SPECIFICATION - HTTP

WEB SERVER

We use Apache (http://httpd.apache.org)

PRE-REQUISITE

1. IP address of the web server.
2. Domain name of the web server.
3. Domain name of the primary web server.
4. Domain name of the all other virtual hosts (optional).

REQUIRED KNOWNLEDGE

1. Concept on UNIX users: differentiation of root and normal user.
2. Concept on IP address and domain name.
3. Confidence in working on shell and using vi editor.

INTRODUCTION

You are required to setup a web server hosting at least one web site. You need to decide the IP address and the domain name of the website. However the decision need to be agreed with your partners. Optionally, you can host more than one website. Again, you need to decide the domain names of the reset of the websites.

CONFIGURATION

1. As root, run "apacheconf"

   ```
   # apacheconf
   ```

2. Enter your company's web server domain name and the email address of webmaster (see Figure: 1).

   e.g.

   Web server domain name: `www.keep-smiling.org`
   Webmaster email address: `webmaster@keep-smiling.org`

Notes: Web server domain name usually starts with "www". International top-level domains usually end with "com", "net", "org", or "edu". Regional top-level domains end with regional code. For Hong Kong, it is "hk". For China, it is "cn".

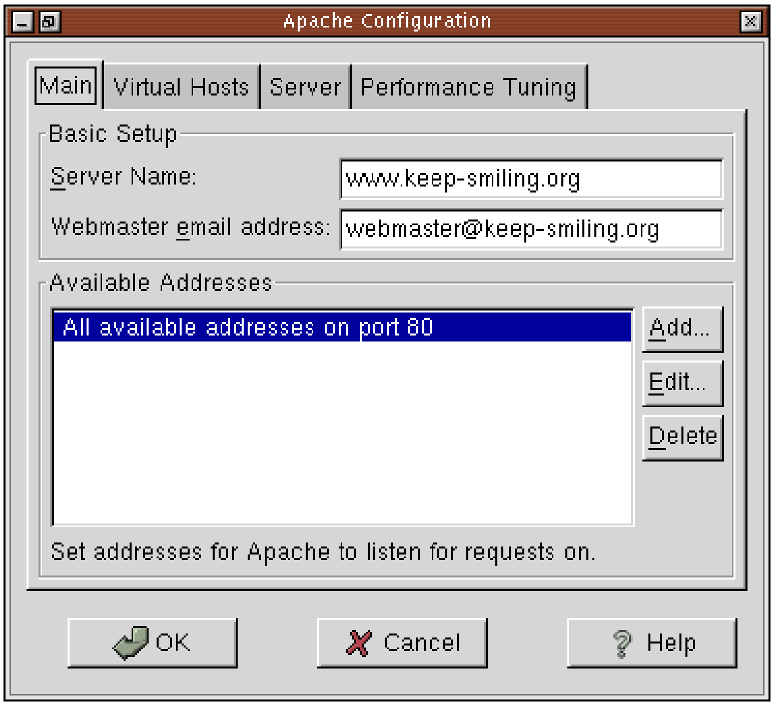

Figure 1: Configuring primary website

HOW TO ENABLE WEB SERVER

1. As root, run the following command ONCE. The web server will start on every reboot.

   ```
   # chkconfig httpd on
   ```

2. If you want to start the web server now, run this command

   ```
   # service httpd start
   ```

   Or run serviceconf GUI tool, check **http** checkbox, press **Save** button (see Figure: 2.

   ```
   # serviceconf
   ```

   and press **Start** button.

TEST YOUR WEB SERVER

1. Open a web browser, type **mozilla**

   ```
   # mozilla
   ```

   or press the red dragon icon on the panel at the bottom of your screen.

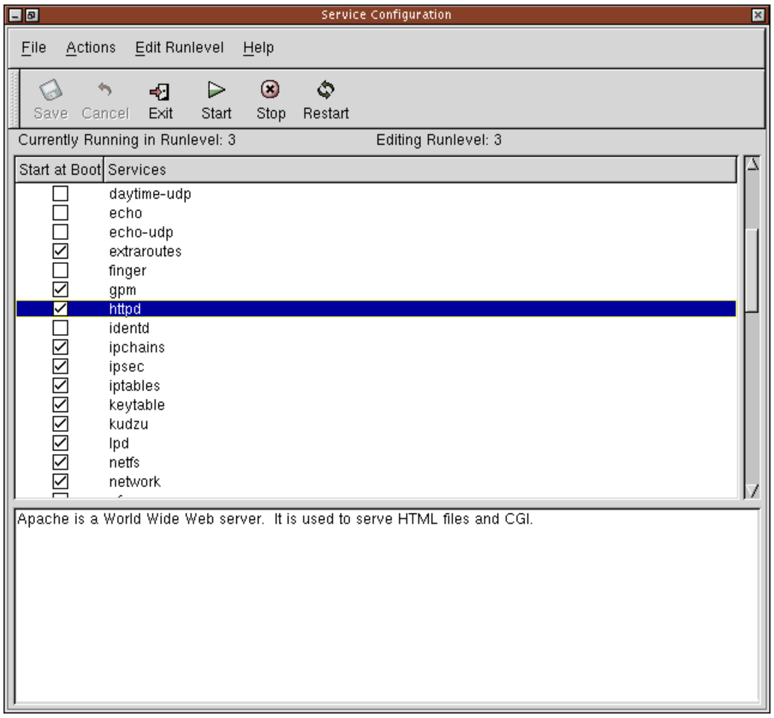

Figure 2: Enabling HTTP server

2. In the location bar, enter your web site's URL (see Figure: 3).

   `http://www.keep-similing.org`

   or

   `http://10.1.1.6`

   (ATTENTION: Unlese your organzation's DNS server is functioning, you need to use IP address in the URL.)

DEVELOP YOUR ORGANIZATION'S WEBSITE

There are many ways to develop your web site. You may use Mozilla's Composer which is similar to Microsoft's FrontPage. You may also use the famous Vi editor. Unless you are familar with HTML code, you better use Mozilla's Composer.

To publish your web pages, save your web pages into `/var/www/html/` as root. Note that all of your web pages should have **.html** file extension.

The first page of your website should be **index.html**.

A little bit more sophisticated website should not have one single HTML file. Here is the correspondence between URLs and the files stored in your web server:

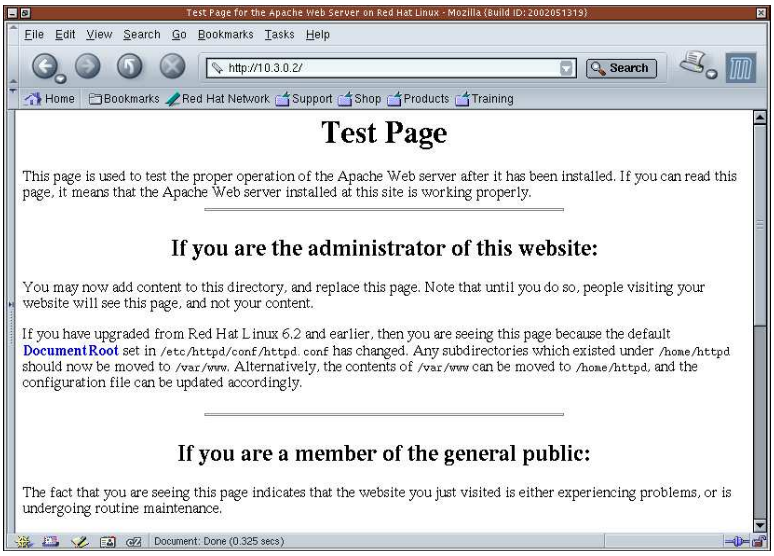

Figure 3: Successful configuration of HTTP server: Default test page of Apache

URL	FILE LOCATION
`http://10.1.1.1`	`/var/www/html/index.html`
`http://10.1.1.1/index.html`	`/var/www/html/index.html`
`http://10.1.1.1/mission`	`/var/www/html/mission/index.html`
`http://10.1.1.1/sitemap`	`/var/www/html/sitemap/index.html`
`http://10.1.1.1/news/today.html`	`/var/www/html/news/today.html`

ATTENTION: These are examples only. Develop your own website!!!

VIRTUAL HOSTS

A single web server can host several websites with different domain names, e.g. **www.keep-similing.org**, **www.havefun.net**

We have setup a website **www.keep-similing.org**, now we want to host another website **www.havefun.net** in the same server.

ADD A VIRTUAL HOST

1. As root, run apacheconf

   ```
   # apacheconf
   ```

2. Select **Virtual Host** tab.

3. Press **Add** button to create `www.havefun.net` (see Figure: 6).

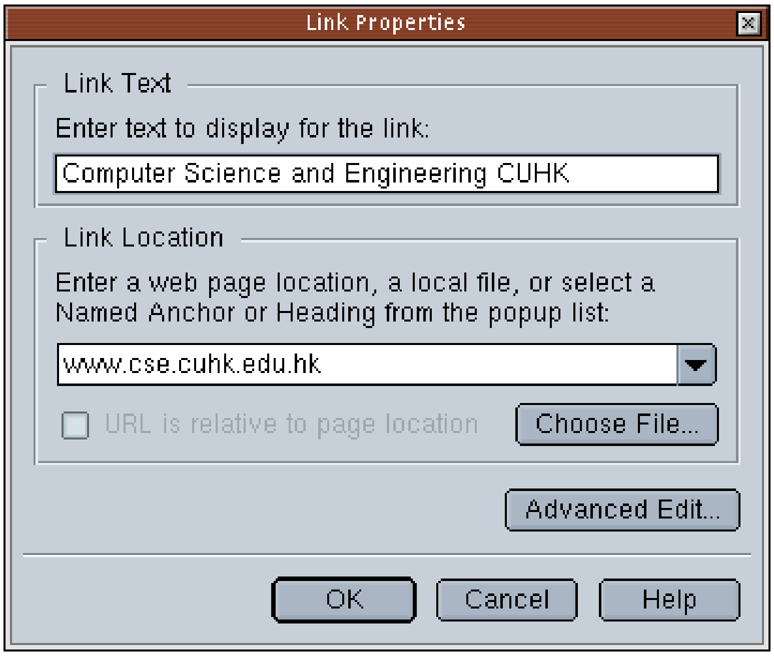

Figure 4: Mozilla Composer: Create hyperlink

4. In **Basic Setup** of **General Options**, set accordingly (see Figure: 7)

FIELDS	VALUES	REMARKS
Virtual Host	`www.havefun.net`	Use your own designed website name
Document Root Directory	`/var/www/html/havefun.net`	Just a suggested value
Webmaster email address	`webmaster@havefun.net`	Use your own designed email address
Host Information	`Name based Virtual Host`	-
IP Address	`10.1.1.1`	Use your own designed IP address
Host Name	`www.havefun.net`	Use your own designed website name

5. Press **OK** to finish setting up virtual hosting for www.havefun.net.

6. Select `www.keep-similing.org` and press **Edit** button to change the original setting of `www.keep-similing.org` for virtual hosting.

7. In **Basic Setup** of **General Options**, set accordingly

FIELDS	VALUES	REMARKS
Virtual Host	`www.keep-similing.org`	Use your own designed website name
Document Root Directory	`/var/www/html`	Just a suggested value
Webmaster email address	`webmaster@keep-similing.org`	Use your own designed email address
Host Information	`Name based Virtual Host`	-
IP Address	`10.1.1.1`	Use your own designed IP address
Host Name	`www.keep-similing.org`	Use your own designed website name

8. Press **OK** to finish setting up www.keep-similing.org.

9. Press **OK** to save the changes and quit apacheconf.

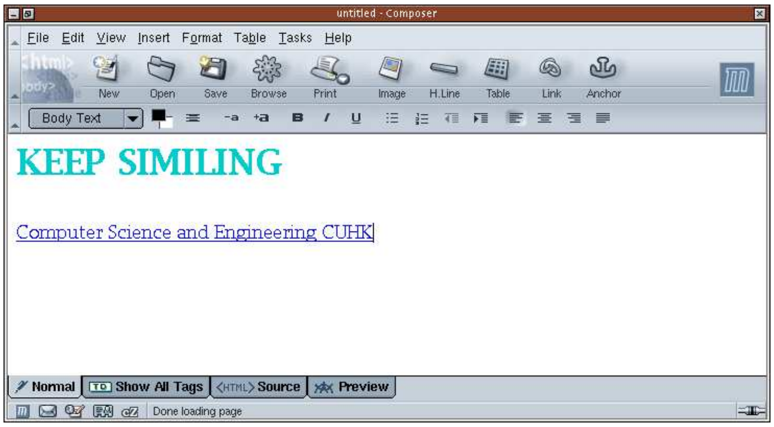

Figure 5: Website of an organization

CREATE VIRTUAL HOST WEB DIRECTORY

Create a directory as specified in the above setup.

As root, run these commands:

```
# mkdir /var/www/html/havefun.net
# cp /var/www/html/index.html /var/www/html/havefun.net/
# chmod 644 /var/www/html/havefun.net/index.html
```

RESTART WEB SERVER

1. As root, run serviceconf

   ```
   # serviceconf
   ```

2. Select **httpd**
3. Press **Restart**

TESTING VIRTUAL HOST

Open web browser as follows:

```
# mozilla http://www.havefun.net
```

ATTENTION: Unless your organization's DNS is ready, you cannot test your virtual host setting.

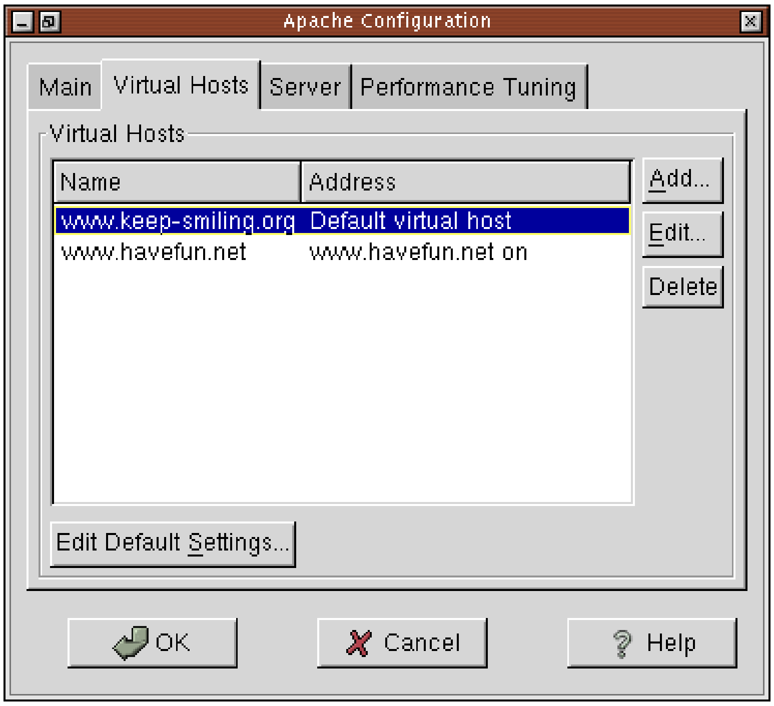

Figure 6: Adding virtual host

FILES

`/var/www/html/`	Location of homepages for the primary website
`/var/www/html/<virtual host>/`	Location of homepages for a virutal host
`/var/www/cgi-bin/`	Location of CGI programs for the primary website
`/var/log/httpd/access_log`	Local of web server log - Access Log
`/var/log/httpd/error_log`	Local of web server log - Error Log

RPMS

apache
apacheconf

Have fun!

-*- spec-http -*-

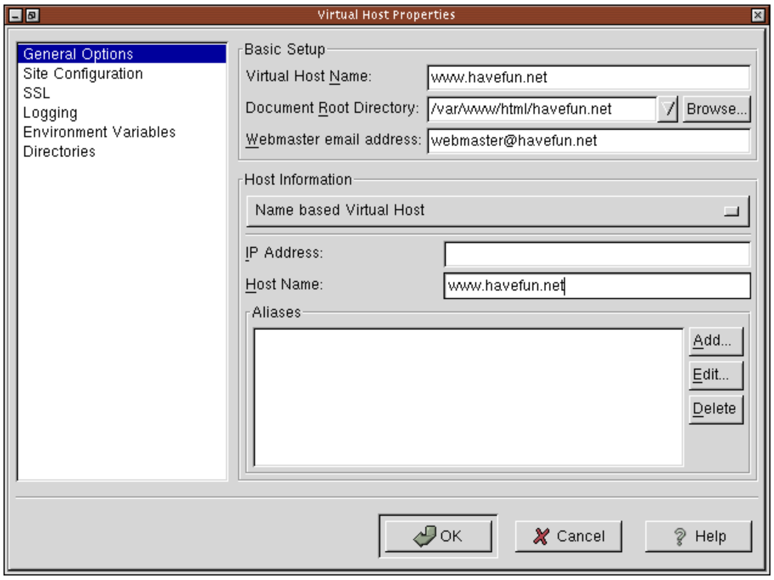

Figure 7: Setting up Apache virtual host