

Instructor Guide

The main objective of this module is to introduce students to remote execution of programs in a cluster. As a starting point the jobs will be executed in TACC Stampede2. In addition, to familiarize the students with the different types of nodes present in a super computer, namely login and compute nodes; different types of file systems. A few points the instructor should try to emphasize:

1. Remind students that there are several options to transfer code from/to the super computer. Using GLOBUS is generally a good option for new users.
2. Familiarize students with the authentication systems present in highly secure environments. Remind students to not share their credentials and to be responsible where they store the OTP devices.
3. The instructor is encouraged to stress the importance of scratch space but also make sure that students are aware of the purging policy.
4. The instructor is also encouraged to make use of the work space for staging.
5. The instructor is encouraged to motivate the students to start using revision control systems, or at least start considering these systems for synchronous development of their code.
6. The instructor is encouraged to spend some time explaining NUMA control and cpu-affinity control at the submission job level.

Code package:

1. Before the guided exercise make sure that all scripts are functional in Stampede2. Although the developers have made every effort to make sure that the scripts work in the system as of 07/24/2020; several system updates may compromise the ability of the scripts to work.
2. There is a readme file in the tarbal as well Makefiles and submission scripts ready to use.