Host Multiple Websites With SSL Encryption in RHEL | Configure HTTPS Apache Server

```
hostnamectl set-hostname www.nehraclasses.com
hostnamectl
clear
dnf repolist
clear
yum install -y httpd openssl mod_ssl
clear
openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout server.key -out server.crt
clear
ls -l
cp -r server.crt /etc/pki/tls/certs/
cp -r server.key /etc/pki/tls/private/
clear
vim /etc/httpd/conf.d/ssl.conf
clear
httpd -t
apachectl configtest
vim /etc/httpd/conf.d/httpd.conf
cd /var/www/html/
ll
mkdir -p /var/www/html/website1
mkdir -p /var/www/html/website2
```

```
ll
ls -lZd /var/www/html/
ls -lZd website1
ls -lZd website2
clear
httpd -t
clear
cd website
cd website2
pwd
clear
vim index.html
cd ..
cd website1
clear
ll
cp -r /root/Desktop/perfect-learn/* .
ll
clear
httpd -t
clear
firewall-cmd --permanent --add-service=https
firewall-cmd --permanent --add-port=443/tcp
firewall-cmd --reload
clear
systemctl start httpd
systemctl enable httpd
systemctl status httpd
clear
cd
vim /etc/hosts
clear
systemctl restart httpd
```

```
[root@rhel8 ~]# hostnamectl set-hostname www.nehraclasses.com
[root@rhel8 ~]# hostnamectl
   Static hostname: www.nehraclasses.com
         Icon name: computer-vm
           Chassis: vm
        Machine ID: 31ec9b286cd944039945af920d258d26
           Boot ID: 643c7bf4228f4c59b3becb2d34debac5
    Virtualization: vmware
  Operating System: Red Hat Enterprise Linux 8.0 (Ootpa)
       CPE OS Name: cpe:/o:redhat:enterprise_linux:8.0:GA
            Kernel: Linux 4.18.0-80.el8.x86_64
      Architecture: x86-64
[root@rhel8 ~]#
```

```
[root@rhel8 ~]# dnf repolist
Updating Subscription Management repositories.
Unable to read consumer identity
This system is not registered to Red Hat Subscription Management. You can u
cription-manager to register.
Last metadata expiration check: 0:04:26 ago on Friday 05 June 2020 08:10:20
.
repo id                         repo name
InstallMedia-AppStream          Red Hat Enterprise Linux 8 - AppStream
InstallMedia-BaseOS             Red Hat Enterprise Linux 8 - BaseOS
[root@rhel8 ~]#
```

```
[root@rhel8 ~]# yum install -y httpd openssl mod_ssl
Updating Subscription Management repositories.
Unable to read consumer identity
This system is not registered to Red Hat Subscription Management. You can use subs
cription-manager to register.
Last metadata expiration check: 0:05:07 ago on Friday 05 June 2020 08:10:20 PM IST
.
```

```
  Verifying        : mod_http2-1.11.3-1.module+el8+2443+605475b7.x86_64      8/10
  Verifying        : mod_ssl-1:2.4.37-10.module+el8+2764+7127e69e.x86_64     9/10
  Verifying        : redhat-logos-httpd-80.7-1.el8.noarch                   10/10
Installed products updated.

Installed:
  httpd-2.4.37-10.module+el8+2764+7127e69e.x86_64
  mod_ssl-1:2.4.37-10.module+el8+2764+7127e69e.x86_64
  apr-util-bdb-1.6.1-6.el8.x86_64
  apr-util-openssl-1.6.1-6.el8.x86_64
  apr-1.6.3-9.el8.x86_64
  apr-util-1.6.1-6.el8.x86_64
  httpd-filesystem-2.4.37-10.module+el8+2764+7127e69e.noarch
  httpd-tools-2.4.37-10.module+el8+2764+7127e69e.x86_64
  mod_http2-1.11.3-1.module+el8+2443+605475b7.x86_64
  redhat-logos-httpd-80.7-1.el8.noarch

Complete!
[root@rhel8 ~]#
```

```
[root@rhel8 ~]# openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout server
.key -out server.crt
Generating a RSA private key
..........................+++++
............+++++
writing new private key to 'server.key'
-----
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) [XX]:IN
State or Province Name (full name) []:UP
Locality Name (eg, city) [Default City]:Modinagar
Organization Name (eg, company) [Default Company Ltd]:NehraClasses
Organizational Unit Name (eg, section) []:
Common Name (eg, your name or your server's hostname) []:Nehra
Email Address []:root@192.168.1.105
[root@rhel8 ~]# clea
```

```
[root@rhel8 ~]# ls -l
total 16
-rw-------. 1 root root 1707 May 20 20:02 anaconda-ks.cfg
drwxr-xr-x. 2 root root    6 May 20 20:47 Desktop
drwxr-xr-x. 2 root root    6 May 20 20:47 Documents
drwxr-xr-x. 2 root root    6 May 20 20:47 Downloads
-rw-r--r--. 1 root root 1862 May 20 20:18 initial-setup-ks.cfg
drwxr-xr-x. 2 root root    6 May 20 20:47 Music
drwxr-xr-x. 2 root root    6 May 20 20:47 Pictures
drwxr-xr-x. 2 root root    6 May 20 20:47 Public
-rw-r--r--. 1 root root 1424 Jun  5 20:20 server.crt
-rw-------. 1 root root 1704 Jun  5 20:19 server.key
drwxr-xr-x. 2 root root    6 May 20 20:47 Templates
drwxr-xr-x. 2 root root    6 May 20 20:47 Videos
[root@rhel8 ~]#

[root@rhel8 ~]# cp -r server.crt /etc/pki/tls/certs/
[root@rhel8 ~]# cp -r server.key /etc/pki/tls/private/
[root@rhel8 ~]#
```

```
Quick connect...   2. 192.168.1.105 (root)
[root@rhel8 ~]# vim /etc/httpd/conf.d/ssl.conf
```

/ SSL Cert

```
#   SSL Cipher Suite:
#   List the ciphers that the client is permitted to negotiate.
#   See the mod_ssl documentation for a complete list.
#   The OpenSSL system profile is configured by default.  See
#   update-crypto-policies(8) for more details.
SSLCipherSuite PROFILE=SYSTEM
SSLProxyCipherSuite PROFILE=SYSTEM

#   Point SSLCertificateFile at a PEM encoded certificate.  If
#   the certificate is encrypted, then you will be prompted for a
#   pass phrase.  Note that restarting httpd will prompt again.  Keep
#   in mind that if you have both an RSA and a DSA certificate you
#   can configure both in parallel (to also allow the use of DSA
#   ciphers, etc.)
#   Some ECC cipher suites (http://www.ietf.org/rfc/rfc4492.txt)
#   require an ECC certificate which can also be configured in
#   parallel.
SSLCertificateFile /etc/pki/tls/certs/localhost.crt
/SSLCer                                                    76,11         3
```

```
   ciphers, etc.)
   Some ECC cipher suites (http://www.ietf.org/rfc/rfc4492.txt)
   require an ECC certificate which can also be configured in
   parallel.
SLCertificateFile /etc/pki/tls/certs/server.crt

   Server Private Key:
   If the key is not combined with the certificate, use this
   directive to point at the key file.  Keep in mind that if
   you've both a RSA and a DSA private key you can configure
   both in parallel (to also allow the use of DSA ciphers, etc.)
   ECC keys, when in use, can also be configured in parallel
SLCertificateKeyFile /etc/pki/tls/private/server.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
```

 # save + exit - wq!

```
[root@rhel8 ~]# httpd -t
Syntax OK
[root@rhel8 ~]# apachectl configtest
Syntax OK
[root@rhel8 ~]#
```

Edit the file responsible for conf of the apache server

```
[root@rhel8 ~]# vim /etc/httpd/conf.d/httpd.conf
```

```
<VirtualHost *:443>
SSLEngine on
SSLCertificateFile /etc/pki/tls/certs/server.crt
SSLCertificateKeyFile /etc/pki/tls/private/server.key
ServerName www.nehraclasses.com
DocumentRoot /var/www/html/website1
</VirtualHost>

<VirtualHost *:443>
SSLEngine on
SSLCertificateFile /etc/pki/tls/certs/server.crt
SSLCertificateKeyFile /etc/pki/tls/private/server.key
ServerName www.nehraclasses.net
DocumentRoot /var/www/html/website2
</VirtualHost>
```

```
[root@rhel8 ~]# cd /var/www/html/
[root@rhel8 html]# ll
total 0
[root@rhel8 html]# mkdir -p /var/www/html/website1
[root@rhel8 html]# mkdir -p /var/www/html/website2
[root@rhel8 html]# ll
total 0
drwxr-xr-x. 2 root root 6 Jun  5 20:32 website1
drwxr-xr-x. 2 root root 6 Jun  5 20:32 website2
```

 # now Check SELinux Permission

```
[root@rhel8 html]# ls -lZd /var/www/html/
drwxr-xr-x. 4 root root system_u:object_r:httpd_sys_content_t:s0 38 Jun  5 20:32 /
var/www/html/
[root@rhel8 html]#
```

```
[root@rhel8 html]# ls -lZd website1
drwxr-xr-x. 2 root root unconfined_u:object_r:httpd_sys_content_t:s0 6 Jun  5 20:3
2 website1
[root@rhel8 html]# ls -lZd website2
drwxr-xr-x. 2 root root unconfined_u:object_r:httpd_sys_content_t:s0 6 Jun  5 20:3
2 website2
```

```
[root@rhel8 html]# httpd -t
Syntax OK
[root@rhel8 html]#
```

```
[root@rhel8 html]# cd website2
[root@rhel8 website2]# pwd
/var/www/html/website2
[root@rhel8 website2]#
```

```
[root@rhel8 website2]# vim index.html
```

```
Hi, Welcome to Nehra Classes Youtube Channel.

Pleas Subscribe Us

Thanks
~
~
```

Go o Web 1

```
[root@rhel8 website1]# ll
total 0
[root@rhel8 website1]#
```

```
[root@rhel8 website1]# cp -r /root/Desktop/perfect-learn/* .
[root@rhel8 website1]# ll
total 64
-rw-r--r--. 1 root root 12367 Jun  5 20:35 about.html
-rw-r--r--. 1 root root 11126 Jun  5 20:35 contact.html
drwxr-xr-x. 2 root root  4096 Jun  5 20:35 css
drwxr-xr-x. 2 root root   268 Jun  5 20:35 fonts
drwxr-xr-x. 2 root root  4096 Jun  5 20:35 images
-rw-r--r--. 1 root root 23289 Jun  5 20:35 index.html
drwxr-xr-x. 2 root root  4096 Jun  5 20:35 js
drwxr-xr-x. 2 root root    30 Jun  5 20:35 php
[root@rhel8 website1]#
```

#firewal Service

```
[root@rhel8 website1]# firewall-cmd --permanent --add-service=https
success
[root@rhel8 website1]# firewall-cmd --permanent --add-port=443/tcp
success
[root@rhel8 website1]# firewall-cmd --reload
success
[root@rhel8 website1]#
```

 # Start the httpd apache service

```
[root@rhel8 website1]# systemctl start httpd
[root@rhel8 website1]# systemctl enable httpd
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/l
ib/systemd/system/httpd.service.
[root@rhel8 website1]# systemctl stat httpd
```

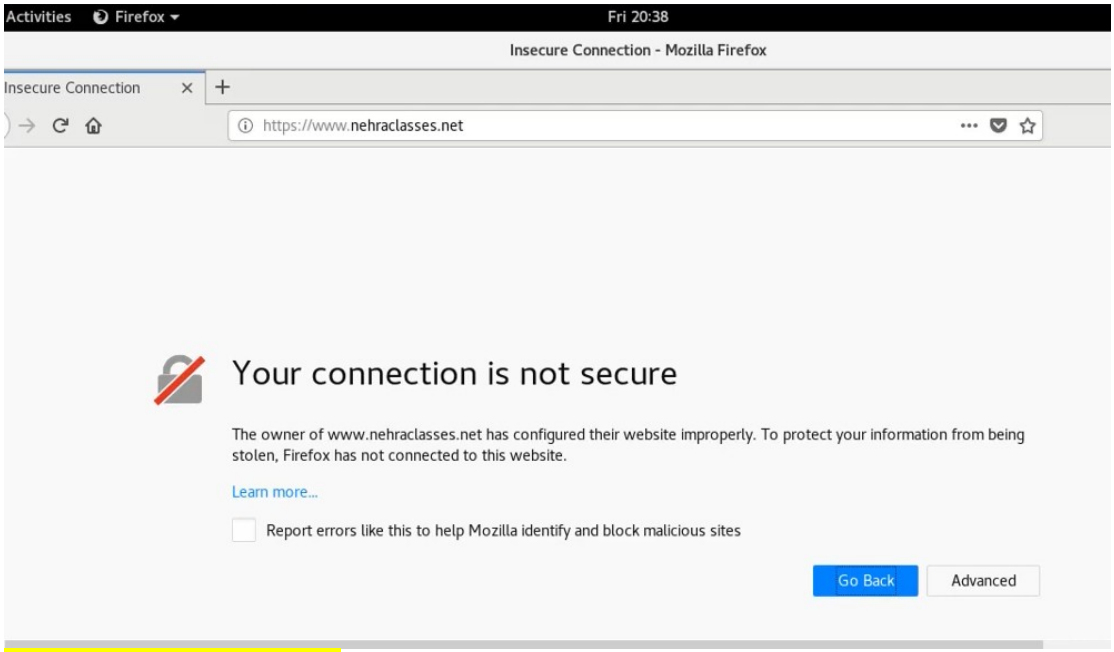
```
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset:>
   Active: active (running) since Fri 2020-06-05 20:36:43 IST; 14s ago
     Docs: man:httpd.service(8)
 Main PID: 39475 (httpd)
   Status: "Running, listening on: port 443, port 80"
    Tasks: 213 (limit: 11366)
   Memory: 24.0M
   CGroup: /system.slice/httpd.service
           ├─39475 /usr/sbin/httpd -DFOREGROUND
           ├─39477 /usr/sbin/httpd -DFOREGROUND
           ├─39478 /usr/sbin/httpd -DFOREGROUND
           ├─39479 /usr/sbin/httpd -DFOREGROUND
           └─39480 /usr/sbin/httpd -DFOREGROUND

un 05 20:36:42 www.nehraclasses.com systemd[1]: Starting The Apache HTTP Server.>
un 05 20:36:43 www.nehraclasses.com httpd[39475]: Server configured, listening o>
un 05 20:36:43 www.nehraclasses.com systemd[1]: Started The Apache HTTP Server.
root@rhel8 website1]# cl
```

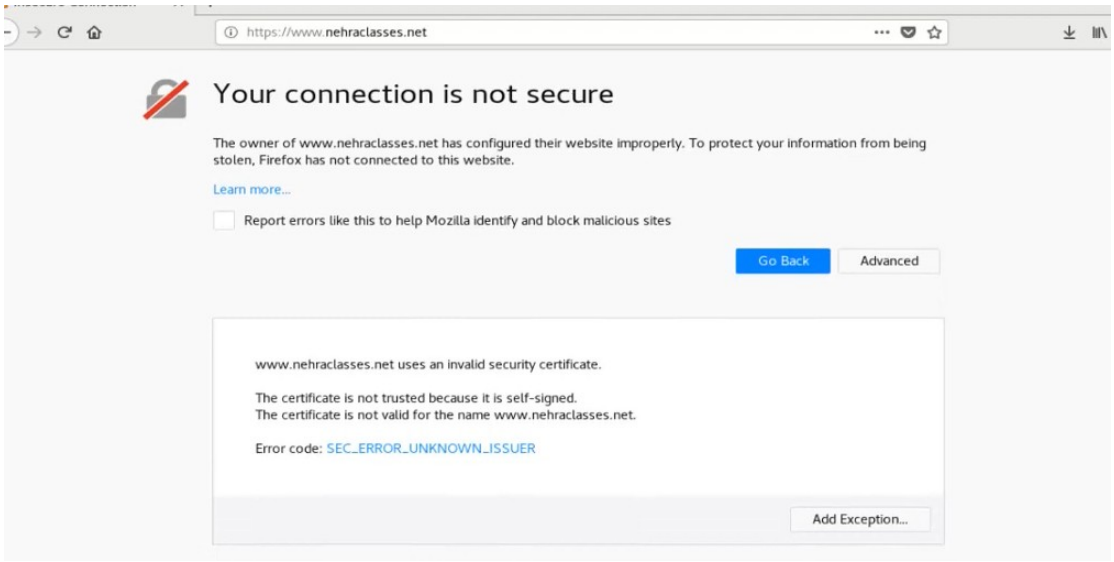
```
[root@rhel8 website1]# cd
[root@rhel8 ~]# vim /etc/hosts
```

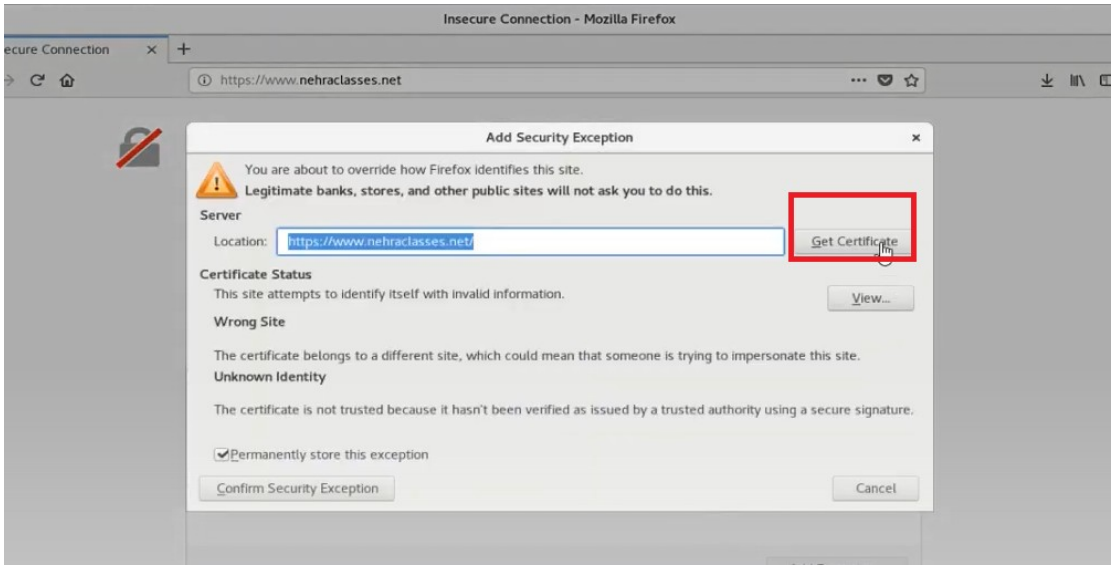
```
Quick connect...   2. 192.168.1.105 (root)
127.0.0.1   localhost localhost.localdomain localhost4 localhost4.localdomain4
::1         localhost localhost.localdomain localhost6 localhost6.localdomain6
192.168.1.105 www.nerhaclasses.com
192.168.1.105 www.nehraclasses.net
~
~
~
```

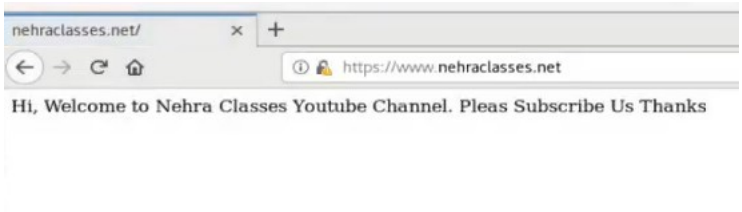
```
Quick connect...   2. 192.168.1.105 (root)
[root@rhel8 ~]# systemctl restart httpd
[root@rhel8 ~]#
```

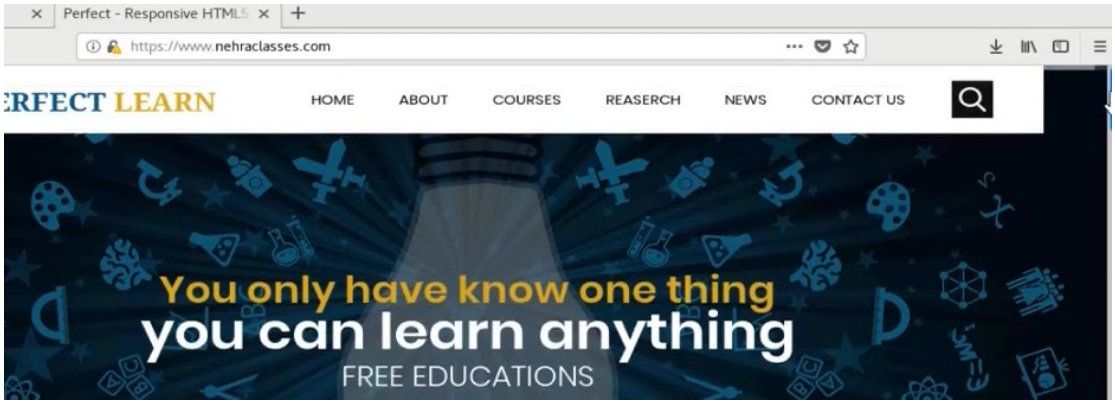


 # import cert -- click Advanced




Insecure Connection - Mozilla Firefox
https://www.nehraclasses.net
Add Security Exception
You are about to override how Firefox identifies this site.
Legitimate banks, stores, and other public sites will not ask you to do this.
Server
Location: https://www.nehraclasses.net/
Get Certificate
Certificate Status
This site attempts to identify itself with invalid information.
View...
Wrong Site
The certificate belongs to a different site, which could mean that someone is trying to impersonate this site.
Unknown Identity
The certificate is not trusted because it hasn't been verified as issued by a trusted authority using a secure signature.
Permanently store this exception
Confirm Security Exception
Cancel


nehraclasses.net/
https://www.nehraclasses.net
Hi, Welcome to Nehra Classes Youtube Channel. Pleas Subscribe Us Thanks


Perfect - Responsive HTML5
https://www.nehraclasses.com
ERFECT LEARN
HOME
ABOUT
COURSES
REASERCH
NEWS
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