Administrating the Server

Here is a reference to setting up, maintaining and utilizing the information and resources provided by your server.

How to:

- ## Constructing URLs to your server

  Now that you have an http server, you'll want to reference it in your HTML documents and with your favorite Web browser.

  Before you do anything, you should read the Beginners guide to URLs to familiarize yourself with URLs. You will want to pay attention to the section referring to HTTP URLs.

  ## Definition

  HTTP URLs have the basic form:

  `http://servername:port/path`

  servername

  Your server's full hostname. It can be the server's real name or a DNS alias.

  port

  This is the port which your server is listening on. Specifying it in the URL is optional. If omitted, it is assumed to be 80.

  If your ServerType is `inetd`, your port number was set in `/etc/services`.

  If your ServerType is `standalone`, the Port directive set your port number.

  path

  This is the path to the document. *This is not the absolute pathname of the document on your machine.*

  The server translates `path` as follows:

  1. It looks for any defined Alias or ScriptAlias virtual names at the beginning of `path`. If it finds one, it replaces the virtual name with the real name and processes the request.

2. It looks for a prefix of /~, and if UserDir is not DISABLED, it will look in the user's public html subdirectory for the file.

3. It inserts DocumentRoot at the beginning of `path` and processes the request.

Setting up your Home Page

Some HTTP servers let you explicitly set up your home page (i.e. the page returned by the URL http://yourserver/).

To do this using NCSA httpd, create a DirectoryIndex file in the DocumentRoot directory.

Note that this index can be a symbolic link to another file.

Examples

My Resource Configuration file contains the following directives (among others):

```
DocumentRoot /u/Web
DirectoryIndex index.html
ScriptAlias /htbin /usr/local/etc/httpd/htbin
Alias /zftp /archive/ftp
```

An HTML document references `http://hoohoo.ncsa.uiuc.edu/docs/Overview.html`. The server finds no Alias or ScriptAlias virtual names in `path`, so it returns the file `/u/Web/docs/Overview.html`.

Someone references my home page as `http://hoohoo.ncsa.uiuc.edu/`. The server finds no virtual names, so it returns `/u/Web/index.html`.

Another HTML document references `http://hoohoo.ncsa.uiuc.edu/htbin/uptime`. The server finds the ScriptAlias `/htbin` at the beginning of `path`, and so executes the script `/usr/local/etc/httpd/htbin/uptime`.

Another HTML document references `http://hoohoo.ncsa.uiuc.edu/zftp/README.txt`. The server finds the Alias `/zftp` at the beginning of `path`, and returns the file `/archive/ftp/README.txt`.

- ## Managing the standalone daemon

Info on Restarting or Terminating the standalone daemon If you are using a

ServerType of `inetd`, you do not need to read these instructions.

If you make any changes to httpd's configuration files, you must restart the server. To do so, you will need to know where the server has logged its process id, given by the server configuration directive PidFile.

If `pidfile` is the setting of PidFile for your server, to restart the daemon execute the following on the command line:

```
kill -1 `cat pidfile`
```

This will restart the daemon.

You should now check to see if the daemon restarted successfully. Check the last line of the server's error log, given by the server configuration directive ErrorLogFile, and make sure it says `httpd: successful restart`.

Alternatively, you may use the `ps` command to `grep` for the process id of the daemon.

If you ever need to terminate the server, use the following command:

```
kill `cat pidfile`
```

- ## Managing the Log Files

If you are using a ServerType of `inetd`, you may remove or move the log files periodically using `mv` or `rm` with no effect on the server.

The standalone daemon opens the log files once when it starts up, and does not close them until killed. This is because the `fopen()` system call has a lot of overhead.

To rotate one of the log files, do the following:

1. Move the log file to a new name with the `mv` command

2. Restart the standalone daemon

This will cause all new server processes to log to the new log file. You may then do what you wish with the old log file.

- ## The Improved imagemap Script

Eternal gratitude to Kevin Hughes, *kevinh@pulua.hcc.hawaii.edu*, for his code to find intersections of points with circles and polygons.

Compile the imagemap script

If you downloaded the source, you need to compile the imagemap script. Do this by first cd'ing into your ServerRoot, and then cd into the cgi−src subdirectory. Then, type `make imagemap` and you should be all set.

The Central Configuration File

The `imagemap` script expects to find its configuration file as:

`/usr/local/etc/httpd/conf/imagemap.conf`.

If you would like to change the location of this file, edit `cgi-src/imagemap.c`, change the setting of `CONF_FILE`, and recompile with `make imagemap`.

In this file, lines beginning with a # are comments. Every other non−blank line consists of:

```
name : path
```

`name` is the name of the particular mapping. You use it when you reference the image.

`path` is the full path to the map configuration file for this mapping.

Notice: It is important to leave a space before and after ":". It is also important to finish your lines with <CR>.

The Map Configuration File

This file maps regions to URLs for the given image.

Lines beginning with # are comments. Every other non−blank line consists of the following:

```
method url coord1 coord2 ... coordn
```

`coord` are each coordinates, format x,y. The number depends on `method`.

`method` is one of the following:

- `circle`

  For a circle. Coordinates: `center` `edgepoint`

- `poly`

  For a polygon of at most 100 vertices. Each coordinate is a vertex.

- `rect`

  For a rectangle. Coordinates: `upper-left lower-right`

`url` is one of the following:

- a virtual pathname to a file on your server (i.e. a URL to your server without the http://hostname part)
- a URL

Note: each method is evaluated in the order it is placed in the configuration file. If you have overlapping areas, such as a circle inside of a rectangle, you should place whichever one you want evaluated first before the other in the map file. In this case, we would put the circle before the rectangle.

Referencing Your New Map

To reference your new map, you construct URLs pointing to it.

For example, if you have a `ScriptAlias /cgi-bin/ /usr/local/etc/httpd/cgi-bin/`, named your map fish, and used the image fish33.gif for the map, the following line of HTML will reference it:

```
<A HREF="/cgi-bin/imagemap/fish"><IMG SRC="fish33.gif"
ISMAP></A>
```

A Complete Example

The fish demo in another section of this manual used the following configuration files:

Central Configuration File

```
fish : /usr/local/etc/httpd/conf/fish.map
```

Map Configuration File

The map configuration file used for this picture was rather lengthy. I used `xv` to get the coordinates.

- ## Write CGI scripts to handle forms

  Get the documents on CGI scripts and read those.

- ## Use server side includes in your HTML documents

  Get the tutorial documents and read section on server side includes.

- ## Managing Users

  To use user authentication, you'll need to edit and manage user files and group files.

  Using htpasswd to manage user files

  To deal with user files, we provide a program in the support directory of the distribution called `htpasswd`. Usage:

  ```
  htpasswd [-c] file user
  ```

  The –c, if present, tells htpasswd to create a new passwd file of the specified name instead of editing an old one. `file` is the pathname of the user file you wish to edit. The `user` parameter is the name of the user you wish to add or edit.

  If htpasswd finds the user you specified, it will ask you to change the user's password. Type the new password (it will ask twice). httpd will then update the file.

  If htpasswd doesn't find the specified user, it will ask you to give the user an initial password.

  Group files

  The format of the group file is as follows:

  ```
  groupname: member1 member2 ...
  ```

  Or, each line contains the name of a group, and a list of members separated by spaces.

- ## Edit the configuration files

  Get the documents on Installation and read the sections on Configuration.

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