Linux Quick Guide

This was compiled for Data Science 150 by the Blugold Center for High-Performance Computing.

The Prompt

The command prompt is the first thing you see on a Linux system. It tells you which user you are logged in as, what server you are using, and where you are currently located in the files.

[<*user*>@<*machine*> <*folder*>]$ <type *your command here*>

Commands

Useful list of basic commands. This is certainly not a full list of everything you can do.

Command	Name	Description
man <*command*>	Manual	Detailed guide for how to use any command
pwd	Print Working Directory	Shows where you currently are located on the server. AKA "where am I?"
cd <*go/to/folder*>	Change Directory	Change which directory you are currently in
ls ls -l ls <*directory*>	List Directory Contents	List the files or folders in the current directory or a different one. Include "ls -l" (lowercase L) for more details on the files.
mkdir <*directory*>	Make Directory	Make a new directory
cp -r <*copy/from*> <*copy/to*>	Copy	Copy a directory or file(s) from one location to another The "-r" means recursive, which is required when copying a folder
touch <*file*>	Create Empty File	Creates an empty file with nothing in it
history	Command History	Shows all the commands you previously typed
module load ds150	Load DS150 Environment	Gives you access to the Python settings for your DS150 class
python <*script.py*>	Run Python	Run your created Python script. Make sure to run "module load ds150" first before doing anything.

Terminal Tips

Extra functionalities to be aware of when using a terminal session. Many will streamline usage.

- Up/Down Arrow Keys – see previous/next command you have typed
- Left/Right Arrow Keys – move cursor left/right (mouse does not function in terminals)
- Tab – auto-complete the name of files and programs, double-tap tab shows matches for non-unique cases

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Paths – Absolute vs Relative

Knowing how to navigation a Linux-based file system is very important, especially when it comes to identifying and using absolute vs relative paths. Paths are used in a lot of commands.

Absolute	Relative
Starts with a "/", which means "beginning of server".	Does not start with a "/", which means "starting where I currently am".
Examples: /data/groups /data/users/<*username*>/my_ds150 /data/users/<username>/my-file.py Absolute is exact and specific, which means it doesn't matter where you are when you run it. It always refers to the same file or directory. You can use "pwd" to get the absolute path of your current directory.	Examples: my_ds150/lesson1 ./my_ds150/lesson1 ../lesson_2 See those periods? Single "./" = Start right where I am Double "../" = Go back (or "up") a directory You can do "../../../folder" to go up 3 times.

Open OnDemand

Open OnDemand is the web-based platform to access the university's BOSE supercomputing cluster. Make sure to use the UWEC VPN if off campus.

OnDemand Website: https://ondemand.hpc.uwec.edu
JupyterHub: https://jupyter.hpc.uwec.edu
VPN Info: https://uwec.ly/vpn

App	Description
BOSE Cluster Shell Access	Where you can run any commands on the server
Home Directory	Access to all of your files to edit or copy them
JupyterHub	Where you'll be experimenting and working on some homework.
VS Code	Where you can develop scripts to run.
VS Code on the home page as well as under "Interactive Apps" - Accounting Group: Make sure "2261.ds.150.001" (or 002) is selected. - Slurm Partition: Week (7 Days) - Default - CPU Cores: 1 - Memory: 5G - # GPU Cards: No GPUs - Number of hours: How long you intend to actively use VS Code at the time. o Note that it'll stop once you hit the time limit, in which case you can just submit the form again to pick up where you last saved. - Working Directory: Leave blank - Launch – Start VS Code	
My Interactive Sessions (Top Bar)	Where you can access your Jupyter Notebook

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