

Lesson Module Status

- Slides – draft
 - Flash cards – draft
 - Properties – done
 - Page numbers - done
 - 1st minute quiz – done
 - Web Calendar summary – done
 - Web book pages - done
 - Commands – done
 - Lab tested – done
-
- MSDNAA accounts made - done
 - Welcome mailed - ready
 - Historical events mailed - ready
 - pairs script tested – done
-
- CCC Confer room whiteboard – done
 - Check that headset is charged – done
 - Backup headset charged - done
 - Backup slides, CCC info, handouts on flash drive -



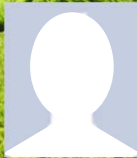
Instructor: **Rich Simms**

Dial-in: **888-450-4821**

Passcode: **761867**



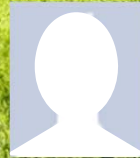
Emanuel



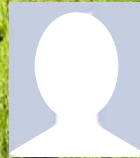
Ken



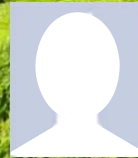
Tanner



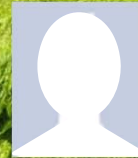
Merrick



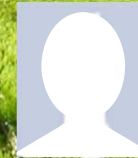
Quinton



Christopher



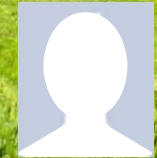
Bobby



Craig



Jeff



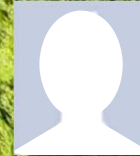
Yu-Chen



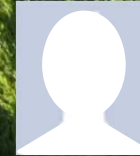
Terence



Greg



Tommy



Eric



Dan M



Geoffrey



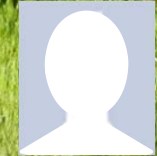
Marisol



David



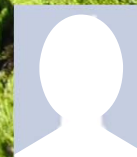
Josh



Leobardo



Gabriel



Jesse



Tajvia



Daniel W



Jason

Email me (risimms@cabrillo.edu) a relatively current photo of your face for 3 points extra credit

Quiz

Please close your books, notes, lesson materials, forum and answer these questions **in the order** shown:

1. How do you show your path?
2. What is the command to print the manual page for a command?
3. Name four directories where one can find commands?

email answers to: risimms@cabrillo.edu



- [] Has the phone bridge been added?
- [] Is recording on?
- [] Does the phone bridge have the mike?
- [] Share slides, putty (rsimms, simmsben, roddyduk), Chrome
- [] Disable spelling on PowerPoint

Electronic Mail

Objectives	Agenda
<ul style="list-style-type: none">• Learn how to use the UNIX communication tools write and mail.• Overview on end-to-end email.	<ul style="list-style-type: none">• Quiz• Questions from last week• Mini review• Housekeeping• Write• Basic Mail• More on Mail• End-to-end email• Other MUAs, MTAs, DA and AAs• Wrap up

Questions

Previous material and assignment

Questions on lab assignments or previous lesson material?

Lab 1 Results

Note: red x's show incorrect answers

1) On Opus, what was the prompt string?

/home/cis90ol/cis90 \$ **xxxxx**

2) What does the history command do?

shows previous commands

3) On Opus, what was your uid (user id) number? **x**

190

4) On Opus, what was the name of the shell program being run? **x**

bash

5) What terminal device did you use to access Opus? **xxxxxxxxxx**

/dev/pts/xx (xx is terminal number)

6) On Eko, what is the output from the hostname command? **xxxxx**

eko, or eko-xx (xx is VM number)

7) What command shows the other users that are logged in? **x**

who

8) What command shows you the name of the computer you are interacting with?

xxxxxxx

hostname

9) On Eko, what three keys must be pressed locally to use terminal tty2? **x**

ctrl+alt+f2

10) On Eko, if you log off one session, do you get logged off all the other sessions? **x**

no

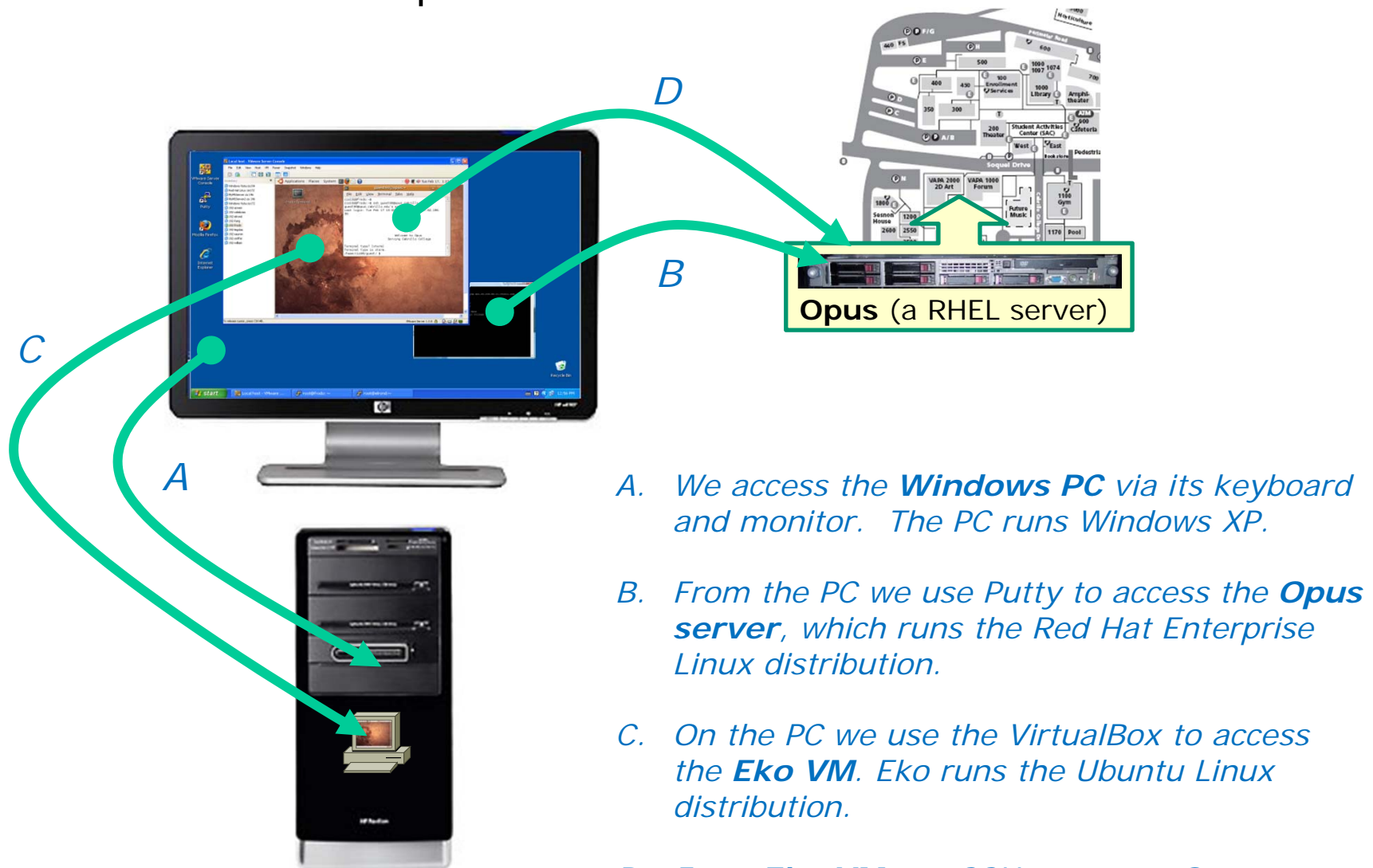
11) On Eko, is your command history the same for all login sessions? **xxxxxx**

no

12) What command logs you off? **x**

exit

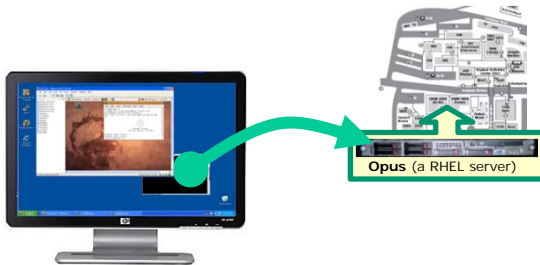
We used three computers for Lab 1 !!



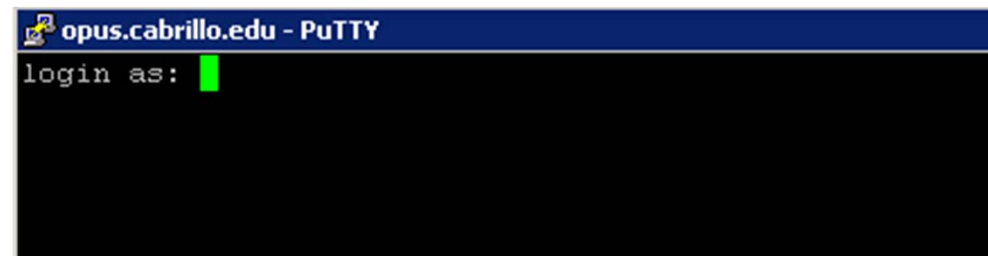
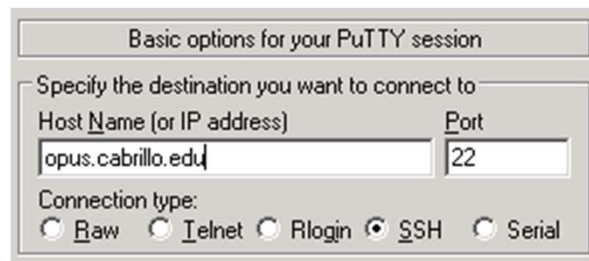
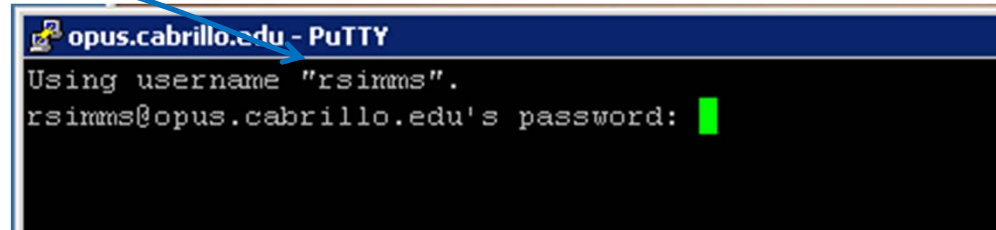
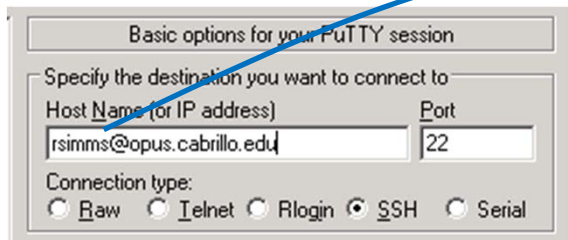
Lab 2 Notes

- 1) This lab must be done on Opus! Not Eko, not home Linux system ...
- 2) Before you submit, be sure to do the **history -a** command. This updates your history file with commands you issued for Lab 2.
- 3) The submit command will snapshot your history. This lab is graded by checking that you issued each of the Lab 2 commands and answered the three questions at the end.
- 4) Use **verify** command to see when and what you submitted.

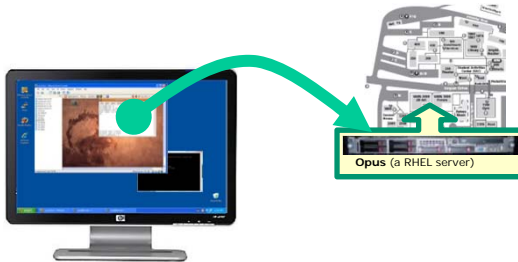
Subtle Stuff



*Putty to **rsimms@opus.cabrillo.edu**
or
Putty to **opus.cabrillo.edu***




If you specify the user in Putty you won't be prompted for the user name, just the password.



ssh rsimms@opus.cabrillo.edu
or
ssh opus.cabrillo.edu

from the Ubuntu Eko VM


```
cis90@eko: ~
File Edit View Terminal Help
Connection to opus.cabrillo.edu closed.
cis90@eko:~$ ssh opus.cabrillo.edu
cis90@opus.cabrillo.edu's password:
Permission denied, please try again.
cis90@opus.cabrillo.edu's password:
```



```
simmsben@opus:~
File Edit View Terminal Help
cis90@eko:~$ ssh simmsben@opus.cabrillo.edu
simmsben@opus.cabrillo.edu's password:
Last login: Mon Sep  6 15:42:09 2010 from dsl-63-249-1

      ( 'v' )
    //  -  -  \
   ( \  _  _ / )
      ~ ~ ~ ~
      Welcome to Opus
      Serving Cabrillo College

Terminal type? [xterm]
Terminal type is xterm.
/home/cis90/simmsben $
```



*If you don't specify the user on the **ssh** command it will use the user you are currently logged in as. This account may not exist on the remote system!*

Command Review

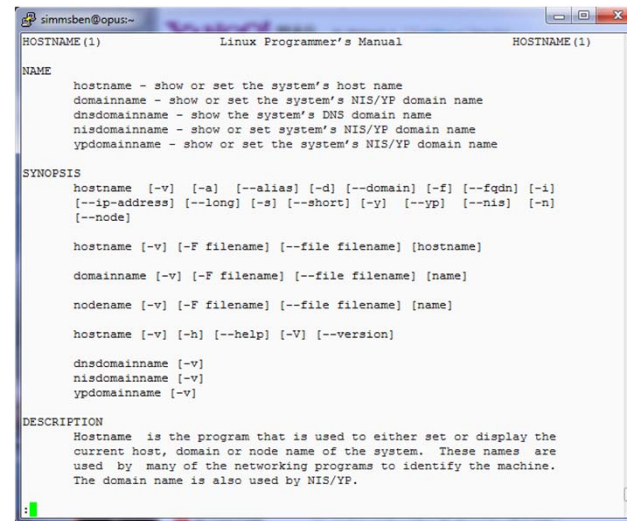
To find the location of a command on your path, use the **type** command:

```
/home/cis90ol/simmsben $ type hostname
hostname is /bin/hostname
/home/cis90ol/simmsben $
```

*The hostname
program is in the
/bin directory*

To find the manual page for a command, use the **man** command:

```
/home/cis90ol/simmsben $ man hostname
```



The screenshot shows a terminal window titled 'simmsben@opus:~' with a window icon in the top-left corner. The terminal displays the output of the 'man hostname' command. The title bar of the window is 'Linux Programmer's Manual'. The content of the terminal is as follows:

```
HOSTNAME (1)                                HOSTNAME (1)

NAME
hostname - show or set the system's host name
domainname - show or set the system's NIS/YP domain name
dnsdomainname - show the system's DNS domain name
nisdomainname - show or set system's NIS/YP domain name
ypdomainname - show or set the system's NIS/YP domain name

SYNOPSIS
hostname [-v] [-a] [--alias] [-d] [--domain] [-f] [--fqdn] [-i]
[--ip-address] [--long] [-s] [--short] [-y] [--yp] [--nis] [-n]
[--node]

hostname [-v] [-F filename] [--file filename] [hostname]
domainname [-v] [-F filename] [--file filename] [name]
nodename [-v] [-F filename] [--file filename] [name]
hostname [-v] [-h] [--help] [-V] [--version]

dnsdomainname [-v]
nisdomainname [-v]
ypdomainname [-v]

DESCRIPTION
Hostname is the program that is used to either set or display the
current host, domain or node name of the system. These names are
used by many of the networking programs to identify the machine.
The domain name is also used by NIS/YP.
```

Command Review

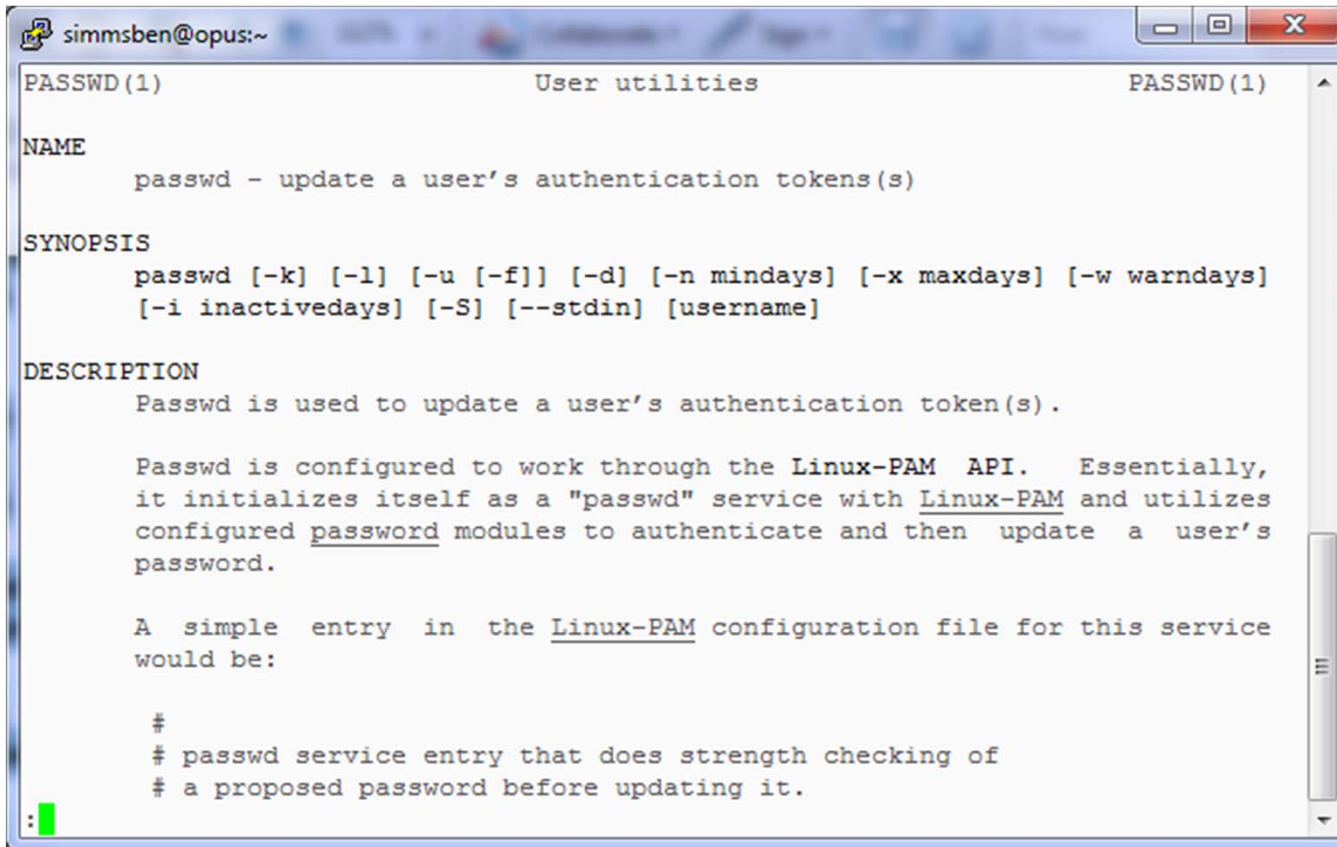
*However, sometimes you may get something different than you expect with the **type** and **man** commands*

Command Review

```
/home/cis90/simmsben $ type passwd  
passwd is /usr/bin/passwd
```

*passwd resides
in the /usr/bin
directory*

```
/home/cis90/simmsben $ man passwd
```



```
simmsben@opus:~  
PASSWD(1) User utilities PASSWD(1)  
  
NAME  
passwd - update a user's authentication tokens(s)  
  
SYNOPSIS  
passwd [-k] [-l] [-u [-f]] [-d] [-n mindays] [-x maxdays] [-w warndays]  
[-i inactivedays] [-S] [--stdin] [username]  
  
DESCRIPTION  
Passwd is used to update a user's authentication token(s).  
  
Passwd is configured to work through the Linux-PAM API. Essentially,  
it initializes itself as a "passwd" service with Linux-PAM and utilizes  
configured password modules to authenticate and then update a user's  
password.  
  
A simple entry in the Linux-PAM configuration file for this service  
would be:  
  
#  
# passwd service entry that does strength checking of  
# a proposed password before updating it.
```

*There is a man
page for the
passwd
command*

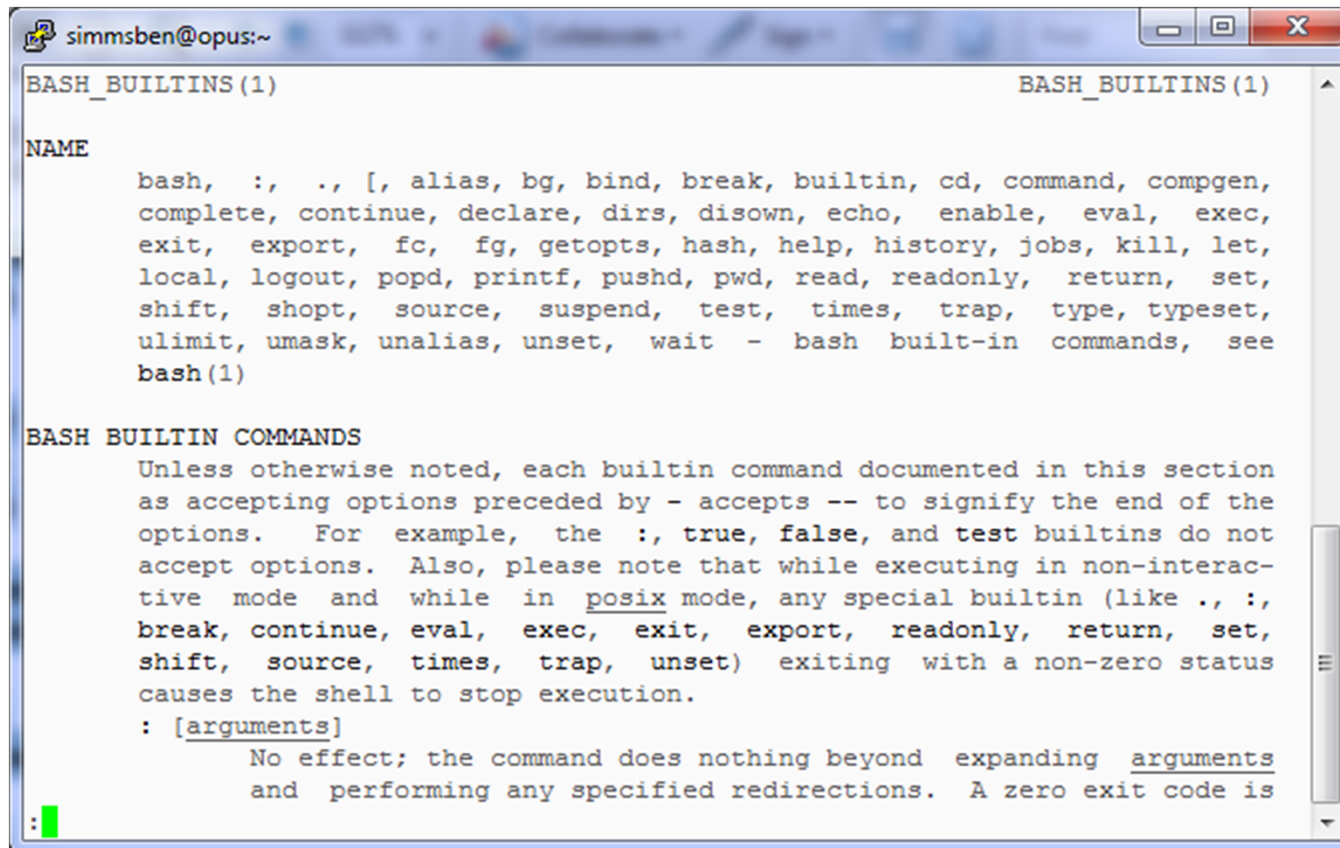
Command Review

```
/home/cis90/simmsben $ type history
```

history is a **shell builtin**

history is part of the shell and does not have its own program file

```
/home/cis90/simmsben $ man history
```



The screenshot shows a terminal window titled 'simmsben@opus:~'. The command 'type history' was executed, showing 'history is a shell builtin'. Then, 'man history' was executed, displaying the man page for 'BASH_BUILTINS(1)'. The page lists various built-in commands and explains that 'history' is a shell builtin command. The terminal output is as follows:

```
BASH_BUILTINS(1)                                     BASH_BUILTINS(1)
NAME
  bash, :, ., [, alias, bg, bind, break, builtin, cd, command, compgen,
  complete, continue, declare, dirs, disown, echo, enable, eval, exec,
  exit, export, fc, fg, getopts, hash, help, history, jobs, kill, let,
  local, logout, popd, printf, pushd, pwd, read, readonly, return, set,
  shift, shopt, source, suspend, test, times, trap, type, typeset,
  ulimit, umask, unalias, unset, wait - bash built-in commands, see
  bash(1)

BASH BUILTIN COMMANDS
  Unless otherwise noted, each builtin command documented in this section
  as accepting options preceded by - accepts -- to signify the end of the
  options. For example, the :, true, false, and test builtins do not
  accept options. Also, please note that while executing in non-interac-
  tive mode and while in posix mode, any special builtin (like ., :,
  break, continue, eval, exec, exit, export, readonly, return, set,
  shift, source, times, trap, unset) exiting with a non-zero status
  causes the shell to stop execution.
  : [arguments]
    No effect; the command does nothing beyond expanding arguments
    and performing any specified redirections. A zero exit code is
```

history does not have its own man page either

... but it is included in the man page for bash builtins

Command Review

```
/home/cis90/simmsben $ type ls  
ls is aliased to `ls --color=tty`
```

*Note, the location is
not displayed*

```
/home/cis90/simmsben $ type -a ls  
ls is aliased to `ls --color=tty`  
ls is /bin/ls  
/home/cis90/simmsben $
```

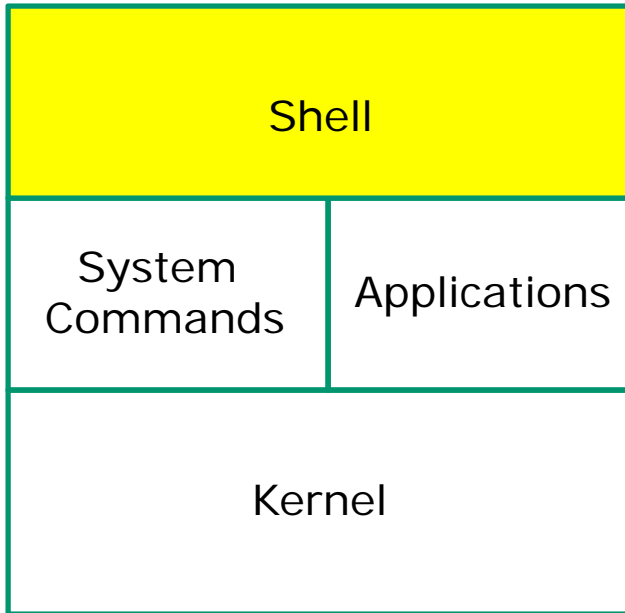
***ls** resides in the /bin
directory*

*The **ls** command is aliased, use the **-a** option
on the **type** command to find where the
command resides*

Mini Review



Life of the Shell



- 1) Prompt
- 2) Parse
- 3) Search
- 4) Execute
- 5) Nap
- 6) Repeat

Command Syntax

*Shell prints
this to prompt
user to enter a
command*

Shell parses this command line



Examples

***Options** modify the
behavior of the command*

***Arguments** are what the
command works upon*

***Redirection** is covered
later in the course*

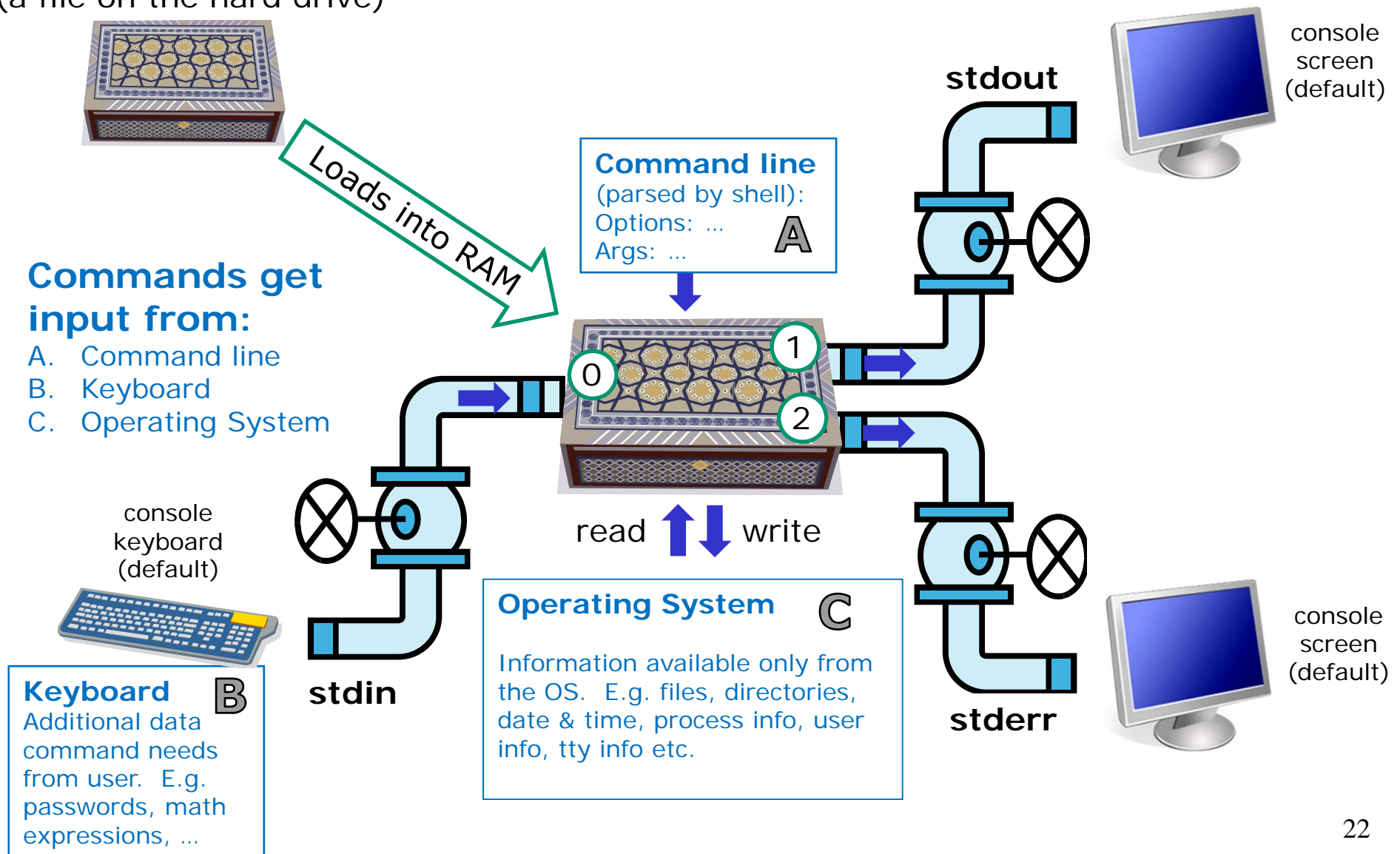
```

/home/cis90/simmsben $
/home/cis90/simmsben $ ls
/home/cis90/simmsben $ ls -l
/home/cis90/simmsben $ ls -lt
/home/cis90/simmsben $ ls -lt Poems/
/home/cis90/simmsben $ ls -lt Poems/ bin/
/home/cis90/simmsben $ ls -lt Poems/ bin/ > mylist
  
```

***Spaces (blanks)** are used to separate the command,
options and arguments.*

Program
(a file on the hard drive)

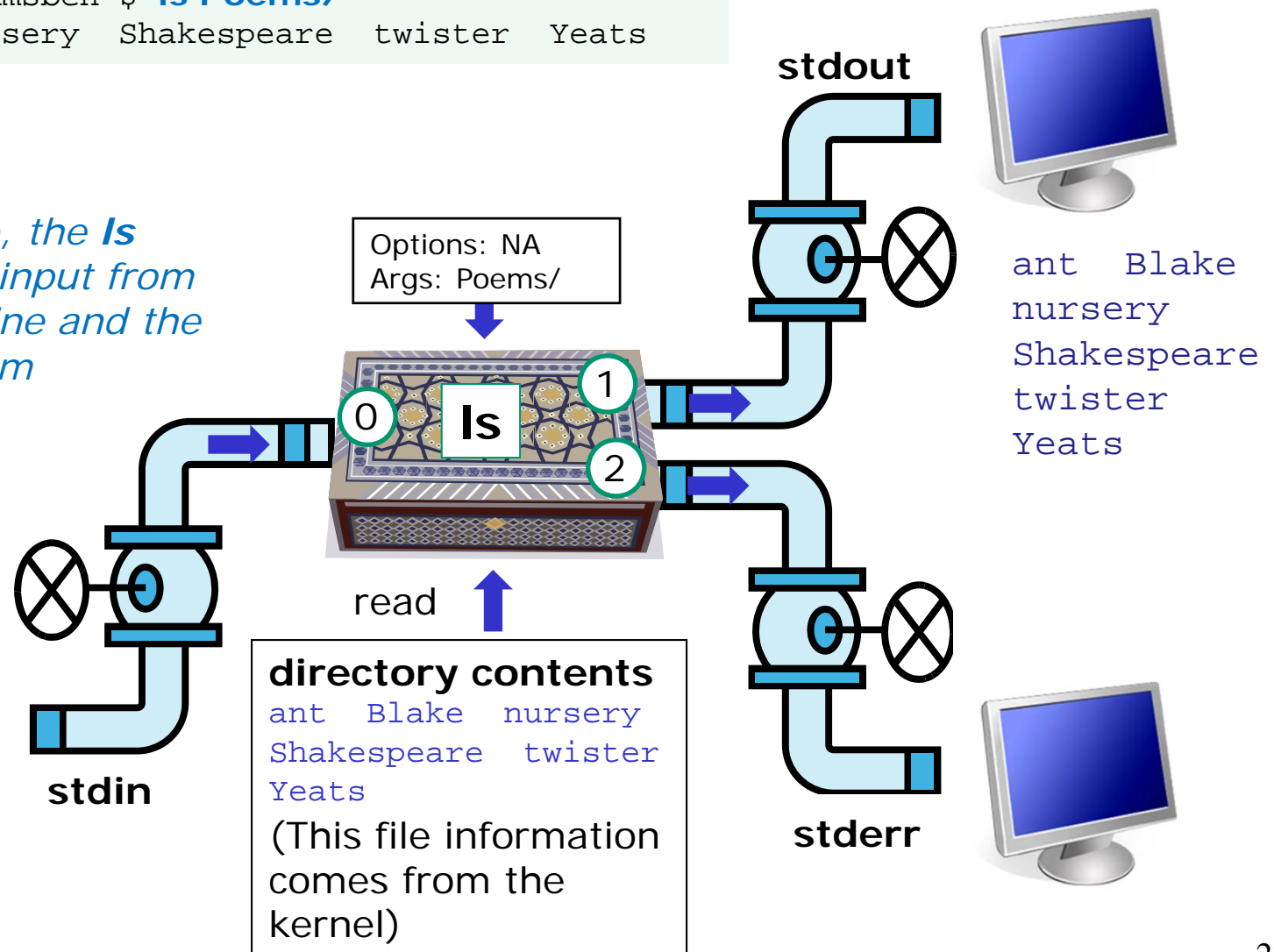
Commands are Programs



Example program to process: ls command

```
/home/cis90/simmsben $ ls Poems/  
ant Blake nursery Shakespeare twister Yeats
```

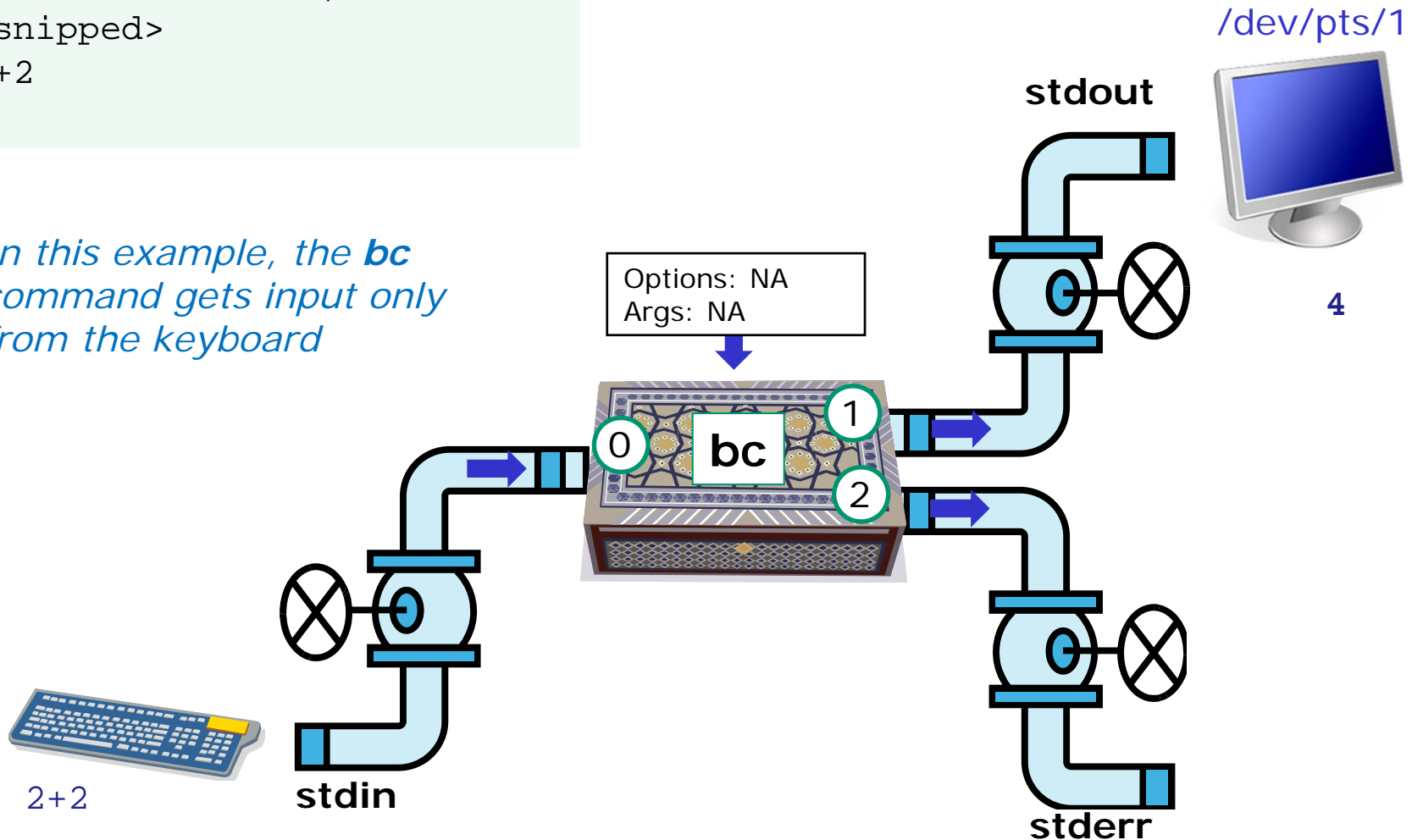
*In this example, the **ls** command gets input from the command line and the operating system*



Example program to process: bc command

```
[rsimms@nosmo ~]$ bc
<snipped>
2+2
4
```

*In this example, the **bc** command gets input only from the keyboard*



Environment Variables Names and Values

Use `$` for the “value” of a variable

Analogy: Each variable is a named location. The contents of any location is the “value” of that variable.

```
$ echo $LOGNAME  
simmsben
```

```
$ echo HOME  
HOME
```

```
$ echo $HOME  
/home/cis90/simmsben
```

```
$ echo $SHELL  
/bin/bash
```

```
$ echo $HOSTNAME  
opus.cabrillo.edu
```



Command Review

bash	banner	cat
	bc	cd
clear	cal	ls
exit	date	pwd
	finger	
file	passwd	
type		
	echo	
history	apropos	
	man	
ps	what	
	is	
id		
tty		
who		
whoami		
uname		

Practice Test Questions

What is your uid (user ID)?

Benji's uid is 1082

```
/home/cis90ol/simmsben $ id  
uid=1082(simmsben) gid=190(cis90ol) groups=100(users),190(cis90ol)  
context=user_u:system_r:unconfined_t  
/home/cis90ol/simmsben $
```

Practice Test Questions

What day of the week was Sept 11, 2001?

It was a Tuesday

```
/home/cis90ol/simmsben $ cal 9 2001
    September 2001
Su Mo Tu We Th Fr Sa
                1
 2  3  4  5  6  7  8
 9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29
30
/home/cis90ol/simmsben $
```


Practice Test Questions

Where (what directory) does the program file for the **ps** command reside?

It's in /bin

```
/home/cis90/simmsben $ type ps
ps is /bin/ps
/home/cis90/simmsben $
```

Practice Test Questions

Parse the following command. How many options and how many arguments does it have?

```
ls -l /boot/grub/
```

One option: l (for long listing)

One argument: /boot/grub (the file named grub in the /boot directory)

Practice Test Questions

Parse the following command. How many options and how many arguments does it have?

```
echo "1 2 3" four 5 six
```

No options

4 arguments:

- *"1 2 3"*
- *Four*
- *5*
- *six*

Practice Test Questions

Which program gave you this error message?

```
/home/cis90/simmsben $ typo history  
-bash: typo: command not found  
/home/cis90/simmsben $
```

It was the bash program. bash is the shell we are using and it could not find a command named typo on the path

Practice Test Questions

Which program gave you this error message?

```
/home/cis90/simmsben $ uname -everything  
uname: invalid option -- e  
Try `uname --help' for more information.  
/home/cis90/simmsben $
```

It was the uname program. The uname program was loaded into memory. It started to handle its options and discovered an unknown option. It printed the error message and aborted.

Practice Test Questions

What terminal device are you using?

Use the tty command to find out:

```
/home/cis90ol/simmsben $ tty  
/dev/pts/2  
/home/cis90ol/simmsben $
```


Practice Test Questions

What type of terminal are you using?

Use the echo \$TERM command to find out:

```
/home/cis90ol/simmsben $ echo $TERM  
xterm  
/home/cis90ol/simmsben $
```

Practice Test Questions

What directories make up your path?

Use echo \$PATH to find out:

```
/home/cis90ol/simmsben $ echo $PATH
```

```
/usr/kerberos/bin:/usr/local/bin:/bin:/usr/bin:/home/cis90  
ol/simmsben/../../bin:/home/cis90ol/simmsben/bin:.
```

/usr/kerberos/bin

/usr/local/bin

/bin

/usr/bin

/home/cis90ol/simmsben/../../bin

/home/cis90ol/simmsben/bin

.

Practice Test Questions

Are the **yum** and **useradd** commands in your path?

```
/home/cis90ol/roddyduk $ type yum useradd  
yum is hashed (/usr/bin/yum)  
-bash: type: useradd: not found  
/home/cis90ol/roddyduk $
```

*Using the **type** command we see **yum** is in the path (in /usr/bin) but **useradd** is not.*

Note: "is hashed" means bash has previously searched the path and run this command. The location of the command has been saved in the hash table to speed up subsequent searches.

Practice Test Questions

Knowing the steps the shell performs, which of the two processes shown below is "taking a nap"?

```
/home/cis90ol/roddyduk $ ps
  PID TTY          TIME CMD
25547 pts/5        00:00:00 bash
26730 pts/5        00:00:00 ps
/home/cis90ol/roddyduk $
```

Shell's steps

- 1) Prompt
- 2) Parse
- 3) Search
- 4) Execute
- 5) Nap
- 6) Repeat

Practice Test Questions

What is the name of the environment variable that defines your prompt?

Its PS1

```
/home/cis90ol $echo $PS1  
$PWD $
```

Practice Test Questions

How do you change the shell prompt to "Enter next command: "
then change it back again?

Set PS1 to new value using "=" sign

```
/home/cis90ol/simmsben $PS1="Enter next command: "  
Enter next command:  
Enter next command: PS1='$PWD $'  
/home/cis90ol/simmsben $
```


Housekeeping

Note: Lab 2 due today

- Use **history -a** before **submit**
- submit as many times as you wish up to midnight
- Use **verify** command (which is a script) to see when and what you submitted.

The last day to add this class was 2/19

Final Roster

25 students in the section (71336)

If in doubt, verify with WebAdviser at:

<http://wave.cabrillo.edu>

Students who are enrolled or added are shown on the next slide



Instructor: **Rich Simms**

Dial-in: **888-450-4821**

Passcode: **761867**



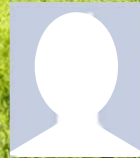
Emanuel



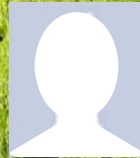
Ken



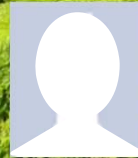
Tanner



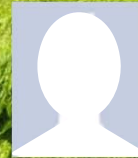
Merrick



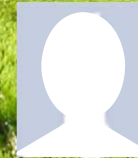
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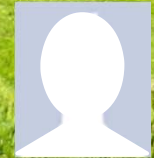
Bobby



Craig



Jeff



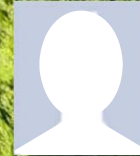
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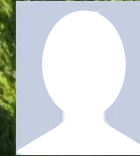
Terence



Greg



Tommy



Eric



Dan M



Geoffrey



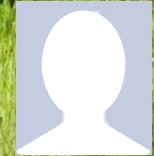
Marisol



David



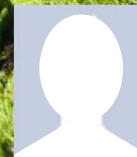
Josh



Leobardo



Gabriel



Jesse



Tajvia



Daniel W



Jason

Email me (risimms@cabrillo.edu) a relatively current photo of your face for 3 points extra credit

Student Surveys

Rich's Cabrillo College CIS Classes
CIS 90 Calendar

Home Resources Forums CIS Lab CTC

CIS 90 (Fall 2010) Course Calendar
[Course Home](#) [Grades](#)
(content subject to change)

Lesson	Date	Topics	Chapter	Due
1	9/1	Class and Linux Overview <ul style="list-style-type: none"> Understand how this course will work High-level overview of computers, operating systems and virtual machines Overview of UNIX/Linux market and architecture Learn first commands and how to navigate between terminals Use a remote Linux server Use Linux running on a local virtual machine Materials <ul style="list-style-type: none"> How this class works (download) Presentation slides (download) Logins Sheet (download) Howto #103: Installing PuTTY (download) Howto #301: Bringing the Eko VM home (download) Assignment: <ul style="list-style-type: none"> Student Survey CCC Confer <ul style="list-style-type: none"> Enter virtual classroom Class archives 	1.1-1.15 (Gillay)	

simms-teach.com/docs/...
simms-teach.com/docs/cis90/cis90survey-form.i

Introduction to UNIX/Linux (CIS 90)
Sprint 2011 - Student Survey

Student Information

- Preferred first name: _____ Last name: _____
- Date: _____ Email address: _____
- Web site, if any: _____
- Grading choice: ☐ pass/no-pass ☐ grade (choose one, you may change your mind later)

Computer Background

- Previous computer classes or training taken: _____
- Work or other experience using computers: _____

Home equipment

- Do you have a computer with at least 2 GB of RAM? ☐ yes ☐ no
- Operating system? ☐ Windows ☐ Mac ☐ Linux
- Internet connection? ☐ none ☐ dial-up ☐ ds/cable

Course Objectives

- What are you hoping to learn in this class? _____
- Other comments or special learning needs? _____

(Please save & email completed survey to risimms@cabrillo.edu)

I'm missing surveys from several students

Please download, fill out, save and email as an attachment to:

risimms@cabrillo.edu

Student Accounts

To see all the CIS 90 online section student accounts, including your own, type the following command on Opus:

ls /home/cis90ol

The typical week

<http://simms-teach.com>

Thursday

"First minute" quiz

Lecture on new lesson material

Class activities

Lab assignments due midnight

Friday

is grading day

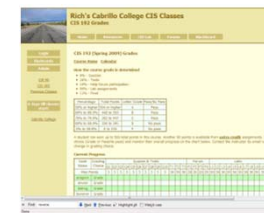
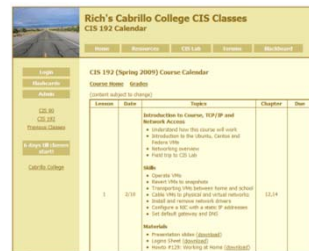
Calendar Page

Check progress
on the Grades
Page

Check Extra Credit Page
if you need some more
points

Use Forum to
ask and answer
questions

Work Lab Assignments
for TBA portion
of class (3 hours 5 min) in
CIS Lab



Lord of the Rings Character Code Names

Current Progress

Code Name	Grading Choice				
		Q1	Q2	Q3	Q4
Max Points		3	3	3	3
aragorn	Grade				
arwen	Grade				
balrog	Grade				
boromir	Grade				
denethor	Grade				
dwalin	Grade				
elrond	Grade				
eomer	Grade				
eowyn	Grade				
faramir	Grade				
frodo	Grade				
galadriel	Grade				
gimli	Grade				
glorfindel	Grade				
ioeth	Grade				
legolas	Grade				
lobelia	Grade				
nazgul	Grade				
pippin	Grade				
saruman	Grade				
sauron	Grade				
theoden	Grade				
treebeard	Grade				

Your grade code names are now available

Email me when if you haven't already to get yours

Graded work is copied to your home directories

```
/home/cis90ol/simmsben $ ls
bigfile  Hidden      Lab2.1      mission     proposal2   spellk      timecal
bin      lab01.graded letter      Poems       proposal3   text.err    what_am_i
empty    Lab2.0      Miscellaneous proposal1    small_town  text.fxd
```

```
/home/cis90/simmsben $ cat lab01.graded
Grading Rubric
```

30 points total. Six points for a successful submittal using Opus and two points for each correct answer.

6 of 6 - successful submittal
24 of 24 - correct answers to questions

Total: 30 points - Great job Benji!

- 1) /home/cis90/guest \$
- 2) shows past commands
- 3) 503
- 4) bash
- 5) /dev/pts/2
- 6) eko
- 7) who
- 8) hostname
- 9) ctrl-alt-f2
- 10) no
- 11) no
- 12) exit

*Log in to Opus using your new Opus account and use the **ls** and **cat** commands to see your graded work*

Answers are posted in answers directory

```
/home/cis90/simmsben $ ls /home/cis90ol/answers/
```

```
lab01
```

```
/home/cis90/simmsben $ cat /home/cis90ol/answers/lab01
```

```
1) /home/cis90/guest $
```

```
2) shows past commands
```

```
3) 503
```

```
4) bash
```

```
5) /dev/pts/2 (or any other /dev/pts/xx device)
```

```
6) eko
```

```
7) who
```

```
8) hostname
```

```
9) ctrl-alt-f2
```

```
10) no
```

```
11) no
```

```
12) exit
```

```
/home/cis90/simmsben $
```


The answers to labs will be posted to the answers directory once the due date has passed.

Extra Credit

[illegible]

*Link to Extra Credit page
is on the Grades page*

Note the caps on extra credit.



Rich's Cabrillo College CIS Classes

CIS 90 Extra Credit

[Home](#)
[Resources](#)
[Forums](#)
[CIS Lab](#)
[CTC](#)

[Login](#)
[Flashcards](#)
[Admin](#)

[CIS 90](#)
[Previous Classes](#)

95 days till term ends!

[Cabrillo College](#)
[Web Advisor](#)
[CCC Confer](#)
[Static IPs](#)
[Quick Ref](#)
[VM Repairs](#)
[GAH!](#)

CIS 90 Extra Credit

[Course Home](#) [Grades](#)

General Options

Any combination of the following can be done to earn extra credit up to the maximum amount shown on the Grades page:

- Web site content review** - The first person to email the instructor pointing out an error or typo on this website will get one point of extra credit per content error found. This includes any errors found on the instructor's downloaded materials that have been covered in class. It does not include lesson PowerPoints or Labs that have not yet been covered in class but are pre-published on the website. **(Up to 20 points total)**
- Develop new Howtos** - Investigate and develop a Howto on a new topic area you are interested in. At the Instructor's discretion and your permission, these Howtos will be published on this web site on the Resources page. Make a proposal first to the instructor on the topic area and to determine the amount of extra credit. Submittals must follow the format of the instructor's Howtos on the Resources web page and be web publishable. **(Up to 20 points per Howto)**
- Optional activities in lab assignments** - Some of the lab assignments will have optional activities that can be worked for extra credit.
- Lab assignments** - Some courses may have one or more extra credit labs. Check the Calendar web page. (Point amount varies)

Extra Credit Howtos



Rich's Cabrillo College CIS Classes Resources

[Home](#)
[Resources](#)
[Forums](#)
[CIS Lab](#)
[CTC](#)

[Login](#)
[Flashcards](#)
[Admin](#)

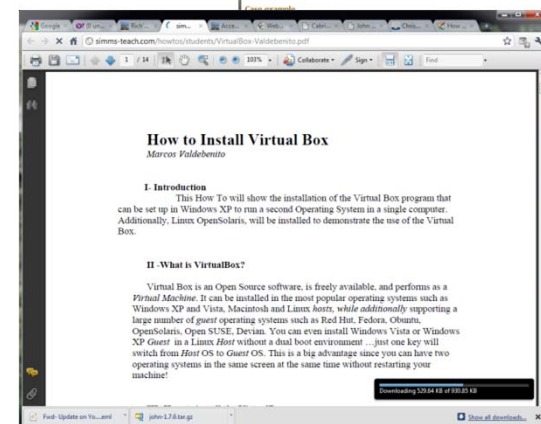
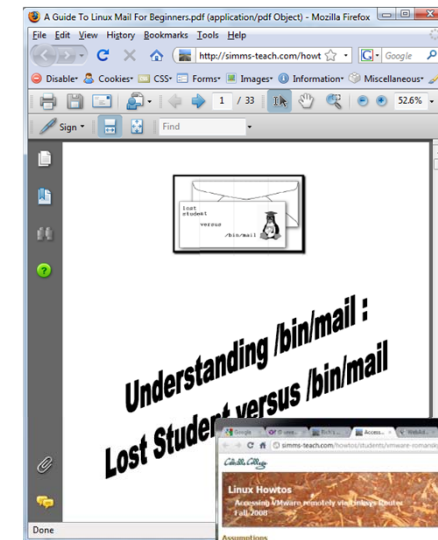
[CIS 90](#)
[CIS 192](#)
[Previous Classes](#)

101 days till term ends!

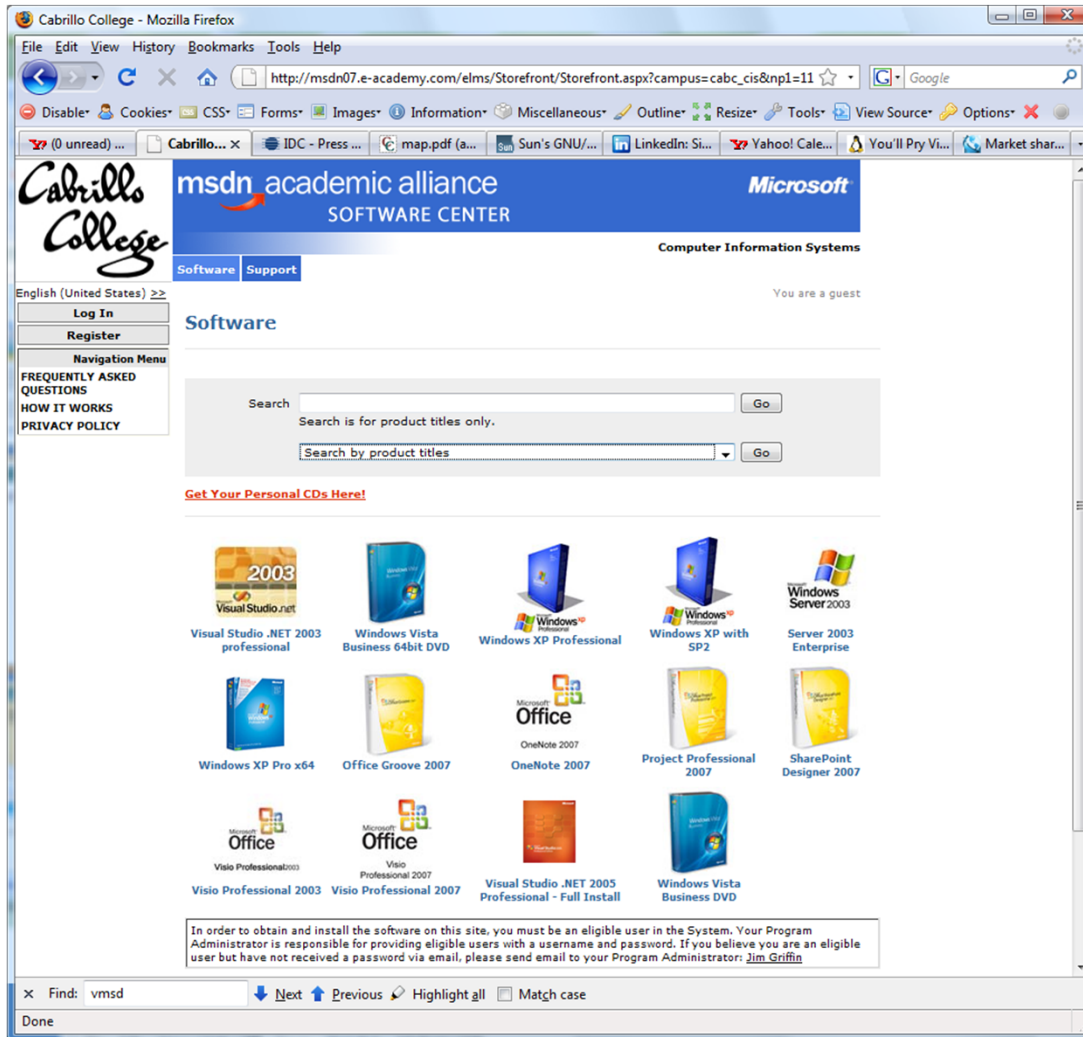
[Cabrillo College](#)
[Static IPs](#)

Links

<h5>Instructors</h5> <ul style="list-style-type: none"> Programming Master Ed Linux Master Jim Web Master John Network Master Gerlinde Network Master Rick <h5>Clubs</h5> <ul style="list-style-type: none"> GNU Linux Users Group <h5>Departments</h5> <ul style="list-style-type: none"> CNSA CIS CS <h5>Crib Sheets</h5> <ul style="list-style-type: none"> Ollie Wright (CIS 90) 	<h5>Getting Linux</h5> <ul style="list-style-type: none"> Linux ISOs Kernels RPMs <h5>Tools and Software</h5> <ul style="list-style-type: none"> Apache Bastille cygwin DIAG diagnostics DOS boot disks John the Ripper MSDN Academic Alliance Netfilter Putty SSH Tools Tripwire VMware Server Wireshark <h5>Standards</h5> <ul style="list-style-type: none"> IETF (RFCs) IEEE 	<h5>Documentation</h5> <ul style="list-style-type: none"> TLDP LINFO Commands Summary vi summary <h5>Howtos</h5> <ul style="list-style-type: none"> email DNS Ethernet (NIC drivers) NIS PPP NFS <h5>Student Howtos</h5> <ul style="list-style-type: none"> Marc Romansky (Accessing VMware remotely via Linksys Router) Marc Romansky (Accessing VMware with PuTTY) Marcos Valdebenito (VirtualBox) Michael Wicherski (Permissions) Michael Wicherski (/bin/mail)
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MSDN Academic Alliance



Your accounts have been created from your email addresses and activated.

Link is on website
Resources page in Tools
and Software section

Happy downloading!

Accounts expire after the
last day of the term

Google (0 unread) Yahoo... Rich's Cabrillo C... WebAdvisor Mai... Cabrillo College... John the Ripper ...

opus.cabrillo.edu/forum/viewforum.php?f=25

phoBB Cabrillo College: Computer and Information Systems

Board
User Co
Moderator

CIS 90

Forum ru
Be nice to

NEWTOPIC

ANNOUNCEM

TOPICS

- Don't forget to register for the forum
- Next week is the 1st five post deadline! (worth 20 points)
- Only your posts in the **CIS 90 (online section)** forum will earn points
- Make your username be your **full first** and **last** name so you get credit for your posts

Email the instructor for username changes or login issues

Watch Star Wars using Telnet

Fwd- Update on Yo...eml john-1.7.6.tar.gz Show all downloads...

Write Command

write command

send a message to another user

write username [ttyname]

- Use **ttyname** only if there are multiple logins by the target username
- The receiver gets:

Message from yourname@yourhost on yourtty at hh:mm ...

- Each line you type gets sent to the other user's terminal
- To end sending messages type Ctrl-D (Hold down Ctrl and tap D key)
 - The receiver will see an EOF (end of file) at the end
- If the receiver wants to reply then they must use the **write** command as well
- Use **mesg n** (to block incoming messages)
- Use **mesg y** (to allow incoming messages)

write command

simmsben writes message to rsimms

```
simmsben@opus:~
/home/cis90/simmsben $ who
simmsben pts/0      2008-07-24 09:42 (dsl-63-249-86-11.cruzio.com)
simmsmar pts/1      2008-07-24 09:38 (dsl-63-249-86-11.cruzio.com)
rsimms    pts/2      2008-07-24 09:49 (dsl-63-249-86-11.cruzio.com)
rsimms    pts/3      2008-07-24 13:09 (dsl-63-249-86-11.cruzio.com)
rsimms    pts/4      2008-07-24 13:10 (dsl-63-249-86-11.cruzio.com)
/home/cis90/simmsben $ write rsimms pts/4
Hola
Bye
Ctrl-D
/home/cis90/simmsben $
```

Note, the pts/4 is only needed if there is more than one login by the target user

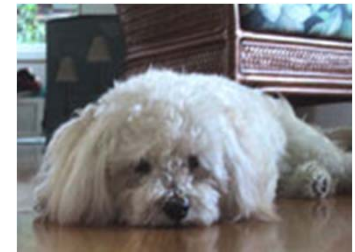
```
rsimms@opus:~
[rsimms@opus ~]$ tty
/dev/pts/4
[rsimms@opus ~]$
Message from simmsben@opus.cabrillo.edu on pts/0 at 13:24 ...
Hola
Bye
EOF
[rsimms@opus ~]$
```

write command

Beji chats with Mary using write commands

```
simmsben@opus:~
/home/cis90/simmsben $ write simmsmar 1
will you play gopher with me? 3
o 5 (a convention, "o" used for over)

Message from simmsmar@opus.cabrillo.edu on pts/1 at 17:19 ... 8
how about in five minutes? 10
o 12
ok, don't take too long or i'll start barking 13
o 15
see you soon bye 18
EOF 20
bye 21 (Ctrl-D) 22
/home/cis90/simmsben
```



simmsben

Use Ctrl-D to stop writing. Ctrl-D is EOF (End of File) and is slightly more friendly than Ctrl-C



simmsmar

```
simmsmar@opus:~
[simmsmar@opus ~]$
Message from simmsben@opus.cabrillo.edu on pts/2 at 17:18 ... 2
will you play gopher with me? 4
o 6
write simmsben 7
how about in five minutes? 9
o 11
ok, don't take too long or i'll start barking 14
o 16
see you soon bye 17 (Ctrl-D) 19
[simmsmar@opus ~]$ bye
EOF 23
[simmsmar@opus ~]$
```

mesg command

enable or disable writes to your terminal

```
simmsmar@opus:~  
[simmsmar@opus ~]$ mesg n  
[simmsmar@opus ~]$
```

Use n to
disable or y to
enable



simmsmar



simmsben

```
simmsben@opus:~  
/home/cis90/simmsben $ write simmsmar  
write: simmsmar has messages disabled  
/home/cis90/simmsben $
```


Class Exercise
write and mesg

- Students, please login to Opus using your own accounts
- Rich, run the pairs script to pair up all the CIS 90 students.
- Students, use the write command to "chat" with your pair mate. e.g. **write *username***
- Students, ask your pair mate for their real name and where they are right now.
- End the chat session with Ctrl-D

Note to Rich:

Run the pairs script in your cis90/misc/uhist directory

Mail Command

Notes to Rich



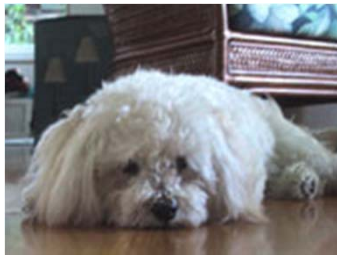
[] - Send out Welcome letter

use mail-welcome script in /cis90/misc/uhist directory

UNIX mail

Sending messages

Benji sends an email to Rich and Mary



simmsben

Use . or
Ctrl-D to
end the
message

```
simmsben@opus:~  
/home/cis90/simmsben $ mail simmsmar richsimms@yahoo.com  
Subject: Salsa on Friday  
See you at the Palomar dance floor. Bring  
your dancing shoes!  
  
- Benji  
.  
Cc:  
/home/cis90/simmsben $
```

Intended recipients

The first prompt is "Subject: ", you enter the subject, then enter the message. The last prompt is "Cc: ". After hitting Enter the message is sent



richsimms@yahoo.com



simmsmar

Tip: cc yourself to save a copy of messages sent

Class Exercise

UNIX mail

- Logon to Opus
- Send me a message and cc: yourself

```
/home/cis90ol/simmsben $ mail rsimms
```

```
Subject: Hello
```

```
This mail program is pretty crazy!
```

```
- Benji
```

```
•
```

```
Cc: simmsben
```

replace this with your own username

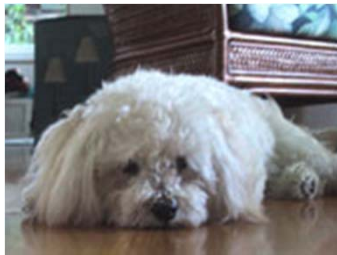
```
You have new mail in /var/spool/mail/simmsben
```

```
/home/cis90ol/simmsben $
```


UNIX mail

Sending messages continued

Benji sends an email to Rich and Mary



simmsben

Use . or
Ctrl-D to
end the
message

```
simmsben@opus:~  
/home/cis90/simmsben $ mail simmsmar richsimms@yahoo.com  
Subject: Salsa on Friday  
See you at the Palomar dance floor. Bring  
your dancing shoes!  
  
- Benji  
.  
Cc:  
/home/cis90/simmsben $
```

Intended recipients

The first prompt is "Subject: ", you enter the subject, then enter the message. The last prompt is "Cc: ". After hitting Enter the message is sent



richsimms@yahoo.com



simmsmar

Tip: cc yourself to save a copy of messages sent

UNIX Mail

Reading messages

Mary reads email from Benji



simmsmar

One message is in the header list (in tray), "N" means New, "1" is the message number

The & is the mail prompt.

Enter a 1 to read message 1

```
simmsmar@opus:~  
You have mail in /var/spool/mail/simmsmar  
[simmsmar@opus ~]$ mail  
Mail version 8.1 6/6/93.  Type ? for help.  
"/var/spool/mail/simmsmar": 1 message 1 new  
>N 1 simmsben@opus.cabrill Wed Jul 23 15:16 19/682 "Salsa on Friday"  
& 1  
Message 1:  
From simmsben@opus.cabrillo.edu Wed Jul 23 15:16:39 2008  
Date: Wed, 23 Jul 2008 15:16:39 -0700  
From: Benji Simms <simmsben@opus.cabrillo.edu>  
To: richsimms@yahoo.com, simmsmar@opus.cabrillo.edu  
Subject: Salsa on Friday  
  
See you at the Palomar dance floor.  Bring  
your dancing shoes!  
  
- Benji  
  
& █
```

UNIX mail

Reading messages sent from UNIX mail

Rich reads email from Benji



richsimms@opus.cabrillo.edu

Benji Simms <simmsben@opus.cabrillo.edu> To: richsimms@yahoo.com; simmsmar@opus.cabrillo.edu

See you at the Palomar dance floor. Bring your dancing shoes!

- Benji

richsimms@yahoo.com

Class Exercise

UNIX mail

- Read your own mail by typing the **mail** command by itself
- Use the **p** command followed by the number of the message to print a message.
 - p 1**
 - p 2**
- Use the **x** command to exit

UNIX Mail

Replying to messages

Mary replies to email from Benji



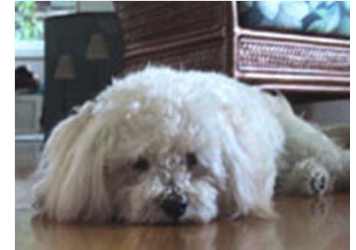
simmsmar

```
simmsmar@opus:~  
& 1  
Message 1:  
From simmsben@opus.cabrillo.edu  Wed Jul 23 15:16:39 2008  
Date: Wed, 23 Jul 2008 15:16:39 -0700  
From: Benji Simms <simmsben@opus.cabrillo.edu>  
To: richsimms@yahoo.com, simmsmar@opus.cabrillo.edu  
Subject: Salsa on Friday  
  
See you at the Palomar dance floor.  Bring  
your dancing shoes!  
  
- Benji  
  
& r  
To: richsimms@yahoo.com simmsmar@opus.cabrillo.edu  
    simmsben@opus.cabrillo.edu  
Subject: Re: Salsa on Friday  
  
I'll see you there!  
  
- Mary  
.  
Cc: richsimms@yahoo.com  
& █
```

Enter an r to
"reply to all"
for the last
message read.
Note if you
don't specify a
message
number mail
will use the
current
message

UNIX Mail

Benji gets the reply from Mary



simmsben

Benji reads reply from Mary

```
simmsben@opus:~  
You have mail in /var/spool/mail/simmsben  
/home/cis90/simmsben $ mail  
Mail version 8.1 6/6/93.  Type ? for help.  
"/var/spool/mail/simmsben": 1 message 1 new  
>N 1 simmsmar@opus.cabrill Wed Jul 23 16:25 19/677 "Re: Salsa on Friday"  
& p 1  
Message 1:  
From simmsmar@opus.cabrillo.edu Wed Jul 23 16:25:51 2008  
Date: Wed, 23 Jul 2008 16:25:51 -0700  
From: Mary Simms <simmsmar@opus.cabrillo.edu>  
To: richsimms@yahoo.com, simmsben@opus.cabrillo.edu,  
simmsmar@opus.cabrillo.edu  
Subject: Re: Salsa on Friday  
  
I'll see you there!  
  
- Mary  
  
&
```

Entering just the message number or a "p" followed by the message number are equivalent. The p is the mail print command.

UNIX Mail

Rich reads reply from Mary



(0 unread) Yahoo! Mail, richsimms - Windows Internet Explorer

http://us.mg2.mail.yahoo.com/dc/launch?rand=etbmjdnr2soqv

File Edit View Favorites Tools Help

Web Search Bookmarks Settings Mail My Yahoo! Answers

Google Unix UNIX Go 0 blocked Check AutoLink AutoFill Send to Unix Settings

YAHOO! MAIL richsimms Offline Sign Out, My Account, Mail Classic

Check Mail New Search Mail... Go

Home Inbox 2772 messages Mobile Options Help

	From	Subject	Date	Size
<input checked="" type="checkbox"/>	Mary Simms	Re: Salsa on Friday	Wed, 7/23/08 4:25 PM	2KB
<input type="checkbox"/>	Benji Simms	Salsa on Friday	Wed, 7/23/08 3:16 PM	1KB
<input type="checkbox"/>	siliconvalleyclub@umich.edu	[siliconvalley-alumni] Ann Arbor Opportunity Night	Wed, 7/23/08 1:21 PM	10KB
<input type="checkbox"/>	Pamela Price	Re: [HPAA onHP] UHS - Ingenix Subrogation Servi	Wed, 7/23/08 9:38 AM	17KB
<input type="checkbox"/>	hp_alumni_jobs@yahooogroups.com	[HPAA Jobs] Digest Number 1951	Wed, 7/23/08 5:30 AM	72KB
<input type="checkbox"/>	Lands' End	Exclusive Outerwear Premiere! Free Shipping, nev	Tue, 7/22/08 7:45 PM	26KB
<input type="checkbox"/>	Kathy Dow	[HPAA onHP] UHS - Ingenix Subrogation Services	Tue, 7/22/08 11:14 AM	20KB
<input type="checkbox"/>	Newegg.com	Go Back to School in High Tech Style with Newegg	Tue, 7/22/08 3:35 AM	27KB
<input type="checkbox"/>	helpdesk@cruzio.com	Cruzio Newsletter #118	Mon, 7/21/08 7:14 PM	17KB
<input type="checkbox"/>	HP Home & Home Office Store	HP EPP Members: Save on the HP Products You W	Mon, 7/21/08 5:18 PM	19KB

Re: Salsa on Friday
Mary Simms <simmsmar@opus.cabrillo.edu> Add To: richsimms@yahoo.com; simmsben@opus.cabrillo.edu; simmsmar@opus.cabrillo.edu

I'll see you there!

- Mary

TODAY: WED, 7/23 No events THU, 7/24 12:00a All HP Options expire 10/13/2008 FRI, 7/25 - SAT, 7/26 No events SUN, 7/27

richsimms@yahoo.com

Class Exercise

UNIX mail

- Send an email to your pair mate and ask them what they think of UNIX mail. Hint: use **mail *username***
- Read your mail and reply to any messages you receive
Hint: run **mail**, type **n** command to read new messages, use **r** command to reply
- Use **x** to exit mail
- Tip: use **ls /home/cis90ol** to see all CIS 90 usernames and send an email to three others student (your choice) all in one message. Hint: use **mail *user1 user2 user3***
- Reply to any emails you get (run **mail** and use **r** command)

More on Mail Command

mail command

read and write modes

Read mode:

- `mail` (to read new messages)
- `mail -f` (to read saved messages in mbox)
- `mail -f myfile` (to read saved messages in myfile)

Write mode:

- `mail simmsben`
- `mail simmsben simmsmar richsimms@yahoo.com`

mail command

read mode sub commands

You are in **read mode** when you invoke mail with no arguments

- ? print these commands
- p <message list> print messages
- n goto and print next message
- e <message list> edit messages
- d <message list> delete messages
- s <message list> file save (append) messages to file
- u <message list> undelete messages
- R <message list> reply to sender(s)
- r <message list> reply to all
- m <user list> mail to specific users
- q quit, saving read messages to local mbox file
- x quit, mark all mail as unread and undeleted.
- h print out active message headers

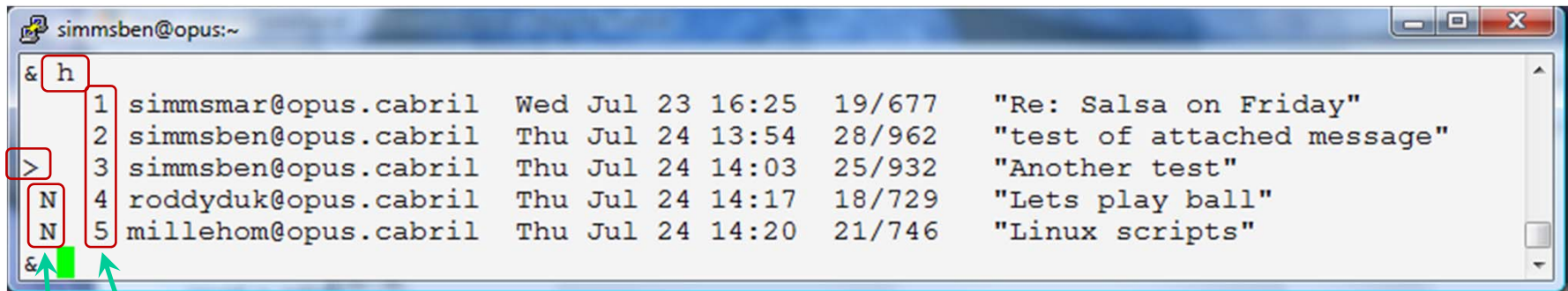
A <message list> consists of integers, ranges of same, or user names separated by spaces. If omitted, Mail uses the current message

A <user list> consists of user names separated by spaces.

mail command

(h)header sub-command

h (print headers – e.g. list my in tray)



```
simmsben@opus:~
& h
1 simmsmar@opus.cabril Wed Jul 23 16:25 19/677 "Re: Salsa on Friday"
2 simmsben@opus.cabril Thu Jul 24 13:54 28/962 "test of attached message"
3 simmsben@opus.cabril Thu Jul 24 14:03 25/932 "Another test"
4 roddyduk@opus.cabril Thu Jul 24 14:17 18/729 "Lets play ball"
5 millehom@opus.cabril Thu Jul 24 14:20 21/746 "Linux scripts"
>
N
N
&
```

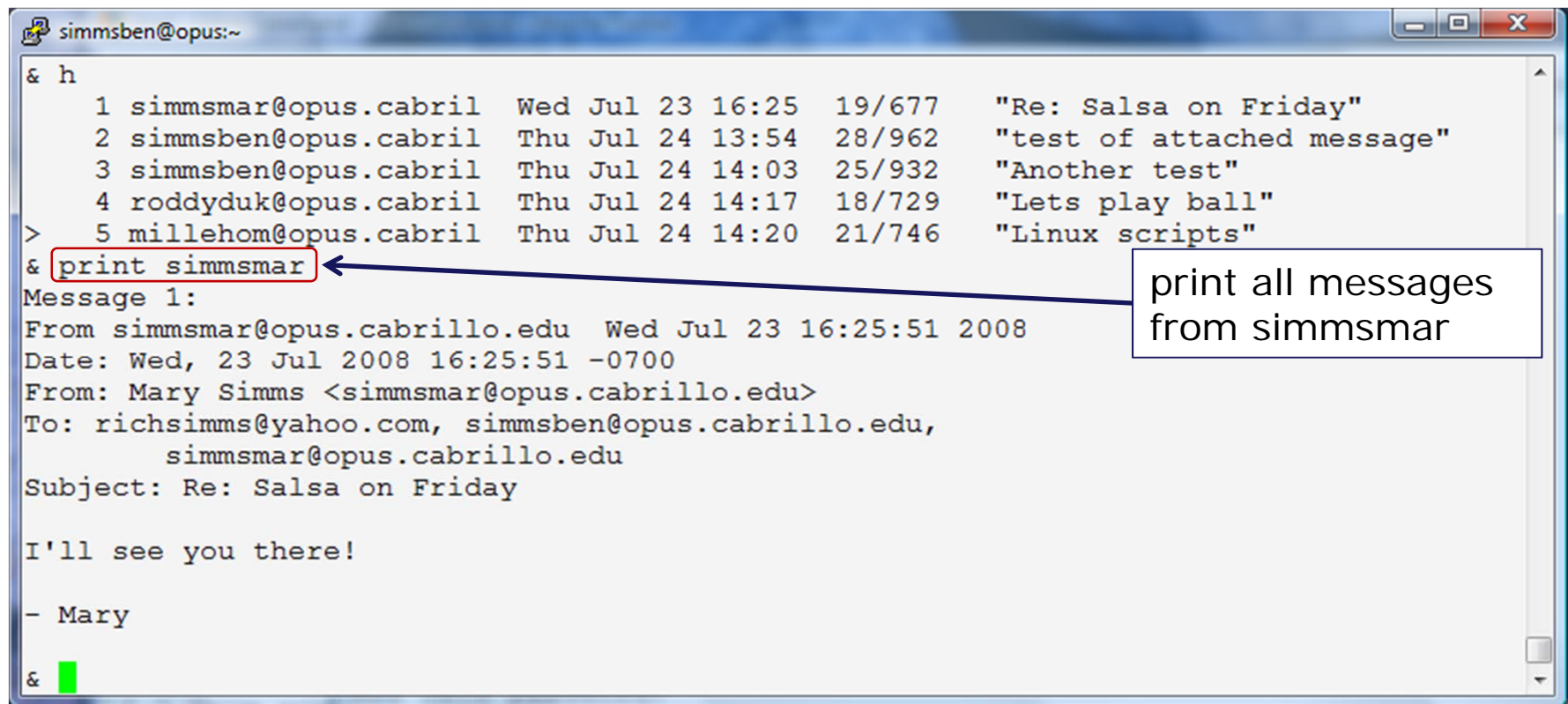
message numbers

N = New, message is unread

> points to the current message (last one printed)

mail command

(p)rint sub-command

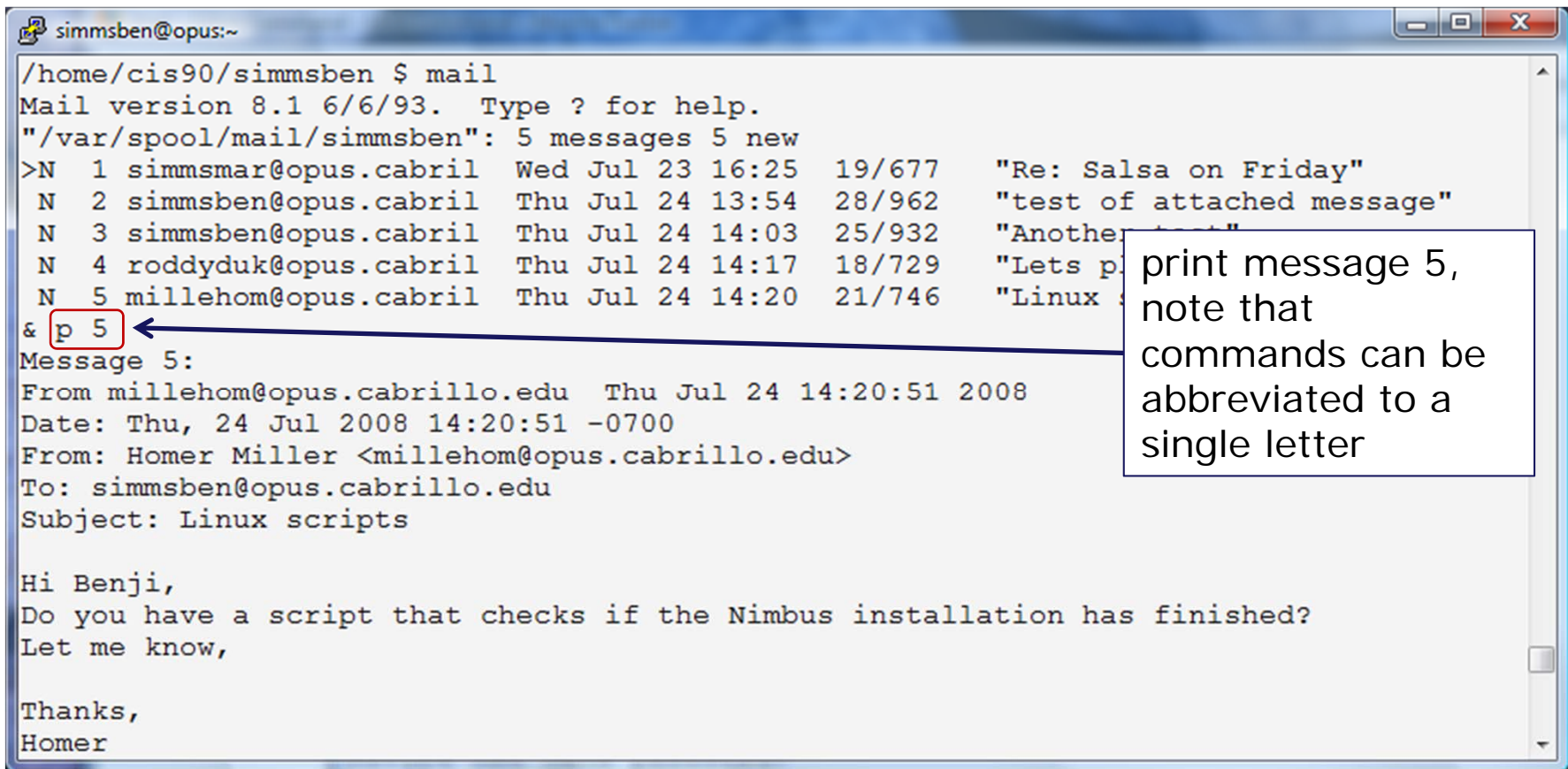


```
simmsben@opus:~  
& h  
  1 simmsmar@opus.cabrill Wed Jul 23 16:25 19/677 "Re: Salsa on Friday"  
  2 simmsben@opus.cabrill Thu Jul 24 13:54 28/962 "test of attached message"  
  3 simmsben@opus.cabrill Thu Jul 24 14:03 25/932 "Another test"  
  4 roddyduk@opus.cabrill Thu Jul 24 14:17 18/729 "Lets play ball"  
>  5 millehom@opus.cabrill Thu Jul 24 14:20 21/746 "Linux scripts"  
& print simmsmar  
Message 1:  
From simmsmar@opus.cabrillo.edu Wed Jul 23 16:25:51 2008  
Date: Wed, 23 Jul 2008 16:25:51 -0700  
From: Mary Simms <simmsmar@opus.cabrillo.edu>  
To: richsimms@yahoo.com, simmsben@opus.cabrillo.edu,  
    simmsmar@opus.cabrillo.edu  
Subject: Re: Salsa on Friday  
  
I'll see you there!  
  
- Mary  
&
```

print all messages
from simmsmar

mail command

(p)rint sub-command



```
simmsben@opus:~  
/home/cis90/simmsben $ mail  
Mail version 8.1 6/6/93.  Type ? for help.  
"/var/spool/mail/simmsben": 5 messages 5 new  
>N 1 simmsmar@opus.cabril  Wed Jul 23 16:25  19/677  "Re: Salsa on Friday"  
N 2 simmsben@opus.cabril  Thu Jul 24 13:54  28/962  "test of attached message"  
N 3 simmsben@opus.cabril  Thu Jul 24 14:03  25/932  "Another test"  
N 4 roddyduk@opus.cabril  Thu Jul 24 14:17  18/729  "Lets p  
N 5 millehom@opus.cabril  Thu Jul 24 14:20  21/746  "Linux s  
& p 5  
Message 5:  
From millehom@opus.cabrillo.edu  Thu Jul 24 14:20:51 2008  
Date: Thu, 24 Jul 2008 14:20:51 -0700  
From: Homer Miller <millehom@opus.cabrillo.edu>  
To: simmsben@opus.cabrillo.edu  
Subject: Linux scripts  
  
Hi Benji,  
Do you have a script that checks if the Nimbus installation has finished?  
Let me know,  
  
Thanks,  
Homer
```


mail command

(p)rint sub-command

```
simmsben@opus:~  
& h  
  1 simmsmar@opus.cabrill Wed Jul 23 16:25 19/677 "Re: Salsa on Friday"  
  2 simmsben@opus.cabrill Thu Jul 24 13:54 28/962 "test of attached message"  
> 3 simmsben@opus.cabrill Thu Jul 24 14:03 25/932 "Another test"  
  N 4 roddyduk@opus.cabrill Thu Jul 24 14:17 18/729 "Lets play ball"  
  N 5 millehom@opus.cabrill Thu Jul 24 14:20 21/746 "Linux scripts"  
& p 4-5  
Message 4:  
From roddyduk@opus.cabrillo.edu Thu Jul 24 14:17:48 2008  
Date: Thu, 24 Jul 2008 14:17:47 -0700  
From: Duke Roddy <roddyduk@opus.cabrillo.edu>  
To: simmsben@opus.cabrillo.edu  
Subject: Lets play ball  
  
Hey, lets meet at Blue Ball Park and bring some tennis balls.  
How about 3 this afternoon?  
-Duke  
  
Message 5:  
From millehom@opus.cabrillo.edu Thu Jul 24 14:20:51 2008  
Date: Thu, 24 Jul 2008 14:20:51 -0700  
From: Homer Miller <millehom@opus.cabrillo.edu>  
To: simmsben@opus.cabrillo.edu  
Subject: Linux scripts  
  
Hi Benji,  
Do you have a script that checks if the Nimbus installation has finished?  
Let me know,  
  
Thanks,  
Homer  
&
```

print messages 4 -5

mail command e(x)it sub-command

```
simmsben@opus:~
& h
  1 simmsmar@opus.cabril Wed Jul 23 16:25 19/677 "Re: Salsa on Friday"
  2 simmsben@opus.cabril Thu Jul 24 13:54 28/962 "test of attached message"
  3 simmsben@opus.cabril Thu Jul 24 14:03 25/932 "Another test"
  4 roddyduk@opus.cabril Thu Jul 24 14:17 18/729 "Lets play ball"
> 5 millehom@opus.cabril Thu Jul 24 14:20 21/746 "Linux scripts"
& x
/home/cis90/simmsben $ mail
Mail version 8.1 6/6/93. Type ? for help.
"/var/spool/mail/simmsben": 5 messages 5 new
>N 1 simmsmar@opus.cabril Wed Jul 23 16:25 19/677 "Re: Salsa on Friday"
  N 2 simmsben@opus.cabril Thu Jul 24 13:54 28/962 "test of attached message"
  N 3 simmsben@opus.cabril Thu Jul 24 14:03 25/932 "Another test"
  N 4 roddyduk@opus.cabril Thu Jul 24 14:17 18/729 "Lets play ball"
  N 5 millehom@opus.cabril Thu Jul 24 14:20 21/746 "Linux scripts"
&
```

x will quit mail. All messages revert back to their original state (unread and undeleted). When you return to mail again all the messages will still be there.

mail command (q)uit sub-command

```
simmsben@opus:~
& h
  1 simmsmar@opus.cabril Wed Jul 23 16:25 19/677 "Re: Salsa on Friday"
  2 simmsben@opus.cabril Thu Jul 24 13:54 28/962 "test of attached message"
  3 simmsben@opus.cabril Thu Jul 24 14:03 25/932 "Another test"
  4 roddyduk@opus.cabril Thu Jul 24 14:17 18/729 "Lets play ball"
>  5 millehom@opus.cabril Thu Jul 24 14:20 21/746 "Linux scripts"
& q
Saved 5 messages in mbox
/home/cis90/simmsben $ mail
No mail for simmsben
/home/cis90/simmsben $ mail -f mbox
Mail version 8.1 6/6/93. Type ? for help.
"mbox": 5 messages
>  1 simmsmar@opus.cabril Wed Jul 23 16:25 20/688 "Re: Salsa on Friday"
  2 simmsben@opus.cabril Thu Jul 24 13:54 29/973 "test of attached message"
  3 simmsben@opus.cabril Thu Jul 24 14:03 26/943 "Another test"
  4 roddyduk@opus.cabril Thu Jul 24 14:17 19/740 "Lets play ball"
  5 millehom@opus.cabril Thu Jul 24 14:20 22/757 "Linux scripts"
&
```

q will quit mail. **All read messages are moved to a local file named mbox.** When you return to mail again those message will not appear. To read your old messages you must specify the mbox file with the *-f* option.

Class Exercise

UNIX mail

- Send your self some test messages with different subjects:

mail \$LOGNAME

mail \$LOGNAME

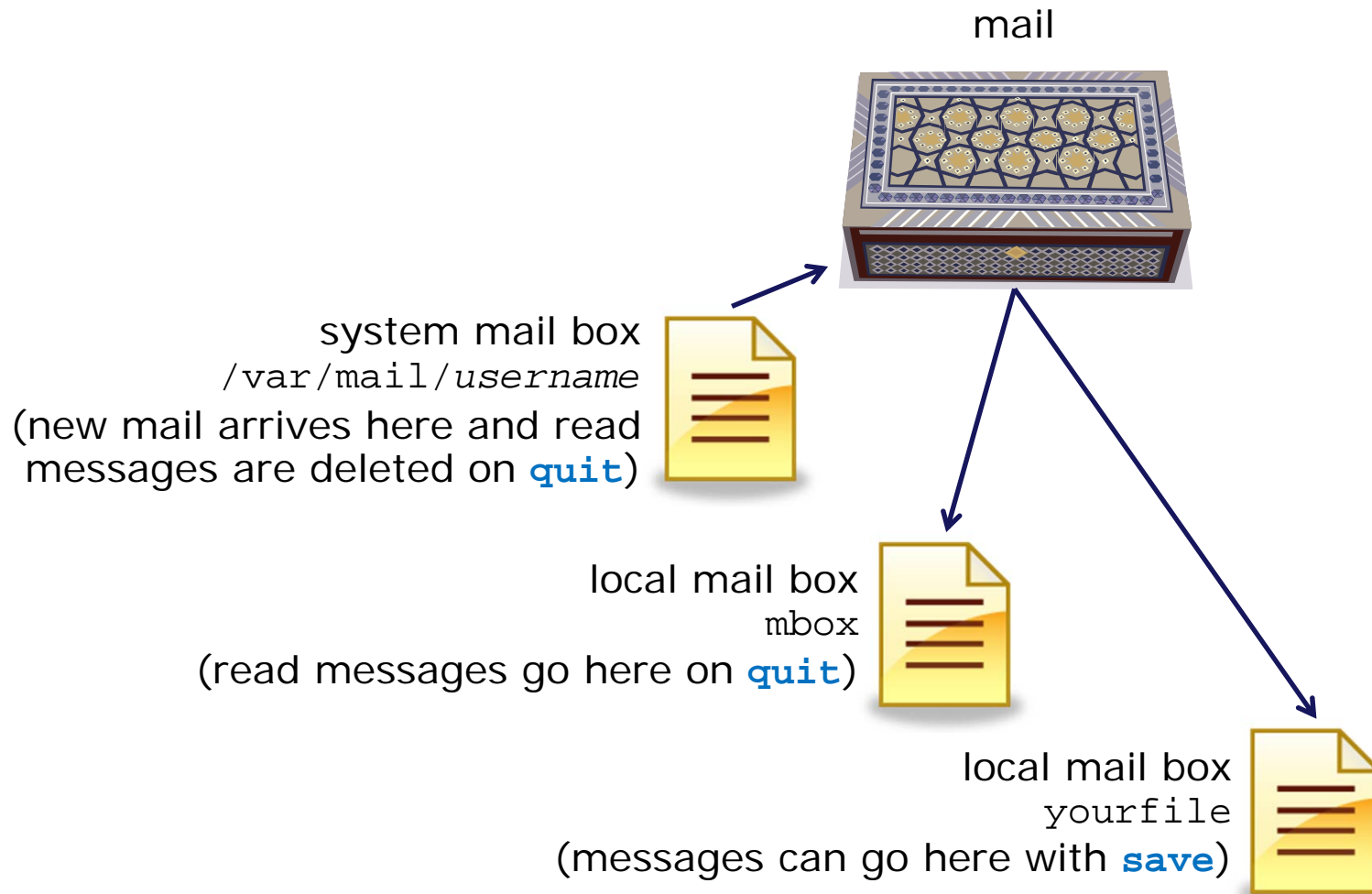
- Now read your mail

mail

- Use the **h** command to list the message headers
- Read all your messages using **p** command
- Use **q** command to quit mail program
- Read your mail again, where did your messages go?
- Use **q** to quit mail
- Read the mail in your mbox file with **mail -f** or **mail -f mbox**
- Use **q** to quit mail

mail command

Various mailbox files



mail command

Various mail examples

```
[rsimms@opus ~]$ mail
Mail version 8.1 6/6/93.  Type ? for help.
"/var/spool/mail/rsimms": 6 messages 6 new
>N 1 jimg@opus.cabrillo.e  Sun Jun 22 13:53  21/826  "Hot days and servers"
  N 2 simmsben@opus.cabril  Thu Jul 24 12:27  16/697  "Nisene Hike"
  N 3 simmsmar@opus.cabril  Thu Jul 24 12:28  18/728  "Don't forget to bring"
  N 4 simmsben@opus.cabril  Thu Jul 24 12:29  17/696  "Bone lost"
  N 5 rsimms@opus.cabrillo  Thu Jul 24 12:33  20/808  "Re: Hot days and serv"
  N 6 roddyduk@opus.cabril  Thu Jul 24 15:41  18/691  "Salsa"
```

*Print 2
messages*

& **p 3-4**

Message 3:

From simmsmar@opus.cabrillo.edu Thu Jul 24 12:28:38 2008
Date: Thu, 24 Jul 2008 12:28:38 -0700
From: Mary Simms <simmsmar@opus.cabrillo.edu>
To: rsimms@opus.cabrillo.edu
Subject: Don't forget to bring pen drive

I need to use it again to back up some files and practice partitioning.
Thanks
Mary

Message 4:

From simmsben@opus.cabrillo.edu Thu Jul 24 12:29:27 2008
Date: Thu, 24 Jul 2008 12:29:27 -0700
From: Benji Simms <simmsben@opus.cabrillo.edu>
To: rsimms@opus.cabrillo.edu
Subject: Bone lost

Did you see that old bone I was chewing? I can't find it anywhere!
- Ben

mail command

Various mail examples

save
message 4
in a file
named
bone

messages 3
and 4 are
read. 4 is
saved (*)

The messages you
read earlier were
put in the file
named mbox

The message you
saved was put in
the file named
bone

```
& s 4 bone
"bone" [New file]
& h
N 1 jimg@opus.cabrillo.e Sun Jun 22 13:53 21/826 "Hot days and servers"
N 2 simmsben@opus.cabril Thu Jul 24 12:27 16/697 "Nisene Hike"
N 3 simmsmar@opus.cabril Thu Jul 24 12:28 18/728 "Don't forget to bring"
>* 4 simmsben@opus.cabril Thu Jul 24 12:29 17/696 "Bone lost"
N 5 rsimms@opus.cabrillo Thu Jul 24 12:33 20/808 "Re: Hot days and serv"
N 6 roddyduk@opus.cabril Thu Jul 24 15:41 18/691 "Salsa"

& q
Saved 1 message in mbox
Held 4 messages in /var/spool/mail/rsimms
[rsimms@opus ~]$ mail
Mail version 8.1 6/6/93. Type ? for help.
"/var/spool/mail/rsimms": 4 messages 4 unread
>U 1 jimg@opus.cabrillo.e Sun Jun 22 13:53 22/836 "Hot days and servers"
U 2 simmsben@opus.cabril Thu Jul 24 12:27 17/707 "Nisene Hike"
U 3 rsimms@opus.cabrillo Thu Jul 24 12:33 21/818 "Re: Hot days and serv"
U 4 roddyduk@opus.cabril Thu Jul 24 15:41 19/701 "Salsa"

& q
Held 4 messages in /var/spool/mail/rsimms
[rsimms@opus ~]$ mail -f mbox
Mail version 8.1 6/6/93. Type ? for help.
"mbox": 1 message
> 1 simmsmar@opus.cabril Thu Jul 24 12:28 19/739 "Don't forget to bring"

& q
[rsimms@opus ~]$ mail -f bone
Mail version 8.1 6/6/93. Type ? for help.
"bone": 1 message 1 new
> 1 simmsben@opus.cabril Thu Jul 24 12:29 18/706 "Bone lost"

& q
"bone" complete
[rsimms@opus ~]$
```


Class Exercise

UNIX mail

- Send yourself several test messages (hint: **mail \$LOGNAME**)
- Run **mail** and read the messages you sent to yourself
- Save the first message to a file named in2011
 - s 1 in2011**
- Use **q** to quit mail
- Use **mail -f** to read messages now in mbox, use **q** to quit
- Use **mail -f mbox** to read messages now in mbox , use **q** to quit
- Use **mail -f in2011** to read messages now in in2011 , use **q** to quit

mail command

(d)elelete and (u)ndelete

```
rsimms@opus:~  
[rsimms@opus ~]$ mail -f mbox  
Mail version 8.1 6/6/93.  Type ? for help.  
"mbox": 4 messages  
>  1 simmsmar@opus.cabril  Thu Jul 24 12:28  19/739  "Don't forget to bring"  
  2 simmsben@opus.cabril  Thu Jul 24 12:27  17/708  "Nisene Hike"  
  3 rsimms@opus.cabrillo  Thu Jul 24 12:33  21/819  "Re: Hot days and serv"  
  4 roddyduk@opus.cabril  Thu Jul 24 15:41  19/702  "Salsa"  
& d 4  
& h  
  1 simmsmar@opus.cabril  Thu Jul 24 12:28  19/739  "Don't forget to bring"  
  2 simmsben@opus.cabril  Thu Jul 24 12:27  17/708  "Nisene Hike"  
>  3 rsimms@opus.cabrillo  Thu Jul 24 12:33  21/819  "Re: Hot days and serv"  
& u 4  
& h  
  1 simmsmar@opus.cabril  Thu Jul 24 12:28  19/739  "Don't forget to bring"  
  2 simmsben@opus.cabril  Thu Jul 24 12:27  17/708  "Nisene Hike"  
  3 rsimms@opus.cabrillo  Thu Jul 24 12:33  21/819  "Re: Hot days and serv"  
>  4 roddyduk@opus.cabril  Thu Jul 24 15:41  19/702  "Salsa"  
&
```

mail command

Copying messages from mbox back to system mail box

```
rsimms@opus:~$ mail
Mail version 8.1 6/6/93.  Type ? for help.
"/var/spool/mail/rsimms": 1 message 1 unread
>U 1 jimg@opus.cabrillo.e  Sun Jun 22 13:53  22/836  "Hot days and servers"
& q
Held 1 message in /var/spool/mail/rsimms
rsimms@opus:~$ mail -f mbox
Mail version 8.1 6/6/93.  Type ? for help.
"mbox": 4 messages
> 1 simmsmar@opus.cabrill  Thu Jul 24 12:28  19/739  "Don't forget to bring"
  2 simmsben@opus.cabrill  Thu Jul 24 12:27  17/708  "Nisene Hike"
  3 rsimms@opus.cabrillo   Thu Jul 24 12:33  21/819  "Re: Hot days and serv"
  4 roddyduk@opus.cabrill  Thu Jul 24 15:41  19/702  "Salsa"
& s 1-4 /var/mail/rsimms
"/var/mail/rsimms" [Appended]
& q
You have new mail in /var/spool/mail/rsimms
rsimms@opus:~$ mail
Mail version 8.1 6/6/93.  Type ? for help.
"/var/spool/mail/rsimms": 5 messages 1 unread
>U 1 jimg@opus.cabrillo.e  Sun Jun 22 13:53  22/836  "Hot days and servers"
  2 simmsmar@opus.cabrill  Thu Jul 24 12:28  19/739  "Don't forget to bring"
  3 simmsben@opus.cabrill  Thu Jul 24 12:27  17/708  "Nisene Hike"
  4 rsimms@opus.cabrillo   Thu Jul 24 12:33  21/819  "Re: Hot days and serv"
  5 roddyduk@opus.cabrill  Thu Jul 24 15:41  19/702  "Salsa"
&
```

mail command

Forwarding a message with ~m

```
rsimms@opus:~$ mail
Mail version 8.1 6/6/93.  Type ? for help.
"/var/spool/mail/rsimms": 5 messages 1 unread
>U  1 jimg@opus.cabrillo.e  Sun Jun 22 13:53  22/836  "Hot days and servers"
    2 simmsmar@opus.cabril  Thu Jul 24 12:28  19/739  "Don't forget to bring"
    3 simmsben@opus.cabril  Thu Jul 24 12:27  17/708  "Nisene Hike"
    4 rsimms@opus.cabrillo  Thu Jul 24 12:33  21/819  "Re: Hot days and serv"
    5 roddyduk@opus.cabril  Thu Jul 24 15:41  19/702  "Salsa"
& m simmsben
Subject: re: Salsa
Hi Benji,

Did you see this:
~m5
Interpolating: 5
(continue)

Later,

- Rich
.
Cc:
&
```

This is how
you forward
message 5

```
simmsben@opus:~$ mail
/home/cis90/simmsben $ mail
Mail version 8.1 6/6/93.  Type ? for help.
"/var/spool/mail/simmsben": 1 message 1 new
>N  1 rsimms@opus.cabrillo  Thu Jul 24 18:51  33/935  "re: Salsa"
& p 1
Message 1:
From rsimms@opus.cabrillo.edu  Thu Jul 24 18:51:55 2008
Date: Thu, 24 Jul 2008 18:51:55 -0700
From: Rich Simms <rsimms@opus.cabrillo.edu>
To: simmsben@opus.cabrillo.edu
Subject: re: Salsa

Hi Benji,

Did you see this:

From roddyduk@opus.cabrillo.edu  Thu Jul 24 15:41:35 2008
Date: Thu, 24 Jul 2008 15:41:35 -0700
From: Duke Roddy <roddyduk@opus.cabrillo.edu>
To: rsimms@opus.cabrillo.edu
Subject: Salsa

You and Elizabeth coming to the Palomar this Friday?
Let me know,
- Duke

Later,

- Rich
&
```

mail command

The mail boxes are all ascii text

```
/home/cis90/simmsben $ cat /var/mail/simmsben
From millehom@opus.cabrillo.edu Thu Jul 24 16:26:56 2008
Return-Path: <millehom@opus.cabrillo.edu>
Received: from opus.cabrillo.edu (opus [127.0.0.1])
    by opus.cabrillo.edu (8.13.8/8.13.8) with ESMTTP id m6ONQuBk016775
    for <simmsben@opus.cabrillo.edu>; Thu, 24 Jul 2008 16:26:56 -0700
Received: (from millehom@localhost)
    by opus.cabrillo.edu (8.13.8/8.13.8/Submit) id m6ONQuqw016774
    for simmsben; Thu, 24 Jul 2008 16:26:56 -0700
Date: Thu, 24 Jul 2008 16:26:56 -0700
From: Homer Miller <millehom@opus.cabrillo.edu>
Message-Id: <200807242326.m6ONQuqw016774@opus.cabrillo.edu>
To: simmsben@opus.cabrillo.edu
Subject: RC4 review
```

Meeting at 4:00 today in Big Sur room. Looks like we have 2 showstoppers and need to rebuild tonight.

Homer

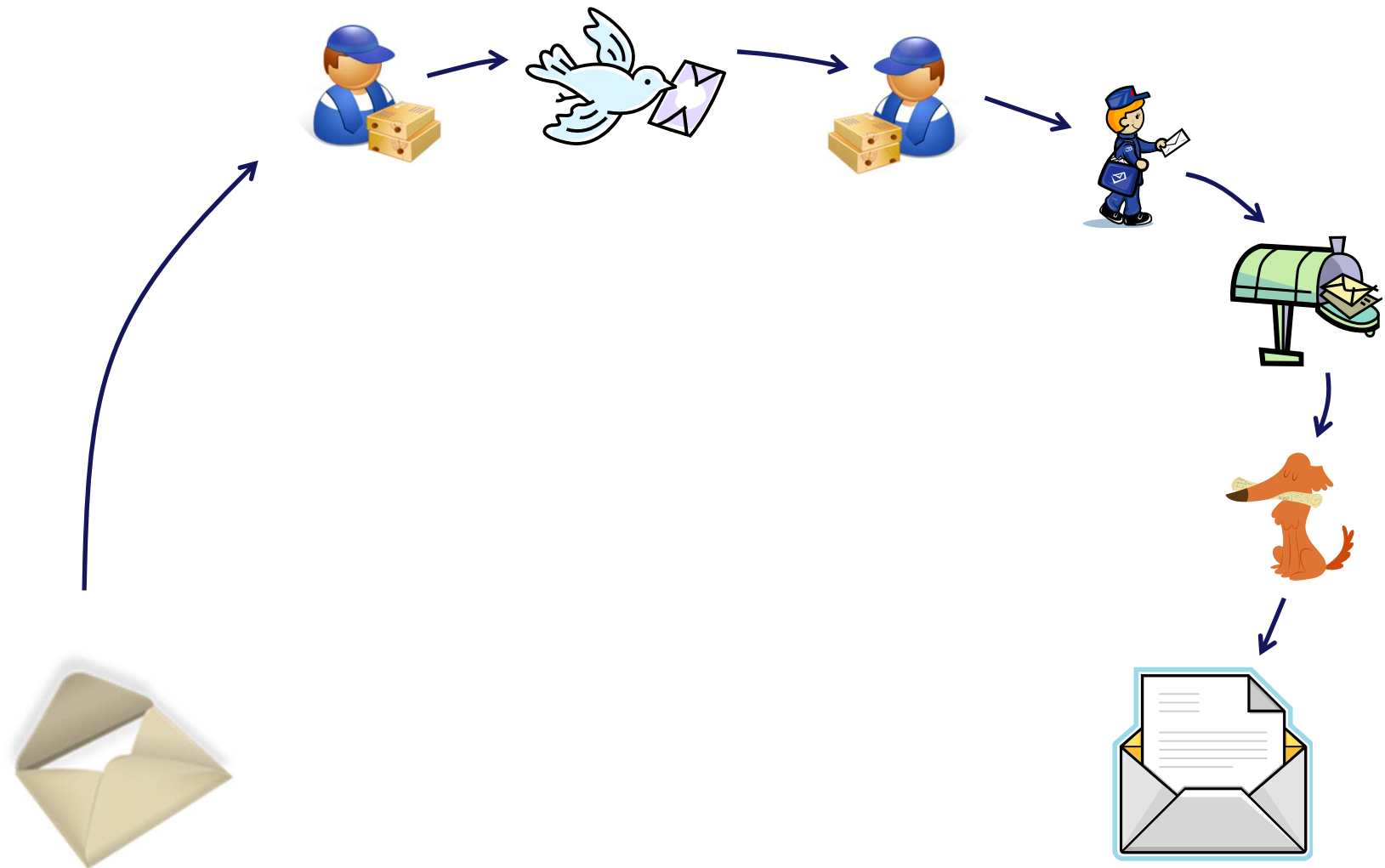
```
/home/cis90/simmsben $ mail
Mail version 8.1 6/6/93. Type ? for help.
"/var/spool/mail/simmsben": 1 message 1 new
>N 1 millehom@opus.cabril Thu Jul 24 16:26 18/741 "RC4 review"
& 1
Message 1:
From millehom@opus.cabrillo.edu Thu Jul 24 16:26:56 2008
Date: Thu, 24 Jul 2008 16:26:56 -0700
From: Homer Miller <millehom@opus.cabrillo.edu>
To: simmsben@opus.cabrillo.edu
Subject: RC4 review
```

Meeting at 4:00 today in Big Sur room. Looks like we have 2 showstoppers and need to rebuild tonight.

Homer

end-to-end email

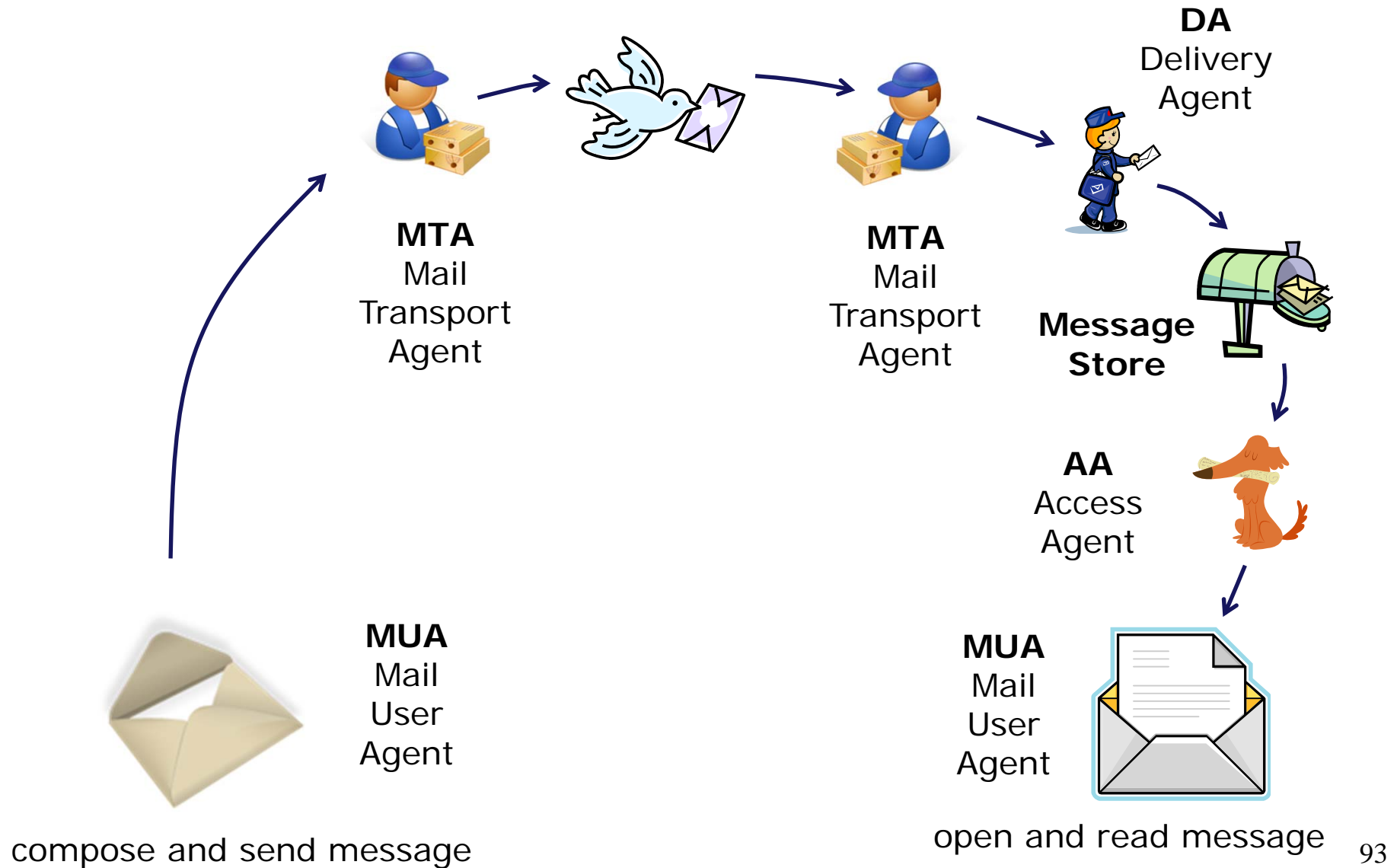
end-to-end email



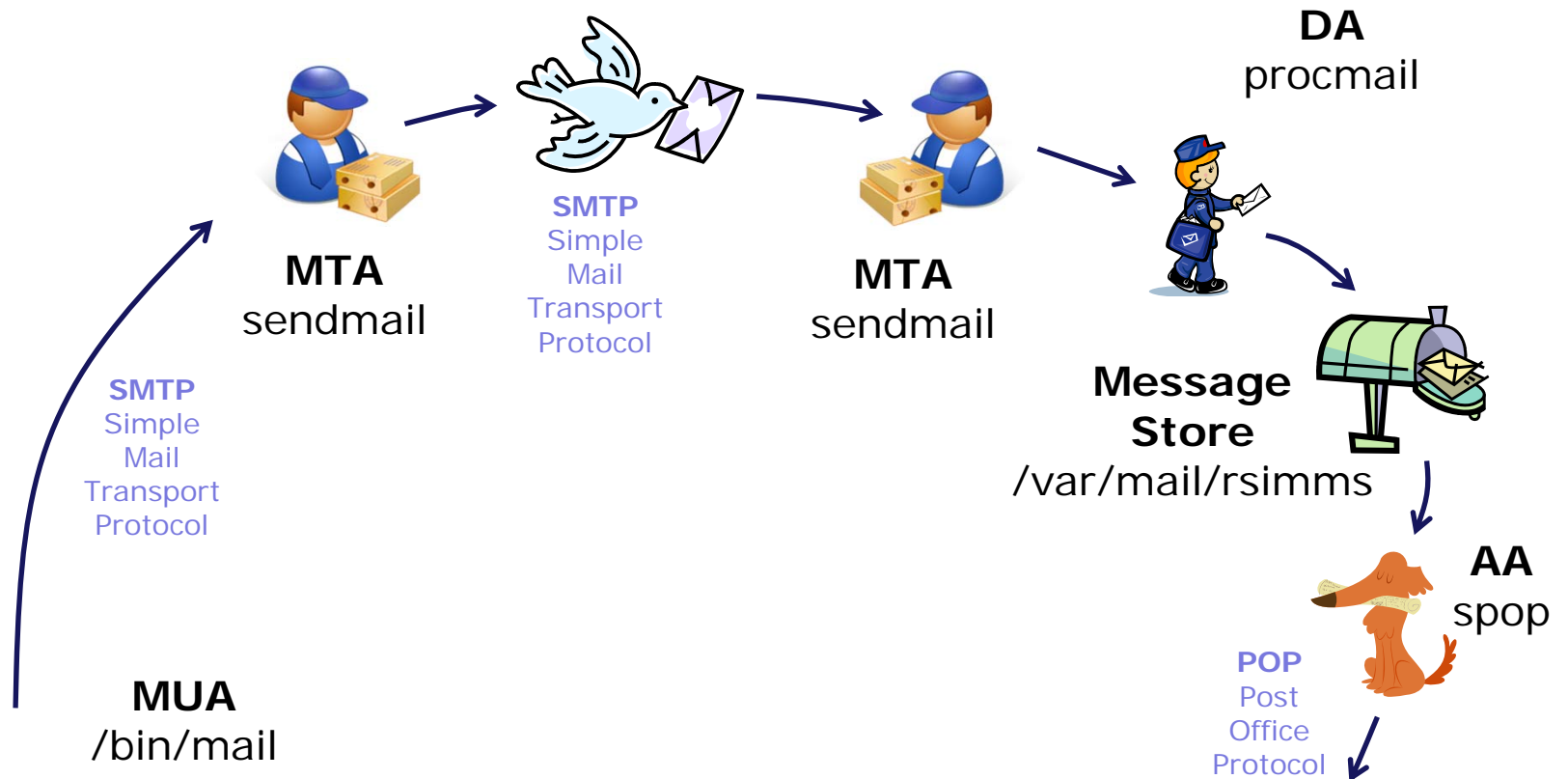
compose and send message

open and read message 92

end-to-end email



end-to-end email: example Implementation

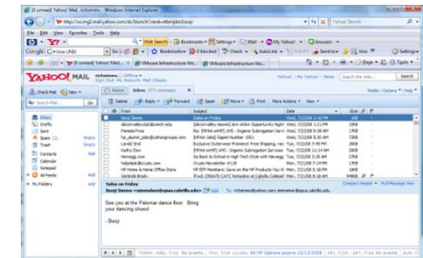


```
simmsben@opus:~
/home/cis90/simmsben $ mail simmsmar richsimms@yahoo.com
Subject: Salsa on Friday
See you at the Palomar dance floor. Bring
your dancing shoes!

- Benji
.
Cc:
/home/cis90/simmsben $
```

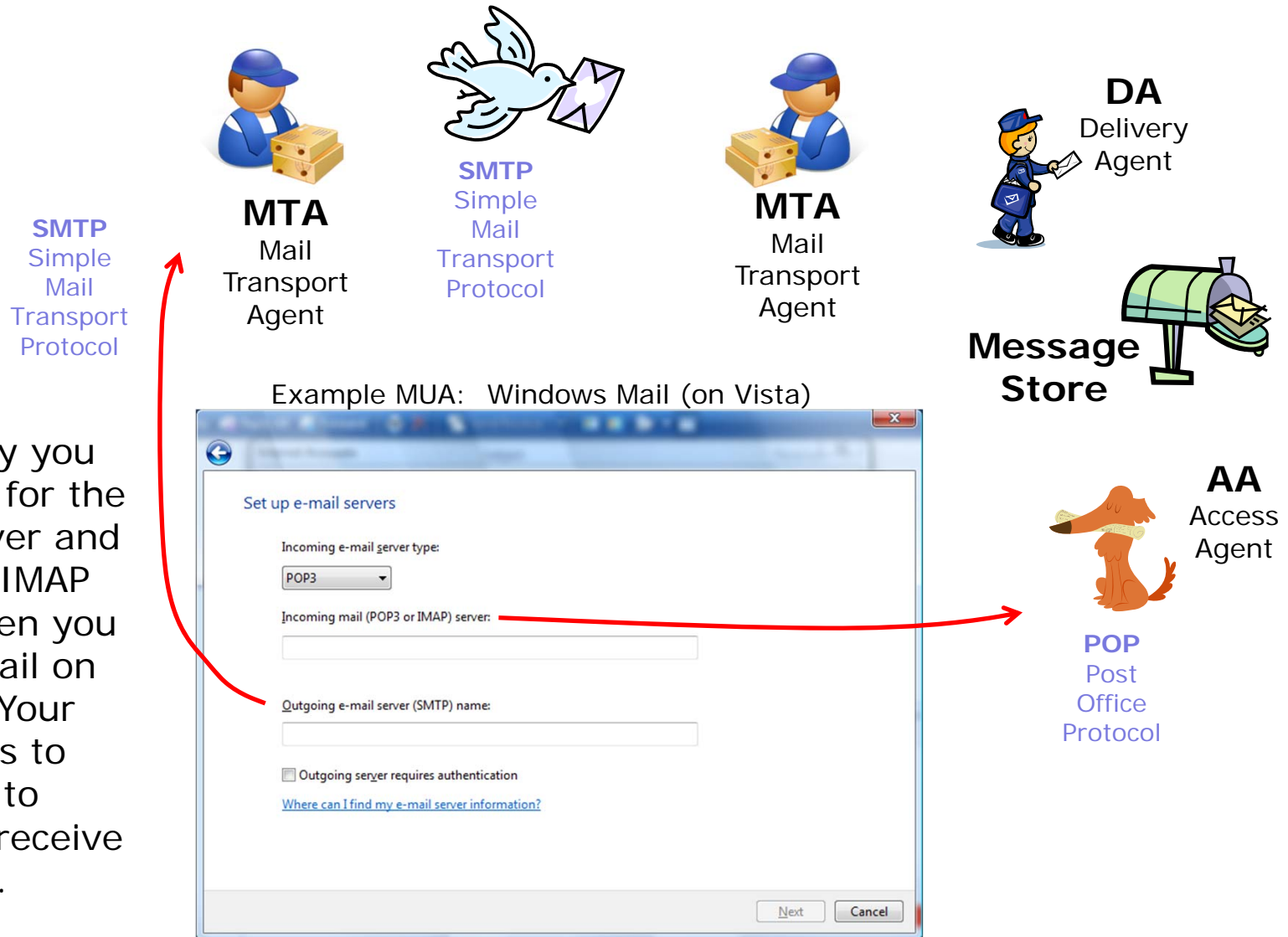
compose and send message

MUA
Yahoo
Mail



open and read message 94

end-to-end email: configuring your MUA (Mail User Agent)



This is why you get asked for the SMTP server and the POP3/IMAP server when you set up email on your PC. Your MUA needs to know this to send and receive messages.

Other MUAs

MTAs, DAs,

AAs

end-to-end email

some of the many players

MTA



sendmail, Exim, Microsoft Exchange Server, Postfix

DA



/bin/mail, procmail, smrsh

AA



imapd, spop

MUA



/bin/mail, pine, elm, Outlook, gmail, Evolution, Yahoo Mail

Lab 3

Notes to Rich



[] - Send out UNIX historical events for Lab 3
use mail-lab03 script in /cis90/misc/uhist directory

Procedure

Log on to Opus so that you have a command line shell at your service. Be sure you are in your home directory to start this lab.

You will receive another mail message from me that describes a UNIX historical event for a particular year from 1968 to 2003. Save this message to a mailbox called uhistory. Then send email to your other classmates asking them to send you any other dates that they may have received. Each time you get UNIX event that you haven't already saved, save it to your uhistory mailbox. See how many dates you can accumulate. Can you get all 18? When someone asks you for the date that you received, you have to send it to them with the subject of date (YYYY).

When you get all the UNIX event messages saved in your uhistory mailbox you should have up to 18 messages, each with a different date for the Subject field. Delete any duplicate dates you may have.

Tip: To list all the usernames in our class you can use the **ls /home/cis90ol** command. Each student has a home directory that matches his or her username.

Submit this lab

When you have acquired at least 15 UNIX historical events, you can submit your uhistory mailbox by entering the **submit** command. When asked for which lab, enter 3.

Grading Rubric

Each complete event in your collection is worth 2 points. If you don't remove duplicates you will lose 2 points. For extra credit, collect all 18 (2 points for each additional event).

Lab 3 (and all future labs) must be done on Opus

Tips for Lab 3

Start this lab early in the week and check your mail daily to collect all messages

- Use the **s** command in mail to save a message to your uhistory file
- Check your mbox file (**mail -f**) if you think you have lost a message
- use **mail -f uhistory** to review your collection
- Use the **d** command in mail to delete duplicates in your uhistory file

Lab 3 (and all future labs) must be done on Opus

Wrap up

New commands:

mail

?	print these commands
p <message list>	print messages
n	goto and print next message
e <message list>	edit messages
d <message list>	delete messages
s <message list> file	save (append) messages to file
u <message list>	undelete messages
R <message list>	reply to sender(s)
r <message list>	reply to all
m <user list>	mail to specific users
q	quit, saving read messages to local mbox file
x	quit, mark all mail as unread and undeleted.
h	print out active message headers

mesg

write

- UNIX mail

- Enable or disable writes to your terminal
- Write message to another user

New Files and Directories:

/var/mail

/var/mail/*username*

mbox

- Message store for mail
- Incoming mailbox for *username*
- File in users home directory where read messages are archived to

Next Class

Assignment: Check Calendar Page on web site to see what is due next week.

**1st 5 forum posts
and Lab 3**

Quiz questions for next class:

- What command can you use to "chat" with another user?
- How do you forward a message with /bin/mail?
- With /bin/mail, where do all messages that have been read go after using the quit command?

Backup

Variable Names and Values

Analogy: knobs and settings

*Users can create their own variables,
lets make a new one called FAN*



```
$ echo $FAN
```

```
$ FAN=HI
```

```
$ echo $FAN
```

```
HI
```

```
$ echo "The fan is set to: " $FAN
```

```
The fan is set to: HI
```

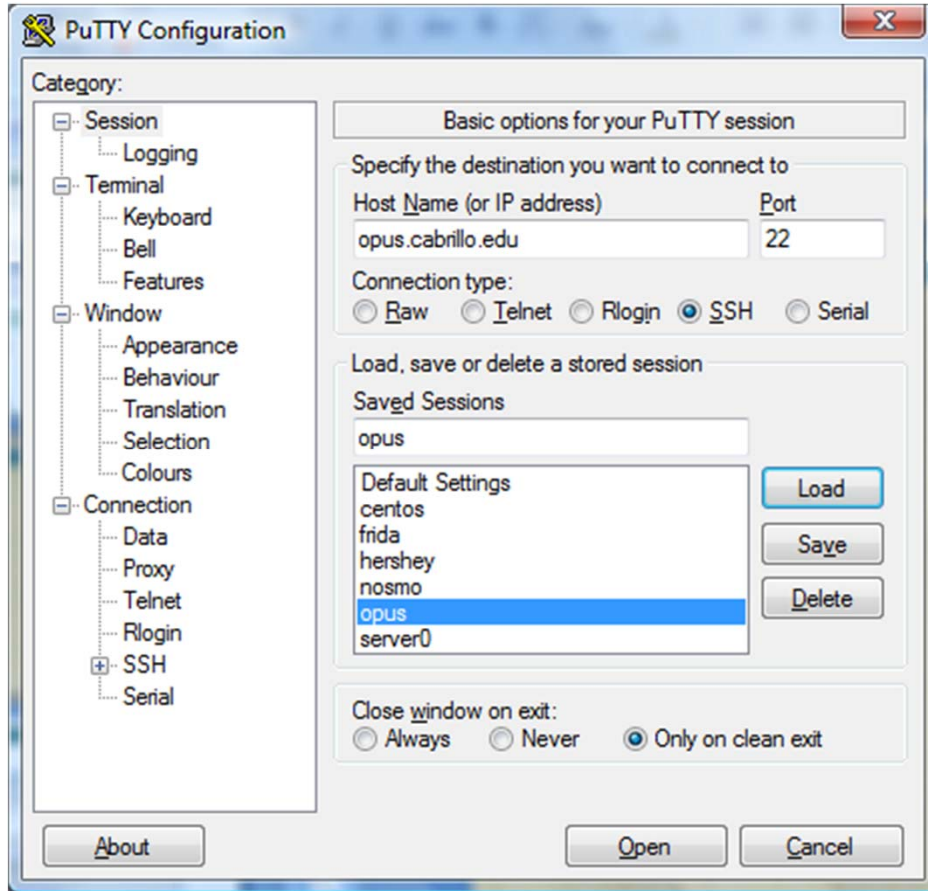
```
$ FAN=LO
```

```
$ echo "The fan is set to: " $FAN
```

```
The fan is set to: LO
```



Opus Accounts



*First 5 letters
of last name*

*First 3 letters
of first name*

username: 11111fff
password: 11111fff1

The digit 1 (one)

*Email the instructor if you
need your password reset*

*Note: If you didn't submit Lab 1, then it was done for you
so you would have an account for today's class*