CPE 412/512
Fall Semester 2010

Using the run_script command on the ASC system:

Step 1: change to your appropriate working directory
Step 2: create the source file and compile for mpi in the usual manner.
ex. icc test.cpp -o test -lmpi
Step 3: Using your favorite text editor (vi, pico, etc.) create a file that contains the mpirun command with the appropriate parameters. For example if you want to have a two processor run for a file with an executable name *"test"* you may create the file *"r2.scr"* which contains the following line of text
mpirun -np 2 test
Step 4: Give your script file execute privileges by typing
chmod 744 r2.scr
Step 5: Then type the command run_script r2.scr

```
Queue                  CPU    Mem # CPUs
-------------- ---------- ------ ------
commercial       24:00:00   80gb   1-16
small-parallel   48:00:00    8gb    2-8
large-serial    168:00:00   35gb      1
express          01:00:00  500mb      1
medium-serial    90:00:00    4gb      1
small-serial     40:00:00    1gb      1
medium-parallel 100:00:00   32gb   2-16
large-parallel  168:00:00   64gb   2-64
special        1008:00:00  340gb   1-80
dixon-serial    400:00:00    8gb      1
class            01:00:00   30gb   1-16
dixon-parallel  400:00:00   60gb   2-30

Interactive limits:
                       CPU    Mem   File
---------------  ------- ------ ------

INTERACTIVE        600sec  100mb   1gb

Enter Queue Name (default <cr>: small-serial) class

Enter number of cpus (default <cr>: 1 ) 2

Enter Time Limit (default <cr>: 2:00:00 HH:MM:SS)        <- accept defaults press <enter>

Enter memory limit (default <cr>: 2gb )        <- accept defaults press <enter>

Choose your job starting date and time (<cr> for now):
If not running right now, enter time and date as [[CC]YY]MMDDhhmm[.ss]

Enter a name for your job (default: r2scrSCRIPT)        <- accept defaults press <enter>

Should this job run on altix, xd1, or dmc (default: any) altix

============================================================
=====         Summary of your script     job           =====
============================================================
  The script file is:  r2.scr
  The time limit is  2:00:00  HH:MM:SS.
  The memory limit is:  2gb
  The job will start running after:  200809012044.34
  Look for:  r2scrSCRIPT  in queue:  class

Job number 69052.mds1.asc.edu
```

Enter **class** for *Queue Name*, **2** (in this case) for number of cpus (must match mpirun -np x value entered in script file), and **altix** for the machine it is to run on. Press the enter key to accept all other defaults for the other prompts. All screen output should go to the file r2scrSCRIPT.o69052 (i.e. the <filename>SCRIPT.o<job number> file in general).

You can view your status using the ***qstat*** command. To filter out all of the other jobs that are running on the Alabama Super Computer systems you can pipe the output of the qstat command into the **grep** command and only display the jobs that are generated by your login id. For example type

```
qstat | grep uahcls01
```

to view the status of your job(s) if you are user uahcls01.

Unlike jobs run without this queue management in place, jobs run using this batch queue will be the only ones executed on the system at the specified point in time.

You can also remove a job from the queue before it completes execution by using the ***qdel*** command with your job number as the command line argument. For example if you realize you made a mistake in your code and do not want job number 65892 run after it has been submitted to the queue, simply type

```
qdel 65892
```

to delete it.