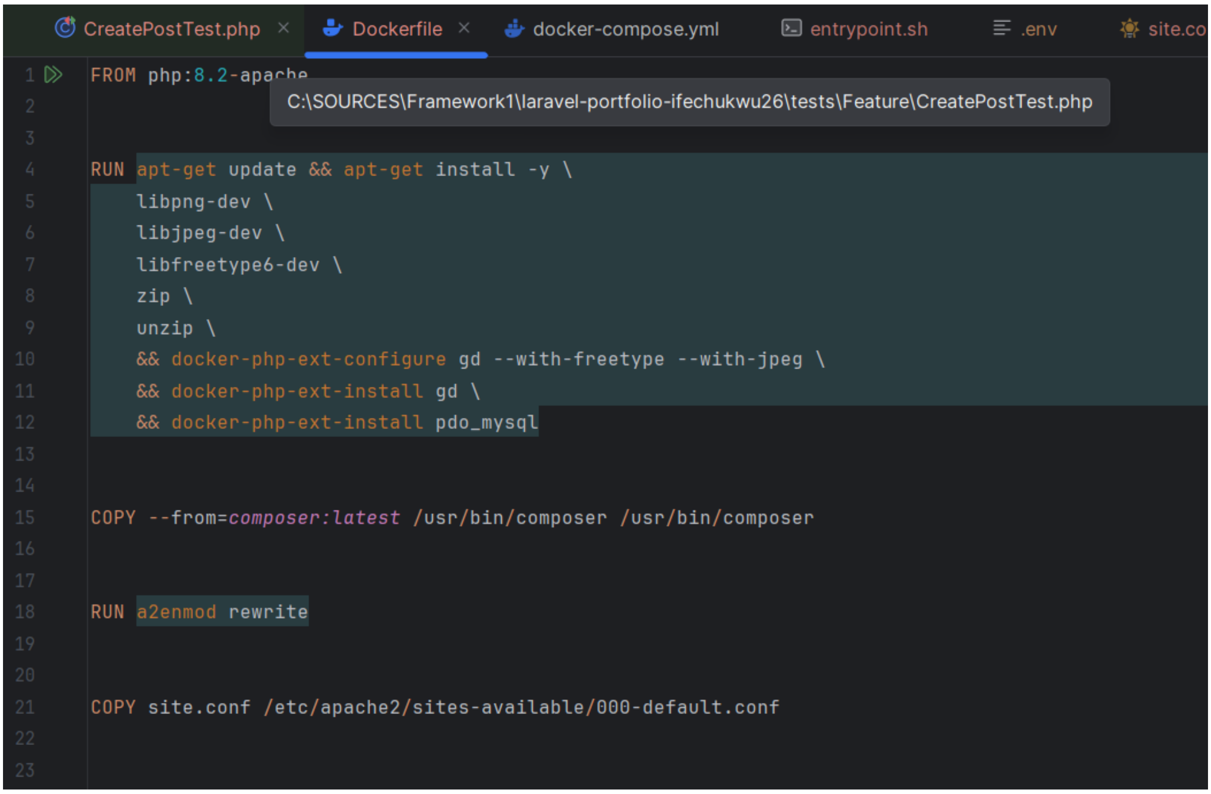


```yaml
services:
    laravel.test:
        build:
            context: ./vendor/laravel/sail/runtimes/8.2
            dockerfile: Dockerfile
            args:
                WWWGROUP: '${WWWGROUP}'
        image: sail-8.2/app
        extra_hosts:
            - 'host.docker.internal:host-gateway'
        ports:
            - '${APP_PORT:-80}:80'
            - '${VITE_PORT:-5173}:${VITE_PORT:-5173}'
        environment:
            WWWUSER: '${WWWUSER}'
            LARAVEL_SAIL: 1
            XDEBUG_MODE: '${SAIL_XDEBUG_MODE:-off}'
            XDEBUG_CONFIG: '${SAIL_XDEBUG_CONFIG:-client_host=host.docker.internal}'
            IGNITION_LOCAL_SITES_PATH: '${PWD}'
        volumes:
            - '.:/var/www/html'
        networks:
```

3. I then created the following: Dockerfile, entrypoint.sh and site.conf. see below:



4. ## This is how my Docker File looks like

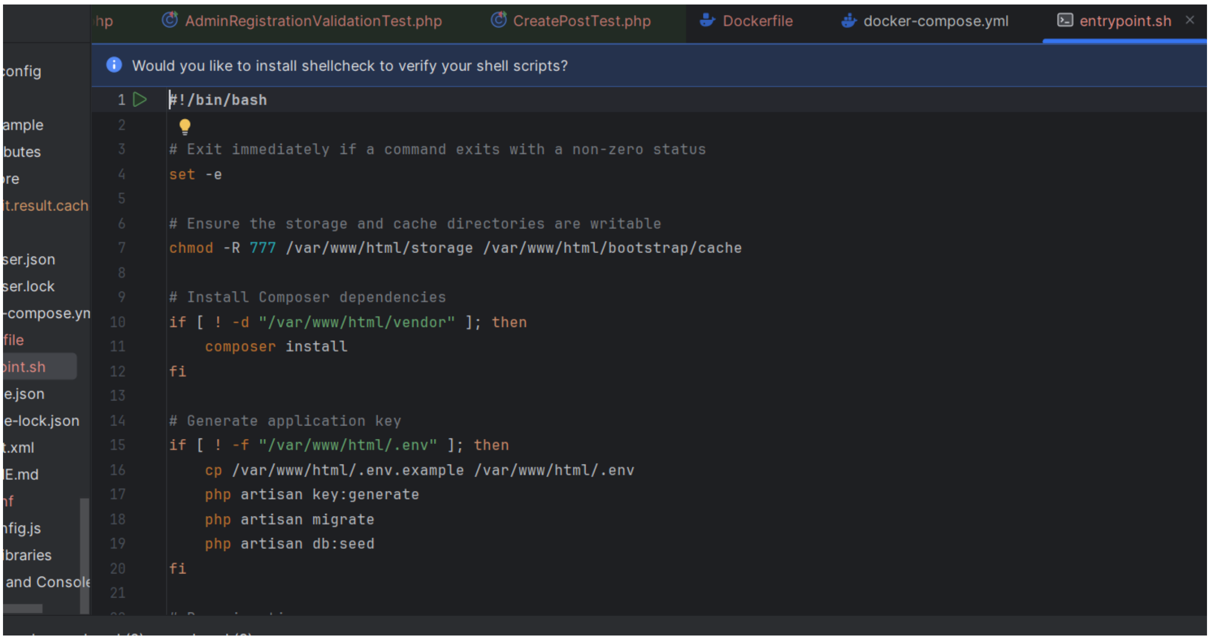


C:\SOURCES\Framework1\laravel-portfolio-ifechukwu26\tests\Feature\CreatePostTest.php

```
1  FROM php:8.2-apache
2
3
4  RUN apt-get update && apt-get install -y \
5      libpng-dev \
6      libjpeg-dev \
7      libfreetype6-dev \
8      zip \
9      unzip \
10     && docker-php-ext-configure gd --with-freetype --with-jpeg \
11     && docker-php-ext-install gd \
12     && docker-php-ext-install pdo_mysql
13
14
15 COPY --from=composer:latest /usr/bin/composer /usr/bin/composer
16
17
18 RUN a2enmod rewrite
19
20
21 COPY site.conf /etc/apache2/sites-available/000-default.conf
22
23
```

- The first 4 to 12 line of codes Install dependencies.
- The “COPY –“ installs the latest composer.
- RUN a2enmod rewrite -> enables Apache mod_rewrite.
- COPY site.conf -> copies the apache site configuration.
- WORKDIR -> sets the working directory

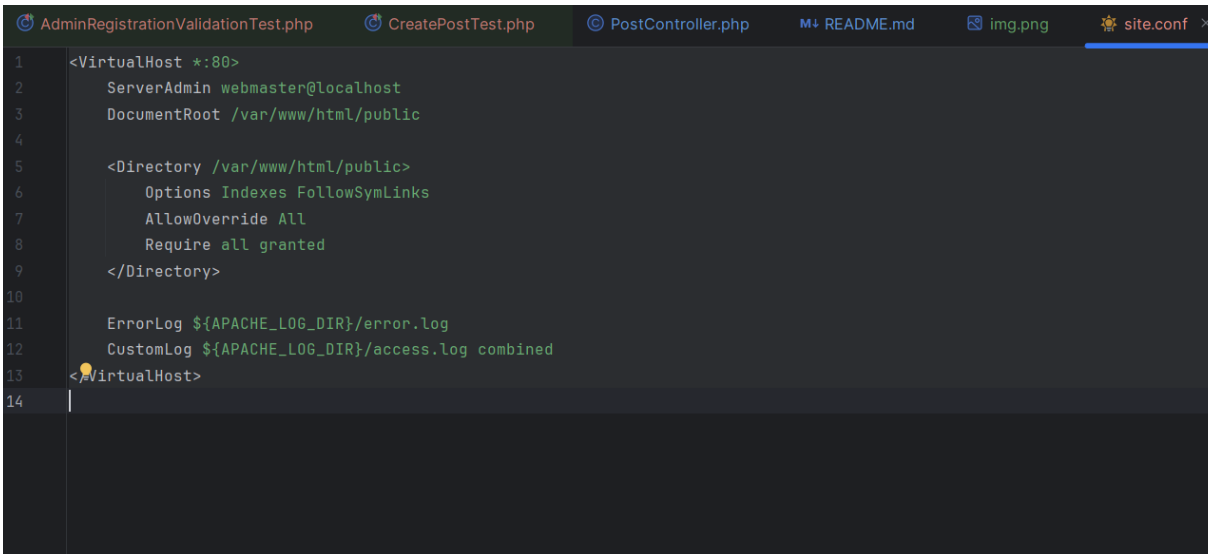
5. ## This is my entrypoint.sh:



Would you like to install shellcheck to verify your shell scripts?

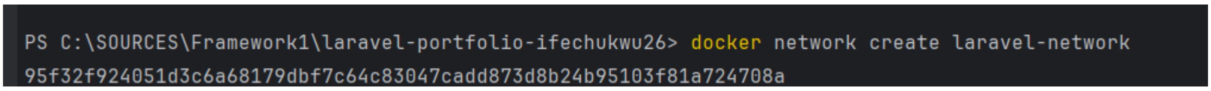
```bash
#!/bin/bash

# Exit immediately if a command exits with a non-zero status
set -e

# Ensure the storage and cache directories are writable
chmod -R 777 /var/www/html/storage /var/www/html/bootstrap/cache

# Install Composer dependencies
if [ ! -d "/var/www/html/vendor" ]; then
    composer install
fi

# Generate application key
if [ ! -f "/var/www/html/.env" ]; then
    cp /var/www/html/.env.example /var/www/html/.env
    php artisan key:generate
    php artisan migrate
    php artisan db:seed
fi

```

6. And my site.conf:



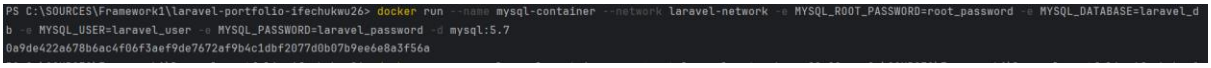
```apache
<VirtualHost *:80>
    ServerAdmin webmaster@localhost
    DocumentRoot /var/www/html/public

    <Directory /var/www/html/public>
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>

    ErrorLog ${APACHE_LOG_DIR}/error.log
    CustomLog ${APACHE_LOG_DIR}/access.log combined
</VirtualHost>

```

After having everything complete and correct I created a docker network for the project.

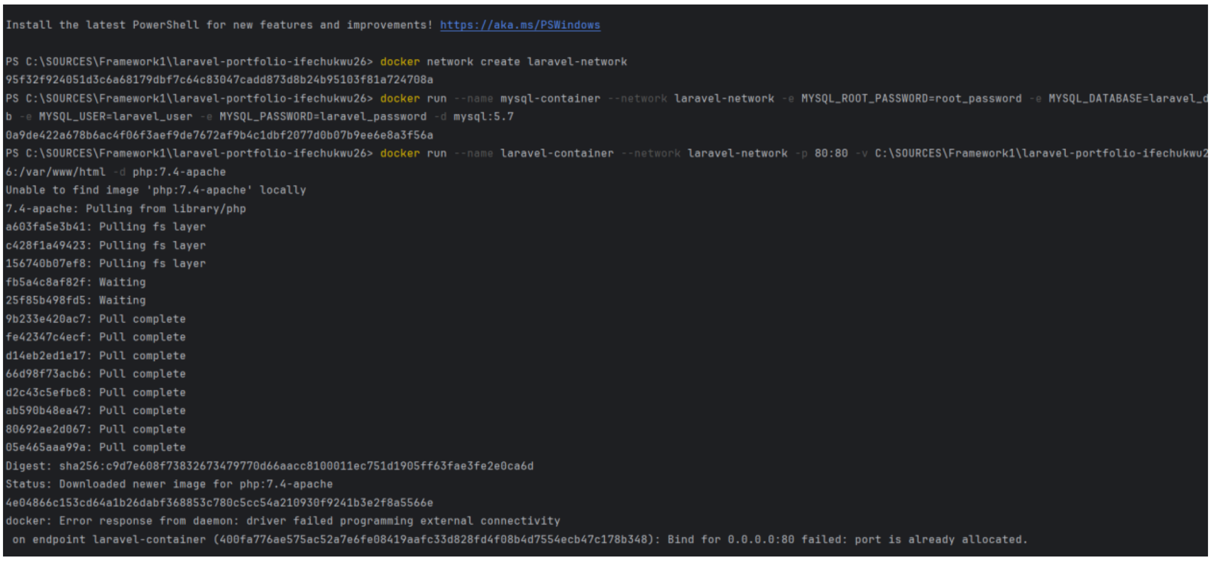


```
PS C:\SOURCES\Framework1\laravel-portfolio-ifechukwu26> docker network create laravel-network
95f32f924051d3c6a68179dbf7c64c83047cadd873d8b24b95103f81a724708a
```

Then I ran :

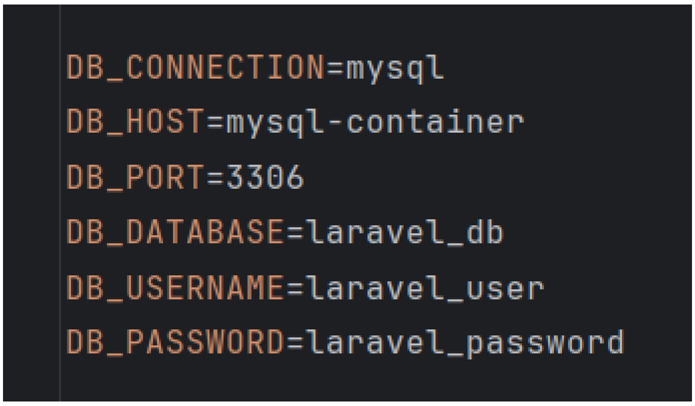


```
PS C:\SOURCES\Framework1\laravel-portfolio-ifechukwu26> docker run --name mysql-container --network laravel-network -e MYSQL_ROOT_PASSWORD=root_password -e MYSQL_DATABASE=laravel_d
b -e MYSQL_USER=laravel_user -e MYSQL_PASSWORD=laravel_password -d mysql:5.7
0a9de422a678b6ac4f06f3aef9de7672af9b4c1dbf2077d0b07b9ee6e8a3f56a
```



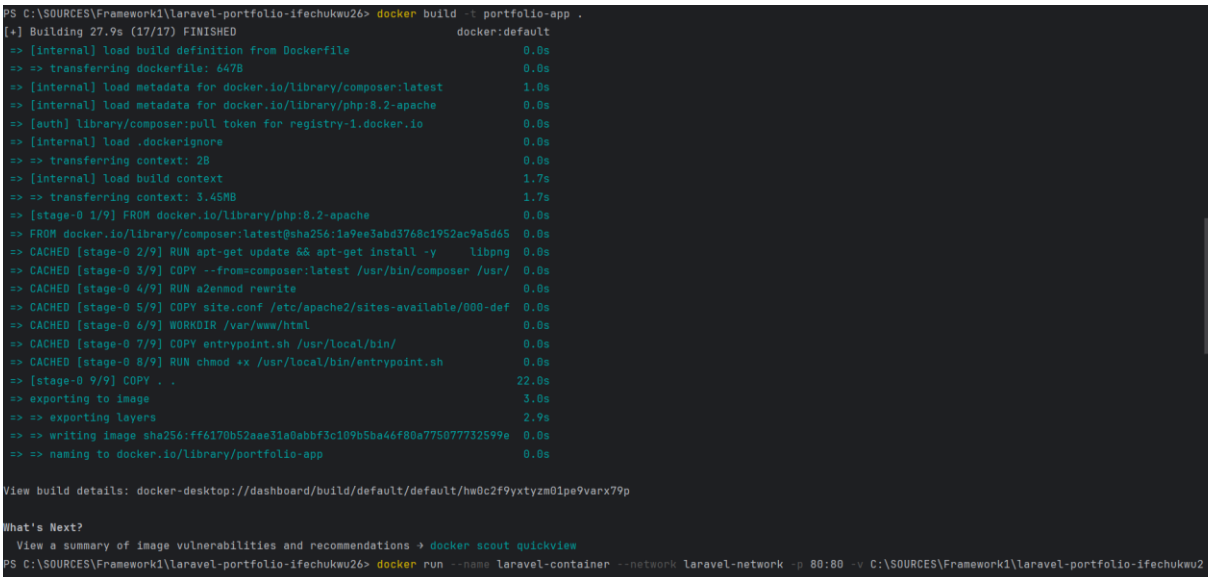
```
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\SOURCES\Framework1\laravel-portfolio-ifechukwu26> docker network create laravel-network
95f32f924051d3c6a68179dbf7c64c83047cadd873d8b24b95103f81a724708a
PS C:\SOURCES\Framework1\laravel-portfolio-ifechukwu26> docker run --name mysql-container --network laravel-network -e MYSQL_ROOT_PASSWORD=root_password -e MYSQL_DATABASE=laravel_d
b -e MYSQL_USER=laravel_user -e MYSQL_PASSWORD=laravel_password -d mysql:5.7
0a9de422a678b6ac4f06f3aef9de7672af9b4c1dbf2077d0b07b9ee6e8a3f56a
PS C:\SOURCES\Framework1\laravel-portfolio-ifechukwu26> docker run --name laravel-container --network laravel-network -p 80:80 -v C:\SOURCES\Framework1\laravel-portfolio-ifechukwu2
6:/var/www/html -d php:7.4-apache
Unable to find image 'php:7.4-apache' locally
7.4-apache: Pulling from library/php
a603fa5e3b41: Pulling fs layer
c428f1a49423: Pulling fs layer
156740b07ef8: Pulling fs layer
fb5a4c8af82f: Waiting
25f85b498fd5: Waiting
9b233e420ac7: Pull complete
fe42347c4ecf: Pull complete
d14eb2ed1e17: Pull complete
66d98f73acb6: Pull complete
d2c43c5efbc8: Pull complete
ab590b48ea47: Pull complete
80692ae2d067: Pull complete
05e465aaa99a: Pull complete
Digest: sha256:c9d7e608f73832673479770d66aacc8100011ec751d1905ff63fae3fe2e0ca6d
Status: Downloaded newer image for php:7.4-apache
4e04866c153cd64a1b26dabf368853c780c5cc54a210930f9241b3e2f8a5566e
docker: Error response from daemon: driver failed programming external connectivity
 on endpoint laravel-container (400fa776ae575ac52a7e6fe08419aafc33d828fd4f08b4d7554ecb47c178b348): Bind for 0.0.0.0:80 failed: port is already allocated.
```

Then I had to update my database in the env file of my project:



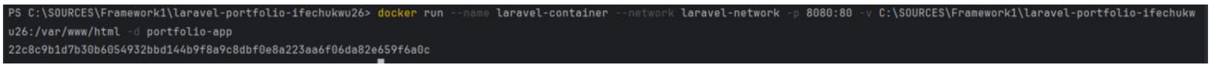
```
DB_CONNECTION=mysql
DB_HOST=mysql-container
DB_PORT=3306
DB_DATABASE=laravel_db
DB_USERNAME=laravel_user
DB_PASSWORD=laravel_password
```

Then I rebuilt the Laravel container: and I called it Portfolio-app

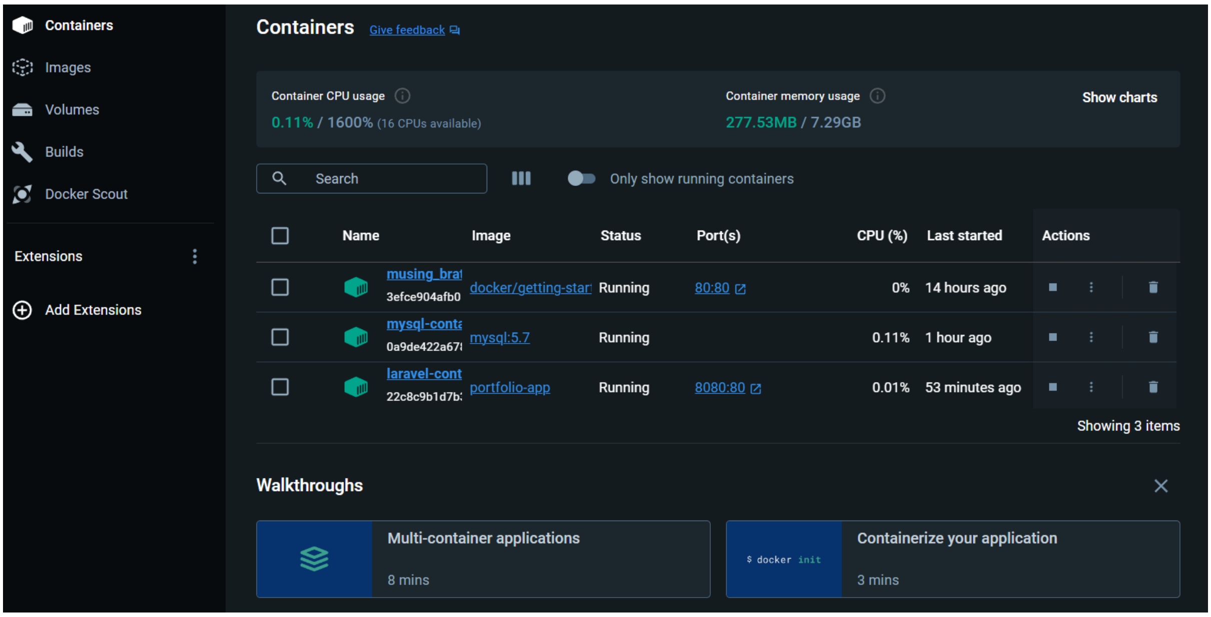


```
PS C:\SOURCES\Framework1\laravel-portfolio-ifechukwu26> docker build -t portfolio-app .
[+] Building 27.9s (17/17) FINISHED                                  docker:default
 => [internal] load build definition from Dockerfile                          0.0s
 => => transferring dockerfile: 647B                                          0.0s
 => [internal] load metadata for docker.io/library/composer:latest            1.0s
 => [internal] load metadata for docker.io/library/php:8.2-apache             0.0s
 => [auth] library/composer:pull token for registry-1.docker.io               0.0s
 => [internal] load .dockerignore                                             0.0s
 => => transferring context: 2B                                               0.0s
 => [internal] load build context                                             1.7s
 => => transferring context: 3.45MB                                           1.7s
 => [stage-0 1/9] FROM docker.io/library/php:8.2-apache                       0.0s
 => FROM docker.io/library/composer:latest@sha256:1a9ee3abd3768c1952ac9a5d65  0.0s
 => CACHED [stage-0 2/9] RUN apt-get update && apt-get install -y     libpng  0.0s
 => CACHED [stage-0 3/9] COPY --from=composer:latest /usr/bin/composer /usr/  0.0s
 => CACHED [stage-0 4/9] RUN a2enmod rewrite                                  0.0s
 => CACHED [stage-0 5/9] COPY site.conf /etc/apache2/sites-available/000-def  0.0s
 => CACHED [stage-0 6/9] WORKDIR /var/www/html                                0.0s
 => CACHED [stage-0 7/9] COPY entrypoint.sh /usr/local/bin/                   0.0s
 => CACHED [stage-0 8/9] RUN chmod +x /usr/local/bin/entrypoint.sh            0.0s
 => [stage-0 9/9] COPY . .                                                   22.0s
 => exporting to image                                                        3.0s
 => => exporting layers                                                       2.9s
 => => writing image sha256:ff6170b52aae31a0abbf3c109b5ba46f80a775077732599e  0.0s
 => => naming to docker.io/library/portfolio-app                              0.0s

View build details: docker-desktop://dashboard/build/default/default/hw0c2f9yxtyzm01pe9varx79p

What's Next?
  View a summary of image vulnerabilities and recommendations → docker scout quickview
PS C:\SOURCES\Framework1\laravel-portfolio-ifechukwu26> docker run --name laravel-container --network laravel-network -p 80:80 -v C:\SOURCES\Framework1\laravel-portfolio-ifechukwu2
```

Then I ran my Laravel container on a 8080:80 port



```
PS C:\SOURCES\Framework1\laravel-portfolio-ifechukwu26> docker run --name laravel-container --network laravel-network -p 8080:80 -v C:\SOURCES\Framework1\laravel-portfolio-ifechukw
u26:/var/www/html -d portfolio-app
22c8c9b1d7b30b6054932bbd144b9f8a9c8dbf0e8a223aa6f06da82e659f6a0c
```



Containers Give feedback

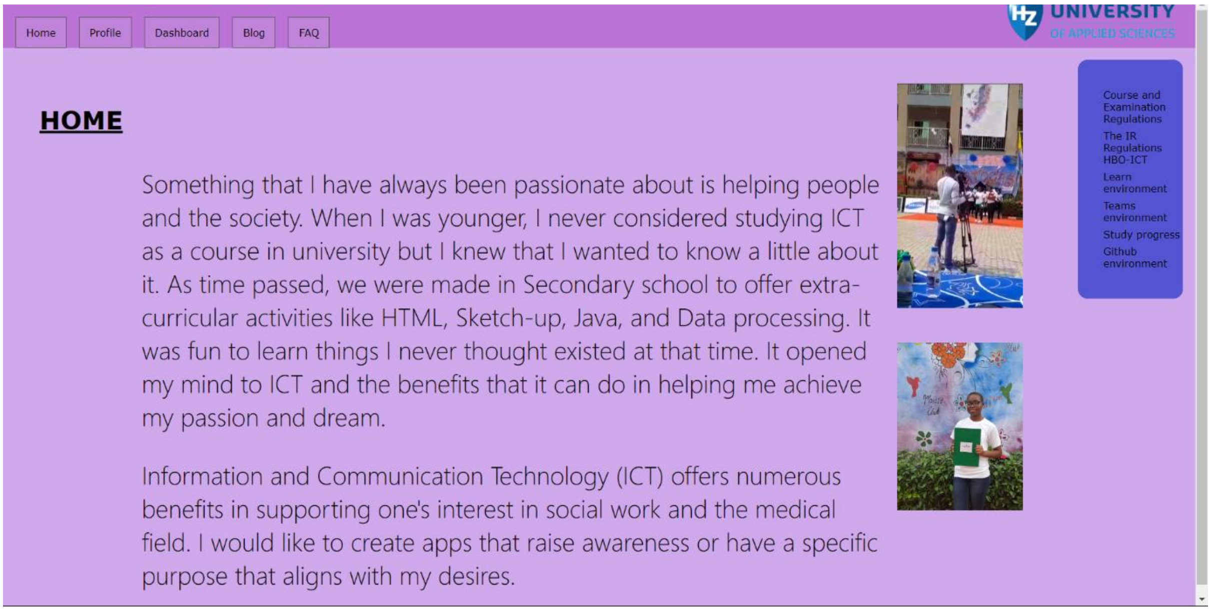
Container CPU usage
0.11% / 1600% (16 CPUs available)

Container memory usage
277.53MB / 7.29GB

□	Name	Image	Status	Port(s)	CPU (%)	Last started	Actions
□	musing_brai 3efce904afb0	docker/getting-star	Running	80:80	0%	14 hours ago	
□	mysql-conta 0a9de422a67	mysql:5.7	Running		0.11%	1 hour ago	
□	laravel-cont 22c8c9b1d7b	portfolio-app	Running	8080:80	0.01%	53 minutes ago	

Showing 3 items

This the result I got:



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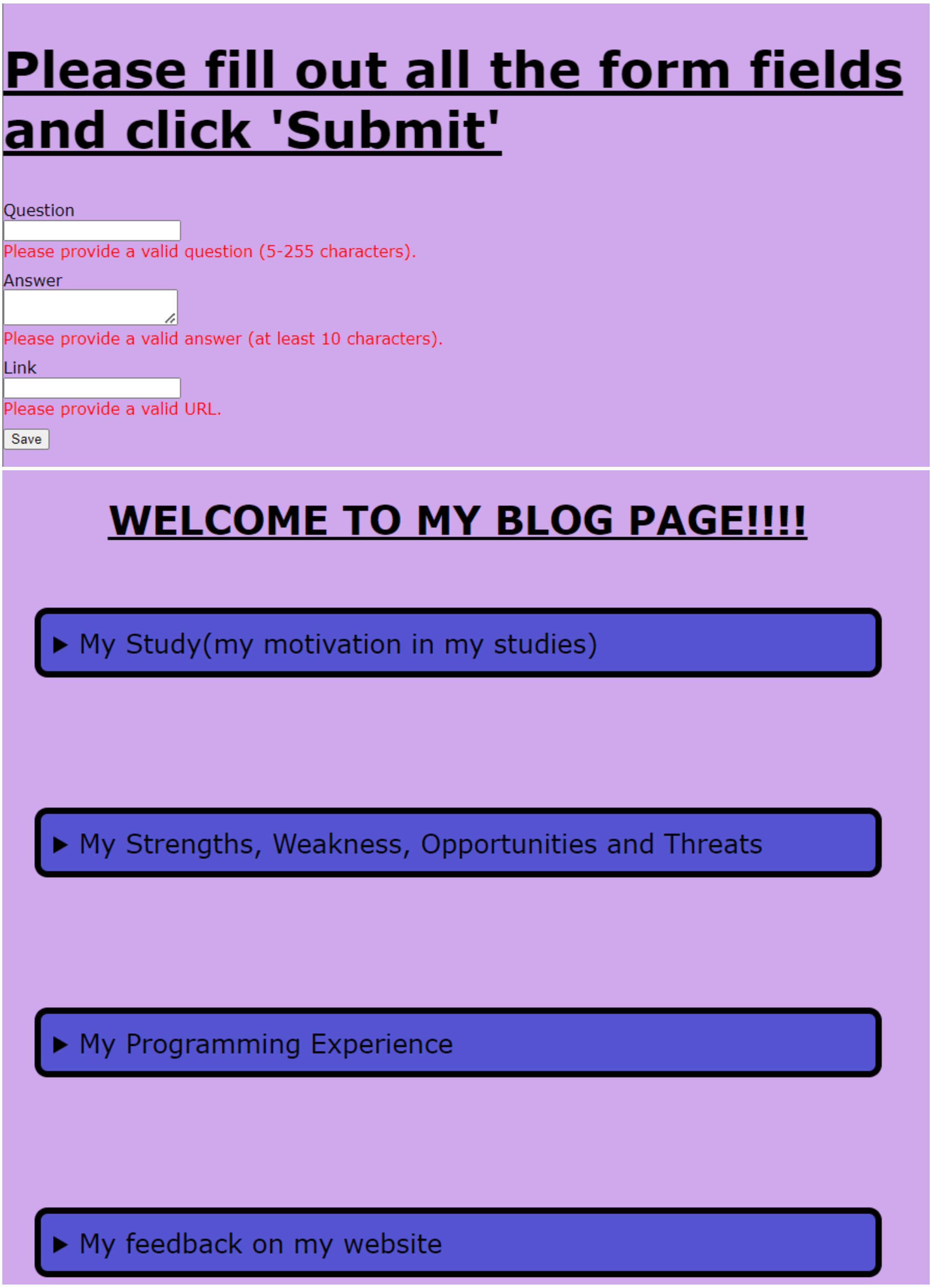
HOME

Something that I have always been passionate about is helping people and the society. When I was younger, I never considered studying ICT as a course in university but I knew that I wanted to know a little about it. As time passed, we were made in Secondary school to offer extra-curricular activities like HTML, Sketch-up, Java, and Data processing. It was fun to learn things I never thought existed at that time. It opened my mind to ICT and the benefits that it can do in helping me achieve my passion and dream.

Information and Communication Technology (ICT) offers numerous benefits in supporting one's interest in social work and the medical field. I would like to create apps that raise awareness or have a specific purpose that aligns with my desires.



Please fill out all the form fields and click 'Submit'

Question

Please provide a valid question (5-255 characters).

Answer

Please provide a valid answer (at least 10 characters).

Link

Please provide a valid URL.

WELCOME TO MY BLOG PAGE!!!!

▶ My Study(my motivation in my studies)

▶ My Strengths, Weakness, Opportunities and Threats

▶ My Programming Experience

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