**SLURM** [**sbatch**](https://slurm.schedmd.com/sbatch.html) **Cheat Sheet**

**Flags**

|  |  |
| --- | --- |
| FLAG | DESCRIPTION |
| --ntasks=[t] | Advises SLURM there will be [t] tasks | |
| --cpus-per-task=[c] | Requests [c] cpus per task (total cpus) | |
| --mem-per-cpu=[mc] | Requests [mc] memory per cpu (total memory) in MB | |
| --array=[indices[%max]] | Submit an array of jobs on the given indices, with max at one time | |
| --partition=[p] | Requests the job run on partition [p] | |
| --output=[filename] | Redirects stdout to [filename] | |
| --error=[filename] | Redirects stderr to [filename] | |
| -v[v...] | Increase verbosity. Multiple v’s increase information level. | |
| --mail-type=[type] | Sends an email at certain conditions, see below. | |

**Array Job Indices**

|  |  |  |
| --- | --- | --- |
| **FORMAT** | |  |
| k,m,n,p,q,... | A comma-separated list | | |
| low-high | A range | | |
| seq[%max] | seq is any combination of comma-separated lists and ranges, with increasing values.  max (optional) controls the maximum number of simultaneous jobs and must be positive. | | |
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| **EXAMPLES** |  | | |
| 0-10 | Run the 1st through 10th jobs, run as many as possible | | |
| 0-10%5 | As above, only allow 5 to run at a time | | |
| 0,2,10-99%2 | Run the first, third, and 11th through 100th jobs, two at a time | | |

**Scripting**

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| --- | --- | --- | --- | --- | --- | --- |
| **MAIL TYPES** |  | **PARTITIONS** | Time Limit (hr) | Node Limit | Priority  (lower better) |  |
| NONE, BEGIN, END, FAIL, REQUEUE, TIME\_LIMIT\_<%%>, ARRAY\_TASKS, ALL | | express | 2 |  | 2 |  |
|  |  | short | 12 | 44 | 4 |  |
| **FILENAME PATTERNS** | | medium | 50 | 44 | 6 |  |
| %a | Array ID number | long | 150 | 5 | 8 |  |
| %j | Job ID number | largemem | 50 | 10 | 6 | 768-1024 GB RAM |
| %s | Step ID number | pascalnodes | 12 |  | 8 | GPUs |
| %J | jobid.stepid | pascalmedium | 50 |  | 8 | GPUs |

|  |  |
| --- | --- |
| Copy-paste the script to the right into a file and save it as hello.sh. Make the script executable using the command chmod u+x hello.sh. Submit it as a job using the command sbatch hello.sh. You should see the following printed at the shell.  Hello World!  Hello World! | #!/bin/bash  #SBATCH ntasks=1  #SBATCH cpus-per-task=1  #SBATCH mem-per-cpu=4G  #SBATCH array=0-1%1  #SBATCH partition=express  #SBATCH output=out\_%j\_%4a.log  #SBATCH error=err\_%j\_%4a.log  echo “Hello World!” |