

# Apache



1

```
$ sudo apt -y install apache2 apache2-utils  
[sudo] password for ossii:
```

```
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following package was automatically installed and is no longer required:  
  libfwupdplugin1  
Use 'sudo apt autoremove' to remove it.  
The following additional packages will be installed:  
  apache2-bin apache2-data libapr1 libaprutil1 libaprutil1-dbd-sqlite3  
  libaprutil1-ldap libjansson4 liblua5.2-0 ssl-cert  
Suggested packages:  
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-  
  browser openssl-blacklist  
The following NEW packages will be installed:  
  apache2 apache2-bin apache2-data apache2-utils libapr1 libaprutil1  
  libaprutil1-dbd-sqlite3 libaprutil1-ldap libjansson4 liblua5.2-0 ssl-cert  
0 upgraded, 11 newly installed, 0 to remove and 0 not upgraded.  
Need to get 1,867 kB of archives.  
After this operation, 8,095 kB of additional disk space will be used.  
Get:1 http://tw.archive.ubuntu.com/ubuntu focal/main amd64 libapr1 amd64  
  1.6.5-1ubuntu1 [91.4 kB]  
Get:2 http://tw.archive.ubuntu.com/ubuntu focal/main amd64 libaprutil1 amd64  
  1.6.1-4ubuntu2 [84.7 kB]  
Get:3 http://tw.archive.ubuntu.com/ubuntu focal/main amd64 libaprutil1-dbd-  
  sqlite3 amd64 1.6.1-4ubuntu2 [10.5 kB]  
Get:4 http://tw.archive.ubuntu.com/ubuntu focal/main amd64 libaprutil1-ldap  
  amd64 1.6.1-4ubuntu2 [8,736 B]  
Get:5 http://tw.archive.ubuntu.com/ubuntu focal/main amd64 libjansson4 amd64  
  2.12-1build1 [28.9 kB]
```

Get:6 <http://tw.archive.ubuntu.com/ubuntu focal/main amd64 liblua5.2-0 amd64 5.2.4-1.1build3> [106 kB]  
Get:7 <http://tw.archive.ubuntu.com/ubuntu focal-updates/main amd64 apache2-bin amd64 2.4.41-4ubuntu3.12> [1,181 kB]  
Get:8 <http://tw.archive.ubuntu.com/ubuntu focal-updates/main amd64 apache2-data all 2.4.41-4ubuntu3.12> [159 kB]  
Get:9 <http://tw.archive.ubuntu.com/ubuntu focal-updates/main amd64 apache2-utils amd64 2.4.41-4ubuntu3.12> [84.5 kB]  
Get:10 <http://tw.archive.ubuntu.com/ubuntu focal-updates/main amd64 apache2 amd64 2.4.41-4ubuntu3.12> [95.6 kB]  
Get:11 <http://tw.archive.ubuntu.com/ubuntu focal/main amd64 ssl-cert all 1.0.39> [17.0 kB]  
Fetched 1,867 kB in 0s (9,618 kB/s)  
Preconfiguring packages ...  
Selecting previously unselected package libapr1:amd64.  
(Reading database ... 74596 files and directories currently installed.)  
Preparing to unpack .../00-libapr1\_1.6.5-1ubuntu1\_amd64.deb ...  
Unpacking libapr1:amd64 (1.6.5-1ubuntu1) ...  
Selecting previously unselected package libaprutil1:amd64.  
Preparing to unpack .../01-libaprutil1\_1.6.1-4ubuntu2\_amd64.deb ...  
Unpacking libaprutil1:amd64 (1.6.1-4ubuntu2) ...  
Selecting previously unselected package libaprutil1-dbd-sqlite3:amd64.  
Preparing to unpack .../02-libaprutil1-dbd-sqlite3\_1.6.1-4ubuntu2\_amd64.deb ...  
Unpacking libaprutil1-dbd-sqlite3:amd64 (1.6.1-4ubuntu2) ...  
Selecting previously unselected package libaprutil1-ldap:amd64.  
Preparing to unpack .../03-libaprutil1-ldap\_1.6.1-4ubuntu2\_amd64.deb ...  
Unpacking libaprutil1-ldap:amd64 (1.6.1-4ubuntu2) ...  
Selecting previously unselected package libjansson4:amd64.  
Preparing to unpack .../04-libjansson4\_2.12-1build1\_amd64.deb ...  
Unpacking libjansson4:amd64 (2.12-1build1) ...  
Selecting previously unselected package liblua5.2-0:amd64.  
Preparing to unpack .../05-liblua5.2-0\_5.2.4-1.1build3\_amd64.deb ...  
Unpacking liblua5.2-0:amd64 (5.2.4-1.1build3) ...  
Selecting previously unselected package apache2-bin.  
Preparing to unpack .../06-apache2-bin\_2.4.41-4ubuntu3.12\_amd64.deb ...  
Unpacking apache2-bin (2.4.41-4ubuntu3.12) ...  
Selecting previously unselected package apache2-data.  
Preparing to unpack .../07-apache2-data\_2.4.41-4ubuntu3.12\_all.deb ...  
Unpacking apache2-data (2.4.41-4ubuntu3.12) ...  
Selecting previously unselected package apache2-utils.  
Preparing to unpack .../08-apache2-utils\_2.4.41-4ubuntu3.12\_amd64.deb ...  
Unpacking apache2-utils (2.4.41-4ubuntu3.12) ...  
Selecting previously unselected package apache2.  
Preparing to unpack .../09-apache2\_2.4.41-4ubuntu3.12\_amd64.deb ...

Unpacking apache2 (2.4.41-4ubuntu3.12) ...  
Selecting previously unselected package ssl-cert.  
Preparing to unpack .../10-ssl-cert\_1.0.39\_all.deb ...  
Unpacking ssl-cert (1.0.39) ...  
Setting up libapr1:amd64 (1.6.5-1ubuntu1) ...  
Setting up libjansson4:amd64 (2.12-1build1) ...  
Setting up ssl-cert (1.0.39) ...  
Setting up liblua5.2-0:amd64 (5.2.4-1.1build3) ...  
Setting up apache2-data (2.4.41-4ubuntu3.12) ...  
Setting up libaprutil1:amd64 (1.6.1-4ubuntu2) ...  
Setting up libaprutil1-ldap:amd64 (1.6.1-4ubuntu2) ...  
Setting up libaprutil1-dbd-sqlite3:amd64 (1.6.1-4ubuntu2) ...  
Setting up apache2-utils (2.4.41-4ubuntu3.12) ...  
Setting up apache2-bin (2.4.41-4ubuntu3.12) ...  
Setting up apache2 (2.4.41-4ubuntu3.12) ...

**Enabling module mpm\_event.**

**Enabling module authz\_core.**

**Enabling module authz\_host.**

**Enabling module authn\_core.**

**Enabling module auth\_basic.**

**Enabling module access\_compat.**

**Enabling module authn\_file.**

**Enabling module authz\_user.**

**Enabling module alias.**

**Enabling module dir.**

**Enabling module autoindex.**

**Enabling module env.**

**Enabling module mime.**

**Enabling module negotiation.**

**Enabling module setenvif.**

**Enabling module filter.**

**Enabling module deflate.**

**Enabling module status.**

**Enabling module reqtimeout.**

**Enabling conf charset.**

**Enabling conf localized-error-pages.**

**Enabling conf other-vhosts-access-log.**

**Enabling conf security.**

**Enabling conf serve-cgi-bin.**

**Enabling site 000-default.**

Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service →  
/lib/systemd/system/apache2.service.

Created symlink /etc/systemd/system/multi-user.target.wants/apache-  
htcacheclean.service → /lib/systemd/system/apache-htcacheclean.service.

Processing triggers for ufw (0.36-6ubuntu1) ...  
Processing triggers for systemd (245.4-4ubuntu3.17) ...  
Processing triggers for man-db (2.9.1-1) ...  
Processing triggers for libc-bin (2.31-0ubuntu9.9) ...

## 2 RedHat / CentOS

RedHat / CentOS apache RedHat / CentOS  
httpd Ubuntu Server  
a2emod apache

## 3

netstat ( 80 port 443 )

```
$ netstat -tlnp
```

(Not all processes could be identified, non-owned process info  
will not be shown, you would have to be root to see it all.)

Active Internet connections (only servers)

Proto	Recv-Q	Send-Q	Local Address	Foreign Address	State	PID/Program name
tcp	0	0	127.0.0.53:53	0.0.0.0:*	LISTEN	-
tcp	0	0	0.0.0.0:22	0.0.0.0:*	LISTEN	-
tcp	0	0	127.0.0.1:6010	0.0.0.0:*	LISTEN	-
tcp6	0	0	:::80	:::*	LISTEN	-
tcp6	0	0	:::22	:::*	LISTEN	-
tcp6	0	0	:::1:6010	:::*	LISTEN	-

systemctl

```
$ sudo systemctl status apache2
```

● apache2.service - The Apache HTTP Server

Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)

Active: active (running) since Wed 2022-07-27 09:56:39 CST; 6min ago

Docs: <https://httpd.apache.org/docs/2.4/>

Main PID: 7307 (apache2)

Tasks: 55 (limit: 2273)

Memory: 5.2M

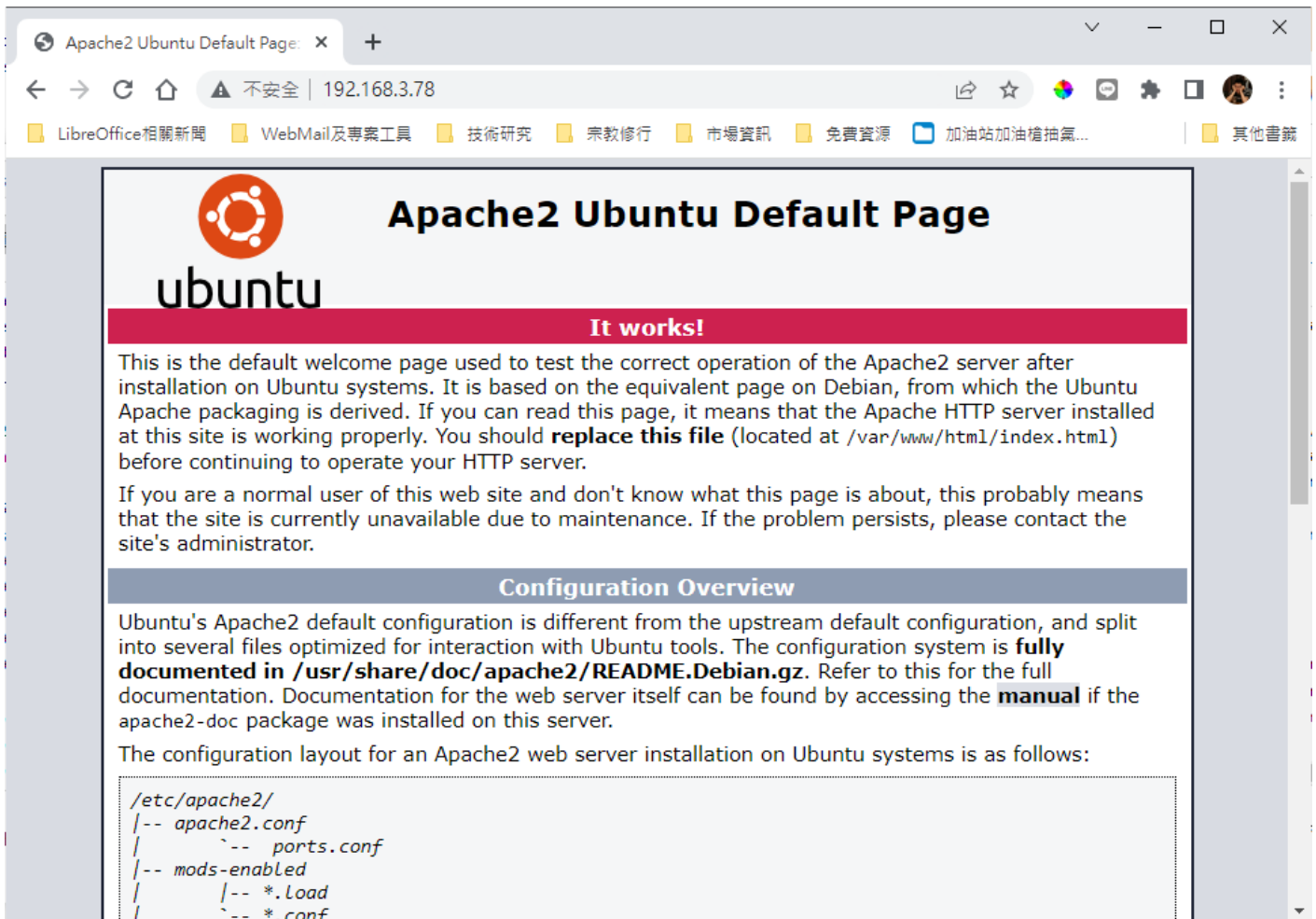
CGroup: /system.slice/apache2.service

└─7307 /usr/sbin/apache2 -k start

```
└─7309 /usr/sbin/apache2 -k start
```

lines 1-15/15 (END)


 (  80 port  )



**4** ☐ **SSL** ☐

```

[+] Ubuntu Server [ ] apache [++++]          SSL [+++++-----]          SSL
[+++++-----]                                Ubuntu Server [+++]      Apache SSL
[++++]

[+]         apache ssl [++++]       restart apache2 [+++]
```

```
$ sudo a2enmod ssl
```

Considering dependency setenvif for ssl:

Module setenvif already enabled

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
```

```
$ sudo systemctl restart apache2
```

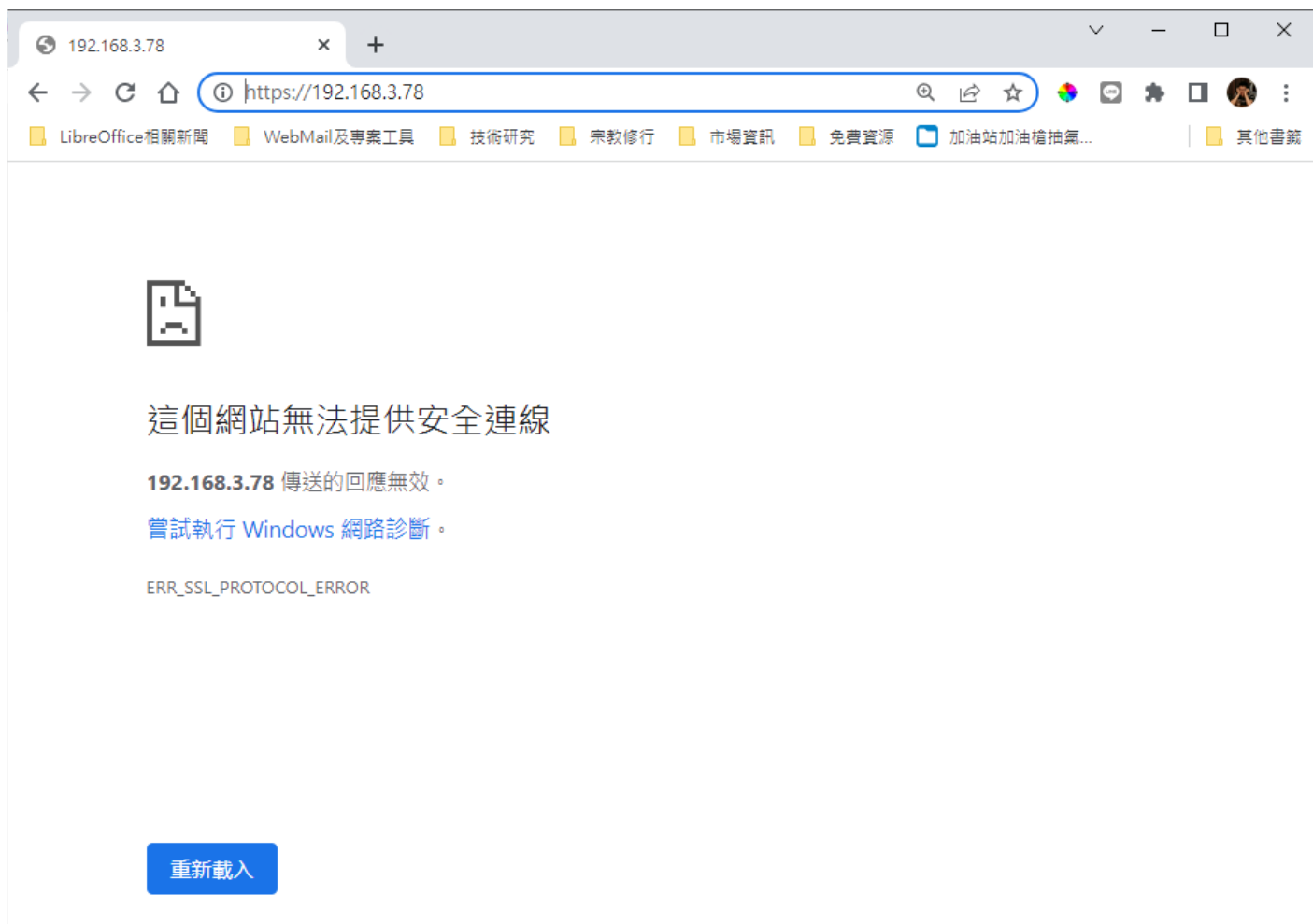
netstat 443 port

```
$ netstat -tlnp
```

(Not all processes could be identified, non-owned process info  
will not be shown, you would have to be root to see it all.)

Active Internet connections (only servers)

Proto	Recv-Q	Send-Q	Local Address	Foreign Address	State	PID/Program name
tcp	0	0	127.0.0.53:53	0.0.0.0:*	LISTEN	-
tcp	0	0	0.0.0.0:22	0.0.0.0:*	LISTEN	-
tcp	0	0	127.0.0.1:6010	0.0.0.0:*	LISTEN	-
tcp6	0	0	:::80	:::*	LISTEN	-
tcp6	0	0	:::22	:::*	LISTEN	-
tcp6	0	0	:::1:6010	:::*	LISTEN	-
tcp6	0	0	:::443	:::*	LISTEN	-



## 5 二 SSL 二二二

二二二二 SSL 二二二二二二二二二二

```
$ sudo a2ensite default-ssl.conf
```

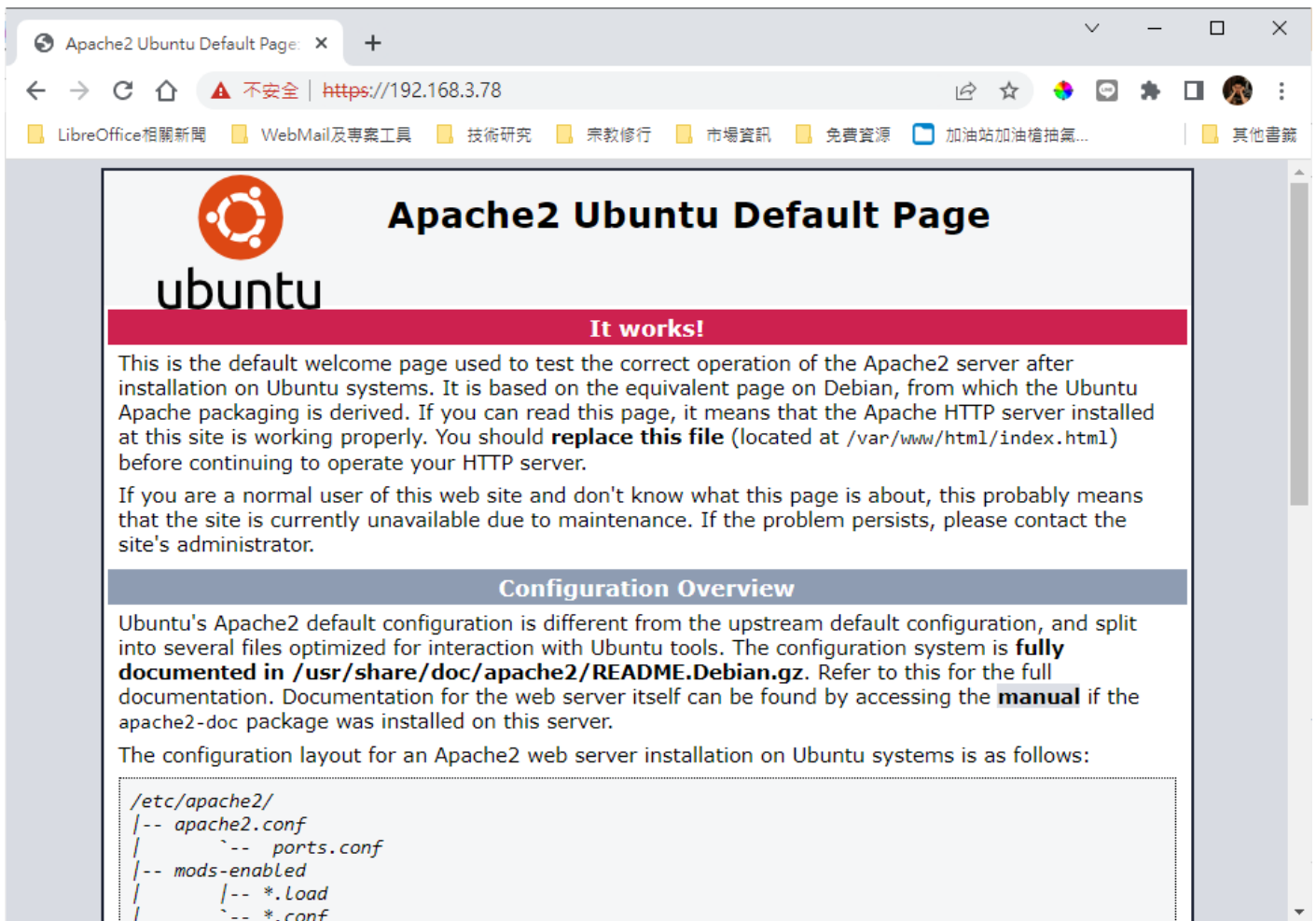
Enabling site default-ssl.

To activate the new configuration, you need to run:

```
systemctl reload apache2
```

```
$ sudo systemctl restart apache2
```

二二二 SSL 二二二 apache over SSL 二二二二二二二




 SSL  (  )

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encrypt

SSL  ~  let's

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|  |  |  |  |  |
|--|--|--|--|--|

```
/etc/apache2/apache2.conf
```

- SSL 

```
/etc/apache2/sites-available/default-ssl.conf
```

apache server

Revision #3

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