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0. Etherpad Setup, Welcome, and Setup

Sign in

Name (Pronouns), Department, Association, Email & Twitter (optional)
Please sign in so we can record your attendance.

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Schedule is here: https://jyalim.github.io/2020-12-07--agave-shell-intro/
Workshop lesson is here: https://jyalim.github.io/agave-shell-novice/

Code of Conduct

Introductions

Information for Today's Learners

1. Add your name to the Sign in portion of the Etherpad above (Starts on line 12)
2. Introduce yourselves!
3. Workshop setup (https://jyalim.github.io/agave-shell-novice/setup.html)
    1. Ensure you are connected to the cisco VPN
    2. Ensure you can connect to the supercomputer Agave by signing in through: https://login.rc.asu.edu
    3. Open a shell on the cluster through the web app (select Agave from Clusters menu in top navigation bar)
    4. With the shell, make a temporary workspace directory, called Desktop, and make it the active working directory
        1. mkdir Desktop
        2. cd Desktop
    5. With the shell, download the workshop materials with:
        1. wget 'https://jyalim.github.io/agave-shell-novice/data/data-shell.zip'
    6. With the shell, unpack the downloaded zip with:
        1. unzip data-shell.zip

LESSON 1: Introducing the Shell

Protip: The control key + C will break the execution of a shell command!

LESSON 2: Navigating the Filesystem

https://jyalim.github.io/agave-shell-novice/02-filedir/index.html

Exercise 2.1:

What does the "-h" option do for "ls"?

- with -l print fonts that are readable in human font (?)
- "human readable size"
- prints in fonts that can be naturally read by humans

SOLUTION: The "-l" option makes "ls" use a **l**ong listing format, showing not only the file/directory names but also additional information such as the file size and the time of its last modification. If you use both the "-h" option and the "-l" option, this makes the file size '**h**uman readable', i.e. displaying something like 5.3K instead of

5369.

Exercise 2.2:

By default ls lists the contents of a directory in alphabetical order by name. The command "ls -t" lists items by time of last change instead of alphabetically. The command "ls -r" lists the contents of a directory in reverse order. Which file is displayed last when you combine the "-t" and "-r" flags? Hint: You may need to use the "-l" flag to see the last changed dates.

- The file that has been changed most recently

SOLUTION: The most recently changed file is listed last when using "-rt". This can be very useful for finding your most recent edits or checking to see if a new output file was written.

Exercise 2.3:

Using the filesystem diagram in the lesson (https://jyalim.github.io/agave-shell-novice/fig/filesystem-challenge.svg), if "pwd" displays "/Users/thing", what will "ls -F ../backup" display? *(Select 1, 2, 3, or 4 from the options below by annotating an x to the right of the list item.)*

1. ../backup: No such file or directory
2. 2012-12-01 2013-01-08 2013-01-27
3. 2012-12-01/ 2013-01-08/ 2013-01-27/
4. original/ pnas_final/ pnas_sub/

Morning Break (10:30 -- 11:00)

LESSON 3: Working with Files and Directories

https://jyalim.github.io/agave-shell-novice/03-create/index.html

Protip: `tree -d` to list filesystem as a tree! (Careful using this on directories with a lot of subdirectories or files)

Exercise 3.1: Moving Files to a new Folder

*Conversation: git is distributed **v**ersion **c**ontrol **s**oftware (VCS) that may be used in streamlining source code development with Agave.*

Exercise 3.2: List filenames matching a pattern

LESSON 4: Pipes and Filters

https://jyalim.github.io/agave-shell-novice/04-pipefilter/index.html

Lunch Break (12:30 -- 13:20)

LESSON 5: Loops

https://jyalim.github.io/agave-shell-novice/05-loop/index.html

Exercise 5.1:

Output of loop 1:
```
cubane.pdb  ethane.pdb  methane.pdb  octane.pdb  pentane.pdb  propane.pdb
cubane.pdb  ethane.pdb  methane.pdb  octane.pdb  pentane.pdb  propane.pdb
cubane.pdb  ethane.pdb  methane.pdb  octane.pdb  pentane.pdb  propane.pdb
cubane.pdb  ethane.pdb  methane.pdb  octane.pdb  pentane.pdb  propane.pdb
cubane.pdb  ethane.pdb  methane.pdb  octane.pdb  pentane.pdb  propane.pdb
cubane.pdb  ethane.pdb  methane.pdb  octane.pdb  pentane.pdb  propane.pdb
```

Output of loop 2:
```
cubane.pdb
ethane.pdb
methane.pdb
octane.pdb
pentane.pdb
propane.pdb
```

LESSON 6: Shell Scripts

https://jyalim.github.io/agave-shell-novice/06-script/index.html

LESSON 7: Finding Things

https://jyalim.github.io/agave-shell-novice/07-find/index.html

LESSON 8: Using the Scheduler

https://jyalim.github.io/agave-shell-novice/08-slurm/index.html