Linux Shell Workshop Instructions - Spring 2018

Connect to the server:

Windows:

1. Open the PuTTY application. If you don't have it already, you can download it from http://www.putty.org/
2. In hostname, enter `[the hostname]`
3. Leave port as 22 and press the Open button.
4. You'll be asked to save a host key. Click yes.

Enter your username and password to log in.

Mac:

1. Open the Terminal app. (To find it, use the search function on the upper right of your menubar and type "terminal".)
2. Type the following command with your username in place of the username:

   ```
   ssh username@replace-with-hostname
   ```

   For example:

   ```
   ssh testuser234@replace-with-hostname
   ```

3. After you press enter, you'll be asked if you want to save the host key. Type yes. After you accept the key, you will be prompted for your password.

Workshop

For this workshop we'll be completing some tasks using sample data. The instructors will walk you through the following tasks:

Flower Data

1. Find out where you are
2. List the contents of the current directory
3. Make a new directory called 'flowerdata'
4. Move to the new directory you just created
5. Copy the flower data files from /usr/local/share/flowerdata. Hint, to save time use the wildcard operator: *
6. Print out the contents of the files, look at just the first few lines or the last few lines
7. Make a copy of those files to back them up
8. These are csv files, and we'd like to merge them into one file. Delete the header rows on the second two files so they can be merged cleanly
9. Combine the three files
10. Return to your home directory

Little Women

1. Make a new directory called littlewomen
2. Change into that directory. Hint: You can use the tab button to autocomplete your command.
3. Copy the text of Little Women from /usr/local/share/littlewomen.txt.gz
4. Unzip the file with "gunzip"
5. Find out how many lines there are where the name Amy is mentioned (We'll use a combination of the `grep` and `wc` commands for this).
6. Now let's get fancier with grep and look for the phrase 'and Amy'
7. Sort the lines that mention Amy in alphabetical order
8. Return to your home directory

Library Searches

1. Make a directory called searchdata
2. Change into your new directory
3. Copy the search data from /usr/local/share/searches to your current directory
4. Find out how many unique searches there are in the file (we'll use a pipeline of several different commands for this).
5. Create a new file that only contains unique searches

Cows

1. Make a picture of a cow saying a phrase
2. Tell a fortune
3. Make a cow tell a fortune

Sudo: Doing things as superuser

Installing commands/packages

Example: csvkit (see https://csvkit.readthedocs.io/)

```
sudo pip install csvkit
```

1. Where did it get installed? Try: which csvlook
2. What else is in /usr/local/bin ?

Writing scripts

Example: How I created your user accounts

Flower Data

1. Find out where you are
2. List the contents of the current directory
3. Move to the flowerdata directory
4. Make backup copies of the files in flowerdata/
5. Make a new directory called ‘backups’
6. Copy the backup versions of the flower data files to the new backup directory. Hint, to save time use the wildcard operator: *
7. Move to the flowerdata directory, if you’re not already there.
8. Print out the contents of the files, look at just the first few lines or the last few lines.
9. These are csv files, and we’d like to merge them into one file. We don’t want the header rows on iris2 and iris3. Create a files without the header row.
10. Combine the three files
11. Return to your home directory

Little Women

1. Look for the directory called littlewomen
2. Change into that directory. Hint: You can use the tab button to autocomplete your command.
3. Unzip the file with "gunzip"
4. Find out how many lines there are where the name Amy is mentioned (We’ll use a combination of the `grep` and `wc` commands for this).
5. Now let’s get fancier with grep and look for the phrase ‘and Amy’
6. Sort the lines that mention Amy in alphabetical order
7. Return to your home directory

Library Searches

1. Change into the searchdata directory
2. gunzip the file there
3. Find out how many unique searches there are in the file (we’ll use a pipeline of several different commands for this).
4. Create a new file that only contains unique searches

Cows

1. Make a picture of a cow saying a phrase
2. Tell a fortune
3. Make a cow tell a fortune

Installing commands/packages

Example: csvkit (see https://csvkit.readthedocs.io/)

```
sudo pip install csvkit
```

Writing scripts

Learning more

Lynda.com online courses: http://lynda.it.gwu.edu

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