MATLAB on Bridges

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MATLAB on Bridges
What is available?

- Basic MATLAB
- A large collection of toolboxes
  - You can see the list of available toolboxes with the `ver` command
- In particular, the Parallel Computing Toolbox (PCT)
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What is not available?

- MATLAB Distributed Computing Server (MDCS)
If you are an XSEDE academic user, you will not have to worry about licensing. We will have you covered.
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Parallelization

- Run multiple independent instances of MATLAB
- Use the Parallel Computing Toolbox (PCT)
  - Provides both the `parfor` and `spmd` constructs
  - No artificial limit on the number of workers. Number of workers should be equal to the number of available cores
  - Must be run within one node
    - 28 workers on a Regular Memory (RM) node
    - 60 workers on a Large Memory (LM) node
    - 240 workers on an Extreme Memory (EM) node
- Run MATLAB on GPUs using `gpuarray` and GPU enabled functions
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How to run MATLAB?

- Either use a batch job script or an interactive session (Do not run MATLAB on the login node)
- `module load matlab/R2016a`
- Execute a MATLAB m-file with `matlab < myscript.m >& output.log`
- Launch the MATLAB command prompt with simply `matlab`
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Concluding remarks

If you want to try out MATLAB on Bridges using your trial account, please first sign up on the following web page:

http://www.psc.edu/index.php/user-resources/software/matlab/permission-form