



Linux System Administration

Get Help in Red Hat Enterprise Linux

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Objective(s)

- Find information in local Linux system manual pages.

Introduction to the Linux Manual Pages

- One source of documentation that is generally available on the local system is system manual pages or man pages.
- Software packages ship these pages to provide documentation.
- You can access them from the command line by using the man command.
- The pages are stored in subdirectories of the `/usr/share/man` directory.

Common Sections of the Linux Manual

- Man pages originated from the historical Linux Programmer's Manual, which because of its size is split into multiple sections.
- Each section contains information about a particular topic.

Section	Content type	Description
1	User commands	Both executable and shell programs
2	System calls	Kernel routines that are invoked from user space
3	Library functions	Provided by program libraries
4	Special files	Such as device files
5	File formats	For many configuration files and structures
6	Games and screensavers	Historical section for amusing programs
7	Conventions, standards, and miscellaneous	Protocols and file systems
8	System administration and privileged commands	Maintenance tasks
9	Linux kernel API	Internal kernel calls

Common Sections of the Linux Manual (continued)

- Man page references include the section number in parentheses after the topic.
 - Example: `passwd(1)` describes the command to change passwords.
 - Example: `passwd(5)` explains the `/etc/passwd` file format for storing local user accounts.
- Use the `man topic` command to read specific man pages.
 - Man pages display contents one screen at a time.
 - The `man` command searches manual sections in alphanumeric order.
 - Example: `man passwd` displays `passwd(1)` by default.
 - To display the man page `topic` from a specific section, use `man section topic`.
 - Example: `man 5 passwd` displays `passwd(5)`.
- Popular system administration topics are in:
 - Section 1: User commands.
 - Section 5: File formats.
 - Section 8: Administrative commands.
- Administrators use section 2 (system calls) for certain troubleshooting tools.
- The remaining sections are generally for programmer reference or advanced administration.

Navigate and Search man Pages

- Critical administration skill: efficiently search for topics and navigate man pages.
- Command-line interface (CLI) is more efficient than GUI tools for configuring common system resources.
- Effective command line navigation requires finding information in man pages.

The following table lists some navigation commands when viewing man pages:

Navigate man Pages

Command	Result
Spacebar	Scroll forward (down) one screen.
PageDown	Scroll forward one screen.
PageUp	Scroll backward (up) one screen.
DownArrow	Scroll forward one line.
UpArrow	Scroll backward one line.
D	Scroll forward one half-screen.
U	Scroll backward one half-screen.
/string	Search forward for string in the man page.
N	Repeat previous search forward in the man page.
Shift+N	Repeat previous search backward in the man page.
G	Go to the start of the man page.
Shift+G	Go to the end of the man page.
Q	Exit man and return to the command shell prompt.

Table: Navigation Commands for Man Pages

Read man Pages

Man pages separate each topic into several parts. Most topics use the same headings and follow the same order. Not all headings apply to all topics, so a topic might not include every heading.

Common headings are as follows:

Heading	Description
NAME	Subject name, usually a command or file name, a brief description
SYNOPSIS	Summary of the command syntax
DESCRIPTION	Description to provide a basic understanding of the topic
OPTIONS	Explanation of the command execution options
EXAMPLES	Examples of how to use the command, function, or file
FILES	A list of files and directories that are related to the man page
SEE ALSO	Related information, normally other man page topics
BUGS	Known bugs in the software
AUTHOR	Information about who contributed to the development of the topic

Search for man Pages by Keyword

Use the `man` command with the `-k` option to search for a keyword in man page titles and descriptions. This option is similar to the `apropos` command.

When you use `man -k`, it displays a list of man page topics that match the keyword, along with their section numbers. For example, to search for man pages related to the word `passwd`, you can use the following command:

```
man -k passwd
```

Example

Command Line Prompt

```
[user@host ~]$ man -k passwd
chgpasswd (8) - update group passwords in batch mode
chpasswd (8) - update passwords in batch mode
fgetpwent_r (3) - get passwd file entry reentrantly
getpwent_r (3) - get passwd file entry reentrantly
...
passwd (1) - update user's authentication tokens
passwd (1openssl) - OpenSSL application commands
passwd (5) - password file
passwd2des (3) - RFS password encryption
...
```

- When you use the "man" command with the "-K" option (uppercase), it searches for a keyword within the entire content of the manual pages, not just in the titles and descriptions. This type of search requires more system resources and takes longer.
- With this search, the "man" command shows you the first page where it finds a match. To move to the next page with a match, you press the "Q" key to exit the current page, and then the "man" command will display the next page containing the keyword.

Example

In this example, man displays each match, and you can view or skip each one.

Man Command Search

```
[user@host ~] man -K passwd
-Man- next: cut(1p) [ view (return) | skip (Ctrl-D) | quit (Ctrl-C) ]
Ctrl-D
-Man- next: logname(1p) [ view (return) | skip (Ctrl-D) | quit (Ctrl-C) ]
Ctrl-D
-Man- next: sort(1p) [ view (return) | skip (Ctrl-D) | quit (Ctrl-C) ]
Ctrl-D
-Man- next: xargs(1) [ view (return) | skip (Ctrl-D) | quit (Ctrl-C) ]
Ctrl-D
-Man- next: chage(1) [ view (return) | skip (Ctrl-D) | quit (Ctrl-C) ]
Ctrl-C
```

Managing Manual Pages in Red Hat

Introduction

In Red Hat Enterprise Linux, managing manual pages can be done using the yum package manager. Here's how to handle the situation if manual pages are not installed or if a specific section is missing:

Step 1: Check Installation Status

- First, verify if the manual pages package is installed on your system.
- You can do this by running:
`yum list installed | grep man-pages`
- If the package is installed, you should see an entry for it. If not, you can proceed to install it.

Step 2: Install Missing Manual Pages

- If the man-pages package is not installed, you can install it using yum:
`sudo yum install man-pages`
- This command will install the standard set of manual pages for Linux on your Red Hat system.

Step 3: Check Specific Section

- If you're looking for a manual page in a specific section (e.g., section 5 for configuration files), you can specify the section number with the `man` command.
- For example:
`man 5 passwd`
- Replace `passwd` with the name of the command or topic you want to access the manual page for.

Step 4: Consult Online Documentation

- If the manual pages are not available locally, you can search for documentation online.
- Red Hat provides comprehensive documentation on its website, including manuals, guides, and knowledge base articles.
- You can access it at `https://access.redhat.com/products/?product-tab=glossary`.

Role of /etc/man.conf

The /etc/man.conf file in Linux systems plays a crucial role in configuring how the man command functions. The /etc/man.conf file contains various configuration parameters that dictate how the man command behaves.

- **Manual Page Directories:** It specifies the directories where the man command should search for manual pages.
- **Formatting and Display Options:** Allows administrators to define formatting and display options for manual pages.
- **Compression Preferences:** Provides options to specify the preferred compression method for manual pages.
- **Global Configuration:** Serves as the global configuration file for the man command, affecting its behavior system-wide.

whatis Command

Explanation of the whatis command

The `whatis` command in Linux is used to display a brief description of a command. It provides a concise summary of what the command does, making it useful for quickly understanding the purpose of a particular command without having to refer to its full manual page.

Example Usage

For example, if you want to know what the `ls` command does, you can use the `what is` command as follows:

```
$ whatis ls
```

This will output a short description of the `ls` command, which is typically "list directory contents".

```
ls (1) - list directory contents
```

When to Use

The `whatis` command is particularly handy when you're exploring unfamiliar commands or trying to remember the purpose of a command you haven't used in a while.

Apropos Command

The **apropos** command in Linux is used to search the manual page names and descriptions for a specified keyword or phrase.

Apropos Command (Contd.)

Here's how apropos works:

- **Syntax:** The basic syntax of the apropos command is:

```
apropos [options] keyword
```

- **Functionality:** When you run apropos followed by a keyword, it searches through the names and descriptions of manual pages stored on your system's manual page database.
- **Output:** It returns a list of manual page entries that match the keyword or phrase. Each entry typically includes the name of the manual page, a brief description, and the section number where the manual page is found.

Apropos Command (Contd.)

- **Options:** Some common options used with `apropos` include `-s` to specify a section of the manual pages to search in, `-w` to search for whole words only, and `-r` to interpret the keyword as a regular expression.
- **Example:** For example, running `apropos file` will search for all manual pages related to the keyword "file", such as `ls` (1) - list directory contents, which indicates the `ls` command's manual page in section 1 of the manual.

`apropos` is a handy tool for quickly finding relevant documentation on Linux systems, especially when you're unsure of the exact command or topic you need information about.

Examples

Command Line

```
[user@host ~]# apropos copy
```

```
cp (1) - copy files and directories
```

```
cpio (1) - copy files to and from archives
```

```
gcp (1) - copy file(s) with filtering
```

```
gncopy (1) - GUNet data copy tool
```

```
lua_copy (3) - copy a block of memory
```

```
luaL_register (3) - open library
```

```
...
```


Question 1

Question

What command is used to display the manual page for a specific command?

- A. info
- B. man
- C. help
- D. doc

Answer
B. man

Question 2

Question

Which section of the manual pages typically contains user commands?

- A. Section 1
- B. Section 2
- C. Section 3
- D. Section 4

Answer

A. Section 1

Question 3

Question

Which command is used to search for a keyword in all manual page sections?

- A. `man -s`
- B. `man -k`
- C. `man -a`
- D. `man -f`

Answer

B. man -k

Question 4

Question

Which option is used to view the next occurrence of a keyword in the manual page?

- A. n
- B. p
- C. f
- D. q

Answer
A. n

Question 5

Question

What does the command `whatis` do?

- A. Displays a summary of each manual page
- B. Searches for a keyword in the manual pages
- C. Lists all available manual page sections
- D. Opens the manual page for a specific command

Answer

A. Displays a summary of each manual page

Question 6

Question

Which command is used to install manual pages for software packages?

- A. mpage
- B. man-install
- C. man-db
- D. man-page

Answer
C. man-db

Question 7

Question

What is the purpose of the mandb command?

- A. Displays manual page databases
- B. Updates the manual page index
- C. Removes manual pages from the system
- D. Manages user permissions for manual pages

Answer

B. Updates the manual page index

Question 8

Question

Which file contains the configuration for the man command?

- A. `/etc/man.conf`
- B. `/usr/share/man.config`
- C. `/var/man/settings`
- D. `/.manrc`

Answer

A. /etc/man.conf

Question 9

Question

What does the apropos command do?

- A. Displays manual pages for a given keyword
- B. Lists available manual page sections
- C. Searches for keywords in manual page names and descriptions
- D. Generates a table of contents for the manual pages

Answer

C. Searches for keywords in manual page names and descriptions

Question 10

Question

What is the purpose of the `unzip` command in manual page management?

- A. Extracts manual pages from compressed archives
- B. Updates the system's manual page index
- C. Removes manual pages from the system
- D. Installs new manual pages into the system

Answer

A. Extracts manual pages from compressed archives

Thanks!

Thank you
for your attention.