How to generate self signed SSL certificate with openssl on Linux / BSD

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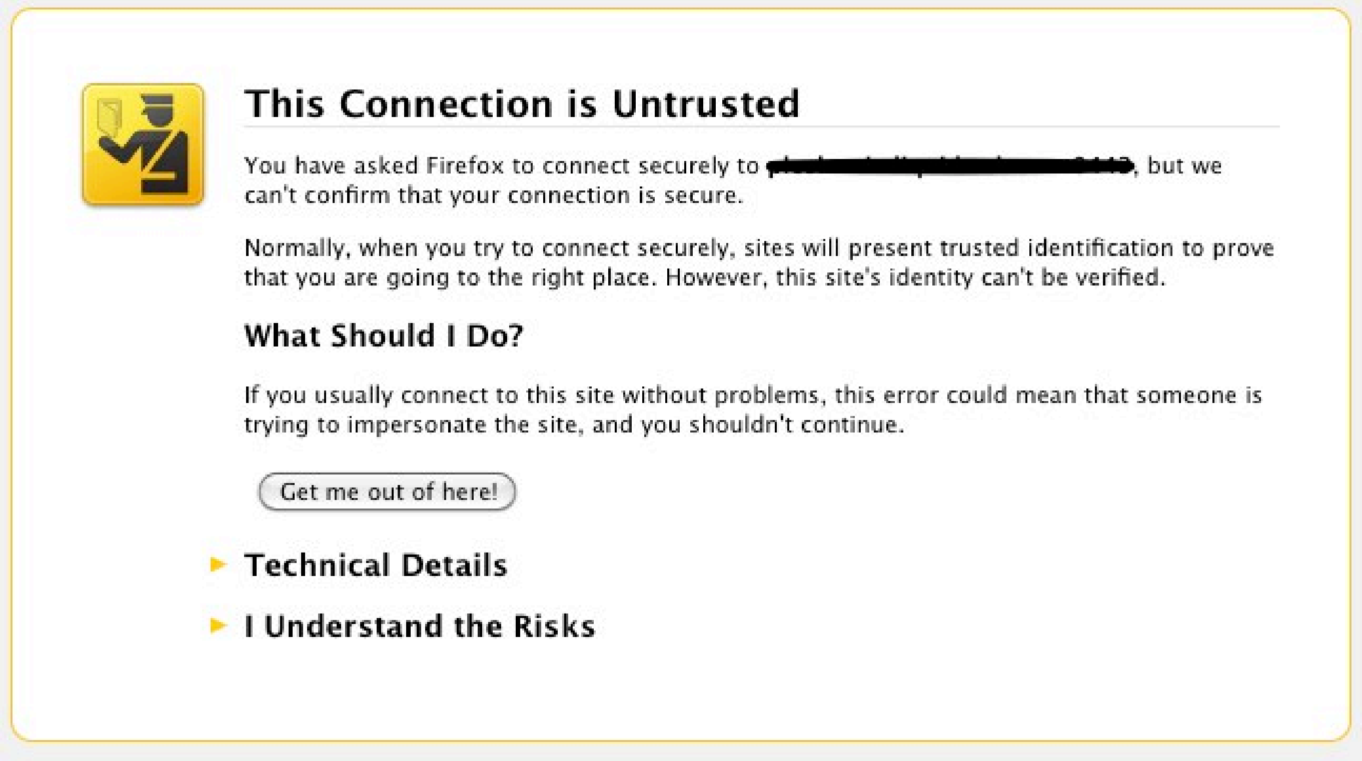

This Connection is Untrusted

You have asked Firefox to connect securely to [redacted], but we can't confirm that your connection is secure.

Normally, when you try to connect securely, sites will present trusted identification to prove that you are going to the right place. However, this site's identity can't be verified.

What Should I Do?

If you usually connect to this site without problems, this error could mean that someone is trying to impersonate the site, and you shouldn't continue.

It is common solution for personal use to **generate SSL certificates which are self-signed**. Self-signed certificates are dangerous as no authority or company guarantees that remote site is trustable. However for private use having encrypted connection whether you need to transfer personal data is better than not having such. There are plenty of tutorials online pointing how to set-up Apache webserver to provide access via SSL port 443 with self-signed certifacate, but anyways I decided to blog here a one-liner command way, which makes **generating self-signed certificate** a piece of cake. Self-signed certificates on UNIX are generated with **openssl** command part of openssl (Secure Socket Layer cryptocgraphic tools).

On Debian Linux to install openssl (if you still don't have it):

```
 apt-get install --yes openssl
```

On Fedora, RHEL, CentOS etc. same install should be done with:

```
yum install -y openssl
```

On FreeBSD to install it use ports;

cd /usr/ports/security/openssl
make install clean

Once openssl is available, here is **command to generate self signed SSL certitifacate**;

```
openssl req -x509 -nodes -days 3650 -newkey rsa:2048 -keyout my-sitena
me.key -out my-sitename.crt  Generating a 2048 bit RSA private key  ..
..........................................+++  .......................
.......................................+++  writing new private key to
 'key.pem'  Enter PEM pass phrase:  Verifying - Enter PEM pass phrase:
  -----  You are about to be asked to enter information that will be i
ncorporated  into your certificate request.  What you are about to ent
er 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]:BG  State or Province Name (ful
l name) [Some-State]:Sofia  Locality Name (eg, city) []:Sofia  Organiz
ation Name (eg, company) [Internet Widgits Pty Ltd]:Pc Freak  Organiza
tional Unit Name (eg, section) []:Pc Freak  Common Name (eg, YOUR name
) []:www.pc-freak.net  Email Address []:testing@pc-freak.net
```

The generated certificate Private Key file is placed in **my-sitename.key**
, actual certificate is located in **my-sitename.crt** *-days* option tells for how long period certificate will be valid. Regenerating certificate every year (360 days) is good security practice but it is pretty annoying to see your certificate has expered thus for private self signed SSL certificate it is more confortable to generate cert for *10 years time*.
To use my-sitename.key and my-sitename.crt copy them to **/etc/ssl/crt/**

cp -rpf my-sitename.crt /etc/ssl/crt/
cp -rpf my-sitename.key /etc/ssl/crt/

Next what's left is to configure **Apache** to use new generated certs. Quickest way is to add it inside virtual host. Adding to Apache also depends on Linux distribution where SSL has to be added but in general, what should work is something like:

SSLEngine on
SSLCertificateFile /etc/ssl/crt/my-sitename.crt
SSLCertificateKeyFile /etc/ssl/crt/my-sitename.key

Note that if SSL has to be enabled for specific Virtual Host you will have to place above Apache directives into the Vhost. Though certifiate will only be trusted by your authority RSA 2048 bit encryption in transfer data between your Webserver and Browser should guarantee you extra security of data, not that it is impossible for data to be still sniffed by a skilled hacker but makes data securily transferred in probably 99% of cases :)