HPC at IU – Hands On

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Let's get our hands dirty

- We will do the following on Big Red II today:
  - Copy something from your desktop to Big Red II
  - Change your environment to PrgEnv-gnu
  - Compile something
  - Submit a job to the queue to run something
  - Get an interactive node and launch a GUI application

Prereqs

- SSH terminal on Windows
- SCP app on Windows
- Terminal on Unix (already available on most systems)

Task 1: Copy something to BR 2

- We will use this package in the next task:
  - Download units-1.74.tar.gz from
  - http://go.iu.edu/g2l
- Copy this archive to BR 2 using SCP

Task 2: Play with modules

- Change your programming environment to PrgEnv-gnu
- Make this change permanent
    - Edit .modules
    - Edit a file on a remote machine
    - Common editors: vi, nano, emacs

Task 3: configure, make and make install exercise on Quarry & Big Red II

1. Untar units-1.74.tar.gz
2. See if you can install the units software (converts between different systems of units) in the default Linux path
3. Look in the INSTALL file for instructions (most packages have this file)
4. Now install this software in $HOME/units174
5. Which compiler did you use?

Acknowledgement: Exercise from http://www.ee.surrey.ac.uk/Teaching/Unix/

Task 4: Submit a job to the queue

- Copy this directory to your scratch space on DC 2
  - Downloaded this from http://go.iu.edu/g2H
  - cp –r job-submission.tar /N/dc2/scratch/username
  - tar xvf job-submission.tar
- Compile the mpi_hello.c program
  - cc mpi_hello.c
- Edit the pbs.sh file to set the working directory and binary name
  - It will not work out of the box
- Submit the job to the queue

Task 5: X forwarding exercise

1. On Big Red II and Quarry, login with X forwarding enabled
    1. Launch xclock
2. On Big Red II, start an interactive job with X forwarding enabled
    1. Launch xclock from the compute node

Hint: Find step by step instructions on the KB pages