

A Crash Course on Vesta and the ALCF

Lalitha Mantrala
Technical Support Analyst

Argonne Leadership Computing Facility



Crash Course Overview

- This crash course will take approximately 25 minutes.
- Get an account and access to an allocation
- Logging into Vesta
- Copying the source files
- Building the code
- Submitting a job and seeing the output



Getting an Account

- Go to <https://accounts.alcf.anl.gov/accounts/request.php> and click on “Request for an Account”
- Select the project name you want to be a part of
- Select (or type) your project PI's name and email address in the account sponsor fields and then click submit
- Once we receive your account sponsor's approval, we will begin the account creation process
- Once your account is created, we will send you a Cryptocard token to login to the ALCF resources, if needed



Log into Vesta and copy the source files

** Instructions also available at: <http://www.alcf.anl.gov/~mantrala/>

- `$ ssh username@vesta.alcf.anl.gov`
Resync Instructions: <https://www.alcf.anl.gov/resource-guides/using-cryptocards>
- `username@vestalac1:~> cp -Rp ~mantrala/hydro .`
- `mantrala@vestalac1:~> cd hydro`
- `mantrala@vestalac1:~/hydro> ls`
- `1d_hydro.c Makefile movie.sh`
- Build the code, and submit the job
- `mantrala@vestalac1:~/hydro> make`
Command not found error?
Type: `soft add +mpiwrapper-gcc`
- More info on Compiling and Linking: <https://www.alcf.anl.gov/resource-guides/vesta-compiling-and-linking>
- Run Make again
- `mpicc 1d_hydro.c -o hydro`
- `mantrala@vestalac1:~/hydro> ls`
- `1d_hydro.c hydro Makefile movie.sh`
- `mantrala@vestalac1 :~/hydro> qsub -A ATPESC2013 -q Q.ATPESC2013 -n 2 -t 10 hydro`
- `299010`
- Wait for the job to complete, you can watch it by running `qstat`



See the output

- mantrala@vestalca1 :~/hydro> ls
 - 1d_hydro.c step_0400_00 step_1100_01 step_1900_00 step_2600_01
 - 299010.cobaltlog step_0400_01 step_1200_00 step_1900_01 step_2700_00
 - 299010.error step_0500_00 step_1200_01 step_2000_00 step_2700_01
 - 299010.output step_0500_01 step_1300_00 step_2000_01 step_2800_00
 - hydro step_0600_00 step_1300_01 step_2100_00 step_2800_01
 - Makefile step_0600_01 step_1400_00 step_2100_01 step_2900_00
 - movie.sh step_0700_00 step_1400_01 step_2200_00 step_2900_01
 - step_0000_00 step_0700_01 step_1500_00 step_2200_01 step_3000_00
 - step_0000_01 step_0800_00 step_1500_01 step_2300_00 step_3000_01
 - step_0100_00 step_0800_01 step_1600_00 step_2300_01 step_3100_00
 - step_0100_01 step_0900_00 step_1600_01 step_2400_00 step_3100_01
 - step_0200_00 step_0900_01 step_1700_00 step_2400_01
 - step_0200_01 step_1000_00 step_1700_01 step_2500_00
 - step_0300_00 step_1000_01 step_1800_00 step_2500_01
 - step_0300_01 step_1100_00 step_1800_01 step_2600_00
- mantrala@vestalac1 :~/hydro> make movie
- See graphical output!



Need ALCF Token or Login Assistance During this Workshop?

- Email support@alcf.anl.gov and put “ATPESC” in the subject line to expedite your request, or
- Call us at 630-252-3111 (toll-free 866-508-9181)

