Linux For Embedded Systems

For Arabs

Course 102:

Understanding Linux

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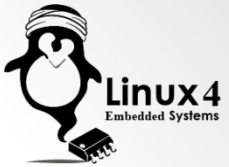
Lecture 6: Seeking Help

Why ??



- Linux Command Line Interface is a very rich interface with hundreds of commands
- Each command comes with a lot of variations, options, argument types, …
- We learn about the popular and frequently used forms but It is impossible to remember all possible usage of commands
- Hence, we need a way to find more information about the different commands and their different usage forms

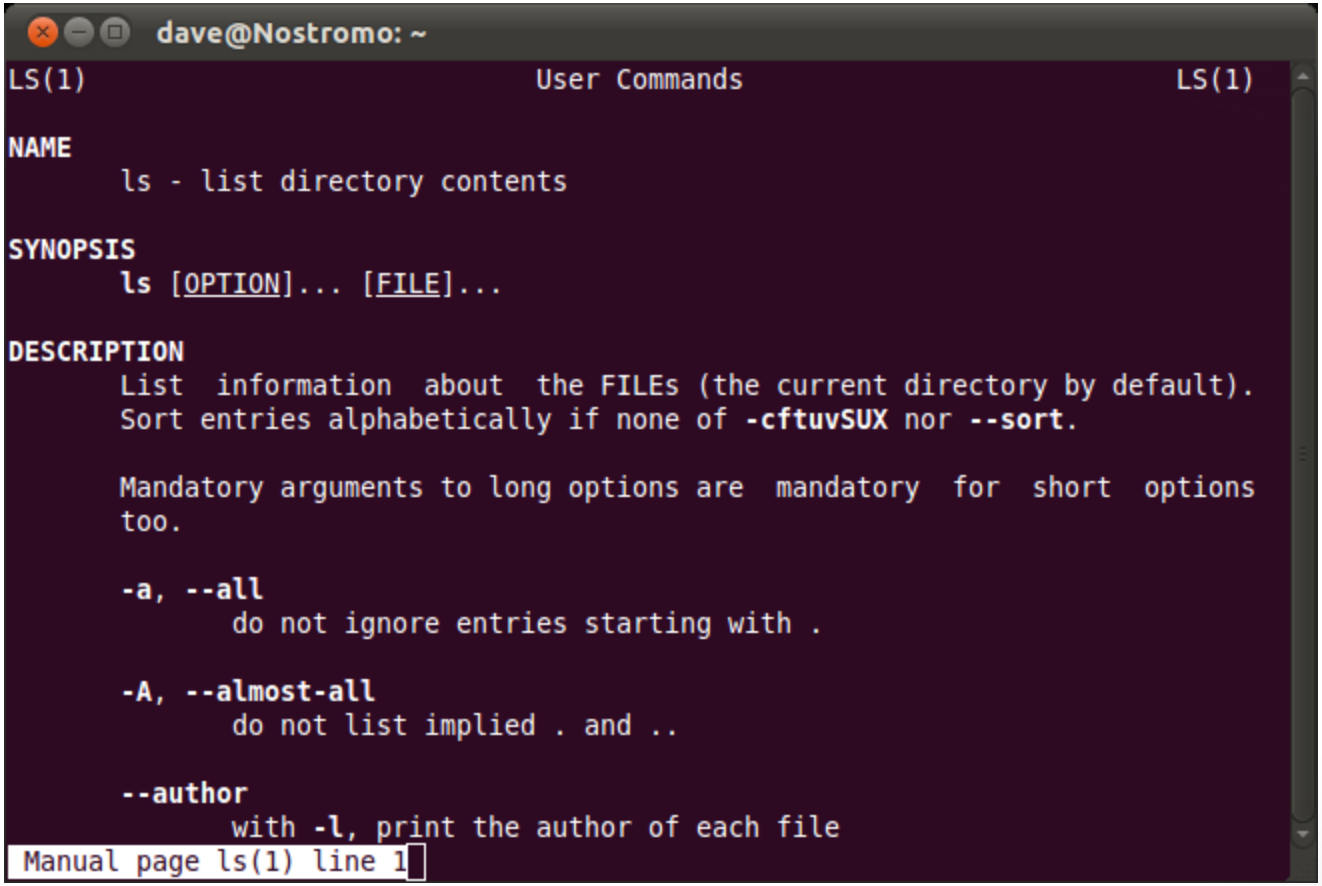
Help Commands

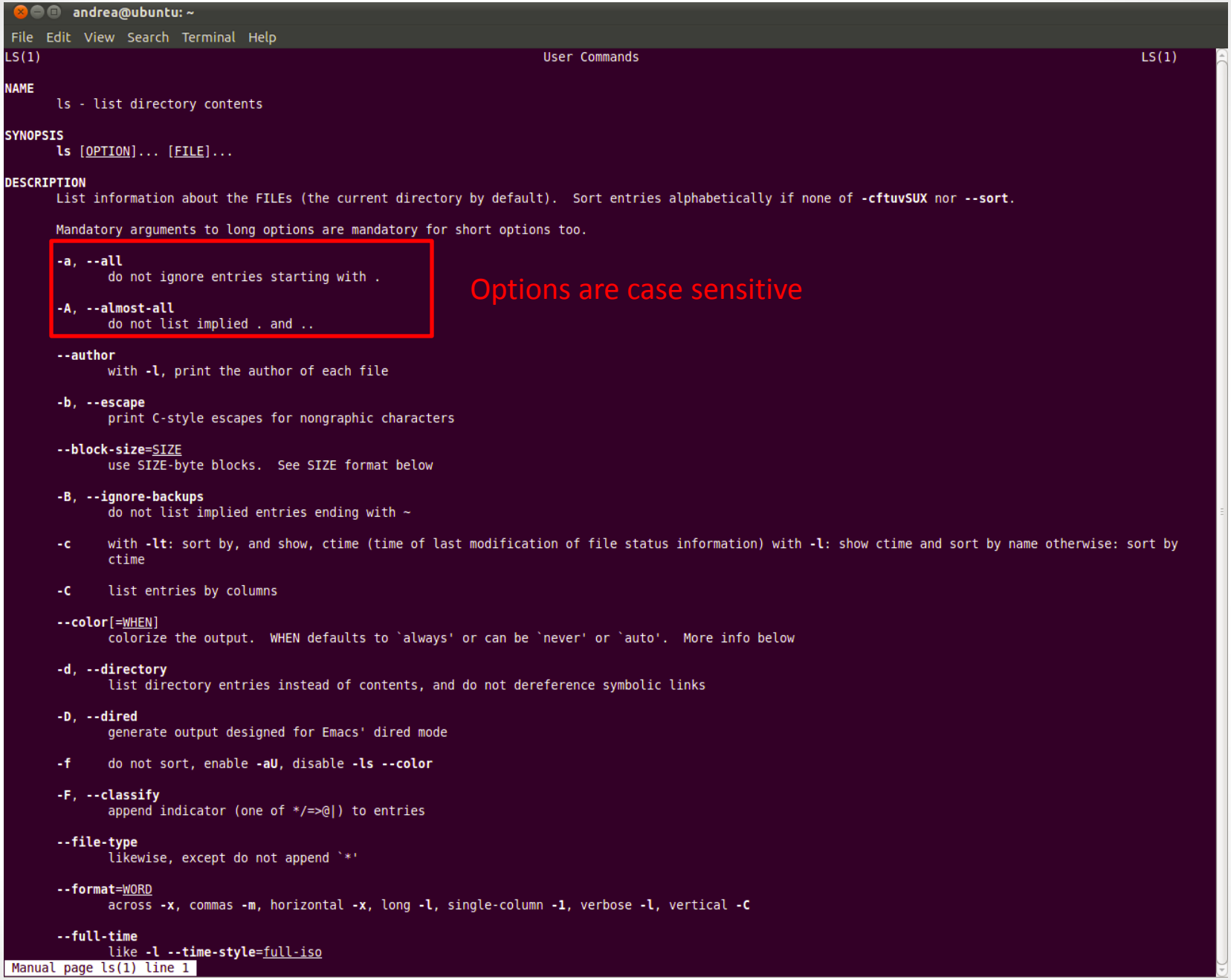
Command	Effect
$ man	Read manual pages
$ whatis	Search man page titles by keywords
$ apropos	Search the man pages by keywords
$ info	Read Info pages
$ <command> -h $ <command> --help	Display Usage of commands

Reading the Manual Pages (man Command)

$ man <command> (Read the man page for a Command)

$ man ls




andrea@ubuntu: ~
File Edit View Search Terminal Help
LS(1) User Commands LS(1)
NAME
ls - list directory contents
SYNOPSIS
ls [OPTION]... [FILE]...
DESCRIPTION
List information about the FILEs (the current directory by default). Sort entries alphabetically if none of -cftuvSUX nor --sort.
Mandatory arguments to long options are mandatory for short options too.
-a, --all
do not ignore entries starting with .
-A, --almost-all
do not list implied . and ..
Options are case sensitive
--author
with -l, print the author of each file
-b, --escape
print C-style escapes for nongraphic characters
--block-size=SIZE
use SIZE-byte blocks. See SIZE format below
-B, --ignore-backups
do not list implied entries ending with ~
-c with -lt: sort by, and show, ctime (time of last modification of file status information) with -l: show ctime and sort by name otherwise: sort by ctime
-C list entries by columns
--color[=WHEN]
colorize the output. WHEN defaults to `always' or can be `never' or `auto'. More info below
-d, --directory
list directory entries instead of contents, and do not dereference symbolic links
-D, --dired
generate output designed for Emacs' dired mode
-f do not sort, enable -aU, disable -ls --color
-F, --classify
append indicator (one of */=>@|) to entries
--file-type
likewise, except do not append `*'
--format=WORD
across -x, commas -m, horizontal -x, long -l, single-column -1, verbose -l, vertical -C
--full-time
like -l --time-style=full-iso
Manual page ls(1) line 1

Where are the Manual Pages ??

- The "***man***" command reads from the manual pages stored in your distribution
- The location of these pages may differ slightly based on the distribution
- Use the command '***manpath***' to know the location of the man pages on your machine

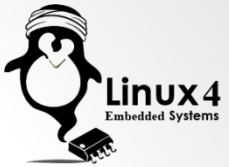
  $ manpath
- This command identify the location of the man pages based on the configuration file "***/etc/manpath.cfg***"
- Sometimes we will have an Environment variable ***MANPATH*** for that purpose too

  $ echo $MANPATH
- Typically they are located in ***/usr/share/man/***

The Manual Sections

- The “man” pages are classified into multiple sections with numbers:
  - (1) for commands
  - (2) for System calls
  - (3) C Library functions
  - (4) Special filenames
  - (5) file formats for Linux files
  - (6) games and things like screen savers
  - (7) word processing packages & Misc
  - (8) System administration commands

Selecting the Manual Section



- We can decide which section we want to show from the man page

  $ man <n> <name>

- Example:

  $ man 1 passwd (manual page for the command ***passwd***)

  $ man 5 passwd (manual page for the ***/etc/passwd*** file)

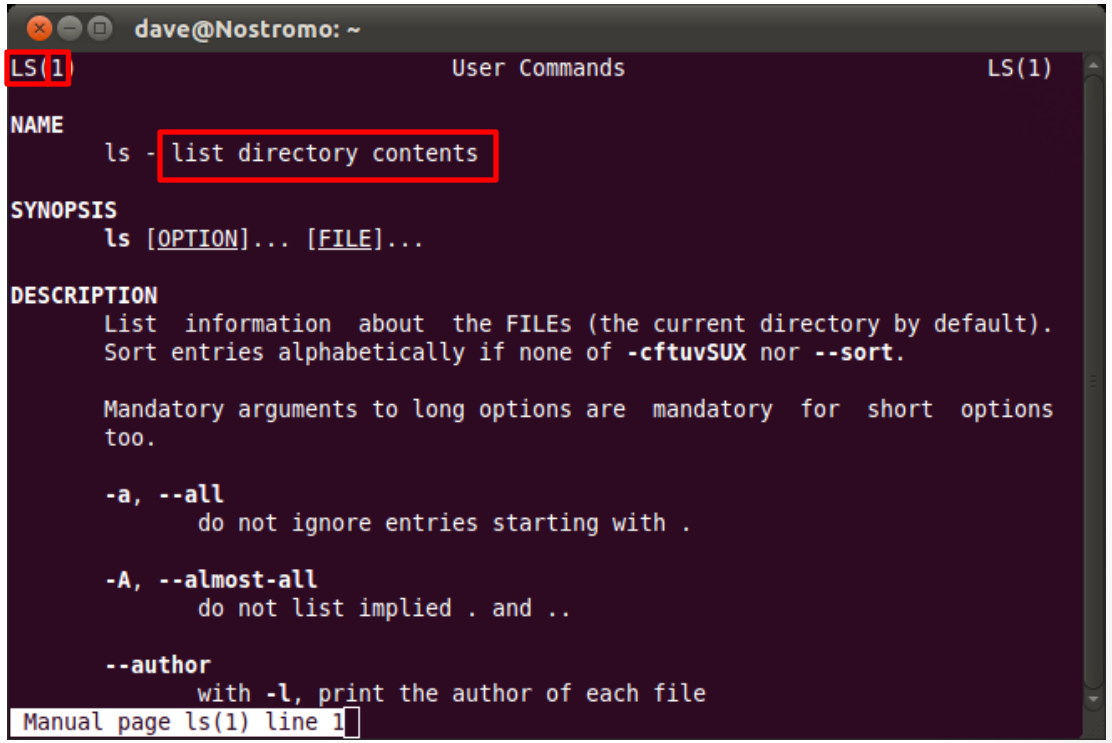
  $ man passwd (Default is section 1; the command)

- To learn more about the man command,

  $ man man

The “whatis” Database

- The ‘***whatis***’ database is a database containing a selected parts of the man pages
  - Title
  - Section Number
  - Name field



The “whatis” Database

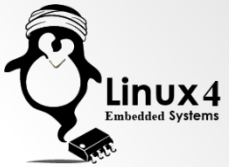
- The ‘***whatis***’ database is a database containing a selected parts of the man pages
  - Title
  - Section Number
  - Name field

- This database is used with the commands,

  $ whatis

  $ apropos

Search man pages by Title (whatis Command)



$ whatis <keyword> (find the man pages which has keyword in title)

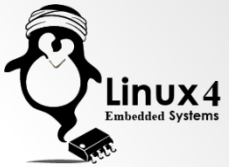
```
sachit@ubuntu:~$ whatis ls
ls (1)               - list directory contents
sachit@ubuntu:~$
```

- The "***whatis***" command searches the keyword in the title field in the man pages
- For all matches, it will display one line containing,
  - Title
  - Section Number
  - Description (from Name field)
- Must be a complete word

  $ whatis hea (no output will come out)
- We can have multiple keywords

  $ whatis head tail

Searching Manual Pages by Keywords (apropos Command)



$ apropos <keyword> (find the man pages with keyword in title, Name)

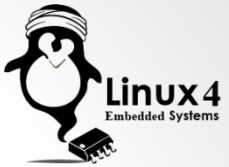
- The '***man***' command assumes that you know the command name
- What if you don't know the command name and just have a keyword ??
- The solution is to use '***apropos***' command
- '***apropos***' command receives a keyword, and searches both the 'title' and the 'Name' field in the ***whatis*** database for this keyword
- It then prints a single line (the Name field) for each command matching the keyword

  $ apropos <keyword>
- Examples:

  $ apropos process (Searches for all commands dealing with process)

  $ apropos proce (even a part of a word can be used)
- Note, the same output can be achieved via,

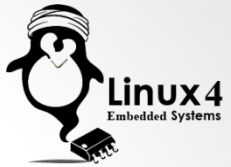
  $ man -k <keyword>




```
enock@enock-pc: ~
enock@enock-pc:~$ apropos moc
mocp (1)             - Console audio player
enock@enock-pc:~$
```

```
josemon@creativemindz: ~
josemon@creativemindz:~$ apropos who
at.allow (5)         - determine who can submit jobs via at or batch
at.deny (5)          - determine who can submit jobs via at or batch
bsd-from (1)         - print names of those who have sent mail
from (1)             - print names of those who have sent mail
w (1)                - Show who is logged on and what they are doing.
w.procps (1)         - Show who is logged on and what they are doing.
who (1)              - show who is logged on
whoami (1)           - print effective userid
whois (1)            - client for the whois directory service
josemon@creativemindz:~$
```

Using the Command Info Pages (info Command)



$ info <Command> (Display the Info pages on the command)

- Info pages are similar to man pages but created by the GNU project for the GNU applications

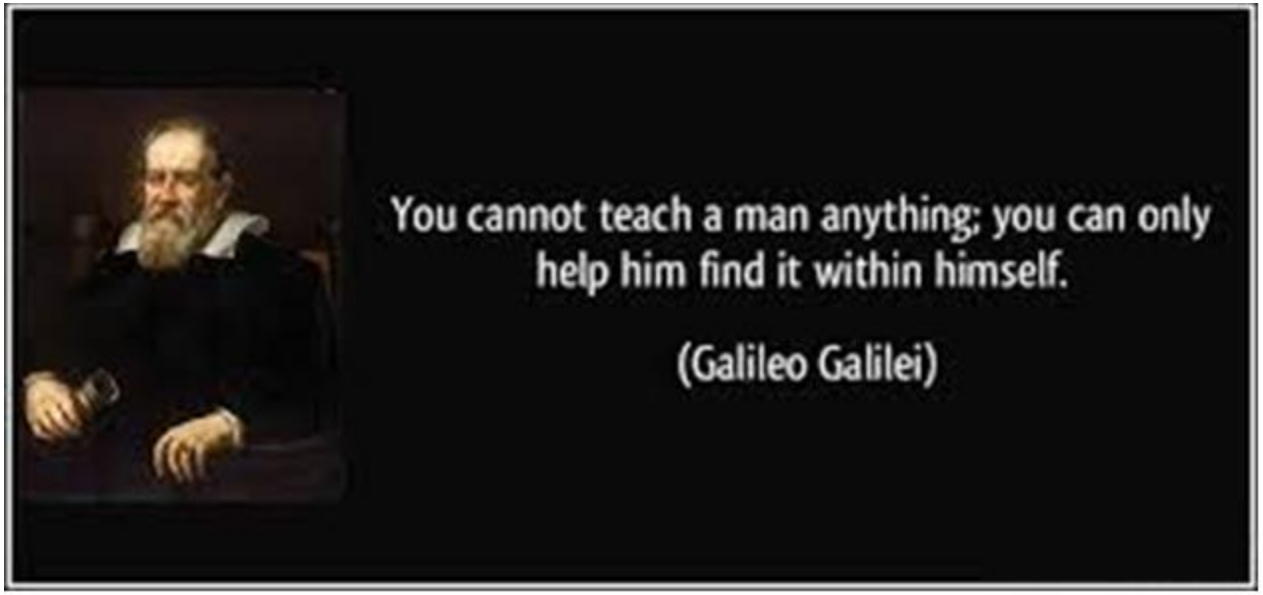
  $ info gzip

  $ info emacs

- To know more about this command

  $ info info

- The GNU commands will have both man pages and info pages
  - The info pages are usually more recent and are somewhat easier to use
  - Sometimes, the man pages refer to the Info pages

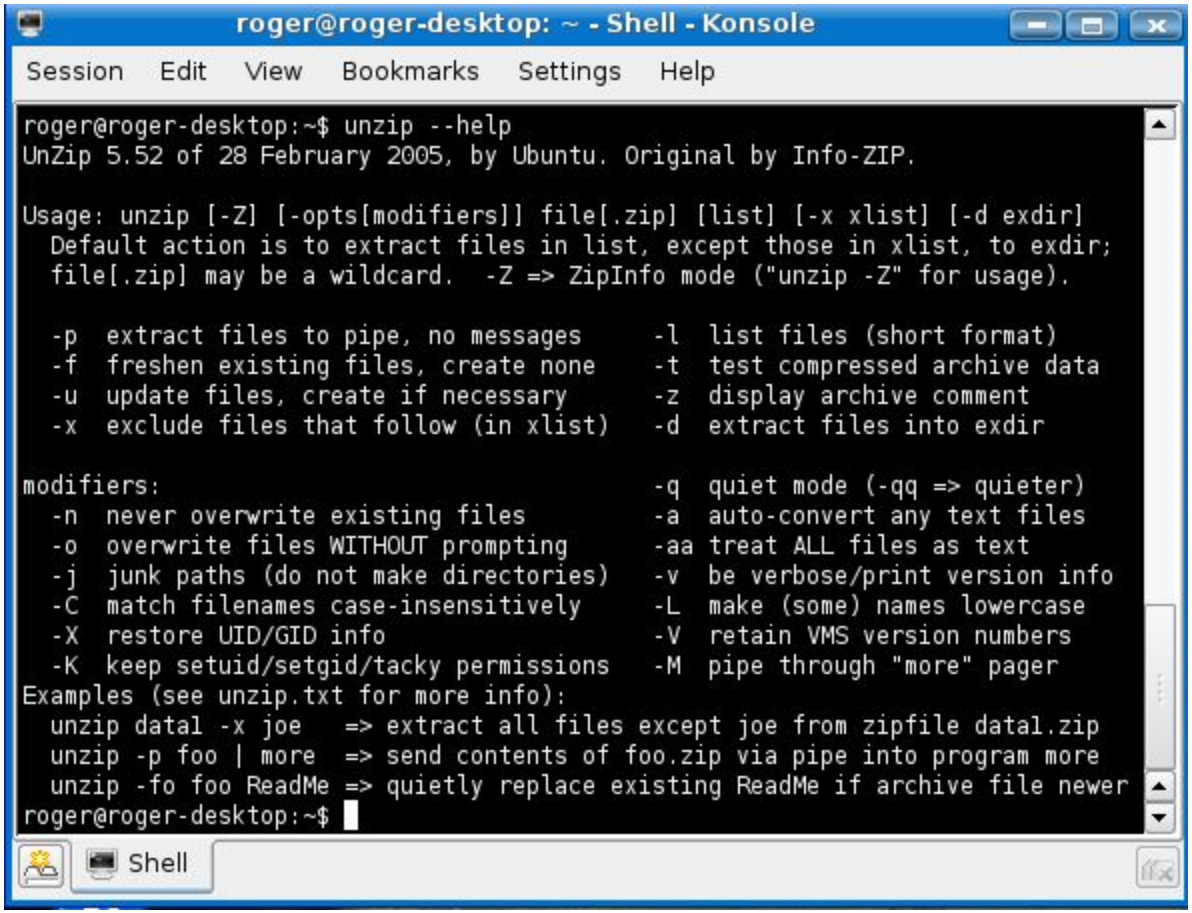


HELP FROM WITHIN

Help From Within

$ <Command> -h (Display the Usage of the Command)

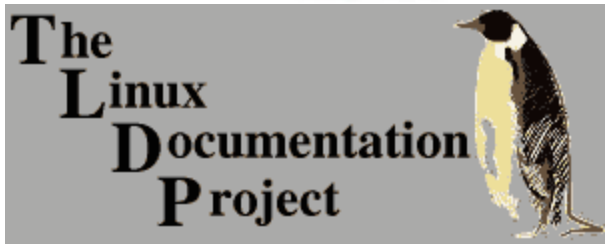
$ <Command> --help



SEARCHING THE WEB

Search the Web

- You can perform a normal web search
- Popular links,
  - The Linux Information Project
    http://www.linfo.org/
  - The Linux Documentation Project
    http://www.tldp.org/
  - StackOverFlow
    http://stackoverflow.com/



And Many More…

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http://Linux4EmbeddedSystems.com