

Porting to Columbia: With OpenMP

Category: Porting to Columbia

Columbia Phase Out:

As of Feb. 27, 2013, the Columbia21, Columbia23, and Columbia24 nodes have been taken offline as part of the [Columbia phase out process](#). Columbia22 is still available. If your script requires a specific node, please make the appropriate changes in order to ensure the success of your job.

Building Applications

To build an OpenMP application, you need to use the `-openmp` Intel compiler flag:

```
%ifort -o your_executable -openmp program.f
```

Note that if you are compiling separate files, then `-openmp` is required at the link step to link in the OpenMP library.

Running Applications

Note that `OMP_NUM_THREADS` is set to 1 by default for PBS jobs. Reset it to the number of threads that you want.

Here is a sample PBS script for running OpenMP applications on Columbia:

```
#PBS -lncpus=8,walltime=1:00:00

setenv OMP_NUM_THREADS 8

cd $PBS_O_WORKDIR

./your_executable
```

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<http://www.nas.nasa.gov/hecc/support/kb/entry/108/?ajax=1>