Matlab for HPC

How to run Matlab on Vilje
How to run Matlab on Kongull
Matlab MPI (Vilje/Fram/Maur/Idun)
Distributed Matlab (Using MPI)
Distributed Matlab (Using Techila Distributed Computing Solution)

FAQ

A.1. Matlab Unix Group on Vilje

If you got this message: “To use matlab on vilje you must be a member of the matlab unix group ...”, then you have to send a email to support-ntnu@notur. no and ask for to be a member of the Matlab Unix Group.

A.2. Random numbers

On vilje/Kongull you will see that the "rand" command generates same numbers on every started compute node in a job.
To avoid this you have to use seed command “rng” with a unique number on each compute node, and an example of finding a unique number:

Use the internal clock as.

Matlab code:

\[
t = \text{clock}(); \\
\text{seed} = t(6) * 1000; \quad \% \text{Seed with the second part of the clock array.} \\
\text{rng(\text{seed});} \\
\ldots \\
c = \text{rand}; \\
A = \text{rand}(3,3); \\
\ldots
\]

A.3 MEX

How to compile c-code into Matlab.

Load modules

- Matlab R2014a
  module load gcc/4.7.4 and module load matlab/R2014a
- Matlab R2016b
  module load gcc/4.9.1 and module load matlab/R2016b

Compiling:

- Sequential code:
mex mycode.c

-Openmp code

mex CC=gcc CFLAGS="-fopenmp" LDFLAGS="-fopenmp" mycode.c