

Comenzamos descargando y levantando el contenedor correspondiente a HTTPS

```
estudiante@DAW1:~$ docker run -d --name HTTPS -v /home/estudiante/DAW:/usr/local
/apache2/htdocs -p 80:80 -p 443:443 httpd:2.4
Unable to find image 'httpd:2.4' locally
2.4: Pulling from library/httpd
e9995326b091: Pull complete
ee55ccd48c8f: Pull complete
bc66ebea7efe: Pull complete
5d0f831d3c0b: Pull complete
e559e5380898: Pull complete
Digest: sha256:5fa96551b61359de5dfb7fd8c9e97e4153232eb520a8e883e2f47fc80dbfc33e
Status: Downloaded newer image for httpd:2.4
8966766c1cef97ce6d20ddb01cb9e14866df4d0256e4f69264f7945a9e2336f9
```

En este comando indicamos el nombre, los puertos a los que se mapea, el bind mount y la imagen que usaremos (accediendo por el puerto 80, no por el 443)

Generamos el certificado SSL (instalamos o usamos Openssl.. para un certificado X509)

```
estudiante@DAW1:~$ docker exec -it "HTTPS" /bin/bash
root@8966766c1cef:/usr/local/apache2# apt-get update
Get:1 http://deb.debian.org/debian bullseye InRelease [116 kB]
Get:2 http://deb.debian.org/debian-security bullseye-security InRelease [48.4 kB]
Get:3 http://deb.debian.org/debian bullseye-updates InRelease [44.1 kB]
Get:4 http://deb.debian.org/debian bullseye/main amd64 Packages [8184 kB]
Get:5 http://deb.debian.org/debian-security bullseye-security/main amd64 Packages [194 kB]
Get:6 http://deb.debian.org/debian bullseye-updates/main amd64 Packages [14.6 kB]
Fetched 8600 kB in 2s (4181 kB/s)
Reading package lists... Done
root@8966766c1cef:/usr/local/apache2# apt-get install openssl
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
openssl is already the newest version (1.1.1n-0+deb11u3).
openssl set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 3 not upgraded.
root@8966766c1cef:/usr/local/apache2#
```

Generamos la clave

(La fidelidad de los datos mostrados a continuación puede no ser correcta, no existe ni existió ninguna empresa bajo el nombre de Hermenflox)

```

root@8966766c1cef:/usr/local/apache2/conf# openssl req -x509 -days 365 -newkey rsa:2048 -keyout server.key -out server.crt
Generating a RSA private key
.....
.....+++++
.....+++++
writing new private key to 'server.key'
Enter PEM pass phrase:
Verifying - Enter PEM pass phrase:
-----
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
-----
Country Name (2 letter code) [AU]:SP
State or Province Name (full name) [Some-State]:Seville
Locality Name (eg, city) []:Brenes
Organization Name (eg, company) [Internet Widgits Pty Ltd]:Hermenflix
Organizational Unit Name (eg, section) []:ErPipe
Common Name (e.g. server FQDN or YOUR name) []:Felipe
Email Address []:erlipe16@gmail.com
root@8966766c1cef:/usr/local/apache2/conf#

```

En el proceso habremos introducido cierta información, en este caso, la información es totalmente inventada para este ejemplo

A continuación habilitamos el HTTPS. Necesitaremos un editor de texto, por lo que usaremos el nano

```

root@8966766c1cef:/usr/local/apache2/conf# apt-get install nano
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libgpm2 libncursesw6
Suggested packages:
  gpm hunspell
The following NEW packages will be installed:
  libgpm2 libncursesw6 nano
0 upgraded, 3 newly installed, 0 to remove and 3 not upgraded.
Need to get 824 kB of archives.
After this operation, 3087 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://deb.debian.org/debian bullseye/main amd64 libncursesw6 amd64 6.2+20201114-2 [132 kB]
Get:2 http://deb.debian.org/debian bullseye/main amd64 nano amd64 5.4-2+deb11u1 [656 kB]
Get:3 http://deb.debian.org/debian bullseye/main amd64 libgpm2 amd64 1.20.7-8 [35.6 kB]
Fetched 824 kB in 0s (5114 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package libncursesw6:amd64.
(Reading database ... 7140 files and directories currently installed.)
Preparing to unpack .../libncursesw6_6.2+20201114-2_amd64.deb ...
Unpacking libncursesw6:amd64 (6.2+20201114-2) ...

```

Editamos el fichero httpd.conf con nano y descomentamos líneas:

```
#LoadModule socache_shmcb_module modules/mod_socache_shmcb.so
```

```
#LoadModule ssl_module modules/mod_ssl.so
```

```
#Include conf/extra/httpd-ssl.conf
```

Reiniciamos el servidor apache

```
....root.... :/usr/local/apache2/conf# apachectl restart
```