
MATLAB Compiler

On UD HPC Community Clusters

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How to use MATLAB on a cluster

Ways to consider:

- Batch mode with a queue script file.
- Interactive matlab in command mode.
- Interactive matlab in desktop mode (requires X11).
- Compiled MATLAB.

Compiled MATLAB is generally not going to be faster, but it will be easier to scale when running 100s of concurrent jobs. It is more like High Throughput Computing (HTC) than High Performance Computing (HPC).

Batch MATLAB examples

<http://docs.hpc.udel.edu/software/matlab/farber#batch-example>

- Simple Batch job

<http://docs.hpc.udel.edu/software/matlab/farber#batch-parallel-example>

- Parallel Batch job

Interactive MATLAB examples

<http://docs.hpc.udel.edu/software/matlab/farber#interactive-example>

- Command line MATLAB on a compute node

<http://docs.hpc.udel.edu/software/matlab/farber#interactive-parallel-toolbox-example>

- Command line parallel MATLAB

Compiling with MATLAB

- Compiling your MATLAB code to run in the MCR (Matlab Compiler Runtime)
- Compiling your C or Fortran program to call MATLAB engine.
- Compiling your own function in C or Fortran to be used in a MATLAB session.

Compiling with MATLAB examples

<http://docs.hpc.udel.edu/software/matlab#compiling-your-matlab>

- Uses example -- `/opt/templates/dev-projects/MCR`

<http://docs.hpc.udel.edu/software/matlab#compiling-your-code-to-use-matlab-engine>

- Uses MATLAB Fortran example -- `fengdemo.F`

<http://docs.hpc.udel.edu/software/matlab#compiling-your-own-matlab-function>

- Uses MATLAB C example -- `timestwo.c`

Questions and Open Forum