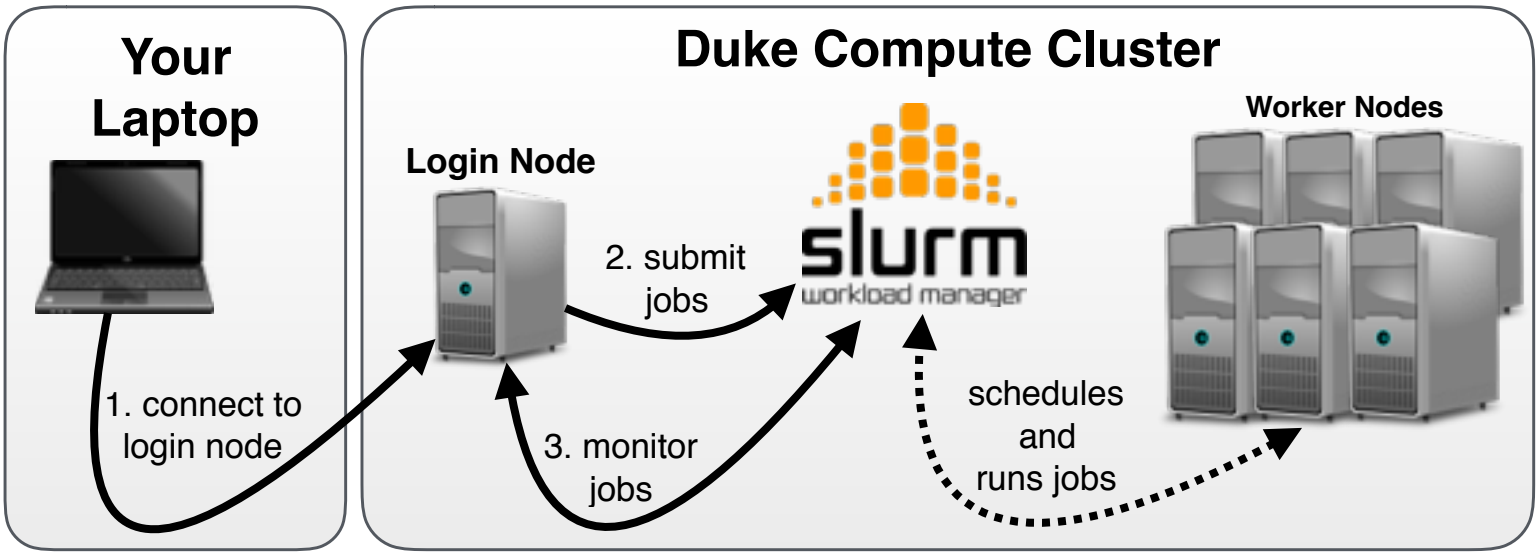
Running Programs on the DCC Cluster



Connect to Login Node

Open Terminal or Git Bash and enter the following:

```
ssh <netid>@dscr-slogin-01.oit.duke.edu
```

You can also connect to the secondary login node: `dscr-slogin-02.oit.duke.edu`

Enter your password. Then you should see the `dscr-slogin-01` prompt.

Submit Jobs

Run a job and wait

```
srun <command and args>
```

The output will be printed once the command finishes.

Run an interactive job

This allows you to run multiple commands sequentially without repeating srun.

```
srun --pty bash -i
```

Run an array batch job

Create a bash script containing your commands and special comments that configure how your command is run.
Create a text file with the following contents:

```
#!/usr/bin/env bash
#SBATCH --mail-type=END
#SBATCH --mail-user=<email>
#SBATCH --mem 4000
#SBATCH –array=0-7
<command and args>
<other_command and args>
```

- ⬅ Required line or Slurm will error out
- ⬅ Send an email when job completes
- ⬅ Email address to send to
- ⬅ Each task gets 4G memory
- ⬅ run 8 jobs passing the unique number from 0-7 to each job in the `$SLURM_ARRAY_TASK_ID` environment variable. Add `%4` after `0-7` to only run 4 at a time.

Submit your array batch job on a partition in the cluster.
(We used partition `common` in the class)

```
sbatch -p <partition> <myscript.sh>
```

You should see your jobid printed out.
Any output from your commands will be directed to slurm-jobid*.out.

See all sbatch options:

```
sbatch --help
```

Monitor Jobs

View currently running jobs

```
squeue -u <netid>
```

View finished jobs since midnight

```
sacct
```

Add `-S <date>` and sacct will look for jobs finished on or after that date.

Cancel a running job

```
scancel <jobid>
```

Replace `<jobid>` with -u <netid> to cancel all jobs for your user.

Copy files

Open Terminal or Git Bash and enter the following:

```
scp <filename> <netid>@dscr-slogin-01.oit.duke.edu:<filename>
```

Copies the file from your laptop to your home directory on DCC.
Reverse the order of the arguments to copy from DCC to your laptop.

Documentation/help: https://wiki.duke.edu/display/SCSC/DSCR