| **PBS Professional - Quick Reference Guide for users** | |
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| **User Commands** | **Job Submission options (qsub)** |
| qsub Submit a job  qsub -I Submit an interactive job  qsub -IX Submit an interactive job with X forwarding qstat <jobid> Job status  qstat -Q Print Queue information  qhold <jobid> Hold a job  qrls <jobid> Release a job  pbsnodes -a Print node information  pbsnodes -l Print nodes that are offline or down qstat -B Cluster status  qdel Delete a job  qmove Moves PBS batch job between queues qalter Alters a PBS job  tracejob <jobid> Print log information about a job qselect Selects PBS batch jobs  pbs\_rsub Creates a PBS advance or standing reservation pbs\_rstat Shows status of PBS advance or standing reservations | -P project\_name Specifying a project name  -q destination Specifying queue and/or server  -r value Marking a job as rerunnable or not  -W depend = list Specifying job dependencies  -W stagein=list stageout=list Input/output file staging  -W sandbox=<value> Staging and execution directory: user's home vs. job-specific -a date\_time Deferring execution  -c interval Specifying job checkpoint interval  -e path Specifying path for output and error files  -h Holding a job (delaying execution)  -J X-Y[:Z} Defining job array  -j join Merging output and error files  -k keep Retaining output and error files on execution host  -l resource\_list Requesting job resources  -M user\_list Setting email recipient list  -m MailOptions Specifying email notification  -N name Specifying a job name |
| Job monitoring | -o path Specifying path for output and error files |
| qstat -x Job History | -p priority Setting a job's priority |
| qstat -f <jobid> Job status with all information | Environment Variables |
| qstat -ans Job status with comments and vnode info | PBS\_JOBID Job identifier given by PBS when the job is submitted. Created upon execution. |
| Deleting jobs | PBS\_JOBNAME Job name given by user. Created upon execution. |
| qdel <jobid> kill a job  qdel -W force <jobid> Force kill a job | PBS\_NODEFILE The filename containing a list of vnodes assigned to the job.  PBS\_O\_WORKDIR Absolute path to directory where qsub is run. Value taken from user’s submission environment. |
| Requesting job resources | TMPDIR Pathname of job’s scratch directory |
| -l select=3:ncpus=2 Request for 3 chunks with 2 cpu each -l select=1:ncpus=4:mem=1gb 1 chunk with 4 cpus and 1 GB RAM -l walltime=01:00:00 Request for 1 hour total wall time -l cput=03:00:00 Request for 30 minutes CPU time -l place=pack:exclhost Request node to be exclusively allocated to the job | NCPUS Number of threads, defaulting to number of CPUs, on the vnode OMP\_NUM\_THREADS Number of threads, defaulting to number of CPUs, on the vnode PBS\_ARRAY\_ID Identifier for job arrays. Consists of sequence number.  PBS\_ARRAY\_INDEX Index number of subjob in job array.  PBS\_JOBDIR Pathname of job’s staging and execution directory on the primary execution host. |

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