

HW3:

Job1: batch, hello_mpi_grape, 1 node, 4 processors: ID 6139

```
-bash-4.1$ pwd
/soe/zzhou37/HW3/AM250_Exercises
-bash-4.1$ qstat -u zzhou37
-bash-4.1$ qsub mpi_g_1_4.cmd
6139.grape.soe.ucsc.edu
-bash-4.1$ qstat -u zzhou37
```

grape.soe.ucsc.edu:

Job ID	Username	Queue	Jobname	SessID	NDS	TSK	Req'd Memory	Req'd Time	S	Elap Time
6139.grape.soe.ucsc.edu	zzhou37	newest	hello_mpi_grape	19010	1	4	--	00:01:00	R	00:00:01

```
-bash-4.1$ qstat -u zzhou37
```

grape.soe.ucsc.edu:

Job ID	Username	Queue	Jobname	SessID	NDS	TSK	Req'd Memory	Req'd Time	S	Elap Time
6139.grape.soe.ucsc.edu	zzhou37	newest	hello_mpi_grape	19010	1	4	--	00:01:00	C	--

```
-bash-4.1$ █
```

Job2: batch, hello_mpi_grape, 2 node, 8 processors: ID 6140

```
[-bash-4.1$ pwd
/soe/zzhou37/HW3/AM250_Exercises
[-bash-4.1$ qsub mpi_g_2_8.cmd
6140.grape.soe.ucsc.edu
[-bash-4.1$ qstat -u zzhou37
```

grape.soe.ucsc.edu:

Job ID	Username	Queue	Jobname	SessID	NDS	TSK	Req'd Memory	Req'd Time	S	Elap Time
6140.grape.soe.ucsc.edu	zzhou37	newest	hello_mpi_grape	0	2	8	--	00:01:00	R	00:00:01

```
[-bash-4.1$ qstat -u zzhou37
```

grape.soe.ucsc.edu:

Job ID	Username	Queue	Jobname	SessID	NDS	TSK	Req'd Memory	Req'd Time	S	Elap Time
6140.grape.soe.ucsc.edu	zzhou37	newest	hello_mpi_grape	19325	2	8	--	00:01:00	C	--

```
-bash-4.1$ █
```

Job3: interactive, hello_mpi_grape, 1 node, 4 processors: ID 6141

```
-bash-4.1$ pwd
/soe/zzhou37/HW3/AM250_Exercises
-bash-4.1$ qsub -q newest -l nodes=1:ppn=4 -I
qsub: waiting for job 6141.grape.soe.ucsc.edu to start
qsub: job 6141.grape.soe.ucsc.edu ready

-bash-4.1$ cd $PBS_O_WORKDIR
-bash-4.1$ mpirun -np 4 ./hello_mpi_grape
Hello world from processor      2  out of      4
Hello world from processor      3  out of      4
Hello world from processor      0  out of      4
Hello world from processor      1  out of      4
-bash-4.1$ █
```

Job4: interactive, hello_mpi_grape, 2 node, 8 processors: ID 6144

```
-bash-4.1$ qsub -q newest -l nodes=2:ppn=4 -I
qsub: waiting for job 6144.grape.soe.ucsc.edu to start
qsub: job 6144.grape.soe.ucsc.edu ready

-bash-4.1$ cd $PBS_O_WORKDIR
-bash-4.1$ mpirun -np 8 ./hello_mpi_grape
Hello world from processor      0  out of      8
Hello world from processor      1  out of      8
Hello world from processor      3  out of      8
Hello world from processor      2  out of      8
Hello world from processor      4  out of      8
Hello world from processor      5  out of      8
Hello world from processor      6  out of      8
Hello world from processor      7  out of      8
-bash-4.1$ █
```

Job5: batch, hello_mpi_hb, 1 node, 4 processor, ID 97309

```
[[zzhou37@hb HW3]$ pwd
/hb/home/zzhou37/HW3
[[zzhou37@hb HW3]$ squeue -u zzhou37
      JOBID PARTITION      NAME      USER ST      TIME  NODES NODELIST(REASON)
[[zzhou37@hb HW3]$ sbatch mpi_h_1_4.cmd
Submitted batch job 97309
[[zzhou37@hb HW3]$ squeue -u zzhou37
      JOBID PARTITION      NAME      USER ST      TIME  NODES NODELIST(REASON)
    97309 Instructi hello_mp  zzhou37 CG    0:02      1 hbcomp-000
[[zzhou37@hb HW3]$ squeue -u zzhou37
      JOBID PARTITION      NAME      USER ST      TIME  NODES NODELIST(REASON)
[[zzhou37@hb HW3]$ █
```

Job6: batch, hello_mpi_hb, 2 node, 8 processor, ID 97310

```
[[zzhou37@hb HW3]$ pwd
/hb/home/zzhou37/HW3
[[zzhou37@hb HW3]$ squeue -u zzhou37
      JOBID PARTITION      NAME      USER ST      TIME  NODES NODELIST(REASON)
[[zzhou37@hb HW3]$ sbatch mpi_h_2_8.cmd
Submitted batch job 97310
[[zzhou37@hb HW3]$ squeue -u zzhou37
      JOBID PARTITION      NAME      USER ST      TIME  NODES NODELIST(REASON)
    97310 Instructi hello_mp  zzhou37 R    0:01      2 hbcomp-[004-005]
[[zzhou37@hb HW3]$ squeue -u zzhou37
      JOBID PARTITION      NAME      USER ST      TIME  NODES NODELIST(REASON)
[[zzhou37@hb HW3]$ █
```

Job7: batch, hello_omp_grape, 1 node, 4 threads: ID 6145

```
-bash-4.1$ pwd ]
/soe/zzhou37/HW3/AM250_Exercises
-bash-4.1$ qsub omp_g_1_4.cmd ]
6145.grape.soe.ucsc.edu
-bash-4.1$ qstat -u zzhou37 ]
```

grape.soe.ucsc.edu:

lap							Req'd	Req'd	E	
Job ID	Username	Queue	Jobname	SessID	NDS	TSK	Memory	Time	S	T
6141.grape.soe.ucsc.ed	zzhou37	newest	STDIN	19768	1	4	--	--	C	
6144.grape.soe.ucsc.ed	zzhou37	newest	STDIN	20374	2	8	--	--	C	
6145.grape.soe.ucsc.ed	zzhou37	newest	hello_omp_grape	20753	1	4	--	00:01:00	C	

Job8: batch, hello_omp_grape, 1 node, 8 threads: ID 6146

```
-bash-4.1$ pwd ]
/soe/zzhou37/HW3/AM250_Exercises
-bash-4.1$ qstat -u zzhou37 ]
-bash-4.1$ qsub omp_g_1_8.cmd ]
6146.grape.soe.ucsc.edu
-bash-4.1$ qstat -u zzhou37 ]
```

grape.soe.ucsc.edu:

lap							Req'd	Req'd	E	
Job ID	Username	Queue	Jobname	SessID	NDS	TSK	Memory	Time	S	T
6146.grape.soe.ucsc.ed	zzhou37	newest	hello_omp_grape	21076	1	8	--	00:01:00	R	00:00:00

grape.soe.ucsc.edu:

lap							Req'd	Req'd	E	
Job ID	Username	Queue	Jobname	SessID	NDS	TSK	Memory	Time	S	T
6146.grape.soe.ucsc.ed	zzhou37	newest	hello_omp_grape	21076	1	8	--	00:01:00	C	

Job9: interactive, hello_omp_grape, 1 node, 4 threads: ID 6147

```
-bash-4.1$ pwd
/soe/zzhou37/HW3/AM250_Exercises
-bash-4.1$ qsub -q newest -l nodes=1:ppn=4 -I
qsub: waiting for job 6147.grape.soe.ucsc.edu to start
qsub: job 6147.grape.soe.ucsc.edu ready

-bash-4.1$ cd $PBS_O_WORKDIR
-bash-4.1$ export OMP_NUM_THREADS=4
-bash-4.1$ ./hello_omp_grape
Hello World from thread =          2
Hello World from thread =          1
Hello World from thread =          3
Hello World from thread =          0
Number of threads =          4
-bash-4.1$ █
```

Job10: interactive, hello_omp_grape, 1 node, 8 threads, ID 6150

```
-bash-4.1$ qsub -q newest -l nodes=1:ppn=8 -I
qsub: waiting for job 6150.grape.soe.ucsc.edu to start
qsub: job 6150.grape.soe.ucsc.edu ready

-bash-4.1$ cd $PBS_O_WORKDIR
-bash-4.1$ export OMP_NUM_THREADS=8
-bash-4.1$ ./hello_omp_grape
Hello World from thread =          1
Hello World from thread =          4
Hello World from thread =          5
Hello World from thread =          3
Hello World from thread =          0
Number of threads =          8
Hello World from thread =          7
Hello World from thread =          6
Hello World from thread =          2
-bash-4.1$ █
```

Job11: batch, hello_omp_hb, 1 node, 4 threads, ID: 97312

```
[[zzhou37@hb HW3]$ pwd
/hb/home/zzhou37/HW3
[[zzhou37@hb HW3]$ squeue -u zzhou37
      JOBID PARTITION      NAME      USER ST      TIME  NODES NODELIST(REASON)
[[zzhou37@hb HW3]$ sbatch omp_h_1_4.cmd
Submitted batch job 97312
[[zzhou37@hb HW3]$ squeue -u zzhou37
      JOBID PARTITION      NAME      USER ST      TIME  NODES NODELIST(REASON)
```

Job12: batch, hello_omp_hb, 1 node, 8 threads, ID: 97313

```
[[zzhou37@hb HW3]$ squeue -u zzhou37
      JOBID PARTITION      NAME      USER ST      TIME  NODES NODELIST(REASON)
[[zzhou37@hb HW3]$ sbatch omp_h_1_8.cmd
Submitted batch job 97313
[[zzhou37@hb HW3]$ squeue -u zzhou37
      JOBID PARTITION      NAME      USER ST      TIME  NODES NODELIST(REASON)
    97313 Instructi hello_om zzhou37  R    0:01      1 hbcomp-000
[[zzhou37@hb HW3]$ squeue -u zzhou37
      JOBID PARTITION      NAME      USER ST      TIME  NODES NODELIST(REASON)
[[zzhou37@hb HW3]$ █
```