HPC (High Performance Computing)

Intro

* Laptop of desktop with a 3 Ghz processor can perform around 3 B calculations per second
* HPC solutions can perform quadrillions of calcs per second
* Supercomputer is a well known type of HPC solution, containing thousands of compute nodes working together. It’s known as parallel processing
  + Similar to having thousands of PCs networked together

How HPC Works

* 3 main components: compute, networks and storage
* Compute servers networked together into a cluster
* Cluster networked to the data storage to capture the output
* Consists of hundreds or thousands of compute servers that are networked together
  + Each server called a node

Logging into the systems

* Require a secure shell

Commands

* Sinfo
* Squeue

Srun -N 1 -c 40 –mem-G -p debug -pty ls -latrh

Sbatch spits it out

Cat the file to open it

Cap jobs at 180 GB of RAM