

## Parte 1: Configuración del entorno

- Crear un directorio para el proyecto:

```
administrador@ubusrv:~$ mkdir docker-web
```

```
administrador@ubusrv:~$ cd docker-web
```

- Crear una página web personalizada:

The screenshot shows a terminal window titled "index.html" with the following content:

```
File Edit View Search Terminal Help
GNU nano 7.2
<!DOCTYPE>
<html lan ="es">
<head>
<meta charset ="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Mi Página Web</title>
</head>

<body>
<h1>¡Hola, mundo desde Docker!</h1>
<p>Esta es una página servida por un contenedor de Nginx.</p>
</body>
</html>
```

The terminal prompt is "administrador@ubusrv:~/docker-web" and the status bar shows "Welcome to nginx! — [administrador@ubu...]".

- Crear un archivo de configuración para Nginx:

The screenshot shows a terminal window titled "default.conf" with the following Nginx configuration:

```
File Edit View Search Terminal Help
GNU nano 7.2
server{
    listen 80;
    server_name localhost;

    location{
        root /usr/share/nginx/html;
        index index.html;
    }
}
```

The terminal prompt is "administrador@ubusrv:~/docker-web" and the status bar shows "Welcome to nginx! — [administrador@ubu...]".

## Parte 2: Construcción del contenedor:

-Crear un archivo Dockerfile:



```

Menu 🍏
File Edit View Search Terminal Help
GNU nano 7.2 Dockerfile
#Usar la imagen oficial de Nginx como base
FROM nginx:latest

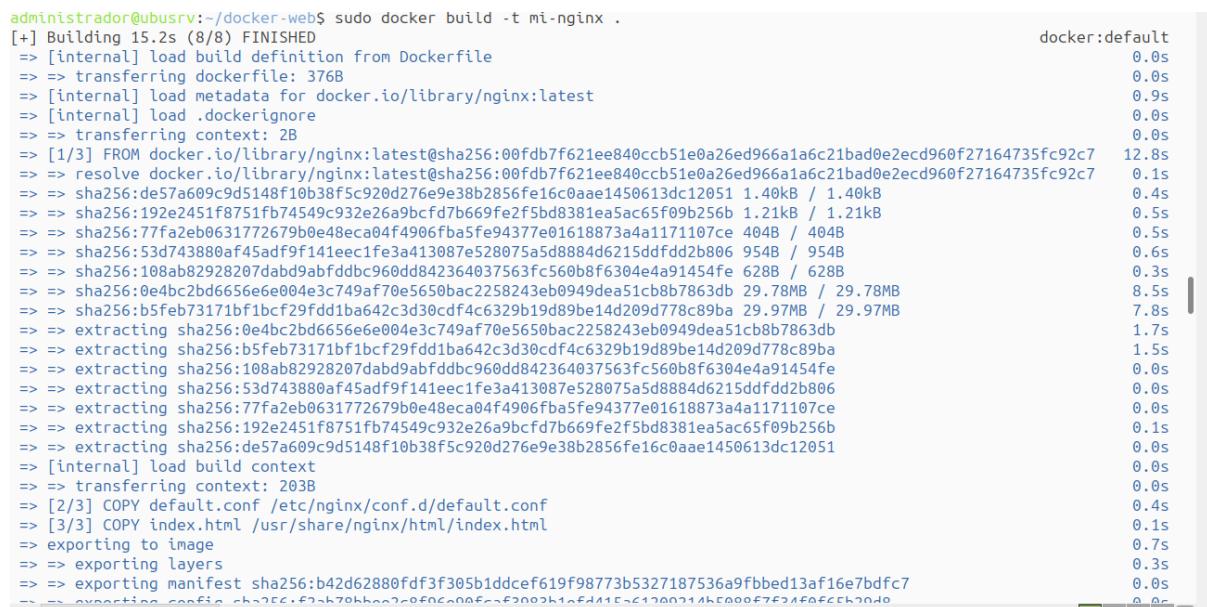
#Copiar la configuración personalizada de Nginx al contenedor
COPY default.conf /etc/nginx/conf.d/default.conf

#Copiar la página web al contenedor
COPY index.html /usr/share/nginx/html/index.html

#Cambiar al usuario no privilegios para mayor seguridad

```

- Construir la imagen personalizada



```

administrador@ubusrv:~/docker-web$ sudo docker build -t mi-nginx .
[+] Building 15.2s (8/8) FINISHED
--> [internal] load build definition from Dockerfile
--> => transferring dockerfile: 376B
--> [internal] load metadata for docker.io/library/nginx:latest
--> [internal] load .dockerignore
--> => transferring context: 2B
--> [1/3] FROM docker.io/library/nginx:latest@sha256:00fdb7f621ee840ccb51e0a26ed966a1a6c21bad0e2ecd960f27164735fc92c7 12.8s
--> => resolve docker.io/library/nginx:latest@sha256:00fdb7f621ee840ccb51e0a26ed966a1a6c21bad0e2ecd960f27164735fc92c7 0.1s
--> => sha256:d5e57a609c9d5148f10b38f5c920d276e9e38b285f6fe16c0aae1450613dc12051 1.40kB / 1.40kB 0.0s
--> => sha256:192e2451f8751fb74549c932e26a9bcfd7b669fe2f5bd8381ea5ac65f09b256b 1.21kB / 1.21kB 0.0s
--> => sha256:77fa2eb0631772679b0e48eca04f4906fba5fe94377e01618873a4a1171107ce 404B / 404B 0.0s
--> => sha256:53d743880af45ad9f9141eec1fe3a413087e528075a5d8884d6215dfdd2b806 954B / 954B 0.0s
--> => sha256:108ab82928207dabd9abffdbc960dd842364037563fc560b8f6304eda91454fe 628B / 628B 0.0s
--> => sha256:0e4bc2bd6656e6e004e3c749af70e5650bac2258243eb0949dea51cb8b7863db 29.78MB / 29.78MB 0.0s
--> => sha256:b5feb73171bf1bcf29fdd1ba642c3d30cdf4c6329b19d89be14d209d778c89ba 29.97MB / 29.97MB 0.0s
--> => extracting sha256:0e4bc2bd6656e6e004e3c749af70e5650bac2258243eb0949dea51cb8b7863db 0.0s
--> => extracting sha256:b5feb73171bf1bcf29fdd1ba642c3d30cdf4c6329b19d89be14d209d778c89ba 0.0s
--> => extracting sha256:8ab82928207dabd9abffdbc960dd842364037563fc560b8f6304eda91454fe 0.0s
--> => extracting sha256:53d743880af45ad9f9141eec1fe3a413087e528075a5d8884d6215dfdd2b806 0.0s
--> => extracting sha256:77fa2eb0631772679b0e48eca04f4906fba5fe94377e01618873a4a1171107ce 0.0s
--> => extracting sha256:609c9d5148f10b38f5c920d276e9e38b2856fe16c0aae1450613dc12051 0.0s
--> [internal] load build context
--> => transferring context: 203B 0.0s
--> [2/3] COPY default.conf /etc/nginx/conf.d/default.conf 0.0s
--> [3/3] COPY index.html /usr/share/nginx/html/index.html 0.0s
--> exporting to image 0.0s
--> => exporting layers 0.0s
--> => exporting manifest sha256:b42d62880fdf3f05b1ddcef619f98773b5327187536a9fbbed13af16e7bd7c 0.0s
--> => exporting config sha256:f2ab70bbcc2ef06e00fc7f2092b1afda115e1700214b000f7f2afafce6b70d0 0.0s

```

- Verificar que la imagen se creó correctamente

sudo docker images						Info →	In Use
IMAGE	ID	DISK USAGE	CONTENT SIZE	EXTRA			
hello-world:latest	f7931603f70e	20.3kB	3.96kB	U			
mi-nginx:latest	37813e484037	225MB	59.8MB				

### Parte 3: Despliegue del servidor web:

- Ejecutar el contenedor

```
administrador@ubusrv:~/docker-web$ sudo docker run -d --name servidor-web -p 8080:80 mi-nginx
```

- Verificar que el contenedor está corriendo

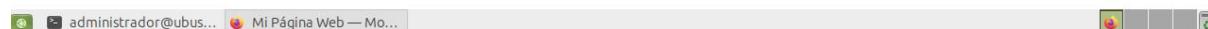
sudo docker ps					
[sudo] password for administrador:	CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS
AMES	9b2ff1f5a160	nginx	"./docker-entrypoint..."	33 minutes ago	Up 33 minutes
					0.0.0.0:8080->80/tcp, [::]:8080->80/tcp

- Probar la página web



### ¡Hola, mundo desde Docker!

Esta es una página servida por un contenedor de Nginx.



### Parte 4: Uso de Docker Compose:

- Crear un archivo docker-compose.yml

## Ejercicio Docker Carlos G Cordero

The screenshot shows a terminal window titled "administrador@ubusrv: ~/docker-web". The file being edited is "docker-compose.yml". The content of the file is as follows:

```
version: '3.8'

services:
  web:
    build:
    ports:
      - "8080:80"
    container_name: servidor-web-compose
    volumes:
      - ./index.html:/usr/share/nginx/html/index.html:ro #Volumen en modo solo lectura (ro)
      - ./default.conf:/etc/nginx/conf.d/default.conf:ro #Volumen en modo solo lectura (ro)
    restart: always #Reinicia automáticamente si falla el contenedor
```

At the bottom of the terminal window, there is a menu bar with various keyboard shortcuts for file operations like Help, Exit, Write Out, Read File, Cut, Paste, Execute, Justify, Location, Go To Line, Undo, Redo, Set Mark, and Copy.

### - Iniciar los servicios con Docker Compose

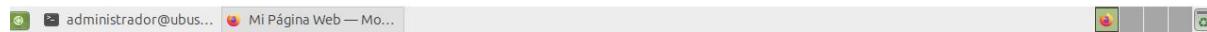
```
administrador@ubusrv:~/docker-web$ sudo docker compose up -d
WARN[0000] /home/administrador/docker-web/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please
remove it to avoid potential confusion
[+] Running 2/2
  ✓ Network docker-web_default    Created
  ✓ Container servidor-web-compose Started
0.1s
0.5s
```

### - Comprobar que funciona



## ¡Hola, mundo desde Docker!

Esta es una página servida por un contenedor de Nginx.



### - Verificar los servicios levantados

```
administrador@ubusrv:~/docker-web$ sudo docker ps
CONTAINER ID   IMAGE          COMMAND       CREATED      STATUS      PORTS
 NAMES          dd659157a7bd   docker-web-web   "/docker-entrypoint..."   6 minutes ago   Up 6 minutes   0.0.0.0:8080->80/tcp, [::]:8080->80/tcp
p   servidor-web-compose
```

### - Ver los logs del servicio

## Ejercicio Docker Carlos G Cordero

```
administrador@ubusrv:~/docker-web$ sudo docker compose logs web
WARN[0000] /home/administrador/docker-web/docker-compose.yml: the attribute `version` is obsolete, it will be ignored, please
remove it to avoid potential confusion
servidor-web-compose | /docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
servidor-web-compose | /docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
servidor-web-compose | /docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
servidor-web-compose | 10-listen-on-ipv6-by-default.sh: info: can not modify /etc/nginx/conf.d/default.conf (read-only file s
ystem?)
servidor-web-compose | /docker-entrypoint.sh: Sourcing /docker-entrypoint.d/15-local-resolvers.envsh
servidor-web-compose | /docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
servidor-web-compose | /docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
servidor-web-compose | /docker-entrypoint.sh: Configuration complete; ready for start up
servidor-web-compose | 2025/11/20 23:41:32 [notice] 1#1: using the "epoll" event method
servidor-web-compose | 2025/11/20 23:41:32 [notice] 1#1: nginx/1.29.3
servidor-web-compose | 2025/11/20 23:41:32 [notice] 1#1: built by gcc 14.2.0 (Debian 14.2.0-19)
servidor-web-compose | 2025/11/20 23:41:32 [notice] 1#1: OS: Linux 6.8.0-87-generic
servidor-web-compose | 2025/11/20 23:41:32 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1024:524288
servidor-web-compose | 2025/11/20 23:41:32 [notice] 1#1: start worker processes
servidor-web-compose | 2025/11/20 23:41:32 [notice] 1#1: start worker process 20
servidor-web-compose | 2025/11/20 23:41:32 [notice] 1#1: start worker process 21
servidor-web-compose | 172.18.0.1 - - [20/Nov/2025:23:44:46 +0000] "GET / HTTP/1.1" 304 0 "-" "Mozilla/5.0 (X11; Ubuntu; Linu
x x86_64; rv:145.0) Gecko/20100101 Firefox/145.0" "-"
servidor-web-compose | 172.18.0.1 - - [20/Nov/2025:23:49:14 +0000] "GET / HTTP/1.1" 304 0 "-" "Mozilla/5.0 (X11; Ubuntu; Linu
x x86_64; rv:145.0) Gecko/20100101 Firefox/145.0" "-"
```

- Detener y eliminar los servicios

```
administrador@ubusrv:~/docker-web$ sudo docker compose down
```

### Parte 5: Limpieza:

- Eliminar todos los contenedores detenidos

```
administrador@ubusrv:~/docker-web$ sudo docker container prune
WARNING! This will remove all stopped containers.
Are you sure you want to continue? [y/N] y
Deleted Containers:
59533196161f26439c7e84cab07f4af2708ea898ec0d208738c931d63c5a4c63
9b2ff1f5a16033094e7312899016428164e8ee75001559a9ac7d0d7539f026db
ea321d81793693828ada51a6f2422b188890f657ff928c5985e39db835a71f21
d9232f153182529775bb5b113bccad83a7c4bd4da21be2cb7e9854fef8031ee
a0f7aa17ba4d7d82a0df34f8d135111022665cee6ec4fee9f4eaf5b9264e7d75
1c2cb4d0ebeff860c37acdbc73748f53dc066b87622112df5cf67da6f010475f
bdbdcf86133173c69070bd8ba603543d97cdb9e8bb39ec2c5dff81e773e88c3

Total reclaimed space: 102.4kB
administrador@ubusrv:~/docker-web$
```

- Eliminar la imagen creada

```
administrador@ubusrv:~/docker-web$ sudo docker rmi mi-nginx
```