

Solution Guide: 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. The `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`