2.2.2 Access Help Resources

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

Accessing Help Resources 0:00-0:20

In this demonstration, we are going to talk about how to access help resources when working from the command line in Linux. We are first going to look at documentation resources that are available on the system itself, and then we are going to look at how to get help with commands. First, let's talk about documentation resources that are available on the system.

The /usr/share/doc Directory 0:21-1:35

If you go to the /usr/share/doc directory and do an ls command here, you can see that a directory exists for all the different components on the Linux system. Within each of these directories are documentation resources for that particular component. For example, down here is a directory for the xz command, which is used for file compression. We can type 'cd xz' and then do an 'ls' command, and here are several different files providing documentation resources for the xz command. And you can view those using the cat command. We can type 'cat NEWS', and the contents of the file are displayed on the screen. We can read documentation about this particular command. Let's go ahead and switch back to my /home directory.

Understand there are some Linux commands that you are going to use on a daily basis, and, as such, you are going to become very, very familiar with how they work. But there are many Linux commands that you will use very infrequently--once a month, maybe even once a year. With those commands, it is very likely that you are not going to remember the syntax that you will need to use, and you probably won't remember what options are available. In these situations, you need to know how to find help for those commands.

The man Command 1:35-2:40

One very useful option is to use the man command to view a particular command's man page. man command is short for manual pages. Basically, the man command will display a manual page for a particular command, which provides you with an overview of how that command works. For example, if we do an ls command here, notice that we have a directory called /temp. I want to get rid of that directory. I don't need it anymore. I'm going to use the rm command, which is short for remove, and I'm going to type the name of the directory that I want to remove, in this case, /temp. Hit Enter. I get an error. It says, "The rm command cannot remove /temp because it's a directory."

Well, I don't know what to do at this point. I don't know how to delete it. What I can do is type 'man' to run the man utility and then tell it what command I need it to help with. In this case, I need help with the rm command. When I do, the rm man page is displayed. Notice that the man page is divided up into several sections. Most man pages will use a similar structure and organization.

Title and Name 2:41-3:01

Up at the top, we have the title line. The title line, first of, all displays the name of the command that we are getting help for and the section number.

Next, we have the Name section, here, which, again, displays the name of the command that we are viewing the manual page for and provides a very, very high-level overview of what that command does. It says that the rm command removes files and it can remove directories.

Synopsis and Description 3:02-3:33

The next section is the Synopsis section, which provides the basic syntax for using the command. In this case, it tells you we need to run the rm command followed by whatever options are necessary and then the name of the file or directory that we want to remove with the rm command.

Next, we have the Description section, which provides us with details about how that command works and what it does. For example, right here, it tells us that rm removes files, but, by default, it does not remove directories. Okay. So, we know we need to do something because, by default, it doesn't remove a directory.

Options and Author 3:34-4:22

We have the Options section, and this is where a lot of very useful information is contained. The Options section provides a list of options we can use with this command. Notice, down here, that there is an option called -r. -r tells the rm command to remove directories and any contents they may contain recursively. I think we found the solution to our problem. I'll bet you that if we use the rm -r option to delete /temp, it will probably work. Before we try that, though, let's look at the rest of the structure of the man page. Notice that the Options section also provides a couple of examples for how to use the command.

We also have the Author section, which will typically tell us who wrote the utility. And sometimes it will tell us who wrote the documentation, as well, the man page that we are looking at.

Copyright and See Also 4:23-5:06

There is also a Copyright section, which provides us with copyright information. Sometimes you will see a Reporting Bugs section included right here, which tells you who to contact in case you run into a bug with the program.

There is also a very useful section down here called See Also. The See Also section points you to other help resources that are related to what you're looking at here in the man page. In this case, we are looking at the man page for rm, so it tells us you should perhaps look at the unlink command, the change attribute command, or chatter, and the shred command. It also points us down here, to the info command, which we will look at in just a minute to view the complete manual. And then finally, at the bottom, we see the version number of the man page and its revision date.

Man Page Navigation 5:07-5:41

To navigate within the man page, you can use arrow keys. Use the Up arrow key to move up, the Down arrow key to move down. You can also use the Page Up key and the Page Down key to move up and down one page at a time. You can also press the Spacebar to move down one page at a time. And notice, as we do, down at the bottom, it tells us where we are at in the man page. It tells us what line we are on and how far we are within the man page itself--about 89% of the way through. You can also use the Home key to go to the beginning of the man page, and you can press the End key to go to the end of the man page.

Exiting man 5:42-6:08

One thing that trips up folks who are new to Linux is, once I'm in the man page, how do I get out? Well, in the old days, the man utility provided you no contextual clues as to how to get out of the man utility, and it was actually quite a problem. You will notice that, down here, the newer version of man now tells you how to get out. It says, "Dnter the q key in order to exit out of man." Let's go ahead and get back into the rm man page again.

Search for Text 6:09-7:28

Another useful feature of the man utility is its ability to search for specific text within the man page. For example, we were using rm to try to delete a directory. What we can do is press the / key and then enter in the search term that we are trying to find information about--for example, 'directories'. We want to be able to delete directories with the rm command. Press Enter, and each instance of the word "directories" is highlighted within the file, and I can jump between each search result by pressing the End key. And we see the -r option that we found earlier telling us that it will force rm to delete a directory, as well as the content of that directory recursively. Go ahead and press q again to get out.

Using the information we just learned, let's do the rm command again. This time, insert the -r option in between. Remember when we looked at the synopsis section, it told us that the syntax is rm, space, and then the option that you want to use, space, and the name of the file or directory that you want to perform the action on. We know now that the -r option will remove a directory. If I type 'ls', we see that the /temp directory has been removed.

The man utility does not provide extensive information about how to use the command, nor does it provide a lot of examples. Usually, you just get one or two.

The info Command 7:28-9:04

If you need more extensive information about how to use a command, you can use a different utility called info.

Remember, when we were looking at the man page for rm earlier, down at the bottom, under See Also, it said, "You may want to look at info for rm in order to see complete information about it." The syntax for using info is the same as man. You type 'info rm', Enter. And when we do, extensive information about the rm command is displayed within the info utility. You can navigate within the info node, here, by using your arrow keys to arrow down. You can also press Page Down to move down a page at a time, Page Up to move up a page at a time, and so on--just like we did within the man page. You'll notice up here, at the very top, that node tells us where we currently are within the info utility. We're at rm invocation. The info utility divides information into related nodes. We are currently at the rm invocation node.

The next node in the rm utility is called shred invocation, which teaches us how to use the shred command. The previous node within the utility was the mv command, or move. If we want to navigate between nodes within the info utility, we can press n to move to the next node. And when we do, information about the shred command is displayed, which is used to securely delete files from the file system, or we can press p in order to jump back to the previous node. Now we're back at the rm node. We press p again, and we go back to the node about the move utility; press n again, and we go back to rm.

Search in info 9:05-9:37

Just like the man page, you can search within a particular node, but instead of pressing the forward slash key, like we did in man, we press Control+s for search. Then we type the search term we're looking for. In this case, we want to recursively delete directories, so let's type 'recursive'. When we do, we see the search results highlighted over here. This tells us about the -r option that we used earlier, with the rm key. Just as with the man page, when you're ready to exit info, you press the q key, and you go back out.

The --help Option 9:37-10:29

Before we end this demonstration, there are a couple of other help resources that I want to make you aware of. If you just need a quick overview of how a command works and the options you can use and you don't want to go into man or info, you can type the name of the command followed by --help at the shell prompt. When you do, you see the usage, and then the options that you can use. Basically, what you see is a condensed version of the man page. This is useful if you already have a pretty good idea of how to use a command, but you just need to remember which option you should use--should I use -r, or should I use -d? In this case, you can see -r with the rm command removes directories that have stuff in it. -d will only remove a directory if it's empty. Some commands will let you use the -h option to see this same information. Not all of them do that.

The help Command 10:29-10:54

Finally, you can also use the help command at the command prompt. It likewise displays just summary information about a command. If you just type 'help', you can see a list of all the different commands that you can use help with. For example, we may want to view help for the cd command, change directory. We type 'help cd', and when we do, summary information about how to use the cd command is displayed.

Summary 10:55-11:19

That's it for this demonstration. In this demo, we talked about how to access help resources from the Linux command prompt. We first looked at the documentation resources contained in the /usr/share/doc directory. Then we looked at the different options you can use to get help for a command from the shell prompt itself. We looked at man, we looked at info, we looked at using --help, and then we ended this demonstration by looking at the help command.
