Running on XDay on Great Lakes Cluster

This protocol is for running xday (cellreg) on the great lakes slurm cluster interactive session – MATLAB.

# Requirements:

* Must be a user on the SLURM account or have a UMRCP account (free account for researchers up to certain limits)
* Access to Turbo

# Resources:

* **Turbo Access:**

<https://github.com/alexfaul/pipe.cb/blob/master/docs/TurboAccess.md>

* **Fiji Installation:**

<https://imagej.net/software/fiji/downloads>

* **GreatLakes User Guide:**

https://arc.umich.edu/greatlakes/user-guide/

**If running xDay NOT on Greatlakes, FIJI roots need to be changed**

1. Change to correct root for ImageJ ex. ijroot= ‘C:\Fiji.app’ in writeTiff.m, runImageJ.m, arrayToImagej.m
2. Check the .jar folder of matlab for ‘mij.jar’ and ‘ij.jar’. If not download .jar files from <http://bigwww.epfl.ch/sage/soft/mij/>. Do not put in .jar folder
3. Extend java classpath to wherever the .jar files are
   1. javaaddpath 'C:\Program Files\MATLAB\R2021b\java\mij.jar'
   2. javaaddpath 'C:\Program Files\MATLAB\R2021b\java\ij.jar'

# Opening Interactive Session – MATLAB

1. Look for interactive session on the bar for the matlab option

Graphical user interface, application, Teams

Description automatically generated

1. All the information should be prepopulated. Verify the SLURM account and the amount of memory required. NOTE: number of hours can vary depending on anticipated running time. It’s better to overshoot the time required.
   1. If requested memory exceeds 20GB/CPU, use LARGEMEM for partition and not standard (despite standard saying 180gb) it’s cheaper in the long run

Graphical user interface, text, application, email

Description automatically generated

1. The interactive session will be queued and can be found under “My Interactive Session”. The session will require some loading time (queue + loading) before able to launch.

Graphical user interface, text, application, email

Description automatically generated

1. Running XDay
   1. xdayStartup.m
      1. Adds all the paths for running xday in the interactive session
      2. The setup is for running from Greatlakes
      3. Will run xdaymouseid.m and generate a directory of files
   2. xdayWrapper (mousedir, index)
      1. requires inputs of mouse directory (ex. ‘/nfs/turbo/umms-crburge/Code/AF/newPipeline/pipe.cb/greatlakes/xday/workspace/temp/I03.mat’)
      2. files to index through (ex. 2:4)
      3. ALSO change obj.best\_day = X (line 36) to the proper day, generally the middle of the range is a good reference point