Teach Yourself to Fish

Knowing where executable commands live and the man command can take you a long way. You can teach yourself how to use Linux with this method, but it would be a long, slow process. More often than not, the man command will be used as a quick reference. It would be nearly impossible to memorize every option for every command and there is no need to do so when you have the man command at your fingertips.

To get help for the man command type the letter h while viewing a manual page. That will give you a list of commands you can use to navigate or search. Here is the concise version.

Enter - Move down one line.

Space - Move down one page.

- g Move to the top of the page.
- G Move to the bottom of the page.
- q Quit.

An environment variable is a storage location that has a name and a value. The one we are interested in at the moment is PATH. The PATH environment variable contains a list of directories that contain executable commands. You can determine the value of PATH by prepending it with a dollar sign (\$PATH) and using the echo command to display its value to the screen.

```
$ echo $PATH
/bin:/usr/bin:/usr/sbin:/usr/local/bin
```

When you type in a command at the prompt and press <code>Enter</code>, that command will be searched for in the directories in your <code>\$PATH</code>. In this example, <code>/bin</code> will be searched first. If the command is found it will be executed. If it is not found, then <code>/usr/bin</code> will be searched and so on. If no executable command is found that matches your request, you will be politely told that it cannot be found.

```
$ whatsupdoc
-bash: whatsupdoc: command not found
```

If you want to know exactly where a command is located you can use the which command. If the program cat is located in /usr/bin and in /usr/local/bin, the one which will get executed depends on your \$PATH.

```
$ which cat
/bin/cat
$ which tac
/usr/bin/tac
```

Putting this all together, you can start looking at what is in each directory in your path and use the man command to discover what each one of them does and how to use them. Remember, to exit the man command type the letter q.

```
$ echo $PATH
/bin:/usr/bin:/usr/sbin:/usr/local/bin
$ cd /bin
$ ls
awk diff cal cat cp date du echo grep groups less more
$ man diff
```

```
NAME
diff - compare two files
...
$ cd /usr/bin
$ ls
clear crontab cut dos2unix find kill mv pstree pwd sed strings touch ...
$ man touch
```

Note that the output of the above 1s commands was truncated. In reality there can be hundreds of commands in /bin and /usr/bin.

Many commands will provide hints for how to use them at the command line. Some commands will accept the -h flag, others will accept --help, and some will refuse to give you any help at all.

```
$ cal -h
Usage:
cal [options] [[[day] month] year]
Options:
-1, --one
               show only current month (default)
 -3, --three show previous, current and next month
-s, --sunday
               Sunday as first day of week
-m, --monday
               Monday as first day of week
-j, --julian output Julian dates
 -y, --year show whole current year
 -V, --version display version information and exit
 -h, --help
               display this help text and exit
$ diff --help
Usage: diff [OPTION]... FILES
Compare files line by line.
  -i --ignore-case Ignore case differences in file contents.
  --ignore-file-name-case Ignore case when comparing file names.
```

If you are not sure what command to use, you can search through the man pages with man - k KEYWORD. From there you can read the man page for the command or ask it for help with -h or --help.

```
$ man -k calendar
cal (1) - display a calendar
zshcalsys (1) - zsh calendar system
```

Deep Dive

- ExplainShell Type in a command-line to display help for each item.
- Getting Help From Linux An article from the Linux Journal on using man pages.
- <u>LinuxManPages.com</u> This website allows you to search man pages or browse a category of commands and man pages.
- <u>Linux Commands Documentation</u> Linux commands broken down by category.