Using Specialized Software on BlueHive

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Overview

- Software with/without GUIs
- MATE Terminal
- Software Modules
- Combining Software
BlueHive Software

- For a complete list of software running on BlueHive, see https://info.circ.rochester.edu/#BlueHive/Software

- Using FastX, software with a graphical user interface (GUI) can be launched directly from the *Applications* menu
  - E.g., RStudio, Stata, Matlab, Mathematica

- Software without GUIs must be launched from a Terminal window
MATE Terminal

▶ MATE is the desktop environment used to interact with BlueHive

▶ To open a Terminal window, go to
  
  Applications > System Tools > MATE Terminal

▶ The Terminal provides access to Unix/Linux Command Line tools—in particular, loading software modules
Software Modules

- Environment modules allow users to modify their sessions
- Specifically, software modules give convenient access to particular versions of software packages (and dependencies)
  - The BlueHive software list referenced above details all available software modules
- To load a module, type: `module load [module name]`
  - E.g., `module load matlab/r2020a` loads Matlab version R2020a
- Once loaded, module executables become available
  - E.g., typing `matlab` launches a Matlab R2020a session
- For a list of other useful module commands, see info.circ.rochester.edu/#BlueHive/Using_the_Command_Line/#modules-and-software
Combining Software

- It’s important to load all desired software modules at the start of any BlueHive session
- Furthermore, to interface with other loaded modules, software with GUIs should be launched from the Terminal rather than from the Applications menu
  - E.g., in order to access Gambit (game theory) tools and Knitro (optimization) tools from Matlab, type:
    
    ```
    module load gambit/15.1.1
    module load knitro/12.0.0
    module load matlab/r2020a
    matlab
    ```
  - This launches a GUI Matlab R2020a session with access to Gambit and Knitro