MGH/HST Athinoula A. Martinos Center for Biomedical Imaging

Introduction to Computing

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WhyNHow - Sept 10, 2015
**Martinos Center (NMR)**
- Scanners
- Linux
- Intranet
- NMR Email

**Partners**
- Healthstream
- MGH/partners email
- Peoplesoft
- Partners PCs
- McAfee Encryption

**[Passwords]**

- How often they must be changed
- Where to change them
- How to unlock account if password expired
- How to reopen account if it’s closed
tucker15
Original Message

Subject: Your Mailbox size is almost full
From:   "Krystyna Powierza" <KPowierza@cisnc.org>
Date:   Tue, September 8, 2015 3:05 pm
To:     "mail_team@webmaster.com" <mail_team@webmaster.com>

Your email account has used 23.7 GB (95%) of 25 GB.
You will be unable to send and receive messages if you do not reset your account storage space.

Click Manage<http://grupoavance.eu/web/> to reset and validate your account.

The Mail Team
[Computers]

1. What computer should I use?
2. Can I move my computer to a new desk?
3. Martinos Center HPC servers.

[Data & Backup]

1. How to find your data on bourget using findsession
2. File permissions
3. Where can I store my data?
4. NMR home directory vs /space vs /cluster
5. How is my data being backed up?

[Printing]

1. What printers can I use?
2. What can I print?
3. How can I print a conference poster?
Data Acquisition & Storage

PACS Bourget (14Y / 44Tb)

findsession & copy to Lab owned storage

/space/<computername>

/cluster/<name>
Command line terminal (shell)

Linux: terminal
right-click anywhere on desktop
Command line terminal (shell)

Linux: terminal
Right-click anywhere on desktop

Applications Menu > System Tools
Command line terminal (shell)

Mac: terminal
Applications > Utilities > Terminal
Command line terminal (shell)

Mac: terminal
Applications > Utilities > Terminal
Mac: terminal
Applications > Utilities > Terminal
ssh sam@door.nmr.mgh.harvard.edu
Command line terminal (shell)

Mac: terminal
Applications > Utilities > Terminal
```
ssh sam@door.nmr.mgh.harvard.edu
```

```
nmroots-MacBook-Air:~ sam$ ssh sam@door.nmr.mgh.harvard.edu
sam@door.nmr.mgh.harvard.edu's password:
Last login: Tue Oct  8 18:45:29 2013 from hsd1.ma.comcast.net
doors:~$  
```
Command line terminal (shell)

Windows: putty.exe
http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html
Command line terminal (shell)

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http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html
Command line terminal (shell)

Windows: putty.exe
http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

Enter hostname
Command line terminal (shell)

Windows: putty.exe
http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

Enter hostname
Example: michigan.nmr.mgh.harvard.edu
Command line terminal (shell)

Windows: putty.exe
http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

Enter hostname
Example:
michigan.nmr.mgh.harvard.edu
Press "Open"
Command line terminal (shell)

Windows: putty.exe
http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

Enter hostname
Example: michigan.nmr.mgh.harvard.edu
Press “Open”
Login with NMR username and password
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<th>Usage</th>
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<td>w</td>
<td>Lists users currently logged in</td>
<td></td>
</tr>
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<td>pwd</td>
<td>Prints the current working directory</td>
<td></td>
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<td>ls</td>
<td>Lists the contents of a directory</td>
<td></td>
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<td>ls –a</td>
<td>Includes hidden files</td>
<td></td>
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<td>ls –l   (or ll)</td>
<td>Lists contents with permissions</td>
<td></td>
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<tr>
<td>cd</td>
<td>Change to a new directory</td>
<td>cd /space/michigan/1/users/whynhow</td>
</tr>
<tr>
<td>cd -</td>
<td>Changes to previous directory</td>
<td></td>
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<tr>
<td>mkdir</td>
<td>Create a directory</td>
<td>mkdir /space/michigan/1/users/whynhow/newdir</td>
</tr>
<tr>
<td>rmdir</td>
<td>Delete an empty directory</td>
<td></td>
</tr>
<tr>
<td>rm</td>
<td>Delete a file (cannot undo!!)</td>
<td></td>
</tr>
<tr>
<td>cat</td>
<td>Output the entire contents of a file</td>
<td>cat filename</td>
</tr>
<tr>
<td>less</td>
<td>An easier way to view files</td>
<td>Press ‘q’ to exit less</td>
</tr>
<tr>
<td>grep</td>
<td>Search file for specific string of text</td>
<td></td>
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<tr>
<td>nano</td>
<td>A very basic text editor</td>
<td></td>
</tr>
<tr>
<td>vim</td>
<td>A more feature-ful text editor</td>
<td></td>
</tr>
<tr>
<td>emacs</td>
<td>A popular text editor</td>
<td></td>
</tr>
<tr>
<td>rsync</td>
<td>A tool for copying files</td>
<td>rsync –aP [source] [destination]</td>
</tr>
<tr>
<td>man</td>
<td>For reading the manual pages.</td>
<td>man rsync</td>
</tr>
<tr>
<td>Command</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><code>findsession -h</code></td>
<td>Display the help file.</td>
<td></td>
</tr>
<tr>
<td><code>findsession -t</code></td>
<td>Display all scans pushed that day.</td>
<td></td>
</tr>
<tr>
<td><code>findsession -p epd</code></td>
<td>Display all scans where project epd is listed in the OPERATOR field.</td>
<td></td>
</tr>
<tr>
<td><code>findsession pilot4</code></td>
<td>Display all scans with the string ‘pilot4’ in the subject name.</td>
<td></td>
</tr>
</tbody>
</table>
Demo findsession

xmehlsa[114] findsession -p wmf

===

SUBJECT:  VETSATest_8_bay4
SUBJ ID:  11.04.27-08:16:41-DST-1.3.12.2.1107.5.2.32.35006
DATE   :  April 27, 2011
TIME   :  08:17:43
OPERATR:  mar35:wmf (bay4) [M]
XPRMNTR: 
PATH   :  /cluster/archive/292/siemens/TrioTim-35006-20110427-081743-329000

===

mehlsa[81] findsession -o 2012-12-15

===

SUBJECT:  VETSA_11915A
SUBJ ID:  12.12.15-07:39:25-STD-1.3.12.2.1107.5.2.32.35006
DATE   :  December 15, 2012
TIME   :  07:40:01
OPERATR:  Maritza:lts (bay4) [D]
XPRMNTR: 
PATH   :  /cluster/archive/302/siemens/TrioTim-35006-20121215-074001-311000
Demo rsync

check the size of the dataset you wish to copy

Example:
```
du -kh /cluster/archive/301/siemens/TrioTim-35006-20120824-160112-992000
2.9G /cluster/archive/301/siemens/TrioTim-35006-20120824-160112-992000
```

Check to make sure you have enough free space at the destination:

Example:
```
df -h /space/michigan/1/users/xmehlsa/scans

Filesystem            Size  Used Avail Use% Mounted on
432G  197G  235G  46% /autofs/space/michigan_001
```

copy (all one line):
```
rsync -aP /cluster/archive/301/siemens/TrioTim-35006-20120824-160112-992000
/space/michigan/1/users/xmehlsa/scans/
```
Acct System Tools

USER CHECK: Show valid facility/project combinations for user:

PROJECT CHECK: Show project details including all users with privilege to use given project and on which scanners:

PI CHECK: Show all projects belonging to given PI's username:

OTHER:

Change NMR Password  Post System Message  Reports
Unix Groups

Find out what groups you’re in:

```
groups
```

Find out what groups someone else is in:

```
groups <username>
```

List the members of a specific group:

```
ypmatch <groupname> group
```

Find a user’s username:

```
finger <name>
finger <username>
```
Tutorial:

http://www.nmr.mgh.harvard.edu/martinos/userInfo/computer/perms.php

@anderson scripts]# ls -l run-pasl_withingroup.sh
-r-- 1 gcoombs dinahgp 6898 Aug 23 16:11 run-pasl_withingroup.sh

Permission diagram:
- type
  - (file)
  - d (directory)
  - l (symbolic link)
  - b (block special file)
  - c (character special file)
  - p (named pipe special file)
  - s (local socket special file)
- owner
  - rwx
- group
  - rwx
- others
  - rwx

r  read
w  write
x  execute
Show permissions: `ls -l`

```
xmehlsa[198] ls -l /cluster/itgroup/mehlsa/scans
wx 3 xmehlsa xmehlsa 4096 Sep 20 08:52 089763987
wx 3 xmehlsa xmehlsa 4096 Mar 30 2009 09033011
wx 3 xmehlsa xmehlsa 4096 Sep 20 08:51 98234798
```

Use `setgrp` to make files accessible to your group

```
xmehlsa[222] /usr/pubsw/bin/setgrp -c -p sysadm /cluster/itgroup/mehlsa/scans
```

```
xmehlsa[223] ls -l /cluster/itgroup/mehlsa/scans
-x 3 xmehlsa sysadm 4096 Sep 20 08:52 089763987
-x 3 xmehlsa sysadm 4096 Mar 30 2009 09033011
-x 3 xmehlsa sysadm 4096 Sep 20 08:51 98234798
```

Remove access for anyone not in your group

```
xmehlsa[222] /usr/pubsw/bin/setgrp -c -p sysadm /cluster/itgroup/mehlsa/scans
```

```
xmehlsa[223] ls -l /cluster/itgroup/mehlsa/scans
-- 3 xmehlsa sysadm 4096 Sep 20 08:52 089763987
-- 3 xmehlsa sysadm 4096 Mar 30 2009 09033011
-- 3 xmehlsa sysadm 4096 Sep 20 08:51 98234798
```
.cshrc

Sourcing the freesurfer environment creates login dependencies.

setenv SUBJECTS_DIR /space/michigan/1/users/mehlsa/subj
source /usr/local/freesurfer/nmr-stable53-env
Sourcing the freesurfer environment creates login dependencies.

```bash
setenv SUBJECTS_DIR /space/michigan/1/users/mehlsa/subj
source /usr/local/freesurfer/nmr-stable53-env
```

Better to make aliases

```bash
alias subj setenv SUBJECTS_DIR /space/michigan/1/users/mehlsa/subj
alias fs source /usr/local/freesurfer/nmr-stable53-env
```
To check the status of your Linux backups:

https://www.nmr.mgh.harvard.edu/martinos/userInfo/computer/nmr-secure/listHistory.php

For suggestions on backing up Windows or Macs:

http://help.nmr.mgh.harvard.edu/ > BACKUPS
ssh, X2Go

In order to ssh from outside the Partners firewall, you must use one of the three gateway servers:

gate.nmr.mgh.harvard.edu
entry.nmr.mgh.harvard.edu
door.nmr.mgh.harvard.edu

From there you should ssh to your own linux workstation.

https://www.nmr.mgh.harvard.edu/intranet/computer/remote-access/x2go
Raines PhD (Hired in 2000)
Mehl (Hired in 2004)
Ryan Feeley (Hired Sept, 2014)

to be confused with the Partners IT Service Desk (https://partnershealthcare.service-now.com/phsess/)

partners email
networks & Network Port
Support

2345 ‘NMR’ login/email accounts since 2004. 960 currently active.

580 Desktop Computers
CentOS Linux (433), Windows (105) MacOSX (47)

714 Laptops registered by users approximate 1/3 we encrypted

Approx 2000 emails received by help@nmr.mgh.harvard.edu
Where to get help:

1. http://www.yahoo.com
2. Your Lab
5. martinos-tech@yahoo.com
6. Other NMR mailing lists http://mail.nmr.mgh.harvard.edu
7. help@nmr.mgh.harvard.edu
How to ask for help.

If the computer has a name, what is it?
Where is it physically located?

What are the details of your problem?

What were you doing when the problem occurred?

Is the problem constant or intermittent?

Is the problem reproducible?

Have you attempted mitigation on your own? If so what were the results.

If files are involved, what is the full path to the files?

If programs are involved, which version?

Copy/paste any commands you ran along with any error messages (verbatim).

Provide more details than you think matter.
http://jukebox.nmr.mgh.harvard.edu
The End