

CrayDoc™ Installation and Administration Guide

S-2340-30



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New Features

CrayDoc™ Installation and Administration Guide

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This book documents CrayDoc release 3.0. New features include:

- SWISH-E replaces PerlFect as the default search engine
- New mode in `craydoc.cgi` replaces the `glossary.cgi` script
- All the custom Cray Perl modules are reorganized.

Record of Revision

<i>Version</i>	<i>Description</i>
1.0	December 2001 Original Printing.
2.0	December 2002 Updated to reflect new features in CrayDoc 2.0 release.
2.1	February 2003 Updated to include changes in Section 6.6.
3.0	February 2004 Updated to reflect new features in CrayDoc 3.0 release.

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Preface

This publication describes the CrayDoc 3.0 release and installing and administering CrayDoc and Cray documentation.

Ordering Documentation

To order CDs containing software documentation for a release, CrayDoc server software, or additional printed copies of the release overviews and installation guides, contact your Cray representative or contact the Cray Software Distribution Center in one of the following ways:

E-mail:

orderdsk@cray.com

Telephone (inside U.S., Canada):

1-800-284-2729 (BUG CRAY), then 605-9100

Telephone (outside U.S., Canada):

+1-651-605-9100

Fax:

+1-651-605-9001

Mail:

Software Distribution Center
Cray Inc.
1340 Mendota Heights Road
Mendota Heights, MN 55120-1128
USA

Conventions

The following conventions are used throughout this document:

<u>Convention</u>	<u>Meaning</u>
<code>command</code>	This fixed-space font denotes literal items, such as file names, pathnames, man page names, command names, and programming language elements.
<i>variable</i>	Italic typeface indicates an element that you will replace with a specific value. For instance, you may replace <i>filename</i> with the name <code>datafile</code> in your program. It also denotes a word or concept being defined.
user input	This bold, fixed-space font denotes literal items that the user enters in interactive sessions. Output is shown in nonbold, fixed-space font.
[]	Brackets enclose optional portions of a syntax representation for a command, library routine, system call, and so on.

Reader Comments

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Introduction [1]

The CrayDoc software suite is a collection of open-source software components that allow easy searching and viewing of Cray documentation from a web browser.

This document guides the system administrator through the installation and maintenance of CrayDoc. This document assumes you have a good understanding of file system permissions and basic system administration skills.

This document does not attempt to cover the installation and configuration of Apache or Perl, because these packages are well documented on their own. Refer to the documentation that accompanies each distribution.

1.1 Compatibility

CrayDoc should run under any operating system based on UNIX systems or systems like UNIX including Linux, FreeBSD, IRIX, Solaris, Mac OS X and anywhere else that Perl, SWISH-E, and Apache can be compiled from source code with freely available (GNU) tools.

The look and feel of the CrayDoc Hypertext Markup Language (HTML) user interface was designed with Mozilla 1.4 in mind, but it should display with any web browser that supports frames.

Red Hat Linux releases 6.2 and later include all the required software as part of a standard installation. We cannot emphasize enough how easy it is to use CrayDoc with a standard Red Hat Linux system. CrayDoc 3.0 was developed on a Red Hat Linux 7.2 system. Many other recent Linux distributions come with all of the required packages; be sure to check the version numbers of your Apache and Perl installations against the requirements in Section 1.2, page 1.

1.2 Software Requirements

CrayDoc requires the following software, all of which are included on the *CrayDoc Documentation Library* CD:

1. Apache version 1.3.x or later
2. Perl version 5.005 or later (version 5.6.1 recommended)
3. CGI Perl module

4. `Data::Dumper` Perl module
5. `Mail::Sendmail` Perl module (for the optional Order Form function)

The version of Perl on the CrayDoc CD includes the correct versions of all modules needed for CrayDoc.

1.2.1 Apache

There is a copy of the Apache version 1.3.20 source distribution and an `INSTALL` file on the CrayDoc CD. Documentation for installing and configuring Apache is freely available on the Internet as well; Apache powers 60% of the web servers on the Internet. The Apache web site is <http://httpd.apache.org/>.

If you decide to compile Apache yourself from source, see Section 2.3, page 6.

If you already have Apache installed, see Chapter 3, page 9 for help configuring it for CrayDoc.

1.2.2 Perl

The source distribution of Perl version 5.6.1 is included on the CrayDoc CD along with the Perl `INSTALL` file.

Perl versions 5.6.0 and later include the required Perl modules, so if you are using Perl version 5.6.0 or later, you should not need to install them separately. To verify your Perl version, enter the following at a shell prompt:

```
perl -v
```

If you have Perl installed on your system, type the following command at a shell prompt to see whether you already have a module installed. For example, to verify the presence of a module type:

```
perl -mmodname -e 1
```

where *modname* is the name of the module.

1.2.3 The CGI Perl Module

The CGI Perl module should be included with all Perl versions 5.005 and later. In addition, the CGI module will be installed automatically in the local CrayDoc modules directory when you install CrayDoc.

1.2.4 The `Data::Dumper` Perl Module

This module allows for reading and writing of the CrayDoc databases. The `Data::Dumper` Perl module should be part of the standard Perl installation in versions 5.005 and later. The `Data::Dumper` source files are included on the CrayDoc CD. If you do not have the module installed, you should either upgrade Perl or compile and install the `Data::Dumper` module from the source files. Documentation for `Data::Dumper` is included with the source files. See Section 1.2.2, page 2 for instructions about how to see whether a module is already installed.

1.2.5 `Mail::Sendmail` and Order Form Function

CrayDoc includes an optional function that allows users to send e-mail to Cray requesting printed copies of some manuals. The Order Form function requires the `Mail::Sendmail` module. The `Mail::Sendmail` module is not part of any standard Perl distribution. It is included separately on the CrayDoc CD. The `install` script will install it for you, whether you intend to use the Order Form function or not.

1.3 Hardware Requirements

If your computer can run Perl and Apache, it should support CrayDoc. Your hardware needs will vary according to your environment, the number of users you expect to access the CrayDoc server, and what other software you are running on the computer.

1.3.1 RAM

The Apache documentation covers some aspects of improving the performance of your Apache web server. For more information, see <http://httpd.apache.org/docs/misc/perf-tuning.html>.

We recommend a minimum of 128 MB of total RAM for a Stand-alone CrayDoc installation or 256 for a Shared installation. These are described in Chapter 2, page 5.

1.3.2 Hard Drive Space

The entire set of Cray documentation (all files available for shipping with CrayDoc) will fit on a single CD (that is less than 650 MB). A standard Red Hat

Linux system and a typical CrayDoc installation should fit on a 2 GB hard drive. Take your backup system into consideration when making hard drive decisions.

1.4 Publishing Restrictions

The *CrayDoc Terms and Conditions* file, included with the CrayDoc software, specifies that you cannot install Cray documentation on a public website (Internet) without written permission from Cray.

You may install Cray documentation on your employee or other internal websites.

Cray documentation is available on Cray's public website at <http://www.cray.com/craydoc/>.

Preparing for Installation [2]

Before you install CrayDoc, think carefully about the environment in which you intend to use the CrayDoc system.

CrayDoc requires the Apache web server. Your site may already be using the Apache web server. CrayDoc is designed to integrate smoothly with existing installations of the Apache web server. Choose the mode that is best suited to your particular needs and environment:

Stand-alone	CrayDoc has a dedicated Apache installation. This scenario allows for optimal security and performance. See Section 2.1, page 5 for installation instructions and more information.
Shared	CrayDoc shares an existing Apache installation. This scenario allows CrayDoc to coexist with other users of the Apache web server, and it requires the involvement of the administrator of your existing Apache installation. See Section 2.2, page 6 for installation instructions and more information.

You must also consider security issues when selecting a mode (see Section 2.3, page 6).

2.1 Stand-alone Mode

The Stand-alone installation scenario allows for the most control over CrayDoc security and performance. In this scenario, the Apache web server is configured with CrayDoc as the primary user. Examples of this scenario include:

- An unused Linux-compatible computer (that is, an extra PC) that you want to devote to being a CrayDoc server
- Root access to a computer that is not currently running an Apache web server

For this documentation, we will assume you have a Red Hat Linux 7.2 system running on an average, off-the-shelf PC. The average installation time for a new Red Hat system is about 60–90 minutes, which includes the installation of Apache 1.3.12 and Perl 5.6.0 with all the necessary modules.

Once you have Apache and Perl successfully installed, the next step is deciding where you will install CrayDoc. In a Stand-alone scenario, it is up to you to decide where on your file system you put the CrayDoc installation. We

recommend only that you verify that you will have enough space on your file system to accommodate the Cray documentation (see Section 1.3.2, page 3).

Verify that your Apache web server is running by pointing a web browser at your CrayDoc server. If you are using a web browser running on the CrayDoc server machine, you should be able to point your browser at: `http://localhost/` and you should see the Apache test page (or whatever home page you may have replaced it with). If you are using a web browser running on a machine other than the CrayDoc server, you should be able to point your browser at the host name of your CrayDoc server. For example, if your CrayDoc server's host name is `craydocserv`, you should be able to see the Apache test page at `http://craydocserv/`. If you cannot see the Apache test page, you probably have a problem with your Apache installation. Verify that the `httpd` daemon is running by logging in to the CrayDoc server and typing:

```
ps -ef | grep httpd
```

See the Apache documentation for more troubleshooting help.

When you have successfully installed Apache, you can configure it for use with Stand-alone mode (Section 3.1, page 10).

2.2 Shared Mode

Shared mode is the most flexible installation option because it allows your CrayDoc installation to coexist peacefully with other users of the Apache web server. However, Shared mode requires a more intimate understanding of Apache configuration. See Section 3.2, page 10 for more details.

2.3 Security Issues

Security issues also are important to consider when deciding whether you install in Stand-alone or Shared mode. Stand-alone mode offers more security but requires that CrayDoc be the main user of the Apache web server. Shared mode offers more flexibility but requires coordinated effort between the Apache and CrayDoc administrators and careful attention to file system permissions. A thorough understanding of file system permissions is essential for installing CrayDoc successfully in Shared mode.

2.3.1 suEXEC Security Option for Stand-alone Mode

Consider the `suEXEC` for extra security in Stand-alone mode.

If you are concerned about the possibility of someone abusing your Apache installation via the CrayDoc system and you are installing CrayDoc in Stand-alone mode, you may want to consider compiling Apache with the `suEXEC` option. This option allows CGI commands to run under a different user ID than the user ID of the calling Apache web server. You can read the Apache documentation for the `suEXEC` option at <http://httpd.apache.org/docs/suexec.html>.

Here is an example `configure` command line to compile in `suEXEC` support on a Red Hat Linux system.

```
prompt> ./configure --with-layout=Red Hat --enable-suexec --suexec-uidmin=100 \
--suexec-gidmin=100 --suexec-docroot="/home/httpd/html" --suexec-caller=www
```



Caution: Be certain that the `--suexec-caller` value equals the `User` directive value in your Apache `httpd.conf` file.

CrayDoc relies on file system permissions for its security, so if you have set up CrayDoc according to the Stand-alone instructions in Section 3.1, page 10 you probably do not need to compile the `suEXEC` option. However, if you do compile the `suEXEC` option into Apache, your CrayDoc permissions will need to be set accordingly. See Section 2.3.2, page 7 for more information.

2.3.2 Understanding permissions

You should only give as much permission as is absolutely necessary for CGI scripts to be executed and for HTML and PDF files to be read. This means that you should know, first of all, the user and group ids (UID and GID) with which your CGI scripts execute when they are called by the Apache server.

The executing UID or GID must have permission to execute your CrayDoc CGI scripts and read your CrayDoc documentation library files. In a Stand-alone installation, this means you can set permissions on your CrayDoc CGI files very tightly (for example, 500 if the file is owned by the executing UID).

In a Shared installation, file permissions must be set so that the executing UID has executable permissions to the CrayDoc scripts in *ScriptAlias*, read permissions to all the `.dmp` files in *ScriptAlias*, and read permissions to all the documents in *DocumentRoot*. For more details about the *ScriptAlias* and *DocumentRoot* variables, see Section 5.1, page 15.

Note: Apache requires that all the CGI scripts and `.dmp` files be readable and executable by the world. All administration is done by the `cdadmin` tool, so the executing UID of the `cdadmin` tool **must** have write permission to *ScriptAlias* and *DocumentRoot* directories, but the Apache user does **not** need to have write permission.

Configuring Apache [3]

Apache is highly configurable, and your site may have special configuration needs. See the Apache documentation on the CrayDoc CD or at <http://httpd.apache.org/docs/> for more details.

Whether you install in Stand-alone or Shared mode, CrayDoc requires certain information from your Apache configuration file. These settings are found in the Apache `httpd.conf` file:

<code>ServerName</code>	The name returned to the web browser by the Apache web server. Example: <code>craydocserv.foo.com</code>
<code>DocumentRoot</code>	The root path of your HTML documents.
<code>ScriptAlias</code>	The root path of your CGI scripts.
<code>User</code>	The name or UID under which the web server will execute CGI processes.
<code>Group</code>	The name or GID under which the web server will execute CGI processes.



Caution: The `User` and `Group` settings are very important for your installation. They must refer to a real user and a real group on your system. Unless your Apache installation was compiled with the `suEXEC` option (see Section 2.3, page 6), all CGI processes will run as the user and group specified in your `httpd.conf` file, which means that the same user or group must have correct permissions to all your CrayDoc files.

In Stand-alone mode, we recommend that you create a specific system user and group for use with Apache and CrayDoc. Something appropriate and easy to remember (like user `craydoc` and group `craydoc`) is recommended. This will give you the most control and security over your installation.

In Shared mode, you must know the `User` and `Group` settings in your Apache configuration so that you can verify that your CGI scripts are executable and your files readable by the web server. CGI scripts must be world-executable unless you are using the `suEXEC` option.

3.1 Apache in Stand-alone Mode

Usually, you must be logged in as the root user to configure Apache, though your particular installation may vary. The following examples apply to a standard RedHat 7.2 installation.

First, make sure the Apache `httpd` daemon is not running:

```
prompt> /etc/init.d/httpd stop
```

Second, edit your Apache `httpd.conf` configuration file, paying particular attention to the five settings listed at the beginning of this chapter. The `httpd.conf` file is well commented; refer to it and the Apache documentation for more details.

Third, close and save your `httpd.conf` file and then start the `httpd` daemon to test your changes:

```
prompt> /etc/init.d/httpd start
```

If you get any errors when starting your `httpd` daemon, go back and check your `httpd.conf` file.

You should now be ready to install the CrayDoc server. See Chapter 5, page 15.

3.2 Apache in Shared Mode

If you choose to install CrayDoc on a system with a pre-existing Apache installation, you will need to consult with your local Apache administrator about the best way to install CrayDoc. Because we cannot anticipate your particular Apache configuration, you should read the Stand-alone mode (Section 3.1, page 10), Permissions (Section 2.3.2, page 7), and Installation (Chapter 5, page 15) sections thoroughly before attempting a Shared-mode installation. Once installed, CrayDoc in Shared mode works the same way as in Stand-alone mode, but you must understand how your existing Apache system is configured in order to install CrayDoc.

Because of the infinite possible Apache configurations, this document does not provide examples for every possible scenario. The `install` script will attempt to accommodate your particular configuration. See Chapter 5, page 15.

3.3 Apache Tips and Troubleshooting

This section contains some common troubleshooting tips for the `httpd.conf` file.

CrayDoc requires Apache `ExecCGI` permissions for the CrayDoc `ScriptAlias` directory (see Section 5.1 and Section 2.3.2, page 7 for more details). If you are using CrayDoc in Stand-alone mode, a general `ScriptAlias` directive is required:

```
ScriptAlias /cgi-bin/ "/path/cgi-bin/"
<Directory "/path/cgi-bin/">
    AllowOverride None
    Options None
    Order allow,deny
    Allow from all
</Directory>
```

where *path* is the absolute file path to your CGI scripts directory.

See the Apache documentation for more help in troubleshooting and configuring Apache.

SWISH-E [4]

SWISH-E is "Simple Web Indexing System for Humans - Enhanced." SWISH-E replaces PerlFect as the default search engine in CrayDoc 3.0.

Unlike PerlFect, SWISH-E is written in C and must be compiled for the operating system where CrayDoc is installed. Pre-compiled versions for several different operating systems are included on the CrayDoc CD. Pre-compiled versions include:

- Linux 2.4
- Solaris 8
- IRIX 6.5
- FreeBSD 5.1
- Mac OS 10.2

The `install` script will first attempt to locate a compatible pre-compiled version for your operating system. If a compatible version is not found, you will be given the option to compile SWISH-E from the included source code.

Note: In order to compile SWISH-E from source, you must have a C compiler (GNU `gcc` 3.0 or later is recommended) and `make` installed on your system.

CrayDoc 3.0 uses SWISH-E version 2.2, which includes a binary tool for indexing your documents and a Perl module for searching the index. Full SWISH-E documentation is available on the CrayDoc CD and at the SWISH-E web site: <http://www.swish-e.org/>. If you have questions regarding installing or compiling SWISH-E, contact Cray Software Publications at swpubs@cray.com.

Installing CrayDoc [5]

The `install` script on the CrayDoc CD supports both upgrading your existing 2.x CrayDoc server and installing a new CrayDoc server.

Insert the CrayDoc CD into the CD-ROM drive on the machine that will host your CrayDoc server and mount the CD. On most Linux systems, the commands are:

```
prompt> mount /mnt/cdrom
prompt> cd /mnt/cdrom
prompt> ./install
```

The specific mount point may be different depending on your particular operating system.

If you are installing CrayDoc for the first time, see Section 5.1. If you are upgrading an existing CrayDoc server, see Section 5.2.

5.1 Installing CrayDoc for the First Time

The `install` script will guide you through the process of installing and configuring your CrayDoc server software. You will need to know the following values and enter them when the `install` script prompts you.

DocumentRoot	The full file path from where Apache will serve files; for example: <code>/var/www/html</code>
ScriptAlias	The full file path from where Apache will execute your scripts.; for example: <code>/var/www/cgi</code>
HTML URL	The full URL to your HTML files; for example: <code>http://craydocserv.foo.com/</code>
CGI URL	The full URL to your CGI scripts; for example: <code>http://craydocserv.foo.com/cgi-bin/</code>

Note: The `http://` is required when you enter your URL settings. If you are running a secure Apache server, you may use `https://` instead of `http://`. You may optionally specify a port number with your URL settings. The default Apache port is 80. If you are running Apache on another port, you should specify that port in the URLs that you enter. For example:

```
https://craydocserv.foo.com:8080/cgi-bin/
```

See the Apache documentation for more on non-standard ports.

User The login name of the user who will own all your files.

Group The group name that will own all your files.

Note: Your `User` and `Group` settings should be coordinated with your Apache `User` and `Group` settings, so that the Apache web server has appropriate permissions to all your CGI scripts and files. See Section 2.3.2, page 7.

CGI Permissions The permissions, in `chmod` numerical format, for all files in the `ScriptAlias` path.

HTML Permissions The permissions, in `chmod` numerical format, for all files in the `DocumentRoot` path.

Once the `install` script completes successfully, you are ready to install the Cray documentation. Proceed to Chapter 6, page 17.

5.2 Upgrading an Existing CrayDoc Server

If you are upgrading an existing CrayDoc 2.x server, you simply need to know the full path to your current `craydoc-config` file. The `install` script will prompt you for this value and will then install a new configuration file based on your current settings. The old configuration file will be saved for you with the old CrayDoc version number appended. The `install` script will install new CGI scripts and administration tools as well.

Cray Documentation [6]

Cray delivers these three kinds of documentation:

- books (also known as manuals)
- man pages
- CrayDoc Glossary

Books are available in both HTML and PDF formats and are delivered on the CrayDoc CD. Man pages are available in both formatted (or catman) ASCII and HTML formats. Most man pages are also delivered in one of the man page collections in PDF format. Catman ASCII man pages are normally installed automatically along with your Cray software on your Cray system and are accessed with the `man` command. The CrayDoc Glossary is available in HTML.

We recommend that when you install Cray documentation on your CrayDoc system, you choose to install both man page and book packages for each software release, so that the complete set of documentation for each release is available through the CrayDoc user interface. You may choose to use the documentation without installing the CrayDoc server software, but you will not be able to search HTML files without the server software. Whether you choose to install the documentation on a CrayDoc server or simply view it locally from the CD, you should understand the organization of the documentation. Books, man pages, and the CrayDoc Glossary are structured differently, so this chapter discusses their organization.

Note: Cray documentation is provided on a CrayDoc CD with each software release. Printed release overviews and installation guides are also provided.

6.1 Books

Cray delivers HTML versions of most books and PDF versions of all books. Each book is identified by a publication number. On the CD, all the PDF and HTML versions of the books are located in the `manuals` directory in subdirectories named for the publication number of each book.

Books, like man pages, are grouped together into packages. A book package is a collection of the books that support a particular version of a software product.

Man page collection PDF books contain formatted man pages grouped by topic or volume number.

6.2 Man Pages

Man pages describe uniquely identifiable types of information about your software, such as commands, libraries, and system calls. Each software release may contain one or more sets of man pages, which are grouped together into packages. A *package* is a set of documentation that supports a specific release of a software product.

Each man page is identified by four pieces of data:

name	The name of the man page, usually the same as the software component it documents.
volume number	The type of information the man page describes. For example, administrator commands are in volume 8, libraries are in volume 3, and system calls are in volume 2.
product name	Name of the product that the man page supports. This usually, but not always, corresponds to the package name.
product version	Version of the product that the man page supports. This usually, but not always, corresponds to the package name.

On the CD, all the available man pages are located in the `manpages` directory. You should use the `cdadmin` tool to install man pages. For more information, see Section 7.3, page 20.

6.3 CrayDoc Glossary

The CrayDoc Glossary always contains the latest Cray definition of each term. The HTML display of the CrayDoc Glossary is dynamically generated from the `glossary.dmp` file. The `glossary.dmp` file is automatically installed for you every time you install a book or man page package. For more information, see Section 7.4, page 22

Administration [7]

This chapter addresses the administration of your CrayDoc system, including installation and removal of Cray documentation packages.

7.1 The HTML Interface

The CrayDoc HTML interface is mostly generated dynamically by the various CGI scripts. However, there are a few static HTML pages that you may edit. The main one is `frontpage.html`, which is what users first see when they connect to the CrayDoc server. You may edit this file to suit your particular needs, using any text editor.

7.2 Tools

When you installed your CrayDoc server software, you should have installed a number of administration tools as well.



Warning: The following scripts, with the exception of `cdadmin`, are provided as is, as a service to the administrator, with no implied support from Cray. Use them at your own risk.

The following tools should have been installed:

<code>autohomepage.pl</code>	Perl script to create custom <code>index.html</code> pages for your book directories. By default, this script uses the <code>craydoc3.pm</code> Perl module, installed in <code>ScriptAlias/modules</code> , to create an HTML document showing the contents of a book directory in a style consistent with the rest of the CrayDoc user interface. You can modify either the <code>autohomepage.pl</code> script, the <code>index.html</code> page that is produced, or the <code>craydoc3.pm</code> module itself to change the look and feel of your book directory home page.
<code>cdadmin</code>	The main administration tool for the CrayDoc server system. For a complete description of how to use this tool see Section 7.3, page 20.
<code>cdbackup.sh</code>	A simple Bourne shell script for making a backup of your most important databases.

`check.index.cron`

Perl script intended to be run from a `cron` job. `check.index.cron` will compare the timestamps of all your installed documentation against the timestamp of your search index database, and warn you if you have documents that are not indexed. Very useful as an added precaution against forgetting to re-index your search engine after installing or removing documentation.

7.3 The `cdadmin` Tool

The `cdadmin` Perl script is the administration tool for your CrayDoc system. For security reasons, you should install `cdadmin` outside the *ScriptAlias* file path. The administration password is stored in plain text in the `cdadmin` file, so you should protect the file with tight permissions. Only the user who administers the CrayDoc system should have read or execute permissions to the file.

You can start the `cdadmin` tool from the command line, just like any other command:

path_to_file/`cdadmin`

You will be prompted to enter the administration password; then you should see this menu:

Please select a mode.

- [1] Install Packages
- [2] Remove Packages
- [3] Remove a Book
- [4] Remove a Man Page
- [5] Reindex the Search Engine
- [6] List Installed Documents by Package
- [7] List All Installed Books
- [8] List All Installed Man Pages
- [9] Install Custom Documents
- [10] Upgrade Server Software
- [11] Exit

NOTE: This tool uses 'more' to page results.

Enter mode number:

Note: The paging tool is set to `more` by default. You can edit this to use either your `PAGER` setting as defined in your shell environment, or some other paging tool on your system (like `less`), by changing the `$pager` variable in the `interactive.pm` Perl module. See Section 7.4, page 22 for the location of the `interactive.pm` module. Consult your local man page for more on `more`.

The `cdadmin` tool was designed to guide you through the process of installing and removing both packages of documents and individual documents. You can also re-index the search engine, which you should do each time you are finished removing or installing documents. At any time you may enter `q` or `e` to exit the `cdadmin` tool.

Note: The `cdadmin` tool will allow you to install your own, local documentation on the CrayDoc server, so that you can make custom documents available to your users. Select the `Install Custom Documents` mode to create a new, local publication number, title and brief summary. You may install documents of any format you wish, but only HTML files will be indexed by the search engine. Any HTML files you install should be placed inside a directory named `html-pubnumber`, where *pubnumber* is the local publication number you created for your documents. The `html-pubnumber` directory should be a subdirectory of the directory `DocumentRoot/manuals/pubnumber`. The `cdadmin` will create these directories for you as part of the `Install Custom Documents` mode.

7.4 Contents of *ScriptAlias*

The following contents of your *ScriptAlias* directory reflect what is installed:

<code>books.dmp</code>	The book database. This file must be readable by the executing CGI UID (see Section 2.3.2, page 7).
<code>collections.dmp</code>	All the Cray publication categories that allow searching according to Intended Audience or Hardware Product. This file must be readable by the executing CGI UID (see Section 2.3.2, page 7).
<code>craydoc-config</code>	The main CrayDoc configuration file.
<code>craydoc.cgi</code>	The main CrayDoc CGI script. This script interfaces with all the databases and allows you to use your CrayDoc system.
<code>glossary.dmp</code>	The CrayDoc Glossary database.
<code>index_filter</code>	Filters all HTML documents for SWISH-E indexing.
<code>indexer</code>	The Perl wrapper for <code>swish-e</code> binary.
<code>manpage_display.cgi</code>	The man page search and display CGI script.
<code>manpages.dmp</code>	The man page database. This file must be readable by the executing CGI UID (see Section 2.3.2, page 7).
<code>modules/</code>	Directory for all CrayDoc Perl modules. This directory contains the following modules:

auto/	Contains all the SWISH-E Perl modules.
Mail/	Enclosing folder for the optional Perl module <code>Sendmail.pm</code> used by the optional <code>orderform.cgi</code> script to send e-mail to Cray.
CrayCGI.pm	CrayDoc CGI routines.
CrayDB.pm	Functions for interacting with the CrayDoc databases.
CrayHTML.pm	Dynamic HTML generation functions.
craydoc3.pm	Functions used by all the CrayDoc CGI scripts.
highlight.pm	Common functions for highlighting search queries.
interactive.pm	Common functions for the <code>install</code> script and the <code>cdadmin</code> tool.
search.pm	Common functions for the <code>search.cgi</code> script.

<code>orderform.cgi</code>	<p>An optional script that allows the user to request a printed copy of a Cray publication via e-mail.</p> <p>Note: Not all Cray publications are available in printed form.</p> <p>This script requires that your CrayDoc server have network access to a SMTP server that can relay e-mail to Cray.</p>
<code>packages.dmp</code>	<p>All the software releases for which you have installed documentation. This file must be readable and writable by the executing CGI UID (see Section 2.3.2, page 7).</p>
<code>pl2prod.dmp</code>	<p>A database that maps all man page product names and versions to their respective file path abbreviations. This file must be readable and writable by the executing CGI UID (see Section 2.3.2, page 7).</p>
<code>search.cgi</code>	<p>CGI interface to the SWISH-E tools.</p>
<code>search.index</code>	<p>Binary index file created by <code>swish-e</code>.</p>
<code>search.index.prop</code>	<p>Binary index file created by <code>swish-e</code>.</p>
<code>swish-default.conf</code>	<p>SWISH-E configuration file.</p>
<code>swish-e</code>	<p>SWISH-E binary for indexing documents.</p>

7.5 Moving CrayDoc

If at any point you need to move your CrayDoc installation to a different machine with a different operating system, you can preserve your existing documentation without being forced to reinstall from the original CDs. You should be able to use the `tar` command to bundle up all your existing files, move them to the new location, extract them, and then change your `craydoc-config` file to reflect the new configuration. You will then need to re-index the search engine, because the binary databases it creates are platform-specific.

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