**Blue Waters Petascale Semester Curriculum v1.0**

**Unit 5: MPI**

**Lesson 5: Using Advanced MPI**

**Sample Assessment**

*Developed by Hyacinthe Aboudja for the Shodor Education Foundation, Inc.*



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*Browse and search the full curriculum at*[*http://shodor.org/petascale/materials/semester-curriculum*](http://shodor.org/petascale/materials/semester-curriculum)

*We welcome your improvements! You can submit your proposed changes to this material and the rest of the curriculum in our GitHub repository at*[*https://github.com/shodor-education/petascale-semester-curriculum*](https://github.com/shodor-education/petascale-semester-curriculum)

*We want to hear from you! Please let us know your experiences using this material by sending email to* [*petascale@shodor.org*](mailto:petascale@shodor.org)

Student will be tested on the following skills:

* Edit, Compile, and run an advanced MPI code (complex computation requiring more resources) in a high level language such as C, C++ or python
* Analyze and debug a code based on the output
* Modify, Rescale, and go through the first 2 steps above
* Use profiling techniques to examine how the resources and communication traffic between processes affect the execution time.