



Sherlock Cheat Sheet

1. Login to Sherlock

- In our good buddy the terminal enter `ssh <sunet_id>@sherlock.stanford.edu` to get onto Sherlock (basically open a shell on a login node on Sherlock).

2. Quick Tour!

- Wow! You're in!
 - Type in `sh_quota` to see all the file systems you have access to.
 - `$HOME` is your personal space for small files.
 - `$SCRATCH` is your personal space for BIG files (not backed up and only for 30 days so be careful).
 - Type in `sh_part` to see available partitions

3. Before submitting a job, load necessary packages and test script

Load R packages

- In the command line, run:
 - `ml R`
 - `sdev` to get some memory allocation
 - `R` to start an R session
 - `install.packages('foreach', repos='http://cran.us.r-project.org')`

Test an R script

- `sdev` to get some memory allocation

- `cd folder` navigate to where R script is located
- `Rscript script.R`

4. Navigate to and Edit/Create your .sh File

- The `.sh` file is how you will define your job and resource request to sherlock.

What is a Job?

- The main thing you will want to do on Sherlock is run jobs. A job is base unit of computing, which you ask Sherlock for resources (time and memory) to run. Sherlock optimally schedules these jobs using something called Slurm.

What should my batch file (.sh) look like?

Here's mine to get you started:

```
#!/bin/bash
#
#SBATCH --job-name=your_name_here
#SBATCH --time=2:00:00
#SBATCH --mem=50GB
#SBATCH --partition=hns
#SBATCH --chdir=/home/users/sofiaaj/
#SBATCH --mail-type=ALL
#SBATCH --ntasks=1
#SBATCH --output=job_output_%j.out
#SBATCH --error=job_output_%j.err

ml R/3.5.1
srun Rscript safegraph_download.R
```

What partitions are available to me?

- Enter `sh_part` to see the available partitions.
 - If you have `hns` this is a good place to start since liberal arts professors don't use Sherlock.
 - Your PI might have their own partition that you can use too.

How can I edit this on Sherlock?

- `nano <filename.sh>` and follow the prompts at the bottom of the screen (^ = control key).
- I prefer to edit my .sh files on Sublime

5. Submit/View/Cancel Your Job

- Enter `sbatch <jobname.sh>` and Sherlock will schedule your job
- `squeue -u sofiaaj` to check status
- `scancel <jobid>` to cancel
- You can look at the log file if you specified on in your batch file to see progress update as it goes.



Original document by Janet Malzahn!