



Job Submission w/ SLURM

SLURM



- SLURM: Simple Linux Utility for Resource Management
- Euler uses SLURM to manage jobs
- The SLURM documentation can be found at:
slurm.schedmd.com/documentation.html

Job Submission



- Two modes: batch and interactive
- Option 1: Batch Mode
 - Compute task written as shell script, with SLURM-specific comments
- Option 2: Interactive Mode
 - You get access to an interactive shell on a compute node

Job Submission Option 1: Batch Mode



bandwidthTest.sh

```
#!/bin/bash
#SBATCH -p slurm_me759
#SBATCH --job-name=bandwidthTest
#SBATCH -N 1 -n 1 --gres=gpu:1
#SBATCH -o bandwidthTest.o%j
cd $SLURM_SUBMIT_DIR
./bandwidthTest
```

Shell script
Use Class Queue
Name of job
Resource selection
Set output file
Set Work Directory
Run!

Submit with:

```
$ sbatch bandwidthTest.sh
```

Output placed in bandwidthTest.o[0-9]*

Job Submission Option 2: Interactive



```
me759@euler $ srun -p slurm_me759 -u bash -i  
me759@node $ ./bandwidthTest
```

- Note that the examples on this and the previous slide use the `slurm_me759` queue. It is a special queue reserved for this class.
 - Jobs not submitted to the class queue lack context and end up cancelled



Resource Selection

- Request can follow a flag such as `-N` or `-n`, and/or it can follow a `--gres=...` (**Generic RESource**) flag.

- Examples

- One node with one GPU

- `-N 1 --gres=gpu:1`

- Two nodes with one GPU/node

- `-N 2 --gres=gpu:1`

- Two nodes with three processors/node

- `-N 2 -n 3`

- Note: must request GPUs for GPU jobs