

PROGRES 2 PROYEK
“MEMBANGUN WEB SERVER BERBASIS
LINUX (APACHE/NGINX+SSL)”

Disusun untuk memenuhi tugas mata kuliah Sistem Operasi

Dosen : Ferdi Cahyadi, S.Kom., M.Cs.



Disusun Oleh :

Kelompok 5

Siti Melka Rehngenana (2401020132)

Fitri Arfiana (2401020135)

Aisyah Nazwa Ramadhani (2401020136)

Christine Simbolon (2401020158)

Salsadilla Frisca Anjani (2401020164)

PRODI TEKNIK INFORMATIKA
FAKULTAS TEKNIK DAN TEKNOLOGI KEMARITIMAN
UNIVERSITAS MARITIM RAJA ALI HAJI
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LANGKAH 3 : Membuat SSL / HTTPS

Target : Mengubah HTTP menjadi HTTPS (Gembok).

1. Aktifkan Modul SSL:

```
christinesimbolon@christinesimbolon-VirtualBox:~$ sudo a2enmod ssl
[sudo] password for christinesimbolon:
Considering dependency mime for ssl:
Module mime already enabled
Considering dependency socache_shmcb for ssl:
Enabling module socache_shmcb.
Enabling module ssl.
See /usr/share/doc/apache2/README.Debian.gz on how to configure SSL and create self-signed certificates.
To activate the new configuration, you need to run:
  systemctl restart apache2
```

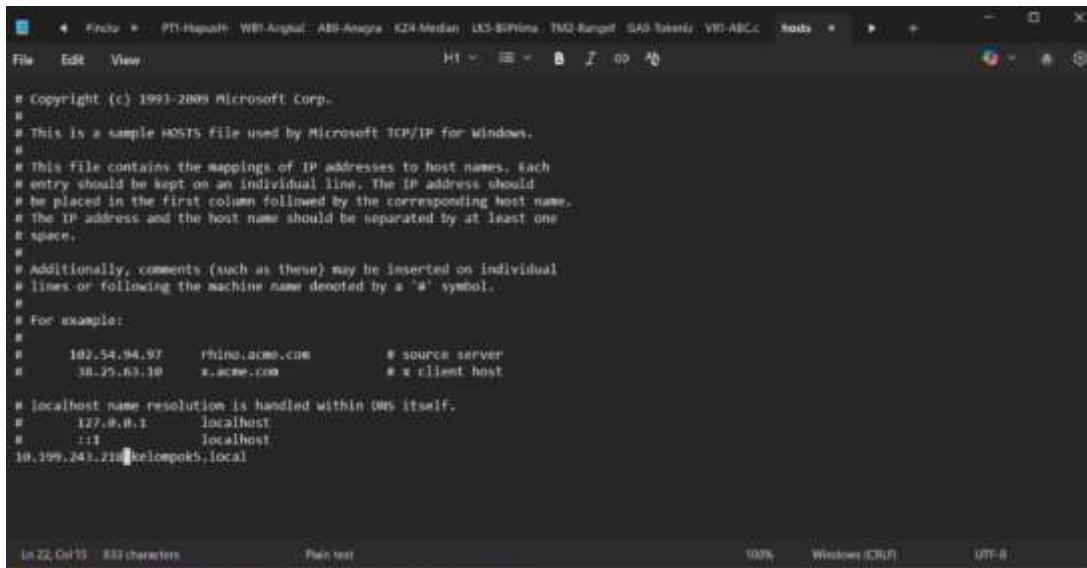
```
christinesimbolon@christinesimbolon-VirtualBox:~$ sudo systemctl restart apache2
```

2. Buat Sertifikat SSL Sendiri (Self-Signed):

```
christinesimbolon@christinesimbolon-VirtualBox:~$ sudo openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout /etc/ssl/private/apache-selfsigned.key -out /etc/ssl/certs/apache-selfsigned.crt
[sudo] password for christinesimbolon:
-----  
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]:ID  
State or Province Name (full name) [Some-State]:Kepulauan Riau  
Locality Name (eg, city) []:Tanjungpinang  
Organization Name (eg, company) [Internet Widgits Pty Ltd]:kelompok5 Proyek 5  
Organizational UNIT Name (eg, section) []:Sistem Operasi  
Common Name (e.g. server FQDN or YOUR name) []:kelompok5.local  
Email Address []:24938215@student.unrin.ac.id
```

(Nanti diminta isi Info Negara dll, isi bebas saja atau tekan Enter terus).

3. Setting Domain Lokal (Hosts File): Karena ini domain palsu (lokal), komputer kamu harus dikasih tahu.
 - Di Windows (Laptop yang buat buka browser): Buka Notepad as Administrator -> Buka file C:\Windows\System32\drivers\etc\hosts.
 - Tambahkan baris paling bawah: 10.199.243.218 kelompok5.local (Ganti IP sesuai IP servermu).



```
# Copyright (c) 1993-2009 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#      102.54.94.97    rhino.acme.com            # source server
#      102.54.94.97    x.acme.com             # a client host
#
# localhost name resolution is handled within DNS itself.
#    127.0.0.1          localhost
#    ::1               localhost
10.39.242.218 kelompok5.local
```

4. Update Konfigurasi Apache untuk HTTPS:

```
christinesimbolon@christinesimbolon-VirtualBox:~$ sudo nano /etc/apache2/sites-available/kelompok5.conf
```

Tambahkan blok baru di bawah blok <VirtualHost *:80>...</VirtualHost> tadi:

```
GNU nano 7.2                                         /etc/apache2/sites-available/kelompok5.conf
<VirtualHost *:80>
  ServerAdmin admin@localhost
  ServerName kelompok5.local

  Redirect permanent / https://kelompok5.local/

  ErrorLog ${APACHE_LOG_DIR}/error.log
  CustomLog ${APACHE_LOG_DIR}/access.log combined
</VirtualHost>

<VirtualHost *:443>
  ServerName kelompok5.local
  DocumentRoot /var/www/kelompok5

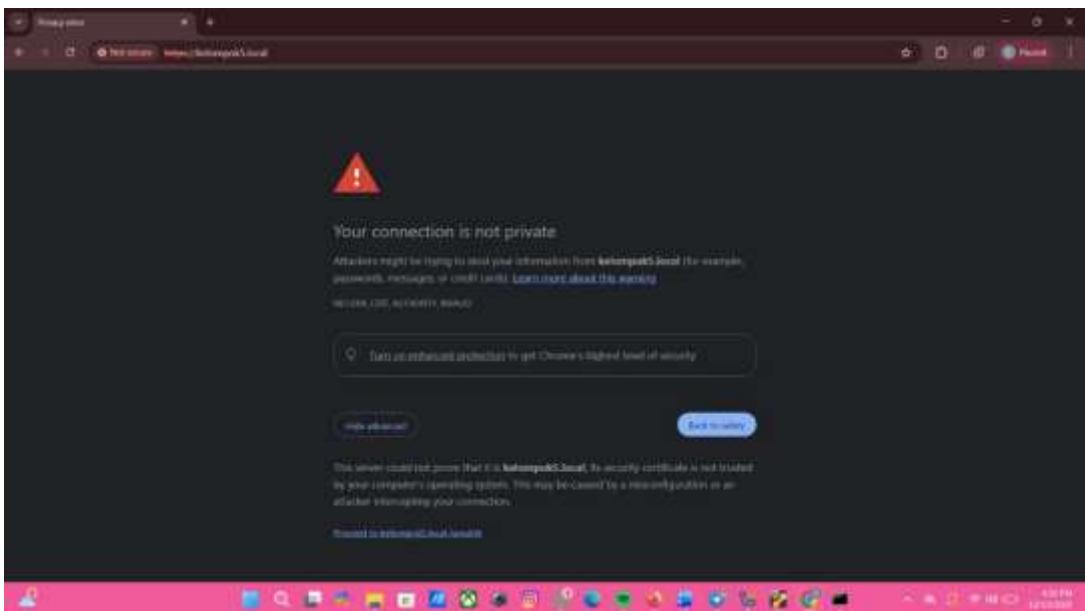
  SSLEngine on
  SSLCertificateFile /etc/ssl/certs/apache-selfsigned.crt
  SSLCertificateKeyFile /etc/ssl/private/apache-selfsigned.key
</VirtualHost>
```

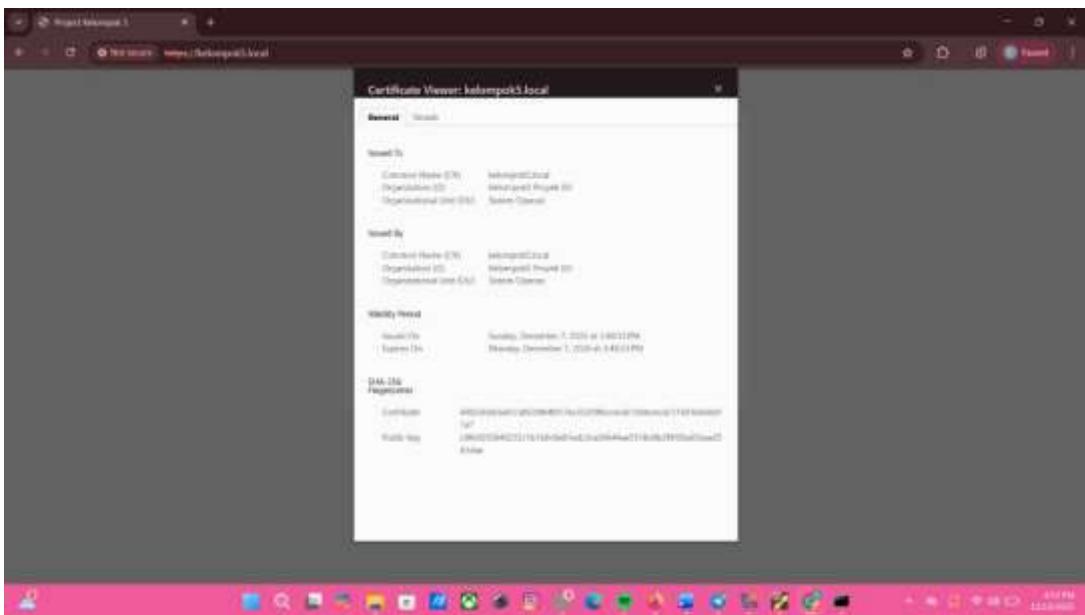
5. Restart Apache:

```
christinesimbolon@christinesimbolon-VirtualBox:~$ sudo systemctl reload apache2
```

6. Coba Akses:

Buka <https://kelompok1.local>. Catatan: Karena pakai Self-Signed, browser akan bilang "Not Secure" atau "Warning". Itu wajar! Klik Advanced -> Proceed to... Itu artinya HTTPS sudah jalan.





Dokumentasi Bukti Kerja :



