

## 2.2.1 Linux Help Resources

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Click one of the buttons to take you to that part of the video.

### Linux Help Resources 0:00-1:12

In this lesson, we're going to talk about getting help. Understand that there will many times when you're managing a Linux system that you're going to find yourself in need of help. For example, you may forget the syntax and the options that you should use with a particular command--that happens all the time.

The good news is that the Linux system provides excellent documentation right on your system. You can use internet resources if you want, but understand that most of the help you're going to need is right there on your system. This is an invaluable resource.

For example, let's suppose that you're managing a Linux system, and you need to run a command. And it's one that you only use every so often. It's unlikely that you're going to remember the syntax used by that command as well as options that are used with it. You don't need to memorize the syntax that's used by every single shell command. Instead, you just need to know where to go to get help. This is just as important, really, as knowing how to use the commands themselves.

Now, Linux provides several different utilities that you can use to get help. In this lesson, we're going to look at the man utility, and we're going to look at the info utility.

Let's begin by looking at manual pages.

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### Manual Pages 1:13-2:00

One of the primary resources on your Linux system are the documentation maintained within your Linux manual, or your man pages. These manual pages contain documentation about the operating system itself, as well as the applications that you install on that system. These man pages are viewed using the utility called man. In fact, you'll see that man contains documentation for Linux commands, Linux utilities, and even Linux configuration files.

Whenever you install a new package on your Linux system, the man pages containing the documentation for that software get installed as well. And that's so useful because it allows you to use man to view documentation not only for your system utilities, but also for the additional packages that you install as well.

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### Location of Manual Pages 2:01-2:45

The actual documentation pages that are displayed by man are maintained in several different directories within your file system. The directory where they're located is specified by the MANPATH environment variable. You can check the value of your man path environment variable to see where this is at and you can do this by simply entering 'echo \$MANPATH' at the shell prompt. The man path variable will list the directories containing your man pages, each separated by a colon. However, be aware that not all distributions will use the man path environment variable. For example, Fedora doesn't use man path. Instead, it uses the '/etc/man\_db.conf' file to specify where in the file system your manual pages reside.

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### Manual Sections 2:46-3:51

We refer to all of these man pages together as the manual. The manual is divided into nine different sections. And individual man pages are sorted into one of these different sections, depending upon what it is they're documenting.

For example, section one of the manual provides documentation for programs and shell commands that can be run by any user on the system. Section two provides documentation for system functions provided by the Linux kernel. Section three provides documentation for library functions. Section four provides documentation for the special files that are found in the '/dev' directory. Section five provides documentation for file format descriptions and conventions. Section six provides documentation for games. Section seven provides documentation for miscellaneous conventions. Section eight provides documentation for administrative utilities that can only be run by the root user. And section nine provides documentation for the kernel itself.

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### Man Page Components 3:52-4:43

Now, using man is really simple. All you have to do is enter man at the shell prompt followed by the name of the command--the application or the file you need information about. In this example, I needed to use the man utility to view information about the pwd utility, which is used to view the current working directory. So, to do this, I enter 'man pwd' with a space in between and press Enter. When I do, the man page for the pwd command is displayed. It contains a ton of information, including the syntax we're using with the command as well as all the different options that I can use with this command.

As you can see here, a given man page contains several elements. Some man pages will include many different elements; others will include only a few. Most man pages, however, include several key things.

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#### Title 4:44-4:58

First of all, we have the title. The title is the first line in the man page. It lists the name of the utility right here, and it also lists the section number right next to it.

This is in section 1 of the manual.

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#### Name 4:59-5:11

Now, the NAME section simply displays the name of the command--or it could be a file or an application--and it provides a very short description of what it does. Here, we can see that 'pwd' prints the name of the current working directory.

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#### Synopsis 5:12-5:47

The SYNOPSIS section, right here, provides a brief description of the syntax for using the command. Now, the contents of the synopsis section will vary depending upon what it is we're viewing documentation for. For example, if we are using man to view documentation for a command or utility, then the synopsis section will provide a description of the syntax that we should use with the command, and that's shown here. On the other hand, if the manual page provides documentation for a configuration file, then the synopsis section will provide a brief overview of what that file does.

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#### Description 5:48-6:23

Next, we have the DESCRIPTION section. The DESCRIPTION section describes how the command file or utility or application works in a little more detail. Notice, here, it tells us that it prints the full name of the current working directory, and it also provides a list of options that you can use with this command. This is probably one of the most useful parts of a man page, because, more than likely, you're not going to remember all of the different options you can use with all the different commands that you use to administer a Linux system. You don't need to. You just go look at the man page, and you can see all the options you can use and what they do.

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#### Author 6:24-6:34

Next, we have the AUTHOR section. This displays the name of the programmer who wrote the command, or utility, or application, or service, or whatever that's being documented in the page.

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#### Reporting Bugs 6:35-6:54

Sometimes, you'll see a section called Reporting Bugs. This particular man page doesn't include it, but some do. And if it does, it will usually provide an email address that you can use to report any bugs you discover while you're using either the utility or application itself, or a bug that you discovered within the man page.

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#### Copyright 6:55-7:15

We also have a COPYRIGHT section. The copyright section provides you with details about who owns the copyright for the particular command, utility, service, or application being referenced in the man page and may also provide redistribution information.

For example, here, it tells us that this is free software and that you're free to change and redistribute it.

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#### See Also 7:16-7:51

There is also a section with most man pages called SEE ALSO. This section provides you with a list of other man pages, or even other resources, that you might want to look at because they're related to the command, file, or application being referenced in this man page. In this example, it says you may also want to look at `getcwd` because it performs a function that's somehow related to `pwd`.

The man pages for other applications or services may contain additional sections that we don't see here, such as options, files, environment, and sometimes even diagnostics.

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#### Status Indicator 7:52-8:09

Notice down here, at the very bottom, we have a status indicator. This tells you what manual page is currently being displayed (it's the manual page for `pwd`), the current line that you're on (line 26), and, also, how to get out--you press `q` to quit.

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#### Man Page Navigation 8:10-8:56

Within the man page, you can use several different keystrokes to navigate around. You can use the down arrow to scroll down one line on the page or the up arrow to scroll up one line on the page. That's pretty straightforward. You can also use `PgDn` and `PgUp` to scroll up or down fourteen lines at a time. You can use the spacebar to scroll down 26 lines at a time. You can press the Home key to go to the beginning of the man page. You can press the End key to go to the end of the man page. And, as we saw in the previous slide, you can enter `q` to unload the man page and exit the man utility.

In addition to `man`, you can also use the `info` utility to view documentation for commands, utility services, files, and applications installed on a Linux system.

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#### Info Utility 8:57-9:43

You might be asking, "Why do I need another utility? Why do I need `info` if we've already got `man`?"

Well, the two utilities serve a similar purpose, but they do it in two different ways. Understand that the `man` utility is more of a quick reference type of utility. Man pages contain a lot of information, but they really aren't instructional in nature. Essentially, this means that `man` provides you with the information, but expects you to figure out how to actually use it.

The `info` utility, on the other hand, is more of a learning utility. You'll see that most `info` nodes contain a lot of the same information that's on a man page; however, `info` nodes are usually a lot more verbose and can actually teach you how to use a particular command in addition to just telling you what it does.

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#### Use Info 9:44-10:46

Be aware that we refer to the information displayed by the `info` utility as nodes instead of pages, as we did with `man`. And you see an example of an `info` node right here.

In order to use `info`, all you have to do is type `'info'` at the shell prompt followed by the name of the command that you want to view information about. In this example, I'm using `info` to learn more details about how to use the `pwd` command. I typed `'info pwd'` at the shell prompt, and the `pwd` node in `info` is displayed. Depending upon the particular utility command, application, or file that you're viewing information about in `info`, it may be pretty much the same as the man page, or it might provide a lot more information.

In this example, we're viewing the `info` node for `pwd`. And you can see that it really isn't all that different than that displayed by `man`. With other utilities, you'll find that `info` is far more verbose as far as the information that it provides.

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#### Navigate Within Info 10:47-11:42

While you're working within the info utility, you can use several keystrokes to navigate around. You can use the down arrow to scroll down one line at a time, the up arrow to go up one line at a time. PgDn scrolls down one page at a time, while PgUp scrolls up one page at a time. And spacebar does the same thing as PgDn--it takes you down one page at a time.

You can also use either the Delete or Backspace keys to scroll up one page at a time. That makes them the equivalent of the PgUp key. Or, you can press Home to go to the beginning of the node. You can press End to go to the end of the node. But notice, here, you can also press n. This is something you could not do in a man. If you press n, it takes you to the next node in the info utility, which will probably provide information about a different utility that is related to the current one. Likewise, you can press p to take you to the previous node. When you're done, you can press q to unload the current node and exit the info utility.

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Summary 11:43-11:48

That's it for this lesson. In this lesson, we talked about how to use the man and the info utilities to get help with Linux commands, utilities, applications, and files.

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