

SECTION 3 Locate and Use Help Resources in the Linux System

Linux is one of the best documented operating systems. This section shows you how to find and use several sources of help information.

Objectives

1. [Access and Use Manual Pages](#)
2. [Use info Pages](#)
3. [Access Release Notes and White Papers](#)
4. [Use GUI-Based Help in the Linux System](#)
5. [Find Help on the Web](#)

Objective 1 Access and Use Manual Pages

The most important command for online help is *man* (an abbreviation of manual or man page).

All manual pages are available in English and many have been translated into other languages. Because these translations are often incomplete or not maintained, we recommend using the English versions.

If the English manual pages are not shown automatically with the command **man**, you can display the English version of the manual page by setting `LANG=en_EN`.

For example, to display the English version of the manual page for the command `man`, you would *enter* the following:

```
tux@da10:~ > LANG=en_EN man man
```

Using the parameter `LANG=en_EN` switches to the English language for the requested man pages only.

The following is the first page of the manual pages for the command `man`:

```

man(1)          Manual pager utils          man(1)

NAME
  man  an interface to the on-line reference manuals

SYNOPSIS
  man [-c|-w|-tZT device] [-adhu7V] [-m system[,...]]
    [-L locale] [-p string] [-M path] [-P pager] [-r prompt]  [-S list] [-e
extension] [[section] page ...] ...
  man -l [-7] [-tZT device] [-p string] [-P pager]
    [-r prompt] file ...
  man -k [apropos options] regexp ...
  man -f [whatis options] page ...

DESCRIPTION
  man is the system's manual pager. Each page
  argument given to man is normally the name of
  a program, utility or function. The manual
  page associated with each of these arguments
  is then found and displayed. A section, if
  provided, will direct man to look only in that
  section of the manual. The default action
  is to search in all of the available sections,
  following a pre-defined order and to show
  only the first page found, even if page exists
  in several sections.

```

The header of each manual page contains the command name at the left and right sides and the section number to which the manual page belongs. The center of the header shows the name of the section. The last line usually contains the date of the last changes.

A manual page is always divided into the following parts:

Part	Contents
NAME	Name and short description of the command
SYNOPSIS	Description of the syntax
DESCRIPTION	Detailed description of the command
OPTIONS	Description of all options available
COMMANDS	Instruction that can be given to the program while it is running
FILES	Files connected in some way to the command
SEE ALSO	References to related commands
DIAGNOSTICS	Possible error messages of the program
EXAMPLE	Examples of how to use a command
BUGS	Known errors and problems with the command

Not every manual page has all parts.

The manual pages are organized in the following sections:

Section	Contents
1	Executable programs and shell commands (user commands)
2	System calls
3	Functions and library routines
4	Device files
5	Configuration files and file formats
6	Games

(continued) **Table 3-2**

Section	Contents
7	Macro packages and file formats
8	System administration commands

For example, entering the following displays general information about the command `crontab`:

man 1 crontab

Entering the following displays information about the configuration file for the command `crontab` (which also has the name `crontab`):

man 5 crontab

It is especially important to know to which section a command belongs when there is more than one manual page for a command.

For example, the command `uname` is both a user command and a system call. Entering the following displays information about the user command:

man 1 uname

Entering the following displays information about the system call used to get name and information about the current kernel:

man 2 uname

You can display a brief description of all the available manual pages for a command or utility by using the command `whatis` (as shown in the following):

```
tux@da10:~ > whatis uname
uname (1) - print system information
uname (2) - get name and information about current kernel
uname (1p) - return system name
uname (3p) - get the name of the current system
tux@da10:~>
```



Manual pages whose output is marked with “p” are POSIX manual pages of the command **uname (1p)** and the function **(uname (3p))**.

To display manual pages on the screen, **man** uses the program **less** which displays one screen of information at a time. The following keys are available to use with command **less**:

Table 3-3

Key Name	Description
Space	Page one screen forward.
b	Page one screen backward.
PageDown	Page half a screen forward.
PageUp	Page half a screen backward.
Down-Arrow, Enter	Jump one line forward.
Up-Arrow	Jump one line backward.
End	Go to the end of the manual page.
Home	Go to the beginning of the manual page.
<i>/expression</i>	Search forward from the current cursor position for <i>expression</i> ; matching line is displayed as first line on the screen.
<i>?expression</i>	Search backward from the current cursor position for <i>expression</i> ; matching line is displayed as first line on the screen.
n	Move to the next instance of expression in the search.
N	Move to the previous instance of expression in the search.
q	Close the manual page.

In SUSE LINUX Enterprise Server (SLES), the manual pages are located in the directory `/usr/share/man/`.

If you enter **man -k keyword** or **apropos keyword**, a list of manual pages in which the keyword appears in the NAME section is displayed. For example:

```
tux@dal10:~ > man -k printf
vasprintf (3) - print to allocated string
vwprintf (3p) - wide-character formatted output of a stdarg argument list
vfprintf (3) - formatted output conversion
snprintf (3) - formatted output conversion
format (n) - format a string in the style of sprintf
swprintf (3) - formatted wide character output conversion
asprintf (3) - print to allocated string
vsprintf (3p) - format output of a stdarg argument list
printf (3p) - print formatted output
sprintf (3p) - print formatted output
wprintf (3p) - print formatted wide-character output
vdprintf (3) - print to a file descriptor
fwprintf (3) - formatted wide character output conversion
sprintf (3) - formatted output conversion
dprintf (3) - print to a file descriptor
wprintf (3) - formatted wide character output conversion
printf (3) - formatted output conversion
```

Exercise 3-1 Access and Use Manual Pages

Manual pages are ideal for getting a quick information on command line commands. This is a resource you will probably use very often.

To use manual pages, do the following:

1. Select the *monitor* icon in the Kicker to start **Konsole**.
2. Find the sections of the manual pages for the command info by entering
whatis info
3. Read the first section (executable programs and shell commands) of the manual pages of the command info by entering
man 1 info
4. Scroll through the text by using **Up-arrow** and **Down-arrow**.
5. When you finish viewing the information, exit (quit) the manual page by typing **q**.
6. *(Optional)* Look at the manual page of a command of your choice.

Leave the Konsole window open for the next exercise.

(End of Exercise)

Objective 2 Use info Pages

Unfortunately, a whole series of GNU programs no longer have manual pages (or the pages have become outdated). Instead, info files are used, which can be read with the command **info**.

In SLES 9, the info files are located in the directory `/usr/share/info/`.

The following is the beginning of the info file for the command `info`:

```
File: info.info, Node: Top, Next: Getting Started, Up: (dir)

Info: An Introduction
*****

Info is a program, which you are using now, for reading documentation of
computer programs. The GNU Project distributes most of its on-line manuals
in the Info format, so you need a program called "Info reader" to read the
manuals. One of such programs you are using now.

If you are new to Info and want to learn how to use it, type the command
`h' now. It brings you to a programmed instruction sequence.

To learn advanced Info commands, type `n' twice. This brings you to `Info
for Experts', skipping over the `Getting Started' chapter.

* Menu:

* Getting Started:: Getting started using an Info reader.
* Advanced Info:: Advanced commands within Info.
* Creating an Info File:: How to make your own Info file.
* Index:: An index of topics, commands, and variables.
```

The following are advantages of the info file format:

- It uses a structured document setup.
- Specific sections can be reached directly from the table of contents.
- Specific sections can be linked.

The following are the most commonly used keys for the command info:

Key Name	Description
Space, PageDown	Page down one screen.
Backspace, PageUp	Page up one screen.
b	Move the cursor to the beginning of the current info page.
e	Move the cursor to the end of the current info page.
Tab	Move the cursor to the next reference (*).
Enter	Follow the reference.
n	Move to the next info page of the same level (Next:).
p	Move to the previous info page of the same level.
u	Move one level higher.
l	Move back to the last text displayed; end help.
s	Search in the info page.
h	Display help.
?	List a summary of commands.
q	Close the info document.

Exercise 3-2 Access and Use info Pages

Sometimes manual pages have only very little information and refer to info pages for more complete information. The purpose of this exercise is for you to get used to the format, which might need a little time.

To use info pages, do the following:

1. From the Konsole terminal window, display the info pages for the command `info` by entering
info info
2. Move the cursor to the first reference (Getting Started) by pressing **Tab**.
3. Follow the reference by pressing **Enter**.
4. Move the cursor to the reference **Quitting Info** by pressing **Tab** eight times.
5. Follow the reference by pressing **Enter**.
6. Return to the page Getting Started by typing **l** (lowercase L).
7. Exit the info file by typing **q**.
8. *(Optional)* Look at the info page of a command of your choice.
9. Close the Konsole terminal window.

(End of Exercise)

Objective 3 Access Release Notes and White Papers

Release notes, white papers and other helpful information are stored in the directory `/usr/share/doc/`. This directory contains the following:

- [Release Notes](#)
- [Howto Files](#)
- [Help for Installed Packages](#)

Release Notes

When you complete the SLES 9 installation (just before the Login screen is displayed), the release notes appear in a window.

If you want to access these release notes later, you can find them in the directory `/usr/share/doc/release-notes/`.

Two release note files are available:

- `RELEASE-NOTES.en.html`
- `RELEASE-NOTES.en.rtf`

The content of these files is identical. Only the file format is different.

Howto Files

You can find additional information (including background material) in the *howto* files. There is a howto for almost every topic in Linux.

The howto files are available in different formats, such as ASCII, PostScript, and HTML. In addition, many of the howto files have been translated into various languages.

SLES 9 contains a large number of howto files. The howto files of the Linux Documentation Project in HTML format are installed during the SLES 9 installation. You can access these files in the directory

/usr/share/doc/howto/en/html/

You can also install the howto files in ASCII format (package howto, ASCII format). After installation, you can find them in the directory

/usr/share/doc/howto/en/txt/

You can find a list of all current howto files (together with available translations) at

<http://www.tldp.org/>

Help for Installed Packages

Help files are available in the following directory for most installed packages:

/usr/share/doc/packages/package-name

These help files are written by the programmers of the package. Therefore, the format of these files is not standardized. Some packages provide help files in HTML, while others are in pure ASCII.

Exercise 3-3 Access Release Notes and White Papers

Sometimes you may want to look at the Release Notes again after installation. The purpose of this exercise is to show you how to access them, as well as to give you a first idea on how to navigate in the Linux file system and use the file manager Konqueror.

To access the release notes, do the following:

1. Start the file manager Konqueror by selecting the **blue house** icon in Kicker.
2. Open the navigation panel by selecting the **root folder** icon (red folder) on the left side of the Konqueror window.
3. Display the content of the directory /usr/ by selecting the **usr** folder icon in the Navigation Panel.
4. Display the content of the directory /usr/share/ by selecting the **share** folder icon in File View (right window).
Select the icon once; you do not need to double-click.
5. Display the content of the directory /usr/share/doc/ by selecting the **doc** folder icon in the File View.
6. Display the content of the directory /usr/share/doc/release-notes/ by selecting the **release-notes** folder icon in the file view.
7. Read the release notes by selecting **RELEASE-NOTES.en.html** in the File View.
8. Close the Konqueror window.

(End of Exercise)

Objective 4 Use GUI-Based Help in the Linux System

Two important applications for getting help in SUSE LINUX Enterprise Server are the SUSE HelpCenter Konqueror. To get help, you can do the following:

- [Display the SUSE HelpCenter](#)
- [Use Help Commands with Konqueror](#)

Display the SUSE HelpCenter

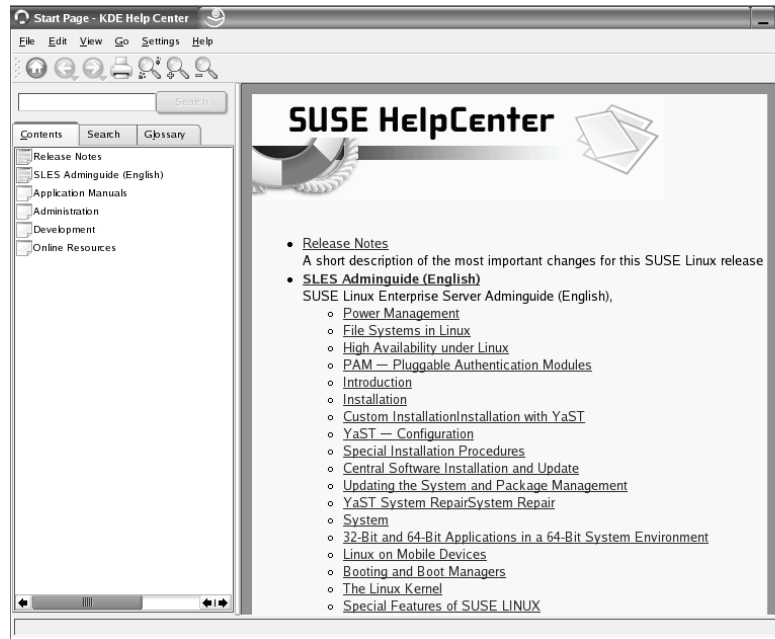
SUSE provides its own help system—the *SUSE HelpCenter*. To access the HelpCenter, select the lifesaver icon in the Kicker:

Figure 3-1



The HelpCenter starts and displays help information, as shown in the following:

Figure 3-2



Help programs are available in most KDE applications and can be started by pressing **F1**. Because the help programs use HTML format, you can follow any embedded hyperlinks by selecting an entry in the table of contents.



The first time you use the Search feature, you see a message telling you that you have to create an index.

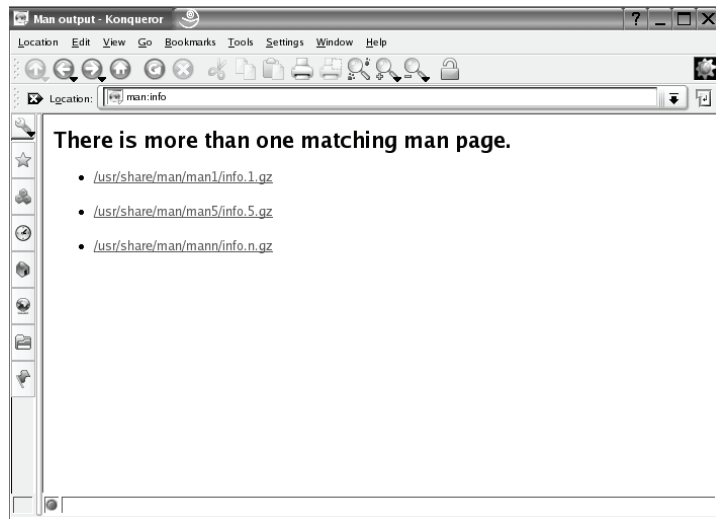
If you want to use the Search feature, select **Yes > OK**.

Use Help Commands with Konqueror

Konqueror is a web and file browser. You can use it to display manual pages and info pages.

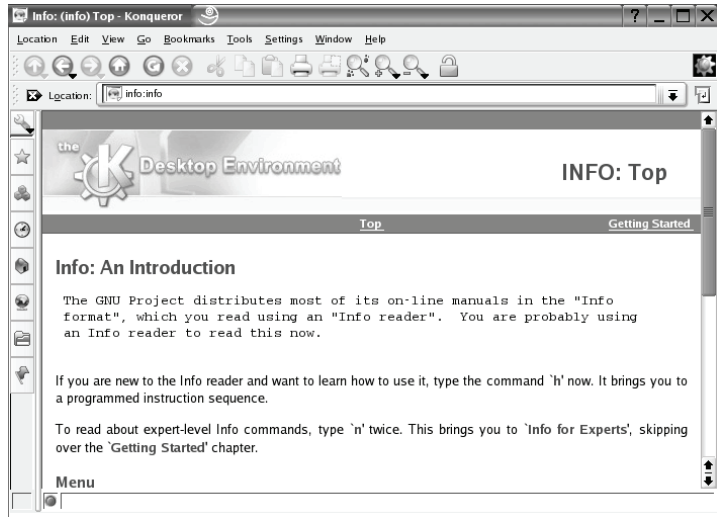
To view a manual page, enter **man:command** (such as **man:info**) in the address bar. Konqueror lists any available man pages for that command, as shown in the following:

Figure 3-3



To use the info command with Konqueror, enter **info:command** in the address bar and Konqueror displays the info page, as shown in the following:

Figure 3-4



Exercise 3-4 Use GUI-Based Help

Most of the time you will probably get along fine with manual and info pages. The purpose of this exercise is to show you additional help resources, in case e.g. the manual pages don't fit your needs.

To use GUI-based help, do the following:

1. Start the SUSE HelpCenter by selecting the *lifesaver* icon in Kicker.
2. Create a search index by selecting the **Search** tab.
3. Start the creation by selecting **Yes**.
4. Confirm the creation by selecting **OK**.

A dialog appears requesting the root password to create the search index.

5. Enter a password of **novell** and select **OK**.
6. After the creation process finishes, close the dialog window by selecting **Close**.
7. Find information about printing with Linux by entering **printer** in the text field above the Search tab; then select **Search**.
8. In the Help information window (to the right) select the link under the Release Notes heading.
9. To find the paragraph about printer configuration, select **Edit > Find**
10. In the Text to find field, enter **printer**; then select **Find**.
11. After viewing the information, close the Find dialog by selecting **Cancel**.
12. Close the SUSE HelpCenter window.

(End of Exercise)

Objective 5 Find Help on the Web

You can find an extensive collection of information about Linux on the Internet. The following are some of the more frequently used Linux sites:

- <http://www.novell.com/linux/suse>
- <http://www.linux.org>
- <http://www.linux.com>
- <http://www.tldp.org>
- <http://www.linuxplanet.com>
- <http://www.cert.org> (security issues)
- <http://www.securityfocus.com> (security issues)
- <http://www.kernel.org> (Linux kernel issues)

To find other sources of information, you can use a web search site such as Google. Google offers a special web search site for questions about Linux at www.google.com/linux.



Be careful with information you find on personal home pages. This information can be old or wrong.

Exercise 3-5 Find Help on the Web

The help information on the installation CDROMs mirrors what was known at the time of the release. However since that time things happened - errors were found, as well as solutions or work-arounds for these errors, etc.

Most of this information can be found in the Internet. The purpose of this exercise is to give you a first start into using this resource.

To find help on the web, do the following:

1. Start Konqueror by selecting the *globe* icon in Kicker.
2. In the Location bar, enter **support.novell.com**.
The Novell Support home page appears.
3. Under Technical Resource Search, select **SUSE** from the Choose a Product drop-down list.
4. In the empty Search field, enter
SLES 9 Installation
Notice that you can search the Knowledgebase and Documentation.
5. Search both by selecting **Documentation**; then select **Search**.
6. (Conditional) If you receive a warning message about unencrypted transmission of data, select **Do Not Ask Again**; then select **Yes**.
7. (Conditional) If you see a cookie alert warning message, select **All Cookies**; then select **Accept**.
A Search Results page appears, showing several pages of links.
8. Select one or more links, then select the **Back** icon arrow until you return to the Support home page.
9. Take some time to explore other links such as **Download Patches** or **Downloads**.

10. When you finish, in the Location field enter
www.google.com/linux
11. In the text field at the top of the page, enter **kde and sles9**; then select **Google Search**.
12. Select one or more of the displayed links.
13. When you finish, close the Konqueror window.

(End of Exercise)

Summary

Objective	Summary
1. Access and Use Manual Pages	<p>The most important command for online help is man.</p> <p>The manual pages are always divided into parts and arranged according to various sections.</p> <p>The command less is used to view the manual pages.</p>
2. Use info Pages	<p>Many GNU programs no longer have manual pages. Instead, info files are used, which you can read with the command info.</p> <p>The following are advantages of the info format:</p> <ul style="list-style-type: none">■ Structured document setup is available.■ Specific sections can be reached directly from the table of contents.■ Links between specific sections are possible.

Objective	Summary
<p>3. Access Release Notes and White Papers</p>	<p>The release notes can be found in the following directory:</p> <p><i>/usr/share/doc/release-notes/</i></p> <p>Howto files are available in HTML format after the SLES 9 installation in the directory</p> <p><i>/usr/share/doc/howto/en/html/</i></p> <p>Additionally, you can install howto files in ASCII format later. These are located in the directory</p> <p><i>/usr/share/doc/howto/en/txt/</i></p> <p>For most installed packages, there are help files available in the directory</p> <p><i>/usr/share/doc/packages/ package-name</i></p>
<p>4. Use GUI-Based Help in the Linux System</p>	<p>SUSE provides its own help system called <i>SUSE HelpCenter</i>.</p> <p>Help programs are available in most KDE applications and can be started by pressing F1.</p> <p>Konqueror can display manual pages and info pages by entering the following:</p> <ul style="list-style-type: none">■ <i>man:command</i>■ <i>info:command</i>

Objective**5. Find Help on the Web****Summary**

The Internet is a very extensive source of expert knowledge for Linux issues.

The following are a few of the more commonly-used web sites:

- <http://www.novell.com/linux/suse>
 - <http://www.linux.org>
 - <http://www.linux.com>
 - <http://www.tldp.org>
 - <http://www.linuxplanet.com>
 - <http://www.cert.org>
 - <http://www.securityfocus.com>
 - <http://www.kernel.org>
-