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Use and manage local system documentation
Weight 4

Linux Professional Institute Certification — 102

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2005 July
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Use and Manage Local System Documentation

Objective

Candidates should be able to use and administer the `man` facility and the material in `/usr/share/doc/`. This objective includes finding relevant `man` pages, searching `man` page sections, finding commands and `man` pages related to them, and configuring access to `man` sources and the `man` system. It also includes using system documentation stored in `/usr/share/doc/` and determining what documentation to keep in `/usr/share/doc/`.
Use and Manage Local System Documentation

Key files, terms, and utilities

**MANPATH** — an environment variable that specifies a search path for **man** pages

**man** — the program that accesses **man** pages

**apropos** — searches descriptions of **man** pages, returning all matches; same as **man** `-k`

**whatis** — returns descriptions of matching **man** page; same as **man** `-f`
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Using `whatis` display manual page descriptions

- `whatis` searches the manual page names and displays the manual page descriptions of any name matched.

```bash
$ whatis nmap
nmap (1) - Network exploration tool and security scanner

(in Debian and Ubuntu but not Red Hat/Fedora)
-r, --regex Interpret each name as a regular expression.

$ whatis -r ^ifc
ifconfig (8) - configure a network interface

Is equivalent to

$ man -f

This may have been asked in previous exams

Nick’s silly mnemonic: What the `-f`... is...
Using `whatis` display manual page descriptions

- `whatis` searches the manual page names and displays the manual page descriptions of any name matched.

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Using `whatis` display manual page descriptions

- `whatis` searches the manual page names and displays the manual page descriptions of any name matched.

  `whatis nmap` will search the manual page names and display the manual page descriptions of any name matched.

  ```shell
  $ whatis nmap
  nmap (1) - Network exploration tool and security scanner
  
  (in Debian and Ubuntu but not Red Hat/Fedora)
  
  $ whatis -r ^ifc
  ifconfig (8) - configure a network interface
  
  Is equivalent to
  
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Using **whatis** display manual page descriptions

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  $ **whatis** nmap
  
  nmap (1) - Network exploration tool and security scanner

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  $ **whatis** -r ^ifc
  
  ifconfig (8) - configure a network interface

- Is equivalent to
  
  $ **man** -f

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- Nick’s silly mnemonic: What the **-f**... is...
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Using `apropos` search the manual page names and descriptions

Each manual page has a short description available within it. `apropos` searches the descriptions for instances of keyword.

```
$ apropos nmap
mmap (2) - map or unmap files or devices into memory
munmap (2) - map or unmap files or devices into memory
nmap (1) - Network exploration tool and security scanner
Tk_MapWindow (3tk) - map or unmap a window
...
```

- Is equivalent to
  
  ```
  $ man -k
  ```

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- Nick’s silly mnemonic: `apropos -k` an produce many lines of output
Using `apropos` search the manual page names and descriptions

Each manual page has a short description available within it. `apropos` searches the descriptions for instances of keyword.

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  ```
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Database for `whatis` and `apropos`

- Both `whatis` and `apropos` use a common simple text file database
- Built by a nightly `cron` job script in `/etc/cron.daily`
- Red Hat/Fedora runs a shell script `/usr/sbin/makewhatis`
- Ubuntu runs a program `/usr/bin/mandb`
Using `man`

$ man man ←
man(1)

NAME

man - format and display the on-line manual pages
manpath - determine user’s search path for man pages

SYNOPSIS

man [-acdfFhkKtwW] [--path] [-m system] [-p string]
    [-C config_file] [-M pathlist] [-P pager] [-S section_list]
    [section] name ...

DESCRIPTION

man formats and displays the on-line manual pages.
Using `man` options

- **`-k`** Equivalent to `apropos`
- **`-f`** Equivalent to `whatis`
- **`-K`** Search for the specified string in *all* man pages.
  Warning: this is probably very slow! It helps to specify a section. (Just to give a rough idea, on my machine this takes about a minute per 500 man pages.)
- **`-a`** Show all matching man pages from all sections; for example, `man -a passwd` shows the man pages both for `passwd(1)` and `passwd(5)`.
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Configuring how man finds manpages

- The configuration file for man is:
  - Red Hat/Fedora sytems: /etc/man.config
  - Ubuntu: /etc/manpath.config
- can override the search paths specified in the configuration files using the MANPATH environment variable
  - MANPATH is a colon-separated list of directories to search
- You can see the existing search path with
  
  $ man --path
  
  or:

  $ manpath

  /usr/local/man:/usr/local/share/man:/usr/share/man:/usr/X11R6/man
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The Manual Section Numbers

1. **Executable programs** or shell commands
2. System calls (functions provided by the kernel)
3. Library calls (functions within system libraries)
4. Special files (usually found in `/dev`)
5. **File formats and conventions** eg `/etc/passwd`
6. Games
7. Miscellaneous (including macro packages and conventions), e.g. `man(7), groff(7)`
8. **System administration commands** (usually only for root)
9. Kernel routines [Non standard]
Navigating in `man` *(really less)*

The `man` program actually calls many other programs, displaying the result, by default, with the `less` program:

```
$ man -d man 2>&1 | tail -n 1 ←
```

(cd /usr/share/man/en && (echo ".pl 1li"; /usr/bin/gunzip -c `/usr/share/man/en/man1/man.1.gz`) | /usr/bin/gtbl | /usr/bin/nroff -c -legacy ISO-8859-1 -mandoc 2>/dev/null | /usr/bin/less -is)

- **h** Show detailed help on using the `less` program
- **q** Quit
- **g** Go to beginning of `man` page
- **G** Go to end of `man` page
- `/string` Search for string.
- **n** repeat previous search forwards
- `?string` Search for string backwards
- **N** repeat previous search backwards
- **ESC-u** Undo (toggle) search highlighting.
The GNU Project distributes most of its on-line manuals in the "Info format", which you read using an "Info reader". You are probably using an Info reader to read this now.

There are two primary Info readers: `info`, a stand-alone program designed just to read Info files, and the `info` package in GNU Emacs, a general-purpose editor. At present, only the Emacs reader supports using a mouse.

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

To read about expert-level 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.
* Expert Info:: Info commands for experts.
* Creating an Info File:: How to make your own Info file.
* Index:: An index of topics, commands, and variables.

Welcome to Info version 4.8. Type `?` for help, `m` for menu item.
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**GNU info Navigation**

- **Tab**  Move among hyperlinks
- **Enter**  Follow hyperlinks
  - **d**  Return to the top
  - **?**  List these info commands
  - **n**  Move to the "next" node of this node.
  - **p**  Move to the "previous" node of this node.
  - **u**  Move "up" from this node.
  - **q**  Quit Info altogether.
  - **h**  Show a primer for first time users.
- **/string**  Search for string.
General information about packages and programs.

$ ls /usr/share/doc/

a2ps-4.13b
a52dec-0.7.4
aalib-1.4.0
abiword-2.4.1
abook-0.5.4
ac-archive-0.5.39
acl-2.2.23
adjtimex-1.20
aiksaurus-1.2.1
alchemist-1.0.36
alchemist-devel-1.0.36
alsa-lib-1.0.9rf
macutils-2.0b3
Maelstrom-3.0.6
MagicPoint-1.11b
mailman-2.1.5
make-3.80
MAKEDEV-3.19
man-pages-1.67
man-pages-cs-0.16
man-pages-da-0.1.1
man-pages-de-0.4
man-pages-es-1.28
man-pages-fr-0.9.7
$ ls /usr/share/doc/acl-2.2.23
CHANGES.gz  LICENSE  PORTING  README
$ head /usr/share/doc/acl-2.2.23/README

Access control list package README

See the file doc/INSTALL for build, installation and post-install configuration steps.

Refer to the acl(5) manual page for general access control list information and references to other related manual pages.

The extended attributes and access control list project for the ext2 and ext3 filesystems is located at:

   http://acl.bestbits.at/

For more information and details on how to contribute to the XFS project see the web pages at:

   http://oss.sgi.com/projects/xfs/
$ firefox /usr/share/doc/xfig/html/index.html

... or open this file URL:

file:///usr/share/doc/xfig/html/index.html
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