Apache User's Guide

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文件變更履歷：

版本	修訂內容	修訂原因	日期	修訂者
V1.0	Create		2006/01/24	AceLan Kao
V1.1	Support for UC+, IA-24X, W3XX, UC-7112 Plus		2008/05/12	Johnson Liu

1. Introduce Apache

1.1. What is Apache?

The Apache Software Foundation (ASF) is a 501(c)3 non-profit organization providing support for the Apache community of open-sourced software projects. For more details, please see the Apache Software Foundation FAQ

The Apache HTTP Server -- sometimes called Apache httpd -- is a project of the Apache Software foundation aimed at creating a robust, commercial-grade, featureful, and freely-available source code implementation of an HTTP (Web) server. For more information, please see the About Apache page.

1.2. What is the Apache HTTP Server?

- is a powerful, flexible, HTTP/1.1 compliant web server
- implements the latest protocols, including HTTP/1.1 (RFC2616)
- is highly configurable and extensible with third-party modules
- can be customised by writing 'modules' using the Apache module API
- provides full source code and comes with an unrestrictive license
- runs on Windows 2003/XP/2000/NT/9x, Netware 5.x and above, OS/2, and most versions of Unix, as well as several other operating systems
- is actively being developed
- encourages user feedback through new ideas, bug reports and patches

1.3. How thoroughly tested is Apache?

Apache is run on millions of Internet servers. It has been tested thoroughly by both developers and users. The Apache HTTP Server Project maintains rigorous standards before releasing new versions of our server, and our server runs without a hitch on over 70% of all WWW servers available on the Internet. When bugs do show up, we release patches and new versions as soon as they are available.

2. Release Packages

No	Filename	Description
1	apache-1/	Configuration files for pure web server only.
2	apache-2/	Configuration files and modules for apache, SSL, and PHP.
3	apache	Start script for pure web server.
4	apachectl	Start script for apache + SSL + PHP.
5	httpd-1	Binary execution file for pure web server.
6	httpd-2	Binary execution file for apache + SSL + PHP.
7	httpd.conf	Apache configuration file support SSL.
8	Install.sh	Installation script
9	libapr-1.so.0	Library for apache
10	libaprutil-1.so.0	Library for apache
11	libexpat.so.0	Library for apache
12	libjpeg.so.62	Library for PHP
13	libm.so.6	Library for apache and PHP
14	libmysqlclient.so.14.0.0 or libmysqlclient.so.15.0.0 or libmysqlclient.so.16.0.0	Library for MySQL
15	libpng.so.2	Library for PHP
16	libxml2.so.2	Library for PHP
17	php.ini	Configuration file for PHP
18	phpinfo.php	PHP info web page
19	ssl_keygen.sh	SSL key generation script

3. Simple Users' Guide

The following users' guide will describe how to install simple web server, web server with PHP support, web

server with SSL and PHP support, and how to remove web server from Moxa embedded computer.

PHP module already compiled with MySQL, you don't need to install MySQL client library before using PHP + MySQL, if you haven't installed MySQL client, you will get a copy of 'libmysqlclient.so.14.0.0, libmysqlclient.so.15.0.0 or libmysqlclient.so.16.0.0' after installing.

Before starting installation/uninstallation acpache, we suggest you upload apache.tgz to a ramdisk on Moxa embedded computer, please follow the statements bellow.

1. Using command 'upramdisk' to mount a ram disk at '/mnt/ramdisk' and copying the apache package to '/mnt/ramdisk' on Moxa embedded computer.
   (If you have another linux box and has ssh server installed already, you can use 'scp' to copy files as the following screenshots, else you can using ftp to transmit file. Each Moxa embedded computer series box has ftp server/client installed.)

```
192.168.30.126 - Putty
root@Moxa:/mnt/ramdisk# tar xzvf apache-sdlinux.tgz
apache-sdlinux
apache-sdlinux/apache-2
apache-sdlinux/apache-2/magic
apache-sdlinux/apache-2/mime.types
apache-sdlinux/apache-2/openssl.cnf
apache-sdlinux/apache-2/ssl_keygen.sh
apache-sdlinux/apache-2/conf
apache-sdlinux/apache-2/conf/httpd.conf
apache-sdlinux/apache-2/extra
```

2. After that, untar the apache package and enter its directory. Running 'install.sh' script you will see five selections, we will describe these five selections bellow.

```
192.168.30.126 - Putty
root@Moxa:/mnt/ramdisk# cd apache-sdlinux
root@Moxa:/mnt/ramdisk/apache-sdlinux# ./install.sh
Choose:
1. Install Apache.
2. Install Apache + PHP.
3. Install Apache + SSL + PHP.
4. Uninstall Apache.
5. Exit.
```

3.1. Install Apache(720KB)

1. In Moxa embedded computer series box, it already installed a simple apache web server, you don't need to choose this selection, if you had not modified any apache settings or removed it.
2. Choosing '1' to install a pure web server, it will stop the existing web server first, install apache web server, and then restart the web server. After seeing the prompt text again, the new web server has installed and has been restarted again.
3. After install the web server, please do not forget to modify the configuration file '/etc/apache/httpd.conf' for your environment.

```
192.168.30.126 - Putty
root@Moxa:/mnt/ramdisk# cd apache-sdlinux
root@Moxa:/mnt/ramdisk/apache-sdlinux# ./install.sh
Choose:
1. Install Apache.
2. Install Apache + PHP.
3. Install Apache + SSL + PHP.
```

```
4. Uninstall Apache.
5. Exit.
2
Installing, Please wait.....
Install successful..

Starting web server: apache

root@Moxa:/mnt/ramdisk/apache-sdlinux#
```

3.2. Install Apache + PHP(7.3MB)

1. PHP is a very powerful server-side script, if you need web server with PHP support, choose selection '2'.
2. Choosing '2' to install a web server with PHP support, it will stop the existing web server first, install apache web server, and then restart the web server. After seeing the prompt text again, the new web server has installed and has been restarted again.

```
          192.168.30.126 - Putty
root@Moxa:/mnt/ramdisk# cd apache-sdlinux
root@Moxa:/mnt/ramdisk/apache-sdlinux# ./install.sh
Choose:
1. Install Apache.
2. Install Apache + PHP.
3. Install Apache + SSL + PHP.
4. Uninstall Apache.
5. Exit.
2
Installing, Please wait.....
Install successful..

Starting web server: apache

root@Moxa:/mnt/ramdisk/apache-sdlinux#
```

3.3. Install Apache + SSL + PHP(7.3MB)

1. If you need web server with SSL support, choose selection '3', it also contains PHP support.
2. Choosing '3' to install a web server with SSL and PHP support, it will stop the existing web server first, install apache web server, and then restart the web server. After seeing the prompt text again, the new web server has installed and has been restarted again.
3. You need to fill up a series of CA questions, when you install the web server. The most important part of these questions is the 'pass phrase for /etc/apache/server.key', this is the secret key for your web server. After installing, the install script will decrypt the 'server.key', so you don't need to keyin the pass phrase when Apache start.
4. We provide a simple utility 'ssl_keygen.sh' to generate the new CA. If you want to refill those questions, just run '/usr/bin/ssl_keygen.sh'. In the script, it set the valid days of the CA is 180 days.
5. More questions about mod_ssl, please refer to http://www.modssl.org/docs/2.8/ssl_faq.html

```
          192.168.30.126 - Putty
root@Moxa:/mnt/ramdisk# cd apache-sdlinux
```

```
root@Moxa:/mnt/ramdisk/apache-sdlinux# ./install.sh
Choose:
1. Install Apache.
2. Install Apache + PHP.
3. Install Apache + SSL + PHP.
4. Uninstall Apache.
5. Exit.
3
Installing, Please wait.....
Generating RSA private key, 1024 bit long modulus
.................++++++
.........................++++++
unable to write 'random state'
e is 65537 (0x10001)
Enter pass phrase for /etc/apache/server.key:
Verifying - Enter pass phrase for /etc/apache/server.key:
Enter pass phrase for /etc/apache/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) [AU]:TW
State or Province Name (full name) [Some-State]:Taipei
Locality Name (eg, city) []:Taipei
Organization Name (eg, company) [Internet Widgits Pty Ltd]:
Organizational Unit Name (eg, section) []:
Common Name (eg, YOUR name) []:
Email Address []:

Please enter the following 'extra' attributes
to be sent with your certificate request
A challenge password []:
An optional company name []:
Enter pass phrase for /etc/apache/server.key:
Enter pass phrase for /etc/apache/server.key.org:
writing RSA key
Install successful..

Starting web server: apache.

root@Moxa:/mnt/ramdisk/apache-sdlinux#
```

3.4. Uninstall Apache

If you don’t need any web service, choosing the selection ‘4’ to uninstall the web server(including the default web server)

```
          192.168.30.126 - Putty
root@Moxa:/mnt/ramdisk/apache-sdlinux# ./install.sh
Choose:
1. Install Apache.
2. Install Apache + PHP.
```

```
3. Install Apache + SSL + PHP.
4. Uninstall Apache.
5. Exit.
4
Uninstalling, Please wait...
Stop daemon..
httpd: Could not reliably determine the server's fully qualified domain name, using
192.168.3.127 for ServerName
Uninstall successful..

root@Moxa:/mnt/ramdisk/apache-sdlinux#
```

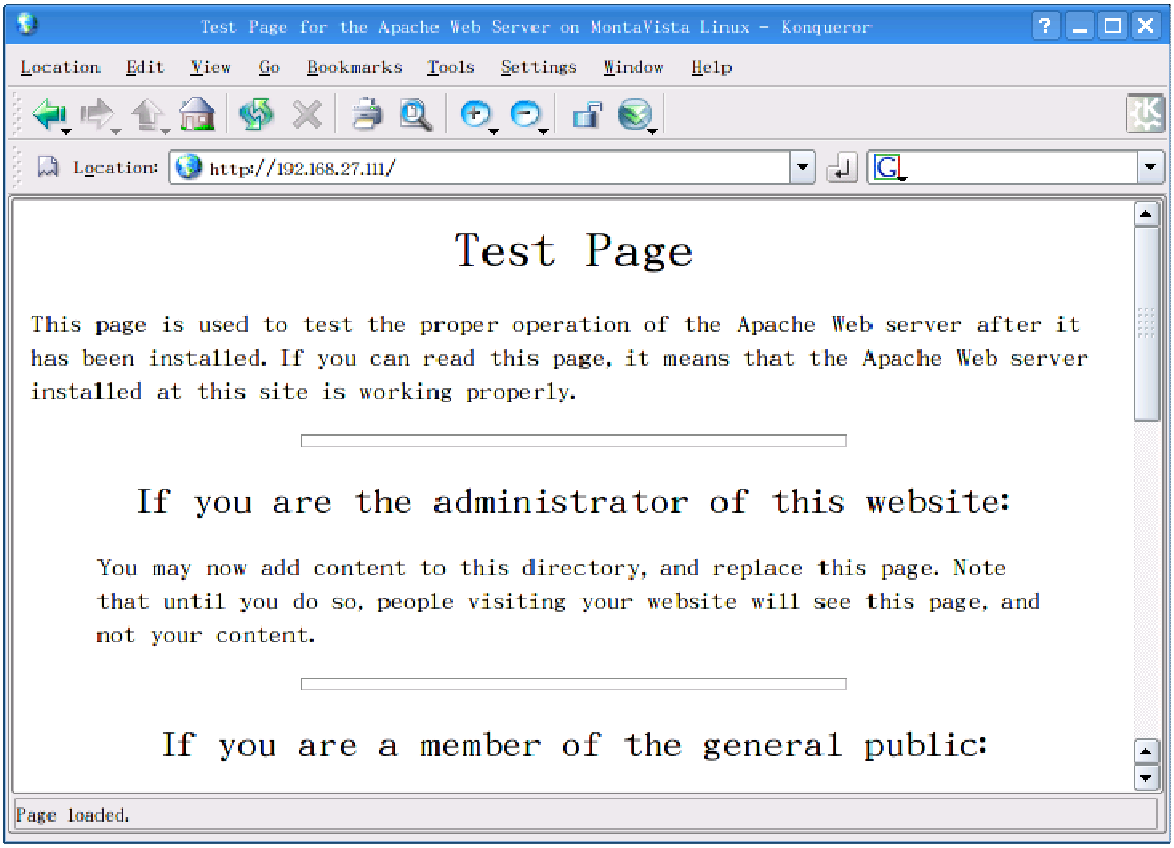
3.5. Exit

If you just want to take a look, and do not want to make any modification, you can choose the selection '5' to exit, safely. This selection will not do any modification.

4. How to Test

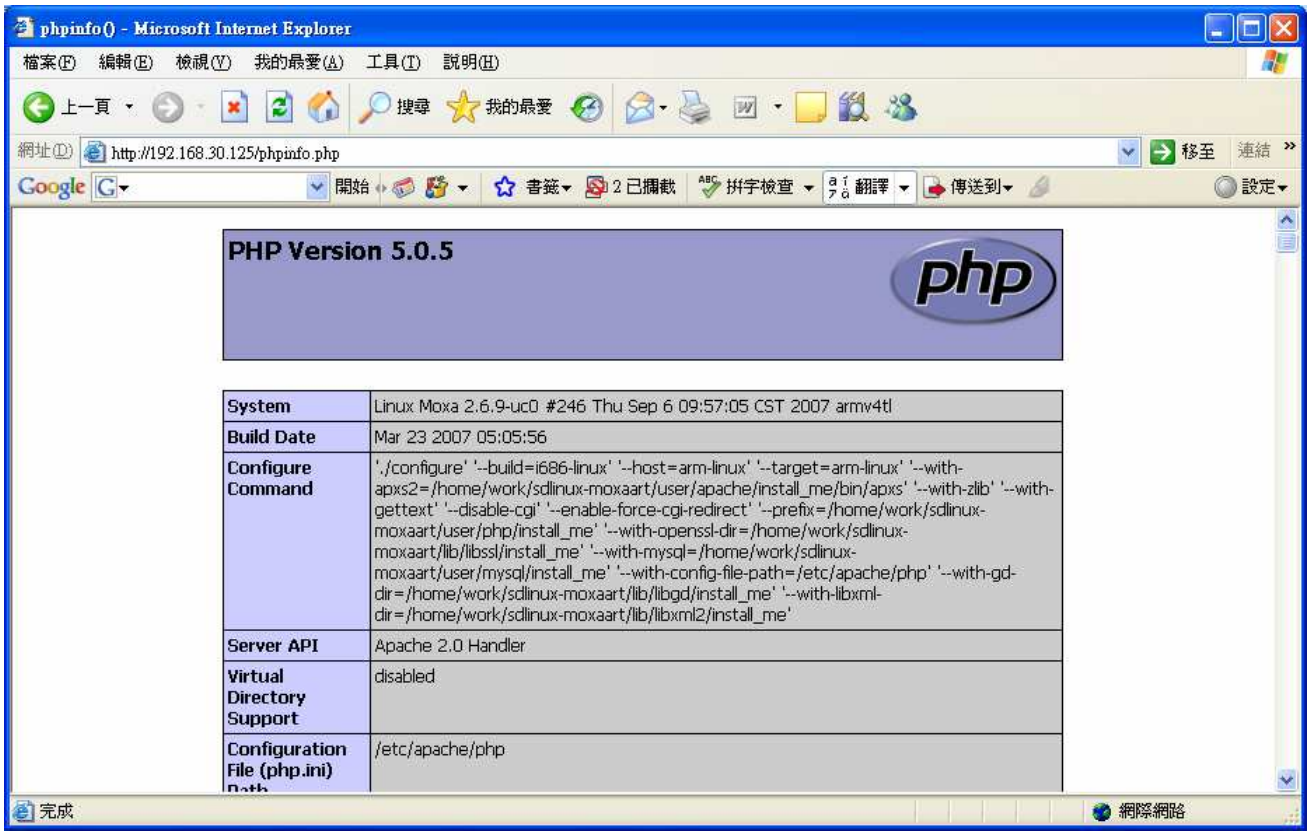
4.1. Apache

1. Opening a browser and keyin the IP address of Moxa embedded computer as the URL, you should see a "Test Page" shown on browser.
2. If there isn't shown any page, you have some methods to check what happens.
   i. Using command 'ps ax | grep httpd' to check if there are httpd processes running at background. If there are httpd processes running, but browser shown nothing, you might lose the index page, try to write one by yourself and put it in the directory '/usr/www/html/'.
   ii. If there isn't any httpd process running, try to start the web server by '/etc/init.d/apache start'
   iii. If you still can't make the web server work, try to upgrade firmware and reinstall again.



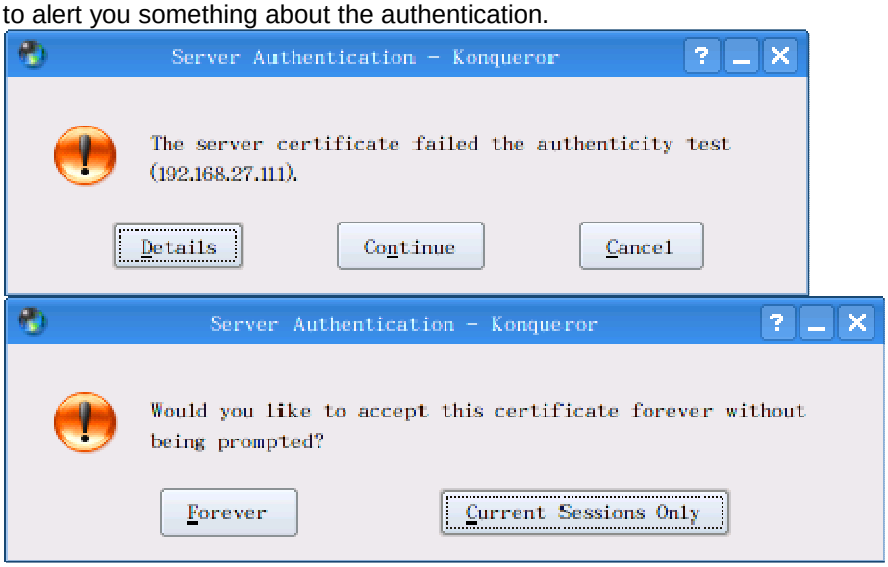
4.2. Apcahe + PHP

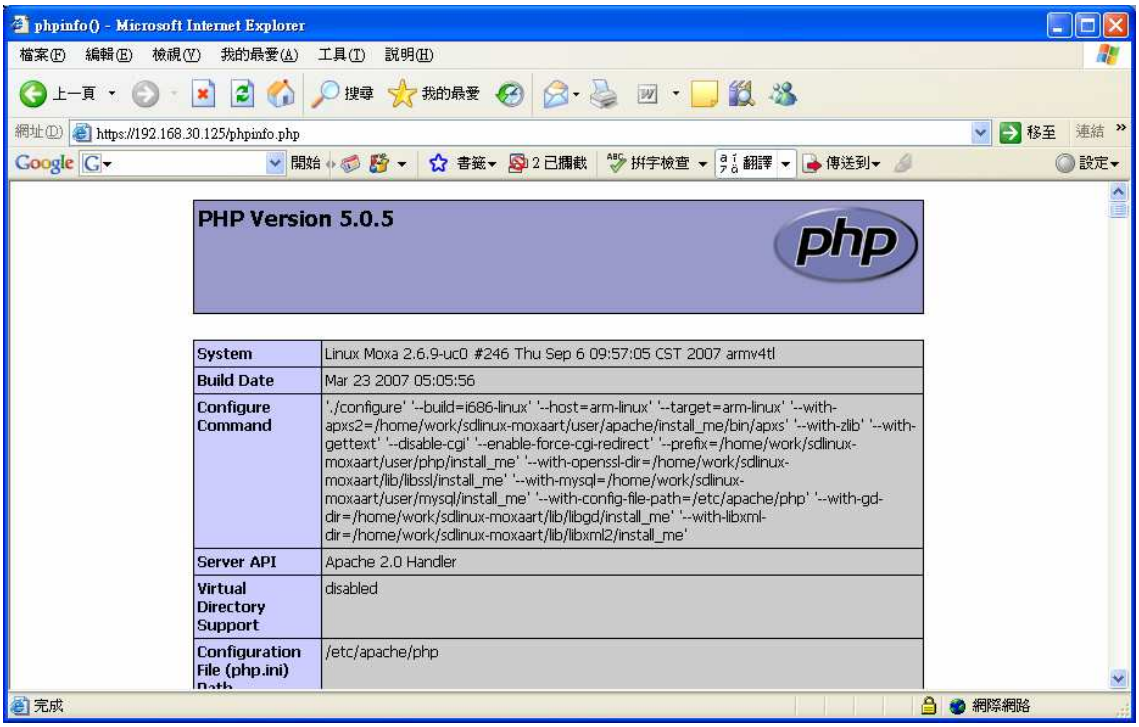
1. After installing Apache + PHP, you also get a copy of phpinfo.php in the directory '/usr/www/html'. It will help you to check if PHP works or not, and it also show many PHP settings, these information is very important when you develop your web pages by PHP.
2. Just opening http://EmbeddedComputer-IP/phpinfo.php, you will see the PHP information shown on the browser.



4.3. Apache + SSL + PHP

If you install Apache + SSL + PHP, just replace http:// with https://, you will see the following figures to alert you something about the authentication.





5. Reference

- Apache HTTP Server Official Website - http://httpd.apache.org/
- PHP Official Website - http://www.php.net/
- OpenSSL Official Website - http://www.openssl.org/
- mod_ssl Official Website - http://www.modssl.org/
- MySQL Official Website - http://www.mysql.com/