



Hands On Exercises

- **Start Here...**

- <http://redmine.scorec.rpi.edu>
- **Select “projects” in upper left corner**
- **Scroll down and select “FASTMath”**
- **Find and select “wiki” tab across top**
- **Select “ATPESC_2014”**
- **Select “Hands On Exercises”**





FASTMath Software Installation on Vesta

`/gpfs/vesta-fs0/projects/FASTMath/ATPESC-2014`

- Pre-Built Hands On Exercise Executables
 - in 'examples' subdir

- If you get to a point you to do some code development...
 - Pre-built libraries and tools in 'install' subdir
 - Tarballs & raw config notes (in 'downloads' subdir)
 - Note: MOAB and PETSc 'examples' are setup for easy code development too





Job Submission and Status

- Job submission

```
qsub -A ATPESC2014 -q Q.ATPESC \  
-t T -n N --mode c16 --proccount P \  
<path-to-exec>/<exec> <exec-args>
```

- Job status

```
qstat
```

<http://status.alcf.anl.gov/vesta/activity>

- Code Development

- In your ~/.soft file

```
@default
```

```
+cmake
```

```
+mpiwrapper-gcc
```



Visualization and Vesta/Tukey File Transfer

- Many examples produce outputs you can visualize
- VisIt, ParaView and glvis on Tukey (or your laptop)
 - setting up softenv or path described in instructions
- SSH Control Master enables password-less transfers
 - setting up described in instructions
- Alternatives
 - sftp (can keep a connection live)
 - Keep entering your passcode+token each time you scp





About the various examples

- Solver Technologies (Friday evening)
 - hypre
 - SuperLU
 - PETSc
 - Sundials

- Mesh Technologies (Saturday morning)
 - Chombo
 - MOAB
 - Albany
 - PUMI



If you encounter problems...

- Technical difficulties with system, etc.
 - Mark Miller, Cameron Smith, Glen Hansen, Jed Brown
 - Vijay Mahadevan, Satish Balay

- Questions about FASTMath technology exercises
 - Hypre: Rob Falgout
 - PETSc: Satish Balay, Jed Brown, Jason Sarich
 - SuperLU: Sherry Li
 - MOAB: Vijay Mahadevan
 - Chombo: Mark Adams, Anshu Dubey
 - PAALS: Glen Hansen, Cameron Smith, Mark Shephard