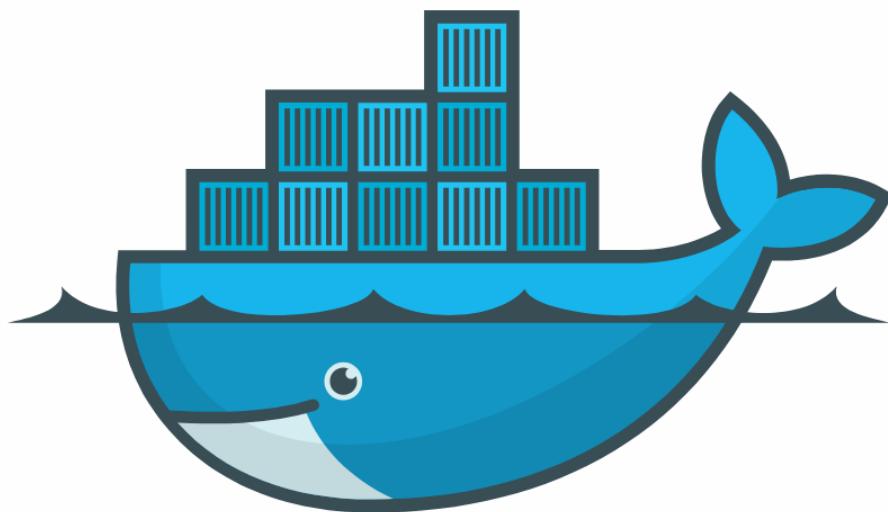


# VOLÚMENES: PERSISTIENDO DATOS DE NGINX



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## Introducción

La imagen oficial de Nginx en Docker es una versión ligera del servidor web Nginx , optimizada para entornos de contenedores. Por defecto:

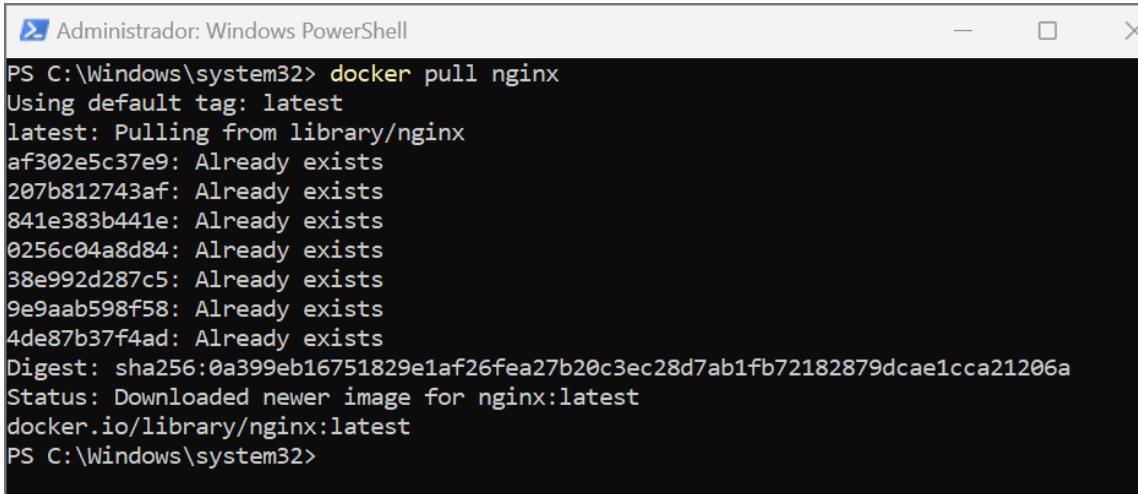
- Sirve archivos desde /usr/share/nginx/html.
- Sus archivos de configuración están en /etc/nginx/.
- Sus registros se almacenan en /var/log/nginx/.

### Objetivo:

Crear un contenedor de Nginx con un volumen para almacenar los logs del servidor y asegurarnos de que estos persistan aunque el contenedor sea eliminado.

## Descargar la imagen oficial de Nginx

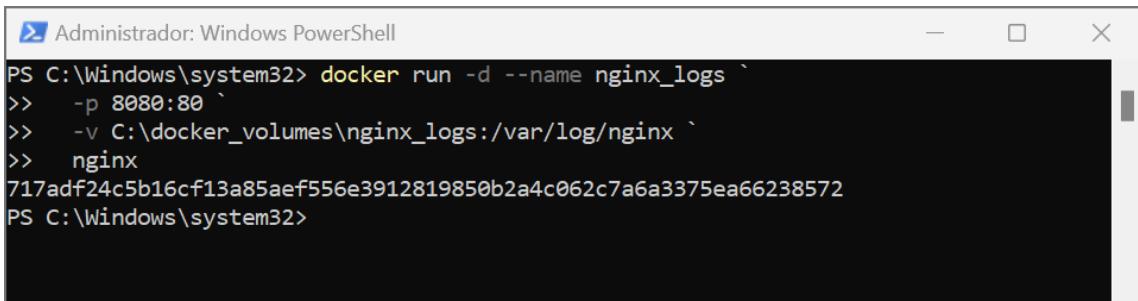
Ejecutamos el comando **`docker pull nginx`** en PowerSEll para descargar la última versión de la imagen.



```
PS C:\Windows\system32> docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
af302e5c37e9: Already exists
207b812743af: Already exists
841e383b441e: Already exists
0256c04a8d84: Already exists
38e992d287c5: Already exists
9e9aab598f58: Already exists
4de87b37f4ad: Already exists
Digest: sha256:0a399eb16751829e1af26fea27b20c3ec28d7ab1fb72182879dcae1cca21206a
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest
PS C:\Windows\system32>
```

## Crear un contenedor con un volumen para registros

Vamos a iniciar un contenedor con Nginx y montaremos un volumen en la ruta **/var/log/nginx**, donde se almacenarán los logs.



```
PS C:\Windows\system32> docker run -d --name nginx_logs \
>>   -p 8080:80 \
>>   -v C:\docker_volumes\nginx_logs:/var/log/nginx \
>>   nginx
717adf24c5b16cf13a85aef556e3912819850b2a4c062c7a6a3375ea66238572
PS C:\Windows\system32>
```

### Explicación del comando:

- -d → Ejecuta el contenedor en segundo plano.
- --name nginx\_logs → Asigne el nombre nginx\_logs al contenedor.
- -p 8080:80 → Mapea el puerto 80 del contenedor al puerto 8080 del host.
- -v C:\docker\_volumes\nginx\_logs:/var/log/nginx → Monta un volumen en la carpeta /var/log/nginx para almacenar los registros en la máquina anfitriona.
- nginx → Usa la imagen oficial de Nginx.

## Verificar que los logs se están generando

- a) Comprobamos que Nginx está corriendo tanto en el terminal como en el navegador.

The screenshot shows two windows side-by-side. On the left is a Windows PowerShell window titled 'Administrador: Windows PowerShell' with the following command history:

```
PS C:\Windows\system32> docker run -d --name nginx_logs
>> -p 8080:80
>> -v C:\docker_volumes\nginx_logs:/var/log/nginx
>> nginx
717adfd24c5b16cf13a85aeff556e3912819850b2a4c062c7a6a3375ea66238572
PS C:\Windows\system32> docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS
717adfd24c5b1 nginx "/docker-entrypoint..." About a minute ago Up About a minute
0.0.0.0:8080->80/tcp nginx_logs
PS C:\Windows\system32>
```

On the right is a Microsoft Edge browser window titled 'Welcome to nginx!' with the URL 'localhost:8080'. The page content is:

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to [nginx.org](http://nginx.org).  
Commercial support is available at [nginx.com](http://nginx.com).

Thank you for using nginx.

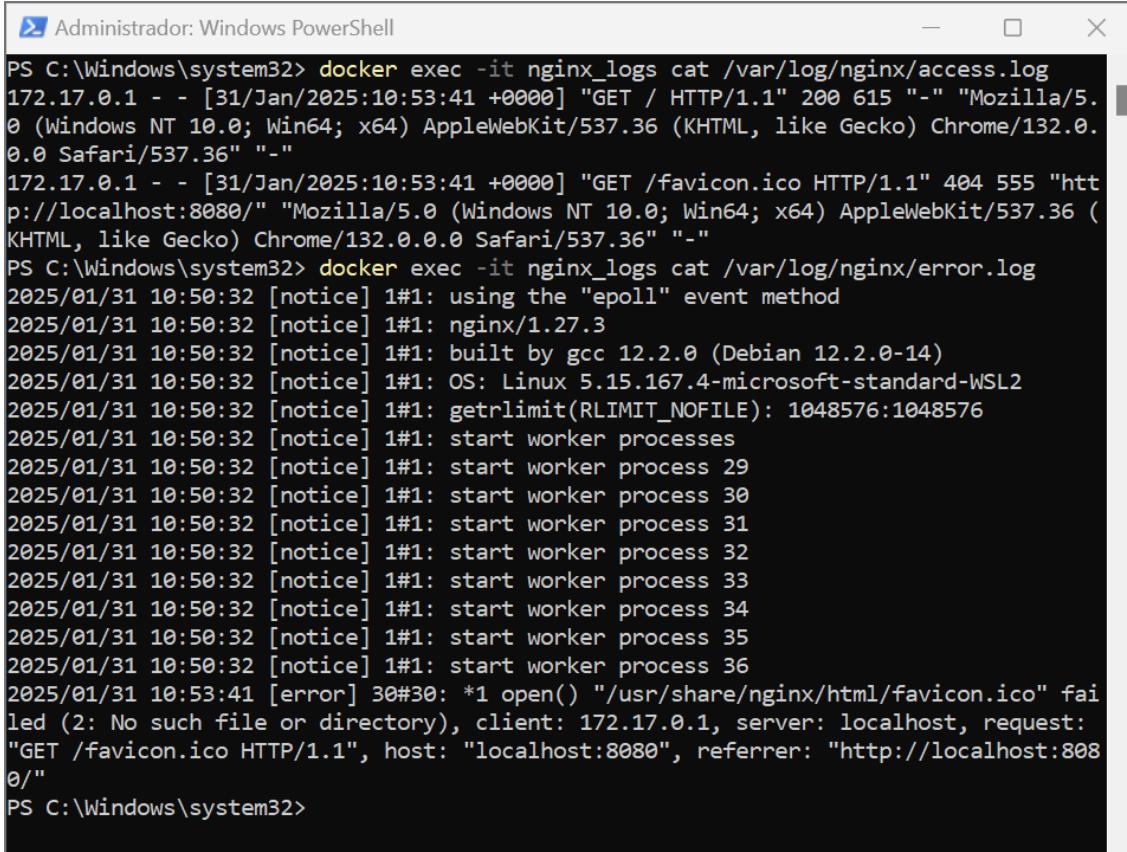
- b) Ahora ejecutamos el comando **Get-Content** **C:\docker\_volumes\nginx\_logs\access.log -Wait**, el cual nos mostrará los registros de acceso en tiempo real.

The screenshot shows a Windows PowerShell window titled 'Administrador: Windows PowerShell' with the following command and its output:

```
PS C:\Windows\system32> Get-Content C:\docker_volumes\nginx_logs\access.log -Wait
172.17.0.1 - - [31/Jan/2025:10:53:41 +0000] "GET / HTTP/1.1" 200 615 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/132.0.0.0 Safari/537.36" "-"
172.17.0.1 - - [31/Jan/2025:10:53:41 +0000] "GET /favicon.ico HTTP/1.1" 404 555 "http://localhost:8080/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/132.0.0.0 Safari/537.36" "-"
```

También podemos inspeccionar los troncos dentro del contenedor con los comandos

- **`docker exec -it nginx_logs cat /var/log/nginx/access.log`**
- **`docker exec -it nginx_logs cat /var/log/nginx/error.log`**



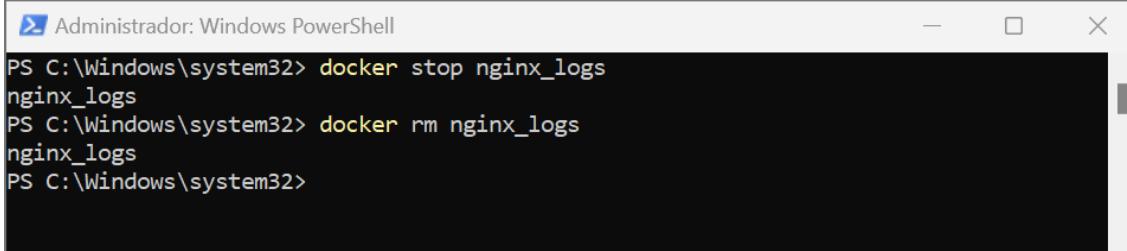
The screenshot shows a Windows PowerShell window titled "Administrador: Windows PowerShell". The command entered is "docker exec -it nginx\_logs cat /var/log/nginx/access.log". The output displays several log entries from the Nginx access log, including requests from IP 172.17.0.1 at 2025-01-31 10:53:41. The logs show various browser versions (Mozilla/5.0, AppleWebKit/537.36, Chrome/132.0.0.0 Safari/537.36) making requests for the favicon.ico file. The command "cat /var/log/nginx/error.log" is also shown, which outputs a single error message: "error 30#30: \*1 open() "/usr/share/nginx/html/favicon.ico" failed (2: No such file or directory)". The prompt "PS C:\Windows\system32>" is visible at the bottom.

## Comprobar que los logs persisten tras eliminar el contenedor

- a) Eliminar el contenedor

**`docker stop nginx_logs`**

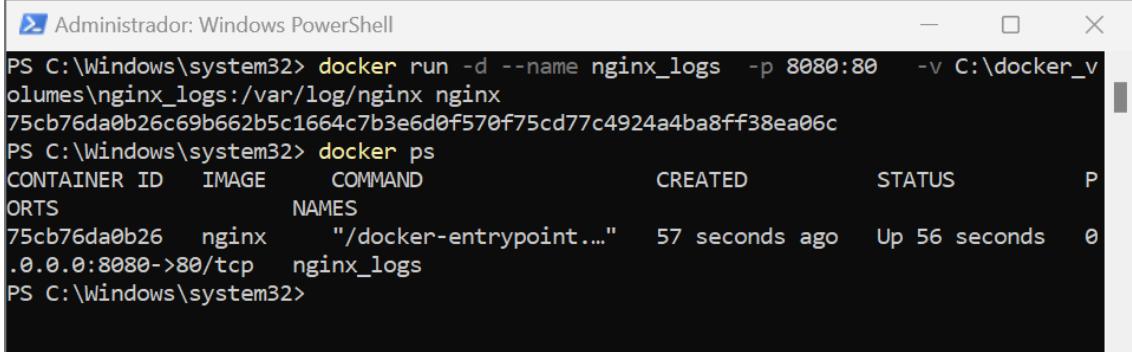
**`docker rm nginx_logs`**



The screenshot shows a Windows PowerShell window titled "Administrador: Windows PowerShell". The commands entered are "docker stop nginx\_logs" and "docker rm nginx\_logs", both followed by the name "nginx\_logs". The output shows the container being stopped and then removed successfully. The prompt "PS C:\Windows\system32>" is visible at the bottom.

- b) Recrear el contenedor con el mismo volumen

```
docker run -d --name nginx_logs -p 8080:80 -v  
C:\docker_volumes\nginx_logs:/var/log/nginx nginx
```

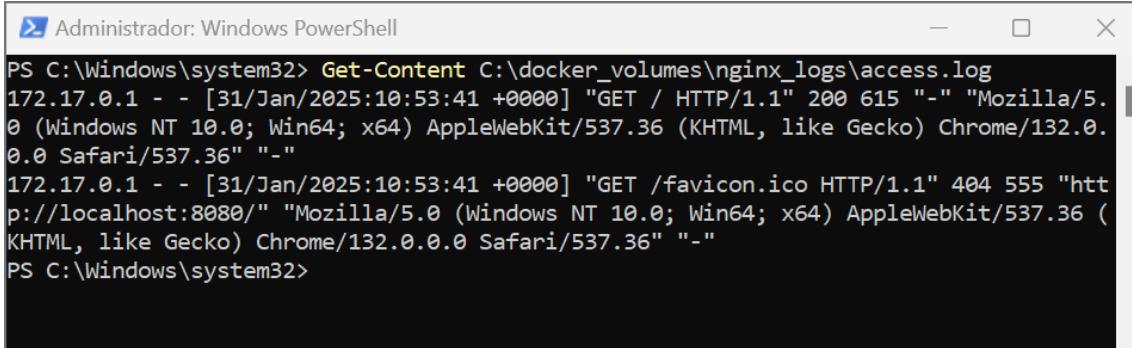


Administrator: Windows PowerShell

```
PS C:\Windows\system32> docker run -d --name nginx_logs -p 8080:80 -v C:\docker_volumes\nginx_logs:/var/log/nginx nginx
75cb76da0b26c69b662b5c1664c7b3e6d0f570f75cd77c4924a4ba8ff38ea06c
PS C:\Windows\system32> docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS Ports
NAMES
75cb76da0b26 nginx "/docker-entrypoint...." 57 seconds ago Up 56 seconds 0.0.0.0:8080->80/tcp nginx_logs
PS C:\Windows\system32>
```

- c) Verificar que los registros anteriores siguen disponibles

```
Get-Content C:\docker_volumes\nginx_logs\access.log
```



Administrator: Windows PowerShell

```
PS C:\Windows\system32> Get-Content C:\docker_volumes\nginx_logs\access.log
172.17.0.1 - - [31/Jan/2025:10:53:41 +0000] "GET / HTTP/1.1" 200 615 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/132.0.0.0 Safari/537.36"
172.17.0.1 - - [31/Jan/2025:10:53:41 +0000] "GET /favicon.ico HTTP/1.1" 404 555 "http://localhost:8080/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/132.0.0.0 Safari/537.36" "-"
PS C:\Windows\system32>
```



