Using Advanced MPI: Instructor Guide

Students will be asked to follow the steps below:

1. SSH to the available SuperComputer using their credentials (User ID and Password)
2. Transfer the following source codes provided by the Instructor in case they are not already available in the system.
    a. bones.c
    b. heat.c
    c. laplace.c
3. Create a JobScript depending on the Workload Resource Manager and Scheduler (SLURM or TORQUE) being used for the system.
4. Compile and Run each of them using the commands as follows with the supervision of the instructor:
    a. Compile: % mpicc -o prog prog.c (prog is the name of each the source code in step 2)
    b. Run:
        i. % sbatch JobSript (for SLURM)
        ii. % bsub JobScript (for TORQUE)
5. If everything works correctly , the Error files should be empty and the Output file should should have the expected result of the computation.
6. The steps above should be repeated for each of the source code original or modified as you desire and or time permits.

Common Pitfalls

To ensure that the allocated 25 minus are used optimally, the instructor has to verify and be certain that the students have the minimum prerequisite knowledge in linux commands and minimum programming in at least C programming language.

Being familiar with the supercomputer Linux/Unix Operating system environment is a must to guarantee a successful completion of this module..