
Installing mod_lisp 2.2 under FreeBSD

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This document describes how to set up **mod_lisp 2.2** under **FreeBSD 4.5-R**. While specific versions are mentioned for various software applications, the instructions below can probably be applied to other versions, though the latest version (currently 2.2) of **mod_lisp** is recommended.

1. Introduction

mod_lisp is an extension module for the **Apache HTTP Server** that enables **Apache** to interface with web applications written in Lisp. This document will describe how to install:

- **Apache HTTP Server** (briefly — this is a process that is well covered elsewhere)
- **GNU CLISP**: an ANSI Common Lisp
- **mod_lisp**

While **GNU CLISP** is the Lisp system used in this document, **mod_lisp** claims to interface equally well with other Lisp systems, such as **Allegro Common Lisp** and **CMUCL**.

2. Install Apache

Installation of **Apache** from the ports is relatively unproblematic. The latest version of **Apache** will probably work, though this document was written when the current version was **Apache 1.3.22**. As **root**, execute the following:

```
# cd /usr/ports/www/apache13/  
# make  
# make install
```

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Some customisation of the configuration file `/usr/local/etc/apache/httpd.conf` will be required. Getting **Apache** running is beyond the scope of this article, and is well covered [elsewhere](#).

At the end of installation and modification of `httpd.conf`, start **Apache** as `root`:

```
# /usr/local/sbin/apachectl start
```

The parent **Apache** process will run as `root`, and all its children will run as the user and group specified in the `User` and `Group` directives in `httpd.conf`. Test **Apache** by pointing a browser at the localhost:

```
# lynx http://localhost/
```

A default **Apache** page should be displayed at this point.

3. Install GNU CLISP

Installation of **GNU CLISP** from the ports is straightforward. As `root`, execute the following:

```
# cd /usr/ports/lang/clisp
# make
# make install
```

clisp should be available immediately, and can be tested by running:

```
# clisp
```

4. Install mod_lisp

Installing **mod_lisp** is only marginally harder. The author of **mod_lisp** has made a **FreeBSD** port of the application, though it is not currently in the **FreeBSD** ports hierarchy. In other words, an archive of the port skeleton can be downloaded and extracted, but the skeleton is not currently in the `/usr/ports` directory tree. A **FreeBSD** package is also available, intended for installation with the **pkg_add** utility, though this package expects a particular version of **Apache**, and will not run without modification if another version has been installed. The steps to install **mod_lisp** are:

- Download the **mod_lisp FreeBSD Port** from the [Fractal Concept](#) website:

```
# cd /usr/local
# fetch http://www.fractalconcept.com/fcweb/download/mod_lisp.tar.gz
```

- Extract the archive:

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```
# gunzip mod_lisp.tar.gz
# tar -xvf mod_lisp.tar
```

- Make the port:

```
# cd mod_lisp
# make
# make install
```

- The appropriate `LoadModule` directive is added to `httpd.conf` by the port using **apxs**. The following directives need to be added to `httpd.conf` by hand:

```
LispServer 127.0.0.1 3000 "lispserver"
<Location /lisp>
SetHandler lisp-handler
</Location>
```

The string `"lispserver"` and the Location `/lisp` above can be changed.

- Restart **Apache**:

```
# apachectl restart
```

- There are three versions of the minimal Lisp application in `/usr/local/mod_lisp/work/mod_lisp-2.2`. Assuming that **GNU CLISP** is the Lisp system:

```
# cd /usr/local/mod_lisp/work/mod_lisp-2.2
# clisp -q

[1]> (load 'modlisp-clisp)
;; Loading file /usr/local/mod_lisp/work/mod_lisp-2.2/modlisp-clisp.lisp ...
;; Loading of file /usr/local/mod_lisp/work/mod_lisp-2.2/modlisp-clisp.lisp is finished.
T
[2]> (modlisp:modlisp-server)
```

- Assuming the location `/lisp` was specified in `httpd.conf`, a minimal banner (inadvertently advertising **Linux!**) can be found at:

```
# lynx http://localhost/lisp/
```

Contacting the Author

The author of this document is **Paul Hoadley**. This document only describes what I did to get **mod_lisp** functioning on my **FreeBSD** machine. Your

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mileage may vary. If you notice any errors in this document, or your experience with **mod_lisp** was vastly different, please **let me know**.