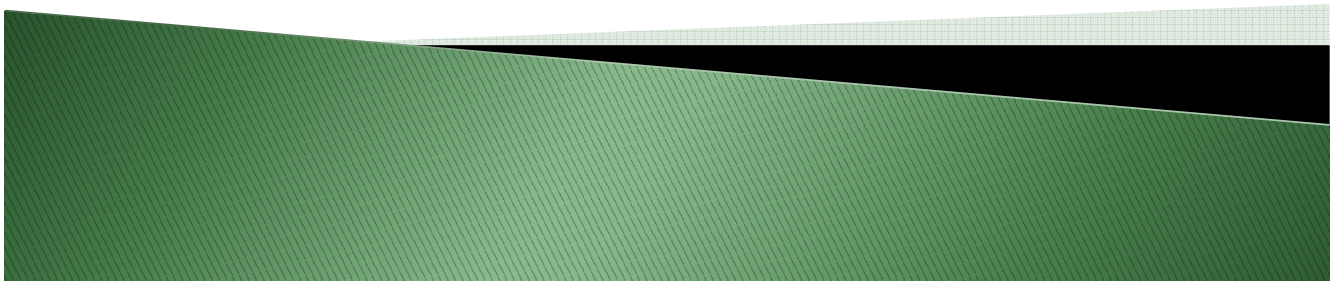
Unidad 5

Administración de *Apache* – 3. HTTPS

Despliegue de aplicaciones web



Índice

Módulo mod_ssl

- Es posible configurar *Apache* para que sirva contenidos seguros usando el protocolo **HTTPS**.
- Para ello hay que configurar y habilitar el módulo **mod_ssl**.

Módulo mod_ssl

- Webs
  - http://www.modssl.org/
  - http://httpd.apache.org/docs/2.4/mod/mod_ssl.html
- Utiliza las herramientas proporcionadas por el proyecto **OpenSSL**.

Configuración
Certificados

- 1) Generar clave privada

```
alumno@ServidorLinux01:~$ openssl genrsa -out seguro.key 2048
Generating RSA private key, 2048 bit long modulus
.............................+++
.....................................................................
.....................................................+++
e is 65537 (0x10001)
alumno@ServidorLinux01:~$
```


Configuración
Certificados

- 2) Generar una solicitud de certificado (CSR)

```
alumno@ServidorLinux01:~$ openssl req -new -key seguro.key -out seguro.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]:Madrid
Locality Name (eg, city) []:Madrid
Organization Name (eg, company) [Internet Widgits Pty Ltd]:daw01
Organizational Unit Name (eg, section) []:daw01
Common Name (e.g. server FQDN or YOUR name) []:seguro.daw01.net
Email Address []:admin@daw01.net

Please enter the following 'extra' attributes
to be sent with your certificate request
A challenge password []:
An optional company name []:
alumno@ServidorLinux01:~$ _
```

Configuración
Certificados

- 3) Generar un certificado (1)
  - A) Enviar la solicitud de certificado a una autoridad de certificación .
    - Se envía, habitualmente, a través de un formulario web a la empresa certificadora
    - Validan si se ha pagado (si es necesario).
    - Validan la solicitud.
    - Generan el Certificado (.crt)
    - Remiten el certificado e instrucciones.

Configuración
Certificados

- 3) Generar un certificado (2)
  - B) Crear un certificado autofirmado

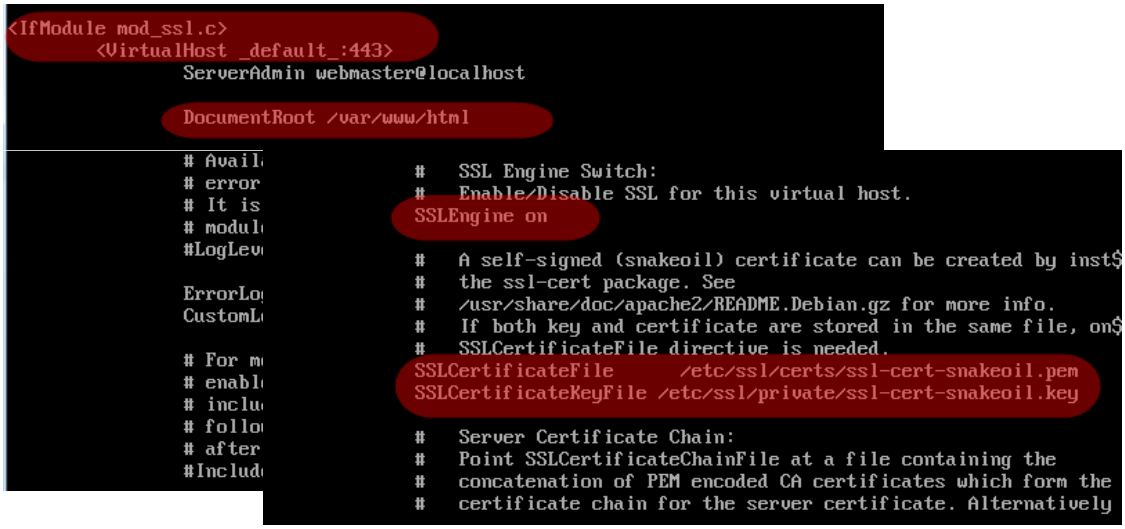
```
alumno@ServidorLinux01:~$ openssl x509 -req -days 365 -in seguro.csr -signkey se
guro.key -out seguro.crt
Signature ok
subject=/C=ES/ST=Madrid/L=Madrid/O=daw01/OU=daw01/CN=seguro.daw01.net/emailAddre
ss=admin@daw01.net
Getting Private key
alumno@ServidorLinux01:~$ _
```

Configuración
Directivas

- SSLEngine
- SSLCertificateFile
- SSLCertificateKeyFile
- ...
- Web
  - http://httpd.apache.org/docs/2.4/ssl/

Práctica

- Práctica 5.19
  - Servidor virtual HTTPS por defecto en *Linux.*



Práctica

- Práctica 5.20
  - Servidor virtual HTTPS en *Linux.*

```
alumno@ServidorLinux01:~$ openssl req -new -key seguro.key -out seguro.csr
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter i
There are quite a few fields
For some fields there will be
If you enter '.', the field w
-----
Country Name (2 letter code)
State or Province Name (full
Locality Name (eg, city) []:M
Organization Name (eg, compan
Organizational Unit Name (eg,
Common Name (e.g. server FQDN
Email Address []:admin@daw01.

Please enter the following 'e
to be sent with your certific
A challenge password []:
An optional company name []:
alumno@ServidorLinux01:~$ _
```

```
<IfModule mod_ssl.c>
        <VirtualHost _default_:443>
                ServerName seguro.daw01.net

                DocumentRoot /var/www/html/seguro

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

                <Directory /var/www/html/seguro>
                        Options Indexes FollowSymLinks
                        AllowOverride None
                        Require all granted
                </Directory>

                SSLEngine on
                SSLCertificateFile      /etc/ssl/certs/seguro.crt
                SSLCertificateKeyFile  /etc/ssl/private/seguro.key

        </VirtualHost>
</IfModule>
```


Práctica

- Práctica 5.21
  - Servidor virtual HTTPS por defecto en *Windows*

```
#LoadModule mime_magic_module modules/mod_mime_magic.so
LoadModule negotiation_module modules/mod_negotiation.so
#LoadModule proxy_module modules/mod_proxy.so
#LoadModule proxy_ajp_module modules/mod_proxy_ajp.so
#LoadModule proxy_balancer_module modules/mod_proxy_balancer.so
#LoadModule proxy_connect_module modules/mod_proxy_connect.so
#LoadModule proxy_ftp_module modules/mod_proxy_ftp.so
#LoadModule proxy_http_module modules/mod_proxy_http.so
#LoadModule proxy_scgi_module modules/mod_proxy_scgi.so
#LoadModule reqtimeout_module modules/mod_reqtimeout.so
#LoadModule rewrite_module modules/mod_rewrite.so
LoadModule setenvif_module modules/mod_setenvif.so
#LoadModule speling_module modules/mod_speling.so
LoadModule ssl_module modules/mod_ssl.so
#LoadModule status_module modules/mod_status.so
#LoadModule substitute_module modules/mod_substitute.so
#LoadModule unique_id_module modules/mod_unique_id.so
LoadModule userdir_module modules/mod_userdir.so
#LoadModule usertrack_module modules/mod_usertrack.so
#LoadModule version_module modules/mod_version.so

#Include conf/extra/httpd-vhosts.conf

# Local access to the Apache HTTP Server Manual
#Include conf/extra/httpd-manual.conf

# Distributed authoring and versioning (WebDAV)
#Include conf/extra/httpd-dav.conf

# Various default settings
#Include conf/extra/httpd-default.conf

# Secure (SSL/TLS) connections
Include conf/extra/httpd-ssl.conf
#
# Note: The following must must be present to support
#       starting without SSL on platforms with no /dev/random equivalent
#       but a statically compiled-in mod_ssl.
#
<IfModule ssl_module>
SSLRandomSeed startup builtin
```

```
Administrador: Símbolo del sistema - "c:\Program Files\Apache Software Foundation\Apache2.2\bin\...
OpenSSL> x509 -req -days 365 -in server.csr -signkey server.key -out server.crt
Loading 'screen' into random state - done
Signature ok
subject=/C=ES/ST=Madrid/L=Madrid/O=daw01.net/OU=daw01.net/CN=servidorwindows01.d
aw01.net/emailAddress=admin@daw01.net
Getting Private key
OpenSSL> _
```

Bibliografía

- Servicios de Red e Internet. Álvaro García Sánchez, Luis Enamorado Sarmiento, Javier Sanz Rodríguez. Editorial Garceta.
- http://httpd.apache.org