# Server APACHE

## *Instalación del servidor

>Primero hacemos update del sistema para instalar los repositorios más actuales del servidor apache proporcionado por el apt

**sudo apt update**

>Instalamos el servidor apache:

**sudo apt-get install apache2**

**>**Una vez instalado vamos a comprobar que está correctamente instalado:

**systemctl status apache2**

```
root@apache:/home/apache# systemctl status apache2
* apache2.service - The Apache HTTP Server
     Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
     Active: active (running) since Fri 2023-11-17 08:47:00 UTC; 37s ago
       Docs: https://httpd.apache.org/docs/2.4/
   Main PID: 1160 (apache2)
      Tasks: 55 (limit: 6990)
     Memory: 5.4M
        CPU: 38ms
     CGroup: /system.slice/apache2.service
             |-1160 /usr/sbin/apache2 -k start
             |-1162 /usr/sbin/apache2 -k start
             `-1163 /usr/sbin/apache2 -k start

Nov 17 08:47:00 apache systemd[1]: Starting The Apache HTTP Server...
Nov 17 08:47:00 apache systemd[1]: Started The Apache HTTP Server.
```

## Está funcionando en localhost


>Para activar el funcionamiento del servidor con los certificados vamos a ejecutar primero este comando:

**a2enmod -m ssl**

```
root@apache:/home/apache# apachectl status
/usr/sbin/apachectl: 113: www-browser: not found
'www-browser -dump http://localhost:80/server-status' failed.
Maybe you need to install a package providing www-browser or you
need to adjust the APACHE_LYNX variable in /etc/apache2/envvars
root@apache:/home/apache# a2enmod -m ssl
Considering dependency setenvif for ssl:
Module setenvif already enabled
Considering dependency mime for ssl:
Module mime already enabled
Considering dependency socache_shmcb for ssl:
Enabling module socache_shmcb.
Enabling module ssl.
See /usr/share/doc/apache2/README.Debian.gz on how to configure SSL and create self-signed certificates.
To activate the new configuration, you need to run:
  systemctl restart apache2
```

>Cerramos el puerto 80 en el archivo /etc/apache2/ports.conf

```
# If you just change the port or add more ports
# have to change the VirtualHost statement in
# /etc/apache2/sites-enabled/000-default.conf

#Listen 80

<IfModule ssl_module>
        Listen 443
</IfModule>

<IfModule mod_gnutls.c>
        Listen 443
</IfModule>

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet
```

>Desactivamos el sitio web por defecto que viene precargado

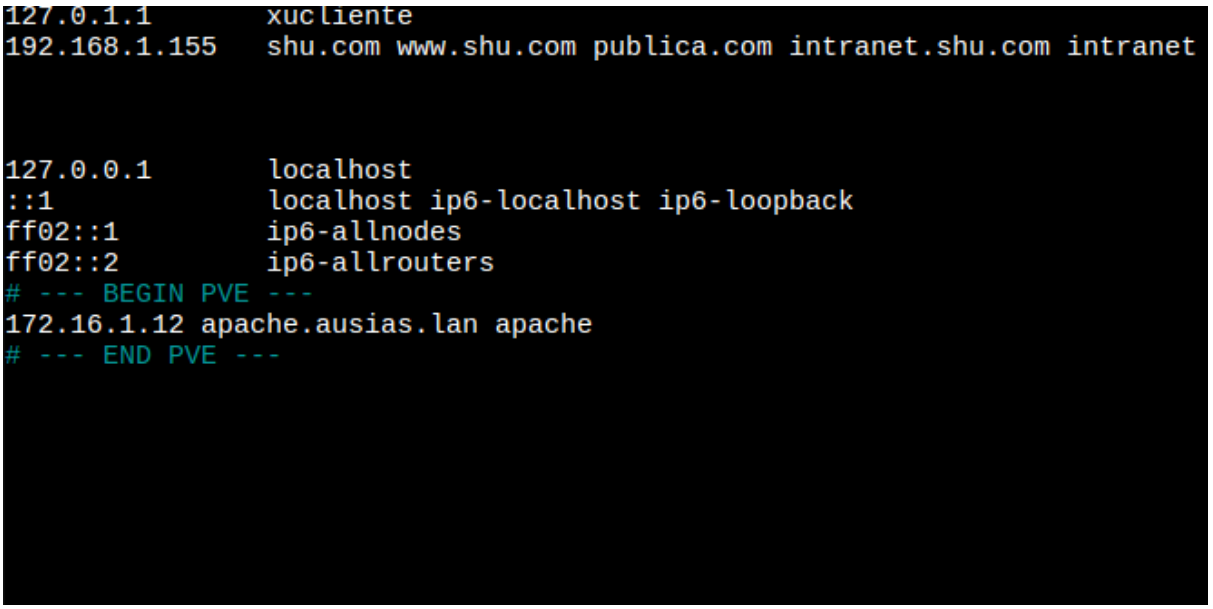
**sudo a2dissite 000-default.conf**

>Reiniciamos el servidor apache para aplicar todos los cambios

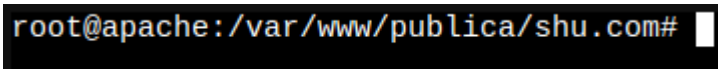
**systemctl reload apache2**

>Ahora vamos a añadir las IP que permitan entrar al servidor por DNS

**nano /etc/hosts**




>Creamos el directorio de almacenamiento de la empresa web




>Depositamos dentro el contenido de nuestra página web, en este caso un html

>Para crear la configuración del espacio web nos dirigimos a las sites avaliables para crear una configuracion del ssl copia de una ya incorporada para modificarla

**cd /etc/apache2/sites-available**
**sudo cp default-ssl.conf shu.com.conf**

>Añadimos nuestra información al archivo

```
root@apache:/etc/apache2/sites-available# cat /etc/apache2/sites-available/shu.com.conf
<IfModule mod_ssl.c>
        <VirtualHost _default_:443>
                ServerAdmin webmaster@shu.com

                DocumentRoot /var/www/publica/shu.com

                ServerName www.shu.com
                ServerAlias shu.com
                # Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
                # error, crit, alert, emerg.
                # It is also possible to configure the loglevel for particular
                # modules, e.g.
                #LogLevel info ssl:warn

                ErrorLog ${APACHE_LOG_DIR}/error.log
                CustomLog ${APACHE_LOG_DIR}/access.log combined

                # For most configuration files from conf-available/, which are
                # enabled or disabled at a global level, it is possible to
                # include a line for only one particular virtual host. For example the
                # following line enables the CGI configuration for this host only
                # after it has been globally disabled with "a2disconf".
                #Include conf-available/serve-cgi-bin.conf

                #   SSL Engine Switch:
                #   Enable/Disable SSL for this virtual host.
                SSLEngine on
```

```
<FilesMatch "\.(cgi|shtml|phtml|php)$">
                SSLOptions +StdEnvVars
</FilesMatch>
<Directory /usr/lib/cgi-bin>
                SSLOptions +StdEnvVars
</Directory>
<Directory /var/www/publica/shu.com>
</Directory>
```

>Para activar la configuración debemos ejecutar el siguiente comando

**sudo a2ensite shu.com.conf**
**systemctl reload apache2**

**Hemos realizado lo mismo para hacer la intranet pero en una carpeta alternativa a la publica, que se llama privada, el resultado de**

```
27.0.0.1che:/etc/apache2/sites-available# curl -k -H "Host:intranet.shu.com" https://1
<p> INTRANET </p>
root@apache:/etc/apache2/sites-available#
```

**da correctamente la página web de la intranet, estamos felices.**

**y nuestro apartado home, está bien**

```
27.0.0.1che:/etc/apache2/sites-available# curl -k -H "Host:intranet.shu.com" https://1
<p> INTRANET </p>
root@apache:/etc/apache2/sites-available# curl -k -H "Host:shu.com" https://127.0.0.1
<p> HOLA </p>
```

>Ahora vamos a crear un usuario para acceder a la intranet

**sudo htpasswd -c /otp/apache2/intranet.com/passwords cliente**
**>Y se pone la contraseña que se desea**

>Tras reiniciar el servidor, podremos acceder mediante usuario y contraseña, en este caso igual que el usuario creado(cliente:cliente):

```
root@apache:/opt/apache2/intranet.com# systemctl restart apache2
root@apache:/opt/apache2/intranet.com#
root@apache:/opt/apache2/intranet.com# curl -k -u cliente:cliente -H "Host:intranet.s
hu.com" https://127.0.0.1
<p> INTRANET </p>
root@apache:/opt/apache2/intranet.com#
```

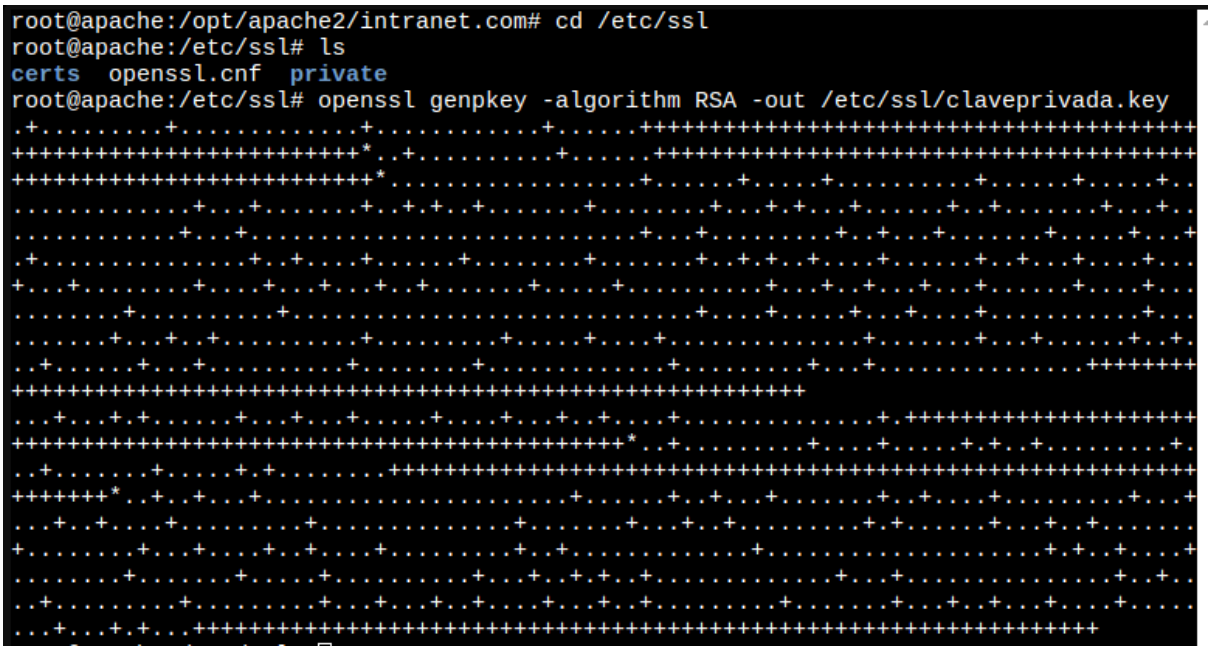
**AHORA VAMOS A CREAR UN CERTIFICADO CON SSL Y AÑADIRLO A UN HOST CONCRETO EN ESTE CASO INTRANET.SHU.com**

>Primero instalamos openssl para añadir un certificado propio para probar

**sudo apt-get install openssl**

>Generamos una private key

**openssl genpkey -algorithm RSA -out /etc/ssl/claveprivada.key**




Esta debe ir dentro de /etc/ssl/private/claveprivada.key,
la movemos

**mv claveprivada.key /private/**

>Y ahora un certificado y lo autofirmamos

**Certificado:**

**openssl req -new /etc/ssl/private/claveprivada.key -out /etc/ssl/certs/certificado.csr**

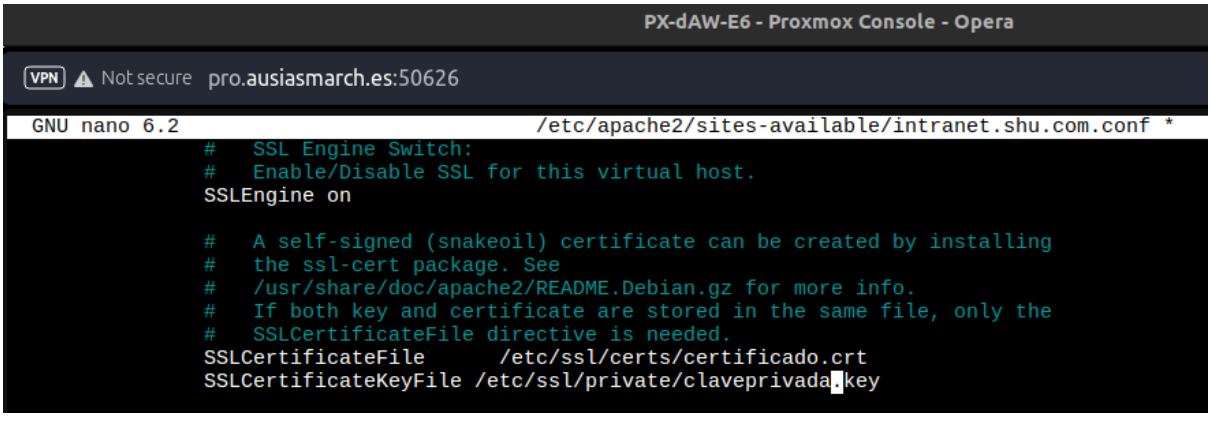
```
root@apache:/etc/ssl# openssl req -new /etc/ssl/private/claveprivada.key -out /etc/ssl/certs/certificado.csr
req: Use -help for summary.
root@apache:/etc/ssl# openssl req -new -key /etc/ssl/private/claveprivada.key -out /etc/ssl/certs/certificado.csr
You are about to be asked to enter information 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]:ES
State or Province Name (full name) [Some-State]:Spain
Locality Name (eg, city) []:Spain
Organization Name (eg, company) [Internet Widgits Pty Ltd]:SHU
Organizational Unit Name (eg, section) []:SHU
Common Name (e.g. server FQDN or YOUR name) []:SHU
Email Address []:Shu

Please enter the following 'extra' attributes
to be sent with your certificate request
A challenge password []:cliente
An optional company name []:cliente
```

**Firmamos:**

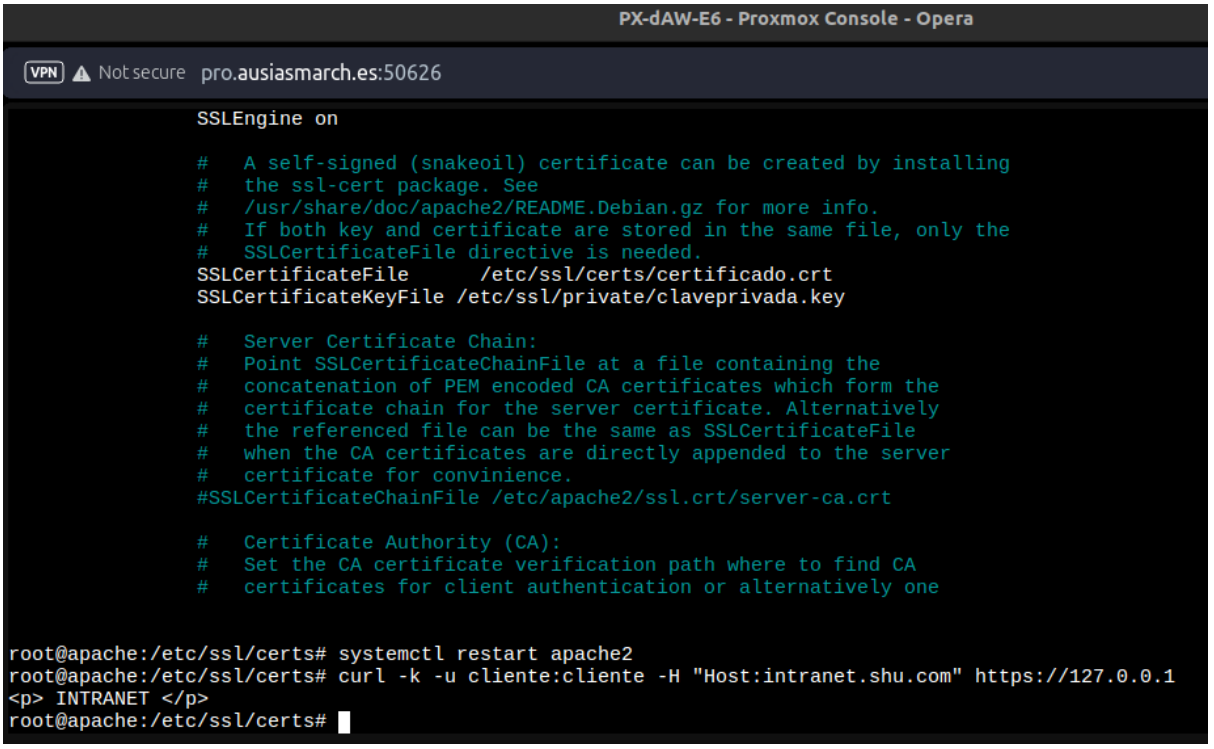
**openssl x509 -req -days 365 -in /etc/ssl/certs/certificado.csr -signkey /etc/ssl/private/claveprivada.key -out /etc/ssl/certs/certificado.crt**

```
root@apache:/etc/ssl# openssl x509 -req -days 365 -in /etc/ssl/certs/certificado.csr -signkey /etc/ssl/private/claveprivada.key -out
 /etc/ssl/certs/certificado.crt
Certificate request self-signature ok
subject=C = ES, ST = Spain, L = Spain, O = SHU, OU = SHU, CN = SHU, emailAddress = Shu
```

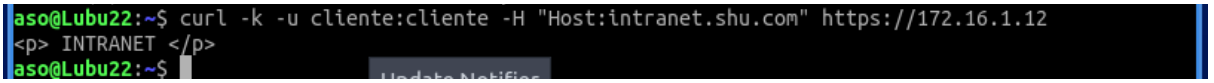
**Una vez con el certificado firmado y la private key, lo situamos en el ssl de nuestra web .conf, intranet.shu.com.conf →**



# PROBAMOS QUE FUNCIONA Y FUNCIONA TRAS REINCIAR EL SERVIDOR APACHE2




# HEMOS PROBADO CONEXIÓN DESDE LUBUNTU y FUNCIONA CON LA IP DE EL CONTENEDOR



# POR WEB
# pide contrasenya y autentica igual