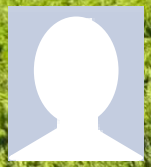
Lesson Module Checklist
- Slides -
- Properties -
- Flash cards -
- First minute quiz -
- Web calendar summary -
- Web book pages -
- Commands -

- Practice test uploaded -
- CCC Confer wall paper -
- Materials uploaded -
- Backup headset charged -
- Backup slides, CCC info, handouts on flash drive -

CIS 90 - Lesson 11

Instructor: **Rich Simms**
Dial-in: **888-450-4821**
Passcode: **761867**

Sean C.

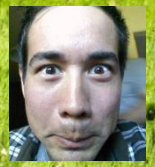

Don

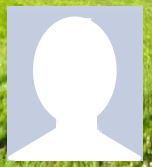
Carlile

Andrew

Sean Fa.

Carter


Sean Fy.


Dajan

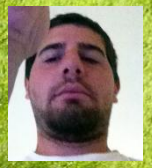
Bryn

Rita

Kelly

Ben

Ray


Michael

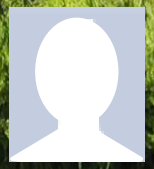
Evan

Josh

Carlos

Gustavo

Jessica


Evie

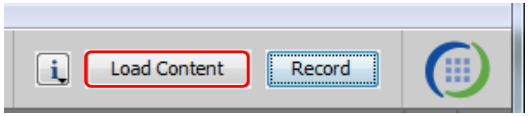
Jacob

Humberto

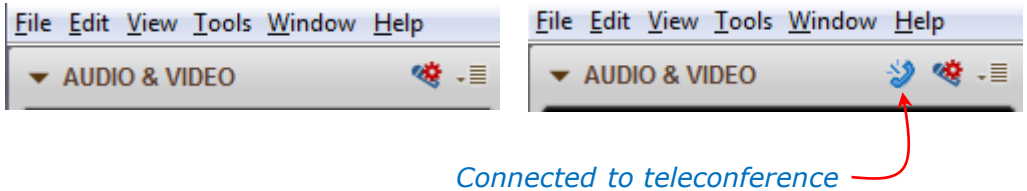
Chad

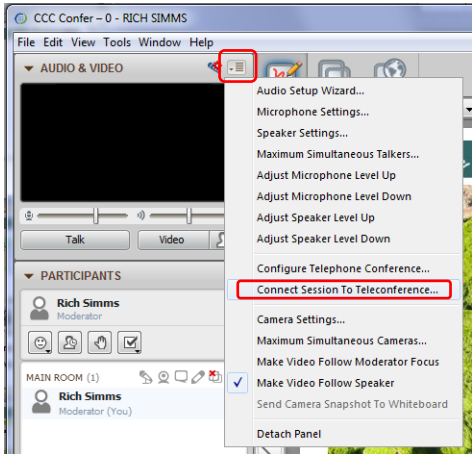
Email me (risimms@cabrillo.edu) a relatively current photo of your face for 3 points extra credit

[ ] Load White Board with *cis*lesson??*-WB*

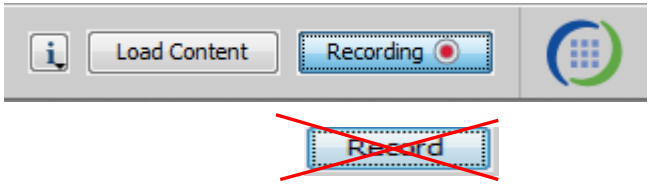


[ ] Connect session to Teleconference





[ ] Is recording on?

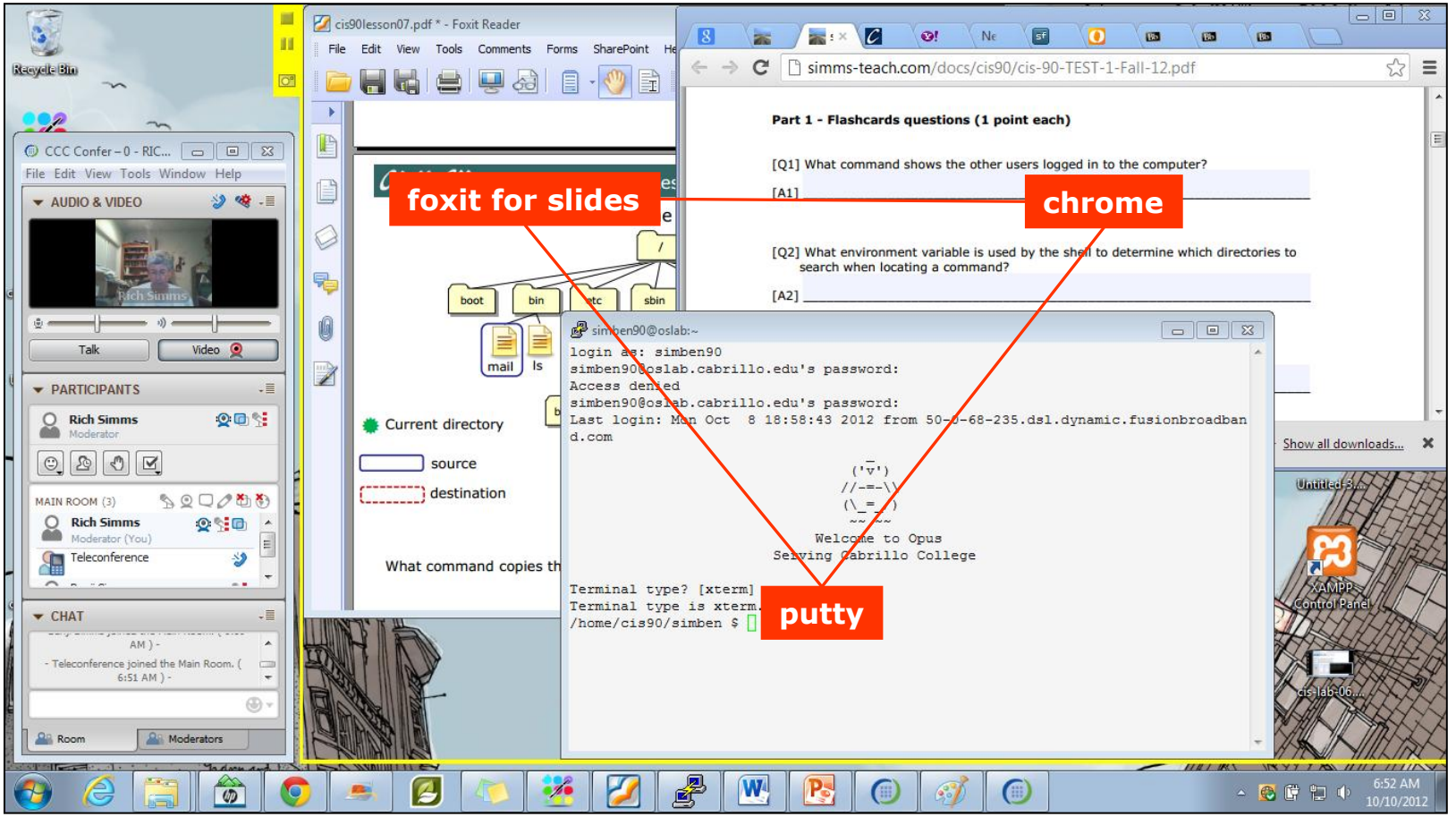


[ ] Toggle Talk button to not use Mic

CCC Confer

[ ] Video (webcam) optional

[ ] layout and share apps



Quiz

No Quiz Today !

File Transfer and Review

Objectives	Agenda
• Transfer project files to Windows and Linux systems • Prepare for final exam	• No Quiz • Questions from last week • File transfer continued • Practice Test #3 • Project Workshop (optional)

Previous material and assignment

1. Questions?

Housekeeping

Due 11:59 PM tonight:

- Final Project submittal

Due 11:59 PM Dec 12:

- Five forum posts
- Extra credit labs

Next week is **Cabrillo Finals Week**

- Our final exam is Test #3 (30 points)
- Time: 1:00PM - 3:50PM
- Date: Wed Dec 12
- Place: Room 2501

The final exam:
- *must be taken in Room 2501 (no CCC Confer)*
- *it must be submitted on Opus by the end of the exam period (no grace extension period)*
- *no makeups*

Points earned to date:

anborn: 72% (328 of 450 points)
arador: 59% (268 of 450 points)
aragorn: 73% (331 of 450 points)
balrog: 55% (250 of 450 points)
bombadil: 92% (415 of 450 points)
boromir: 71% (320 of 450 points)
celeborn: 116% (526 of 450 points)
dori: 57% (259 of 450 points)
elrond: 70% (317 of 450 points)
eomer: 83% (377 of 450 points)
gimli: 27% (125 of 450 points)
goldberry: 65% (296 of 450 points)
huan: 104% (472 of 450 points)
ingold: 97% (438 of 450 points)
marhari: 63% (285 of 450 points)
pallando: 75% (340 of 450 points)
samwise: 74% (336 of 450 points)
saruman: 98% (441 of 450 points)
sauron: 110% (496 of 450 points)
shadowfax: 103% (467 of 450 points)
smeagol: 96% (435 of 450 points)
theoden: 94% (423 of 450 points)
tulkas: 90% (408 of 450 points)

Remaining points to earn:

Forum-4	20
Test-3	30
Project	60
Extra credit	0-90

Percentage	Total Points	Letter Grade	Pass/No Pass
90% or higher	504 or higher	A	Pass
80% to 89.9%	448 to 503	B	Pass
70% to 79.9%	392 to 447	C	Pass
60% to 69.9%	336 to 391	D	No pass
0% to 59.9%	0 to 335	F	No pass

Contact the instructor if you have questions

Possible Points	Requirements
30	Implementing all five tasks (6 points each): • Requirements for each task: – Minimum of 10 "original" script command lines – Has one or more non-generic comments to explain what it is doing – Has user interaction
25	You don't have to do all of these but do at least five: • Redirecting stdin (5 points) • Redirecting stdout (5 points) • Redirecting stderr (5 points) • Use of permissions (5 points) • Use of filename expansion characters (5 points) • Use of absolute path (5 points) • Use of relative path (5 points) • Use of a PID (5 points) • Use of inodes (5 points) • Use of links (5 points) • Use of scheduling (5 points) • Use of a GID or group (5 points) • Use of a UID or user (5 points) • Use of a /dev/tty device (5 points) • Use of a signal (5 points) • Use of piping (5 points) • Use of an environment variable (5 points) • Use of /bin/mail (5 points) • Use of a conditional (5 points) The maximum for this section is 25 points.
5	Present your script to the class
Points lost	
-15	Fails to run from **allscripts**
-15	Other students in the class are unable to read and execute your script.
-15	Error messages are displayed when running one or more tasks
-up to 90	No credit for any task which contains unoriginal script code that: • Doesn't give full credit to the original author • Doesn't indicate where the code was obtained from • Doesn't include licensing terms • Violates copyright or licensing terms
Extra credit	
30	Up to three additional tasks (10 points each)

This is how the final project will be graded

Project status

rsimms@oslab:~

```
[rsimms@oslab ~]$ date
Sun Dec  2 10:17:10 PST 2012
[rsimms@oslab ~]$ /home/cis90/bin/checkmyscripts
Sean       -rwxr-xr-x. 1 calsea90 cis90 953 Nov 30 16:36 calsea/bin/myscript
Don        -rwxr-xr-x. 1 davdon90 cis90 1140 Nov 29 14:18 davdon/bin/myscript
Carlile    -rwxr-x---. 1 ellcar90 cis90 783 Dec  1 21:25 ellcar/bin/myscript
Andrew     -rwxr-xr-x. 1 evaand90 cis90 1731 Nov 30 10:58 evaand/bin/myscript
Shahram    -rwxr-xr-x. 1 farsha90 cis90 810 Nov 28 13:56 farsha/bin/myscript
Carter     -rwxr-xr-x. 1 frocar90 cis90 714 Nov 28 14:39 frocar/bin/myscript
Sean       -rwxrwxrwx. 1 fyosea90 cis90 453 Nov 28 11:01 fyosea/bin/myscript
Dajan      -rwxr-xr-x. 1 hendaj90 cis90 1198 Nov 24 16:41 hendaj/bin/myscript
Bryn       -rwxrwxr-x. 1 kanbry90 cis90 5052 Nov 30 16:22 kanbry/bin/myscript
Rita       -rwxrwxr-x. 1 kenrit90 cis90 829 Nov 28 21:06 kenrit/bin/myscript
Kelly      -rwxr-xr-x. 1 libkel90 cis90 1300 Nov 28 16:30 libkel/bin/myscript
Ben        -rwxr-x---. 1 lyoben90 cis90 948 Nov 19 15:31 lyoben/bin/myscript
Ray        -rwxr-xr-x. 1 marray90 cis90 2667 Nov 28 14:47 marray/bin/myscript
Chad       -rwxr-xr-x. 1 mescha90 cis90 1709 Dec  1 17:14 mescha/bin/myscript
Michael    -rwxr-xr-x. 1 mesmic90 cis90 546 Nov 28 13:36 mesmic/bin/myscript
Homer      -rwxr-x--x. 1 milhom90 cis90 4500 Nov 27 13:23 milhom/bin/myscript
Evan       ls: cannot access noreva/bin/myscript: Permission denied
Josh       ls: cannot access potjos/bin/myscript: No such file or directory
Carlos     ls: cannot access ramcar/bin/myscript: Permission denied
Gustavo    -rwxr-x--x. 1 ramgus90 cis90 720 Nov 20 18:11 ramgus/bin/myscript
Jessica    ls: cannot access rawjes/bin/myscript: No such file or directory
Duke       -rwxr-xr-x. 1 rodduk90 cis90 1155 Nov 27 18:19 rodduk/bin/myscript
Benji      -rwxr-xr-x. 1 simben90 cis90 10489 Nov 10 15:23 simben/bin/myscript
Evie       -rwxr-x---. 1 verevi90 cis90 1153 Dec  2 10:14 verevi/bin/myscript
Jacob      ls: cannot access wiljac/bin/myscript: No such file or directory
Humberto   ls: cannot access zamhum/bin/myscript: Permission denied
[rsimms@oslab ~]$
```

Additional Cabrillo College Linux courses:

CIS 98 - Linux/UNIX Shell Programming

CIS 191 - Linux/UNIX System Administration

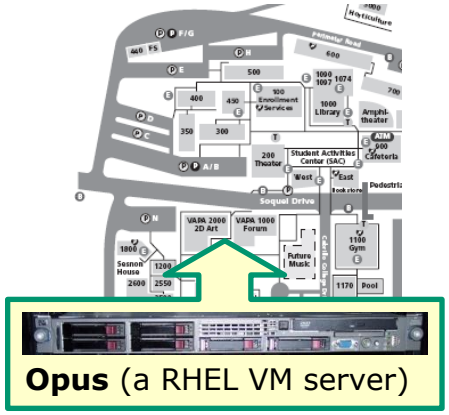
CIS 192 - Linux/UNIX Network Administration

CIS 193 - Linux/UNIX Security Administration

File Transfer

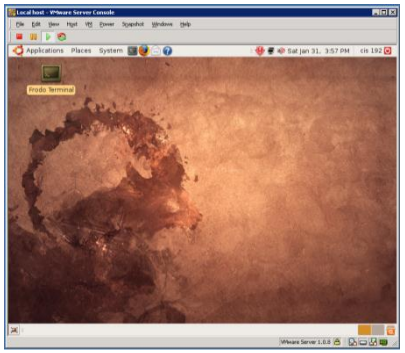
File Transfer

Downloading your Opus files to your home computer



Windows

Mac



Linux

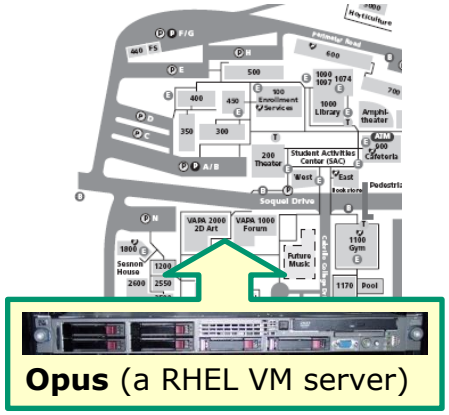
Many ways to transfer files:

- Between Linux and Windows
  - Filezilla or related applications
  - Putty SCP (PSCP)
- Between Linux and Linux/Mac
  - Filezilla or related applications
  - scp command

File Transfer Windows Filezilla

File Transfer

Downloading your Opus files to your home computer



Windows

For Windows you can use the pscp (Putty scp) program or a file transfer utility like Filezilla

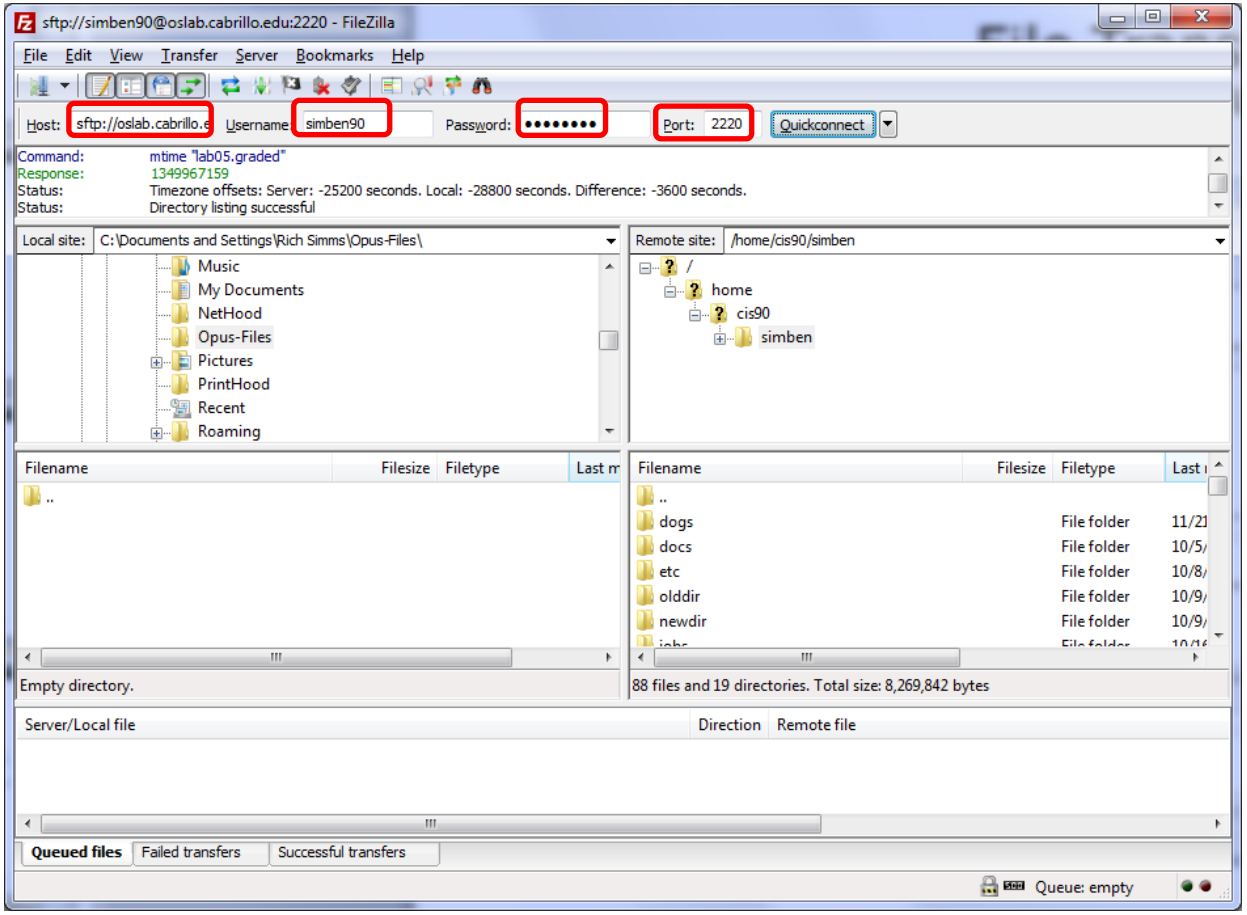
File Transfer

Downloading your Opus files to Windows using Filezilla

http://filezilla-project.org

Filezilla

Connect to your Opus account

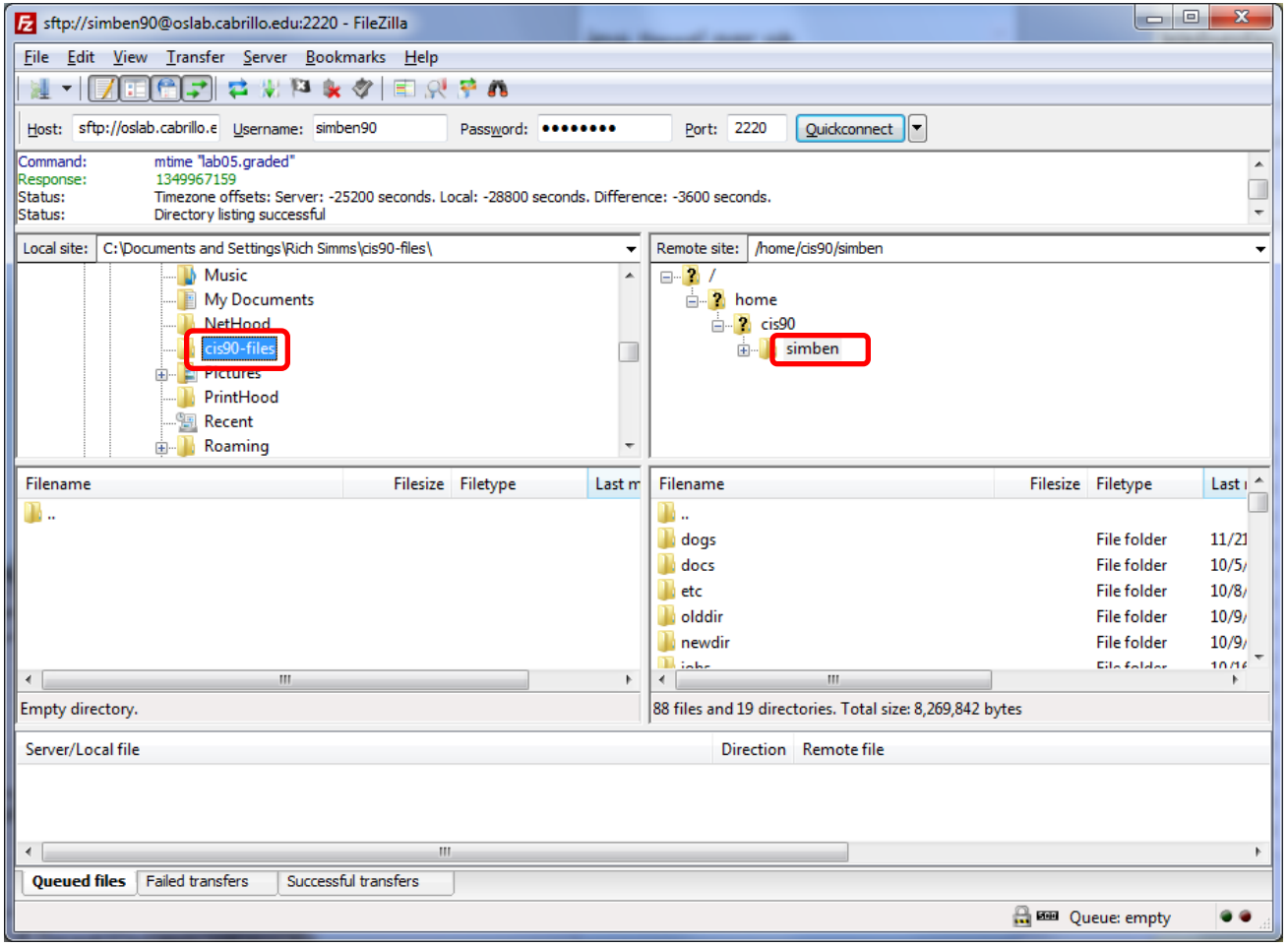


Specify sftp://oslab.cabrillo.edu as the host with your Opus username, password and port 2220 then click Quickconnect

Filezilla

Select source and target directories

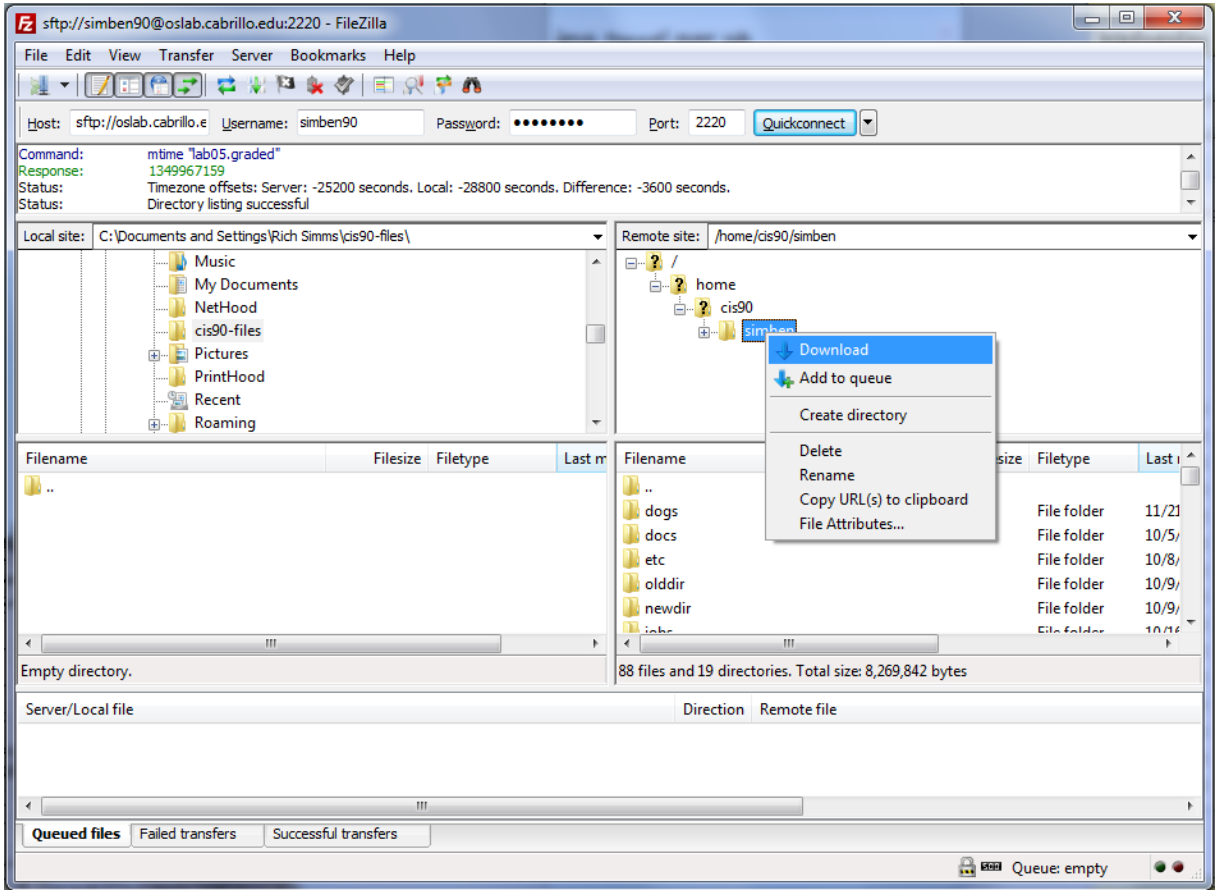
Select local folder to download files into



Select directory on Opus to download

Filezilla

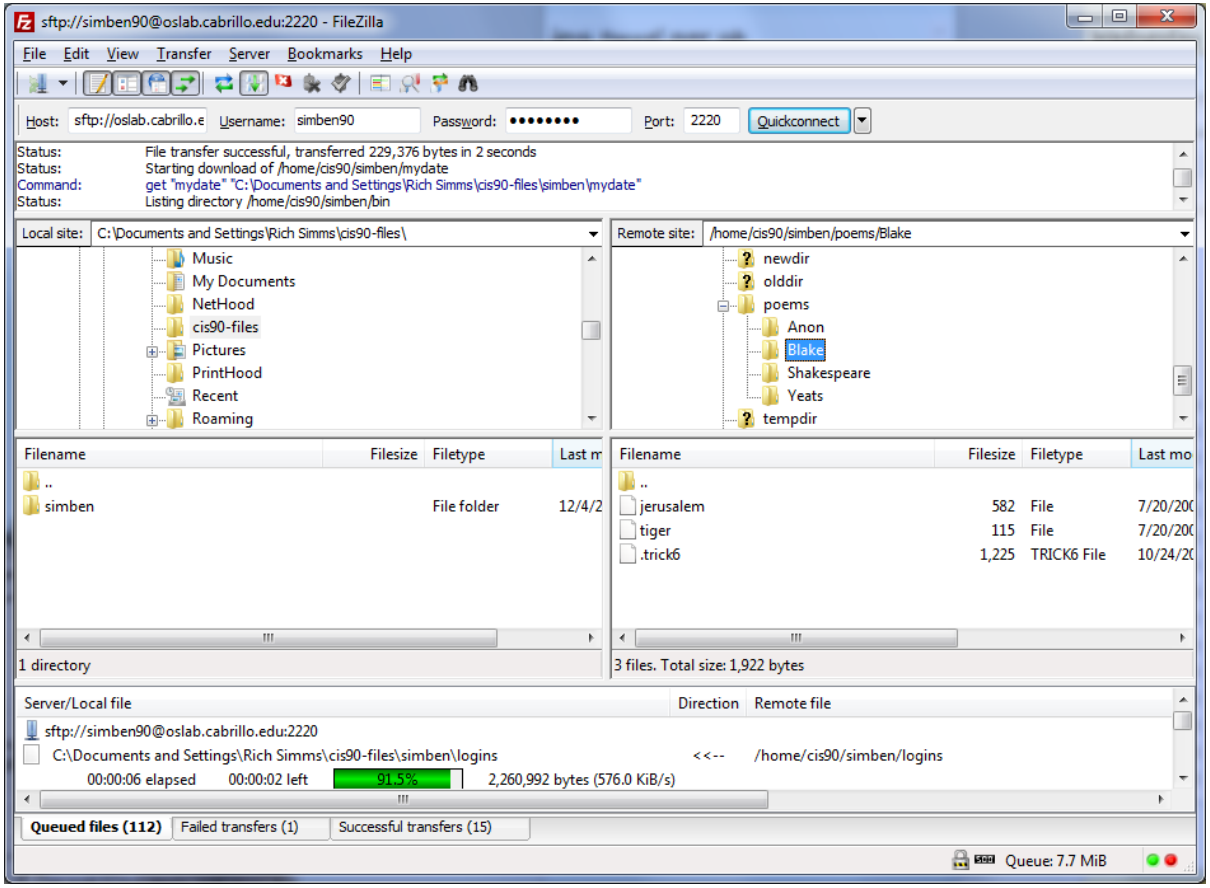
Initiate the download



Right-click on the Opus directory and select Download

Filezilla

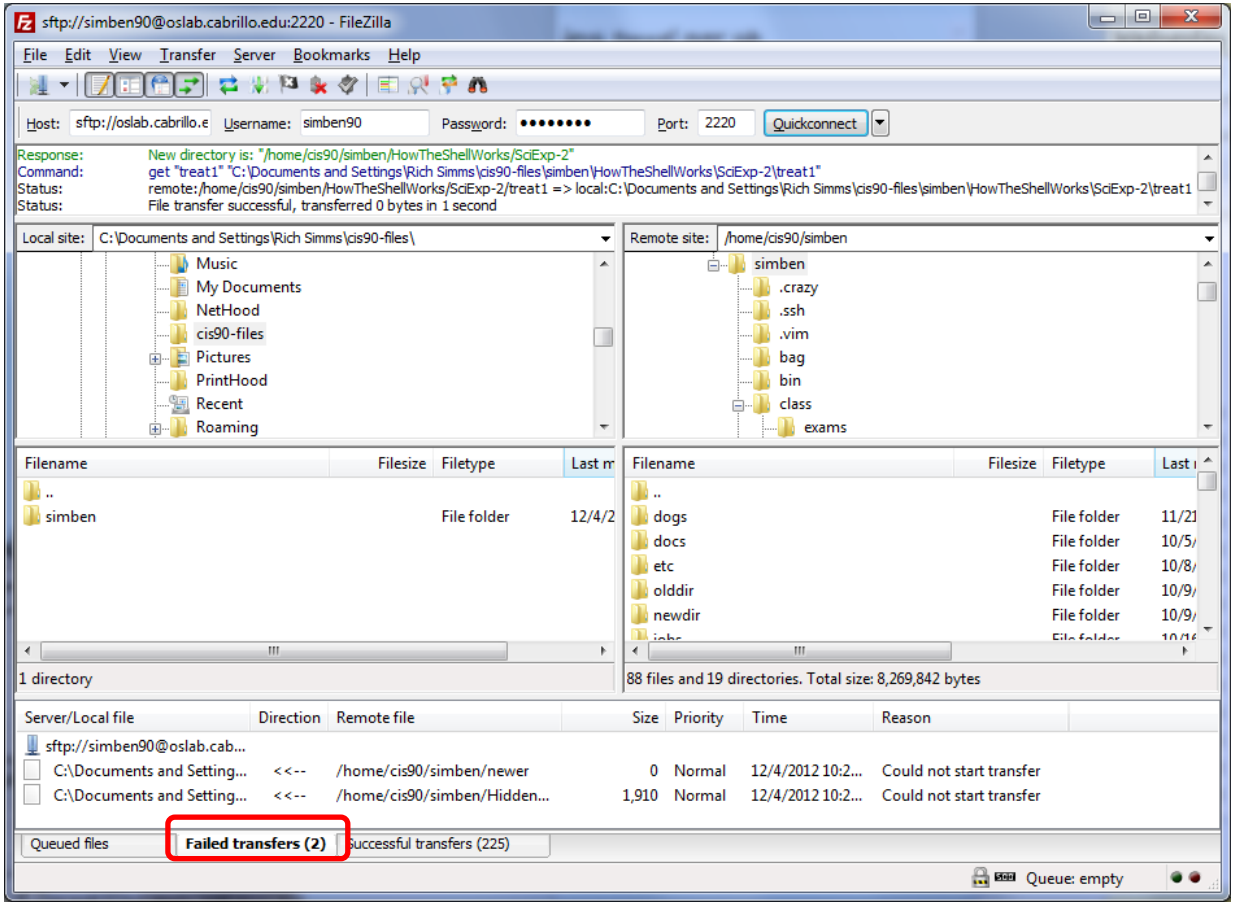
Monitor progress



And away it goes downloading every file and directory it finds in the Opus directory you selected to your local folder

Filezilla

Failed Transfers



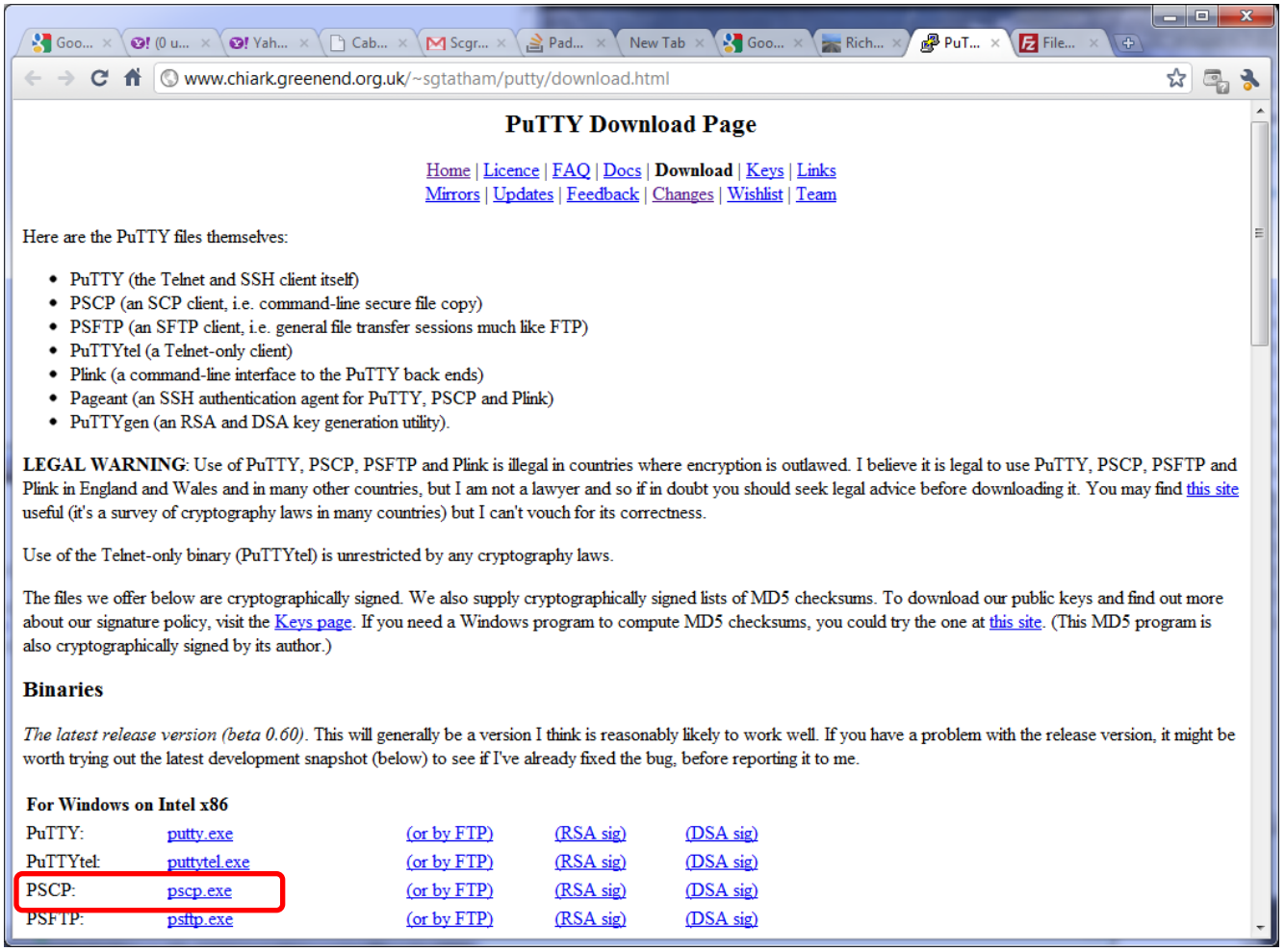
Failed transfers can happen if you don't have read permissions for a file

File Transfer Windows PSCP

PSCP

Downloading PSCP (Putty SCP)

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



www.chiark.greenend.org.uk/~sgtatham/putty/download.html

PuTTY Download Page

Home | Licence | FAQ | Docs | **Download** | Keys | Links
Mirrors | Updates | Feedback | Changes | Wishlist | Team

Here are the PuTTY files themselves:

- PuTTY (the Telnet and SSH client itself)
- PSCP (an SCP client, i.e. command-line secure file copy)
- PSFTP (an SFTP client, i.e. general file transfer sessions much like FTP)
- PuTTYtel (a Telnet-only client)
- Plink (a command-line interface to the PuTTY back ends)
- Pageant (an SSH authentication agent for PuTTY, PSCP and Plink)
- PuTTYgen (an RSA and DSA key generation utility).

LEGAL WARNING: Use of PuTTY, PSCP, PSFTP and Plink is illegal in countries where encryption is outlawed. I believe it is legal to use PuTTY, PSCP, PSFTP and Plink in England and Wales and in many other countries, but I am not a lawyer and so if in doubt you should seek legal advice before downloading it. You may find this site useful (it's a survey of cryptography laws in many countries) but I can't vouch for its correctness.

Use of the Telnet-only binary (PuTTYtel) is unrestricted by any cryptography laws.

The files we offer below are cryptographically signed. We also supply cryptographically signed lists of MD5 checksums. To download our public keys and find out more about our signature policy, visit the Keys page. If you need a Windows program to compute MD5 checksums, you could try the one at this site. (This MD5 program is also cryptographically signed by its author.)

Binaries

The latest release version (beta 0.60). This will generally be a version I think is reasonably likely to work well. If you have a problem with the release version, it might be worth trying out the latest development snapshot (below) to see if I've already fixed the bug, before reporting it to me.

For Windows on Intel x86

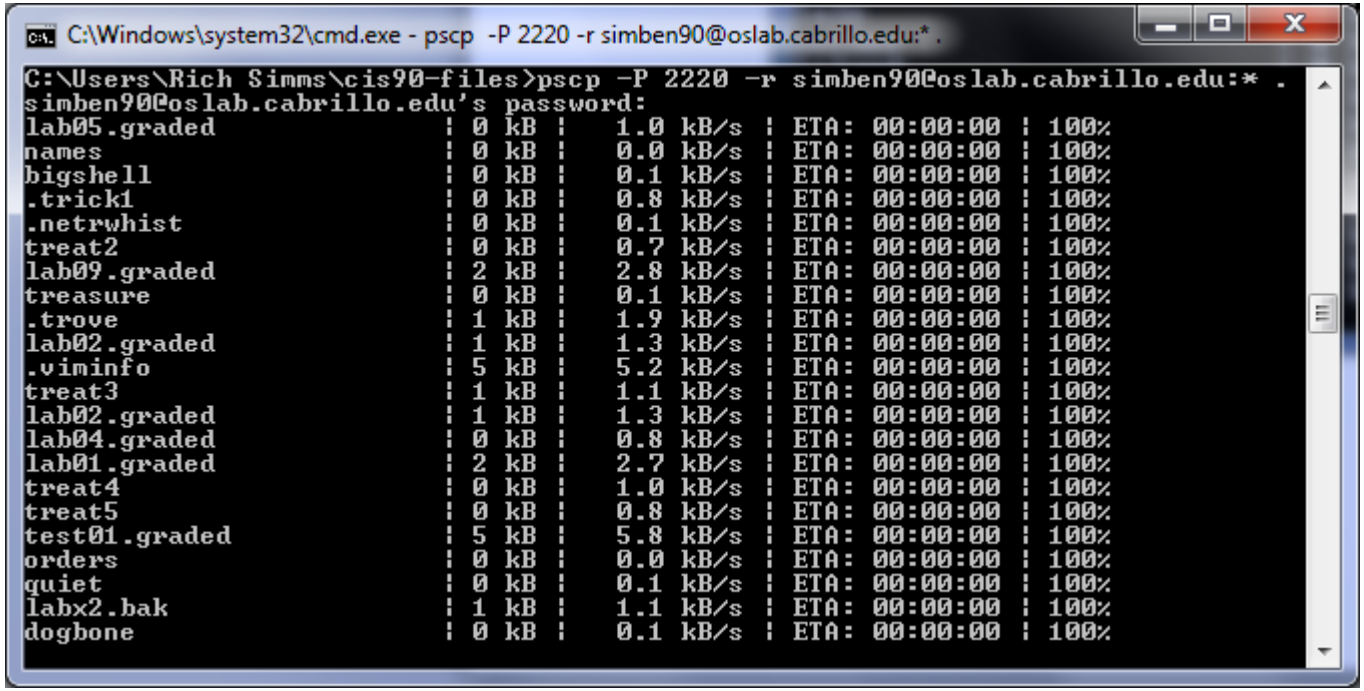
PuTTY:	putty.exe	(or by FTP)	(RSA sig)	(DSA sig)
PuTTYtel:	puttytel.exe	(or by FTP)	(RSA sig)	(DSA sig)
PSCP:	pscp.exe	(or by FTP)	(RSA sig)	(DSA sig)
PSFTP:	psftp.exe	(or by FTP)	(RSA sig)	(DSA sig)

Download the pscp.exe file and place it in your windows folder

PSCP

PSCP syntax follows scp command syntax

pscp -P 2220 -r *username*@oslab.cabrillo.edu:* .



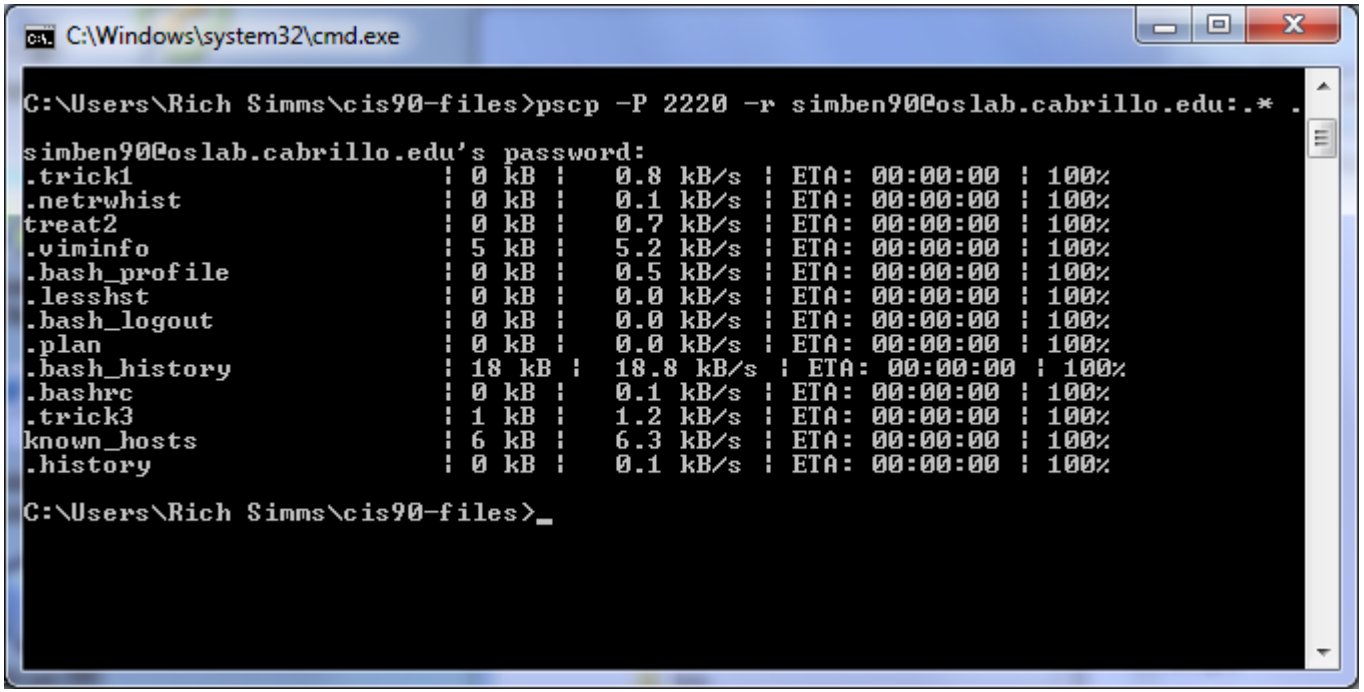
Note: the transfer will end prematurely if a permission issue happens on one of the files.

Navigate to the local folder where you want to download your Opus files to then use the pscp command with the -r option to recursively download all the files in your home directory

PSCP

PSCP syntax follows scp command syntax

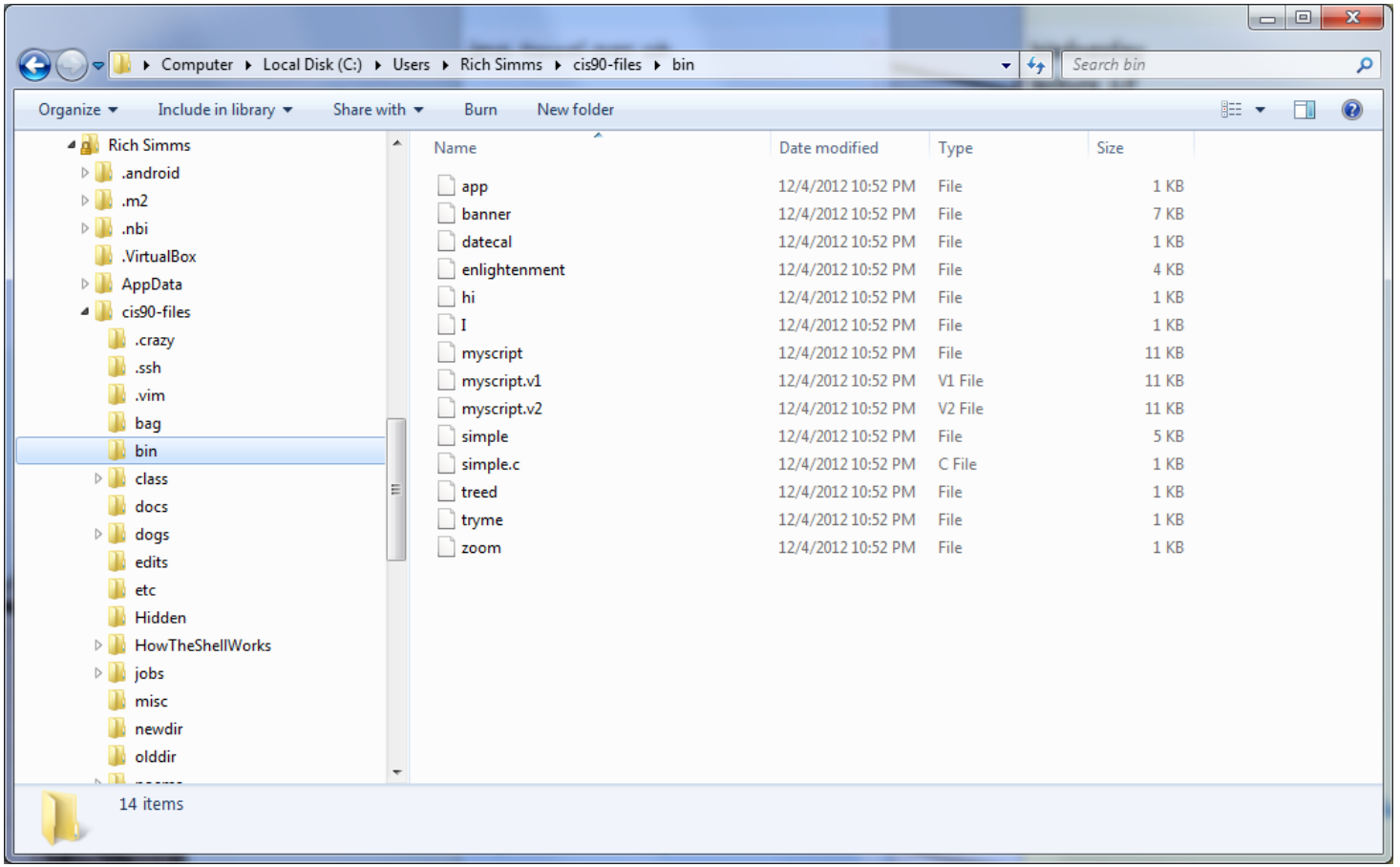
pscp -P 2220 -r *username*@oslab.cabrillo.edu:.* .



Don't forget hidden files in home directory

PSCP

Your CIS 90 files are now on Windows



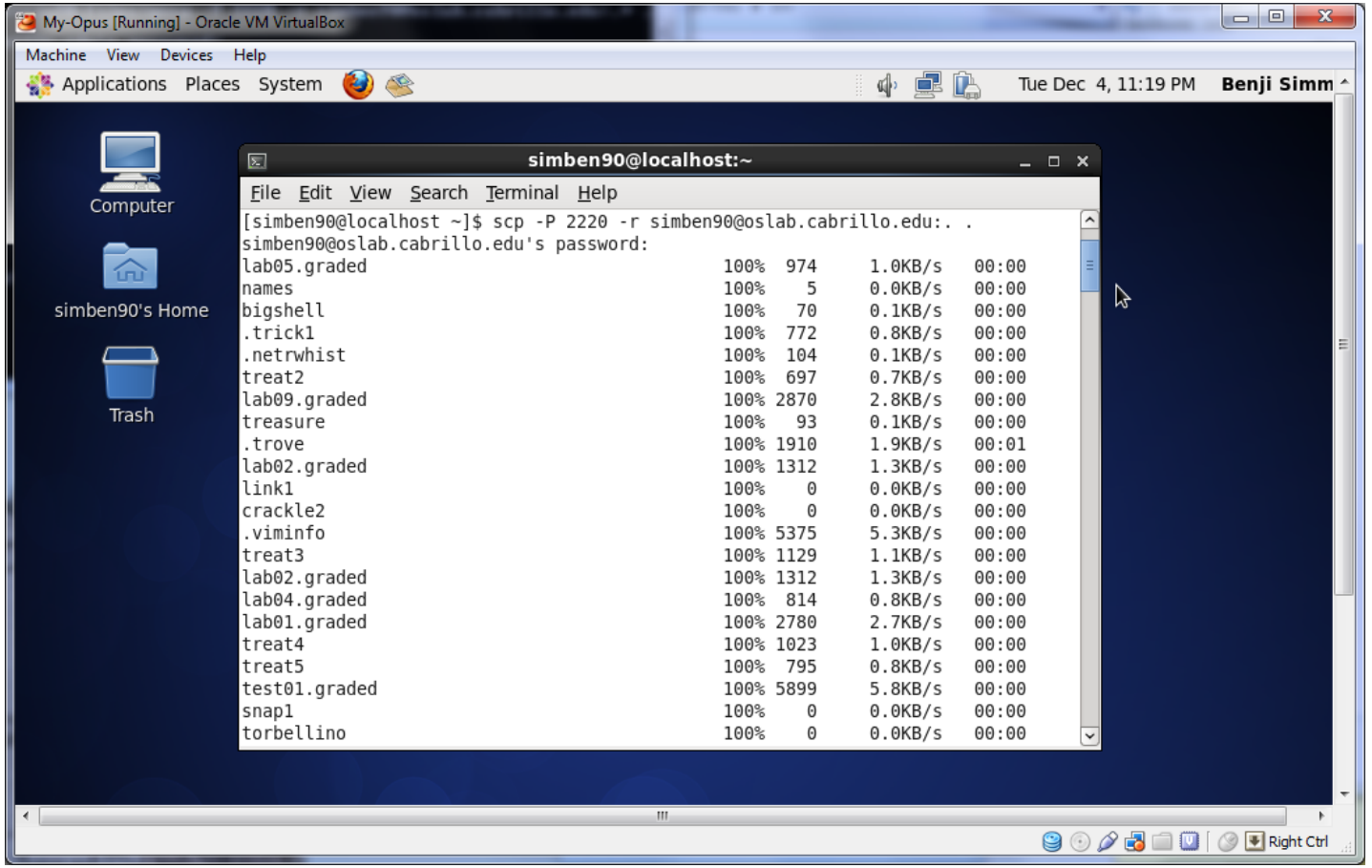
CIS 90 files copied from Opus to home Windows system

File Transfer Linux or Mac scp

File Transfer

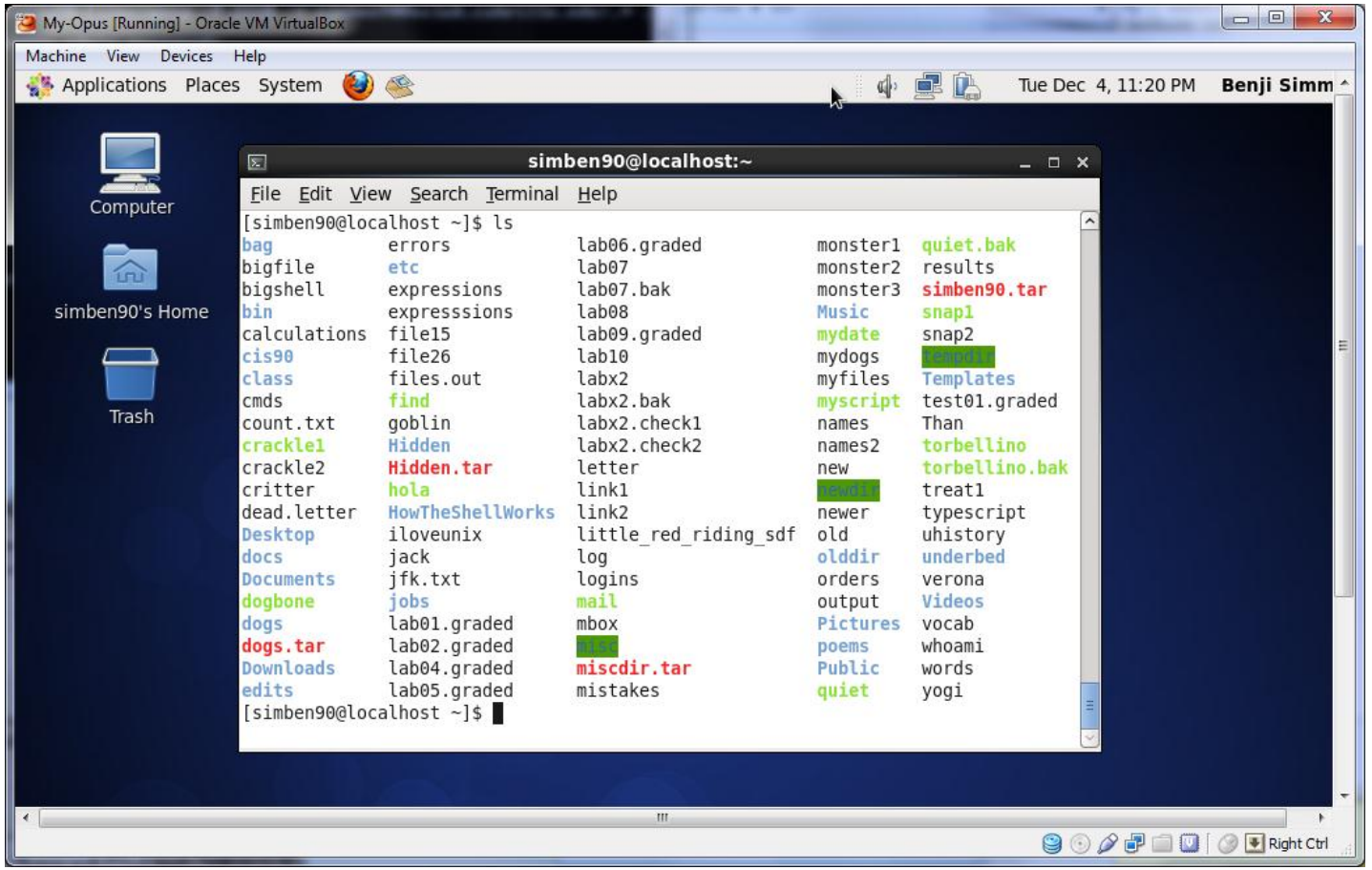
Downloading your Opus files to Linux or Mac using scp

scp -P 2220 -r simben90@oslab.cabrillo.edu:. .



File Transfer

Downloading your Opus files to Linux or Mac using scp



CIS 90 files copied from Opus to home Linux system

File Transfer

Downloading your Opus files to Linux or Mac using scp

More examples of using scp on your local Mac or Linux system:

scp -P2220 -r simben90@oslab.cabrillo.edu:* .

Recursive copy of remote home directory to current local directory (doesn't copy home directory hidden files)

scp -P2220 -r simben90@oslab.cabrillo.edu:. .

Recursive copy of remote home directory to current local directory (includes hidden files in home directory)

scp -P2220 simben90@oslab.cabrillo.edu:simben90.tar .

Copies archive file in remote home directory to current local directory

scp -P2220 -r simben90@oslab.cabrillo.edu:/home/cis90/answers answers/

Recursive copy of class answers directory to local directory named answers (which must be created first)

Archiving & Restoring

Archiving

tar command (on Opus)

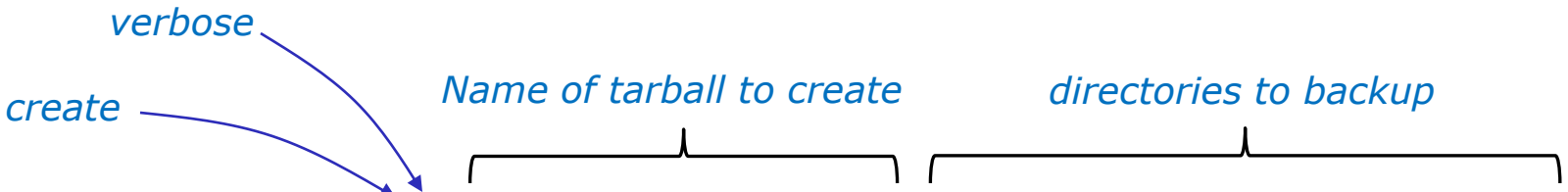
Use wc to count the number of files in the three directories

```
/home/cis90/simben $ cd ..
/home/cis90 $ find simben/ bin/ answers/ depot/  | wc -l
597
/home/cis90 $
```

The bin directory has allscripts, riddles and other files used in class. The answers directory has answers for each lab. Your home directory has all the files you made during the course.

Archiving

tar command (on Opus)

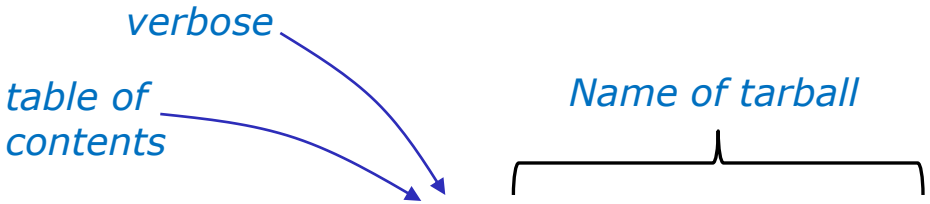



```
/home/cis90 $ tar cvf simben/simben90.tar simben/ bin/ answers/ depot/
bin/tally
bin/checkgrades
bin/riddle
bin/check5
< snipped >
tar: simben/newer: Cannot open: Permission denied
< snipped >
tar: simben/simben90.tar: file is the archive; not dumped
< snipped >
depot/scrooge
depot/smb.conf
depot/randomjokes
tar: Error exit delayed from previous errors
/home/cis90 $
```

Backup all these files into a single tarball

Archiving

tar command (on Opus)




```
/home/cis90 $ tar tvf simben/simben90.tar | wc -l
594
/home/cis90 $ find bin answers depot simben | wc -l
598
```

Note, some files might not have been added to the archive due to permission errors or it was the tarball itself.

These errors were displayed when the tarball was created:

```
tar: simben/Hidden/.trove: Cannot open: Permission denied
tar: simben/simben90.tar: file is the archive; not dumped
tar: simben/newer: Cannot open: Permission denied
tar: answers/test03: Cannot open: Permission denied
tar: Exiting with failure status due to previous errors
```

Archiving

tar command (on Opus)

Archive everything in your home directory (including all sub directories) plus the class directories into one tarball.

```
cd ..
find ${LOGNAME%90} bin/ answers/ depot/ | wc -l
```

or `find simben bin/ answers/ depot/ | wc -l`

Count the files to be archived

```
tar cvf ${LOGNAME%90}/$LOGNAME.tar ${LOGNAME%90} bin/ answers/ depot/
```

or `tar cvf simben/simben90.tar simben bin/ answers/ depot/`

```
tar tvf ${LOGNAME%90}/$LOGNAME.tar | wc -l
```

or `tar tvf simben/simben90.tar | wc -l`

This counts the files that were archived

Restoring

tar command (extracting on home Linux computer)

Login to your home system

```
[rsimms@oslab bin]$ ssh cis90@p09-hugo
cis90@p09-hugo's password:
Welcome to Linux Mint 13 Maya (GNU/Linux 3.2.0-23-generic x86_64)

Welcome to Linux Mint
 * Documentation:  http://www.linuxmint.com
Last login: Sun Dec  2 11:00:07 2012 from opus.cislab.net
cis90@P09-Hugo ~ $
```

Restoring

tar command (extracting on home Linux computer)

Make a directory to put your Opus files

```
cis90@P09-Hugo ~ $ mkdir opus-files
cis90@P09-Hugo ~ $ cd opus-files/
```

Retrieve your archive from Opus using scp command

```
cis90@P09-Hugo ~/opus-files $ scp -P 2220 simben90@oslab.cabrillo.edu:simben90.tar .
simben90@oslab.cabrillo.edu's password:
simben90.tar                                  100% 4710KB   4.6MB/s   00:00
```

Restoring

tar command (extracting on home Linux computer)

```
cis90@P09-Hugo ~/opus-files $ ls
simben90.tar

cis90@P09-Hugo ~/opus-files $ tar xvf simben90.tar
simben/
simben/lab05.graded
simben/names
simben/bigshell
simben/.vim/
< snipped >
depot/scrooge
depot/smb.conf
depot/randomjokes

cis90@P09-Hugo ~/opus-files $ ls
answers  bin  depot  simben  simben90.tar
```

Extract the tarball

Note the new directories created

Restoring

tar command (extracting on home Linux computer)

```
cis90@P09-Hugo ~/opus-files $ cd simben/bin
cis90@P09-Hugo ~/opus-files/simben/bin $ myscript
No command 'myscript' found, did you mean:
 Command 'pyscript' from package 'python-pyscript' (universe)
myscript: command not found

cis90@P09-Hugo ~/opus-files/simben/bin $ ./myscript

    CIS, please Enter an option number from the list below:

    1) What is today?
    2) The users on P09-Hugo
    3) Warning, don't go here!!
    4) Sort current directory
    5) Back pat eCards
    6) Check IP forwarding status

    or enter Q to Quit

    Enter Your Choice:
```

Note we have a different path on this system so may have to specify an absolute path to script file to run

Archives
gzip and gunzip

Archiving

tar command (on Opus)

```
/home/cis90/simben $ ls -l simben90.tar
-rw-rw----. 1 simben90 cis90 4823040 Dec  2 11:21 simben90.tar
```

*Next, compress the archive with **gzip***

```
/home/cis90/simben $ gzip simben90.tar
/home/cis90/simben $ ls -l simben90.tar.gz
-rw-rw----. 1 simben90 cis90 791264 Dec  2 11:21 simben90.tar.gz
```

*Later, uncompress the archive with **gunzip***

```
/home/cis90/simben $ gunzip simben90.tar.gz
/home/cis90/simben $ ls -l simben90.tar
-rw-rw----. 1 simben90 cis90 4823040 Dec  2 11:21 simben90.tar
```

Note: gzip renames the tarball by adding the .gz suffix and gunzip removes the suffix

Final Exam

Final Exam

The CIS 90 Final Exam is Test #3

- **The Final Exam is Dec 12 - 1:00 to 3:50PM**
- **The final exam will be Test #3 (worth 30 points + 3 points extra credit)**
  - Open book, open notes, open computer.
  - During the test you must work alone and not ask or give assistance to others.

Final Exam

The CIS 90 Final Exam is Test #3

- **A Practice Test 3 is available on the web site**
  - Advice:
    - Work EVERY question on the practice test and NOTE exactly the steps required to answer each question.
    - Use the notes you took doing the practice test on the final exam.
  - You may work with others and use the forum to discuss questions and answers on the practice test prior to the final exam.

Sun-Hwa ≠ Opus

(Fedora 17) *(CentOS 6.2)*

Sun-Hwa Differences

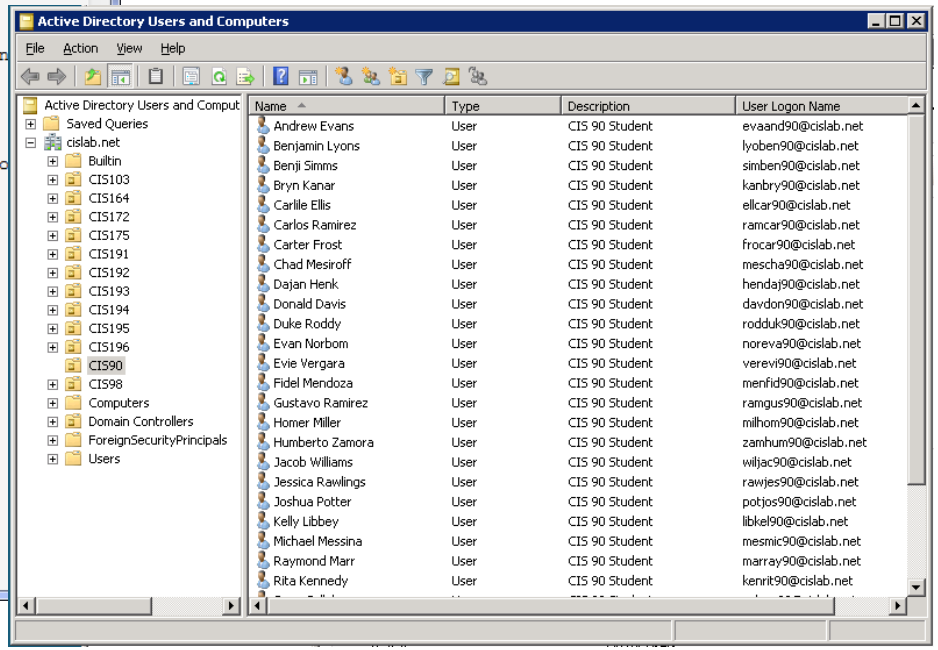
CISLAB\simben90@sun-hwa:~

```
[CISLAB\simben90@sun-hwa ~]$ cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
uucp:x:10:14:uucp:/var/spool/uucp:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
games:x:12:100:games:/usr/games:/sbin/nologin
gopher:x:13:30:gopher:/var/gopher:/sbin/nologin
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
nobody:x:99:99:Nobody:/:/sbin/nologin
usbmuxd:x:113:113:usbmuxd user:/:/sbin/nologin
avahi-autoipd:x:170:170:Avahi IPv4LL Stack:/var/lib/avahi-autoipd:/sbin/nologin
smolt:x:999:998:Smolt:/usr/share/smolt:/sbin/nologin
dbus:x:81:81:System message bus:/:/sbin/nologin
abrt:x:173:173::/etc/abrt:/sbin/nologin
avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi-daemon:/sbin/nologin
rtkit:x:172:172:RealtimeKit:/proc:/sbin/nologin
openvpn:x:998:996:OpenVPN:/etc/openvpn:/sbin/nologin
saslauth:x:997:995:"Saslauthd user":/run/saslauthd:/sbin/nologin
colord:x:996:994:User for colord:/var/lib/colord:/sbin/nologin
nm-openconnect:x:995:993:NetworkManager user for OpenConnect:/:/sbin/nolo
mailnull:x:47:47::/var/spool/mqueue:/sbin/nologin
smmsp:x:51:51::/var/spool/mqueue:/sbin/nologin
sshd:x:74:74:Privilege-separated SSH:/var/empty/sshd:/sbin/nologin
chrony:x:994:992::/var/lib/chrony:/sbin/nologin
tcpdump:x:72:72::/:/sbin/nologin
pulse:x:993:991:PulseAudio System Daemon:/var/run/pulse:/sbin/nologin
gdm:x:42:42::/var/lib/gdm:/sbin/nologin
rsimms:x:201:201:Rich Simms:/home/rsimms:/bin/bash
ntp:x:38:38::/etc/ntp:/sbin/nologin
jimg:x:752:1000:Jim Griffin:/home/jimg:/bin/bash
cis90:x:1234:1234:CIS 90 student:/home/cis90:/bin/bash
sawyer:x:1235:1235:James Ford:/home/sawyer:/bin/csh
kate:x:1236:1236:Kate Austen:/home/kate:/bin/sh
hugo:x:1237:1237:Hugo Reyes:/home/hugo:/bin/ksh
igneous:x:202:1238:Igneous Rocks:/home/igneous:/bin/bash
sedimentary:x:203:1239:Sedimentary Rocks:/home/sedimentary:/bin/bash
romeo:x:1238:1240:Romeo, son of Montague:/home/romeo:/bin/bash
juliet:x:1239:1241:Juliet, daughter of Capulet:/home/juliet:/bin/bash
[CISLAB\simben90@sun-hwa ~]$
```

The CIS 90 accounts are not in /etc/passwd on Sun-Hwa!

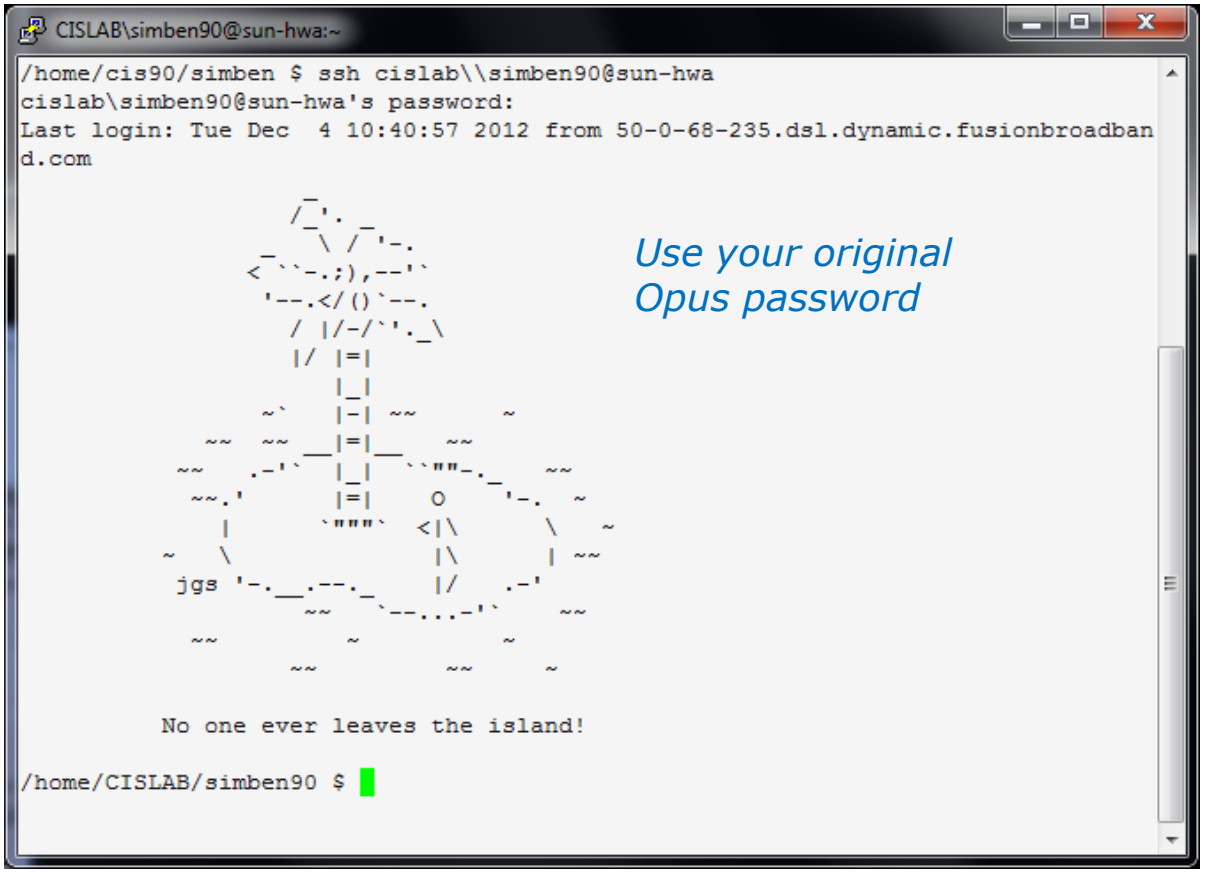
Only local accounts are found there.

Instead they are on the cislab domain controller on a remote Windows server



Sun-Hwa Differences

ssh cislab\\simben90@sun-hwa

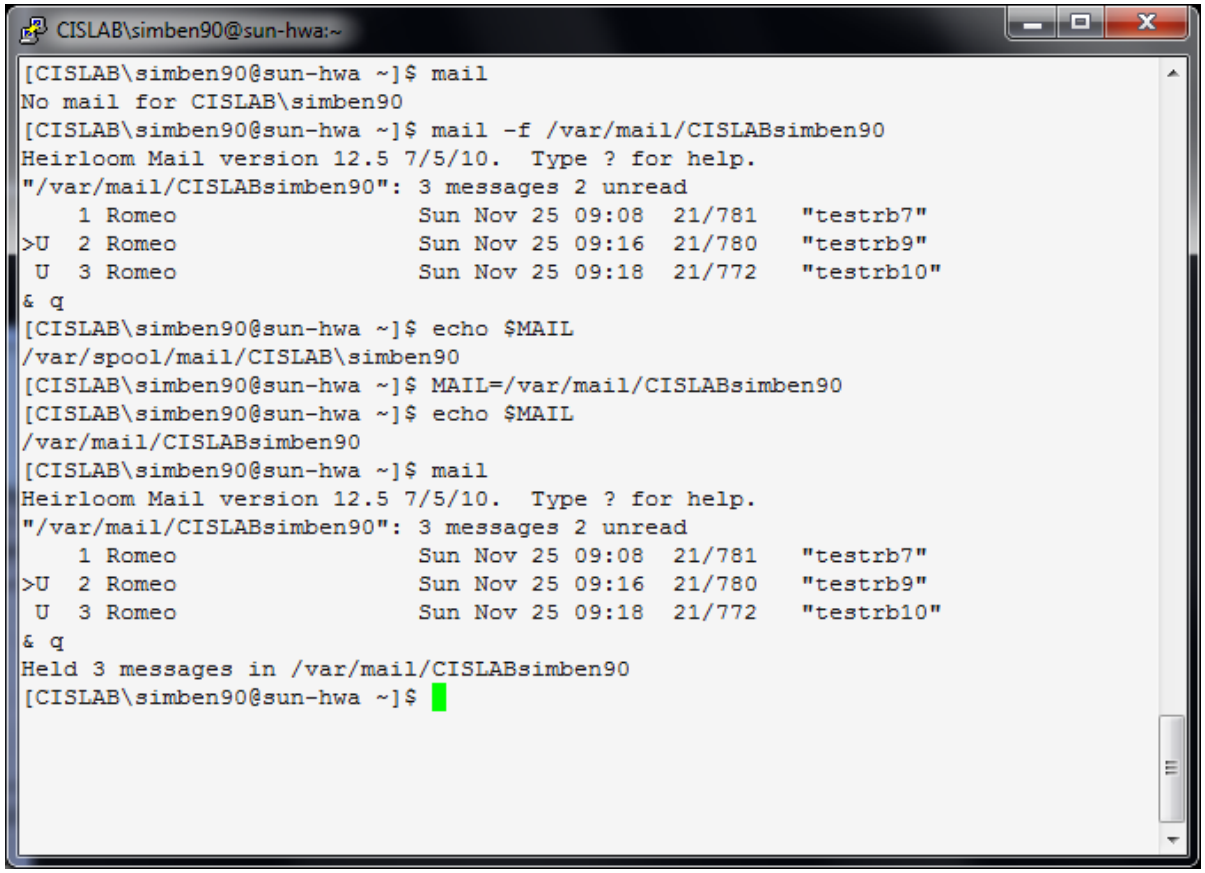


Use your original Opus password

Sun-Hwa is a Fedora 17 Linux system which has joined the cislab Windows Active Directory domain. Authentication is done using Active Directory.

Sun-Hwa Differences

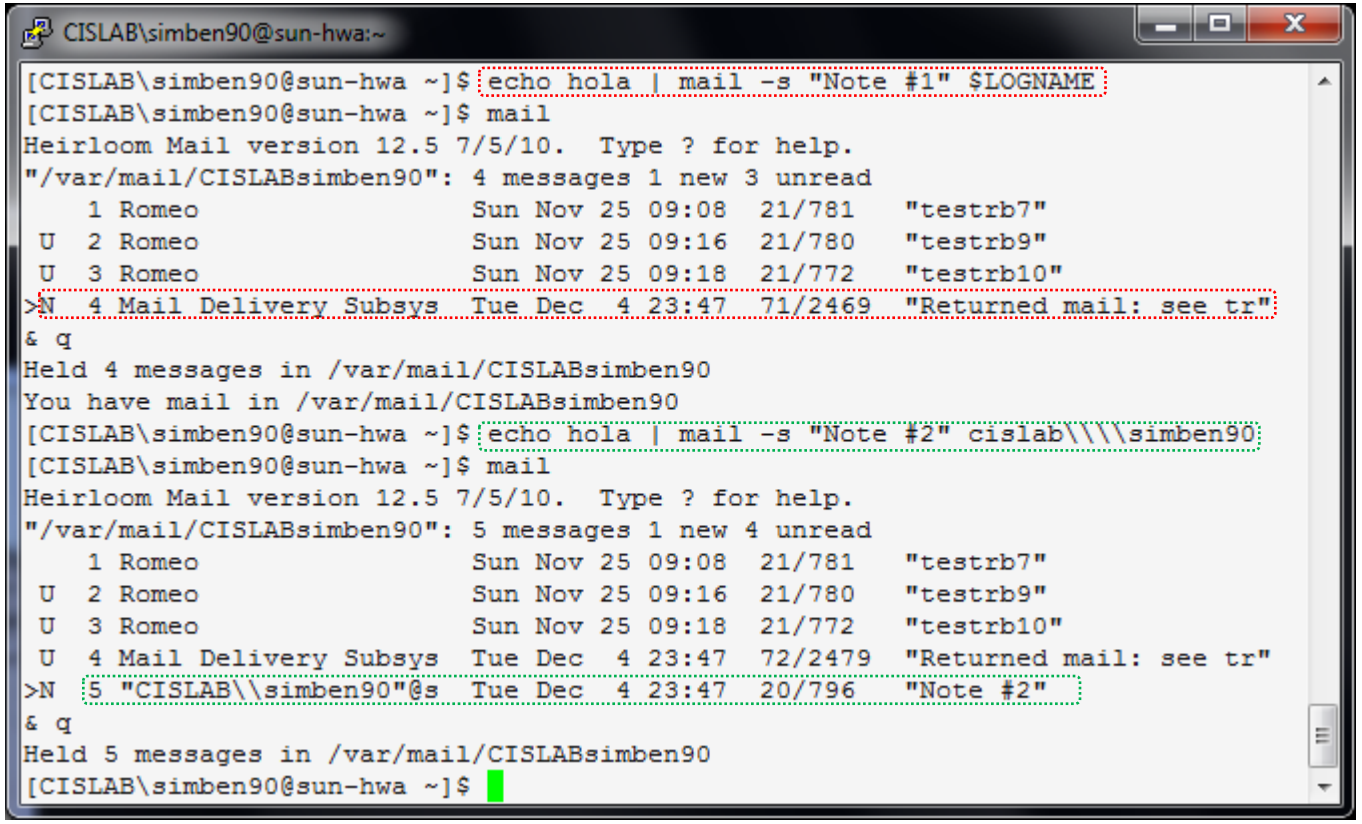
The MAIL variable on Sun-Hwa does not contain the path to where the mail is actually delivered!



Workaround: Use the -f option on the mail command or update the MAIL variable as shown above to read your mail

Sun-Hwa Differences

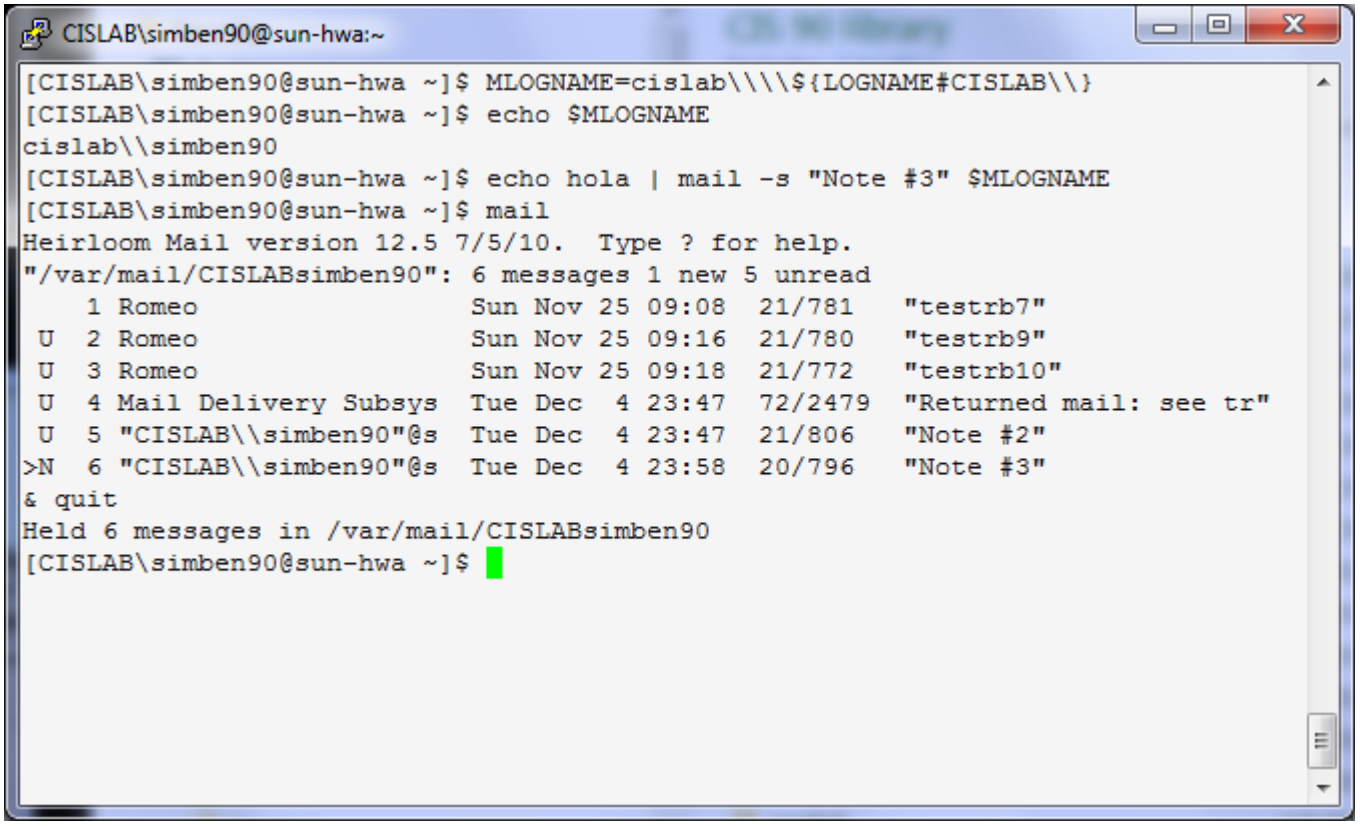
On Sun-Hwa the LOGNAME variable does not work as a mail destination address!



Workaround #1: Spell out the username with four backslashes as shown above.

Sun-Hwa Differences

Workaround #2: Create a new variable to use instead as shown above.



MLOGNAME=cislab\\\\${LOGNAME#CISLAB\\}
or **MLOGNAME=cislab\\\\simben90**

Sun-Hwa Differences

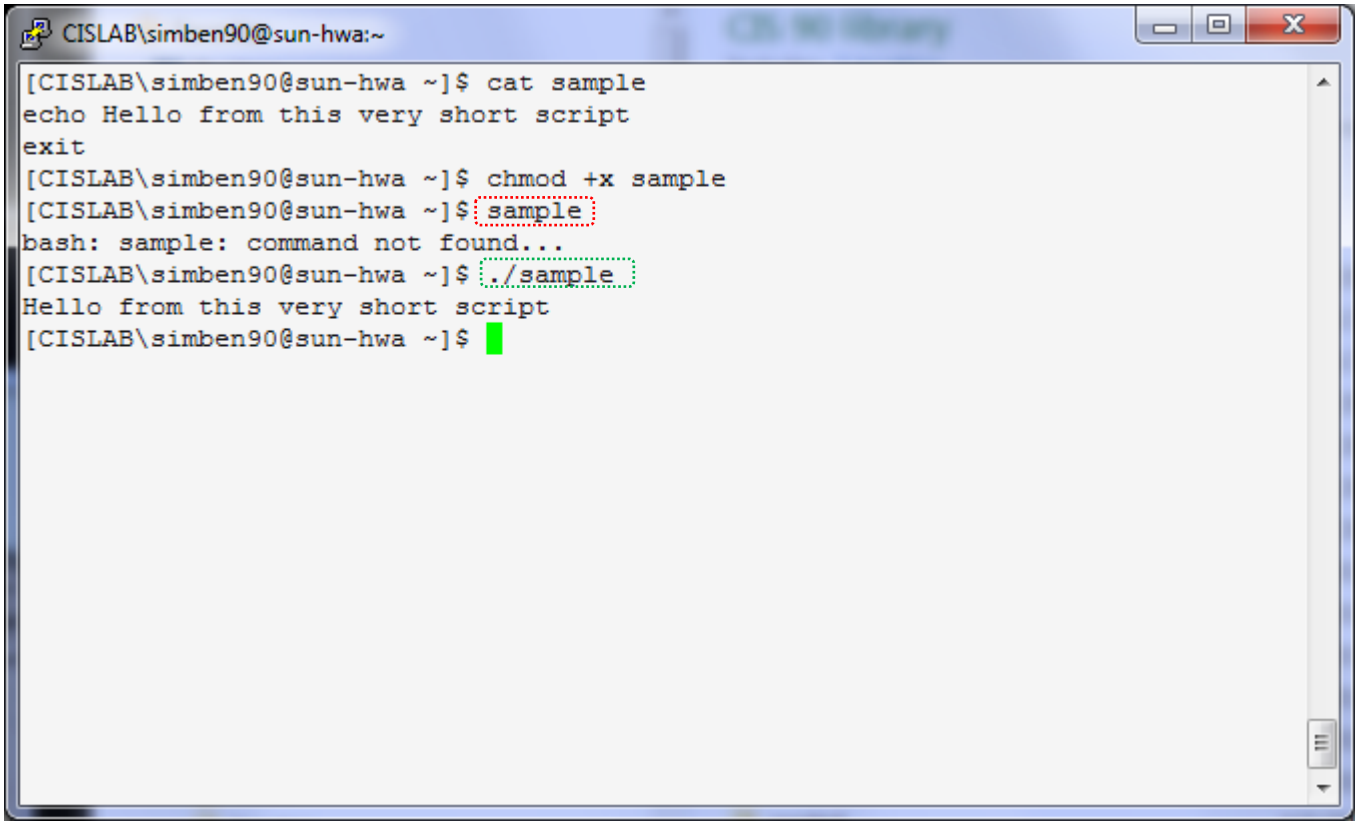
Four backslashes must be used (domain\\\\username) to send a classmate an email on Sun-Hwa!

CISLAB\milhom90@sun-hwa:~

```
[CISLAB\simben90@sun-hwa ~]$ mail cislab\\\\milhom90 cislab\\\\rodduk90
Subject: Chicken pot pies
At my house tonight.  Be there or be square!
- Benji
.
EOT
[CISLAB\simben90@sun-hwa ~]$ su - cislab\\milhom90
Password:
/home/CISLAB/milhom90 $ mail -f /var/mail/CISLABmilhom90
Heirloom Mail version 12.5 7/5/10.  Type ? for help.
"/var/mail/CISLABmilhom90": 10 messages 2 new 4 unread
    1 Romeo                 Sun Nov 25 09:34  21/769   "testrh"
    2 Mail Delivery Subsys  Sun Nov 25 14:08  72/2499  "Returned mail: see tr"
    3 Mail Delivery Subsys  Sun Nov 25 14:10  72/2589  "Returned mail: see tr"
    4 "CISLAB\\milhom90"@s  Sun Nov 25 14:12  21/812   "testmm4"
    5 "CISLAB\\milhom90"@s  Sun Nov 25 14:29  21/817   "TestHH15"
    6 "CISLAB\\milhom90"@s  Tue Dec  4 16:32  21/845   "Reminder"
 U  7 "CISLAB\\milhom90"@s  Tue Dec  4 16:36  21/844   "Reminder"
 U  8 "CISLAB\\milhom90"@s  Tue Dec  4 16:47  21/803   "test"
>N  9 "CISLAB\\milhom90"@s  Wed Dec  5 01:00  20/834   "Reminder"
 N 10 "CISLAB\\simben90"@s  Wed Dec  5 08:21  21/827   "Chicken pot pies"
&
```

Sun-Hwa Differences

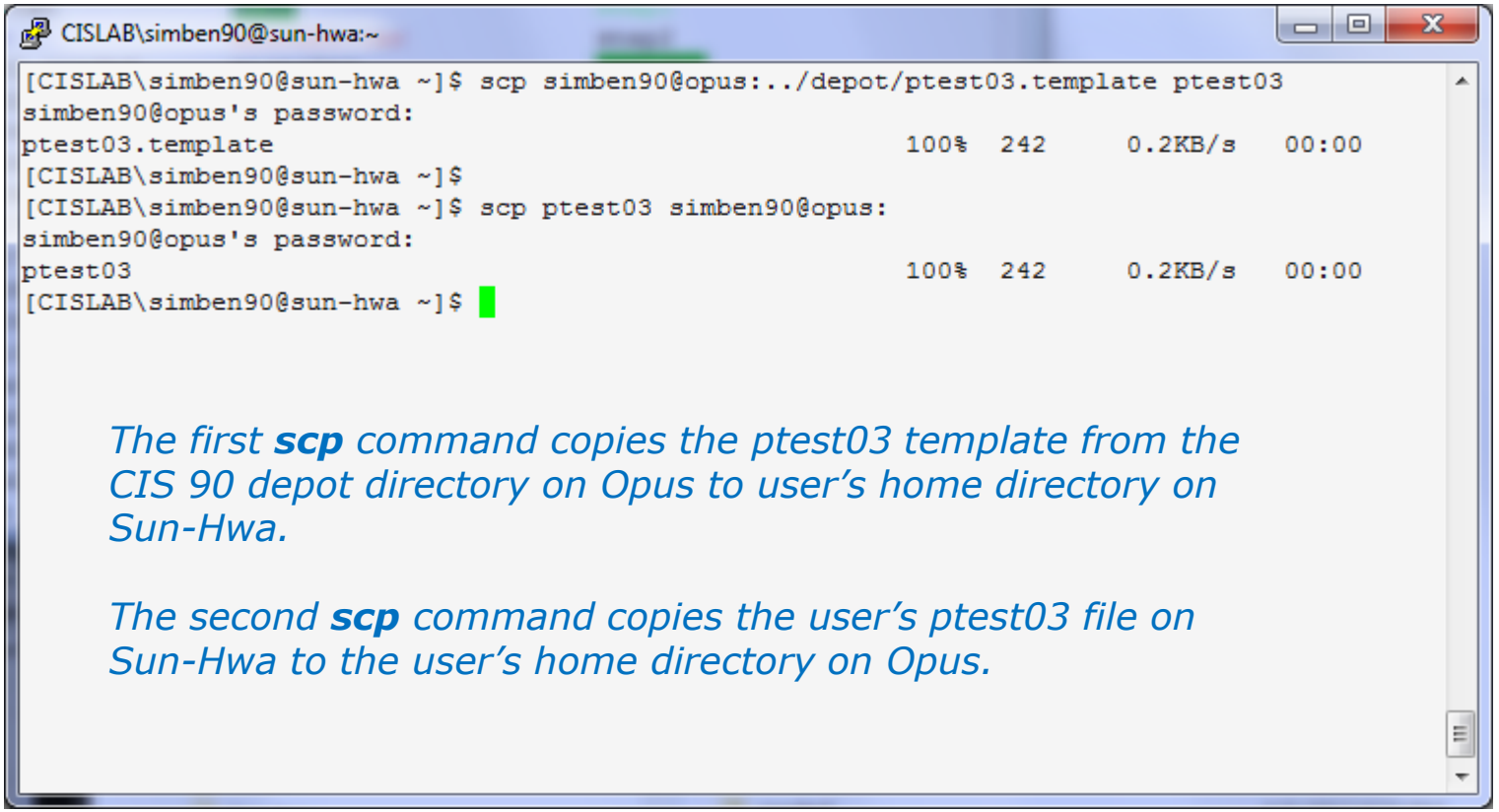
The . directory is not on your path



Preface scripts you create with "./" to run them as shown in the example above

File transfer between Sun-Hwa and Opus

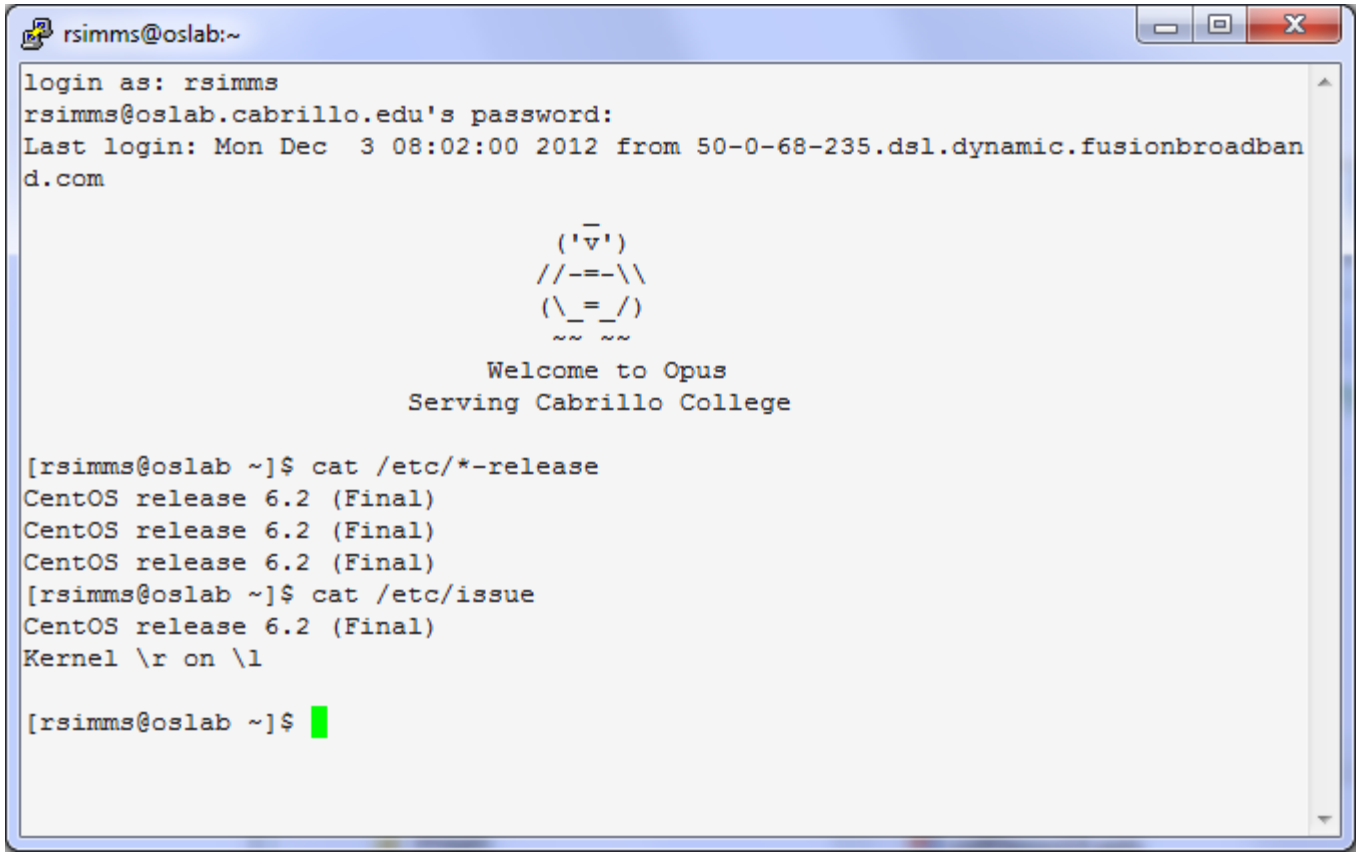
Use the scp command to transfer files between Opus and Sun-Hwa



*The first **scp** command copies the ptest03 template from the CIS 90 depot directory on Opus to user's home directory on Sun-Hwa.*

*The second **scp** command copies the user's ptest03 file on Sun-Hwa to the user's home directory on Opus.*

Make your own Opus at home



Opus is a CentOS 6.2 Linux system

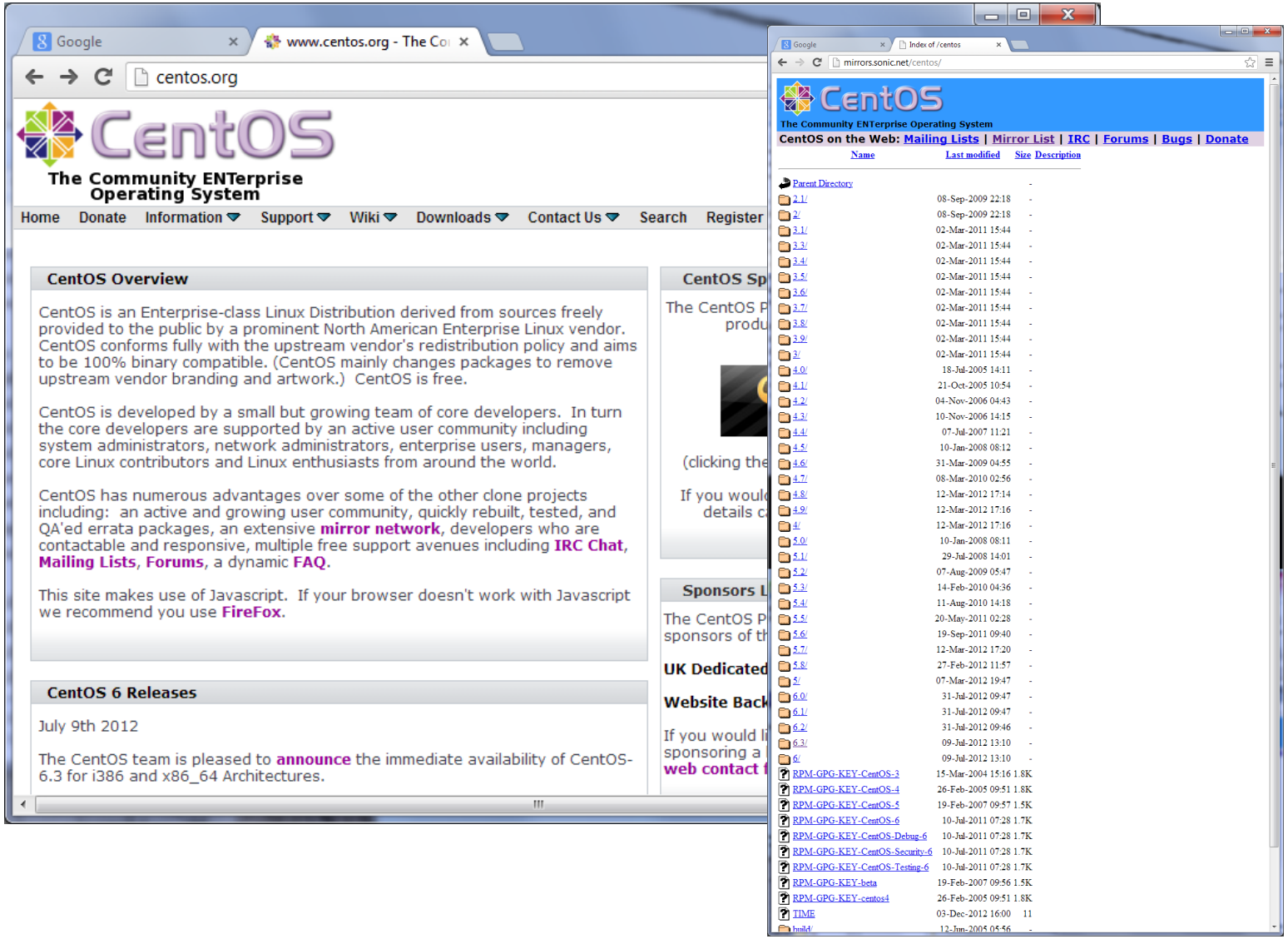
Ingredients

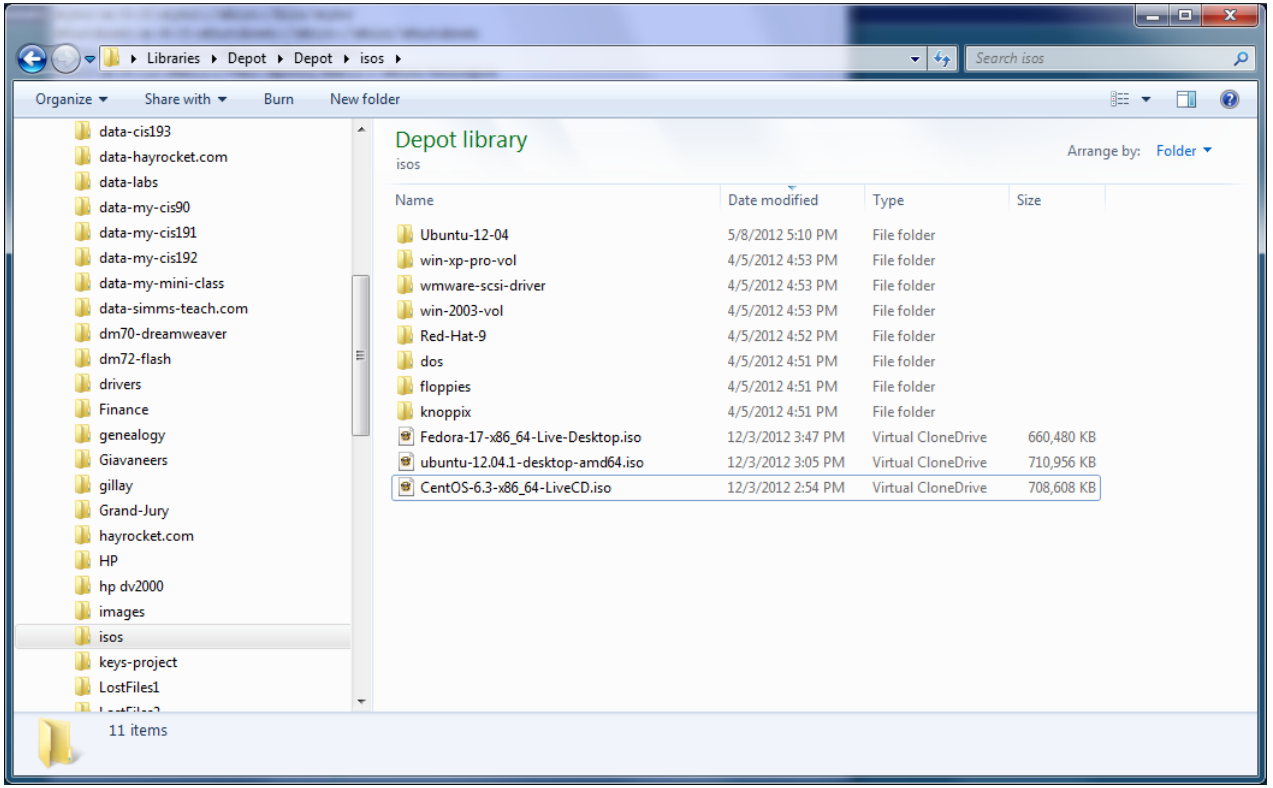
To make your own Opus at home you will need to purchase the following to add to your home computer:

- A CentOS Linux distribution … price: $0.00

- Virtualization software
  - For Windows
    - VirtualBox … price: $0.00
    - *or* VMware Workstation … price: $0.00 (via VMware Academy)
  - For Mac
    - VirtualBox … price: $0.00
    - *or* VMware Fusion … price: $0.00 (via VMware Academy)

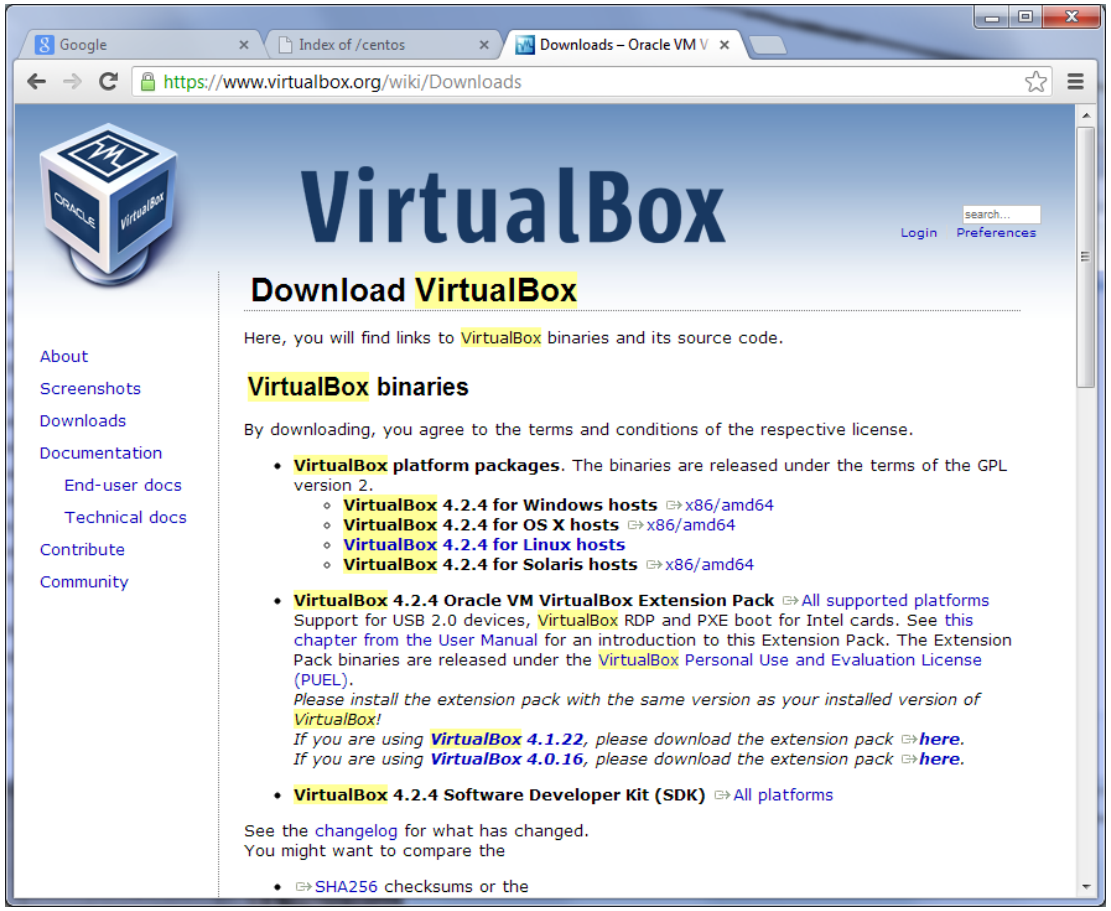
centos.org


Google
www.centos.org - The Co
centos.org
CentOS
The Community ENTerprise Operating System
Home Donate Information Support Wiki Downloads Contact Us Search Register
CentOS Overview
CentOS is an Enterprise-class Linux Distribution derived from sources freely provided to the public by a prominent North American Enterprise Linux vendor. CentOS conforms fully with the upstream vendor's redistribution policy and aims to be 100% binary compatible. (CentOS mainly changes packages to remove upstream vendor branding and artwork.) CentOS is free.
CentOS is developed by a small but growing team of core developers. In turn the core developers are supported by an active user community including system administrators, network administrators, enterprise users, managers, core Linux contributors and Linux enthusiasts from around the world.
CentOS has numerous advantages over some of the other clone projects including: an active and growing user community, quickly rebuilt, tested, and QA'ed errata packages, an extensive mirror network, developers who are contactable and responsive, multiple free support avenues including IRC Chat, Mailing Lists, Forums, a dynamic FAQ.
This site makes use of Javascript. If your browser doesn't work with Javascript we recommend you use FireFox.
CentOS 6 Releases
July 9th 2012
The CentOS team is pleased to announce the immediate availability of CentOS-6.3 for i386 and x86_64 Architectures.
CentOS Sp
Sponsors L
UK Dedicated
Website Back
Index of /centos
mirrors.sonic.net/centos/
CentOS
The Community ENTerprise Operating System
CentOS on the Web: Mailing Lists | Mirror List | IRC | Forums | Bugs | Donate
Name Last modified Size Description
Parent Directory -
2.1/ 08-Sep-2009 22:18 -
2/ 08-Sep-2009 22:18 -
3.1/ 02-Mar-2011 15:44 -
3.3/ 02-Mar-2011 15:44 -
3.4/ 02-Mar-2011 15:44 -
3.5/ 02-Mar-2011 15:44 -
3.6/ 02-Mar-2011 15:44 -
3.7/ 02-Mar-2011 15:44 -
3.8/ 02-Mar-2011 15:44 -
3.9/ 02-Mar-2011 15:44 -
3/ 02-Mar-2011 15:44 -
4.0/ 18-Jul-2005 14:11 -
4.1/ 21-Oct-2005 10:54 -
4.2/ 04-Nov-2006 04:43 -
4.3/ 10-Nov-2006 14:15 -
4.4/ 07-Jul-2007 11:21 -
4.5/ 10-Jan-2008 08:12 -
4.6/ 31-Mar-2009 04:55 -
4.7/ 08-Mar-2010 02:56 -
4.8/ 12-Mar-2012 17:14 -
4.9/ 12-Mar-2012 17:16 -
4/ 12-Mar-2012 17:16 -
5.0/ 10-Jan-2008 08:11 -
5.1/ 29-Jul-2008 14:01 -
5.2/ 07-Aug-2009 05:47 -
5.3/ 14-Feb-2010 04:36 -
5.4/ 11-Aug-2010 14:18 -
5.5/ 20-May-2011 02:28 -
5.6/ 19-Sep-2011 09:40 -
5.7/ 12-Mar-2012 17:20 -
5.8/ 27-Feb-2012 11:57 -
5/ 07-Mar-2012 19:47 -
6.0/ 31-Jul-2012 09:47 -
6.1/ 31-Jul-2012 09:47 -
6.2/ 31-Jul-2012 09:46 -
6.3/ 09-Jul-2012 13:10 -
6/ 09-Jul-2012 13:10 -
RPM-GPG-KEY-CentOS-3 15-Mar-2004 15:16 1.8K
RPM-GPG-KEY-CentOS-4 26-Feb-2005 09:51 1.8K
RPM-GPG-KEY-CentOS-5 19-Feb-2007 09:57 1.5K
RPM-GPG-KEY-CentOS-6 10-Jul-2011 07:28 1.7K
RPM-GPG-KEY-CentOS-Debug-6 10-Jul-2011 07:28 1.7K
RPM-GPG-KEY-CentOS-Security-6 10-Jul-2011 07:28 1.7K
RPM-GPG-KEY-CentOS-Testing-6 10-Jul-2011 07:28 1.7K
RPM-GPG-KEY-beta 19-Feb-2007 09:56 1.5K
RPM-GPG-KEY-centos4 26-Feb-2005 09:51 1.8K
TIME 03-Dec-2012 16:00 11
build/ 12-Jun-2005 05:56 -

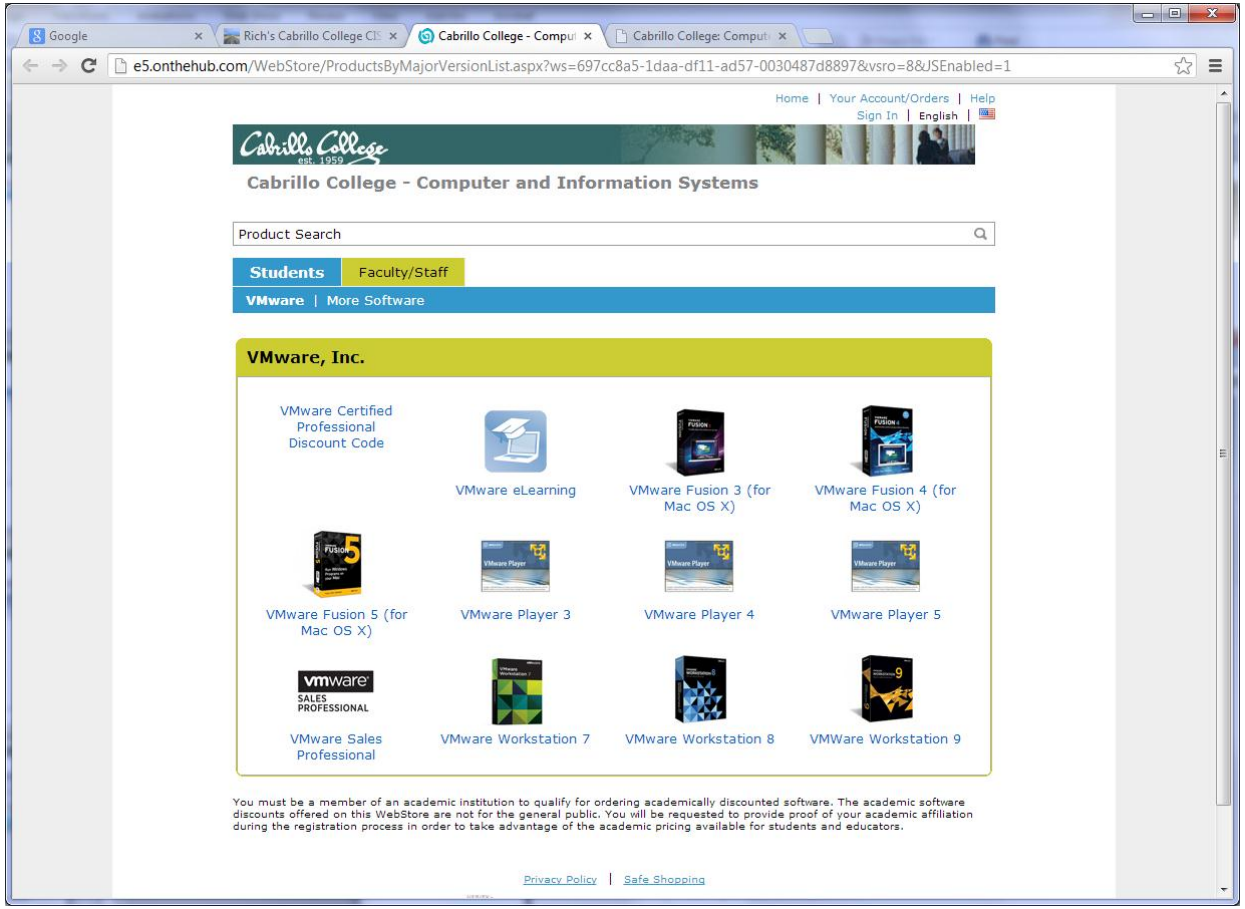


Download an iso image of the Linux distribution

virtualbox.org

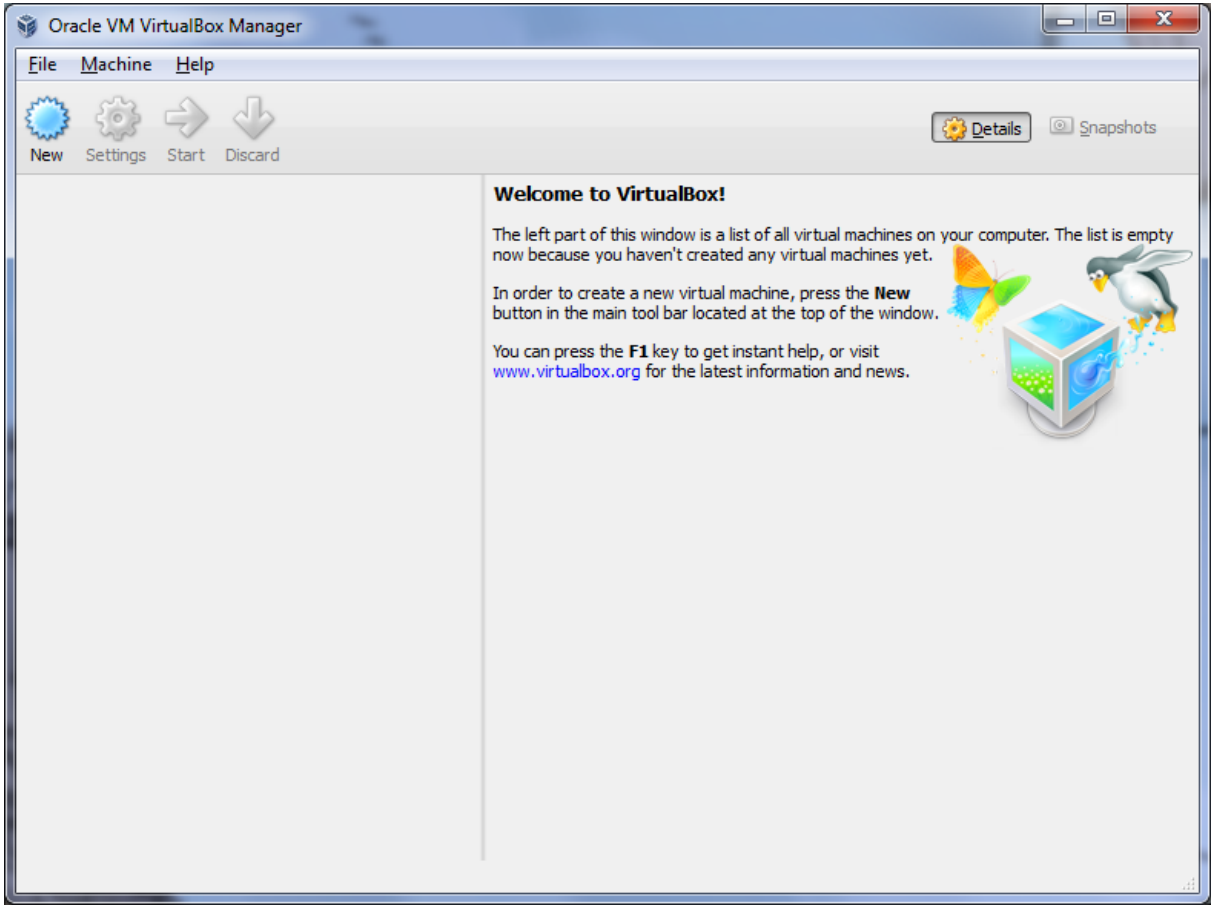


http://e5.onthehub.com/WebStore/ProductsByMajorVersionList.aspx?ws=697cc8a5-1daa-df11-ad57-0030487d8897&vsro=8&JSEnabled=1



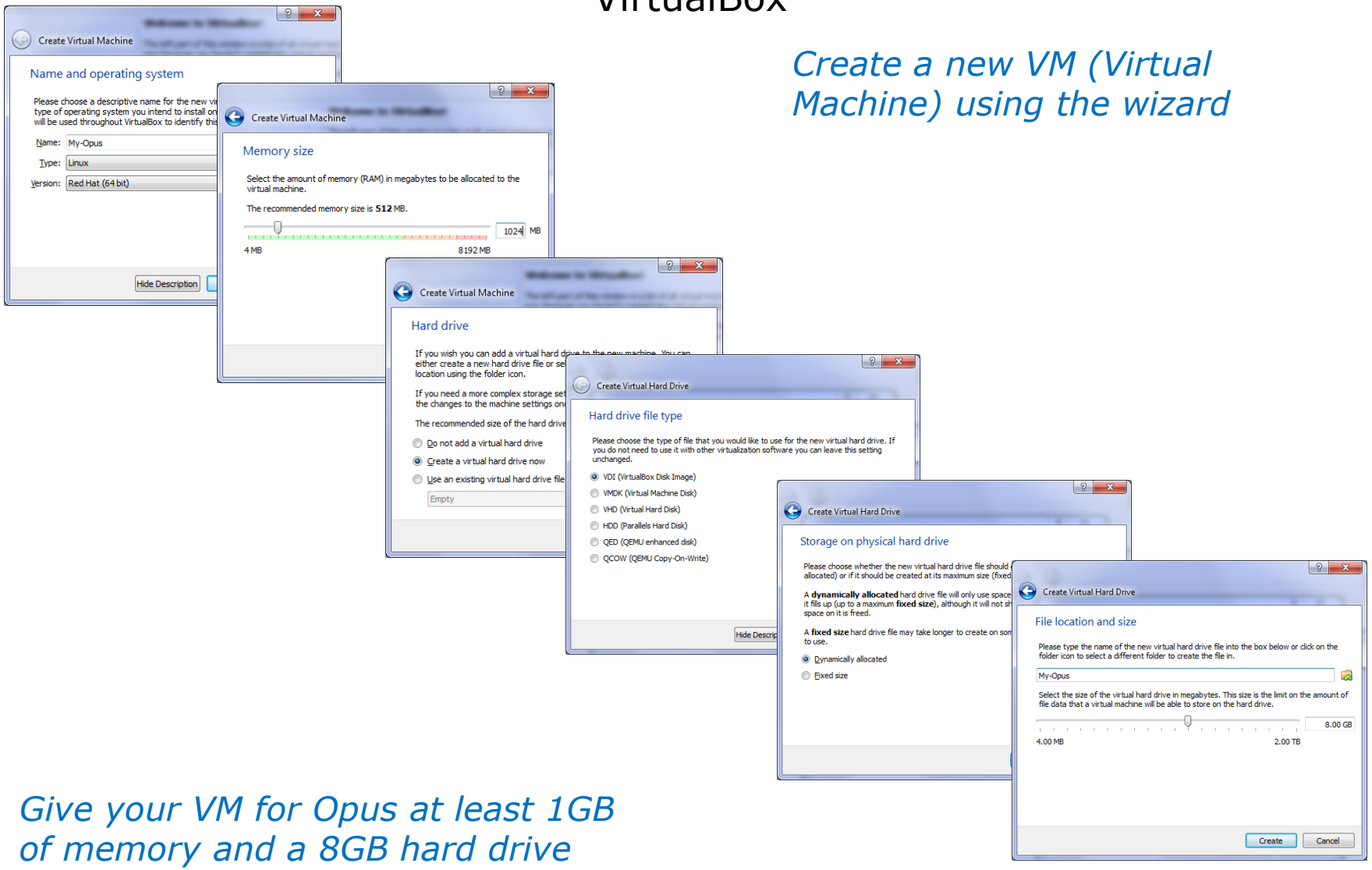
VirtualBox

Click the New button to create a new VM.



Download and install one of the virtualization products. This example will use VirtualBox.

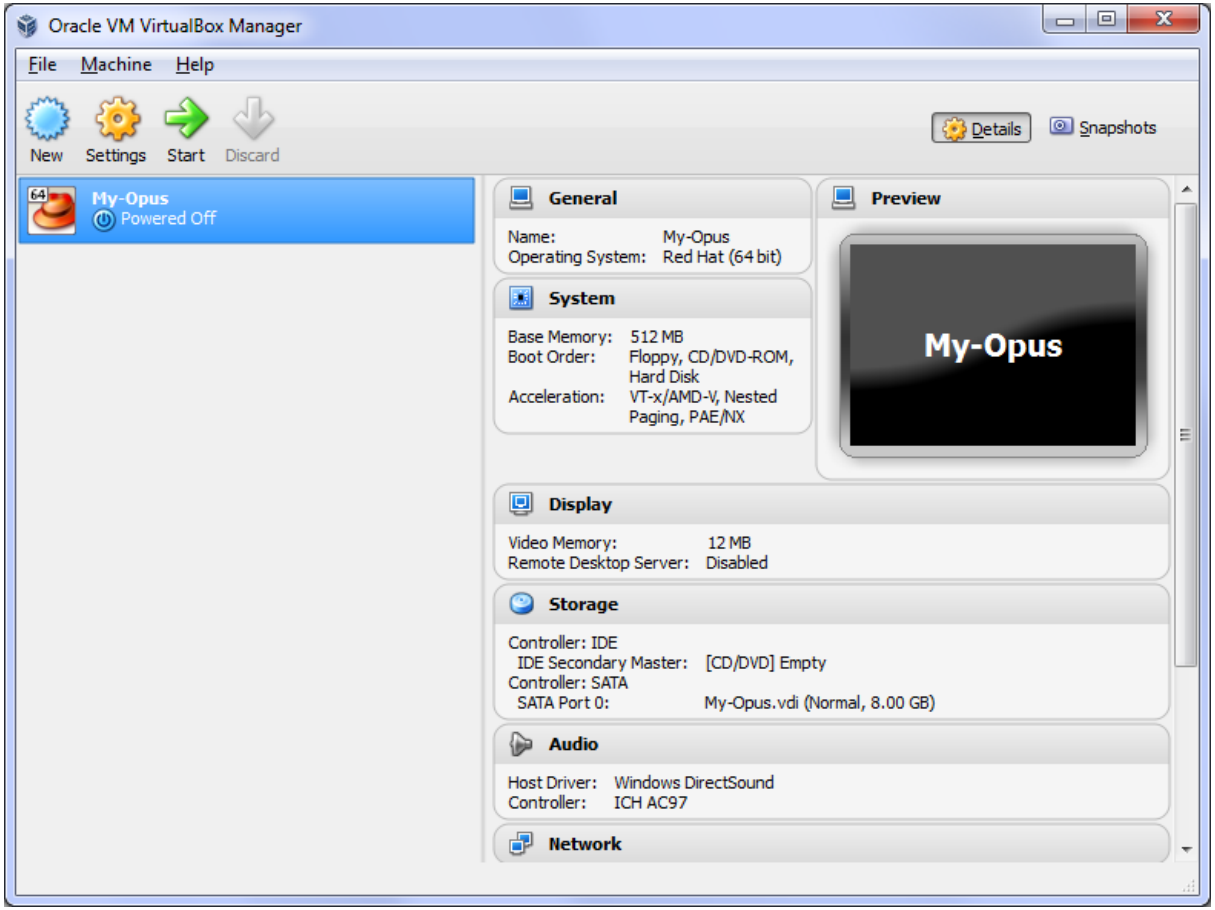
VirtualBox



Create a new VM (Virtual Machine) using the wizard

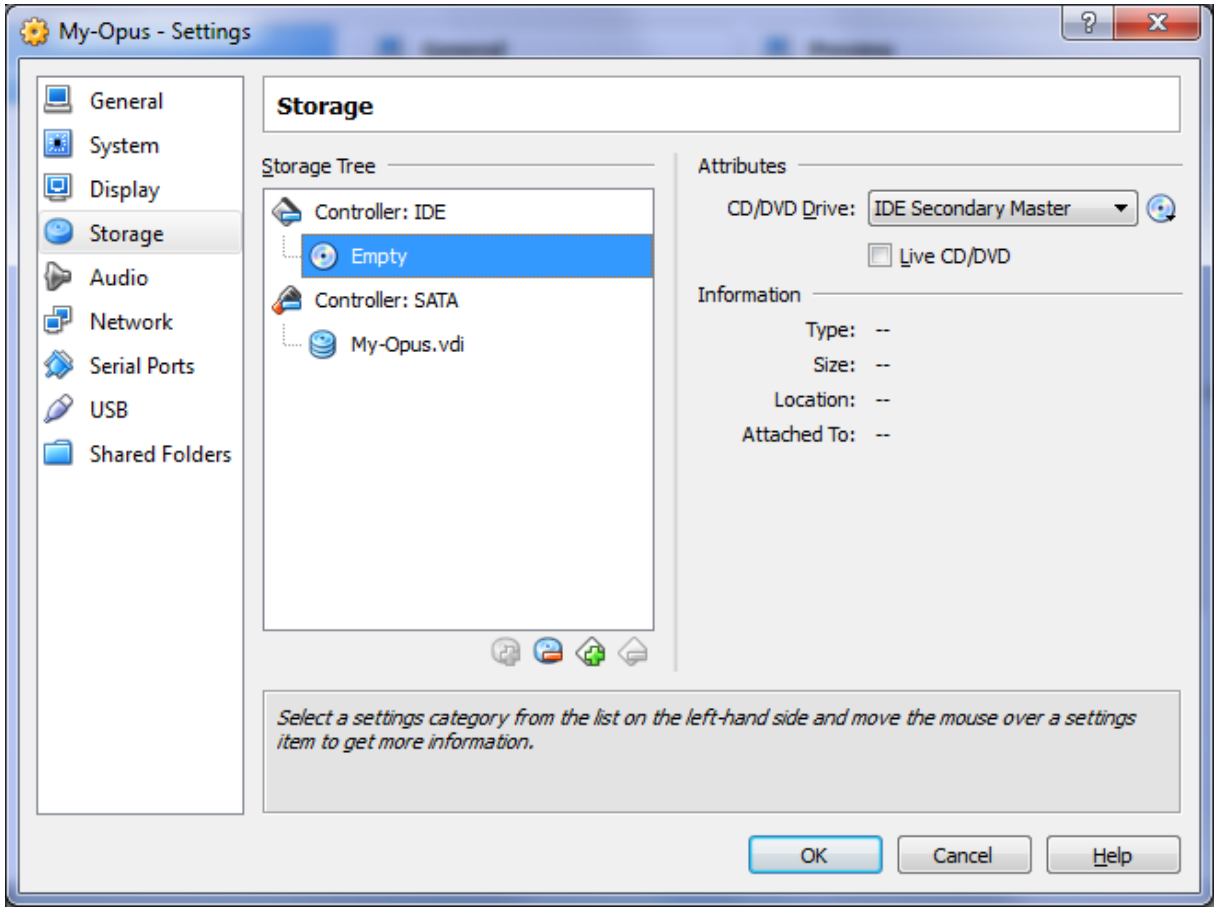
Give your VM for Opus at least 1GB of memory and a 8GB hard drive

VirtualBox



The new VM has no operating system

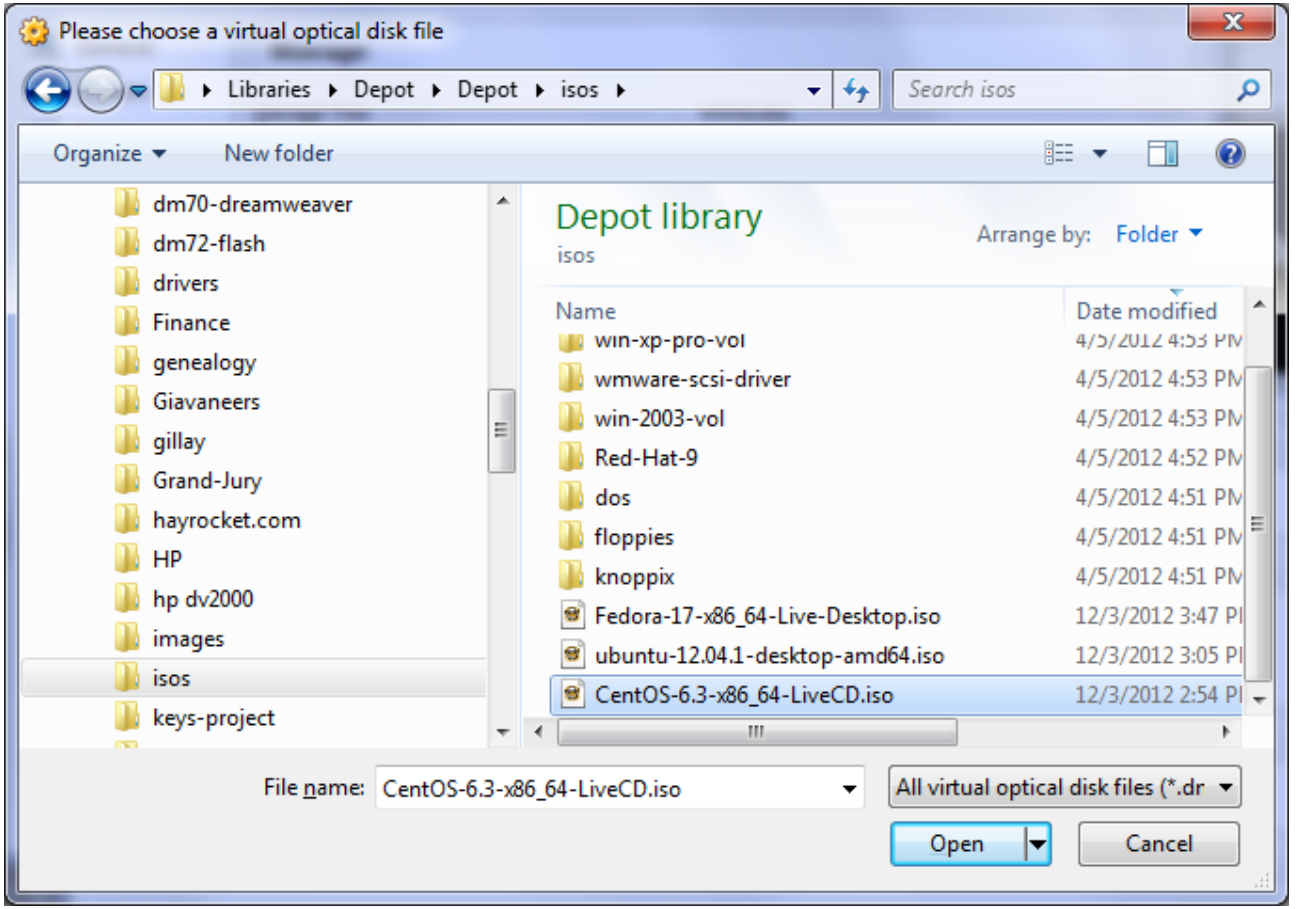
VirtualBox



Click the little CD icon to the left to browse to the CentOS ISO image to install

In Settings locate Storage so we can "put the CentOS CD into the DVD drive" by configuring the virtual IDE DVD drive with the ISO image downloaded earlier.

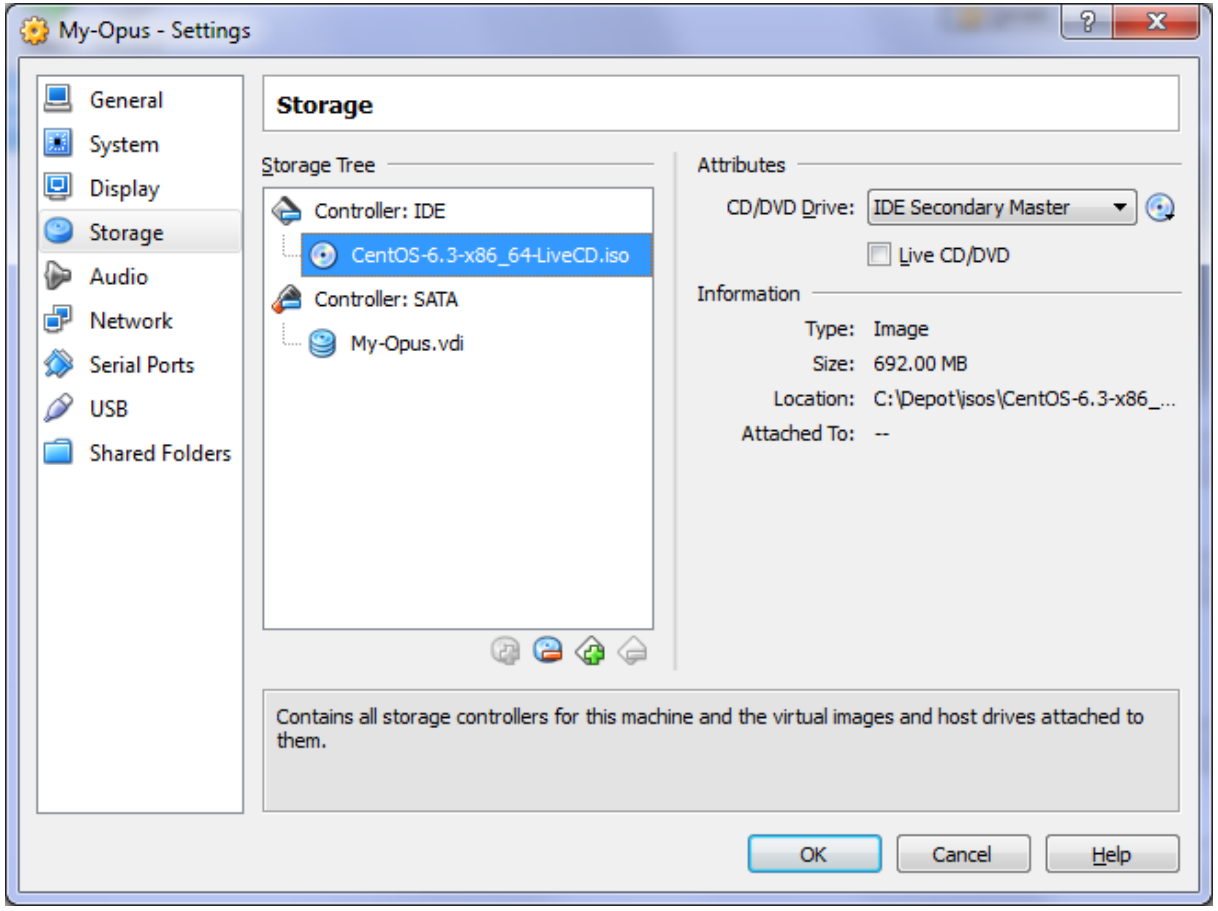
VirtualBox



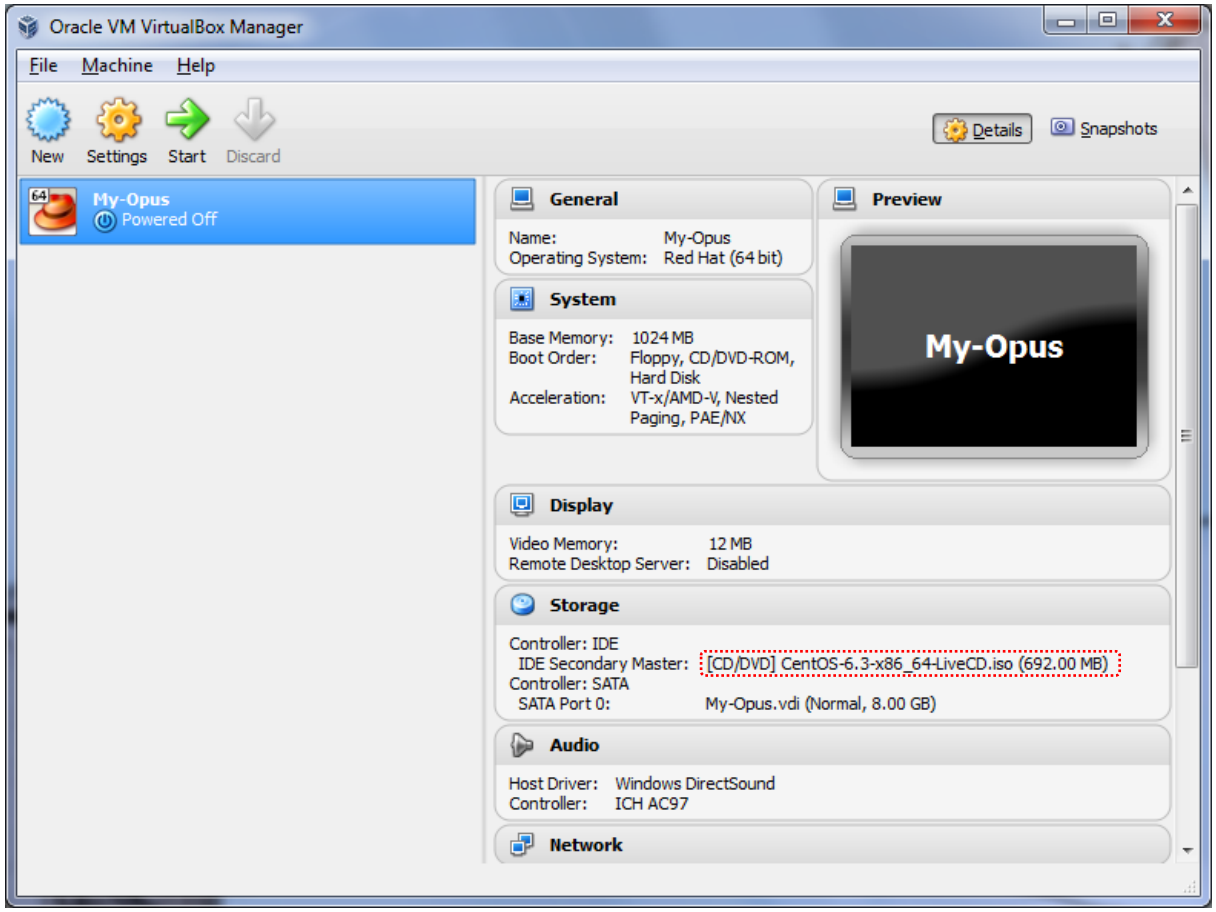
Locate the ISO image to install

CentOS-6.3-x86_64-LiveCD.iso

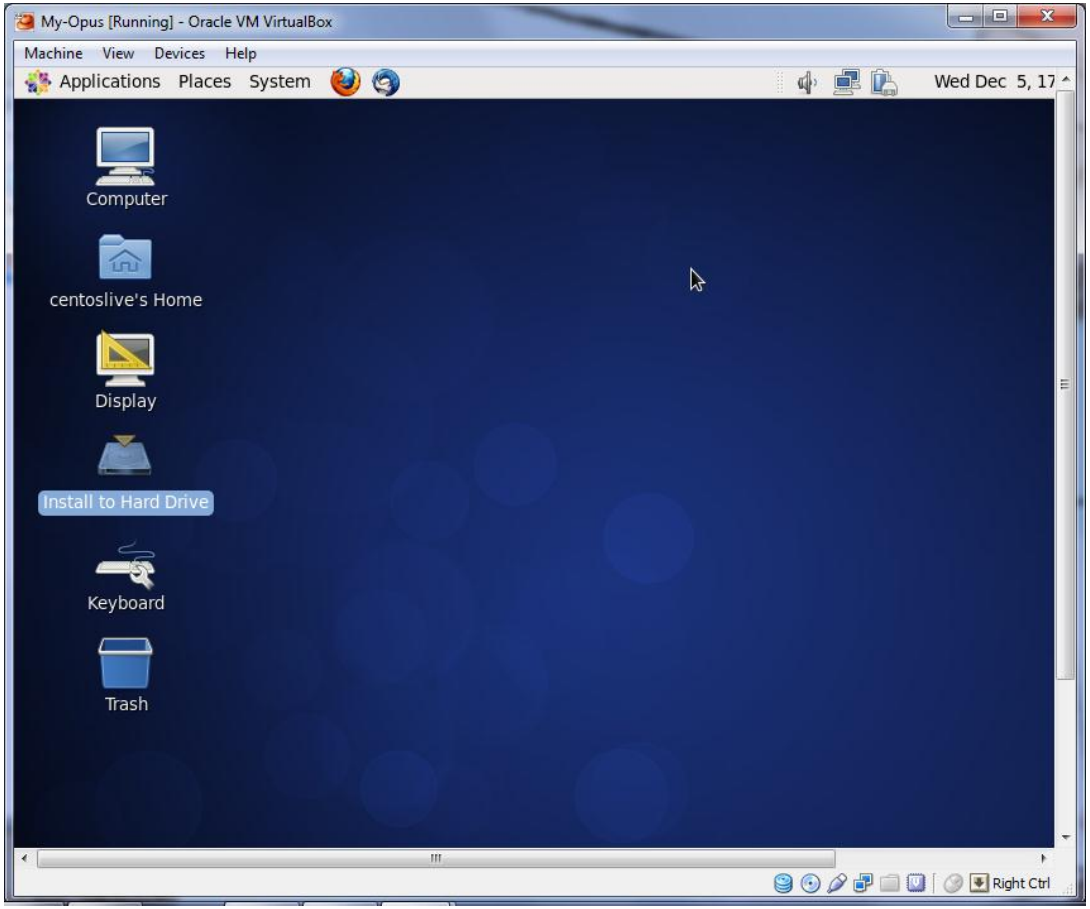
VirtualBox


My-Opus - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
Storage
Storage Tree
Controller: IDE
CentOS-6.3-x86_64-LiveCD.iso
Controller: SATA
My-Opus.vdi
Attributes
CD/DVD Drive: IDE Secondary Master
Live CD/DVD
Information
Type: Image
Size: 692.00 MB
Location: C:\Depot\isos\CentOS-6.3-x86_...
Attached To: --
Contains all storage controllers for this machine and the virtual images and host drives attached to them.
OK
Cancel
Help

VirtualBox



If you see the correct ISO image in the drive you can power on the VM



If it complains you don't have a 64-bit CPU (and you do have 64-bit CPU) then enable Virtualization Technology in your BIOS.

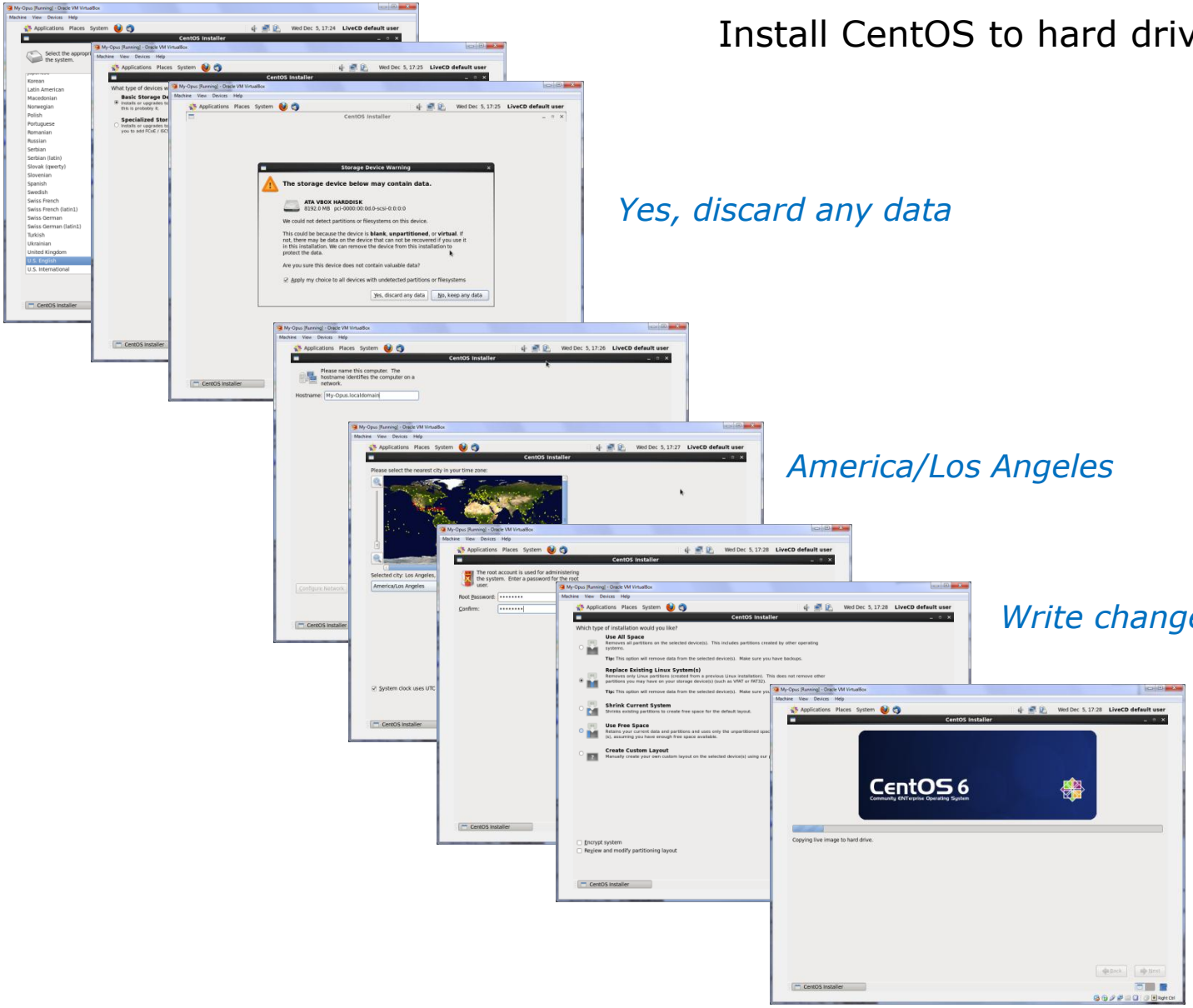
Otherwise just let it boot up using the live image which runs in memory and is not installed to the hard drive.

To install permanently to the VM hard drive open the "Install to Hard Drive" icon on the desktop

If it complains you don't have a 64-bit CPU (and you do have 64-bit CPU) then enable Virtualization Technology in your BIOS

Keep hitting the Next button to let the wizard install the CentOS Linux distribution

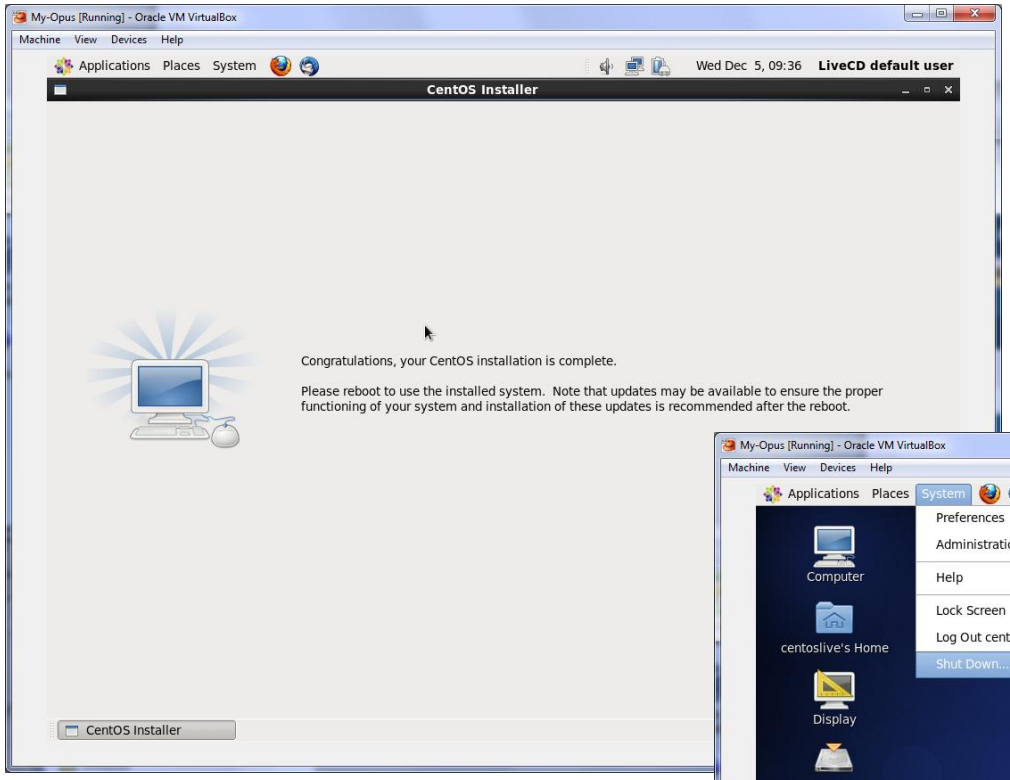
Install CentOS to hard drive

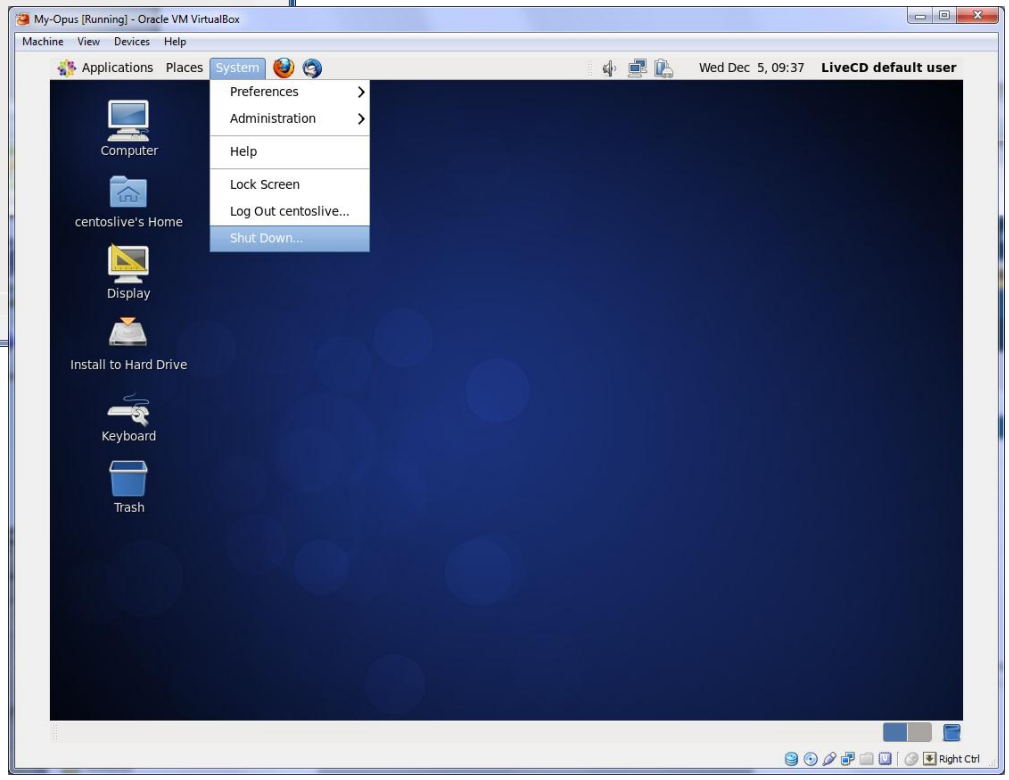


Yes, discard any data

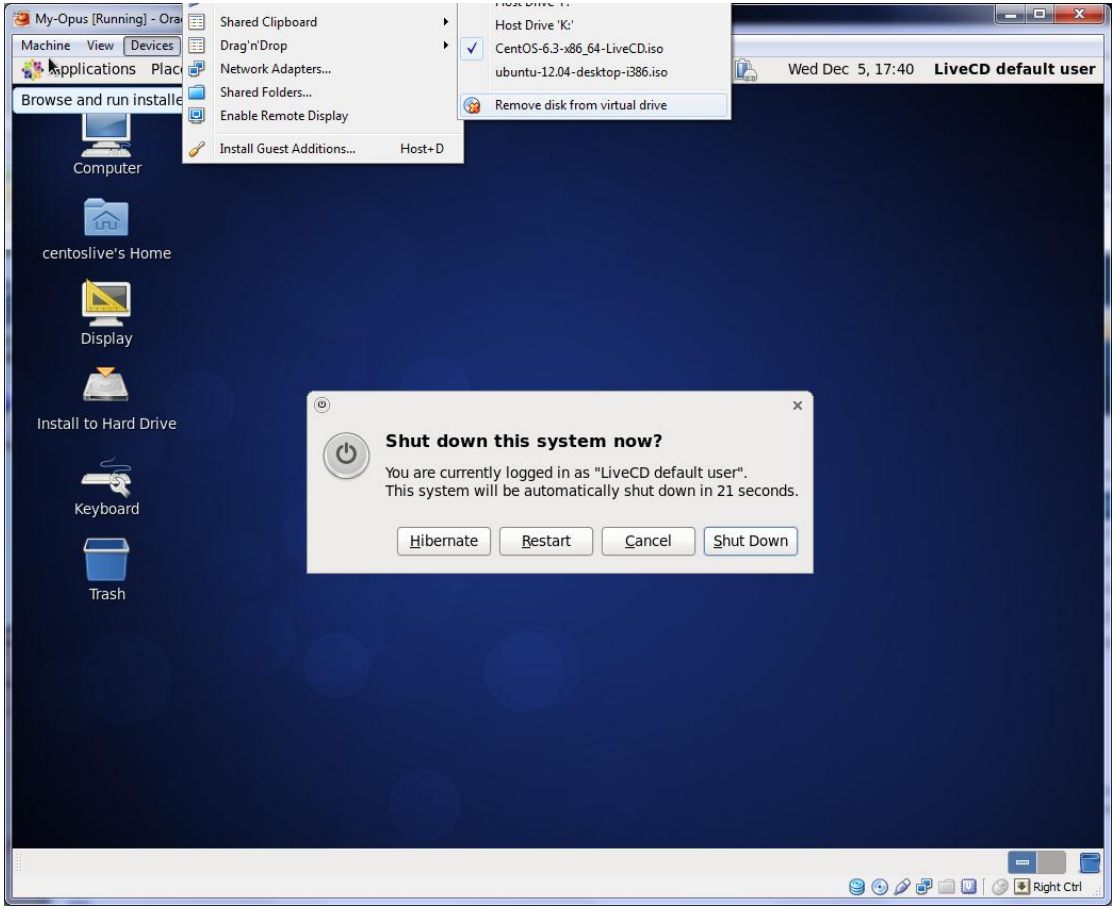
America/Los Angeles

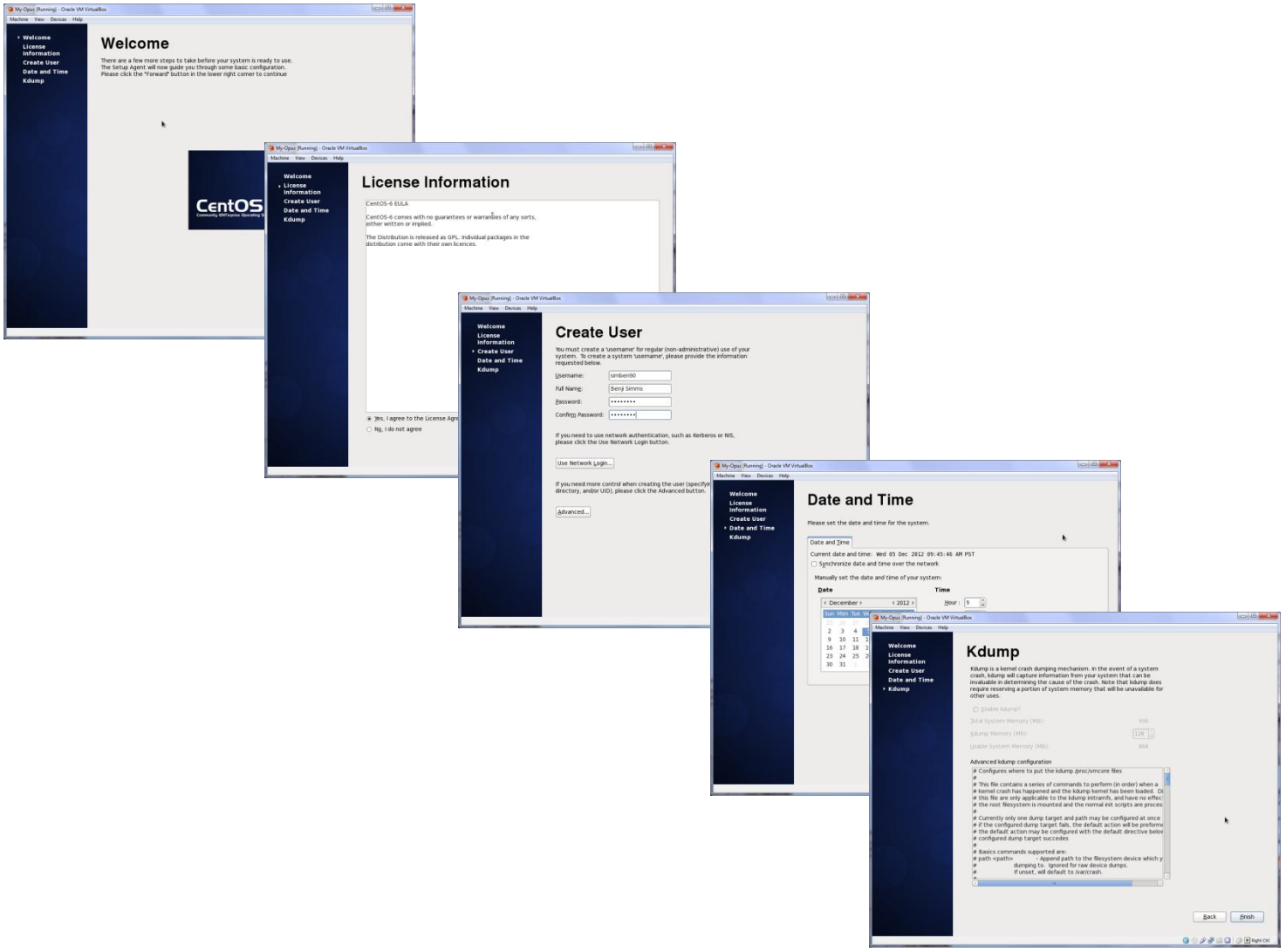
Write changes to disk



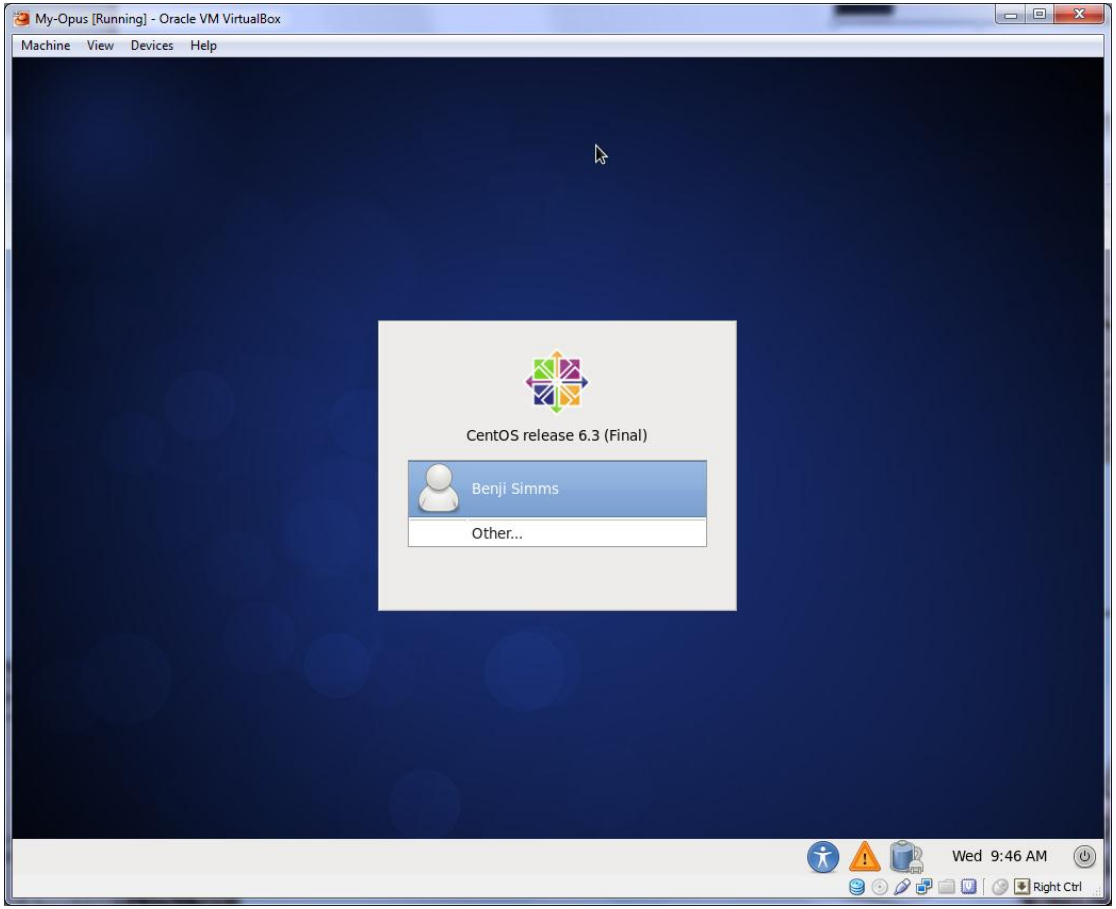


Shutdown the system and before starting again remove the CD from the drive (Settings > Storage)


My-Opus [Running] - Ora
Machine View Devices
Applications Plac
Browse and run installe
Shared Clipboard
Drag'n'Drop
Network Adapters...
Shared Folders...
Enable Remote Display
Install Guest Additions... Host+D
Host Drive 'K:'
CentOS-6.3-x86_64-LiveCD.iso
ubuntu-12.04-desktop-i386.iso
Remove disk from virtual drive
Wed Dec 5, 17:40
LiveCD default user
Computer
centoslive's Home
Display
Install to Hard Drive
Keyboard
Trash
Shut down this system now?
You are currently logged in as "LiveCD default user".
This system will be automatically shut down in 21 seconds.
Hibernate
Restart
Cancel
Shut Down
Right Ctrl


Welcome
License Information
Create User
Date and Time
Kdump
There are a few more steps to take before your system is ready to use.
The Setup Agent will now guide you through some basic configuration.
Please click the "Forward" button in the lower right corner to continue
CentOS
License Information
CentOS-6 EULA
CentOS-6 comes with no guarantees or warranties of any sorts, either written or implied.
The Distribution is released as GPL. Individual packages in the distribution come with their own licences.
Yes, I agree to the License Agr
No, I do not agree
Create User
You must create a 'username' for regular (non-administrative) use of your system. To create a system 'username', please provide the information requested below.
Username:
simben90
Full Name:
Benji Simms
Password:
Confirm Password:
If you need to use network authentication, such as Kerberos or NIS, please click the Use Network Login button.
Use Network Login...
If you need more control when creating the user (specify
directory, and/or UID), please click the Advanced button.
Advanced...
Date and Time
Please set the date and time for the system.
Date and Time
Current date and time: Wed 05 Dec 2012 09:45:46 AM PST
Synchronize date and time over the network
Manually set the date and time of your system:
Date
Time
December
2012
Hour:
9
Kdump
Kdump is a kernel crash dumping mechanism. In the event of a system crash, kdump will capture information from your system that can be invaluable in determining the cause of the crash. Note that kdump does require reserving a portion of system memory that will be unavailable for other uses.
Enable kdump?
Total System Memory (MB):
996
Kdump Memory (MB):
128
Usable System Memory (MB):
868
Advanced kdump configuration
Configures where to put the kdump /proc/vmcore files
#
This file contains a series of commands to perform (in order) when a
kernel crash has happened and the kdump kernel has been loaded. D
this file are only applicable to the kdump initramfs, and have no effec
the root filesystem is mounted and the normal init scripts are proces
#
Currently only one dump target and path may be configured at once
if the configured dump target fails, the default action will be preform
the default action may be configured with the default directive belo
configured dump target succedes
#
Basics commands supported are:
path <path> - Append path to the filesystem device which y
dumping to. Ignored for raw device dumps.
If unset, will default to /var/crash.
Back
Finish

Voilà



If you like doing this you will love CIS 191!

Project Presentations

To demo your project and earn five points:

Join CCC Confer and share desktop when it is your turn

- Remote users should dial or Skype to 888-450-4821 and use passcode: 761867
- Classroom students can use Station #5 next to the Polycom

Five minutes max please!

Wrap up

New commands:

tar	Backup and restore files

New Files and Directories:

Next Class is the Final Exam

Test #3

Five Posts

Lab X1 (extra credit)

Lab X2 (extra credit)

Project Workshop (optional)

Backup