

Nội dung

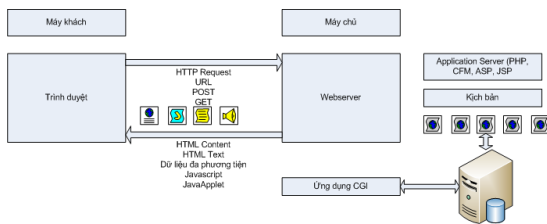
- Cơ chế của dịch vụ web
- Cài đặt và cấu hình webserver
- Các thao tác cơ bản của webserver
- Khái niệm SSL
- Sử dụng SSL

Web Server với Linux

1

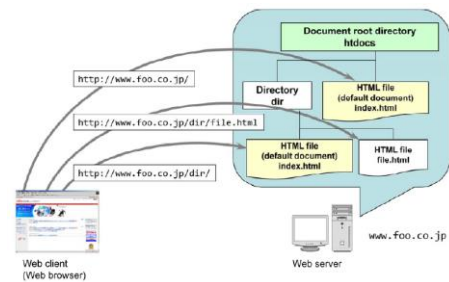
2

Cơ chế của dịch vụ web



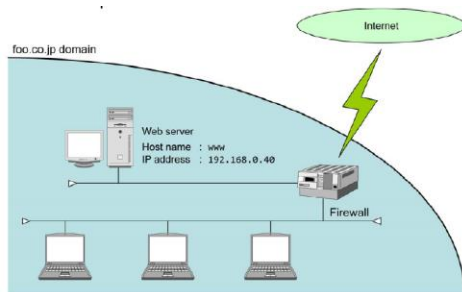
3

URL và địa chỉ vật lý



4

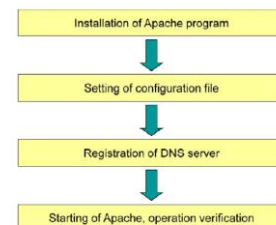
Triển khai webserver



5

6

Qui trình cài đặt



Cài đặt Apache

1. Obtaining of Apache

```
Official site of apache  
The Apache Software Foundation      http://www.apache.org/
```

2. Decompression and development

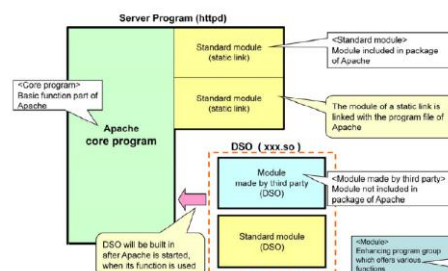
```
# gzip -cd httpd-2.0.50.tar.gz | tar xvf -  
  
# ls -l httpd-2.0.50/  
Apache_2.0    InstallBin.dsp   NAGNIssakeille   apacheweb.mcp.zip  docs/           os/  
build         LIBVOT            README.platforms buildconf*          httpd.spe       src/lib/  
BuildBin.dsp  Makefile.in       VERSIONING        config.layout       include/         support/  
CHANGES     Makefile.win      acconfig.h        configure*          libhttpd.dsp    test/  
INSTALL      NOTICE          acinclude.m4      configure.in        modules/
```

3. Compilation and installation

```
# cd httpd-2.0.50/  
./configure --enable-ssl  
  
# make  
  
# make install  
  
#
```

7

Thành phần của Apache



8

Các mô đun mặc định

✓ <code>mod_access</code>	<code>mod_dir_cache</code>	✓ <code>mod_negotiation</code>
✓ <code>mod_actions</code>	<code>mod_echo</code>	<code>mod_mime_ssi</code>
✓ <code>mod_alias</code>	✓ <code>mod_eww</code>	<code>mod_proxy</code>
✓ <code>mod_asis</code>	<code>mod_example</code>	<code>mod_proxy_connect</code>
✓ <code>mod_auth</code>	<code>mod_expires</code>	<code>mod_proxy_http</code>
<code>mod_auth_anon</code>	<code>mod_ext_filter</code>	<code>mod_proxy_fdmap</code>
<code>mod_auth_dbm</code>	<code>mod_fts_cache</code>	<code>mod_rewrite</code>
<code>mod_auth_digest</code>	<code>mod_headers</code>	✓ <code>mod_setenvif</code>
<code>mod_auth_ldap</code>	✓ <code>mod_ldap</code>	✓ <code>mod_so</code>
✓ <code>mod_authn_core</code>	✓ <code>mod_include</code>	<code>mod_speling</code>
<code>mod_cache</code>	<code>mod_info</code>	<code>mod_status</code>
<code>mod_cern_meta</code>	✓ <code>mod_isapi</code>	✓ <code>mod_ssi</code>
✓ <code>mod_cgid</code>	<code>mod_ldap</code>	<code>mod_suexec</code>
<code>mod_cgid</code>	✓ <code>mod_log_config</code>	<code>mod_unixd</code>
<code>mod_charset_lite</code>	<code>mod_log_forensic</code>	✓ <code>mod_userdir</code>
<code>mod_dav</code>	<code>mod_logio</code>	<code>mod_usertrack</code>
<code>mod_dav_fs</code>	<code>mod_mem_cache</code>	<code>mod_ustd_alias</code>
<code>mod_deflate</code>	✓ <code>mod_mime</code>	
✓ <code>mod_dir</code>	<code>mod_mime_magic</code>	

ⓘ The module with * sign is built in by default.

9

Cấu hình các mô đun (tĩnh)

```

$ cd httpd.c -all -f
./configure --enable-ssl --disable-userdir
$ make
$ make install
$

```

Module 'mod_ssl.so' is added, and module 'mod_userdir' is deleted

Verification of module built-in

```

$ /usr/local/apache2/bin/httpd -l
configuring modules:
  core.c          mod_status.c
  mod_access.c   mod_authn_core.c
  mod_auth.c     mod_authn_file.c
  mod_include.c  mod_authn_socache.c
  mod_lbconfig.c mod_authnz_ldap.c
  mod_env.c      mod_authz_core.c
  mod_session.c  mod_authz_dbm.c
  mod_satisfy.c  mod_authz_groupfile.c
  mod_setenvif.c mod_authz_host.c
  prefork.c      mod_authz_match.c
  httpd_core.c   mod_authz_user.c
  httpd.c         mod_deflate.c
  httpd.c         mod_dir.c
  httpd.c         mod_dumpio.c
  httpd.c         mod_echo.c
  httpd.c         mod_env.c
  httpd.c         mod_ext_filter.c
  httpd.c         mod_file_cache.c
  httpd.c         mod_filter.c
  httpd.c         mod_headers.c
  httpd.c         mod_http2.c
  httpd.c         mod_ldap.c
  httpd.c         mod_log_config.c
  httpd.c         mod_logio.c
  httpd.c         mod_lua.c
  httpd.c         mod_mem_cache.c
  httpd.c         mod_mpm_event.c
  httpd.c         mod_mpm_prefork.c
  httpd.c         mod_mpm_worker.c
  httpd.c         mod_negotiation.c
  httpd.c         mod_proxy.c
  httpd.c         mod_proxy_ajp.c
  httpd.c         mod_proxy_balancer.c
  httpd.c         mod_proxy_connect.c
  httpd.c         mod_proxy_fcgi.c
  httpd.c         mod_proxy_http.c
  httpd.c         mod_proxy_html.c
  httpd.c         mod_proxy_jk.c
  httpd.c         mod_proxy_scache.c
  httpd.c         mod_proxy_ssl.c
  httpd.c         mod_ratelimit.c
  httpd.c         mod_reflector.c
  httpd.c         mod_request.c
  httpd.c         mod_scl.c
  httpd.c         mod_ssi.c
  httpd.c         mod_ssl.c
  httpd.c         mod_tcmalloc.c
  httpd.c         mod_unixd.c
  httpd.c         mod_userdir.c
  httpd.c         mod_usertrack.c
  httpd.c         mod_vhost_alias.c
  httpd.c         mod_vhost_lookup.c
  httpd.c         mod_vhost_lookupd.c
  httpd.c         mod_vhost_lookupd2.c
  httpd.c         mod_vhost_lookupd3.c
  httpd.c         mod_vhost_lookupd4.c
  httpd.c         mod_vhost_lookupd5.c
  httpd.c         mod_vhost_lookupd6.c
  httpd.c         mod_vhost_lookupd7.c
  httpd.c         mod_vhost_lookupd8.c
  httpd.c         mod_vhost_lookupd9.c
  httpd.c         mod_vhost_lookupd10.c
  httpd.c         mod_vhost_lookupd11.c
  httpd.c         mod_vhost_lookupd12.c
  httpd.c         mod_vhost_lookupd13.c
  httpd.c         mod_vhost_lookupd14.c
  httpd.c         mod_vhost_lookupd15.c
  httpd.c         mod_vhost_lookupd16.c
  httpd.c         mod_vhost_lookupd17.c
  httpd.c         mod_vhost_lookupd18.c
  httpd.c         mod_vhost_lookupd19.c
  httpd.c         mod_vhost_lookupd20.c
  httpd.c         mod_vhost_lookupd21.c
  httpd.c         mod_vhost_lookupd22.c
  httpd.c         mod_vhost_lookupd23.c
  httpd.c         mod_vhost_lookupd24.c
  httpd.c         mod_vhost_lookupd25.c
  httpd.c         mod_vhost_lookupd26.c
  httpd.c         mod_vhost_lookupd27.c
  httpd.c         mod_vhost_lookupd28.c
  httpd.c         mod_vhost_lookupd29.c
  httpd.c         mod_vhost_lookupd30.c
  httpd.c         mod_vhost_lookupd31.c
  httpd.c         mod_vhost_lookupd32.c
  httpd.c         mod_vhost_lookupd33.c
  httpd.c         mod_vhost_lookupd34.c
  httpd.c         mod_vhost_lookupd35.c
  httpd.c         mod_vhost_lookupd36.c
  httpd.c         mod_vhost_lookupd37.c
  httpd.c         mod_vhost_lookupd38.c
  httpd.c         mod_vhost_lookupd39.c
  httpd.c         mod_vhost_lookupd40.c
  httpd.c         mod_vhost_lookupd41.c
  httpd.c         mod_vhost_lookupd42.c
  httpd.c         mod_vhost_lookupd43.c
  httpd.c         mod_vhost_lookupd44.c
  httpd.c         mod_vhost_lookupd45.c
  httpd.c         mod_vhost_lookupd46.c
  httpd.c         mod_vhost_lookupd47.c
  httpd.c         mod_vhost_lookupd48.c
  httpd.c         mod_vhost_lookupd49.c
  httpd.c         mod_vhost_lookupd50.c
  httpd.c         mod_vhost_lookupd51.c
  httpd.c         mod_vhost_lookupd52.c
  httpd.c         mod_vhost_lookupd53.c
  httpd.c         mod_vhost_lookupd54.c
  httpd.c         mod_vhost_lookupd55.c
  httpd.c         mod_vhost_lookupd56.c
  httpd.c         mod_vhost_lookupd57.c
  httpd.c         mod_vhost_lookupd58.c
  httpd.c         mod_vhost_lookupd59.c
  httpd.c         mod_vhost_lookupd60.c
  httpd.c         mod_vhost_lookupd61.c
  httpd.c         mod_vhost_lookupd62.c
  httpd.c         mod_vhost_lookupd63.c
  httpd.c         mod_vhost_lookupd64.c
  httpd.c         mod_vhost_lookupd65.c
  httpd.c         mod_vhost_lookupd66.c
  httpd.c         mod_vhost_lookupd67.c
  httpd.c         mod_vhost_lookupd68.c
  httpd.c         mod_vhost_lookupd69.c
  httpd.c         mod_vhost_lookupd70.c
  httpd.c         mod_vhost_lookupd71.c
  httpd.c         mod_vhost_lookupd72.c
  httpd.c         mod_vhost_lookupd73.c
  httpd.c         mod_vhost_lookupd74.c
  httpd.c         mod_vhost_lookupd75.c
  httpd.c         mod_vhost_lookupd76.c
  httpd.c         mod_vhost_lookupd77.c
  httpd.c         mod_vhost_lookupd78.c
  httpd.c         mod_vhost_lookupd79.c
  httpd.c         mod_vhost_lookupd80.c
  httpd.c         mod_vhost_lookupd81.c
  httpd.c         mod_vhost_lookupd82.c
  httpd.c         mod_vhost_lookupd83.c
  httpd.c         mod_vhost_lookupd84.c
  httpd.c         mod_vhost_lookupd85.c
  httpd.c         mod_vhost_lookupd86.c
  httpd.c         mod_vhost_lookupd87.c
  httpd.c         mod_vhost_lookupd88.c
  httpd.c         mod_vhost_lookupd89.c
  httpd.c         mod_vhost_lookupd90.c
  httpd.c         mod_vhost_lookupd91.c
  httpd.c         mod_vhost_lookupd92.c
  httpd.c         mod_vhost_lookupd93.c
  httpd.c         mod_vhost_lookupd94.c
  httpd.c         mod_vhost_lookupd95.c
  httpd.c         mod_vhost_lookupd96.c
  httpd.c         mod_vhost_lookupd97.c
  httpd.c         mod_vhost_lookupd98.c
  httpd.c         mod_vhost_lookupd99.c
  httpd.c         mod_vhost_lookupd100.c
  httpd.c         mod_vhost_lookupd101.c
  httpd.c         mod_vhost_lookupd102.c
  httpd.c         mod_vhost_lookupd103.c
  httpd.c         mod_vhost_lookupd104.c
  httpd.c         mod_vhost_lookupd105.c
  httpd.c         mod_vhost_lookupd106.c
  httpd.c         mod_vhost_lookupd107.c
  httpd.c         mod_vhost_lookupd108.c
  httpd.c         mod_vhost_lookupd109.c
  httpd.c         mod_vhost_lookupd110.c
  httpd.c         mod_vhost_lookupd111.c
  httpd.c         mod_vhost_lookupd112.c
  httpd.c         mod_vhost_lookupd113.c
  httpd.c         mod_vhost_lookupd114.c
  httpd.c         mod_vhost_lookupd115.c
  httpd.c         mod_vhost_lookupd116.c
  httpd.c         mod_vhost_lookupd117.c
  httpd.c         mod_vhost_lookupd118.c
  httpd.c         mod_vhost_lookupd119.c
  httpd.c         mod_vhost_lookupd120.c
  httpd.c         mod_vhost_lookupd121.c
  httpd.c         mod_vhost_lookupd122.c
  httpd.c         mod_vhost_lookupd123.c
  httpd.c         mod_vhost_lookupd124.c
  httpd.c         mod_vhost_lookupd125.c
  httpd.c         mod_vhost_lookupd126.c
  httpd.c         mod_vhost_lookupd127.c
  httpd.c         mod_vhost_lookupd128.c
  httpd.c         mod_vhost_lookupd129.c
  httpd.c         mod_vhost_lookupd130.c
  httpd.c         mod_vhost_lookupd131.c
  httpd.c         mod_vhost_lookupd132.c
  httpd.c         mod_vhost_lookupd133.c
  httpd.c         mod_vhost_lookupd134.c
  httpd.c         mod_vhost_lookupd135.c
  httpd.c         mod_vhost_lookupd136.c
  httpd.c         mod_vhost_lookupd137.c
  httpd.c         mod_vhost_lookupd138.c
  httpd.c         mod_vhost_lookupd139.c
  httpd.c         mod_vhost_lookupd140.c
  httpd.c         mod_vhost_lookupd141.c
  httpd.c         mod_vhost_lookupd142.c
  httpd.c         mod_vhost_lookupd143.c
  httpd.c         mod_vhost_lookupd144.c
  httpd.c         mod_vhost_lookupd145.c
  httpd.c         mod_vhost_lookupd146.c
  httpd.c         mod_vhost_lookupd147.c
  httpd.c         mod_vhost_lookupd148.c
  httpd.c         mod_vhost_lookupd149.c
  httpd.c         mod_vhost_lookupd150.c
  httpd.c         mod_vhost_lookupd151.c
  httpd.c         mod_vhost_lookupd152.c
  httpd.c         mod_vhost_lookupd153.c
  httpd.c         mod_vhost_lookupd154.c
  httpd.c         mod_vhost_lookupd155.c
  httpd.c         mod_vhost_lookupd156.c
  httpd.c         mod_vhost_lookupd157.c
  httpd.c         mod_vhost_lookupd158.c
  httpd.c         mod_vhost_lookupd159.c
  httpd.c         mod_vhost_lookupd160.c
  httpd.c         mod_vhost_lookupd161.c
  httpd.c         mod_vhost_lookupd162.c
  httpd.c         mod_vhost_lookupd163.c
  httpd.c         mod_vhost_lookupd164.c
  httpd.c         mod_vhost_lookupd165.c
  httpd.c         mod_vhost_lookupd166.c
  httpd.c         mod_vhost_lookupd167.c
  httpd.c         mod_vhost_lookupd168.c
  httpd.c         mod_vhost_lookupd169.c
  httpd.c         mod_vhost_lookupd170.c
  httpd.c         mod_vhost_lookupd171.c
  httpd.c         mod_vhost_lookupd172.c
  httpd.c         mod_vhost_lookupd173.c
  httpd.c         mod_vhost_lookupd174.c
  httpd.c         mod_vhost_lookupd175.c
  httpd.c         mod_vhost_lookupd176.c
  httpd.c         mod_vhost_lookupd177.c
  httpd.c         mod_vhost_lookupd178.c
  httpd.c         mod_vhost_lookupd179.c
  httpd.c         mod_vhost_lookupd180.c
  httpd.c         mod_vhost_lookupd181.c
  httpd.c         mod_vhost_lookupd182.c
  httpd.c         mod_vhost_lookupd183.c
  httpd.c         mod_vhost_lookupd184.c
  httpd.c         mod_vhost_lookupd185.c
  httpd.c         mod_vhost_lookupd186.c
  httpd.c         mod_vhost_lookupd187.c
  httpd.c         mod_vhost_lookupd188.c
  httpd.c         mod_vhost_lookupd189.c
  httpd.c         mod_vhost_lookupd190.c
  httpd.c         mod_vhost_lookupd191.c
  httpd.c         mod_vhost_lookupd192.c
  httpd.c         mod_vhost_lookupd193.c
  httpd.c         mod_vhost_lookupd194.c
  httpd.c         mod_vhost_lookupd195.c
  httpd.c         mod_vhost_lookupd196.c
  httpd.c         mod_vhost_lookupd197.c
  httpd.c         mod_vhost_lookupd198.c
  httpd.c         mod_vhost_lookupd199.c
  httpd.c         mod_vhost_lookupd200.c
  httpd.c         mod_vhost_lookupd201.c
  httpd.c         mod_vhost_lookupd202.c
  httpd.c         mod_vhost_lookupd203.c
  httpd.c         mod_vhost_lookupd204.c
  httpd.c         mod_vhost_lookupd205.c
  httpd.c         mod_vhost_lookupd206.c
  httpd.c         mod_vhost_lookupd207.c
  httpd.c         mod_vhost_lookupd208.c
  httpd.c         mod_vhost_lookupd209.c
  httpd.c         mod_vhost_lookupd210.c
  httpd.c         mod_vhost_lookupd211.c
  httpd.c         mod_vhost_lookupd212.c
  httpd.c         mod_vhost_lookupd213.c
  httpd.c         mod_vhost_lookupd214.c
  httpd.c         mod_vhost_lookupd215.c
  httpd.c         mod_vhost_lookupd216.c
  httpd.c         mod_vhost_lookupd217.c
  httpd.c         mod_vhost_lookupd218.c
  httpd.c         mod_vhost_lookupd219.c
  httpd.c         mod_vhost_lookupd220.c
  httpd.c         mod_vhost_lookupd221.c
  httpd.c         mod_vhost_lookupd222.c
  httpd.c         mod_vhost_lookupd223.c
  httpd.c         mod_vhost_lookupd224.c
  httpd.c         mod_vhost_lookupd225.c
  httpd.c         mod_vhost_lookupd226.c
  httpd.c         mod_vhost_lookupd227.c
  httpd.c         mod_vhost_lookupd228.c
  httpd.c         mod_vhost_lookupd229.c
  httpd.c         mod_vhost_lookupd230
```

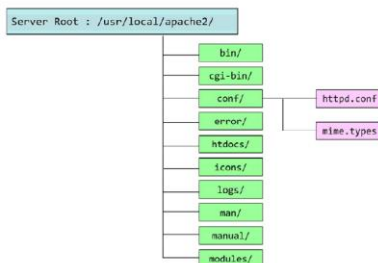
10

Cấu hình các mô đun (động)

[illegible]

11

Thư mục Apache



12

Các tệp cấu hình

- /etc/apache2.conf
- Có thể gắn thêm nhiều tệp khác

13

Các môi trường cấu hình

- [<Directory>](#)
- [<DirectoryMatch>](#)
- [<Files>](#)
- [<FilesMatch>](#)
- [<IfDefine>](#)
- [<IfModule>](#)
- [<IfVersion>](#)
- [<Location>](#)
- [<LocationMatch>](#)
- [<Proxy>](#)
- [<ProxyMatch>](#)
- [<VirtualHost>](#)

14

Các lệnh cấu hình

- Chỉ dùng một dòng, không có thể mở và đóng
- Có thể nằm ở ngoài hoặc trong một môi trường
- Chỉ có tác dụng trong môi trường

15

Cấu hình cơ bản (httpd.conf)

```

ServerRoot "/usr/local/apache2"
Listen 80
User nobody
Group nobody
ServerAdmin webmaster@foo.co.jp
ServerName www.foo.co.jp:80
DocumentRoot "/usr/local/apache2/htdocs"
DirectoryIndex index.html index.html.var

```

Default value : #-1
Default value : you@example.com
Default value : www.example.com:80

16

CGI

Editing of '/usr/local/apache2/conf/httpd.conf' file

```

ScriptAlias /cgi-bin/ "/usr/local/apache2/cgi-bin/"
#AddHandler cgi-script .cgi

```

Specification by directory
Specification by extension

17

Khai báo một thư mục

- `<directory></directory>`
- .htaccess
- AllowOverride [None, Directive]
 - Sử dụng Directive trong .htaccess
- Allow, Deny
 - Allow from all
 - Allow from 192.168.192.0/18 hut.edu.vn
- Order Allow,Deny

18

Options

- All
- ExecCGI
- FollowSymLinks
- Includes Server-side
- IncludesNOEXEC
- Indexes
- MultiViews
- SymLinksIfOwnerMatch

19

.htaccess

- Khai báo các thuộc tính của thư mục
- Được apache đọc và kích hoạt trực tiếp

20

Cấu hình DNS

- [<Directory>](#)
- [<DirectoryMatch>](#)
- [<Files>](#)
- [<FilesMatch>](#)
- [<IfDefine>](#)
- [<IfModule>](#)
- [<IfVersion>](#)
- [<Location>](#)
- [<LocationMatch>](#)
- [<Proxy>](#)
- [<ProxyMatch>](#)
- [<VirtualHost>](#)

21

1. Editing the zone data file

Edit the forward lookup zone data file

```

www.foo.co.jp.      IN      A      192.168.0.40

```

Edit the reverse lookup zone data file

```

49.0.168.192.in-addr.arpa.  IN      PTR      www.foo.co.jp.

```

2. Restart of DNS server

```

# kill `cat /var/run/named.pid`
# /usr/local/sbin/named

```

3. Verification of registered information

```

# host www.foo.co.jp
www.foo.co.jp has address 192.168.0.40
#

```

22

Khởi động webserver

• Web server startup by "apachectl" command

```

# /usr/local/apache2/bin/apachectl start
#

```

• Verification of Web server's startup

```

# ps -ef | grep httpd
root      15633      1 16 17:26 ?        00:00:01 /usr/local/apache2/bin/httpd -k start
nobody    15634 15633  0 17:26 ?        00:00:00 /usr/local/apache2/bin/httpd -k start
nobody    15635 15633  0 17:26 ?        00:00:00 /usr/local/apache2/bin/httpd -k start
nobody    15636 15633  0 17:26 ?        00:00:00 /usr/local/apache2/bin/httpd -k start
nobody    15637 15633  0 17:26 ?        00:00:00 /usr/local/apache2/bin/httpd -k start
nobody    15638 15633  0 17:26 ?        00:00:00 /usr/local/apache2/bin/httpd -k start
#

```

23

Bảo mật webserver

Access limitation of Apache

Host authentication

User authentication

24

Quản lý truy cập tài nguyên

```
<Directory "/usr/local/apache2/htdocs">
    Options Indexes FollowSymLinks
    AllowOverride None
    Order allow,deny
    Allow from all
</Directory>

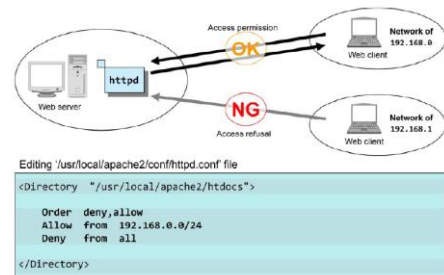
<Files ~ ".*\.ht">
    Order allow,deny
    Deny from all
</Files>
```

Setting concerning '/usr/local/apache2/htdocs' directory

Setting concerning file which name starts by '.ht'.

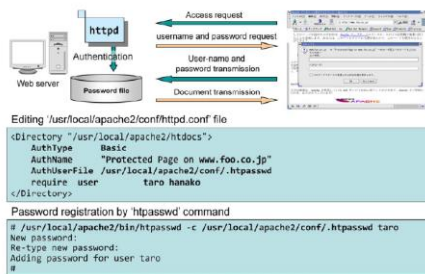
25

Kiểm soát máy tính



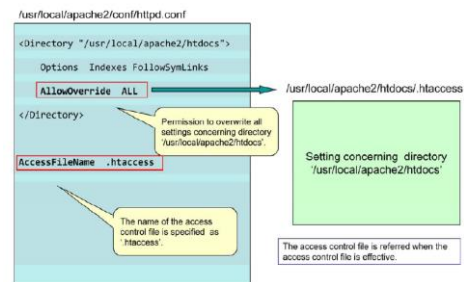
26

Kiểm soát tài khoản



27

Liên hệ giữa tệp cấu hình và tệp kiểm soát tài khoản



28

Log

```
Access log
192.168.0.40 - - [12/Aug/2004:20:05:42 +0900] "GET / HTTP/1.1" 200 512
192.168.0.40 - taro [12/Aug/2004:20:07:25 +0900] "GET / HTTP/1.1" 200 1630
192.168.0.40 - taro [12/Aug/2004:20:07:25 +0900] "GET /apache_pb.gif HTTP/1.1"

Error log
[Fri Aug 13 18:29:43 2004] [error] [client 192.168.0.40] File does not exist: /usr/local/apache2/htdocs/test.html
[Fri Aug 13 18:29:43 2004] [error] [client 192.168.0.40] (13)Permission denied: exec of /usr/local/apache2/cgi-bin/printenv failed

Agent log
Mwu11a/5.0 (X11; U; Linux i686; ja-JP; rv:1.4) Gecko/20030922
Mwu11a/5.0 (X11; U; Linux i686; ja-JP; rv:1.4) Gecko/20030922
Mwu11a/5.0 (X11; U; Linux i686; ja-JP; rv:1.4) Gecko/20030922

Referrer log
- -> /index.html.var
http://www.foo.co.jp/ -> /apache_pb.gif
- -> /cgi-bin/printenv
```

29

Cấu hình log

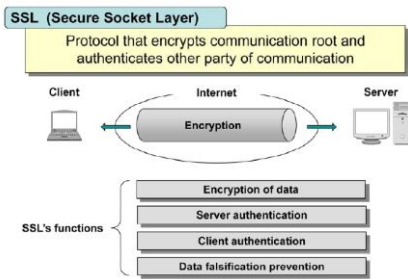
```
HostnameLookups Off
ErrorLog logs/error_log
LogLevel warn

LogFormat "%h %l %u %t %V:%r" "%s %b %V%(Referer)iv" %V%(User-Agent)iv"
combined
LogFormat "%h %l %u %t %V:%r" "%s %b" common
LogFormat "%(Referer)l -> %U" referer
LogFormat "%(User-agent)l" agent

CustomLog logs/access_log common
CustomLog logs/referer_log referer
CustomLog logs/agent_log agent
```

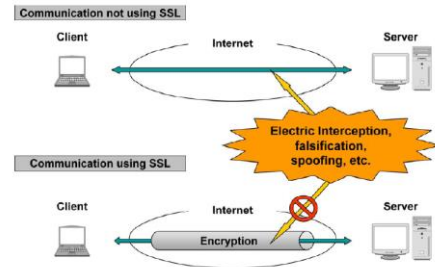
30

Khái niệm SSL



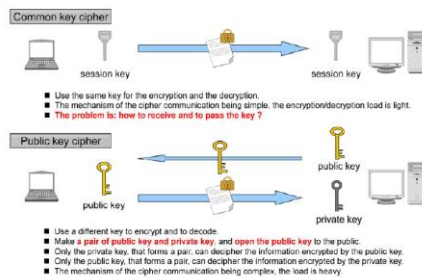
31

Sự cần thiết của SSL



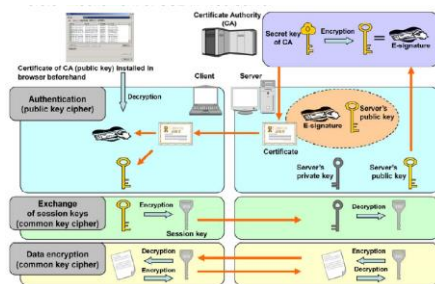
32

Các loại mã hóa



33

Cơ chế sử dụng SSL



34

Cài đặt SSL



35

Cài đặt SSL

```

# gzip -cd openssl-0.9.7d.tar.gz | tar xvf -
# cd openssl-0.9.7d/
# ./config
# make
# make install
#

• Compilation and installation of Apache
# PATH=/usr/local/ssl:/usr/local/ssl/bin:$PATH; export PATH
# cd httpd-2.0.50/
# ./configure --enable-ssl
# make
# make install
#
  
```

36

Cấu hình xác thực client

```

#
# Certificate Authority (CA):
# Set the CA certificate verification path where to find CA
# certificates for client authentication or alternatively one
# huge file containing all of them (file must be PEM encoded)
# Note: Inside SSLCertificatePath you need hash symlinks
# to point to the certificate files. Use the provided
# Makefile to update the hash symlinks after changes.
SSLCACertificatePath /usr/local/apache2/conf/ssl.crt
SSLCACertificateFile /usr/local/apache2/conf/ssl.crt/cacert.pem

#
# Client Authentication (Type):
# Client certificate verification type and depth. Types are
# none, optional, require and optional_no_ca. Depth is a
# number which specifies how deeply to verify the certificate
# issuer chain before deciding the certificate is not valid.
SSLVerifyClient require
SSLVerifyDepth 10

```

43

Chứng chỉ đơn giản

```

$ cd /usr/local/ssl
$ ./usr/local/ssl/misc/cr.sh -newca
CA certificate filename (or enter to create)

Making CA certificate
Generating a 1024 bit RSA private key
.....
writing new private key to './demoCA/private/cakey.pem'
Enter PEM pass phrase:
Verifying - Enter PEM pass phrase:

-----
Country Name (2 letter code) [AU]:JP
State or Province Name (full name) [Some-State]:Tokyo
Locality Name (eg, city) []:Ohta-ku
Organization Name (eg, company) [Internet Widgits Pty Ltd]:EAS
Organizational Unit Name (eg, section) []:CAMASTER
Common Name (eg, your name) []:sa.feo.co.jp
Email Address []:camaster@eo.co.jp
#
$ chmod 400 ./demoCA/private/cakey.pem
$ ls -l ./demoCA/private/cakey.pem
-rw-r--r-- 1 root root 963 8/7 13 18:33 ./demoCA/private/cakey.pem
#

```

44