

Tru64 UNIX Best Practice

Building mod_perl for Use with the Compaq Secure Web Server

November 2001

Product Version: Internet Express Version 5.7

Revised February 22, 2002

This Best Practice describes how to build and install mod_perl for use with the Compaq Secure Web Server (*based on Apache*) running on the Compaq Tru64 UNIX Operating System.

**Compaq Computer Corporation
Houston, Texas**

Contents

Building mod_perl for Use with the Compaq Secure Web Server

Is This Best Practice Right for You?	1
Before You Begin	1
Applying the Best Practice	2
Install the Compaq Secure Web Server Subset	2
Install the Perl Subset	3
Obtain mod_perl	3
Unpack the Compressed File	3
Initialize the Makefiles	3
Edit the Makefile	4
Build and Install mod_perl	5
Configure mod_perl	5
Restart the Web Server	5
Verifying Success	5
Alternative Practices	6
Comments and Questions	6
Legal Notice	6

Building mod_perl for Use with the Compaq Secure Web Server

This Best Practice describes how to build and install mod_perl for use with an installed Compaq Secure Web Server (*Based on Apache*).

See the Tru64 UNIX Best Practices Web page (http://www.tru64unix.compaq.com/docs/best_practices/) for more information about Best Practices documentation.

Is This Best Practice Right for You?

Not all Best Practices apply to all configurations, so you must be sure that this Best Practice is appropriate for your system and circumstances. To use this Best Practice, you must meet the requirements described in the following table:

Requirement	Description
Operating System	Tru64 UNIX Version 5.0A or higher
Product Version	Internet Express Version 5.6 or higher

If you do not meet the previous requirements, see *Alternative Practices* for information.

Before You Begin

Before you apply the Best Practice for building mod_perl for use with the Compaq Secure Web Server, you must understand some background information and perform some preliminary tasks.

The Apache/Perl integration project brings together the full power of the Perl programming language and the Apache Web server. With mod_perl, you can write Apache modules entirely in Perl. You can also write or modify Perl-based CGIs for better performance when compared to standard CGIs.

The Compaq Secure Web Server can be customized using dynamic shared objects (DSOs) provided by the Apache Software Foundation. DSOs allow developers and third parties to extend the capabilities of the Compaq

Secure Web Server. When properly configured in the server configuration file, these objects will be loaded into the Compaq Secure Web Server at startup time.

Internet Express is a collection of popular Open Source software, including the Compaq Secure Web Server. Using Internet Express, you can install the Compaq Secure Web Server on your Tru64 UNIX system and use the default configuration values provided. You can use the Compaq Secure Web Server Administration Server utility provided with Internet Express to modify the Web server configuration values.

The Compaq Secure Web Server is also available on the Tru64 UNIX Version 5.1 and higher Associated Products CD-ROMs.

Applying the Best Practice

Before you build `mod_perl`, be sure to follow the recommendations in *Before You Begin*.

The procedure for building and installing `mod_perl` for use with the Compaq Secure Web Server includes the following steps:

1. *Install the Compaq Secure Web Server Subset.*
2. *Install the Perl Subset* (either the Internet Express Perl (IAEPERL) subset or Tru64 UNIX Perl (OSFPERL) subset).
3. *Obtain mod_perl.*
4. *Unpack the Compressed File.*
5. *Initialize the Makefiles.*
6. If you installed the Tru64 UNIX Perl subset, *Edit the Makefile.*
7. *Build and Install mod_perl.*
8. *Configure mod_perl.*
9. *Restart the Web Server.*

Install the Compaq Secure Web Server Subset

To install the Compaq Secure Web Server, follow the instructions in the *Compaq Secure Web Server Installation Guide* or the Best Practice document *Configuring the Compaq Secure Web Server Using Internet Express*.

Install the Perl Subset

You can install Perl by using either the Internet Express Perl (IAEPERL) or Tru64 UNIX Perl (OSFPERL) subset. If you have the Internet Express CD-ROM, you can install the IAEPERL subset from the CD-ROM. Follow the instructions in the *Internet Express for Tru64 UNIX Installation Guide*.

Obtain mod_perl

You can download the tar file of the latest version of mod_perl from the following Web site:

```
http://perl.apache.org/
```

Unpack the Compressed File

After downloading mod_perl, unpack the compressed file into a working directory.

For example, if you obtained the gzipped tar file for mod_perl-25_01, you could unpack it to the current directory as follows:

```
# gunzip < mod_perl-1.25_01.tar.gz | tar xvf -
# cd mod_perl-1.25_01
```

By default, mod_perl will create a DSO called libperl.so. This name conflicts with a library of the same name that is part of the Perl distribution. To avoid this conflict, rename the DSO. This can be done by making four changes to apaci/Makefile.tmpl. Change each occurrence of libperl to mod_perl.

Initialize the Makefiles

After unpacking mod_perl, initialize the makefiles. You can initialize the makefiles with the following command:

```
# perl Makefile.PL \
  USE_APXS=1 \
  WITH_APXS=/usr/internet/httpd/bin/apxs \
  EVERYTHING=1
```

You will see the following warning messages which are safe to ignore:

```
Your Perl is uselargefiles enabled, but Apache is not, suggestions:
*) Rebuild Apache with CFLAGS="-D_LARGEFILE_SOURCE -D_FILE_OFFSET_BITS=64"
*) Rebuild Perl with Configure -Uselargefiles
*) Let mod_perl build Apache (USE_DSO=1 instead of USE_APXS=1)
```

Edit the Makefile

Note

This step may not be needed on your system depending on the PERL you have installed. The PERL distribution provided with Tru64 UNIX Version 5.0a and Version 5.1 will require this change.

1. Edit `apaci/Makefile` to change

```
-Wl,-rpath,/. . . .
```

to

```
-rpath / . . .
```

2. Change the link line so that it uses `libperl.a`, not `libperl.so`.
3. Search for the following line (only part of the line is shown for clarity):

```
PERL_LIBS= -Wl,-rpath,/usr/local/lib/perl5/5.6.0/alpha-dec_osf/CORE
```

Change this part of the line to the following:

```
PERL_LIBS= -rpath /usr/local/lib/perl5/5.6.0/alpha-dec_osf/CORE
```

4. Determine if there is a `libperl.a` present on your system. Check the directory listed in the `PERL_LIBS` expression to see if there is a `libperl.a` present in that directory.
5. If `libperl.a` is present, on the same `PERL_LIBS` line, change the link line so that it uses `libperl.a` not `libperl.so`:

Search for the following string in the line referred to in Step 3:

```
-L/usr/local/lib/perl5/5.6.1/alpha-dec_osf-ld/CORE -lperl
```

Change this string to the following:

```
/usr/local/lib/perl5/5.6.1/alpha-dec_osf-ld/CORE/libperl.a
```

Note

The path name in the example may be different on your system, depending on the Perl package installed.

6. If `libperl.a` is not present, you will need to obtain a PERL package that contains a `libperl.a`. The dynamic loader cannot deal with two libraries (`libperl.so`) with the same name, and there are suggestions that `modperl` may not operate properly using a different

name. The PERL package that is supplied with Internet Express contains `libperl.a`.

Build and Install mod_perl

Use the `make` command to build and install `mod_perl`. Initialize the makefiles with the following commands:

```
# make
# make install
```

Configure mod_perl

Before you can use it, you must configure `mod_perl`. Any configuration changes that modify the `httpd.conf` file require the server to be restarted for the changes to take effect.

For information on configuring this module, refer to the `mod_perl` documentation at the following Web site:

<http://perl.apache.org/>

Restart the Web Server

The final step is to restart your Web server. The `mod_perl` module should then be available.

Verifying Success

After you apply the Best Practice for Building `mod_perl` for use with the Compaq Secure Web Server, you can verify whether it was successful.

To verify that your `mod_perl` installation is working correctly, follow these steps:

1. Add the following to the `httpd.conf` file:

```
Alias /perl/ /data/web/perl/

<Location /perl>
SetHandler perl-script
PerlHandler Apache::Registry
Options ExecCGI Indexes
PerlSendHeader On
</Location>
```

2. Restart your server.

3. Create a file named `/data/web/perl/perlenv` containing the following lines:

```
print "Content-type: text/html\r\n\r\n";
print "<h2>Server's environment</h2>\n";
print "<table border=1>\n";
foreach ( keys %ENV ) {
print "<tr><td>$_</td><td>$ENV{$_}</td></tr>\n";
}
print "</table>\n";
```

4. Set execute permission on the file, using the following command:

```
# chmod +x /data/web/perl/perlenv
```
5. Access `http://yourserver/perl/perlenv` to print the CGI environment settings.

Alternative Practices

Although this Best Practice is the recommended method for building and installing `mod_perl` for use with the Compaq Secure Web Server, you can use an alternative method.

Refer to the following Web site for additional instructions for configuring `mod_perl`:

<http://perl.apache.org/>

Comments and Questions

We value your comments and questions on the information in this document. Please mail your comments to us at this address:

best_practices@zk3.dec.com

Legal Notice

Compaq, the Compaq logo, and Tru64 are trademarks of Compaq Information Technologies Group, L.P. in the U.S. and/or other countries.

UNIX and The Open Group are trademarks of The Open Group in the U.S. and/or other countries. All other product names mentioned herein may be trademarks of their respective companies.

Confidential computer software. Valid license from Compaq required for possession, use, or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Compaq shall not be liable for technical or editorial errors or omissions contained herein. The information is provided "as is" without warranty of any kind and is subject to change without notice. The warranties for Compaq products are set forth in the express limited warranty statements accompanying such products. Nothing herein should be construed as constituting an additional warranty.