



**INSTITUTO FEDERAL DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA DO CEARÁ**  
**CAMPUS FORTALEZA**  
**TELEMÁTICA**

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Disciplina: **Administração de serviços de rede (01.302.25)**

Professor: **Ricardo Duarte Taveira**

Alunos:

**Carlos Gabriel Sacramento** (mat. 20221013020190)

**Cícera Márcia da Fonseca Silva** (mat. 20222013020016)

**Pablo Busatto** (mat. 20221013020042)

**Avaliação 10 – MQTT**

1. O MQTT (*Message Queuing Telemetry Transport*) é um protocolo leve que implementa o modelo de transporte PUB/SUB (*publish/subscribe*). Esse modelo é usado em aplicações de mensageria. O MQTT é principalmente usado em aplicações IoT (internet das coisas). Essa atividade tem como objetivo implementar uma aplicação MQTT usando o `docker-compose`.

Evidenciar o funcionamento da aplicação usando *prints*. Sugerimos usar o [Play with Docker](#) com o `docker-compose`. Observar os *links* de artigos apresentando esse tema anexos abaixo. Trabalho com equipes de no máximo três alunos.



```
1  version: '3.0'
2
3  services:
4    portainer:
5      container_name: portainer
6      image: portainer/portainer-ce
7      restart: always
8      ports:
9        - "9000:9000/tcp"
10     volumes:
11       - /var/run/docker.sock:/var/run/docker.sock
12       - /opt/portainer:/data
13   homeassistant:
14     container_name: homeassistant
15     image: "ghcr.io/home-assistant/home-assistant:stable"
16     volumes:
17       - /opt/homeassistant/config:/config
18       - /etc/localtime:/etc/localtime:ro
19     restart: unless-stopped
20     privileged: true
21     network_mode: host
```

Figura 2. Conteúdo do *docker-compose.yml*.

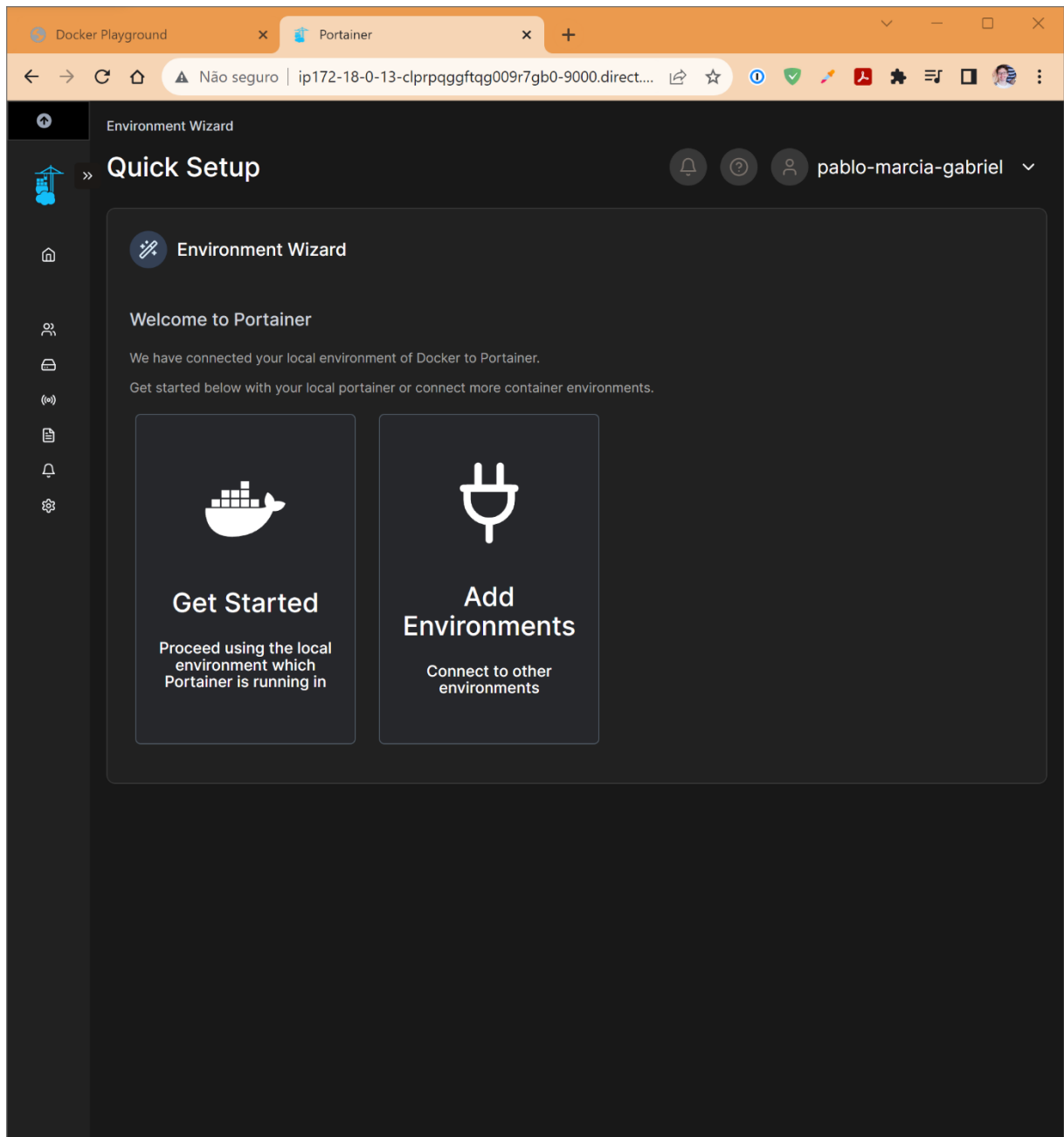


Figura 3. Página do Portainer.

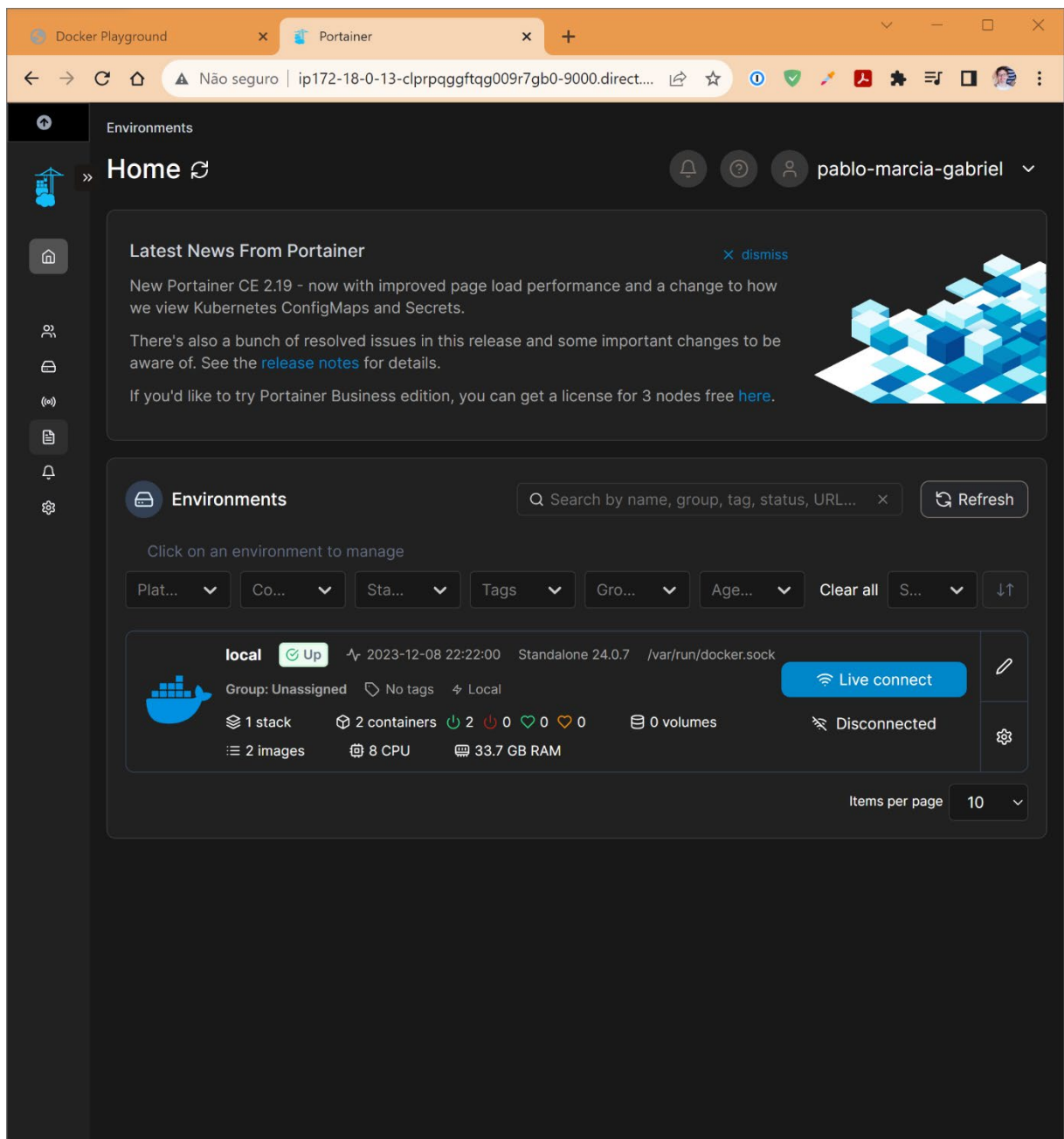


Figura 4. Ambientes no Portainer.

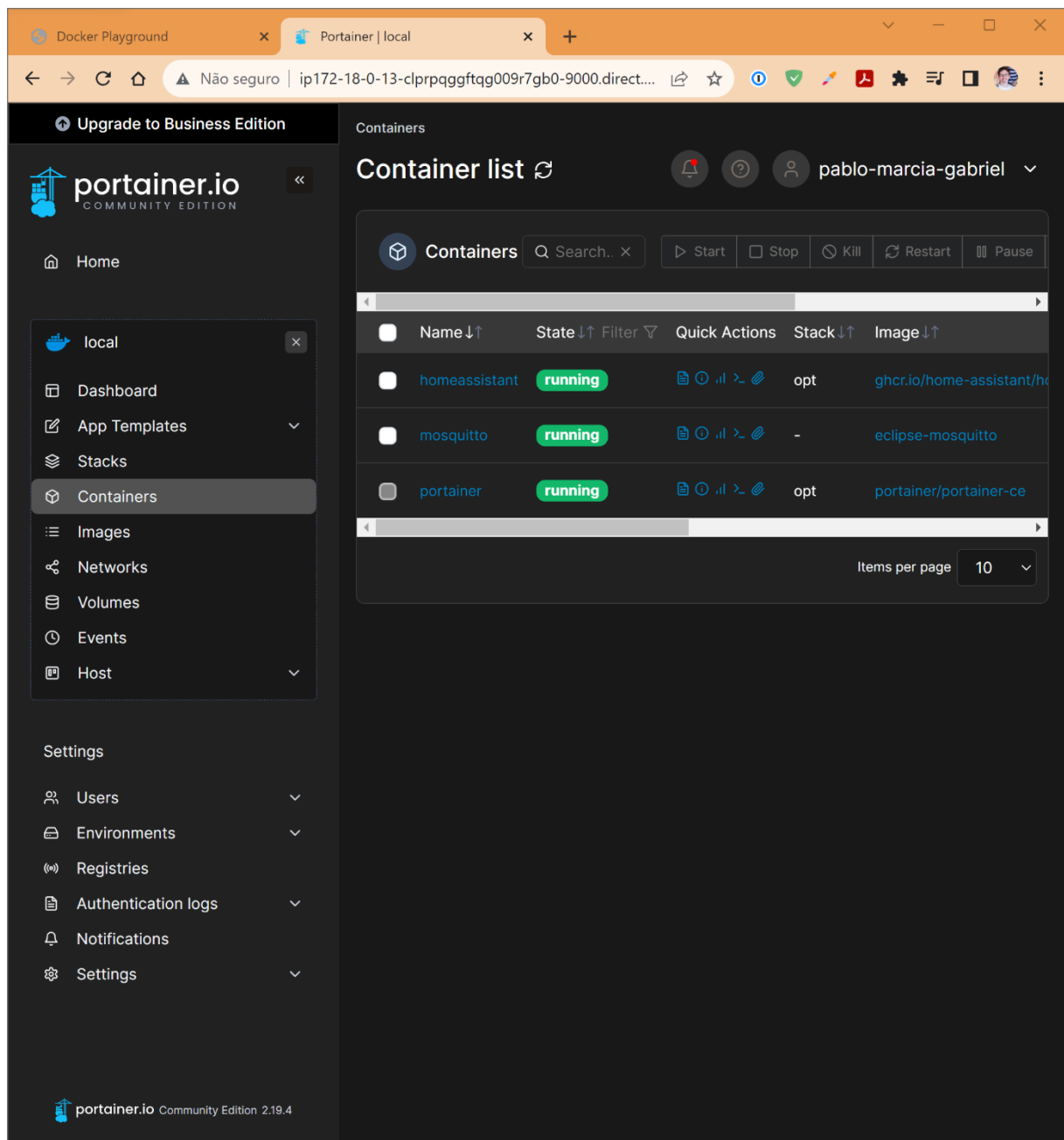


Figura 5. Lista de contêineres, com homeassistant, mosquitto e portainer em execução.

Containers > homeassistant

## Container details

Actions

Start Stop Kill Restart Pause Resume Remove Recreate Duplicate/Edit

### Container status

ID	dbd6f59100cf25c32ac35a0a704013da40b80e0929ad26a9c02bb0a188e1dd25
Name	homeassistant
IP address	172.17.0.3
Status	Running for 5 minutes
Created	2023-12-08 23:23:08
Start time	2023-12-08 23:23:09
Container webhook	<input type="checkbox"/> Business Feature
<a href="#">Logs</a> <a href="#">Inspect</a> <a href="#">Stats</a> <a href="#">Console</a> <a href="#">Attach</a>	

### Access control

Ownership	administrators
<a href="#">Change ownership</a>	

Figura 6. Detalhes da configuração do contêiner homeassistant.

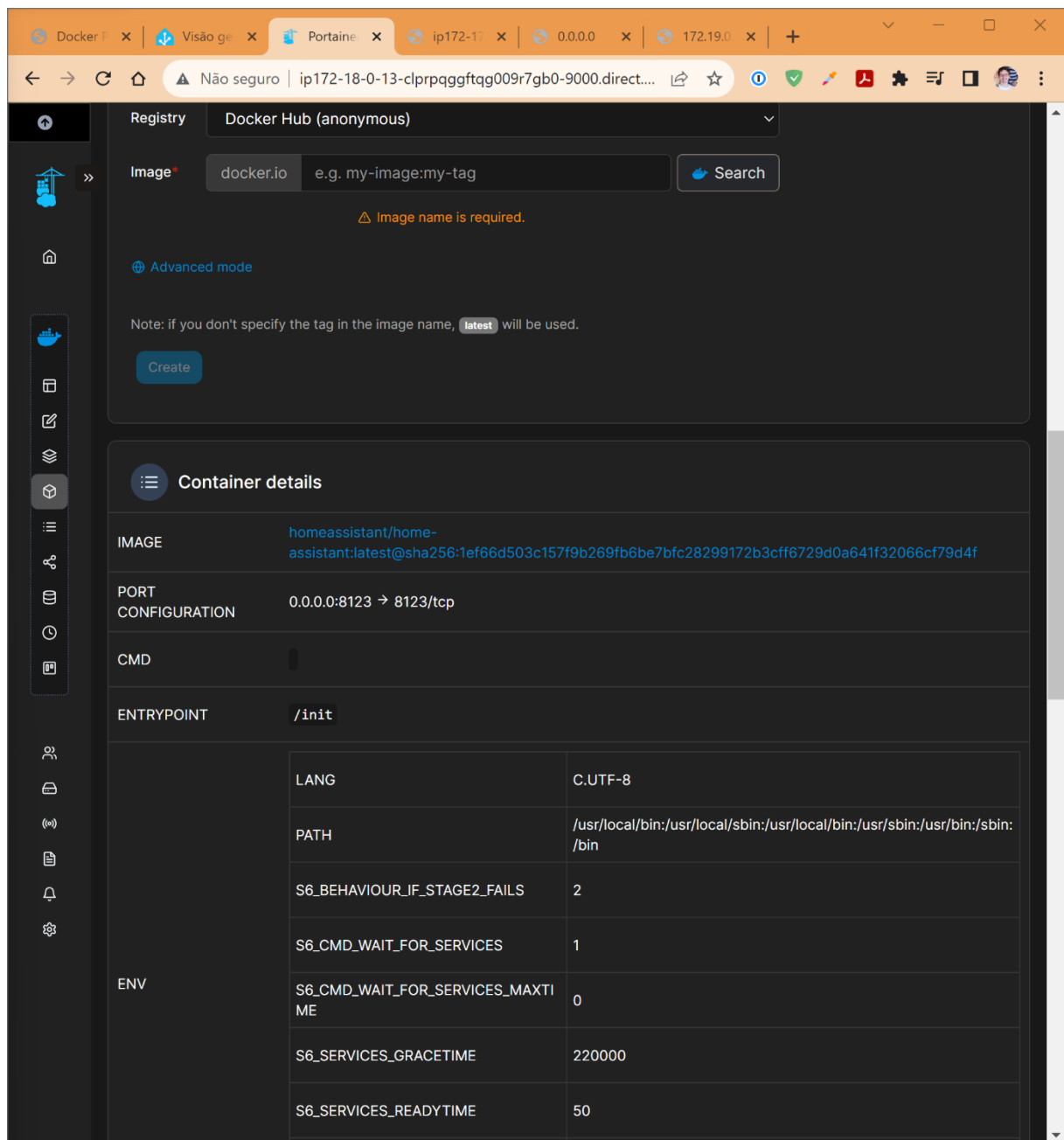


Figura 7. Configuração da porta no homeassistant.



clprpqgg\_clps0r8gftqg009r7gl0

IP

192.168.0.13

OPEN PORT

8123

1883

9001

9000

Memory

76.17% (2.975GiB / 3.906GiB)

CPU

2.19%

SSH

ssh ip172-18-0-13-clprpqggftqg009r7gb0@direct.labs.play-w



DELETE



EDITOR

```
Unable to find image 'eclipse-mosquitto:latest' locally
latest: Pulling from library/eclipse-mosquitto
c926b61bad3b: Pull complete
a87e6a8c3b38: Pull complete
4e2ff55c815a: Pull complete
Digest: sha256:eca7dcecf2498396b5217bc06ffcc2da889d3a8f65fc0761fc5c4c071b3c272a
Status: Downloaded newer image for eclipse-mosquitto:latest
1702086092: The 'bind address' option is now deprecated and will be removed in a future version.
The behaviour will default to true.
1702086092: The 'port' option is now deprecated and will be removed in a future version. Please use
's listener' instead.
1702086092: mosquitto version 2.0.18 starting
1702086092: Config loaded from /mosquitto/config/mosquitto.conf.
1702086092: Opening ipv4 listen socket on port 1883.
1702086092: mosquitto version 2.0.18 running

^C1702086176: mosquitto version 2.0.18 terminating
[node1] (local) root@192.168.0.13 ~/mosquitto
docker start mosquitto
mosquitto
[node1] (local) root@192.168.0.13 ~/mosquitto
$
[node1] (local) root@192.168.0.13 ~/mosquitto
$
[node1] (local) root@192.168.0.13 ~/mosquitto
$
[node1] (local) root@192.168.0.13 ~/mosquitto
$ docker logs mosquitto
1702086092: The 'bind address' option is now deprecated and will be removed in a future version.
The behaviour will default to true.
1702086092: The 'port' option is now deprecated and will be removed in a future version. Please use
's listener' instead.
1702086092: mosquitto version 2.0.18 starting
1702086092: Config loaded from /mosquitto/config/mosquitto.conf.
1702086092: Opening ipv4 listen socket on port 1883.
1702086092: mosquitto version 2.0.18 running

^C1702086176: mosquitto version 2.0.18 terminating
1702086290: The 'bind address' option is now deprecated and will be removed in a future version.
The behaviour will default to true.
1702086290: The 'port' option is now deprecated and will be removed in a future version. Please use
's listener' instead.
1702086290: mosquitto version 2.0.18 starting
1702086290: Config loaded from /mosquitto/config/mosquitto.conf.
1702086290: Opening ipv4 listen socket on port 1883.
1702086290: mosquitto version 2.0.18 running
[node1] (local) root@192.168.0.13 ~/mosquitto
$
```

Figura 8. Portas acessíveis pelo Play with Docker.

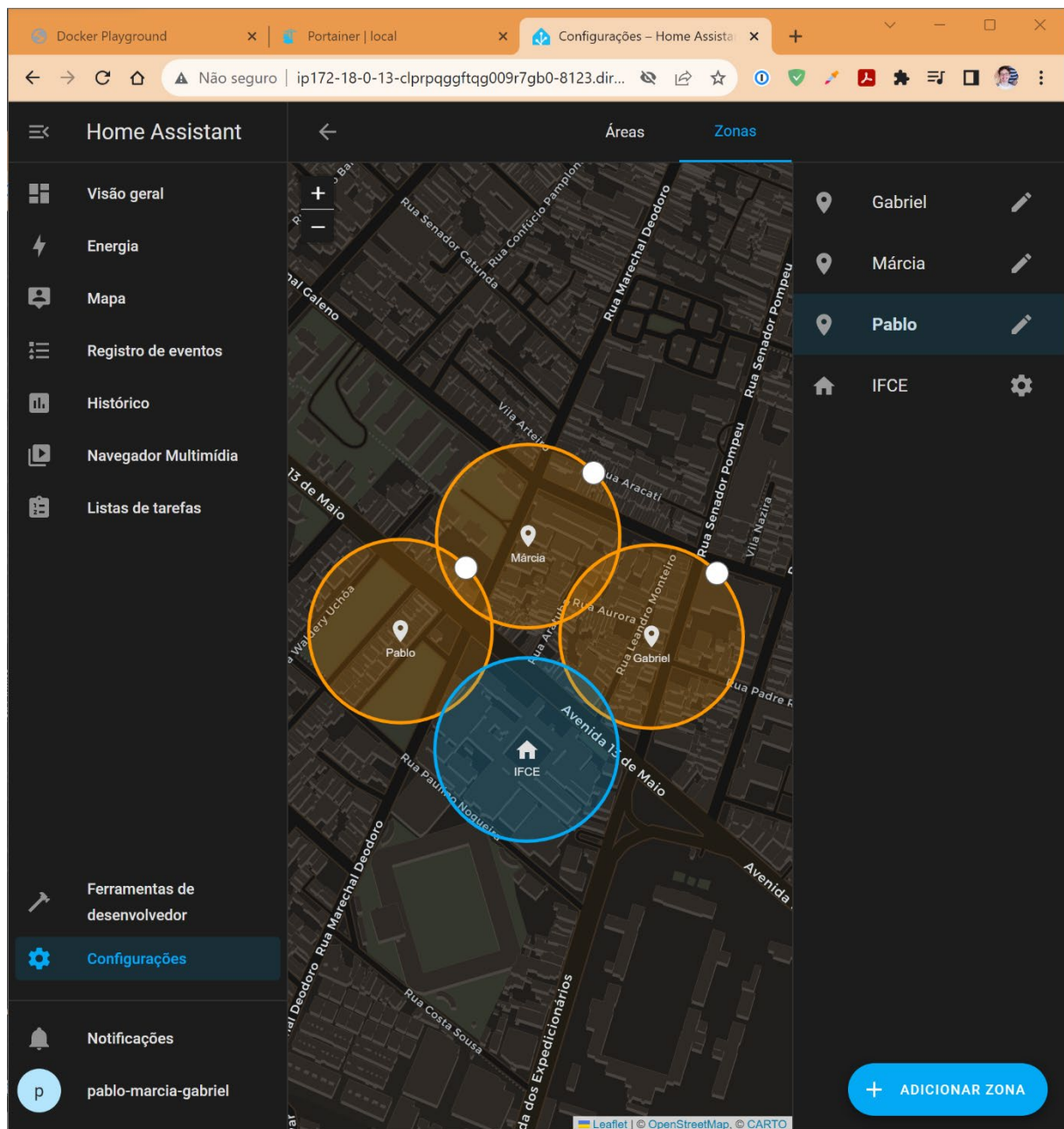


Figura 9. Home Assistant configurado e exibindo a localização do IFCE e os integrantes da equipe.