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BASIC SLURM



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SLURM COMMAND



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| Slurm Command | Syntax | Description |
|----------------------|---|---|
| SBATCH | <code>sbatch <job-id></code> | Submit a batch script to Slurm for processing. |
| SQUEUE | <code>squeue -u</code> | Show information about your job(s) in the queue. The command when run without the -u flag, shows a list of your job(s) and all other jobs in the queue. |
| SRUN | <code>srun <resource-parameters></code> | Run jobs interactively on the cluster. |
| SKILL/SCANCEL | <code>scancel <job-id></code> | End or cancel a queued job |
| SACCT | <code>sacct</code> | Show information about current and previous jobs. |
| SINFO | <code>sinfo</code> | Get information about the resources on available nodes that make up the HPC cluster. |

PARAMETERS EXPLAINED



| PARAMETERS | | DESCRIPTION |
|-----------------|---|-------------|
| --job-name | Name of the job | |
| --cpus-per-task | How many cpu per task | |
| --mem-per-cpu | how much RAM allocation per cpu used | |
| --test-only | Validate batch script and return estimated start time | |
| --time | Expected runtime of the job in dd-hh:mm:ss format | |
| --user | Name of the owner | |
| --states | State of the job | |
| --jobs | Job id | |

CREATING SLURM SCRIPT

- Create a job script called **myjob.sh** with below content (sample script)

```
#!/bin/bash
```

```
#SBATCH --job-name=myjob
```

```
#SBATCH --output=myjob_%j.out
```

```
#SBATCH --time=01:00:00
```

```
#SBATCH --cpus-per-task=1
```

```
#SBATCH --mem=4G
```

```
# Your code below this line
```

```
echo "Hello, this is a Slurm Job Testing! Thank You"
```



1. Submitting Job

- `$ sbatch myjob.sh`

2. View running jobs

- `$ squeue`

3. To get a more detailed information about a job, use `scontrol`

- `$ scontrol show job <JOBID>`

To delete a job, use below command.

1. Get the jobid from `squeue`

- `$scancel <JOBID>`

2. To delete all running job

- `$scancel --state=R`

3. Delete all jobs belonging to a user

- `$scancel --user <USERNAME>`

4. Delete a job with jobname

- `$scancel -jjobname "myjobname"`



EXAMPLE USING MULTIPLE CPU CORES

```
#!/bin/bash
#SBATCH --job-name=pythoncpu
#SBATCH --output=pythoncpu_%j.out
#SBATCH --error=pythoncpu_%j.err
#SBATCH --time=01:00:00
#SBATCH --cpus-per-task=4 # Adjust this to 1, 2, 4, etc. to compare
#SBATCH --mem=8G

# Run the Python script python pythoncpu.py
python pythoncpu.py
```

For more info, please visit <https://slurm.schedmd.com/quickstart.html>