Introduction to MSI for BMEn 5311 and ChEn 5753

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Questions?

www.msi.umn.edu/support/faq.html

MSI Frequently Asked Questions

Acknowledgment

1. How do I properly cite MSI to acknowledge the use I have made of MSI’s resources for my research?

Access

2. I think I already have an MSI account. How do I find out what my username is?
3. How do I get a new password?
4. I think I am using the right username and password; why can't I log in?
5. Which systems can I access?
6. How do I (and others) get access to additional MSI systems? How do I add additional users to my group?
7. I would like to work in an MSI laboratory location. Where are they, and how do I get access?
8. How do I renew my group's MSI access?
Access

- System access
- For building email help@msi.umn.edu
  - “Access to BSCL” (use appropriate lab name)
  - Full legal name, your student ID number, U Card number
  - Your instructor and/or class
- For other labs include
  - whether you have access to AHC facilities
- Information can be found in the “General Information” page for each lab (www.msi.umn.edu/labs/)
Laboratories

Scientific Development and Visualization
• 575 and 585 Walter Library

Basic Sciences Computing
• 1-280 Nils Hasselmo Hall

Computational Genetics
• 138 Cargill Building

Biomedical Modeling, Simulation, and Design
• 414 717 Delaware Building

LCSE-MSI Visualization
• Virtual reality
• Large screen
• Remote visualization
• 125 Walter Library
UNIX

- UNIX is the operating system of choice for engineering and scientific workstations.
- The variant of UNIX found at MSI and most widely in use around the world is GNU/Linux.
- MSI currently uses CentOS Linux. There are many other distributions (RedHat, Ubuntu, Debian)
- MSI has largely standardized on x86/x86_64 hardware (Intel/AMD microprocessors)
Getting Started

• MSI account.
• Open a terminal while sitting at the machine.
• A **shell** provides an interface for the user to interact with the operating system.
• **BASH** is the default shell at MSI.
• Alternatively, see the following link for information concerning remote access from your machine.

www.msi.umn.edu/remote-access
Accessing machines while at MSI

- `ssh [options] machine`
- `[options]`
  - `-X` set up environment to port graphics
  - `-Y` for Macs
- `machine`
  - `itasca, cascade, calhoun, etc.
- `User`
- `Examples:`
  - `ssh --Y rowe@itasca.msi.umn.edu`

Encrypted login to remote machines

- `$ man ssh`

See the MSI home page for a full listing of lab and core machines

- `scp [[user@]host1:]filename1[[user@]host2:]filename2`
  - `scp temp.ps login.msi.umn.edu:/scratch/temp.ps`

[www.msi.umn.edu/support/faq](http://www.msi.umn.edu/support/faq) - File transfer section
Remote Login from outside MSI

Login to the bastion host
login.msi.umn.edu

Use isub or ssh to connect to other machines
- isub is an MSI specific command
- Expects bash shell
- Syntax:
  ssh [-X][-Y] [user@]host1
- Examples:
  ssh -Y rowe@login.msi.umn.edu
  isub
  or
  isub -noprofile

Use nx
- Remote graphical connection
- Expects bash shell
- Download client
  www.msi.umn.edu/support/nx

Use gput
- Remote graphical connection
- Fastest
- Download client
- Request software installation

*Users cannot launch software directly on login.msi.umn.edu
isub

- isub is an MSI specific command to connect to MSI machines from login.msi.umn.edu or NX
- Expects bash shell
- Defaults to two hour session. Use –w option for longer session
- Examples:
  
  ```
  isub
  isub –w 8:00:00
  isub –n nodes=1:ppn=4 –m 16GB –w 24:00:0
  ```

Check [www.msi.umn.edu/isub](http://www.msi.umn.edu/isub) for more details

*Users cannot launch software directly on login.msi.umn.edu or from NX*
Linux software (modules)

• see web page www.msi.umn.edu/sw/comsol

module load comsol/class – start software comsol

module avail comsol – see available versions

Use the class license. Only 3 standard licenses. Sign up on calendar to use standard license.
Running COMSOL

- Use the class license. Version 4.1
- Only 3 standard licenses. Version 4.3b (4.4 also available)
- Not all modules available in 4.1
- To use standard license
  - Get added to COMSOL list
  - Sign up on a calendar
COMSOL tutorial

HELP > Documentation >
Introduction to COMSOL Multiphysics
Thorough Example: The Busbar
More COMSOL Material

• Video - www.comsol.com/video/221/
• Register at COMSOL web site for access to examples www.comsol.com
Caveats

- If you delete a file, it’s GONE! There is no “Recycle Bin” step. The file may be able to be recovered from a backup by contacting help@msi.umn.edu.
- See https://www.msi.umn.edu/support/faq “Access” question 7
- If you overwrite a file it has been changed forever.
- Home directories are backed up nightly.
- The scratch spaces are not backed up.
MSI web pages

- MSI home page
  - www.msi.umn.edu
- Software
  - www.msi.umn.edu/sw
- Password reset
  - www.msi.umn.edu/password
- Tutorials
  - www.msi.umn.edu/tutorial
- FAQ
  - www.msi.umn.edu/support/faq.html
For help

- By email: help@msi.umn.edu
- Web: www.msi.umn.edu
- Phone: 612-626-0802
- In person: Room 569 Walter
  Staffed 8:30AM to 5:00PM
  or by appointment

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