**ARCHIVED: Common commands in TORQUE and SGE**

High-performance computing systems at Indiana University use the following resource management packages for submitting and monitoring jobs:

* [Big Red II](https://kb.iu.edu/d/bcqt), [Karst](https://kb.iu.edu/d/bezu), and [Mason](https://kb.iu.edu/d/bbhh) use [TORQUE](https://kb.iu.edu/d/avmy) (based on OpenPBS).

**Note:** After seven years of production service, Indiana University's Quarry research computing cluster was decommissioned January 30, 2015. IU students, faculty, and staff can request accounts on [Karst](https://kb.iu.edu/d/bezu), IU's newest high-throughput computing cluster; for instructions, see [Requesting an account](https://kb.iu.edu/d/bezu#account). User data on Quarry has not be removed; you can access your old home directory data on Quarry from your account on any other IU research computing resource (see [Accessing one home directory from another](https://kb.iu.edu/d/avkm#access)). All software modules that were available on Quarry are available on Karst. If you have questions or concerns about Quarry's retirement, or need help, [contact the High Performance Systems group](https://mailform.kb.iu.edu/email.php?cid=26).

* Rockhopper uses the Sun Grid Engine (SGE).

For each resource manager, see the following tables to compare:

* [Common commands](https://kb.iu.edu/d/avgl#command)
* [Environment variables](https://kb.iu.edu/d/avgl#env)
* [Resource specifications](https://kb.iu.edu/d/avgl#spec)

**Common commands**

|  |  |  |
| --- | --- | --- |
|  | **TORQUE command** | **SGE command** |
| Job submission | qsub [scriptfile] | qsub [scriptfile] |
| Job deletion | qdel [job\_id] | qdel [job\_id] |
| Job status (for user) | qstat -u [username] | qstat [-j job\_id] |
| Extended job status | qstat -f [job\_id] | qstat -f [-j job\_id] |
| Hold a job temporarily | qhold [job\_id] | qhold [job\_id] |
| Release job hold | qrls [job\_id] | qrls [job\_id] |
| List of usable queues | qstat -Q | qconf -sql |

**Note:** TORQUE (Big Red II, Karst, and Mason) relies on [Moab](https://kb.iu.edu/d/avmu) to dispatch jobs; SGE (Rockhopper) does not. For a list of useful Moab commands, see [Common Moab scheduler commands](https://kb.iu.edu/d/axqa).

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**Environment variables**

|  |  |  |
| --- | --- | --- |
|  | **TORQUE command** | **SGE command** |
| Job ID | $PBS\_JOBID | $JOB\_ID |
| Submission directory | $PBS\_O\_WORKDIR | $SGE\_O\_WORKDIR |
| Processor list | $PBS\_NODEFILE | $PE\_HOSTFILE |

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**Resource specifications**

|  |  |  |
| --- | --- | --- |
|  | **TORQUE command** | **SGE command** |
| Queue | #PBS -q [queue] | #$ -q [queue] |
| Nodes | #PBS -l nodes=[#] | n/a |
| Processors | #PBS -l ppn=[#] | #$ -pe ompi [#] |
| Wall clock limit | #PBS -l walltime=[hh:mm:ss] | #$ -l time=[hh:mm:ss] |
| Standard output file | #PBS -o [file] | #$ -o [path] |
| Standard error | #PBS -e [file] | #$ -e [path] |
| Copy environment | #PBS -V | #$ -V |
| Notification event | #PBS -m abe | #$ -m abe |
| Email address | #PBS -M [email] | #$ -M [email] |
| Job name | #PBS -N [name] | #$ -N [name] |
| Job restart | #PBS -r [y|n] | #$ -r [yes|no] |
| Initial directory | n/a | #$ -wd [directory] |
| Node usage | #PBS -l naccesspolicy=singlejob | n/a |
| Memory requirement | #PBS -l mem=XXXXmb | #$ -mem [#]G |

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