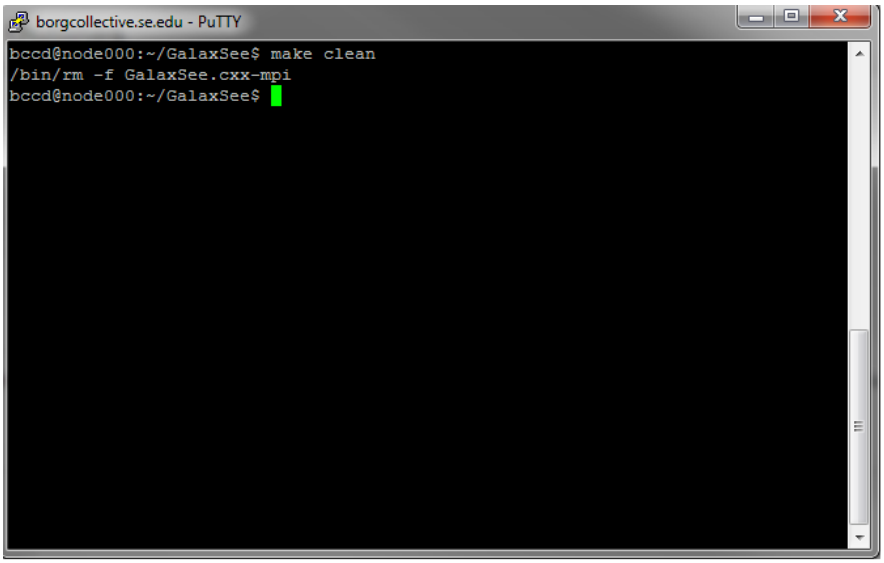
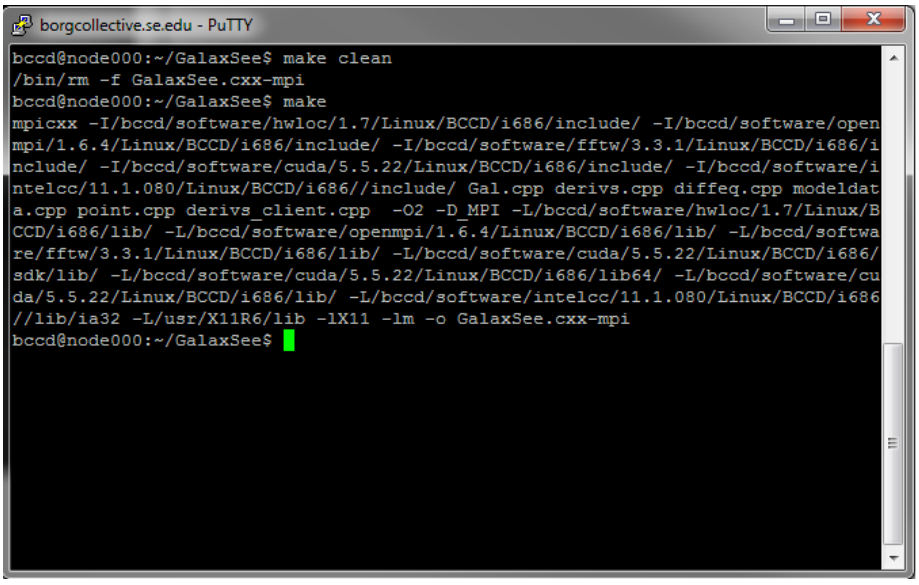
How to Compile and Run a Program on Super Computer

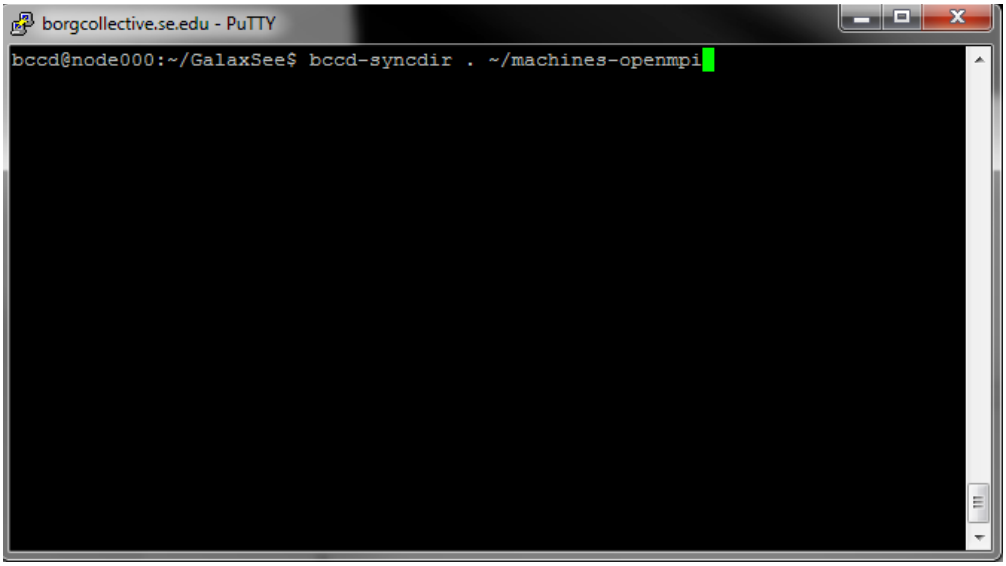
1. Make sure you are logged in with your personal user account.
   Navigate to your GalaxSee directory with “cd ~/GalaxSee ”.
   If you have previously compiled the program you will need to “make clean”.
   If you have not previously compiled you can skip step 1, but it will not harm anything if you do “make clean” regardless.



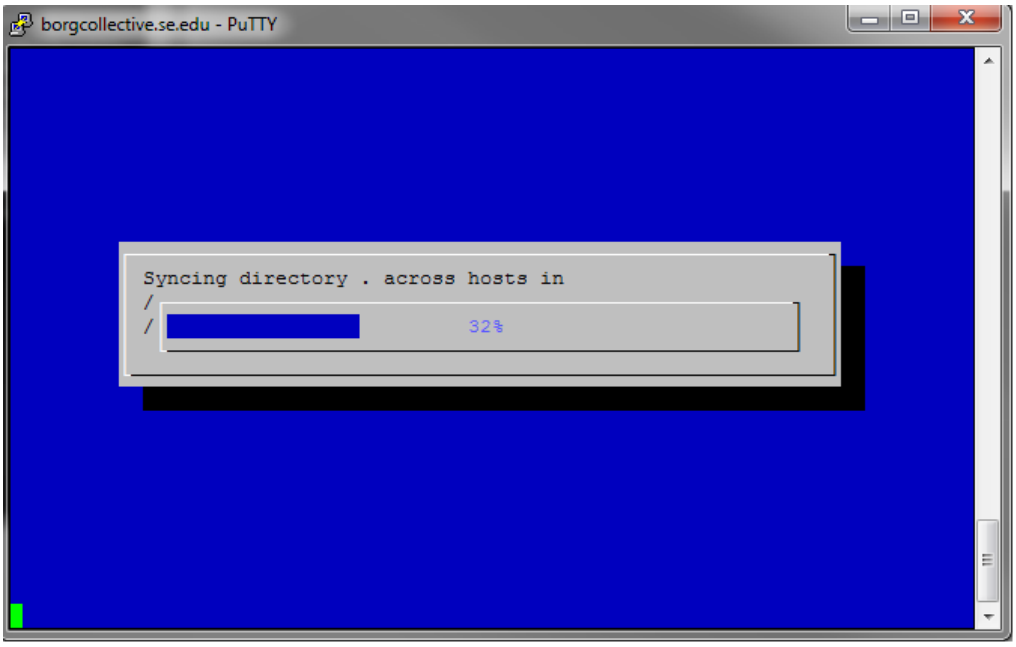
2. You will then need to recompile the program with the “make” command.



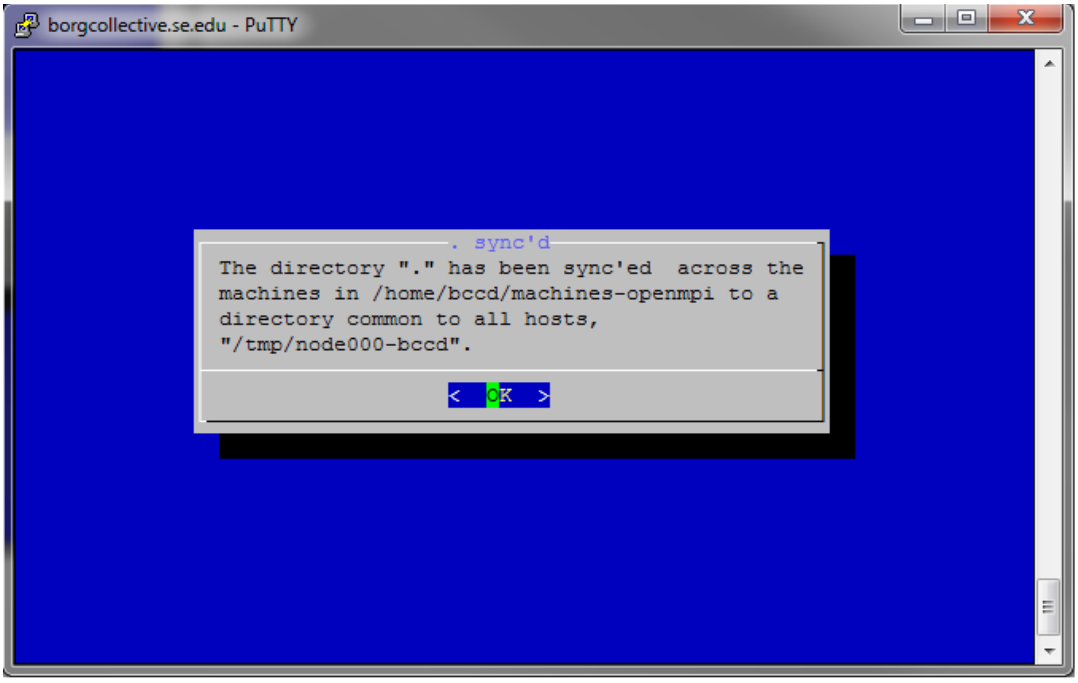
3. You will need to sync the compiled code across all the nodes so each node will have its own copy to run. “bccd-syncdir . ~/machines-openmpi” (there is a space between the . and ~)



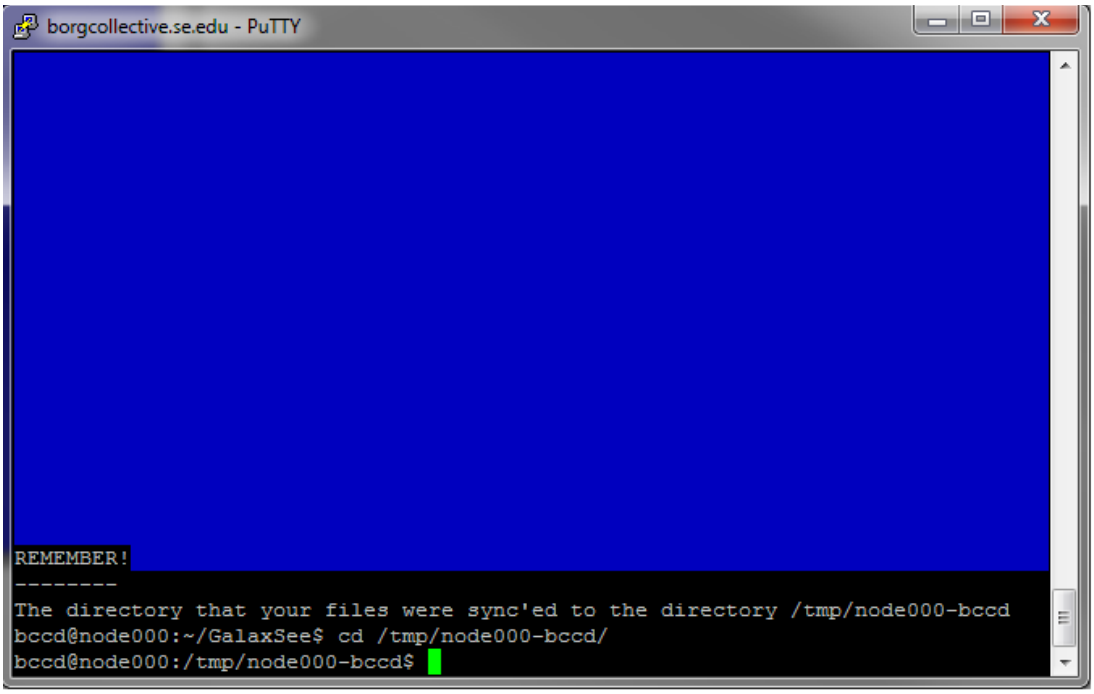
4. This is what the syncing process looks like.



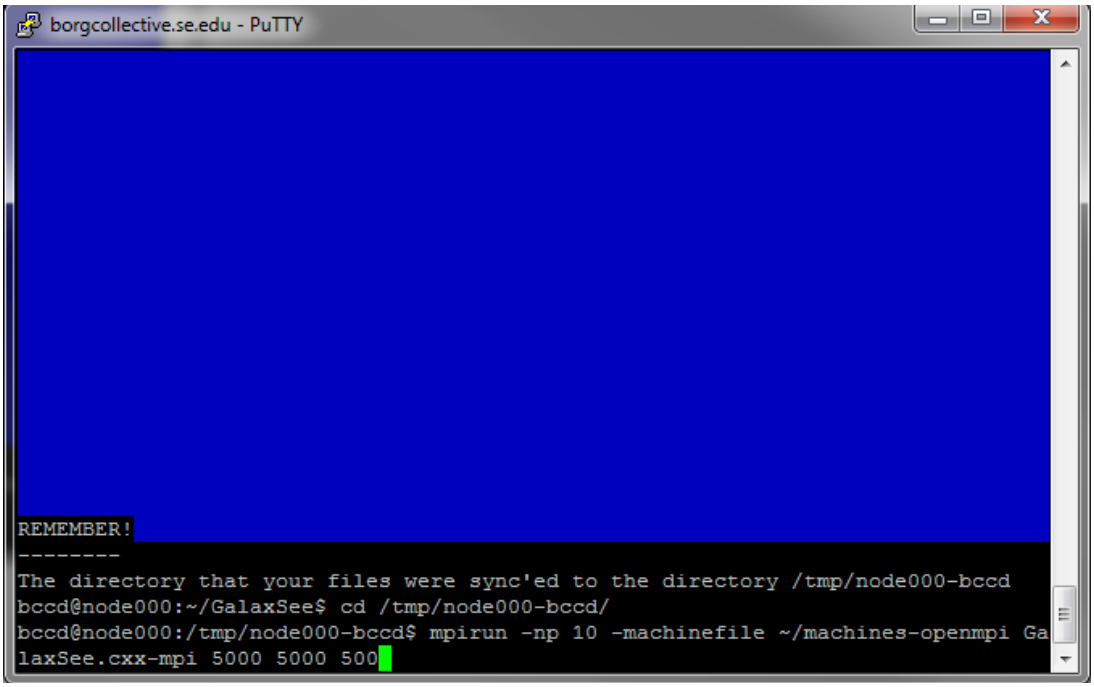
5. Once the process is complete a dialogue box will appear, hit enter.



6. Navigate to the directory where the sync'd code resides. Your directory may have a different name than pictured. "cd /tmp/node000-bccd/"



7. Run the code using MPI commands. After –np you will need to put the number of nodes that your snarfhost shows. The three numbers at the end specify how many objects, how much solar mass each object has, and the length in Myears. These 3 numbers can be set to whatever you want.
   "mpirun –np **10** –machinefile ~/machines-openmpi GalaxSee.cxx-mpi **5000 5000 500**"
   This command assumes we have a 10 node cluster running 5000 objects of 5000 solar mass for 500 Myears.



If you are remotely accessing your master node to send out this command you will not see the visual that displays on the screen. You can check to see if it's running on child nodes with "top". Or wait for the cursor in your command prompt to reappear after the program is successfully run.