

## Development Prep -Setting up TLS certificate in Nginx

1. Make sure installing Nginx and OpenSSL first.
2. Generating RSA key pair with DES3 encryption. Writing out to the file called myhostname.key.

```
openssl genrsa -des3 -out myhostname.key 4096
```

3. Making a signing request to the certificate authority to verify your identity.(myhostname.csr is a certificate signing request) Once you press Enter, you can set some basic information, country, company name, email address for instance.

```
openssl req -new -key myhostname.key -out myhostname.csr
```

4. Remove the password that protects the key file by overwriting the file.

```
cp myhostname.key myhostname.key.pw  
openssl rsa -in myhostname.key.pw -out myhostname.key
```

5. Signing to the certificate authority using the private key, which is myhostname.key. X509 is a type of certificate.

```
openssl x509 -req -in myhostname.csr -signkey myhostname.key -  
out myhostname.crt
```

6. Store the SSH certificate under the Nginx configuration directory.

```
sudo mkdir /etc/nginx/ssl  
sudo cp myhostname.crt /etc/nginx/ssl  
sudo cp myhostname.key /etc/nginx/ssl
```

7. Edit the configuration in Nginx.

```
sudo vim /etc/nginx/sites-available/default
```

Then inside the configuration, scrolling all the way to the end, a section called HTTPS Server will show up. On default, this is commented out, so uncomment the whole section. Modifying to the following(specifying the path).

```
#HTTPS Server  
#  
server{  
    listen 443;  
    server_name localhost;  
    root /var/www/default;  
    index index.html index.htm;  
    ssl on;  
    ssl_certificate /etc/nginx/ssl/myhostname.crt;  
    ssl_certificate_key /etc/nginx/ssl/myhostname.key;
```

```
        ssl_session_timeout 5m;

        ssl_protocols TLSv1 TLSv1.1 TLSv1.2
        ssl_ciphers "HIGH:!aNULL:!MD5 or aNULL:!MD5:!3DES";
        ssl_prefer_server_ciphers on;

        location /{
                                try_files $uri $uri/ =404;
        }
}
```

After modifying the configuration, restart Nginx.

```
sudo service nginx restart
```

Here is the resource that I have used:

<https://www.youtube.com/watch?v=xNk8fZCuCMU>