MIT2302 - Data and Network Security

University of Colombo, School of Computing

Apache SSL Configuration

Practical Environment

Please use your Ubuntu environment (Laptop or VM) to work on this practical. In Ubuntu (Linux) OpenSSL is preinstalled. You have to install Apache2 (**`sudo apt-get install apache2`**). In order to generate SSL certificates scripts are given in the CAServer.zip file.

Apache SSL configuration

This practical session covers Apache SSL configuration on Ubuntu. It will allow you to encrypt traffic to your Web server. While this does not provide the benefit of third party validation of your server's identity, it fulfills the requirements of those simply wanting to transfer information securely.

1. Create a certificate authority using OpenSSL

You can use the **`CreateCA.sh`** script file given in the CAServer.zip.

Now give out the root certificate (**`CACert.pem`**) of the CA to those who would accept this as a trusted CA and let them import it to their browsers.

2. Creating a Certificate for Appache Web server.

You can use the **`createHostCert.sh`** script file given in the CAServer.zip file.

Make sure common name attribute matches your IP address. Ideally, this should be mapped with your domain name of the web server.

3. Activate the SSL Module

SSL support actually comes standard in the Ubuntu Apache package. We simply need to enable it to take advantage of SSL on our system.

```
$ sudo a2enmod ssl
```

Then restart the web server for the change to be recognized.

```
$ sudo service apache2 restart
```

Create a directory to store the server key and the certificate and copy the server key and the certificate to the /etc/apache2/ssl directory.

```
$ sudo mkdir /etc/apache2/ssl
```

Open the default SSL configuration file

```
$ sudo nano /etc/apache2/sites-available/default
```

Change the port on the virtual host to 443

```
<VirtualHost *:443>
```

Add the following line right below the admin email

```
ServerName your_ip:443
```

Add the following lines to the virtual host configuration

```
SSLEngine on
SSLCertificateFile /etc/apache2/ssl/apache.crt
SSLCertificateKeyFile /etc/apache2/ssl/apache.key
```

Activate new virtual host

```
$ sudo a2ensite default
```

Restart apache server

```
$ sudo service apache2 reload
```

4. Create a Web page with your Name and Index number and load it to a browser via SSL

+++ end +++