Florida Universitària

Despliegue de Aplicaciones Web

Tarea Entregable 1: Ejercicios DOCKERFILE

Ciclo de Desarrollo de Aplicaciones Web
Modalidad Semipresencial

Realizado por:
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ÍNDICE

1----------

```
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\1> docker build -t ejercicio1:v1 .
[+] Building 55.7s (9/9) FINISHED                                                                                                  docker:default
 => [internal] load .dockerignore                                                                                                           0.1s
 => => transferring context: 2B                                                                                                             0.0s
 => [internal] load build definition from Dockerfile                                                                                        0.1s
 => => transferring dockerfile: 412B                                                                                                        0.0s
 => [internal] load metadata for docker.io/library/ubuntu:20.04                                                                             1.0s
 => [auth] library/ubuntu:pull token for registry-1.docker.io                                                                               0.0s
 => CACHED [1/4] FROM docker.io/library/ubuntu:20.04@sha256:33a5cc25d22c45900796a1aca487ad7a7cb09f09ea00b779e3b2026b4fc2faba                0.0s
 => [2/4] RUN apt-get update && apt-get install -y git                                                                                     53.4s
 => [3/4] RUN apt-get clean                                                                                                                 0.4s
 => [4/4] WORKDIR /app                                                                                                                      0.0s
 => exporting to image                                                                                                                      0.7s
 => => exporting layers                                                                                                                     0.7s
 => => writing image sha256:6faea5b6f7f502c54ae11354bc53ffaaf4f290f25f962071ed071c79226863d8                                                0.0s
 => => naming to docker.io/library/ejercicio1:v1                                                                                            0.0s

What's Next?
  View summary of image vulnerabilities and recommendations → docker scout quickview
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\1>
```

Podemos ver como estamos ejecutando la consola de Ubuntu y hemos creado un nuevo directorio. También hemos iniciado el contenedor de forma interactiva con el comando -it

```
What's Next?
  View summary of image vulnerabilities and recommendations → docker scout quickview
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\1> docker run -it ejercicio1:v1
root@7c0047eb7c0d:/app#
root@7c0047eb7c0d:/app# pwd
/app
root@7c0047eb7c0d:/app# cd ..
root@7c0047eb7c0d:/# pwd
/
root@7c0047eb7c0d:/# cd app/
root@7c0047eb7c0d:/app# ls
root@7c0047eb7c0d:/app# mkdir nuevo_directorio en ubuntu
root@7c0047eb7c0d:/app# ls
en  nuevo_directorio  ubuntu
root@7c0047eb7c0d:/app# git --version
git version 2.25.1
root@7c0047eb7c0d:/app#
```

```dockerfile
# Utiliza la imagen base de Ubuntu 20.04
FROM ubuntu:20.04

# Actualiza los repositorios e instala Git
RUN apt-get update && apt-get install -y git

# Comando por defecto al iniciar el contenedor
CMD ["bash"]
```

2----------

```
Administrador: Windows PowerShell
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\2> docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS     NAMES
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\2> docker build -t ejercicio2:v1 .
[+] Building 20.4s (6/7)
      docker:default
 => [internal] load build definition from Dockerfile
                0.0s
 => => transferring dockerfile: 466B
                0.0s
 => [internal] load .dockerignore
                0.0s
 => => transferring context: 2B
                0.0s
[+] Building 20.6s (6/7)
     docker:default. => [internal] load build definition from Dockerfile
                                0.0s
 => => transferring dockerfile: 466B
              0.0s. => [internal] load .dockerignore
                                0[+] Building 20.8s (6/7)
                                  docker:default
 => [internal] load build definition from Dockerfile
            0.0s0 => => transferring dockerfile: 466B
                              0.0[+] Building 20.9s (6/7)
                                 docker:default. => [internal] load build definition from Dockerfile
                                                0.0s
[+] Building 21.1s (6/7)
 docker:defaults => [internal] load build definition from Dockerfile
    [+] Building 21.2s (6/7)                                                                                                  docker:
default                                0.0s. => [internal] load .dockerignore                                                          0
 => [internal] load build definition from Dockerfile                                                                               0
.0s                                                    0.0s
 => => transferring dockerfile: 466B                                                                                               0
.0s      0.5ss => CACHED [1/4] FROM docker.io/library/ubuntu:latest@sha256:aabed3296a3d45cede1dc866a24476c4d7e093aa806263c27ddaadbdce3c1054
 => [internal] load .dockerignore                                                                                                  0
.0s                                  11.9s. => [3/4] RUN apt-get -y upgrade                                                       0
 => => transferring context: 2B                                                                                                    0
.0s                                                    0.7s
 => [internal] load metadata for docker.io/library/ubuntu:latest                                                                   0
[+] Building 31.7s (8/8) FINISHED                                                                                  docker:default
 => [internal] load build definition from Dockerfile                                                                          0.0s0
 => => transferring dockerfile: 466B                                                                                          0.0s
 => [internal] load .dockerignore                                                                                             0.0s1
 => => transferring context: 2B                                                                                               0.0s
 => [internal] load metadata for docker.io/library/ubuntu:latest                                                              0.5s7
 => CACHED [1/4] FROM docker.io/library/ubuntu:latest@sha256:aabed3296a3d45cede1dc866a24476c4d7e093aa806263c27ddaadbdce3c1054 0.0s
 => [2/4] RUN apt-get -y update                                                                                              11.9s0
 => [3/4] RUN apt-get -y upgrade                                                                                              7.9s
 => [4/4] RUN apt-get -y install apt-utils vim htop                                                                          11.0s
 => exporting to image                                                                                                        0.3s
 => => exporting layers                                                                                                       0.3s
 => => writing image sha256:6109484c495b3a056271b9ac1a1c7ca0ebd574bff0ccbc34ede44b97b060439a                                  0.0s
 => => naming to docker.io/library/ejercicio2:v1                                                                              0.0s

What's Next?
  View summary of image vulnerabilities and recommendations → docker scout quickview
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\2>
```

Hemos ejecutado el segundo contenedor.
Hemos abierto para probar que esta instalado el editor de texto vim

```
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\2> docker run -it --name ejercicio2 ejercicio2:v1
root@3045fb928c64:/# ls
bin  boot  dev  etc  home  lib  lib32  lib64  libx32  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
root@3045fb928c64:/# ls -l
total 56
lrwxrwxrwx   1 root root    7 Aug 16 02:02 bin -> usr/bin
drwxr-xr-x   2 root root 4096 Apr 18  2022 boot
drwxr-xr-x   5 root root  360 Sep 14 20:29 dev
drwxr-xr-x   1 root root 4096 Sep 14 20:29 etc
drwxr-xr-x   2 root root 4096 Apr 18  2022 home
lrwxrwxrwx   1 root root    7 Aug 16 02:02 lib -> usr/lib
lrwxrwxrwx   1 root root    9 Aug 16 02:02 lib32 -> usr/lib32
lrwxrwxrwx   1 root root    9 Aug 16 02:02 lib64 -> usr/lib64
lrwxrwxrwx   1 root root   10 Aug 16 02:02 libx32 -> usr/libx32
drwxr-xr-x   2 root root 4096 Aug 16 02:03 media
drwxr-xr-x   2 root root 4096 Aug 16 02:03 mnt
drwxr-xr-x   2 root root 4096 Aug 16 02:03 opt
dr-xr-xr-x 332 root root    0 Sep 14 20:29 proc
drwx------   2 root root 4096 Aug 16 02:06 root
drwxr-xr-x   5 root root 4096 Aug 16 02:06 run
lrwxrwxrwx   1 root root    8 Aug 16 02:02 sbin -> usr/sbin
drwxr-xr-x   2 root root 4096 Aug 16 02:03 srv
dr-xr-xr-x  11 root root    0 Sep 14 20:29 sys
drwxrwxrwt   1 root root 4096 Sep 14 20:26 tmp
drwxr-xr-x   1 root root 4096 Aug 16 02:03 usr
drwxr-xr-x   1 root root 4096 Aug 16 02:06 var
root@3045fb928c64:/# vim
root@3045fb928c64:/# vim
root@3045fb928c64:/#
```

```
# Utilizamos imagen base última versión de Ubuntu
FROM ubuntu:latest

# apt-get -y update Actualizamos lista de paquetes
RUN apt-get -y update

# apt-get -y upgrade Actualizamos los paquetes del SO a ultimas versiones
RUN apt-get -y upgrade

# vim instalamos editor de texto , htop instalamos la herramienta
RUN apt-get -y install apt-utils vim htop

# Comando por defecto al iniciar el contenedor
CMD ["bash"]
```

3--

Este se me quedaba pillado en el último punto.

```
# Utiliza la imagen base de Ubuntu 20.04
FROM ubuntu:20.04

# Actualiza lista de paquetes y actualiza paquetes del SO
RUN apt-get update
RUN apt-get upgrade -y
RUN apt-get install -y apt-utils nodejs npm
RUN apt-get clean

# Comando por defecto al iniciar el contenedor
CMD ["bash"]
```

4--

```
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\4> docker build -t ejercicio4:v1 .
[+] Building 57.0s (7/7) FINISHED                                                                 docker:default
 => [internal] load .dockerignore                                                                            0.0s
 => => transferring context: 2B                                                                              0.0s
 => [internal] load build definition from Dockerfile                                                         0.0s
 => => transferring dockerfile: 258B                                                                         0.0s
 => [internal] load metadata for docker.io/library/node:14-slim                                              1.6s
 => [auth] library/node:pull token for registry-1.docker.io                                                  0.0s
 => [1/2] FROM docker.io/library/node:14-slim@sha256:198142146b4c47193348f6415da769bdb5035c16fcab051c38c256a6b48f2e1c  54.3s
 => => resolve docker.io/library/node:14-slim@sha256:198142146b4c47193348f6415da769bdb5035c16fcab051c38c256a6b48f2e1c  0.0s
 => => sha256:7671819c5461e04ada006f5024cc361becdfacd7af58676bcb7c59ca2b491249 6.80kB / 6.80kB               0.0s
 => => sha256:9fbefa3370776b7ec7633cf07efc14cc24e0c0cd53893ad0e7e3f44ffdc1bedb 27.14MB / 27.14MB             51.9s
 => => sha256:c119feee8fd11f7f14346ddfc39f1bda0fdde79641ff2002396877f076c1f0e6 4.18kB / 4.18kB               0.8s
 => => sha256:15962820dcf7c690d5b2bf553860dd72b0bdc1daa31bc7902565c0622a9577e4 35.71MB / 35.71MB             52.1s
 => => sha256:198142146b4c47193348f6415da769bdb5035c16fcab051c38c256a6b48f2e1c 776B / 776B                   0.0s
 => => sha256:21b6dc452bd2c066724bd5be0f7256ef81a068c47de1adead10a2f810557de02 1.37kB / 1.37kB               0.0s
 => => sha256:ab0d54d5015389c3f00a6ed39f6de98ac7edfb760006f045cdb9dc4564ac790a 2.75MB / 2.75MB               4.8s
 => => sha256:41d0a18da0bb2ade8a4bb6f82e00982142a75eb2cdd0da6b8aab68bc72076aaf 452B / 452B                   5.4s
 => => extracting sha256:9fbefa3370776b7ec7633cf07efc14cc24e0c0cd53893ad0e7e3f44ffdc1bedb                    0.9s
 => => extracting sha256:c119feee8fd11f7f14346ddfc39f1bda0fdde79641ff2002396877f076c1f0e6                    0.0s
 => => extracting sha256:15962820dcf7c690d5b2bf553860dd72b0bdc1daa31bc7902565c0622a9577e4                    1.3s
 => => extracting sha256:ab0d54d5015389c3f00a6ed39f6de98ac7edfb760006f045cdb9dc4564ac790a                    0.0s
 => => extracting sha256:41d0a18da0bb2ade8a4bb6f82e00982142a75eb2cdd0da6b8aab68bc72076aaf                    0.0s
 => [2/2] RUN npm install                                                                                    0.9s
 => exporting to image                                                                                       0.0s
 => => exporting layers                                                                                      0.0s
 => => writing image sha256:e77656167b3c373af6e0621f927f03ac5a9652c15494acb0902953a19c64285d                 0.0s
 => => naming to docker.io/library/ejercicio4:v1                                                             0.0s

What's Next?
  View summary of image vulnerabilities and recommendations → docker scout quickview
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\4>
```

```
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\4> docker build -t ejercicio4:v1 .
[+] Building 1.8s (9/9) FINISHED                                                                  docker:default
 => [internal] load .dockerignore                                                                            0.0s
 => => transferring context: 2B                                                                              0.0s
 => [internal] load build definition from Dockerfile                                                         0.0s
 => => transferring dockerfile: 365B                                                                         0.0s
 => [internal] load metadata for docker.io/library/node:14-slim                                              0.9s
 => [auth] library/node:pull token for registry-1.docker.io                                                  0.0s
 => [internal] load build context                                                                            0.0s
 => => transferring context: 34B                                                                             0.0s
 => CACHED [1/3] FROM docker.io/library/node:14-slim@sha256:198142146b4c47193348f6415da769bdb5035c16fcab051c38c256a6b48f2e1c  0.0s
 => [2/3] COPY package.json /app/package.json                                                                0.0s
 => [3/3] RUN npm install                                                                                    0.8s
 => exporting to image                                                                                       0.0s
 => => exporting layers                                                                                      0.0s
 => => writing image sha256:f88f138f296bf1652da3ab75254ccca6cd519c14dbf9d42890dc31ae83d31f03                 0.0s
 => => naming to docker.io/library/ejercicio4:v1                                                             0.0s

What's Next?
  View summary of image vulnerabilities and recommendations → docker scout quickview
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\4> docker run -it --name contenedor_Node ejercicio4:v1 /bin/bash
root@ff2632e97e7f:/# node --version
v14.21.3
root@ff2632e97e7f:/#
```

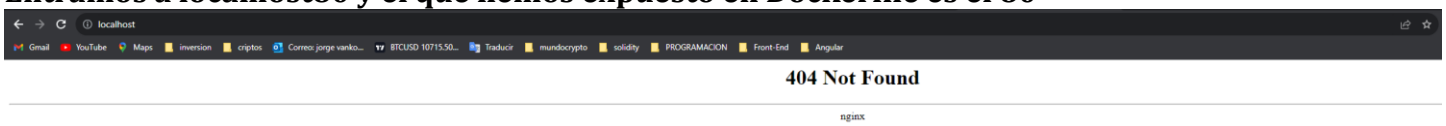
Lo he tenido que hacer y rehacer, a la hora de instalar las dependencias solo con /app no me funcionaba solamente creaba un archivo y no lo copiaba dentro.
Pero ejecutamos y probamos la versión de Node.js en este caso la 14.21.3

```
#Utilizamos la imagen base de Node.js 14 slim
FROM node:14-slim

#Copiamos las dependencias de nuestor json al directorio de Docker
COPY package.json /app/package.json

# Instala las dependencias de la aplicación (si es necesario)
RUN npm install

# Comando por defecto al iniciar el contenedor
CMD ["npm", "start"]
```

5----------

```
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\4> cd ../5
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\5> docker build -t ejercicio5:v1 .
[+] Building 7.2s (7/7) FINISHED                                                                                                docker:default
 => [internal] load .dockerignore                                                                                                         0.0s
 => => transferring context: 2B                                                                                                           0.0s
 => [internal] load build definition from Dockerfile                                                                                      0.0s
 => => transferring dockerfile: 382B                                                                                                      0.0s
 => [internal] load metadata for docker.io/library/alpine:latest                                                                          1.6s
 => [auth] library/alpine:pull token for registry-1.docker.io                                                                             0.0s
 => [1/2] FROM docker.io/library/alpine:latest@sha256:7144f7bab3d4c2648d7e59409f15ec52a18006a128c733fcff20d3a4a54ba44a                    2.2s
 => => resolve docker.io/library/alpine:latest@sha256:7144f7bab3d4c2648d7e59409f15ec52a18006a128c733fcff20d3a4a54ba44a                     0.0s
 => => sha256:7144f7bab3d4c2648d7e59409f15ec52a18006a128c733fcff20d3a4a54ba44a 1.64kB / 1.64kB                                             0.0s
 => => sha256:c5c5fda71656f28e49ac9c5416b3643eaa6a108a8093151d6d1afc9463be8e33 528B / 528B                                                 0.0s
 => => sha256:7e01a0d0a1dcd9e539f8e9bbd80106d59efbdf97293b3d38f5d7a34501526cdb 1.47kB / 1.47kB                                             0.0s
 => => sha256:7264a8db6415046d36d16ba98b79778e18accee6ffa71850405994cffa9be7de 3.40MB / 3.40MB                                             2.1s
 => => extracting sha256:7264a8db6415046d36d16ba98b79778e18accee6ffa71850405994cffa9be7de                                                  0.1s
 => [2/2] RUN apk update && apk upgrade && apk add nginx                                                                                  3.3s
 => exporting to image                                                                                                                    0.0s
 => => exporting layers                                                                                                                   0.0s
 => => writing image sha256:5ab6668e4e8447b73ccb60d1ae3dd73ab17492c83d024544f288fd993a6904eb                                              0.0s
 => => naming to docker.io/library/ejercicio5:v1                                                                                          0.0s

What's Next?
  View summary of image vulnerabilities and recommendations → docker scout quickview
PS C:\Users\jorge\OneDrive\Escritorio\DAW_2_SEMI\Despliegue de Aplicaciones Web\Tema 1 - Docker\AP1\5>
```

Entramos a localhost80 y el que hemos expuesto en Dockerfile es el 80



404 Not Found

nginx

```
# Utiliza la imagen base de Alpine Linux
FROM alpine:latest

# Actualiza el sistema y luego instala Nginx
RUN apk update && apk upgrade && apk add nginx

# Exponemos el puerto 80 para que Nginx pueda ser accesible
EXPOSE 80

# Comando para iniciar Nginx automáticamente cuando se ejecute el contenedor
CMD ["nginx", "-g", "daemon off;"]
```

6----------

Este entraba el nginx pero por algún tema de las rutas o algo no encontraba el archivo html

```
# Utiliza la imagen base de Alpine Linux
FROM alpine:latest

# Copiamos el archivo html
COPY index.html /usr/share/nginx/html/index.html

# Actualiza el sistema y luego instala Nginx
RUN apk update && apk upgrade && apk add nginx

# Exponer el puerto 80 para que Nginx sea accesible
EXPOSE 80

# Comando para iniciar Nginx automáticamente cuando se ejecute el contenedor
CMD ["nginx", "-g", "daemon off;"]
```

1.- Ejercicio 1

2.- Ejercicio 2