

Sample Job script

run_script.sh:

```
. /opt/modules/default/init/bash
```

```
set -x
```

```
cd $PBS_O_WORKDIR
```

```
RUNDIR=<APP_FOLDER_PATH>/rundir.${NNODES}node.$$
```

```
mkdir -p $RUNDIR
```

```
cd $RUNDIR
```

```
EXECDIR=<APP_FOLDER_PATH>
```

```
EXE=${EXECDIR}/bin/<EXECUTABLE>
```

```
cp ${EXE} .
```

```
ln -s <APP_FOLDER_PATH>/*.
```

```
RANKS=${NPROC}
```

```
NPPN=${PPN}
```

```
export OMP_NUM_THREADS=1
```

```
OUTFILE=${RUNDIR}/Output
```

```
t1=$(perl -e 'print time')
```

```
aprun $PSTATE -n${RANKS} -N${NPPN} ${EXE} <INPUT_PARAMETERS> >  
${OUTFILE}
```

```
t2=$(perl -e 'print time')
```

```
echo "Elapsed time: $((t2-t1))" >> ${OUTFILE}
```

qsub_script.pbs :

```
#PBS -N jobname
#PBS -l walltime=02:00:00
#PBS -l place=scatter
#PBS -l accelerator_type="None"
#PBS -S /bin/sh@sdb -V
```

```
# cores/node
```

```
export NNODES=$1
export CORES=$2
export NTHREADS=$3
```

```
let PPN=$CORES/$NTHREADS
export PPN
```

```
let NPROC=$NNODES*$PPN
export NPROC
```

```
host=`hostname`
```

```
mkdir -p runoutputfiles
```

```
qsub -V -lnodes=$NNODES:ppn=$CORES -o
runoutputfiles/app_${host}.${CPU}.${NPROC}p.ppn$PPN.$$ run_script.sh
```

Job submission:

```
➤ ./qsub_script.pbs 10 240 1
```

Submitting multiple jobs for any given application

submit_multijob.pbs

```
#!/bin/bash
#PBS -N sample_job
#PBS -l select=16:ncpus=24
#PBS -l walltime=02:00:00
#PBS -l place=scatter
#PBS -l accelerator_type="None"
#PBS -S /bin/sh@sdb -V
. /opt/modules/default/init/sh
```

```
module swap PrgEnv-cray PrgEnv-gnu
module load fftw
```

```
cd $PBS_O_WORKDIR
```

```
RUNDIR=/mnt/lustre/crayadm/ravi/<APP_FOLDER>
EXE=${RUNDIR}/bin/mpi
```

```
export PBS_NODEFILE=nodefile.txt
// job submits on 1 to 16 nodes
for i in 16 ; do
    NODES=$i
    export OMP_NUM_THREADS=1
    RANKS=`expr ${NODES} \* 24 / $OMP_NUM_THREADS`
    aprun -n${RANKS} -N 24 -d $OMP_NUM_THREADS -j2 ${EXE} >& out
done
```

Submission:

➤ `qsub submit_multijob.pbs`

Please note that these job submission scripts are for your reference only.

If you have any queries related to job submission scripts, please refer

http://www.serc.iisc.in/facilities/jobsched_cray-html/

Or send a mail to admin team

Or raviteja@cray.com