

Práctica 2. Contenedores Docker (II)

Nombre: Luis Miguel Aguilar González

1.- Crear una imagen personalizada de Docker con Apache de forma que cuando se acceda a <http://localhost:8888> aparezca vuestro nombre (editando el index.html) (según apartado I)

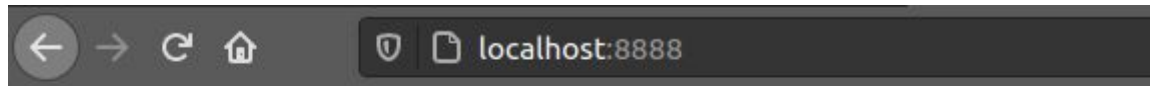
- `docker build -t dockerfile .`

```
root@luis-MS-7B86:/home/luis/UNI/4/1/CPD/P2/docker# docker build -t dockerfile .
Sending build context to Docker daemon 3.072kB
Step 1/9 : FROM debian
latest: Pulling from library/debian
57df1a1f1ad8: Pull complete
Digest: sha256:439a6bae1ef351ba9308fc9a5e69ff7754c14516f6be8ca26975fb564cb7fb76
Status: Downloaded newer image for debian:latest
--> f6dcff9b59af
Step 2/9 : MAINTAINER Laguilarg99 CPD "laguilarg99@correo.ugr.es"
--> Running in 180637f7a55a
Removing intermediate container 180637f7a55a
--> fa8ca0500a2d
Step 3/9 : RUN apt-get update && apt-get install -y apache2 && apt-get clean && rm -rf /var/lib/apt/lists
/*
```

```
Step 4/9 : ENV APACHE_RUN_USER www-data
--> Running in 9a5ccbf3cac5
Removing intermediate container 9a5ccbf3cac5
--> 43e34c240a97
Step 5/9 : ENV APACHE_RUN_GROUP www-data
--> Running in f1c43fc62d3e
Removing intermediate container f1c43fc62d3e
--> 331c39612204
Step 6/9 : ENV APACHE_LOG_DIR /var/log/apache2
--> Running in e0dd863ac30d
Removing intermediate container e0dd863ac30d
--> b9cc86c2bfb3
Step 7/9 : EXPOSE 80
--> Running in e6236558ff2d
Removing intermediate container e6236558ff2d
--> 7f470baf1cf0
Step 8/9 : ADD ["index.html", "/var/www/html/"]
--> ba205a51ed3f
Step 9/9 : ENTRYPOINT ["/usr/sbin/apache2ctl", "-D", "FOREGROUND"]
--> Running in 93cfc2ee4b40
```

- docker run --name x1 -p8888:80 -d dockerfile

```
root@luis-MS-7B86:/home/luis/UNI/4/1/CPD/P2/docker# docker run --name x1 -p8888:80 -d dockerfile
28a3489f5d8fe6f990a2dafb75d4306f29bd302dbd911a34320b04735bd06177
```



Luis Miguel Aguilar Gonzalez

dockerfile:

```
FROM debian
MAINTAINER Laguilarg99 CPD "laguilar99@correo.ugr.es"
RUN apt-get update && apt-get install -y apache2 && apt-get clean && rm -rf /var/lib/apt/lists/*

ENV APACHE_RUN_USER www-data
ENV APACHE_RUN_GROUP www-data
ENV APACHE_LOG_DIR /var/log/apache2
EXPOSE 80
ADD ["index.html", "/var/www/html/"]
ENTRYPOINT ["/usr/sbin/apache2ctl", "-D", "FOREGROUND"]
```

index.html:

```
<!DOCTYPE html>
<html lang="es">
<head>
  <meta charset="UTF-8">
  <title>Prueba CPD</title>
</head>
<body>
  <h1>Luis Miguel Aguilar Gonzalez</h1>
</body>
</html>
```

2.- A partir de los pasos explicados en el apartado II subir la imagen a hub.docker.com e indicar el nombre de la imagen creada.

- docker login

```
root@luis-MS-7B86:/home/luis/UNI/4/1/CPD/P2/docker# docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.
Username: laguilar99
Password:
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
```

dockerfile:

```
FROM ALPINE:3.8

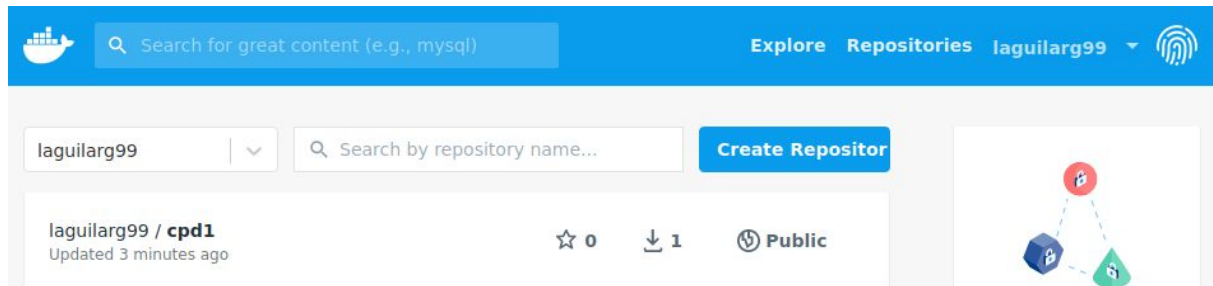
RUN apk update
RUN apk add curl
RUN apk add vim
```

- docker build -t laguilarg99/cpd1:1.0 .

```
root@luis-MS-7B86:/home/luis/UNI/4/1/CPD/P2/docker1# docker build -t laguilarg99/cpd1:1.0 .
Sending build context to Docker daemon 2.048kB
Step 1/4 : FROM alpine:3.8
3.8: Pulling from library/alpine
486039affc0a: Pull complete
Digest: sha256:2bb501e6173d9d006e56de5bce2720eb06396803300fe1687b58a7ff32bf4c14
Status: Downloaded newer image for alpine:3.8
--> c8bccc0af957
Step 2/4 : RUN apk update
--> Running in 8538d5a99c68
fetch http://dl-cdn.alpinelinux.org/alpine/v3.8/main/x86_64/APKINDEX.tar.gz
fetch http://dl-cdn.alpinelinux.org/alpine/v3.8/community/x86_64/APKINDEX.tar.gz
v3.8.5-54-g8434e74944 [http://dl-cdn.alpinelinux.org/alpine/v3.8/main]
v3.8.5-37-gf06ffe835a [http://dl-cdn.alpinelinux.org/alpine/v3.8/community]
OK: 9563 distinct packages available
Removing intermediate container 8538d5a99c68
--> cab45cfeabfa
Step 3/4 : RUN apk add curl
--> Running in e5fbd2373072
(1/5) Installing ca-certificates (20191127-r2)
(2/5) Installing nghttp2-libs (1.39.2-r0)
(3/5) Installing libssh2 (1.9.0-r1)
(4/5) Installing libcurl (7.61.1-r3)
(5/5) Installing curl (7.61.1-r3)
Executing busybox-1.28.4-r3.trigger
Executing ca-certificates-20191127-r2.trigger
OK: 6 MiB in 18 packages
Removing intermediate container e5fbd2373072
--> 2e92cf7dd9c6
Step 4/4 : RUN apk add vim
--> Running in 96b0d5c4fbaa
(1/5) Installing lua5.3-libs (5.3.5-r2)
(2/5) Installing ncurses-terminfo-base (6.1_p20180818-r1)
(3/5) Installing ncurses-terminfo (6.1_p20180818-r1)
(4/5) Installing ncurses-libs (6.1_p20180818-r1)
(5/5) Installing vim (8.1.1365-r0)
Executing busybox-1.28.4-r3.trigger
OK: 41 MiB in 23 packages
Removing intermediate container 96b0d5c4fbaa
--> d6c1bb6b3259
Successfully built d6c1bb6b3259
Successfully tagged laguilarg99/cpd1:1.0
```

- docker push laguilarg99/cpd1:1.0

```
root@luis-MS-7B86:/home/luis/UNI/4/1/CPD/P2/docker1# docker push laguilarg99/cpd1:1.0
The push refers to repository [docker.io/laguilarg99/cpd1]
413a50f7987a: Pushed
9252e73caf7d: Pushed
53fd478952b1: Pushed
7444ea29e45e: Mounted from library/alpine
1.0: digest: sha256:fb725301100274bfc35b23785d216fb9590f8dec059de64ef68dd9ac762577dd size: 1160
```

Para recuperar el contenido del repositorio ejecutaremos el siguiente comando:

- `docker pull laguilarg99/cpd1:1.0`

3.- Contenido del fichero Dockerfile personalizado del apartado II y ficheros utilizados.

Fichero dockerfile:

```
FROM ALPINE:3.8
RUN apk update
RUN apk add curl
RUN apk add vim
```

4.- Según el apartado III, una vez desplegado el servidor Wordpress, editar la página principal para que aparezca el nombre del usuario y realizar una captura de pantalla.

docker-compose.yml:

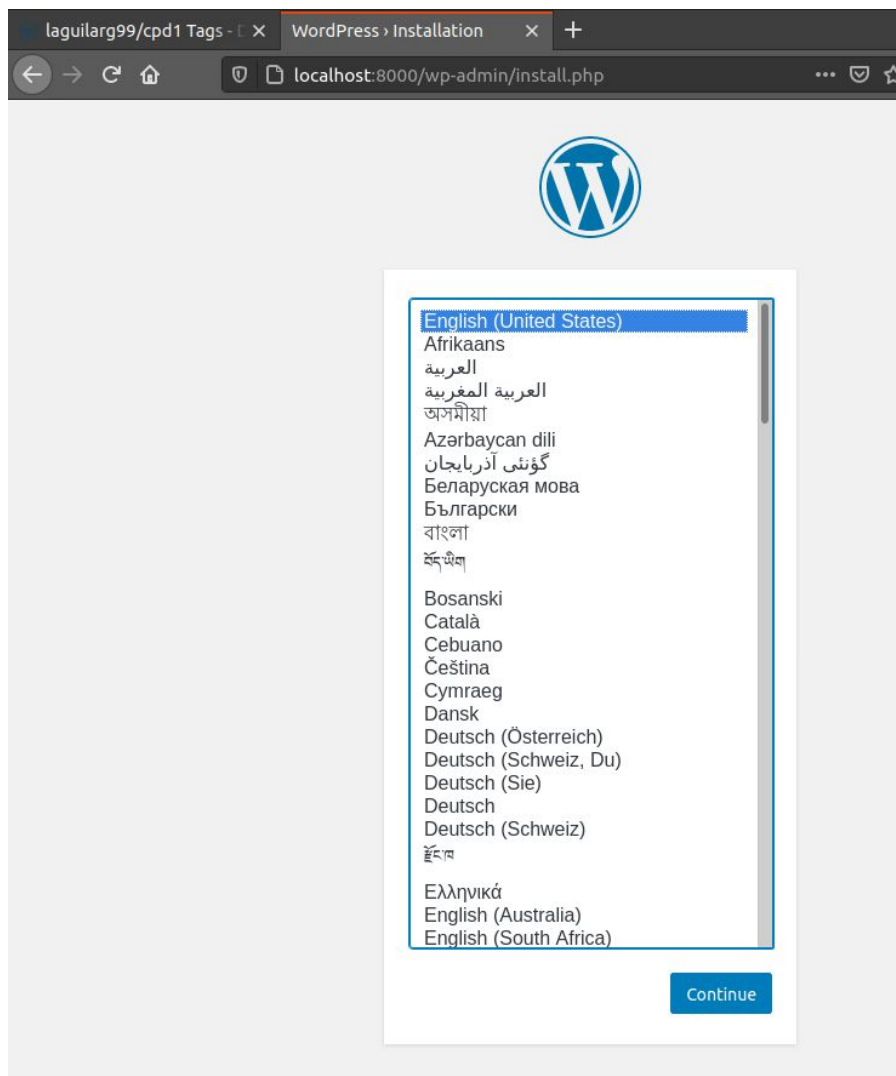
```
version: '3.3'

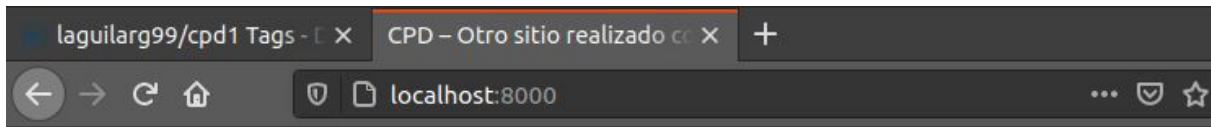
services:
  db:
    image: mysql:5.7
    volumes:
      - db_data:/var/lib/mysql
    restart: always
    environment:
      MYSQL_ROOT_PASSWORD: somewordpress
      MYSQL_DATABASE: wordpress
      MYSQL_USER: wordpress
      MYSQL_PASSWORD: wordpress

  wordpress:
    depends_on:
      - db
    image: wordpress:latest
    ports:
      - "8000:80"
    restart: always
    environment:
      WORDPRESS_DB_HOST: db:3306
      WORDPRESS_DB_USER: wordpress
      WORDPRESS_DB_PASSWORD: wordpress
      WORDPRESS_DB_NAME: wordpress
volumes:
  db_data:
```

- `sudo docker-compose up -d`

```
(base) luis@luis-MS-7B86:~/UNI/4/1/CPD/P2/docker3$ sudo docker-compose up -d
Creating network "docker3_default" with the default driver
Creating volume "docker3_db_data" with default driver
Pulling db (mysql:5.7)...
5.7: Pulling from library/mysql
d121f8d1c412: Already exists
f3cebc0b4691: Pull complete
1862755a0b37: Pull complete
489b44f3dbb4: Pull complete
```





CPD

Otro sitio realizado con WordPress

SIN CATEGORÍA

¡Hola, mundo!

By laguilarg99 2 de October de 2020 1 Comment

5.- Siguiendo los pasos del apartado IV, ejecute el test que permita evaluar el tiempo de ejecución de un benchmark, y comprobar cómo podemos aumentar o reducir la CPU dedicada y por tanto el tiempo de ejecución. Prepare un contenedor con dicho experimento, súbalo a hub.docker.com e indique en el documento los pasos que realiza para el experimento y los tiempos de ejecución obtenidos.

- `docker run -it --cpus=".5" ubuntu /bin/bash`

Dentro de la imagen de ubuntu:

- `apt-get update`
- `apt-get install sysbench`
- `sysbench --test=cpu --cpu-max-prime=20000 run`

```
WARNING: the --test option is deprecated. You can pass a script name or path on the command line without
any options.
sysbench 1.0.18 (using system LuaJIT 2.1.0-beta3)

Running the test with following options:
Number of threads: 1
Initializing random number generator from current time


Prime numbers limit: 20000

Initializing worker threads...

Threads started!

CPU speed:
  events per second:   190.63

General statistics:
  total time:          10.0023s
  total number of events: 1907

Latency (ms):
  min:                 2.17
  avg:                 5.24
  max:                 60.99
  95th percentile:    51.02
  sum:                 9995.56

Threads fairness:
  events (avg/stddev): 1907.0000/0.00
  execution time (avg/stddev): 9.9956/0.00
```

total time: 10.0023s

Fuera de la imagen:

- `docker ps -a`
- `docker commit <id_container> laguilarg99/test:1.0`
- `docker push laguilarg99/test:1.0`

La imagen se descarga del repo haciendo uso de:

- `docker pull laguilarg99/test:1.0`