Introduction to Centaurus

Jinzhen Wang
jwang96@charlotte.edu

Department of Computer Science
UNC Charlotte

Cluster Environment: Centaurus

- `https://oneit.charlotte.edu/urc/educational-clusters`
- All time measurements in the assignments will be done on our educational cluster.

Cluster Environment

- Connect to Centaurus
  - ssh 49erid@hpc-student.uncc.edu
  - Your ninerid password
  - Duo Push
- Once login, you get access to your home directory
  - `/home/<ninerid>`
- Note you need VPN to login Centaursu
  - how to connect VPN?
  - Q&A Link

How does it look it?

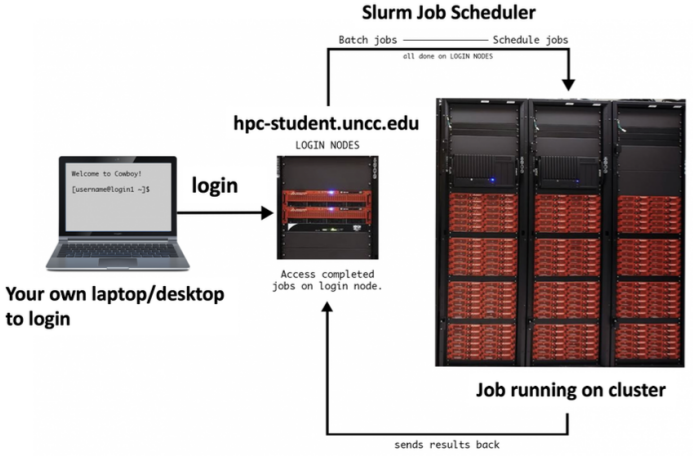

Figure: Centaurus partition

Basic Operations in Educational Cluster

- Accessing Software
  - Centaurus uses environment modules to set up the user environment to use specific software packages
    - module load openmpi
  - Please check for more details.
  - `https://oneit.charlotte.edu/urc/educational-clusters/centaurus-user-notes`
- Submitting Jobs
  - HPC uses batch scheduling Slurm to manage access to the computational resources.
  - To submit a job to the scheduler, users must prepare a "submit script" and use "sbatch" to submit the job
  - sbatch –job-name=myjob –partition=Centaurus –time=00:01:00 my_script.sh
- Checking Your Jobs
  - squeue
  - squeue -j

Prepare a local Linux environment

- Why?
  - To remove the load from the cluster
  - To allow you to work from your laptop
- What?
  - Recommend:
    - Ubuntu LTS VM on your machine
    - Native Ubuntu
  - Not Recommend:
    - Doing the work on Mac OS
    - Linux container in Windows 10,11