

How to setup and enable https with SSL on wamp server virtual host

Recently, I've started working on one project where we need to set up a virtual host with HTTPS because I need to run that project with [expose](#) and [Shopify](#) in my local development machine. I've wamp 3.2.3 on my local machine.

I spent a lot of time setting it. so, I thought I should write one article and video for a step-by-step guide. So, I will show you in this article how to set up HTTPS for a local machine.

You can watch the following video tutorial or follow the article.

Step 1 - Install Wamp

Install wamp server if not installed in your local machine. you can download the latest version of the wamp server from [here](#). wamp server is available in 32 bit and 64 bit. make sure you select the correct version of the wamp server based on your operating system (window)'s version.

Step 2 - Install OpenSSL

OpenSSL is an open-source command-line tool that is used to generate the SSL certificate and private key. OpenSSL is available in both versions 32 and 64 bit. download the latest version of OpenSSL from [here](#).

Download Win32/Win64 OpenSSL

Download Win32/Win64 OpenSSL today using the links below!

File	Type	Description
Win64 OpenSSL v1.1.1 Light EXE MSI	3MB Installer	Installs the most commonly used essentials of Win64 OpenSSL v1.1.1 (Recommended for users by the creators of OpenSSL). Only installs on 64-bit versions of Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win64 OpenSSL v1.1.1 EXE MSI	3MB Installer	Installs Win64 OpenSSL v1.1.1 (Recommended for software developers by the creators of OpenSSL). Only installs on 64-bit versions of Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win32 OpenSSL v1.1.1 Light EXE MSI	3MB Installer	Installs the most commonly used essentials of Win32 OpenSSL v1.1.1 (Only install this if you need 32-bit OpenSSL for Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win32 OpenSSL v1.1.1 EXE MSI	3MB Installer	Installs Win32 OpenSSL v1.1.1 (Only install this if you need 32-bit OpenSSL for Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.

I hope you successfully installed OpenSSL on your machine. let's take the next step

Step 3 - Create a Private key

Open your terminal as an Administrator otherwise you will get a permission denied error. Also, you can provide permission to the OpenSSL directory and run the terminal in normal mode.

Now, let go to where we installed OpenSSL

```
cd C:\Program Files\OpenSSL-Win64\bin
```

Let's create a private key which is 2048 bits encryption. fire one by one the following two commands to create it.

```
openssl genrsa -aes256 -out private.key 2048
```

```
openssl rsa -in private.key -out private.key
```

```
C:\Program Files\OpenSSL-Win64\bin
λ openssl genrsa -aes256 -out private.key 2048
Generating RSA private key, 2048 bit long modulus (2 primes)
.....+++++
.....+++++
e is 65537 (0x010001)
Enter pass phrase for private.key:
Verifying - Enter pass phrase for private.key:
Verify failure
User interface error
10792:error:2807106B:UI routines:UI_process:processing error:crypto\ui\ui_lib.c:545:while reading strings
10792:error:0906906F:PEM routines:PEM_ASN1_write_bio:read key:crypto\pem\pem_lib.c:357:
```

Your private.key is successfully generated here C:\Program Files\OpenSSL-Win64\bin

Step 4 - Create an SSL Certificate

Let's create a certificate using the following command,

```
openssl req -new -x509 -nodes -sha1 -key private.key -out certificate.crt -days 36500
```

You need to enter a detail that looks like

```
C:\Program Files\OpenSSL-Win64\bin
λ openssl req -new -x509 -nodes -sha1 -key private.key -out certificate.crt -days 36500
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]:IN
State or Province Name (full name) [Some-State]:Gujarat
Locality Name (eg, city) []:Junagadh
Organization Name (eg, company) [Internet Widgits Pty Ltd]:InfyOm
Organizational Unit Name (eg, section) []:Web
Common Name (e.g. server FQDN or YOUR name) []:localhost
Email Address []:shailesh.ladumor@infyom.com
```

You can verify here

Name	Date modified	Type	Size
PEM	28-01-2021 02:42 PM	File folder	
CA.pl	08-12-2020 02:33 PM	PL File	8 KB
capidll	08-12-2020 02:33 PM	Application exten...	68 KB
certificate	29-01-2021 06:54 PM	Security Certificate	2 KB
dasync.dll	08-12-2020 02:33 PM	Application exten...	44 KB
libcrypto-1_1-x64.dll	08-12-2020 02:33 PM	Application exten...	3,330 KB
libssl-1_1-x64.dll	08-12-2020 02:33 PM	Application exten...	667 KB
openssl	08-12-2020 02:33 PM	Application	531 KB
ossltest.dll	08-12-2020 02:33 PM	Application exten...	43 KB
padlock.dll	08-12-2020 02:33 PM	Application exten...	39 KB
private.key	29-01-2021 06:51 PM	KEY File	2 KB
progs.pl	08-12-2020 02:33 PM	PL File	6 KB
tsget.pl	08-12-2020 02:33 PM	PL File	7 KB

Step 5 - Move both Private Key and a Certificate

Open a directory D:\wamp64\bin\apache\apache2.4.46\conf (Based on where your wamp is installed) and create a `key` directory.

Now, move both files to the `key` directory.

Step 6 - Configure Your httpd.conf File

Open your D:\wamp64\bin\apache\apache2.4.46\conf\httpd.conf (the drive should be where your wamp is installed) and un-comment the following 3 lines one by one.

```
LoadModule ssl_module modules/mod_ssl.so
Include conf/extra/httpd-ssl.conf
LoadModule socache_shmcb_module modules/mod_socache_shmcb.so
```

Step 7 Configure Your httpd-ssl.conf File

Open your D:\wamp64\bin\apache\apache2.4.46\conf\extra\httpd-ssl.conf (the drive should be where your wamp is installed) and change the following lines.

```
DocumentRoot "${INSTALL_DIR}/www"
ServerName localhost:443
ServerAdmin admin@example.com
SSLCertificateKeyFile "${SRVROOT}/conf/key/private.key"
SSLCertificateFile "${SRVROOT}/conf/key/certificate.crt"
```

Make sure, these following all lines are set or not. if not, add it as well.

```
SSLSessionCache "shmcb:${SRVROOT}/logs/ssl_scache(512000)"
CustomLog "${SRVROOT}/logs/ssl_request.log" \
    "%t %h %{SSL_PROTOCOL}x %{SSL_CIPHER}x \"%r\" %b"
```

Step 8 Configure a Virtual Host

Hope you have created a virtual host. if not, create a virtual host using the virtual host manager which is provided by wamp.

Open an D:\wamp64\bin\apache\apache2.4.46\conf\extra\httpd-vhosts.conf and update your virtual host

Change the port `:80` to `:443`

add the following lines into the VirtualHost.

```
SSLEngine on
SSLCertificateFile "${SRVROOT}/conf/key/certificate.crt"
SSLCertificateKeyFile "${SRVROOT}/conf/key/private.key"
```

Now, the code of VirtualHost looks like,

Now, we are done. Let's restart a wamp server.

If you see a green WAMP icon everything should be right. If the icon is orange there is a problem with your syntax somewhere.

Open terminal and go to the D:\wamp64\bin\apache\apache2.4.46\bin and run `httpd -t` in the command prompt and if there are any syntax errors they will be listed.

if fine then open `https://ladumor.test` on the browser