Introduction to MSI for PubH 8400

Oct 2, 2013

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The Minnesota Supercomputing Institute for Advanced Computational Research
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](mailto: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/](http://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

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Remote Connection to Windows

• From inside UMN
  – www.msi.umn.edu/support/faq/how-do-i-access-msi-windows-server-my-windows-machine
  – www.msi.umn.edu/support/remote-desktop

• From outside UMN use VPN first
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** - File transfer section
Remote Login from outside MSI

Login to the bastion host

\texttt{login.msi.umn.edu}

Use isub or ssh to connect to other machines

- isub is an MSI specific command
- Expects bash shell
- Syntax:
  \texttt{ssh [-X][-Y] [user@]host1}
- Examples:
  \texttt{ssh -Y rowe@login.msi.umn.edu}
  \texttt{isub}
  or
  \texttt{isub --noprofile}

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

Use nx

- Remote graphical connection
- Expects bash shell
- Download client
  \url{www.msi.umn.edu/support/nx}

Use gput

- Remote graphical connection
- Fastest
- Download client
- Request software installation
isub

- isub is an MSI specific command to connect to MSI machines from login.msi.umn.edu or NX
- Expects bash shell
- Examples:
  
isub
  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/r

   module load R – start software

   R

   module avail R – see available versions
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 7:00PM
  or by appointment

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