**Learning New Commands**

* First, navigate into the /03-student/day2/learning\_new\_commands folder on your VM. To do this, run the following commands:
  + cd /03-student/day2/learning\_new\_commands
* Next we will view the log files in this directory, by running ls.
  + Notice that there are five files in this directory, one for each website:
    - Chocolateyfun.com
    - GummyGummy.com
    - PeanutButtery.net
    - Stickytoffee.com
    - SugaryGoodness.com
* Next we will preview the contents of the file to see the structure of the logs. Run the following:
  + head Chocolateyfun.com
  + Notice that in each log file, each line represents an hour. And, each line shows the IP addresses that connected to the website during that hour.
* We don't want to use the wc -l command to count the lines. We need a command to count the total IP addresses in the file. Note that each IP is considered a word, as it is surrounded by spaces.

We will view the man page for wc to see how to count each IP address. Run the following command:

* + man wc

The man page shows that the option of -w will count the words. This will be the best option for our task.

* + Enter q to exit the man page.
* Since we now know how to find the word count, we will run this on all the five files.
  + wc -w Chocolateyfun.com
  + wc -w GummyGummy.com
  + wc -w PeanutButtery.net
  + wc -w Stickytoffee.com
  + wc -w SugaryGoodness.com
* The results will show that PeanutButtery.net has the highest count, and is likely the target of the attack.
* 155 Chocolateyfun.com
* 109 GummyGummy.com
* 533 PeanutButtery.net
* 129 Stickytoffee.com

113 SugaryGoodness.com

* If you run nano GummyGummy.com you'll notice that there are extra spaces on the fourth and fourteenth lines. Thee wc command counts spaces as words, so the exact number of IP addresses is only as accurate as the file itself.

**Bonus**

* To run the word count command against all the files, you have to use a wildcard: \*. (Wildcards will be covered in more detail in the next lesson.) The command will be :
  + wc -w \*
  + This will run the word count command for all the files in the current directory with a single command.
* If you want to redirect these results into the file Connections\_by\_website, the command is:
  + wc -w \* > Connections\_by\_website
* Lastly, preview the Connections\_by\_website file to confirm the results are now in this file:
  + head Connections\_by\_website