Commonly Used QSUB Options in PBS Scripts or in the QSUB Command Line

Category: Running Jobs with PBS

The **`qsub`** options can be read from the PBS directives of a PBS *job_script* or from the **`qsub`** command line. For a complete list of available options, see **man qsub**. The more commonly used ones are listed below.

-S *shell_name*
: Specifies the shell that interprets the job script

-V
: Declares that all environment variables in the **`qsub`** command's environment are to be exported to the batch job

-v *variable_list*
: Lists environment variables to be exported to the job

-q *queue_name*
: Defines the destination of the job. The common possibilities for *queue_name* on Pleides and Columbia include *normal, debug, long,* and *low*. In addition, there is a devel queue on Pleiades for development work.

-l *resouce_list*
: Specifies the resources that are required by the job and establishes a limit to the amount of resources that can be consumed. Commonly used resource items are *select, ncpus, walltime*, and *memory*. See **man pbs_resources** for a complete list of available resources.

-e *path*
: Directs the standard error output produced by the request to the stated file path

-o *path*
: Directs the standard output produced by the request to the stated file path.

-j *join*
: Declares that the standard output and error streams of the job should be merged (joined). The values for *join* can be:
oe: standard output and error streams are merged in the standard output file
eo: standard error and output streams are merged in the standard error file

-m *mail_options*
: Defines the set of conditions under which the execution server will send mail message about the job. See **man qsub** for a list of mail_options.

-N *name*
: Declares a name for the job

-W *addl_attributes*
: Allows for the specification of additional job attributes. The most common ones are:
`-W group_list=`*`g_list`* specifies the group the job runs under
`-W depend=afterany:`*`job_ID.server_name.nas.nasa.gov`* (for example,

12345.pbspl1.nas.nasa.gov) submits a job which is to be executed after *job_ID* has finished with any exit status

-W depend=afterok:*job_ID.server_name.nas.nasa.gov* (for example, 12345.pbspl1.nas.nasa.gov) submits a job which is to be executed after *job_ID* has finished with no errors

-r *y|n*

Declares whether the job is rerunnable

The top of a PBS *job_script* contains PBS directives, each of which begins with the string **#PBS**. Here is an example for use on Pleiades.

```
#PBS -S /bin/csh
#PBS -V
#PBS -q long
#PBS -lselect=2:ncpus=8:mpiprocs=4:model=har,walltime=24:00:00
#PBS -j oe
#PBS -o /nobackup/zsmith/my_pbs_output
#PBS -N my_job_name
#PBS -m e
#PBS -W group_list=a0907
#PBS -r n
```

The resources and/or attributes set using options to the **qsub** command line override those set in the directives in the PBS *job_script*.

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http://www.nas.nasa.gov/hecc/support/kb/entry/175/?ajax=1