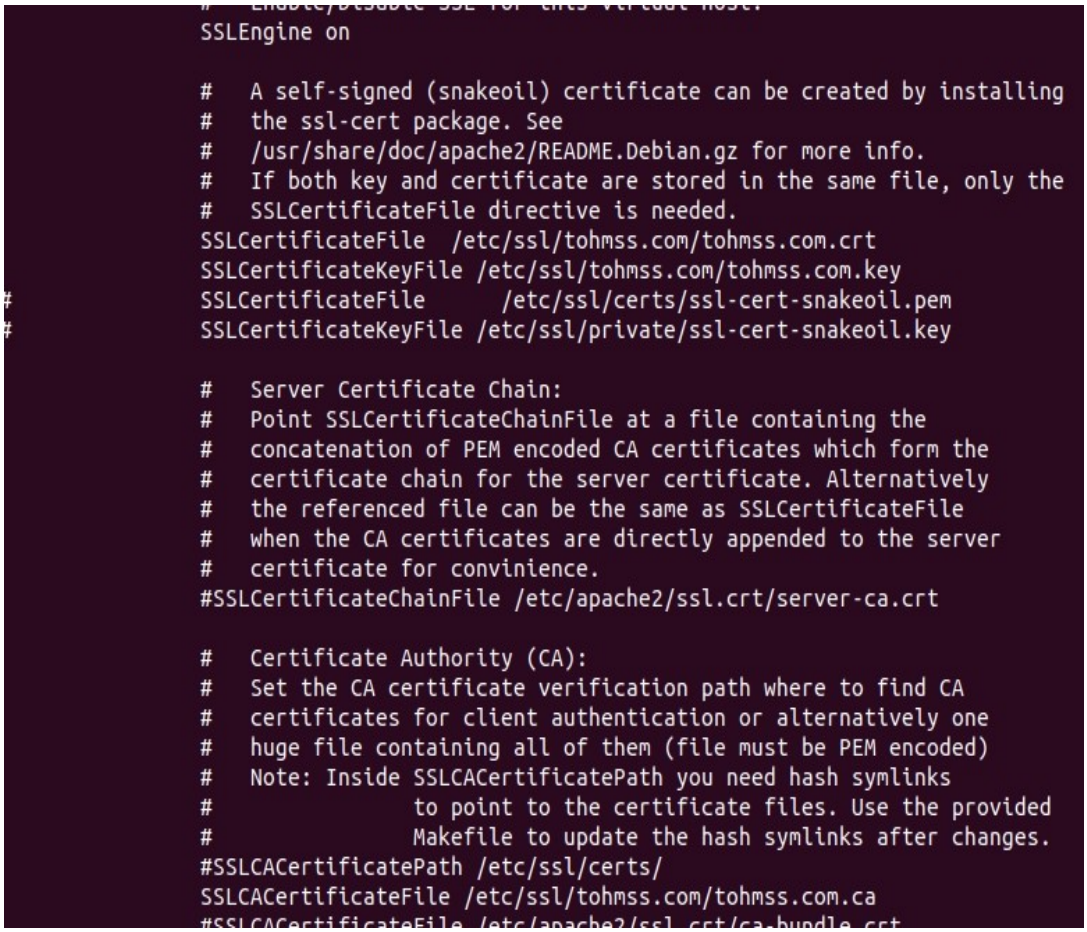
การต่ออายุประกัน ssl
อ้างอิง TOH จะมี 3 file ที่ให้แก้ ก่อนทำควร backup ของเดิมไว้ด้วย

1. SSLCertificateFile /etc/ssl/tohmss.com/tohmss.com.crt
2. SSLCertificateKeyFile /etc/ssl/tohmss.com/tohmss.com.key
3. SSLCACertificateFile /etc/ssl/tohmss.com/tohmss.com.ca

path แล้วแต่จะกำหนดตัวอย่างกำหนดไว้ที่ /etc/ssl

การหาดู path เข้าไปดูที่ /etc/apache2/sites-available/default-ssl.conf

โดยใช้คำสั่ง cat default-ssl.conf



```
SSLEngine on

#   A self-signed (snakeoil) certificate can be created by installing
#   the ssl-cert package. See
#   /usr/share/doc/apache2/README.Debian.gz for more info.
#   If both key and certificate are stored in the same file, only the
#   SSLCertificateFile directive is needed.
SSLCertificateFile  /etc/ssl/tohmss.com/tohmss.com.crt
SSLCertificateKeyFile /etc/ssl/tohmss.com/tohmss.com.key
#SSLCertificateFile      /etc/ssl/certs/ssl-cert-snakeoil.pem
#SSLCertificateKeyFile /etc/ssl/private/ssl-cert-snakeoil.key

#   Server Certificate Chain:
#   Point SSLCertificateChainFile at a file containing the
#   concatenation of PEM encoded CA certificates which form the
#   certificate chain for the server certificate. Alternatively
#   the referenced file can be the same as SSLCertificateFile
#   when the CA certificates are directly appended to the server
#   certificate for convinience.
#SSLCertificateChainFile /etc/apache2/ssl.crt/server-ca.crt

#   Certificate Authority (CA):
#   Set the CA certificate verification path where to find CA
#   certificates for client authentication or alternatively one
#   huge file containing all of them (file must be PEM encoded)
#   Note: Inside SSLCACertificatePath you need hash symlinks
#                to point to the certificate files. Use the provided
#                Makefile to update the hash symlinks after changes.
#SSLCACertificatePath /etc/ssl/certs/
SSLCACertificateFile /etc/ssl/tohmss.com/tohmss.com.ca
#SSLCACertificateFile /etc/apache2/ssl.crt/ca-bundle.crt
```

file ใหม่ จะได้มาจากผู้ให้บริการ

คำสั่งเช็ค error aphache2 ####   apache2 -t
คำสั่งเช็ค port ####   netstat -nap | grep 443

วธีแก้ error

```
root@backup:/home/sa# apache2 -t
[Thu Nov 18 11:45:37.678476 2021] [core:warn] [pid 3629] AH00111: Config variable ${APACHE_PID_FILE} is not defined
[Thu Nov 18 11:45:37.678507 2021] [core:warn] [pid 3629] AH00111: Config variable ${APACHE_RUN_USER} is not defined
[Thu Nov 18 11:45:37.678509 2021] [core:warn] [pid 3629] AH00111: Config variable ${APACHE_RUN_GROUP} is not defined
[Thu Nov 18 11:45:37.678516 2021] [core:warn] [pid 3629] AH00111: Config variable ${APACHE_LOG_DIR} is not defined
[Thu Nov 18 11:45:37.683673 2021] [core:warn] [pid 3629] AH00111: Config variable ${APACHE_LOG_DIR} is not defined
[Thu Nov 18 11:45:37.683768 2021] [core:warn] [pid 3629] AH00111: Config variable ${APACHE_LOG_DIR} is not defined
[Thu Nov 18 11:45:37.683773 2021] [core:warn] [pid 3629] AH00111: Config variable ${APACHE_LOG_DIR} is not defined
AH00543: apache2: bad user name ${APACHE_RUN_USER}
root@backup:/home/sa# source /etc/apache2/envvars
root@backup:/home/sa# apache2 -t
Syntax OK
root@backup:/home/sa# service apache2 restart
root@backup:/home/sa# apache2 -t
Syntax OK
root@backup:/home/sa#
```

การทำ รีไดเรค http:// ไปเป็น https://

แก้ไขไฟ etc/apache2/sites-available/000-default.conf
เพิ่ม

ServerName shiftsoft.net
ServerAlias www.shiftsoft.net
Redirect / https://shiftsoft.net

ตัวอย่าง

```
000-default.conf  default-ssl.conf
root@shiftsoft-vm:/etc/apache2/sites-available# cat 000-default.conf
<VirtualHost *:80>
        # The ServerName directive sets the request scheme, hostname and port that
        # the server uses to identify itself. This is used when creating
        # redirection URLs. In the context of virtual hosts, the ServerName
        # specifies what hostname must appear in the request's Host: header to
        # match this virtual host. For the default virtual host (this file) this
        # value is not decisive as it is used as a last resort host regardless.
        # However, you must set it for any further virtual host explicitly.
        #ServerName www.example.com
        ServerName shiftsoft.net
        ServerAlias  www.shiftsoft.net
        Redirect / https://shiftsoft.net/


        ServerAdmin webmaster@localhost
        DocumentRoot /var/www

        # 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
```

รีสตาท apache2