



Lesson Module Checklist

- Slides
- WB - converted

- Flash cards
- Page numbers
- 1st minute quiz
- Web Calendar summary
- Web book pages
- Commands

- Blackboard Practice Test ready
- Practice Test systems ready
- Schedule midnight turnin directory block
- Schedule midnight backup of all myscript files

- Backup slides, CCC info, handouts on flash drive
- Check that backup room headset is charged
- Spare 9v battery for mic



Student checklist

- 1) Browse to the CIS 90 website Calendar page
 - <http://simms-teach.com>
 - Click CIS 90 link on left panel
 - Click Calendar link near top of content area
 - Locate today's lesson on the Calendar

- 2) Download the presentation slides for today's lesson for easier viewing

- 3) Click Enter virtual classroom to join CCC Confer session

- 4) Connect to Opus using Putty or ssh command

Introductions and Credits



Jim Griffin

- Created this Linux course
- Created Opus and the CIS VLab
- Jim's site: <http://cabrillo.edu/~jgriffin/>



Rich Simms

- HP Alumnus
- Started teaching this course in 2008 when Jim went on sabbatical
- Rich's site: <http://simms-teach.com>

And thanks to:

- John Govsky for many teaching best practices: e.g. the First Minute quizzes, the online forum, and the point grading system (<http://teacherjohn.com/>)



Instructor: **Rich Simms**

Dial-in: **888-886-3951**

Passcode: **136690**



Francisco



Chris



Justin



Jesus



Shenghong



Paul



Roberto



Sam



Navin



Jimmy



Luis



Tommy



Abraham



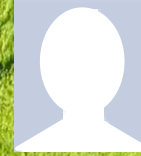
Ann



Cameron



Cody



Alejandrino



Deane



Nadia



Richard Z.



Gabriel



Ryan



Takashi



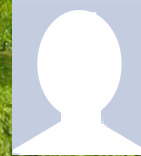
Jeff



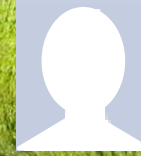
Nick



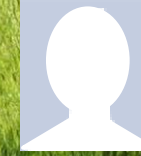
Jonathan



Shea



Matthew



James



Richard I.



Nicole

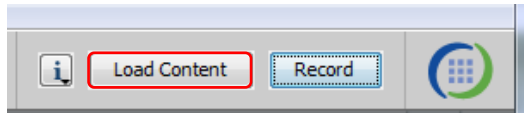


Aaron



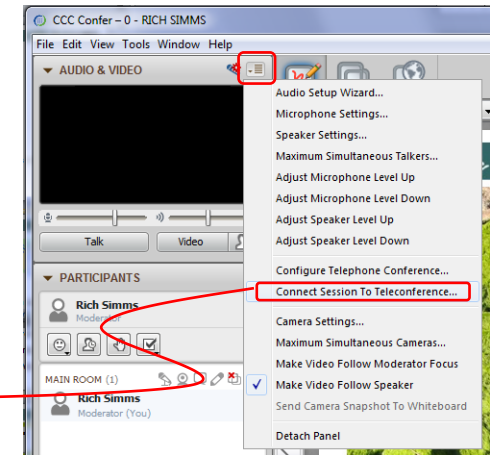
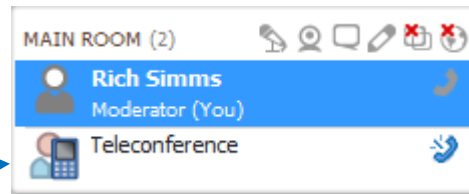
Instructor CCC Confer checklist

[] Preload White Board



[] Connect session to Teleconference

Session now connected to teleconference



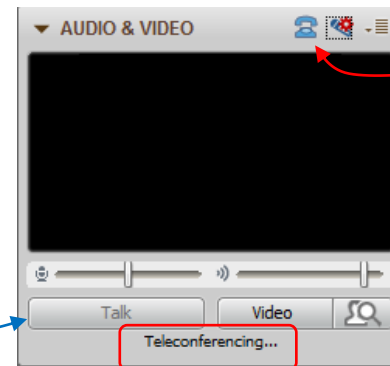
[] Is recording on?



Red dot means recording

[] Use teleconferencing, not mic

Should be greyed out



Should show as this live "off hook" telephone handset icon and the Teleconferencing ... message displayed



Instructor CCC Confer checklist

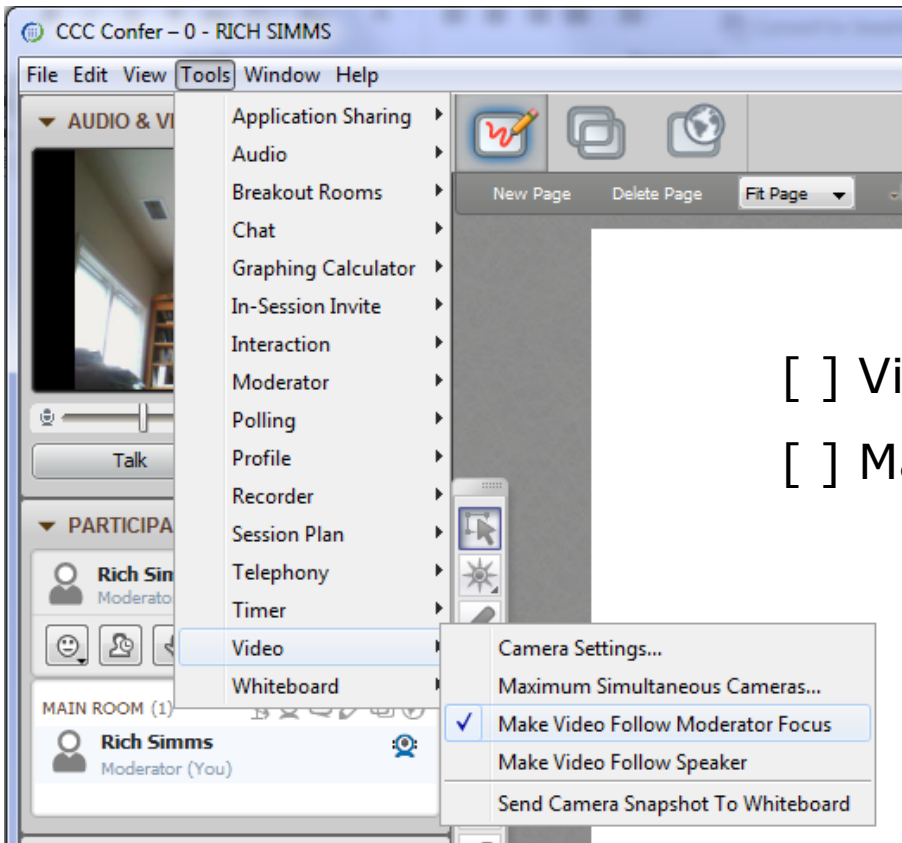
The screenshot displays a Windows desktop with several applications open. On the left is the CCC Confer interface, showing a video feed of Rich Simms and a list of participants. In the center is a Chrome browser window displaying a PDF document titled 'simms-teach.com/docs/cis90/cis-90-TEST-1-Fall-12.pdf'. The document contains two questions: [Q1] What command shows the other users logged in to the computer? and [Q2] What environment variable is used by the shell to determine which directories to search when locating a command? Below the browser is a Putty terminal window showing a login session for simben90@oslab. On the right is the vSphere Client window showing the vCenter console. Three red callout boxes with white text are overlaid on the image: 'foxit for slides' points to the PDF document, 'chrome' points to the browser window, and 'vSphere Client' points to the vSphere Client window. The taskbar at the bottom shows various application icons and the system clock indicating 6:52 AM on 10/10/2012.

[] layout and share apps





Instructor CCC Confer checklist

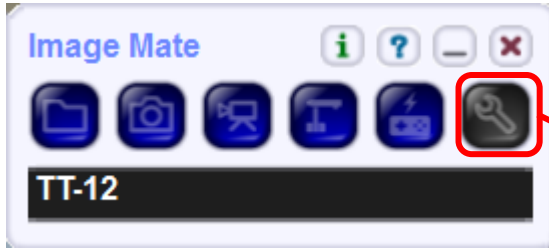


[] Video (webcam)

[] Make Video Follow Moderator Focus



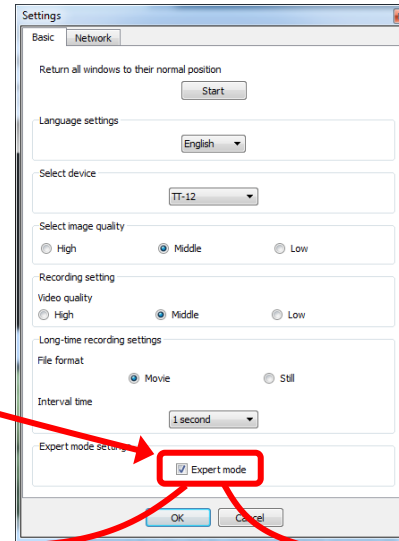
Using Elmo with CCC Confer



Elmo rotated down to view side table



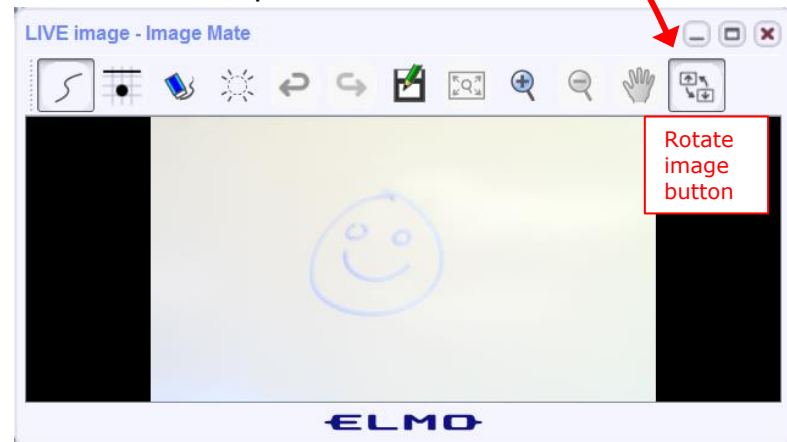
Run and share the Image Mate program just as you would any other app with CCC Confer



The "rotate image" button is necessary if you use both the side table and the white board.

Quite interesting that they consider you to be an "expert" in order to use this button!

Elmo rotated up to view white board

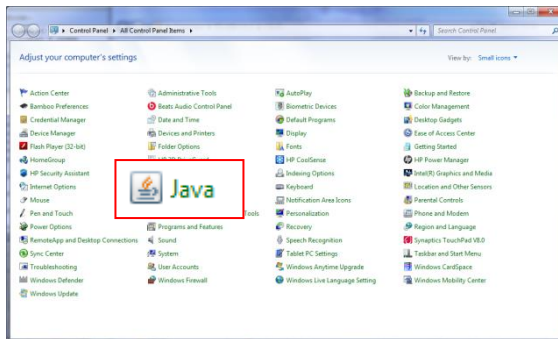


Instructor CCC Confer checklist

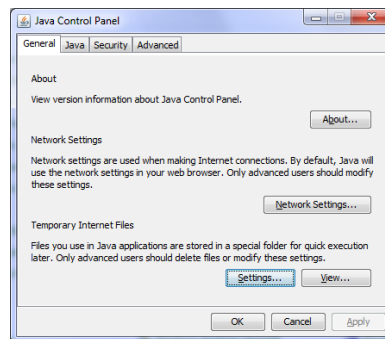
Universal Fix for CCC Confer:

- 1) Shrink (500 MB) and delete Java cache
- 2) Uninstall and reinstall latest Java runtime

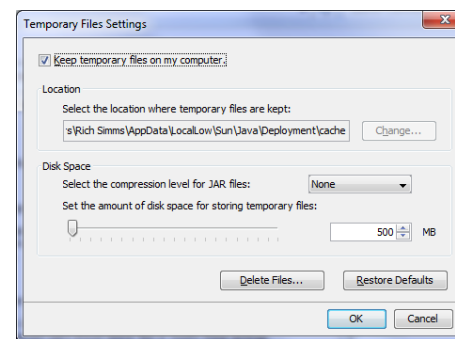
Control Panel (small icons)



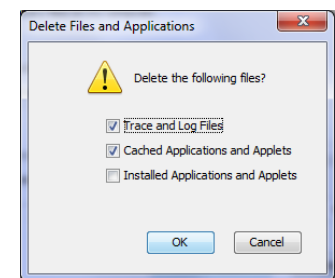
General Tab > Settings...



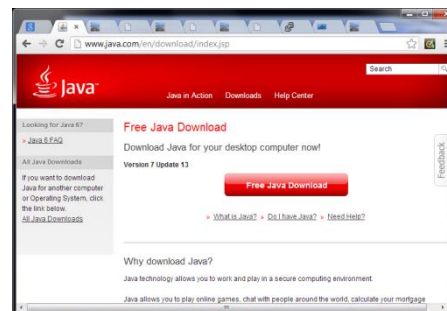
500MB cache size



Delete these



Google Java download



Quiz

Please answer these questions **in the order** shown:

See electronic white board

email answers to: risimms@cabrillo.edu

(answers must be emailed within the first few minutes of class for credit) 10

Quiz

**No Quiz
Today !**



File Transfer and Review

Objectives

- Transfer project files to Windows and Linux systems
- Prepare for final exam

Agenda

- No Quiz
- Questions from last week
- File transfer continued
- Project Presentations
- Practice Test #3



Questions



Questions?

Lesson material?

Labs? Tests?

How this course works?

- Graded work in home directories
- Answers in /home/cis90/answers

Who questions much, shall learn much, and retain much.

- Francis Bacon

If you don't ask, you don't get.

- Mahatma Gandhi

Chinese
Proverb

他問一個問題，五分鐘是個傻子，他不問一個問題仍然是一個傻瓜永遠。

He who asks a question is a fool for five minutes; he who does not ask a question remains a fool forever.



Housekeeping



**Project is
due tonight!**



- Final project **due 11:59 PM** tonight
- Don't forget to **submit** using the instructions
`cp myscript /home/rsimms/turnin/cis90/myscript.$LOGNAME`
- Project presentations after lesson material today
- Final exam is next week **Thursday** Dec 18th
- Extra credit labs and forum posts due 11:59 PM day of the final exam
- Practice test for final exam will be available at 3 PM today

Grading rubric (60 points maximum)

| Possible Points | Requirements |
|---------------------|--|
| 30 | Implementing all five tasks (6 points each): <ul style="list-style-type: none"> Requirements for each task: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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) |

← *Make sure you have at least five of these implemented*

} ← *Log in as cis90 and test your script so you don't lose any points*


```
[rsimms@oslab project]$ ./progress | sort
myscript file: (albjon90) 2014-12-09 02:27:20 exists readable executable 7651
myscript file: (asngab90) 2014-12-07 16:38:12 exists readable executable 2090
myscript file: (atirob90) not found
myscript file: (ayalui90) 2014-11-25 14:30:17 exists readable executable 546
myscript file: (bincam90) 2014-12-03 14:11:43 exists readable executable 3766
myscript file: (bownic90) 2014-11-25 14:30:29 exists readable executable 546
myscript file: (boyjef90) 2014-12-08 15:10:15 exists readable executable 6269
myscript file: (desmat90) not found
myscript file: (diljam90) not found
myscript file: (dobtho90) 2014-12-08 23:11:32 exists readable executable 735
myscript file: (espale90) not found
myscript file: (howmil90) 2014-12-08 22:55:07 exists readable executable 6348
myscript file: (isoric90) 2014-11-18 14:27:30 exists readable executable 704
myscript file: (keichr90) 2014-11-18 13:53:28 exists readable executable 546
myscript file: (lamnav90) 2014-12-08 18:09:06 exists readable executable 15602
myscript file: (lishe90) 2014-12-05 17:35:27 exists readable executable 9285
myscript file: (locaar90) 2014-12-07 18:39:44 exists readable executable 1572
myscript file: (milhom90) 2014-12-05 14:53:44 exists readable executable 4181
myscript file: (nieabr90) 2014-11-25 20:21:31 exists readable executable 546
myscript file: (nordak90) 2014-12-08 20:28:41 exists readable executable 5571
myscript file: (pikann90) 2014-12-08 22:39:17 exists readable executable 6793
myscript file: (porrya90) 2014-12-08 21:18:41 exists readable executable 3418
myscript file: (quifra90) 2014-12-08 22:57:01 exists readable executable 2222
myscript file: (rodduk90) not found
myscript file: (rodjus90) 2014-11-18 14:13:18 exists readable executable 721
myscript file: (simben90) 2014-12-02 11:57:23 exists readable executable 10513
myscript file: (specod90) not found
myscript file: (tamjim90) 2014-12-08 22:22:28 exists readable executable 5771
myscript file: (tamtak90) 2014-12-09 01:39:52 exists readable executable 12970
myscript file: (tinsam90) not found
myscript file: (tranad90) 2014-12-07 14:12:33 exists readable executable 4206
myscript file: (urijes90) 2014-12-08 21:13:46 exists readable executable 991
myscript file: (wrenic90) 2014-11-25 15:07:46 exists readable executable 710
myscript file: (zahpau90) 2014-12-09 04:27:27 exists readable executable 5350
myscript file: (zemric90) 2014-12-05 11:22:21 exists readable executable 3642
[rsimms@oslab project]$
```

*To get started
see Lesson 13
slides 83 to 100
ASAP*

*If you have
started but it
doesn't show
here make sure
you can run
your myscript
file from
allscripts as the
cis90 user.*

Spring 2015 Linux Classes and Prerequisites

CIS 90 Introduction to UNIX/Linux

Provides a technical overview of the UNIX/Linux operating system, including hands-on experience with commands, files, and tools. Prerequisite: CIS 72. Transfer Credit: CSU.

| Section | Days | Times | Units | Instructor | Room |
|---------|------|-----------------|-------|------------|------|
| 88445 | W | 09:00AM-12:05PM | 3.00 | R.Simms | OL |
| & | Arr. | Arr. | | R.Simms | OL |

Section 88445 is an ONLINE course. Meets weekly throughout the semester online during the scheduled times by remote technology with an additional 50 min arranged online lab per week. For details, see instructor's web page at go.cabrillo.edu/online.

| Section | Days | Times | Units | Instructor | Room |
|---------|------|-----------------|-------|------------|------|
| 88446 | W | 09:00AM-12:05PM | 3.00 | R.Simms | 828 |
| & | Arr. | Arr. | | R.Simms | OL |

Section 88446 is a Hybrid ONLINE course. Meets weekly throughout the semester at the scheduled times with an additional 50 min online lab per week. For details, see instructor's web page at go.cabrillo.edu/online.

CIS 81 Networking Fundamentals and Theory (Cisco CCNA 1)

Presents networking protocols, standards, concepts, and terminology including Ethernet, ARP, ICMP, IP addressing, subnetting, switches, hubs, routers, TCP, UDP, OSI Model and other standards and protocols. Hybrid Requisite: Completion of or concurrent enrollment in CIS 72. Recommended Preparation: Eligibility for MATH 154.

Transfer Credit: CSU.

| Section | Days | Times | Units | Instructor | Room |
|---------|------|-----------------|-------|------------|------|
| 87038 | M | 05:30PM-09:35PM | 4.00 | R.Graziani | 828 |
| & | Arr. | Arr. | | R.Graziani | OL |

Section 87038 is a Hybrid ONLINE course. Meets weekly throughout the semester at the scheduled times with an additional 50 min online lab per week.

Students will be required to show that they meet the course prerequisites. For details, see instructor's web page at go.cabrillo.edu/online.

CIS 192AB UNIX/Linux Network Administration

Teaches the building of network infrastructures, and the installation, configuration, and protection services on Linux TCP/IP networks. Prerequisites: CIS 81 and CIS 90 or equivalent skills. Recommended Preparation: CIS 191AB

| Section | Days | Times | Units | Instructor | Room |
|---------|------|-------|-------|------------|------|
| 88451 | Arr. | Arr. | 4.00 | M.Matera | OL |

Section 88451 is an ONLINE course. For details, see instructor's web page at go.cabrillo.edu/online.

| Section | Days | Times | Units | Instructor | Room |
|---------|------|-----------------|-------|------------|------|
| 88453 | TH | 05:30PM-09:35PM | 4.00 | M.Matera | 828 |
| & | Arr. | Arr. | | M.Matera | OL |

Section 88453 is an Hybrid ONLINE course. Meets weekly throughout the semester at the scheduled times with an additional 50 min online lab per week. Students will be required to show that they meet the course prerequisites. For details, see instructor's web page at go.cabrillo.edu/online.

CIS 193AB UNIX/Linux Security Administration

Teaches how to perform the tasks and examine the strategies of UNIX/Linux host, files, and network security management. Prerequisites: CIS 192AB Recommended Preparation: CIS 175

| Section | Days | Times | Units | Instructor | Room |
|---------|------|-------|-------|------------|------|
| 88454 | Arr. | Arr. | 4.00 | M.Matera | OL |

Section 88454 is an ONLINE course. For details, see instructor's web page at go.cabrillo.edu/online.

| Section | Days | Times | Units | Instructor | Room |
|---------|------|-----------------|-------|------------|------|
| 88455 | TH | 10:00AM-02:05PM | 4.00 | M.Matera | 829 |
| & | Arr. | Arr. | | M.Matera | OL |

Section 88455 is a Hybrid ONLINE course. Meets weekly throughout the semester at the scheduled times with an additional 50 min online lab per week. Students will be required to show that they meet the course prerequisites. For details, see instructor's web page at go.cabrillo.edu/online.

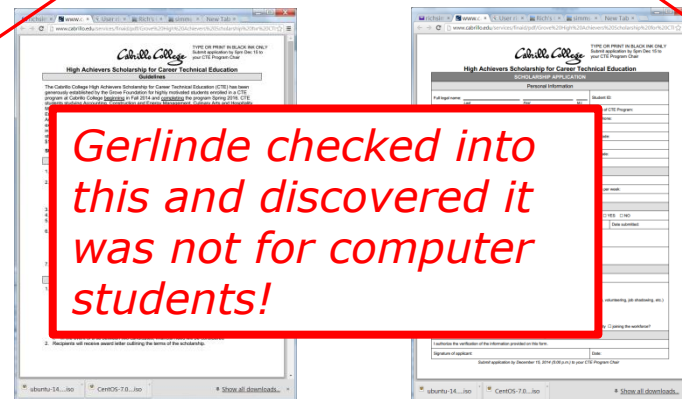
From Eileen Hill at the Cabrillo College Foundation:

The Cabrillo College Foundation is pleased to announce that the High Achievers Scholarship for Career Technical Education (CTE) students are available again this year! Ten outstanding students will be chosen to receive a \$10,000 High Achievers Scholarship for Career Technical Education; disbursed over three semesters. The scholarships are for exceptional CTE students who intend to complete the CTE program within two years and obtain a job in the career technical field upon graduation from the program. This scholarship is not intended for students who plan to transfer to another college. If a student has already fulfilled 25% or more of their classes towards their CTE certification, they are not eligible for the scholarship. The deadline for students to submit the High Achievers Scholarship for CTE applications is **December 15, 2014 at 5 p.m. to your CTE Program Chair**. Please publicize this tremendous scholarship opportunity to your BEGINNING CTE students.

Below is the link to the guidelines and application for the High Achievers Scholarship for CTE. Please distribute and encourage exceptional and beginning CTE students to apply by 5:00 p.m. December 15, 2014.

<http://www.cabrillo.edu/services/finaid/pdf/Grove%20High%20Achievers%20Scholarship%20for%20CTE%20Guidelines%20&%20Application%2011-20-14.pdf>

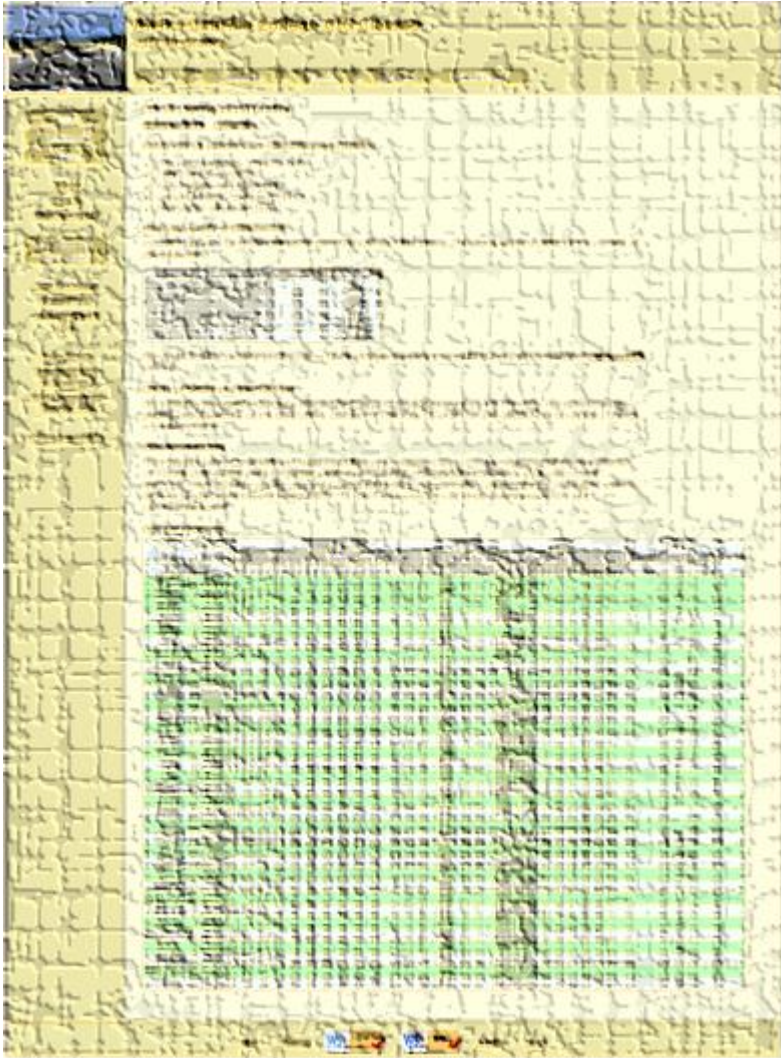
Faculty and Staff may contact Eileen Hill at the Foundation (eileen.hill@cabrillo.edu) if you have any questions. Please direct students to Ana Rodriguez in Financial Aid and Scholarships (anrodrig@cabrillo.edu) if they need assistance.



<http://simms-teach.com/cis90grades.php>

GRADES

- Check your progress on the Grades page
- If you haven't already, send me a student survey to get your LOR secret code name
- Graded labs & tests are placed in your home directories on Opus
- Answers to labs, tests and quizzes are in the `/home/cis90/answers` directory on Opus
- If you still haven't counted your total points to see how far you are from the grade you want then this would be a good day to do it!



Current Point Tally

Points that could have been earned:

| | |
|-------------------|-------------------|
| 10 quizzes: | 30 points |
| 10 labs: | 300 points |
| 2 tests: | 60 points |
| 3 forum quarters: | 60 points |
| Total: | 450 points |

| 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 |

Use Sam's new Python command to see how many points you have earned and how many more you need for the grade you want:

grades <LOR codename>

Use Sam's new Python command to see when the next assignments are due:

schedule

Jesse's script is still available too:

checkgrades <LOR codename>

If you still haven't counted your total points to see how far you are from the grade you want then this would be a good day to do it!

Jesse's checkgrades python script

<http://oslab.cabrillo.edu/forum/viewtopic.php?f=31&t=773&p=2966>

```
/home/cis90/simben $ checkgrades smeagol
```

Remember, your points may be zero simply because the assignment has not been graded yet.

Quiz 1: You earned 3 points out of a possible 3.
Quiz 2: You earned 3 points out of a possible 3.
Quiz 3: You earned 3 points out of a possible 3.
Quiz 4: You earned 3 points out of a possible 3.

Forum Post 1: You earned 20 points out of a possible 20.

Lab 1: You earned 30 points out of a possible 30.
Lab 2: You earned 30 points out of a possible 30.
Lab 3: You earned 30 points out of a possible 30.
Lab 4: You earned 29 points out of a possible 30.

You've earned 15 points of extra credit.

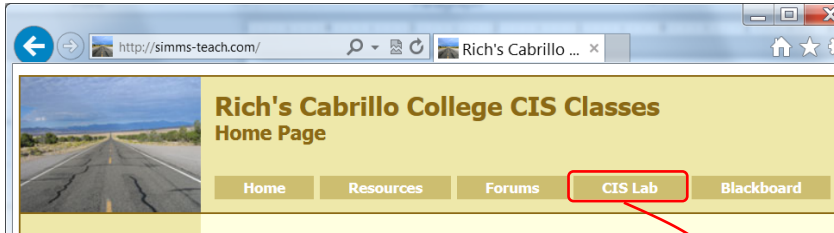
You currently have a 109% grade in this class. (166 out of 152 possible points.)

*Use your LOR
code name as
an argument on
the checkgrades
command*

Jesse is a CIS 90 Alumnus. He wrote this python script when taking the course. It mines data from the website to check how many of the available points have been earned so far.

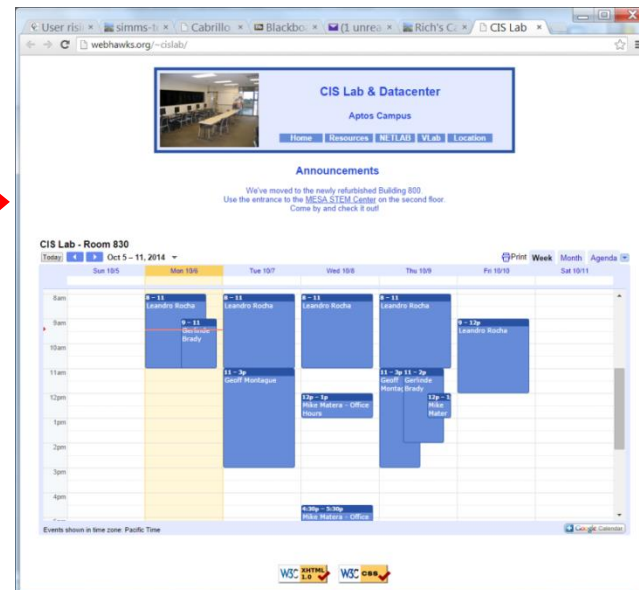
CIS Lab Schedule

<http://webhawks.org/~cislab/>



Not submitting tests or lab work?

If you would like some additional help come over to the CIS Lab.



*Leandro, Geoff and Nick
(Mondays 10-4) are all CIS 90
Alumni.*

*Michael is the other Linux
instructor.*

Or hang around after class. Rich has his office hours right after each class in Room 828.

Free CIS 90 Tutoring Available

<http://www.cabrillo.edu/services/tutorials/>

The screenshot shows the website for the Tutorials Center at Cabrillo College. The main content area includes:

- TUTORIALS**: A section with an image of students working together.
- ANNOUNCEMENTS & DEADLINES**: A list of subjects for Spring 2014: American Sign Language, Computer Applications/Business Technology (CABT), Computer and Information Systems (CIS), and History 17A.
- Welcome to the Tutorials Center!**: A section stating that free peer tutoring is offered. It lists several conditions:
 - Tutoring is by appointment.
 - Sessions are weekly and for the duration of the semester.
 - Tutoring sessions are scheduled in small groups.
 - Come directly to the TC office to schedule.
- The following classes are being tutored for Spring 2014:**
 - Accounting 1A, 1B, 6, 54A, 151A, 159, 163
 - American Sign Language (ASL) 1, 2
 - Biology 4, 5, 6
 - Computer Applications/Business Technology (CABT) 31, 38, 41, 101, 157, 160
 - Computer and Information Systems (CIS) 81, 90, 172** (highlighted with a red box)
 - Chemistry 1A, 1B, 2, 30A, 30B, 32
- CONTACT INFORMATION**:
 - Tutorials Center**
 - Location**: Room 1080A - Learning Resource Center
 - Phone**: 831.479.6470
 - Email**: tutorialscenter@cabrillo.edu
 - Coordinator**: Lori Chavez
 - Phone**: 831.479.6126
 - Email**: lochavez@cabrillo.edu
 - Hours**:
 - Monday - Thursday: 9am - 5pm
 - Friday: 9am - 1pm



Matt Smithey

All students interested in tutoring in CIS 90, 172, and 81 classes need to come directly to the Tutorials Center to schedule, register and fill out some paperwork. This is just a one-time visit.

The tutoring will take place at the STEM center and they will log in and log out on a computer you have designated (I will figure out exactly what that means).

Matt is available M: 9:00-5:00, T: 9-11 and 2-5, Wed: 9-12 and Th: 9-11 and 3-5.

More Free CIS 90 Tutoring Available

The screenshot shows a web browser window displaying a forum post. The browser tabs include "(1 unread) - rich", "User risimms loc", "Cabrillo College", and "Rich's Cabrillo C". The address bar shows the URL "oslab.cis.cabrillo.edu/forum/viewtopic.php?f=101&t=3324&sid=63dda9cf0a544936a540e216474d4c16".

The forum header is blue and features the phpBB logo with the tagline "creating communities". The forum title is "Cabrillo College: Computer and Information Systems" and the description is "Forum for students in the Computer Networking and System Administration and/or Computer Support Specialist programs". A search bar and "Advanced search" link are visible.

The breadcrumb trail reads: "Board index < Cabrillo College Fall 2014 Courses < CIS 90 - Fall 2014". Navigation links for "FAQ", "Register", and "Login" are present.

The main post title is "Do you need tutoring?". It includes a "POSTREPLY" button, a search box for the topic, and a "Search" button. The post statistics show "5 posts • Page 1 of 1".

The post content is as follows:

Do you need tutoring ?
by **Takashi Tamasu** » Thu Oct 16, 2014 9:37 pm

I belong to the AGS (Alpha Gamma Sigma) Honor Society at Cabrillo and one of the functions this club does is offer FREE tutoring. One of the tutors listed CIS 90 as one of the classes that he is willing to tutor. If someone needs tutoring you can either submit a tutor request form at our site or tell me a number and when you can be reached at that number to arrange tutoring. [https://sites.google.com/site/cabrilloa ... edirects=0](https://sites.google.com/site/cabrilloa...edirects=0)

BTW I am the tutor coordinator for AGS

cheers Takashi

The user profile for Takashi Tamasu is shown on the right, with "Posts: 59", "Joined: Wed Jan 29, 2014 3:46 pm".



Final Exam

Final Exam

Test #3 (final exam) is **THURSDAY** December 18 1:00-3:50PM

| | | | | |
|--|-------|---|-----------------------------------|---|
| | 12/18 | <p>Test #3 (the final exam)</p> <p>Time</p> <ul style="list-style-type: none"> 1:00PM - 3:50PM in Room 828 <p>Materials</p> <ul style="list-style-type: none"> Test (<u>blackboard</u>) <p>CCC Confer</p> <ul style="list-style-type: none"> <u>Enter virtual classroom</u> <u>Class archives</u> | we may move next door to room 829 | <p><u>5 posts</u></p> <p><u>Lab X1</u></p> <p><u>Lab X2</u></p> |
|--|-------|---|-----------------------------------|---|

- Working and long distance students can take the test online
- All students will take the test at the same time.
- Working students will need to plan ahead to take time off from work for the test.

Final Exam (Test #3)

- **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.
 - Blackboard test, so make sure you can log into Blackboard before the test starts so you don't waste valuable time on this activity.

Final Exam (Test #3)

- **Blackboard Practice Test 3**

- Advice:

- ❖ Work EVERY question on the practice test and make a personal reference sheet for remembering how to do things
 - ❖ Use your reference sheet on the final exam.
 - ❖ Take the practice test more than once. Use the **restore** command to reset your directory on the testing system
- Use of the study groups and forum are a great way to work on the practice test and prepare for the final exam.

Test Tips

ssh remote command

What size is the `.bash_history` file for the `cis90` user on your Arya VM?

What approach would you take to handling this type of test question?

Method 2 - add the ls command to the ssh command

```
/home/cis90/simben $ ssh cis90@arya-35 "ls -l .bash_history"  
cis90@arya-35's password:  
-rw----- 1 cis90 cis90 5641 Dec  2 14:09 .bash_history  
/home/cis90/simben $
```

It is 5641 bytes in size

Test Tips

head and tail pipelines
grep -n



Examine the *dickens* file in the */home/cis90/depot* directory and write a script to display the block of lines containing this quote:

```
"Father is so much kinder than he used to be"
```

In the dickens file, which line number contains the quote above?

Write your answer in the chat window

One way: use grep to find the quote in the file

Use grep to find the quote in the file

```
/home/cis90/simben $ grep "much kinder" ../depot/dickens  
for ever and ever. Father is so much kinder than he used to be, that
```

The -n option on grep shows the line number

```
/home/cis90/simben $ grep -n "much kinder" ../depot/dickens  
305:for ever and ever. Father is so much kinder than he used to be, that
```

Using grep we see that the quote is on line 305 of the dickens file

Use vi to view the block of lines containing the quote

```
vi ../depot/dickens
```

```
simben90@oslab:~
It opened; and a little girl, much younger than the boy, came darting in,
and putting her arms about his neck, and often kissing him, addressed
him as her "Dear, dear brother."

"I have come to bring you home, dear brother!" said the child, clapping
her tiny hands, and bending down to laugh. "To bring you home, home,
home!"

"Home, little Fan?" returned the boy.

"Yes!" said the child, brimful of glee. "Home, for good and all. Home,
for ever and ever. Father is so much kinder than he used to be, that
home's like Heaven! He spoke so gently to me one dear night when I
was going to bed, that I was not afraid to ask him once more if you
might come home; and he said Yes, you should; and sent me in a coach to
bring you. And you're to be a man!" said the child, opening her eyes,
"and are never to come back here; but first, we're to be together all
the Christmas long, and have the merriest time in all the world."

"You are quite a woman, little Fan!" exclaimed the boy.

She clapped her hands and laughed, and tried to touch his head; but being
too little, laughed again, and stood on tiptoe to embrace him. Then she
```

305,19 43%

For a script to output the circled block of text above we must determine the line numbers of the start and end of the block

Starts on
line 304

```
simben90@oslab:~  
It opened; and a little girl, much younger than the boy, came darting in,  
and putting her arms about his neck, and often kissing him, addressed  
him as her "Dear, dear brother."  
  
"I have come to bring you home, dear brother!" said the child, clapping  
her tiny hands, and bending down to laugh. "To bring you home, home,  
home!"  
  
"Home, little Fan?" returned the boy.  
  
"Yes!" said the child, brimful of glee. "Home, for good and all. Home,  
for ever and ever. Father is so much kinder than he used to be, that  
home's like Heaven! He spoke so gently to me one dear night when I
```

Ends on
line 311

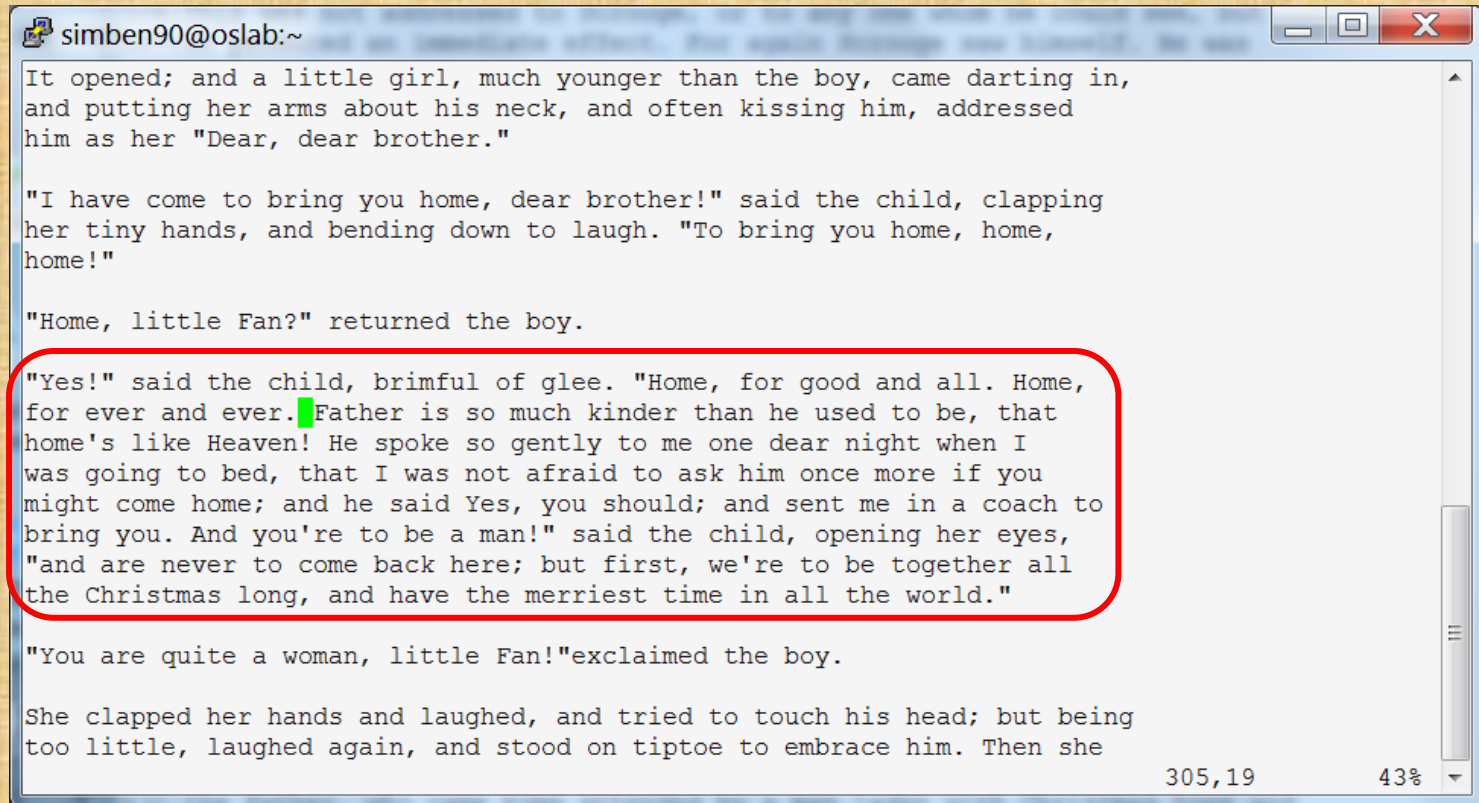
```
simben90@oslab:~  
It opened; and a little girl, much younger than the boy, came darting in,  
and putting her arms about his neck, and often kissing him, addressed  
him as her "Dear, dear brother."  
  
"I have come to bring you home, dear brother!" said the child, clapping  
her tiny hands, and bending down to laugh. "To bring you home, home,  
home!"  
  
"Home, little Fan?" returned the boy.  
  
"Yes!" said the child, brimful of glee. "Home, for good and all. Home,  
for ever and ever. Father is so much kinder than he used to be, that  
home's like Heaven! He spoke so gently to me one dear night when I  
was going to bed, that I was not afraid to ask him once more if you  
might come home; and he said Yes, you should; and sent me in a coach to  
bring you. And you're to be a man!" said the child, opening her eyes,  
"and are never to come back here; but first, we're to be together all  
the Christmas long, and have the merriest time in all the world."  
  
"You are quite a woman, little Fan!" exclaimed the boy.  
  
She clapped her hands and laughed, and tried to touch his head; but being  
too little, laughed again, and stood on tiptoe to embrace him. Then she
```

304,1

311,1

Just move the cursor in vi and the line number in the lower right changes

`/home/cis90/depot/dickens`



```
simben90@oslab:~  
It opened; and a little girl, much younger than the boy, came darting in,  
and putting her arms about his neck, and often kissing him, addressed  
him as her "Dear, dear brother."  
  
"I have come to bring you home, dear brother!" said the child, clapping  
her tiny hands, and bending down to laugh. "To bring you home, home,  
home!"  
  
"Home, little Fan?" returned the boy.  
  
"Yes!" said the child, brimful of glee. "Home, for good and all. Home,  
for ever and ever. Father is so much kinder than he used to be, that  
home's like Heaven! He spoke so gently to me one dear night when I  
was going to bed, that I was not afraid to ask him once more if you  
might come home; and he said Yes, you should; and sent me in a coach to  
bring you. And you're to be a man!" said the child, opening her eyes,  
"and are never to come back here; but first, we're to be together all  
the Christmas long, and have the merriest time in all the world."  
  
"You are quite a woman, little Fan!" exclaimed the boy.  
  
She clapped her hands and laughed, and tried to touch his head; but being  
too little, laughed again, and stood on tiptoe to embrace him. Then she
```

305,19 43%

*Starts on
line 304*

*Ends on
line 311*

*What pipeline command using head and tail would print
just the block of text above?*

Write your answer in the chat window

*The last line of
the block is 311*

*The number of lines in
the block would be
 $311 - 304 + 1$
or 8 lines*

```
/home/cis90/simben $ head -n311 ../depot/dickens | tail -n8  
"Yes!" said the child, brimful of glee. "Home, for good and all. Home,  
for ever and ever. Father is so much kinder than he used to be, that  
home's like Heaven! He spoke so gently to me one dear night when I  
was going to bed, that I was not afraid to ask him once more if you  
might come home; and he said Yes, you should; and sent me in a coach to  
bring you. And you're to be a man!" said the child, opening her eyes,  
"and are never to come back here; but first, we're to be together all  
the Christmas long, and have the merriest time in all the world."  
/home/cis90/simben $
```

*This is how you would use a head and tail pipeline to print just
the block of text in the file containing the quote*

*The last line of
the block is 311*

*The number of lines in
the block would be
 $311 - 304 + 1$
or 8 lines*

```
/home/cis90/simben $ head -n311 ../depot/dickens | tail -n8  
"Yes!" said the child, brimful of glee. "Home, for good and all. Home,  
for ever and ever. Father is so much kinder than he used to be, that  
home's like Heaven! He spoke so gently to me one dear night when I  
was going to bed, that I was not afraid to ask him once more if you  
might come home; and he said Yes, you should; and sent me in a coach to  
bring you. And you're to be a man!" said the child, opening her eyes,  
"and are never to come back here; but first, we're to be together all  
the Christmas long, and have the merriest time in all the world."  
/home/cis90/simben $
```

What script could you write to output just the block of text above?


```
/home/cis90/simben $ vi dickens101
/home/cis90/simben $ cat dickens101
head -n311 ../depot/dickens | tail -n8
```

```
/home/cis90/simben $ chmod +x dickens101
/home/cis90/simben $ dickens101
```

```
"Yes!" said the child, brimful of glee. "Home, for good and all. Home,
for ever and ever. Father is so much kinder than he used to be, that
home's like Heaven! He spoke so gently to me one dear night when I
was going to bed, that I was not afraid to ask him once more if you
might come home; and he said Yes, you should; and sent me in a coach to
bring you. And you're to be a man!" said the child, opening her eyes,
"and are never to come back here; but first, we're to be together all
the Christmas long, and have the merriest time in all the world."
/home/cis90/simben $
```

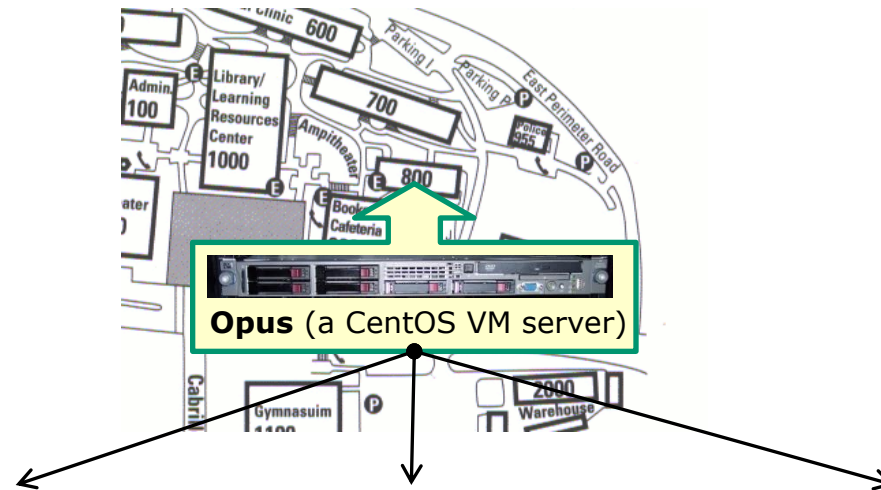
A one-line script to print the block of text containing the quote



File Transfer

File Transfer

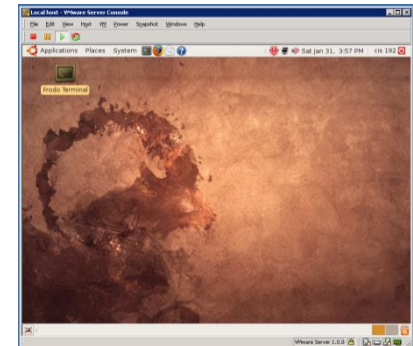
Downloading your Opus files to your home computer



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

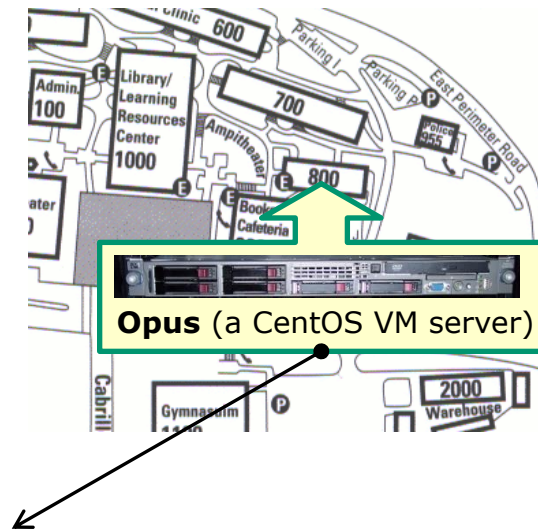


File Transfer To Windows

FileZilla

File Transfer

Downloading your Opus files to your home computer



Windows

Using  FileZilla

File Transfer

<http://filezilla-project.org>

The screenshot shows the FileZilla website's download page. The browser's address bar displays <https://filezilla-project.org/download.php>. The page header features the FileZilla logo and the tagline "The free FTP solution". A left-hand navigation menu lists various sections: Home, FileZilla (Features, Screenshots, Download, Documentation), FileZilla Server (Download), Community (Forum, Project page, Wiki), General (Contact, License, Privacy Policy), Development (Source code, Nightly builds, Translations, Version history, Changelog, Issue tracker), and Other projects (OctoChess). A PayPal Donate button and a "Sponsors: Supported by artmotion" logo are also visible. The main content area is titled "Client Download" and states: "The latest stable version of FileZilla Client is 3.7.3. Please select the file appropriate for your platform below." Under the "Windows" section, there is a "Download Now" button from SourceForge, labeled "(recommended)". Below this, it says "This installer may include bundled offers. Check below for more options." and lists "Windows XP, Vista and Windows 7 are supported, each both 32 and 64 bit." A "More download options" section follows, with the text "Not what you are looking for?" and a link to "Show additional download options". An inset image shows a Windows installer window with a list of files and folders.

FileZilla On Windows, connect to your Opus

The screenshot shows the FileZilla client interface with several yellow callout boxes pointing to specific fields:

- Opus username**: Points to the Username field containing "simben90".
- Port: 2220**: Points to the Port field containing "2220".
- Host: sftp://oslab.cis.cabrillo.edu**: Points to the Host field containing "sftp://oslab.cis.cabrillo.edu".
- Opus Password**: Points to the Password field, which is currently masked with dots.

The interface also displays the local site (C:\Users\Rich Simms\Documents\CIS 90 Class) and the remote site (/home/cis90/simben). The remote site contains a directory listing with columns for Filename, Filesize, Filetype, and Last modified. The status bar at the bottom indicates "Queue: empty".

| Filename | Filesize | Filetype | Last modified |
|----------|----------|-------------|------------------|
| .. | | | |
| Hidden | | File folder | 2/1/2002 |
| dogs | | File folder | 11/21/2010 |
| .ssh | | File folder | 9/3/2013 8:12: |
| etc | | File folder | 10/9/2013 1:50: |
| newdir | | File folder | 10/16/2013 9:00: |

FileZilla Select destination and source directories

The screenshot shows the FileZilla interface with the following details:

- Host: sftp://oslab.cishawks.net:2220
- Username: simben90
- Port: 2220
- Remote site: /home/cis90/simben
- Local directory: C:\Users\Rich Simms\Documents\CIS 90 Class\
- Remote directory: /home/cis90/simben

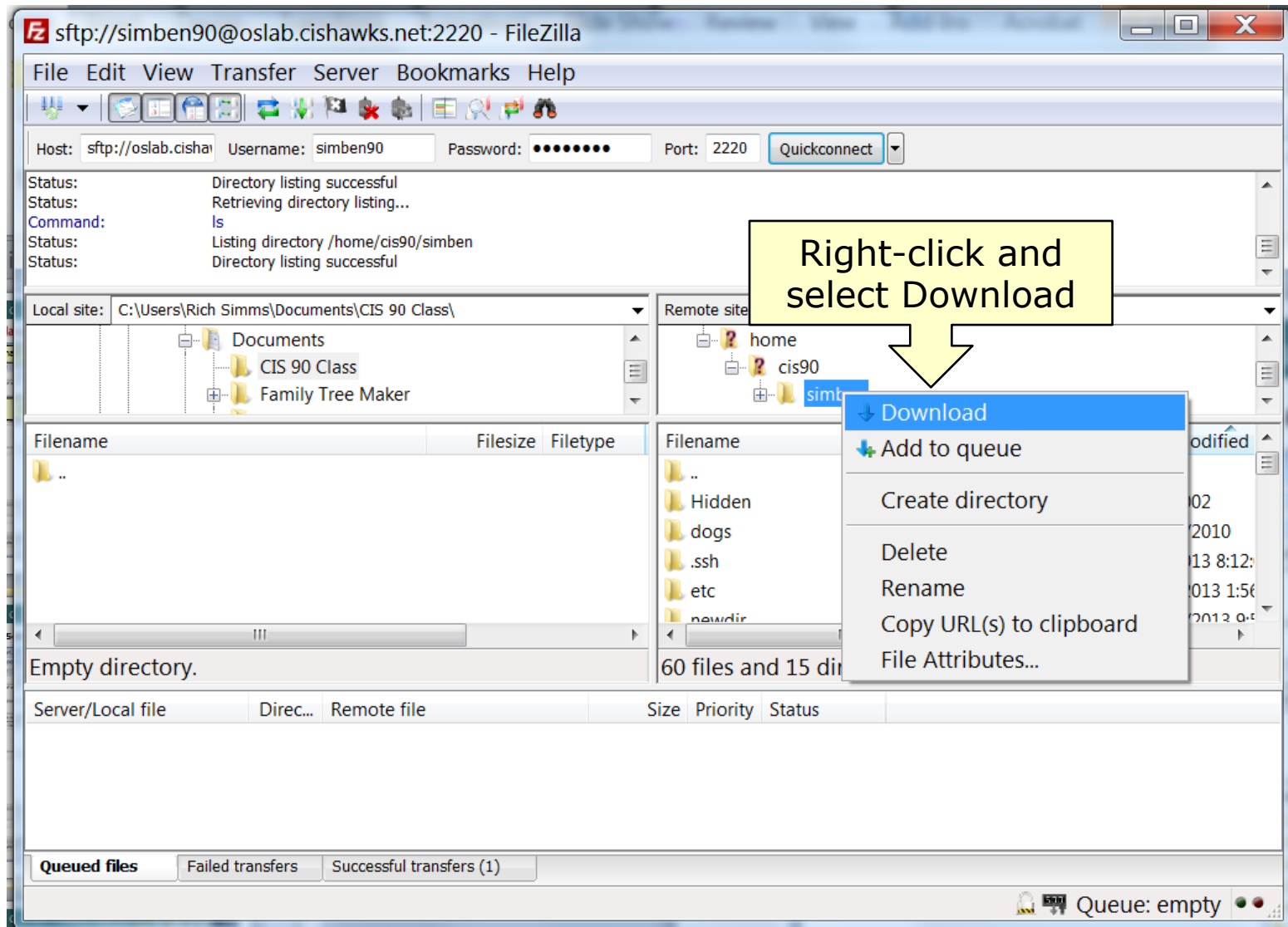
Annotations:

- Yellow callout: "As destination select a local folder" pointing to the local directory path.
- Yellow callout: "As source select your home directory (on Opus)" pointing to the remote site path.

Files are downloaded from the source directory to the destination directory

Queue: empty

FileZilla Initiate Download



FileZilla Monitor transfer progress

Host: sftp://oslab.cishaw... Username: simben90 Password: Port: 2220 Quickconnect

Command: get "bin.tar" "C:\Users\Rich Simms\Documents\CIS 90 Class\simben\bin.tar"
 Response: New directory is: "/home/cis90/simben/olddir"
 Command: ls
 Status: remote:/home/cis90/simben/bin.tar => local:C:\Users\Rich Simms\Documents\CIS 90 Class\simben\bin.tar
 Status: Listing directory /home/cis90/simben/olddir

| Local site | Remote site |
|---|-------------------------|
| C:\Users\Rich Simms\Documents\CIS 90 Class\ | /home/cis90/simben/misc |

| Filename | Filesize | Filetype | Last modified |
|----------|----------|-------------|---------------|
| .. | | | |
| simben | | File folder | |

| Filename | Filesize | Filetype | Last modified |
|----------|----------|-------------|----------------|
| .. | | | |
| mystery | | File folder | 9/2/2013 6:39: |
| file.dos | 148 | DOS File | 7/20/2001 |
| manpage | 10,576 | File | 7/20/2001 |

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

| Server/Local file | Direc... | Remote file | Size | Priority | Status |
|------------------------|------------------|-------------------------------|----------------------|----------|--------------|
| sftp://simben90@osl... | | | | | |
| C:\Users\Rich Simms... | <<-- | /home/cis90/simben/bin.tar | 71,680 | Norm... | Transferring |
| | 00:00:00 elapsed | --:--:-- left | 32,768 bytes (? B/s) | | |
| C:\Users\Rich Simms... | <<-- | /home/cis90/simben/lab04.g... | 3,282 | Norm... | |

Queued files (92) Failed transfers Successful transfers (45)

Queue: >248.0

FileZilla Failed transfers

FileZilla window: sftp://simben90@oslab.cishawks.net:2220

Host: sftp://oslab.cisha Username: simben90 Password: Port: 2220 Quickconnect

Status: Starting download of /home/cis90/simben/dogs/Greece/Aesop/Shadow
 Command: get "Shadow" "C:\Users\Rich Simms\Documents\CIS 90 Class\simben\dogs\Greece\Aesop\Shadow"
 Status: remote:/home/cis90/simben/dogs/Greece/Aesop/Shadow => local:C:\Users\Rich Simms\Documents\CIS 90 Class\simben\dogs\Greece\Aesop\Shadow
 Status: File transfer successful, transferred 639 bytes in 1 second

Local site: C:\Users\Rich Simms\Documents\CIS 90 Class\
 Remote site: /home/cis90/simben

| Filename | Filesize | Filetype | Filename | Filesize | Filetype | Last modified |
|----------|----------|-------------|----------|----------|-------------|---------------|
| .. | | | .. | | | |
| simben | | File folder | Hidden | | File folder | 2/1/2002 |
| | | | dogs | | File folder | 11/21/2010 |

1 directory | 60 files and 15 directories. Total size: 360,582 bytes

| Server/Local file | Direc... | Remote file | Size | Priority | Time | Reason |
|------------------------|----------|--------------------------|------|----------|---------------|-------------------------|
| sftp://simben90@osl... | | | | | | |
| C:\Users\Rich Simms... | <<-- | /home/cis90/simben/newer | 0 | Norm... | 12/9/2013 ... | Could not start tran... |

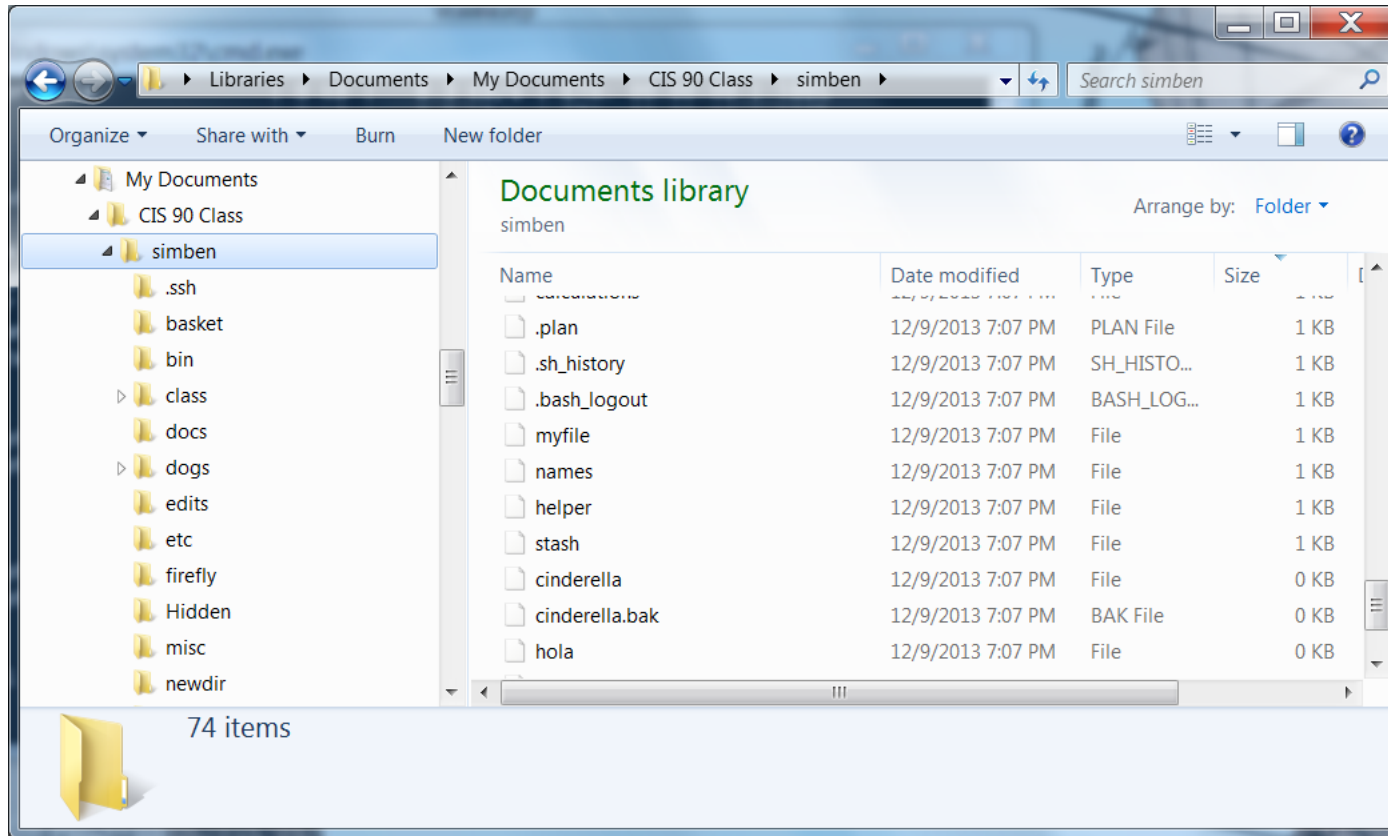
Queued files: **Failed transfers (1)** Successful transfers (383)

Queue: empty

Failed transfers can happen if you lack read permission on a file

FileZilla File transfers

Your CIS 90 home directory files are now on Windows



Empty files are copied as well

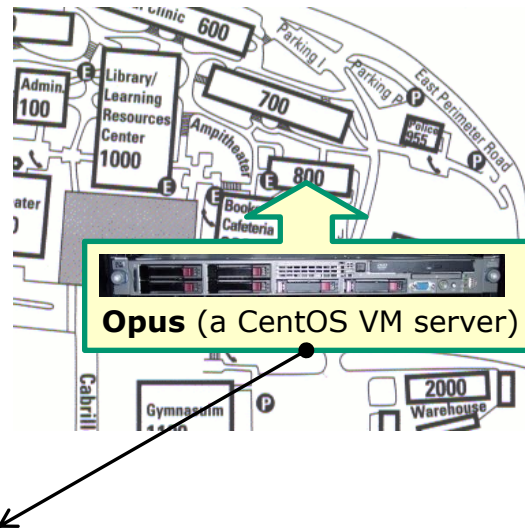


File Transfer To Windows

PSCP

File Transfer

Downloading your Opus files to your home computer



Using PSCP

Windows

PSCP (Putty SCP) Downloading

http://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

recursive

*source
directory to
copy*

`pscp -P 2220 -r simben90@oslab.cishawks.net:/home/cis90/simben .`

```

C:\Windows\system32\cmd.exe
C:\Users\Rich Simms\Documents\CIS 90 Class>pscp -P 2220 -r simben90@oslab.cishawks.net:/home/cis90/simben .
simben90@oslab.cishawks.net's password:
lab05.graded | 0 kB | 0.9 kB/s | ETA: 00:00:00 | 100%
names | 0 kB | 0.0 kB/s | ETA: 00:00:00 | 100%
bigshell | 0 kB | 0.1 kB/s | ETA: 00:00:00 | 100%
treasure | 0 kB | 0.1 kB/s | ETA: 00:00:00 | 100%
.trove | 1 kB | 1.9 kB/s | ETA: 00:00:00 | 100%
treat2 | 0 kB | 0.7 kB/s | ETA: 00:00:00 | 100%
lab02.graded | 1 kB | 1.5 kB/s | ETA: 00:00:00 | 100%
uhistory.bak | 14 kB | 14.1 kB/s | ETA: 00:00:00 | 100%
.viminfo | 7 kB | 7.3 kB/s | ETA: 00:00:00 | 100%
treat3 | 1 kB | 1.1 kB/s | ETA: 00:00:00 | 100%
lab02.graded | 1 kB | 1.5 kB/s | ETA: 00:00:00 | 100%
lab04.graded | 3 kB | 3.2 kB/s | ETA: 00:00:00 | 100%
lab03.graded | 17 kB | 17.8 kB/s | ETA: 00:00:00 | 100%
lab01.graded | 0 kB | 0.6 kB/s | ETA: 00:00:00 | 100%
treat4 | 0 kB | 1.0 kB/s | ETA: 00:00:00 | 100%
treat5 | 0 kB | 0.8 kB/s | ETA: 00:00:00 | 100%
treat6 | 0 kB | 0.7 kB/s | ETA: 00:00:00 | 100%
sonnet10 | 0 kB | 0.6 kB/s | ETA: 00:00:00 | 100%
sonnet15 | 0 kB | 0.6 kB/s | ETA: 00:00:00 | 100%
sonnet16 | 0 kB | 0.6 kB/s | ETA: 00:00:00 | 100%
sonnet17 | 0 kB | 0.6 kB/s | ETA: 00:00:00 | 100%
sonnet18 | 0 kB | 0.6 kB/s | ETA: 00:00:00 | 100%

```

*destination is
"here" (the
current local
directory)*

*Note: empty
files or files
lacking read
permission
will not be
copied.*

Navigate to the local folder where you want to download your Opus files. Use the **pscp** command with the **-r** option to recursively download all the files from your home directory to the local Windows folder.

PSCP

Failed Transfers

```

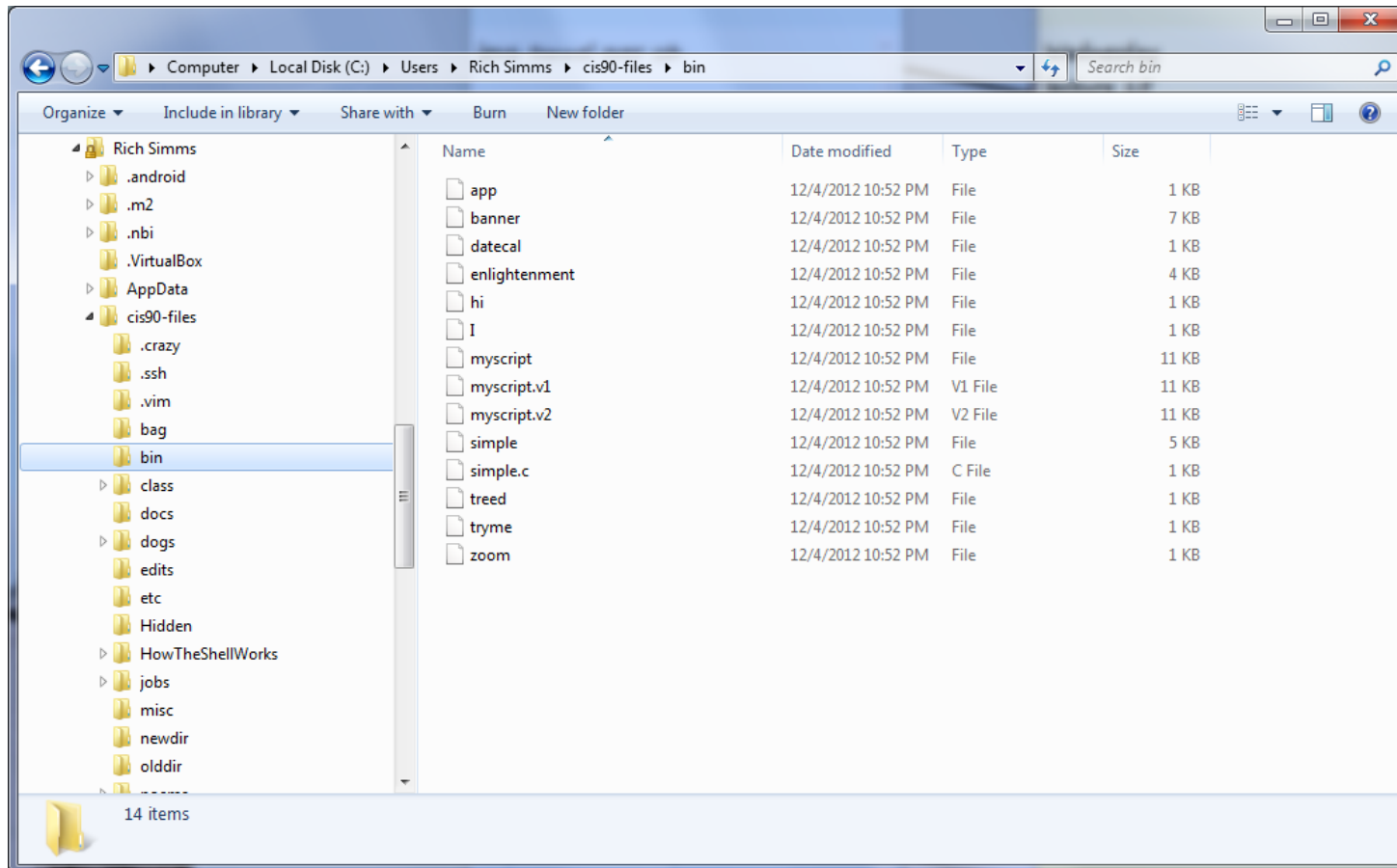
C:\Windows\system32\cmd.exe
Moon | 1 kB | 1.3 kB/s | ETA: 00:00:00 | 100%
readme | 0 kB | 0.1 kB/s | ETA: 00:00:00 | 100%
Hamlet | 0 kB | 0.2 kB/s | ETA: 00:00:00 | 100%
Caesar | 0 kB | 0.8 kB/s | ETA: 00:00:00 | 100%
Romeo | 0 kB | 0.8 kB/s | ETA: 00:00:00 | 100%
author | 0 kB | 0.0 kB/s | ETA: 00:00:00 | 100%
Persuasion | 0 kB | 0.7 kB/s | ETA: 00:00:00 | 100%
author | 0 kB | 0.0 kB/s | ETA: 00:00:00 | 100%
Sensibility | 0 kB | 0.7 kB/s | ETA: 00:00:00 | 100%
Phaedo | 2 kB | 2.1 kB/s | ETA: 00:00:00 | 100%
author | 0 kB | 0.0 kB/s | ETA: 00:00:00 | 100%
Apology | 1 kB | 1.8 kB/s | ETA: 00:00:00 | 100%
Shadow | 0 kB | 0.6 kB/s | ETA: 00:00:00 | 100%
Ass | 0 kB | 0.9 kB/s | ETA: 00:00:00 | 100%
author | 0 kB | 0.0 kB/s | ETA: 00:00:00 | 100%
Fox | 0 kB | 1.0 kB/s | ETA: 00:00:00 | 100%
errors | 3 kB | 3.7 kB/s | ETA: 00:00:00 | 100%
myfiles | 8 kB | 8.8 kB/s | ETA: 00:00:00 | 100%
.history | 0 kB | 0.2 kB/s | ETA: 00:00:00 | 100%
whomai | 0 kB | 0.1 kB/s | ETA: 00:00:00 | 100%
lab08 graded | 5 kB | 5.1 kB/s | ETA: 00:00:00 | 100%
whoami | 0 kB | 0.1 kB/s | ETA: 00:00:00 | 100%
pscp: unable to open /home/cis90/simben/newer: permission denied
C:\Users\Rich Simms\Documents\CIS 90 Class>
  
```

*Note: empty files are ignored and **not** copied*

Files lacking read permission generate an error and are not copied

PSCP

Your CIS 90 files are now on Windows



CIS 90 files copied from Opus to home Windows system

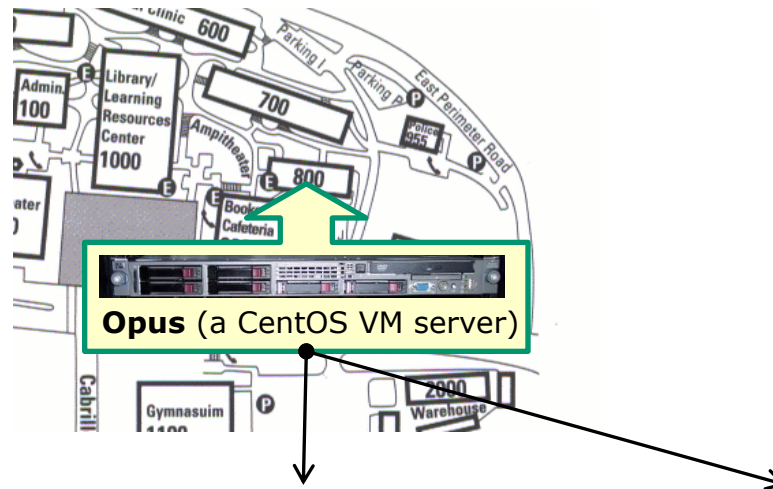
File Transfer

Linux or Mac

scp

File Transfer

Downloading your Opus files to your home computer



Mac



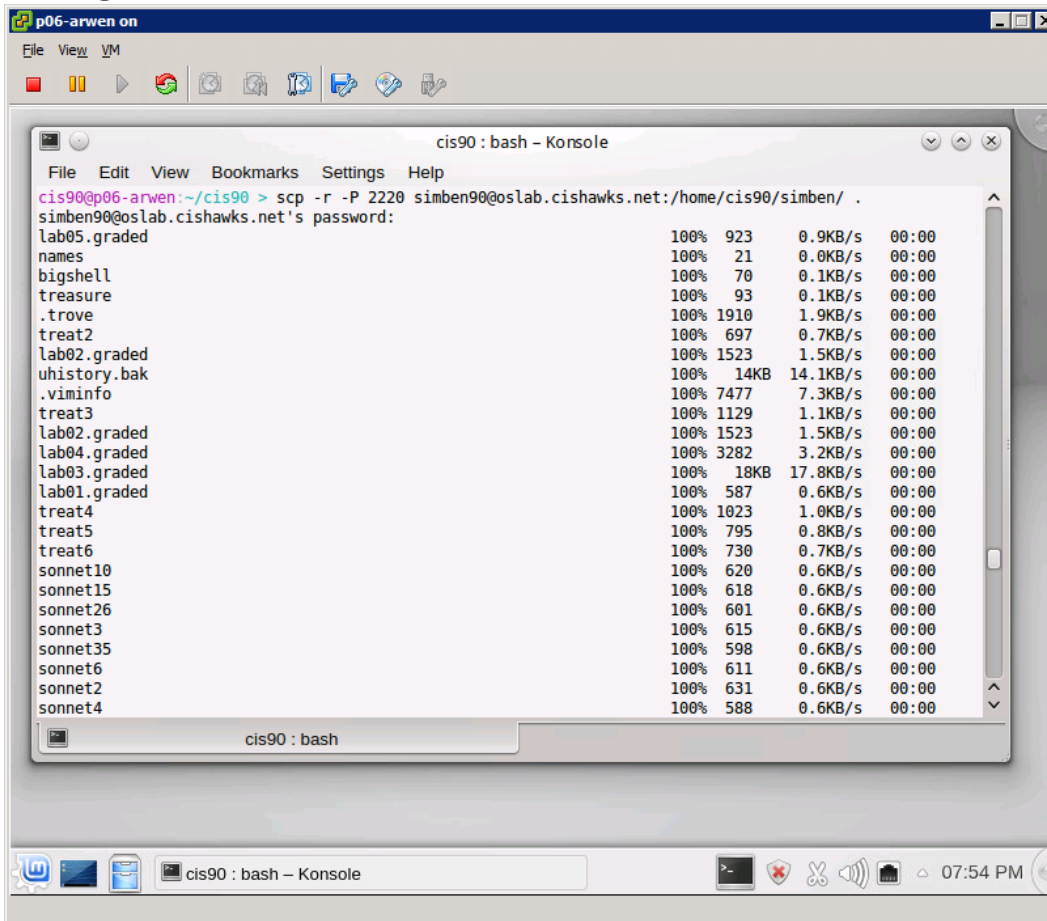
Linux

File Transfer

Downloading your Opus files to a Linux Mint VM

```
scp -P 2220 -r simben90@oslab.cis.cabrillo.edu:/home/cis90/simben .
```

Arwen



Source
directory on
Opus

Destination
directory on
Arwen

Files lacking read
permission generate
an error and are not
copied

Empty files are copied
as well

File Transfer

Downloading your Opus files to a Linux Mint VM

```

p06-arwen on
File View VM
cis90 : bash - Konsole
File Edit View Bookmarks Settings Help
cis90@p06-arwen:~/cis90 > ls
simben
cis90@p06-arwen:~/cis90 > ls simben
basket      class      experiment100 lab02.graded labx1.simben90 names      the
bf          cmds      experiment101 lab03.graded labx2          new        Torvalds
bigfile     dead.letter experiment99  lab04.graded labx2.graded  newdir    treat1
bigshell    docs      files.out   lab05.graded labx2.simben90 old        uhistory
bin         dogs      firefly     lab07         letter        olddir    uhistory.bak
bin.tar     dogs.tar  helper     lab07.graded log           poems     whoami
calculations edits     Hidden     lab08         log           smallshell whomai
cinderella  errors    hola       lab08.graded myfile       stash     words
cinderella.bak etc       lab01.graded lab09         myfiles      test01.graded
cis90@p06-arwen:~/cis90 > clear
cis90@p06-arwen:~/cis90 >
cis90 : bash
  
```

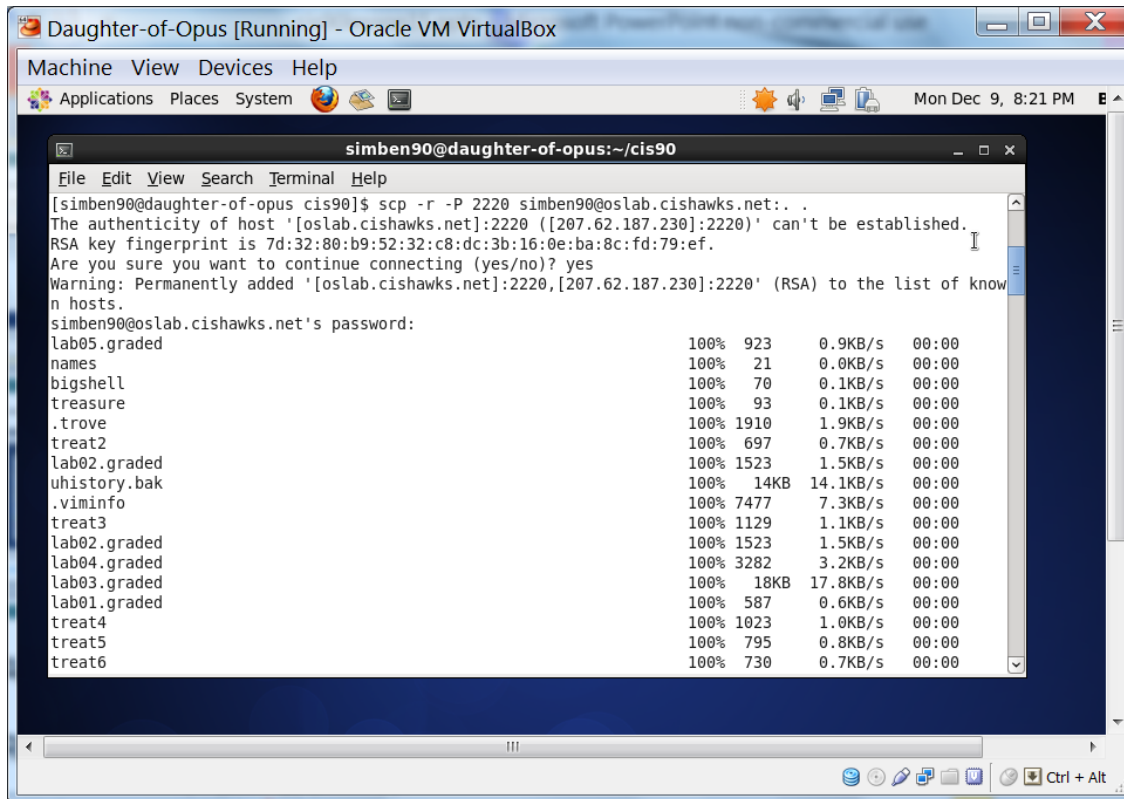
Now your Opus CIS 90 files are on the VM

File Transfer

Downloading your Opus files to Daughter-of-Opus (CentOS)

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

Daughter-of-Opus



Source
directory on
Opus

Destination
directory on
Daughter-of-
Opus

File Transfer

Downloading your Opus files to Daughter-of-Opus (CentOS)

The screenshot shows a terminal window titled 'simben90@daughter-of-opus:~/cis90'. The terminal displays the output of the 'ls' command, listing various files and directories. The output is as follows:

```

[simben90@daughter-of-opus cis90]$ ls
basket      class      experiment100  lab02.graded  labx1.simben90  names        the
bf          cmds      experiment101  lab03.graded  labx2           new          Torvalds
bigfile     dead.letter  experiment99   lab04.graded  labx2.graded    newdir      treat1
bigshell    docs      files.out     lab05.graded  labx2.simben90  old         uhistory
bin         dogs      firefly       lab07         letter          olddir      uhistory.bak
bin.tar     dogs.tar   helper        lab07.graded  log            poems       whoami
calculations  edits     Hidden        lab08         myfile         smallshell  whomai
cinderella  errors    hola          lab08.graded  myfiles        stash       words
cinderella.bak  etc      lab01.graded  lab09         test01.graded

```

CIS 90 files copied from Opus to home Linux system



Archiving & Restoring

Archiving

tar command (on Opus)

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

```
/home $ cd /home/cis90
/home/cis90 $ ls
answers  casmic  fitcon  hormat  lemrob  patcar  rudtro  weljon
beakie   cis     genmar  keljos  matjon  perste  simben  weltim
bin      depot  guest  lefnic  milhom  ramjua  tilbuz
calmic   fahmic  gutemi  lehreb  mosmic  rodduk  vasjor
```

```
/home/cis90 $ find simben bin/ answers depot | wc -l
568
```

Your home directory has all the files you made during the course.

The bin directory has allscripts, riddles and other files used in class

The answers directory has answers for each lab.

The depot directory has miscellaneous files used throughout the course

Archiving

tar command (on Opus)

verbose

create

Name of tarball to create

directories to backup

```

/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)

verbose

table of contents

Name of tarball

```

/home/cis90 $ tar tvf simben/simben90.tar | wc -l
563
/home/cis90 $ find bin answers depot simben | wc -l
568
/home/cis90 $
  
```

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/simben90.tar: file is the archive; not dumped
tar: simben/newer: Cannot open: Permission denied
tar: answers/labx2: Cannot open: Permission denied
tar: answers/labx1: Cannot open: Permission denied
tar: answers/test03: Cannot open: Permission denied
tar: Exiting with failure status due to previous errors
  
```

Restoring

tar command (extracting on home Linux computer)

Login to Linux Mint system

```
/home/cis90 $ ssh cis90@P06-Arwen  
cis90@p06-arwen's password:  
Welcome to Linux Mint 15 Olivia (GNU/Linux 3.8.0-26-generic x86_64)  
  
Welcome to Linux Mint  
* Documentation: http://www.linuxmint.com  
Last login: Thu Dec 5 15:58:14 2013 from sun-hwa.cis.cabrillo.edu  
cis90@p06-arwen:~ >
```

Restoring

tar command (extracting on home Linux computer)

Make a directory to put your Opus files

```
cis90@p06-arwen:~ > mkdir opus-files  
cis90@p06-arwen:~ > cd opus-files  
cis90@p06-arwen:~/opus-files >
```

Retrieve your archive from Opus using scp command

```
cis90@p06-arwen:~/opus-files > scp -P 2220 simben90@oslab.cis.cabrillo.edu:simben90.tar  
.  
The authenticity of host '[oslab.cabrillo.edu]:2220 ([2607:f380:80f:f425::230]:2220)'  
can't be established.  
RSA key fingerprint is 7d:32:80:b9:52:32:c8:dc:3b:16:0e:ba:8c:fd:79:ef.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added '[oslab.cabrillo.edu]:2220' (RSA) to the list of known  
hosts.  
simben90@oslab.cabrillo.edu's password:  
simben90.tar                                100% 1710KB    1.7MB/s    00:00  
cis90@p06-arwen:~/opus-files >
```


Restoring

tar command (extracting on home Linux computer)

```
cis90@p06-arwen:~/opus-files > ls  
simben90.tar
```

```
cis90@p06-arwen:~/opus-files > tar xvf simben90.tar  
simben/  
simben/lab05.graded  
simben/names  
simben/bigshell  
simben/.vim/  
< snipped >  
depot/scrooge  
depot/smb.conf  
depot/randomjokes
```

*Extract the
tarball*

```
cis90@p06-arwen:~/opus-files > ls  
answers bin depot simben simben90.tar
```

*Note the new
directories created*

Restoring

tar command (extracting on home Linux computer)

```
cis90@p06-arwen:~/opus-files > cd simben/bin  
cis90@p06-arwen:~/opus-files/simben/bin > myscript  
-bash: /home/cis90/bin/myscript: No such file or directory  
[127]cis90@p06-arwen:~/opus-files/simben/bin > ./myscript
```

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

- 1) What is today?
- 2) The users on p06-arwen
- 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. The current "." directory is not on our PATH. To run a script that is not on the path add "./" to the front of the pathname of the script.

Compressed Archives

gzip and gunzip
tar -z option

gzip and gunzip commands

```
/home/cis90/simben $ ls -l simben90.tar
-rw-rw-r--. 1 simben90 cis90 1751040 Dec 10 07:57 simben90.tar
```

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

```
/home/cis90/simben $ gzip simben90.tar
/home/cis90/simben $ ls -l simben90.tar.gz
-rw-rw-r--. 1 simben90 cis90 440895 Dec 10 07:57 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-r--. 1 simben90 cis90 1751040 Dec 10 07:57 simben90.tar
```

*Use **gzip** and **gunzip** to compress and un-compress regular tar files.*

*Note: **gzip** renames the tar file by adding the **.gz** suffix and **gunzip** removes the suffix*

tar z option

```
/home/cis90/simben $ tar cf simben90.tar .
tar: ./Hidden: Cannot open: Permission denied
tar: ./simben90.tar: file is the archive; not dumped
tar: ./newer: Cannot open: Permission denied
tar: Exiting with failure status due to previous errors
```

```
/home/cis90/simben $ ls -l simben90.tar
-rw-rw----. 1 simben90 cis90 768000 Dec  9 07:52 simben90.tar
/home/cis90/simben $
```

```
/home/cis90/simben $ rm simben90.tar
rm: remove regular file `simben90.tar'? y
```

```
/home/cis90/simben $ tar czf simben90.tar.gz .
tar: ./Hidden: Cannot open: Permission denied
tar: ./newer: Cannot open: Permission denied
tar: Exiting with failure status due to previous errors
```

```
/home/cis90/simben $ ls -l simben90.tar.gz
-rw-rw----. 1 simben90 cis90 158724 Dec  9 07:51 simben90.tar.gz
```

Use the z option to compress files when creating the tarball

tar z option

```
/home/cis90/simben $ tar tvzf simben90.tar.gz | head
drwxr-xr-x simben90/cis90      0 2014-12-09 07:58 ./
-r----- simben90/staff 1111 2014-10-15 10:09 ./lab05.graded
-rw-r--r-- simben90/cis90   22 2014-10-21 09:25 ./names
-rw-r--r-- simben90/cis90   70 2014-11-02 17:12 ./bigshell
-r----- simben90/staff 1276 2014-09-17 10:28 ./lab02.graded
-rw----- simben90/root   410 2014-11-24 07:44 ./bash_profile.fq
-rw----- simben90/cis90 5146 2014-12-08 19:10 ./viminfo
-rw----- simben90/cis90  406 2014-11-20 11:49 ./bash_profile.bug
drwx--x--- simben90/cis90    0 2014-10-28 15:48 ./class/
dr-x-wx--- simben90/users    0 2014-10-28 15:48 ./class/labs/
/home/cis90/simben $
```

Use the z option to when extracting or viewing compressed tar files

tarball .tar.gz or .tgz suffix

```

/home/cis90/simben $ tar czf simben90.tgz .
tar: ./Hidden: Cannot open: Permission denied
tar: ./newer: Cannot open: Permission denied
tar: .: file changed as we read it
tar: Exiting with failure status due to previous errors
/home/cis90/simben $ ls -l simben90.tgz
-rw-rw----. 1 simben90 cis90 158700 Dec  9 08:01 simben90.tgz
/home/cis90/simben $

```

The usage of .tgz and .tar.gz suffixes are equivalent and both indicate the tarball was compressed

Archiving

Archive your Opus home directory

```
cd
```

```
tar cvzf $LOGNAME.tgz .
```

```
ls -l *.tgz
```

Write the size of your new tarfile into the chat widow

Restoring

Restore your Opus home directory on your Arya

On Opus:

```
ssh cis90@arya-xx
```

On your Arya:

```
mkdir cis90
```

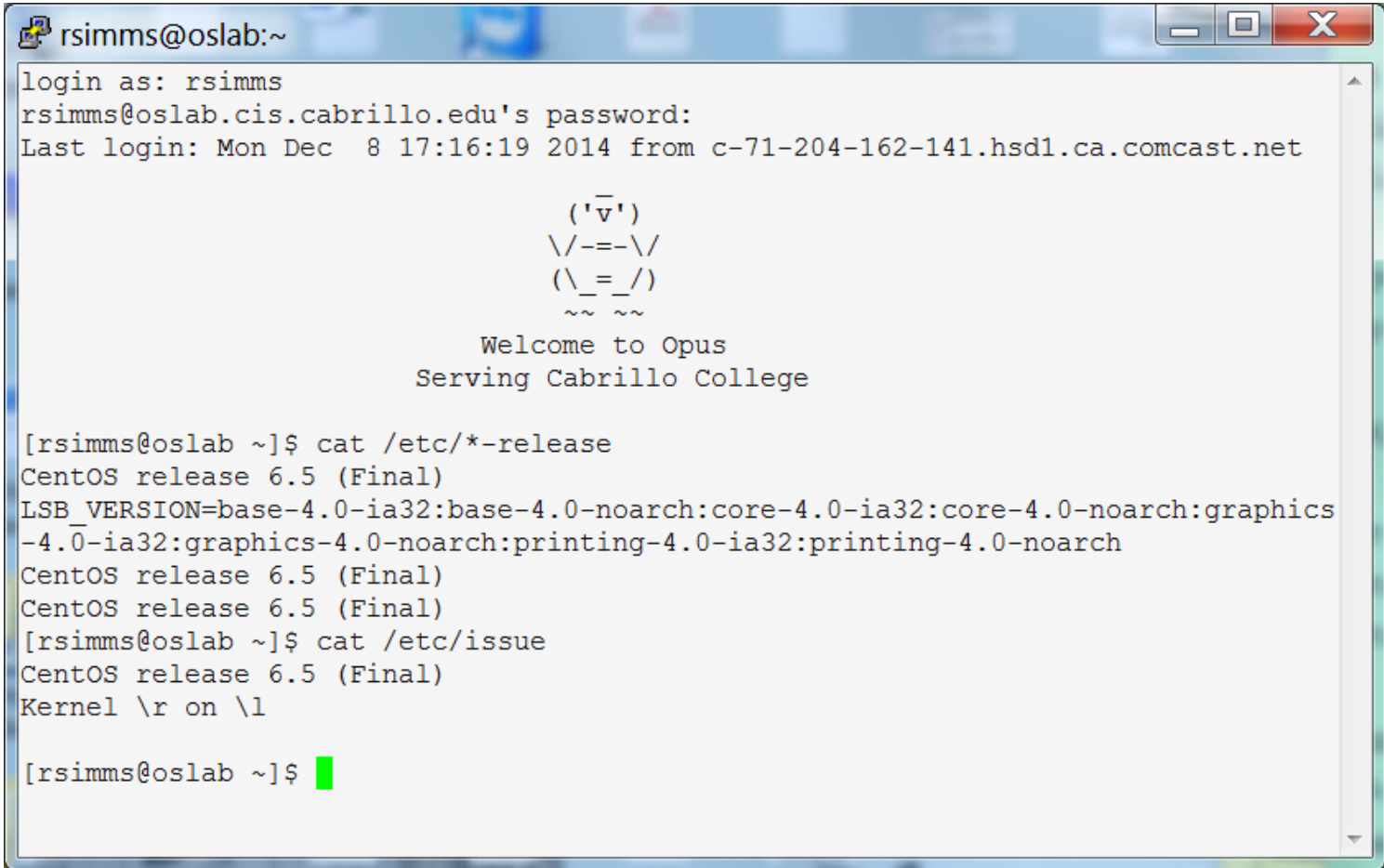
```
cd cis90
```

```
scp -P 2220 simben90@oslab.cis.cabrillo.edu:xxxxxx90.tgz .
```

Give me a green check when you can run your myscript file on Arya



Make your own Opus at home



```
rsimms@oslab:~  
login as: rsimms  
rsimms@oslab.cis.cabrillo.edu's password:  
Last login: Mon Dec 8 17:16:19 2014 from c-71-204-162-141.hsd1.ca.comcast.net  
  
      ( 'v' )  
    \/---\/  
   (\_=_/)  
    ~ ~ ~  
      Welcome to Opus  
      Serving Cabrillo College  
  
[rsimms@oslab ~]$ cat /etc/*-release  
CentOS release 6.5 (Final)  
LSB_VERSION=base-4.0-ia32:base-4.0-noarch:core-4.0-ia32:core-4.0-noarch:graphics-4.0-ia32:graphics-4.0-noarch:printing-4.0-ia32:printing-4.0-noarch  
CentOS release 6.5 (Final)  
CentOS release 6.5 (Final)  
[rsimms@oslab ~]$ cat /etc/issue  
CentOS release 6.5 (Final)  
Kernel \r on \l  
  
[rsimms@oslab ~]$ █
```

Opus is a CentOS 6.5 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)
 - For Linux
 - VirtualBox ... price: \$0.00

Home Resources Forums CIS Lab Blackboard

Login
Flashcards
Admin

CIS 90
Previous Classes

11 days till term ends!

Cabrillo College
Web Advisor
Commands and Files

VLab RDP file

CIS 90 VLab VM Assignments

RIP Dennis Ritchie

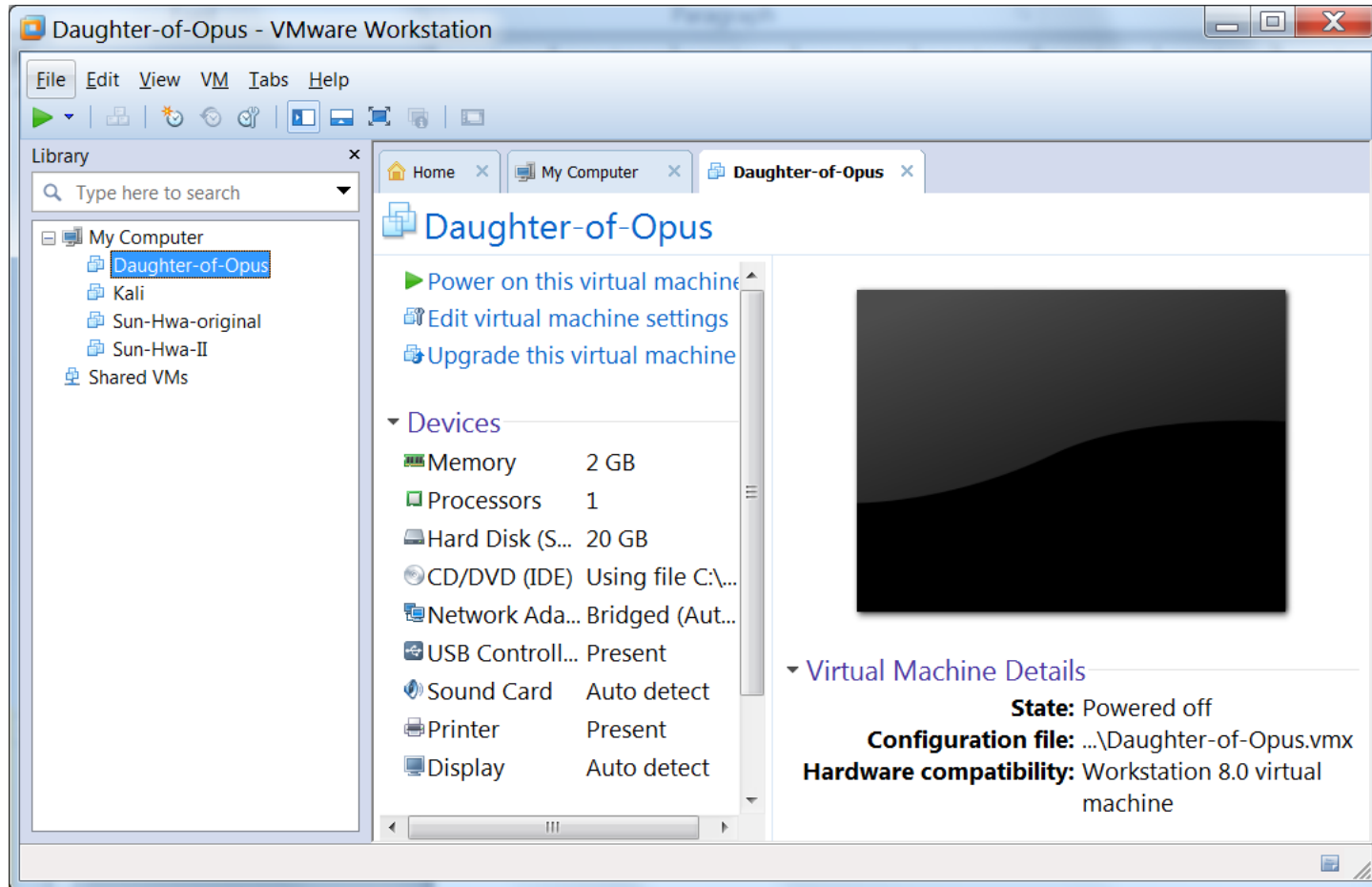
Opus Status: UP

Links

| | | |
|--|--|--|
| Instructors <ul style="list-style-type: none">• Programming Master Ed• Network Master Gerlinde• Programming Master Jeffrey• Linux Master Jim• Web Master John• Systems Master Michael• Hardware Master Marcelo• Network Master Rick• Programming Master Steve | Getting Linux/UNIX <ul style="list-style-type: none">• Linux ISOS• Kernels• RPMs (rpmfind)• RPMs (pbone)• OpenSolaris Tools and Software <ul style="list-style-type: none">• Apache• Bastille• CoRD• cygwin• DOS boot disks• Dynamips/Dynagen• John the Ripper• Netfilter• Putty SSH Tools• Quagga routing suite• Tripwire• Wireshark Academic Software for CIS Students <ul style="list-style-type: none">• Microsoft Webstore• VMware Webstore Virtualization <ul style="list-style-type: none">• VirtualBox• VMware ESXi and vSphere client Standards | Commands <ul style="list-style-type: none">• Practical• Command Directory• Useful• vi summary• vi cheat sheet Howtos <ul style="list-style-type: none">• HowtoForge• email• DNS• Ethernet (NIC drivers)• NFS• NIS• PPP• Putty SSH Keys• Using sed Student Howtos <ul style="list-style-type: none">• Logging into Opus from a Mac by Laura Sreckovic and updated by Ann Pike• Monitor Script by Sean Callahan• WiFi Penetration by Ryan Schell• Logging into Opus from a Mac by Laura Sreckovic• LDAP Implementation by Tim Childers• Install and DualBoot into Microsoft Windows 7 and Linux Ubuntu by Richie Fou |
|--|--|--|

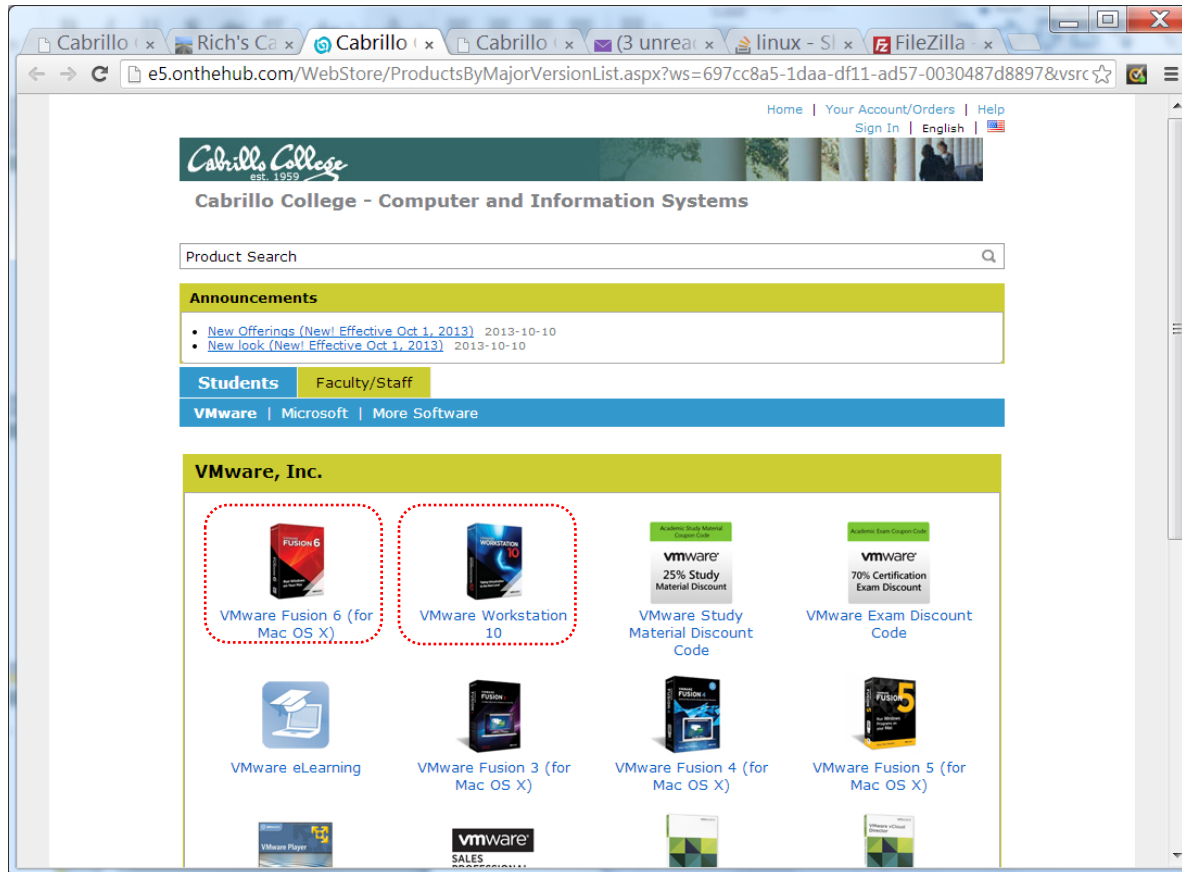
Shopping for the ingredients

VMware Workstation

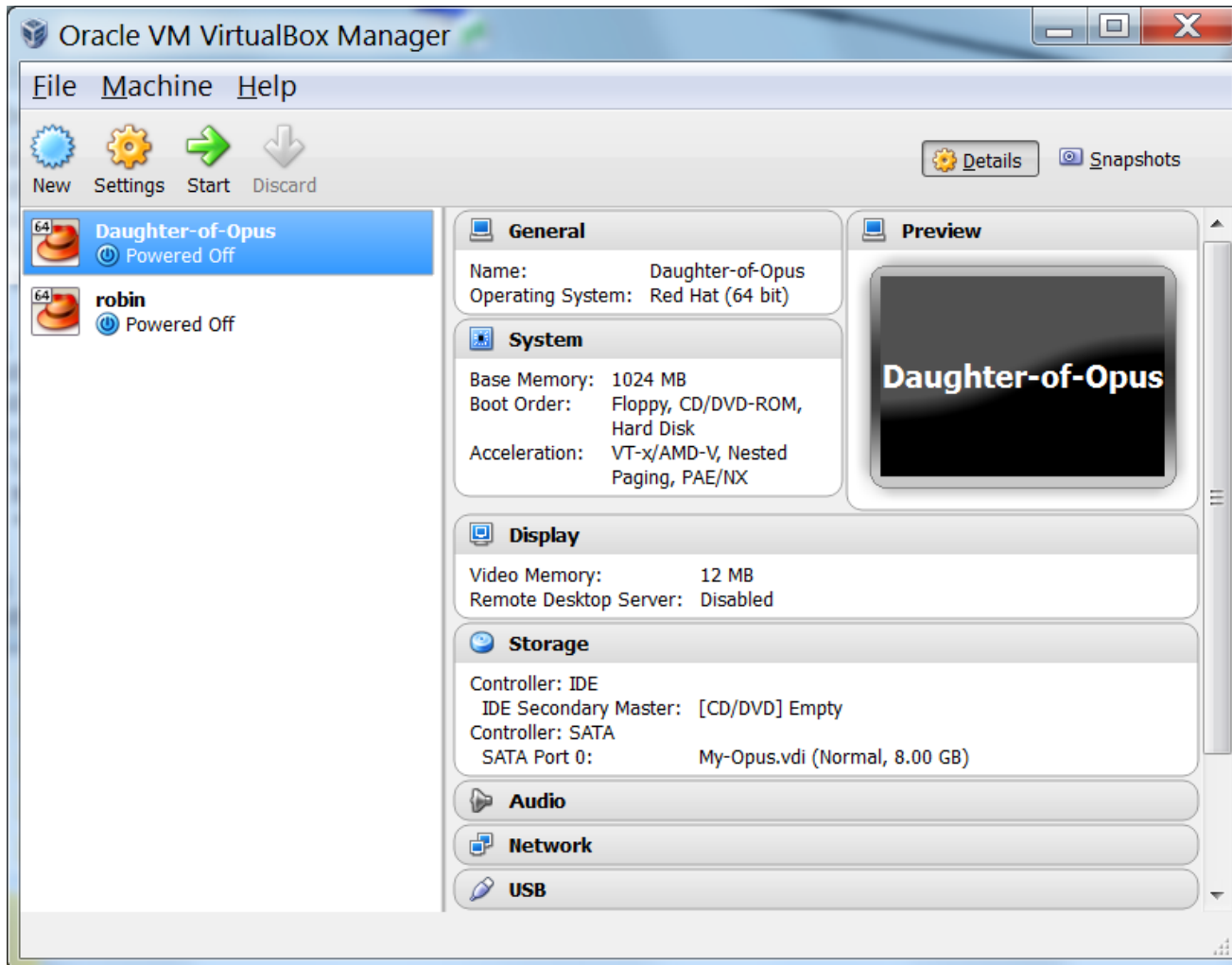


Provides you with an empty (No OS) virtual computer

VMware Workstation (Windows) or Fusion (Mac)



Oracle VirtualBox



Provides you with an empty (No OS) virtual computer

virtualbox.org

VirtualBox

Download VirtualBox

Here, you will find links to VirtualBox binaries and its source code.

VirtualBox binaries

By downloading, you agree to the terms and conditions of the respective license.

- VirtualBox platform packages.** The binaries are released under the terms of the GPL version 2.
 - VirtualBox 4.3.20 for Windows hosts [⇒ x86/amd64](#)
 - VirtualBox 4.3.20 for OS X hosts [⇒ x86/amd64](#)
 - VirtualBox 4.3.20 for Linux hosts [⇒ x86/amd64](#)
 - VirtualBox 4.3.20 for Solaris hosts [⇒ amd64](#)
- VirtualBox 4.3.20 Oracle VM VirtualBox Extension Pack** [⇒ All supported platforms](#)
 Support for USB 2.0 devices, VirtualBox RDP and PXE boot for Intel cards. See [this chapter from the User Manual](#) for an introduction to this Extension Pack. The Extension Pack binaries are released under the [VirtualBox Personal Use and Evaluation License \(PUEL\)](#).
Please install the extension pack with the same version as your installed version of VirtualBox!
 If you are using **VirtualBox 4.2.26**, please download the extension pack [⇒ here](#).
 If you are using **VirtualBox 4.1.34**, please download the extension pack [⇒ here](#).
 If you are using **VirtualBox 4.0.26**, please download the extension pack [⇒ here](#).
- VirtualBox 4.3.20 Software Developer Kit (SDK)** [⇒ All platforms](#)

See the [changelog](#) for what has changed.
 You might want to compare the

- SHA256 checksums or the
- MD5 checksums

to verify the integrity of downloaded packages.
The SHA256 checksums should be favored as the MD5 algorithm must be treated as insecure!

Note: After upgrading VirtualBox it is recommended to upgrade the guest additions as well.

[User Manual](#)

<http://iso.linuxquestions.org/>

The screenshot shows a web browser window with the URL iso.linuxquestions.org. The page layout includes:

- Header:** LinuxQuestions.org logo with four penguins, a Rackspace Managed Cloud banner, and a navigation menu.
- Left Sidebar:**
 - LQ ISOs:** Search, Alphabetical List, Latest Releases, Release Notification, Suggest Additions.
 - Search:** A search input field with a 'Go' button.
 - Need Help?:** Downloading ISOs, Burning ISOs.
 - Sponsored Links:** Linux Os, Ubuntu Server, Download Linux, Laptop Deals, Programming, Linux Certification, Linux Operating System.
 - Statistics:** Distros: 465, Versions: 2760, Mirrors: 1849, Downloads: 55,668,721.
 - LQ Job Board:** Jobs.
- Main Content Area:**
 - Welcome to LQ ISOs:** Linux Download (Answer Your Linux Questions. Expert Articles & Tips. Free Guide!).
 - Welcome to LQ ISO:** This site is designed to meet all of your Linux distribution download needs, including searching for fast mirrors, receiving email updates when new versions of your favorite distributions are released and reading reviews. If you do not see the distribution you are looking for below, you can view the complete alphabetical list. Please let us know if you have any suggestions.
 - If you find the site useful, you can help spread the word by telling 10 friends the URL (http://www.lqiso.org/). Thanks.**
 - 15 Latest Linux Distribution Releases:**
 - Porteus 3.1
 - FreeNAS 9.3
 - SparkyLinux 3.6 "LXDE", "MATE", "Razor-qt", "Xfce"
 - MakuluLinux 7.0 "Xfce"
 - antiX 14.3 "MX"
 - Linux Lite 2.2
 - Manjaro Linux 0.8.11
 - Linux Mint 17.1
 - 4MLinux 10.1
 - DragonFly BSD 4.0.1
 - siduction 14.1.0
 - NetBSD 5.2.3, 5.1.5
 - Guadalinex 9
 - Univention Corporate Server 4.0
 - Grml 2014.11
 - Popular Linux Distributions:**
 - Ubuntu
 - Fedora
 - Linux Mint
 - openSUSE
 - PCLinuxOS
 - Debian
 - Mageia
 - Slackware
 - CentOS
 - Puppy
 - Arch
 - MEPIS
 - View by Topic:** Desktop, Server, Security, Mobile, Live, Firewall, Rescue.
- Right Sidebar:**
 - Main Menu:** Linux Forums, Android Forum, Chrome OS Forum, Linux HCL, Linux Tutorials, Linux Wiki, Distro Reviews, Book Reviews.
 - Ad:** Google Cloud Platform advertisement with a 'Try it now' button.

You will need a Linux Distro to install on your virtual Computer

centos.org

The image shows two browser windows. The left window displays the main CentOS website (www.centos.org) with the logo, navigation menu, and an overview section. The right window shows a mirror index page (mirrors.sonic.net/centos/) with a table of mirrors.

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 done 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**.

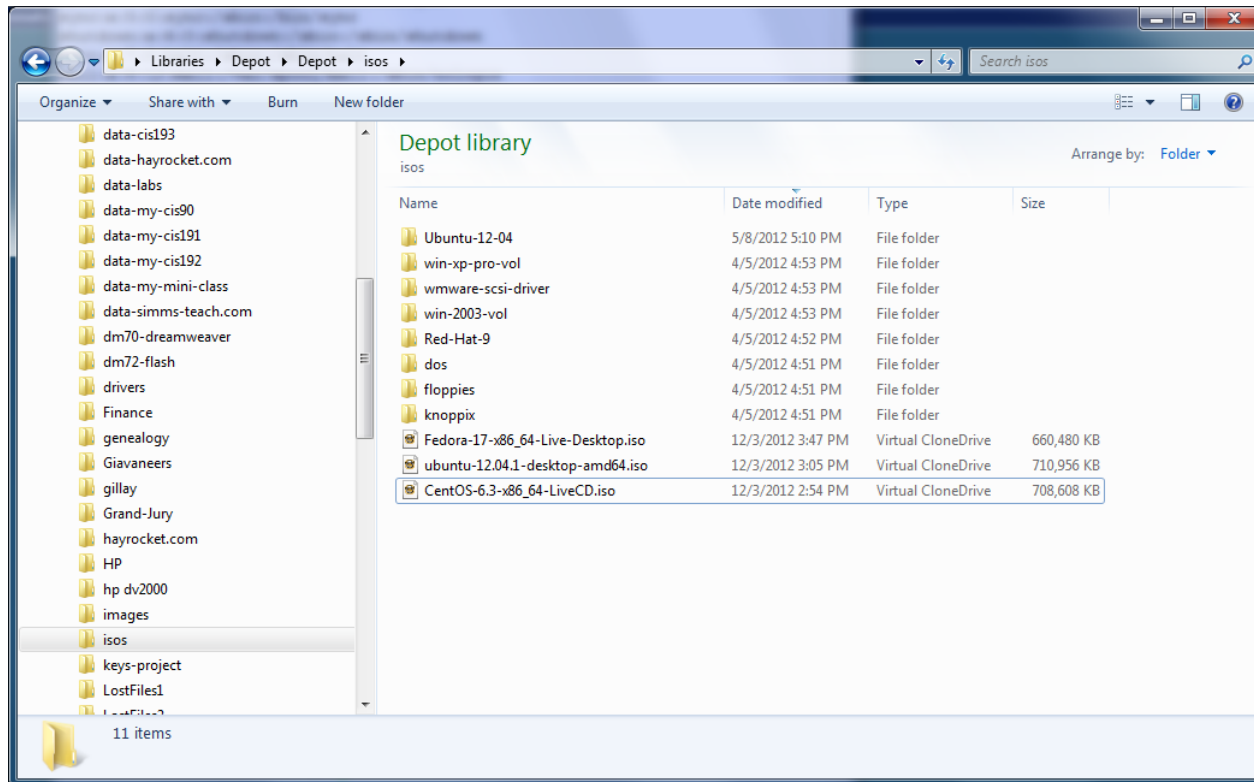
CentOS 6 Releases

July 9th 2012

The CentOS team is pleased to **announce** the immediate availability of CentOS-6.3 for i386 and x86_64 Architectures.

| 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 | | |
| html/ | 12-Jun-2005 05:56 | - | |

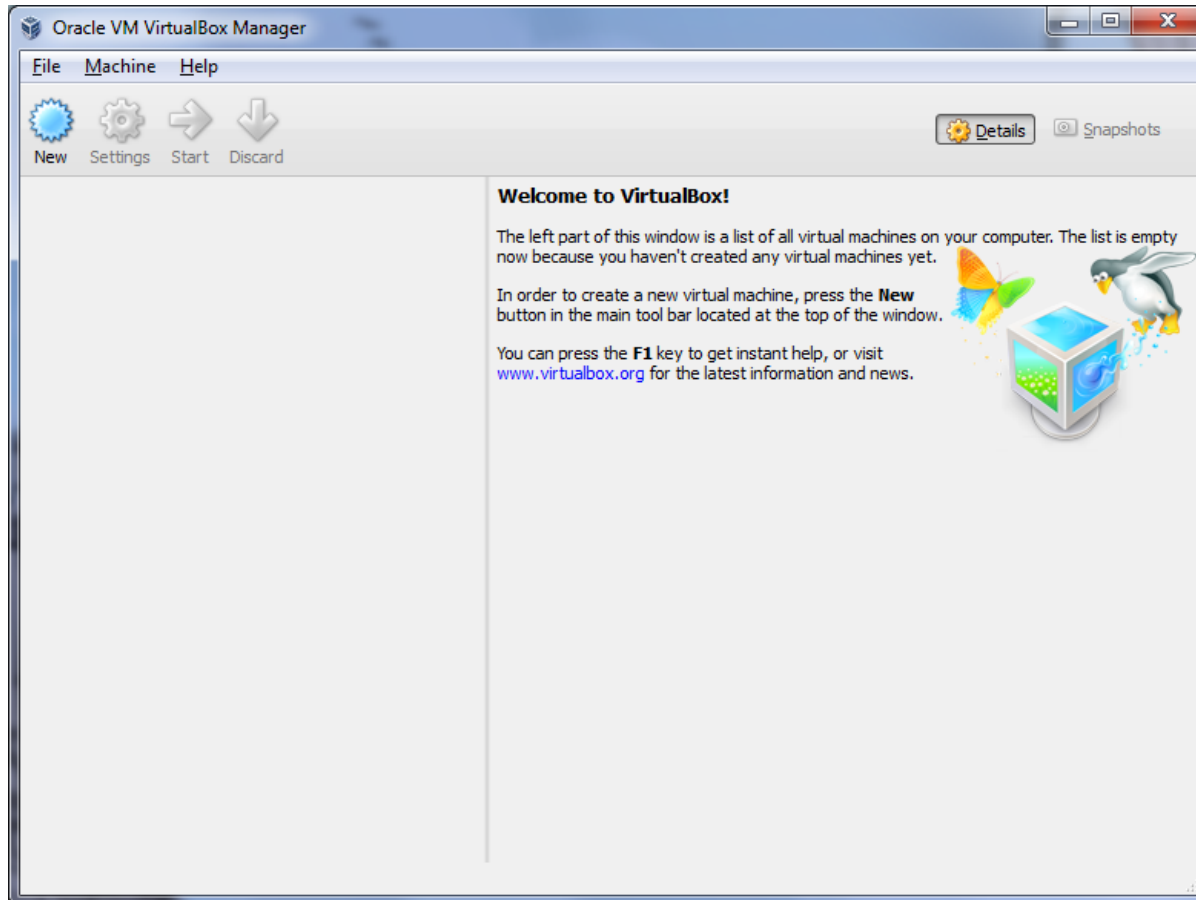
Use the CentOS Distro to make your own Opus



Download an iso image of the Linux distribution

VirtualBox

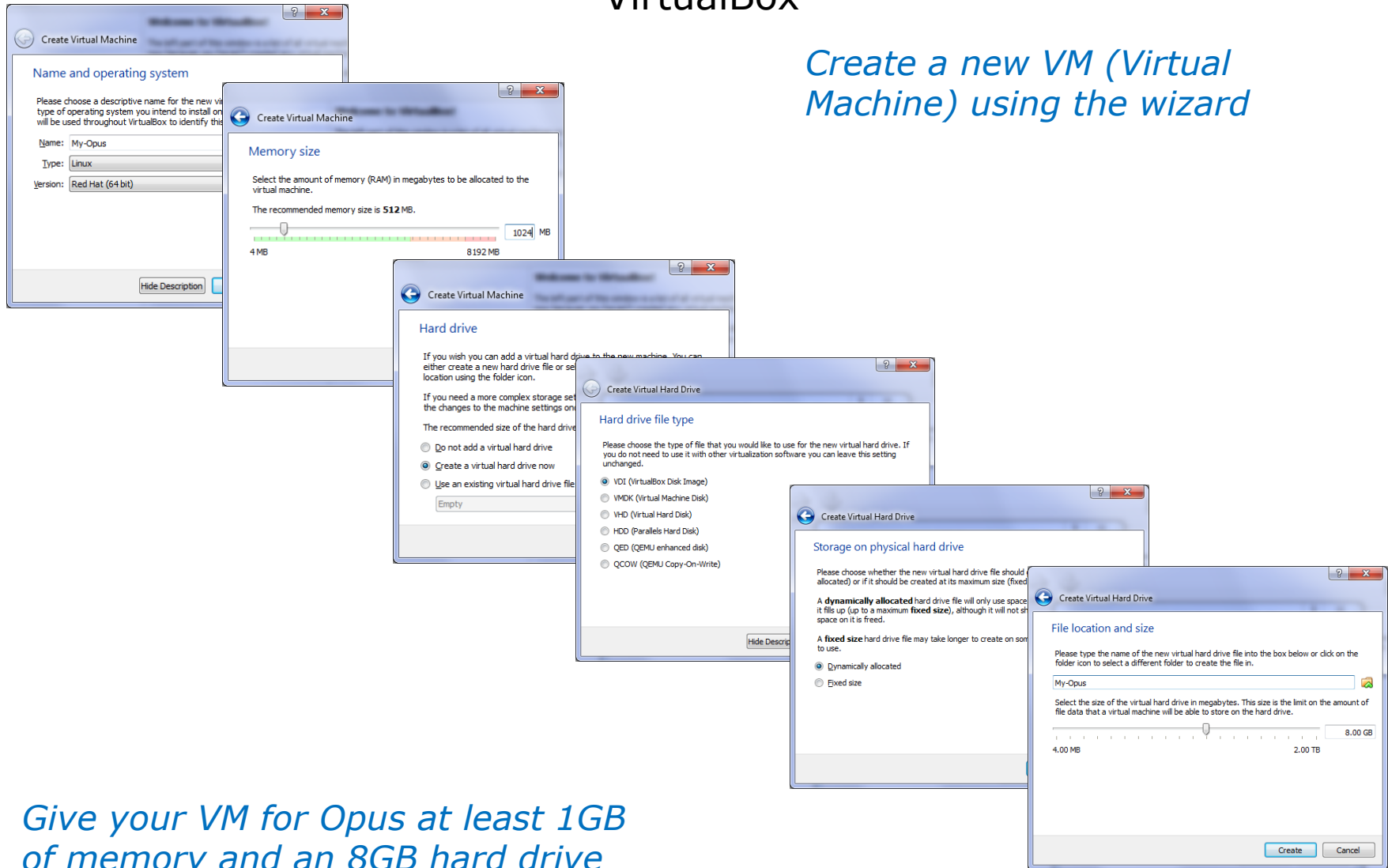
*Click the
New button
to create a
new VM.*



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

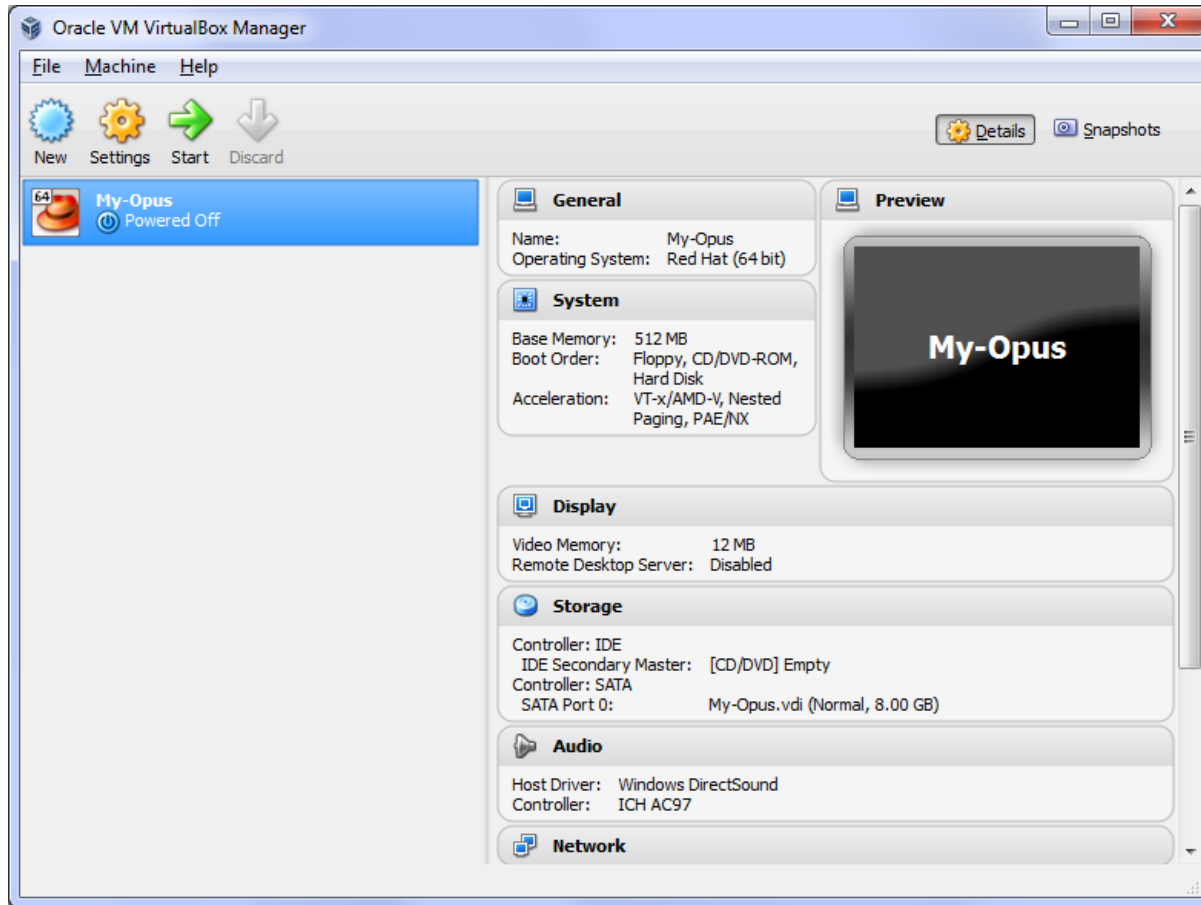
VirtualBox

Create a new VM (Virtual Machine) using the wizard



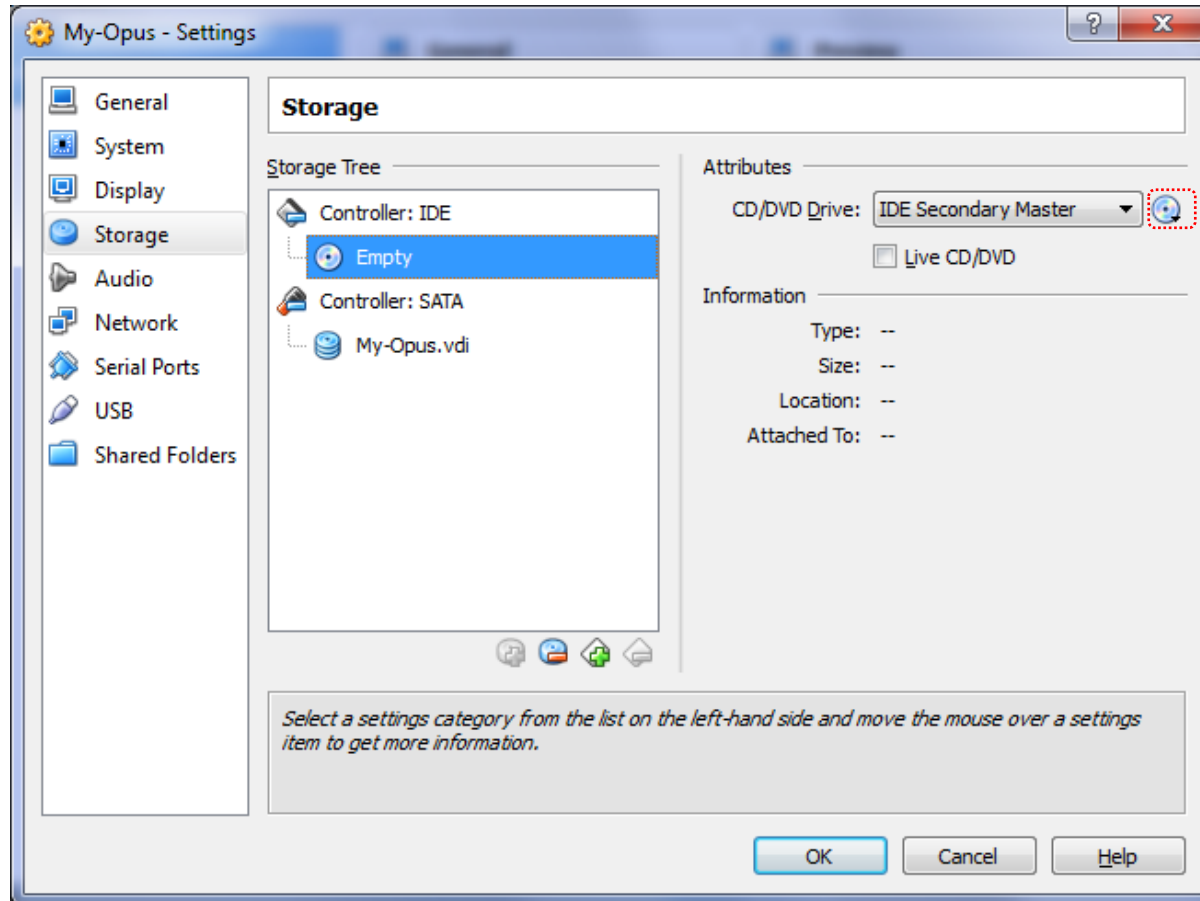
Give your VM for Opus at least 1GB of memory and an 8GB hard drive

VirtualBox



The new VM has no operating system

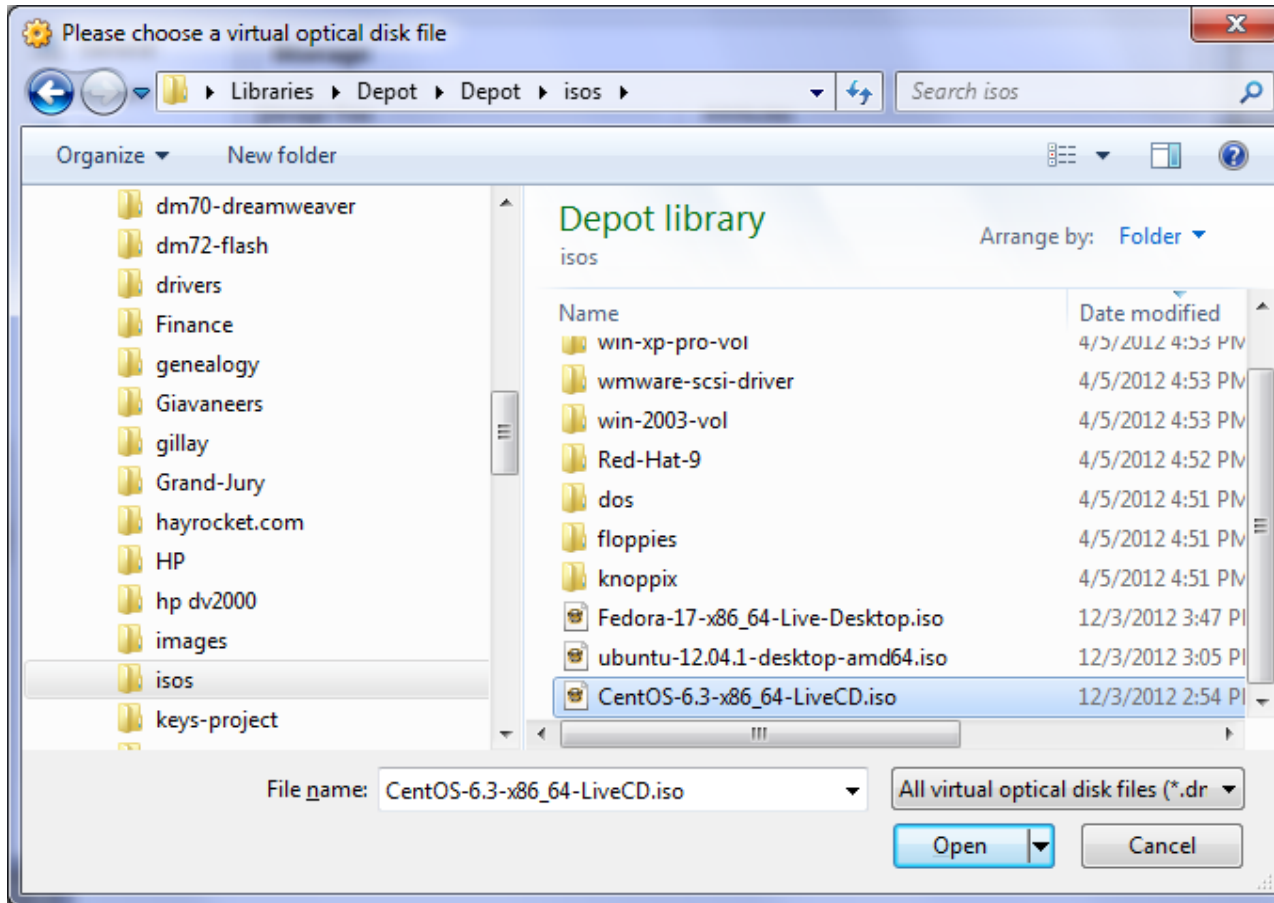
VirtualBox



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.

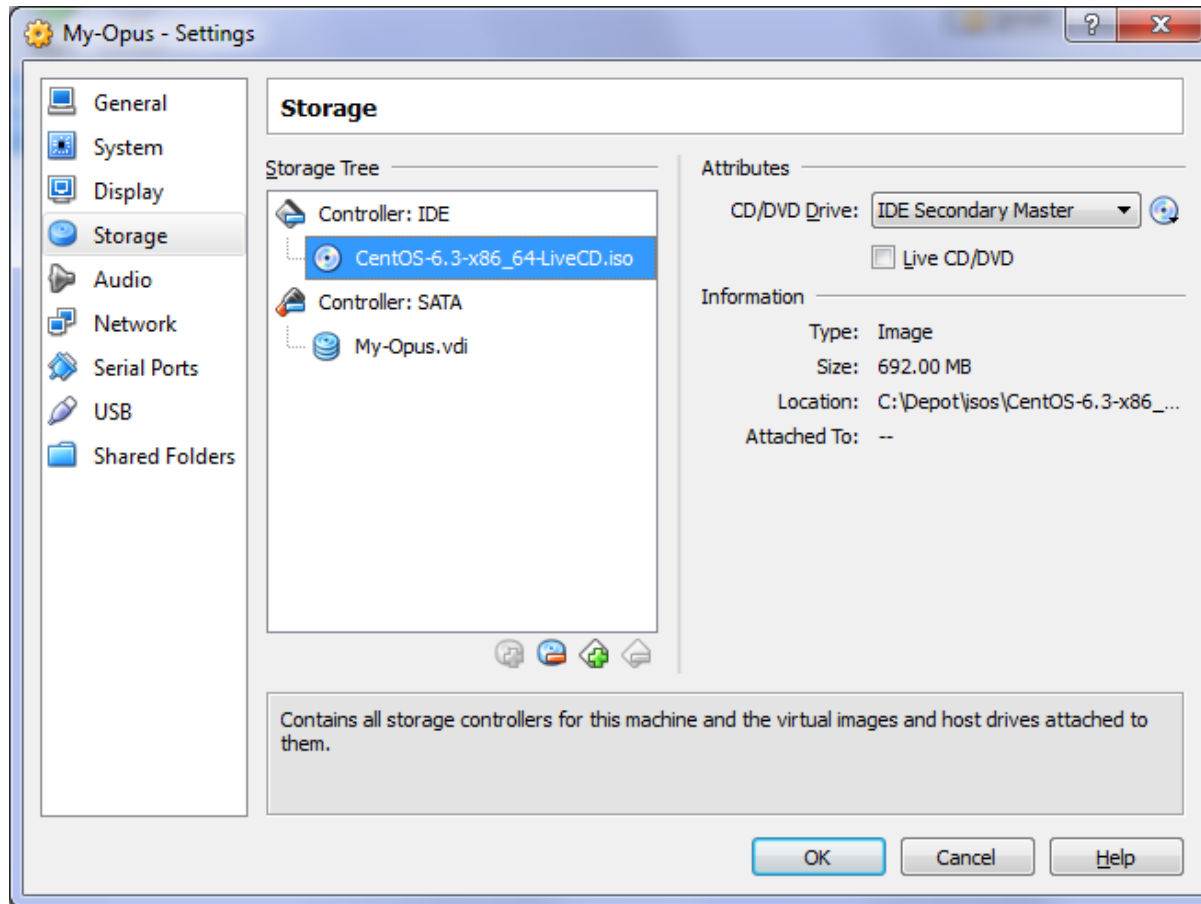
VirtualBox



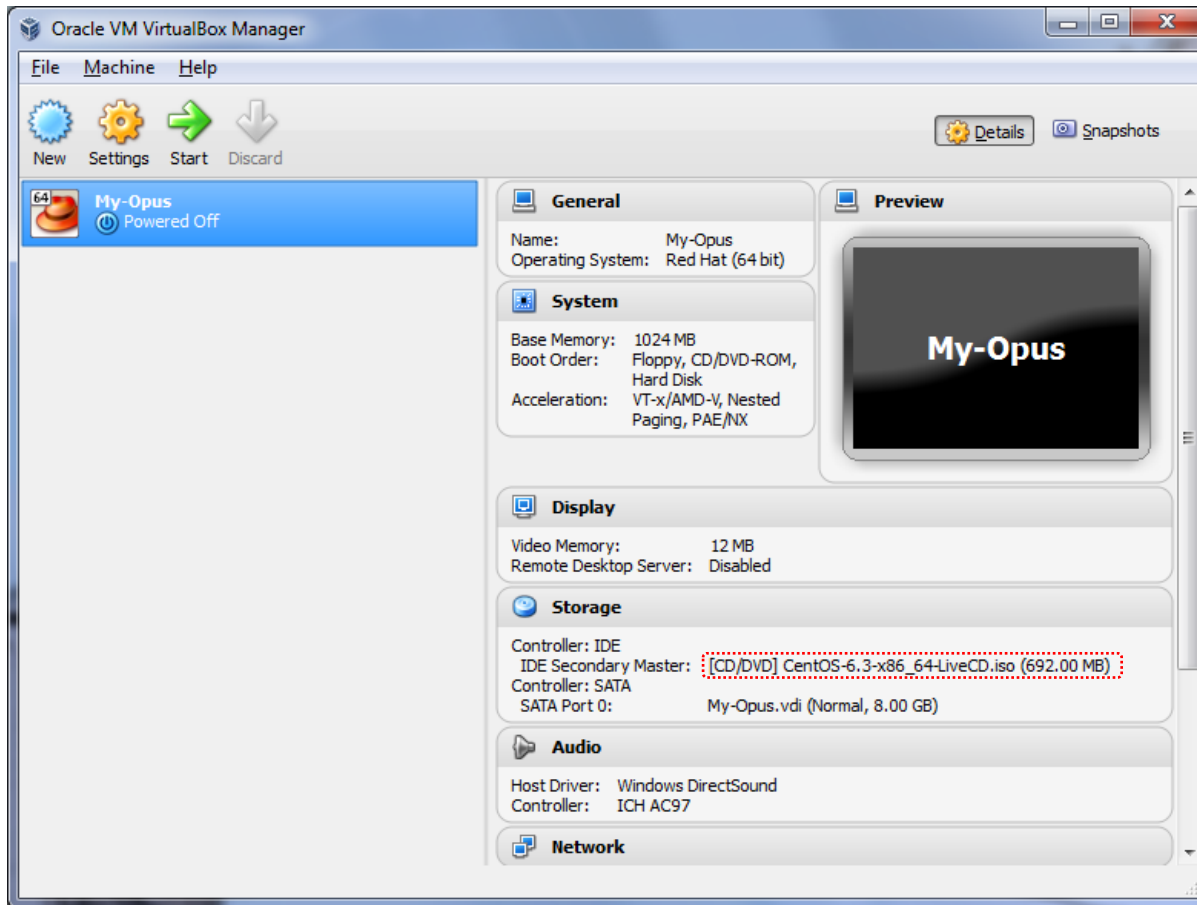
Locate the ISO image to install

CentOS-6.3-x86_64-LiveCD.iso

VirtualBox

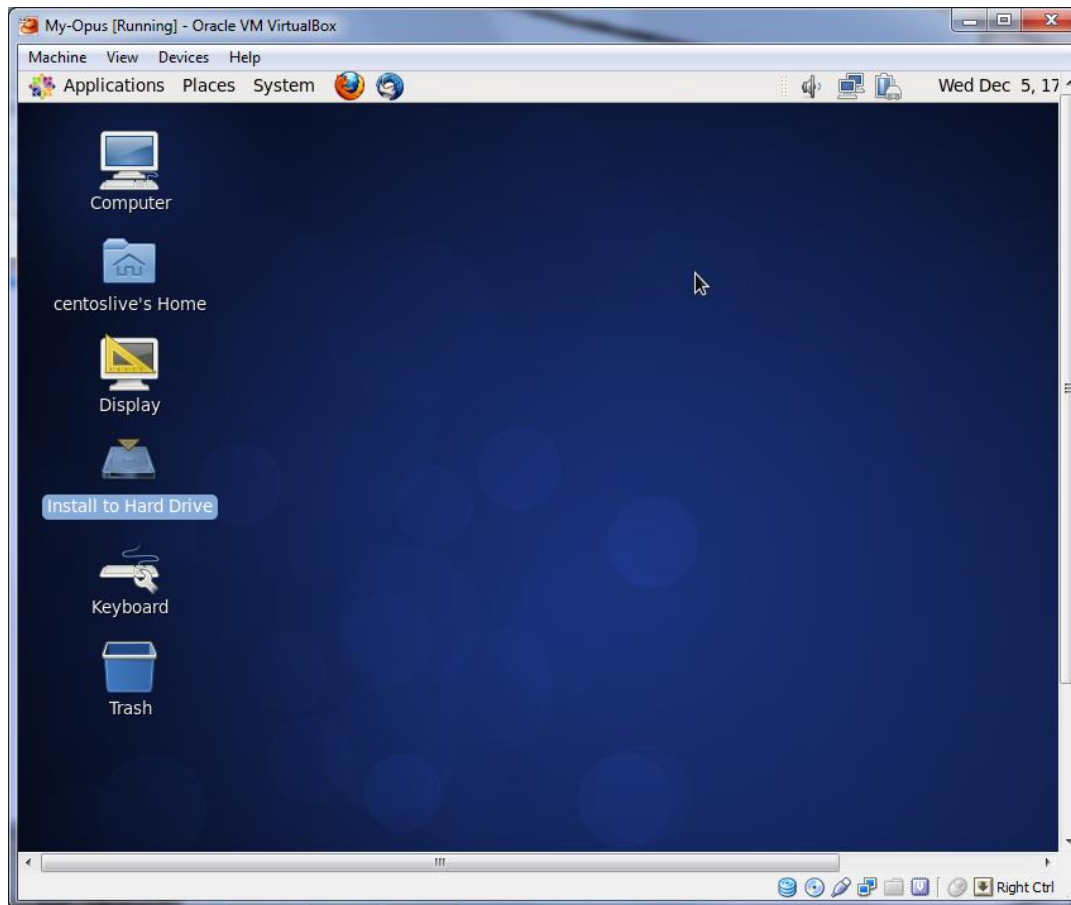


VirtualBox



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

VirtualBox



If it complains you don't have a 64-bit CPU (and you do have a 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.

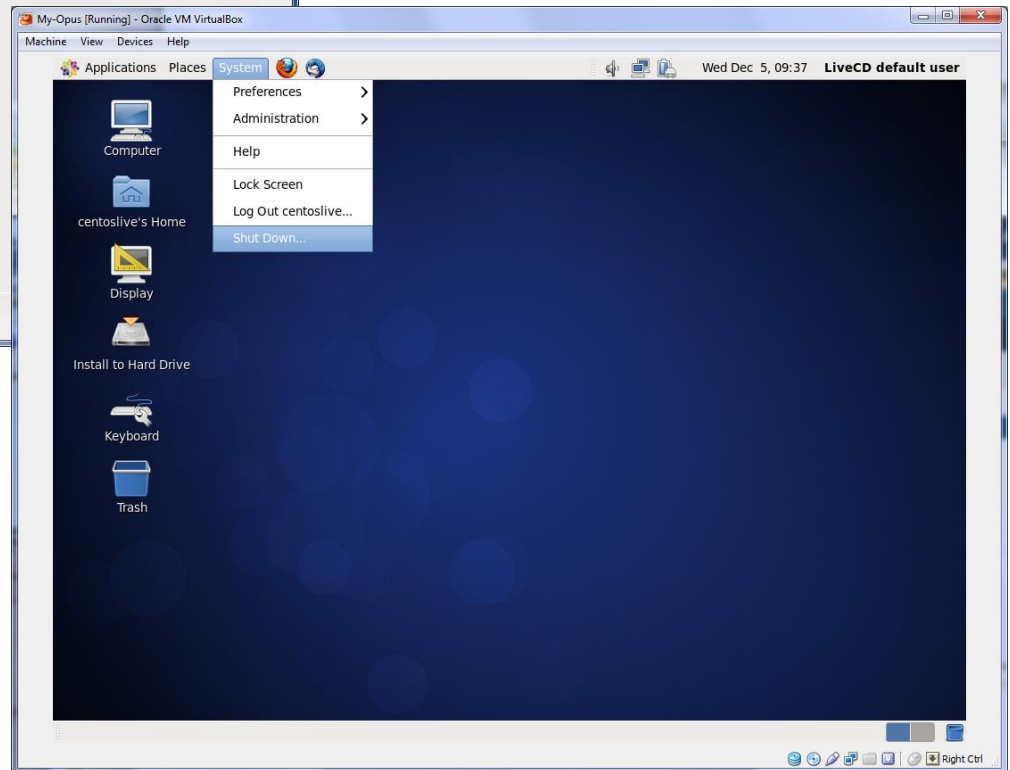
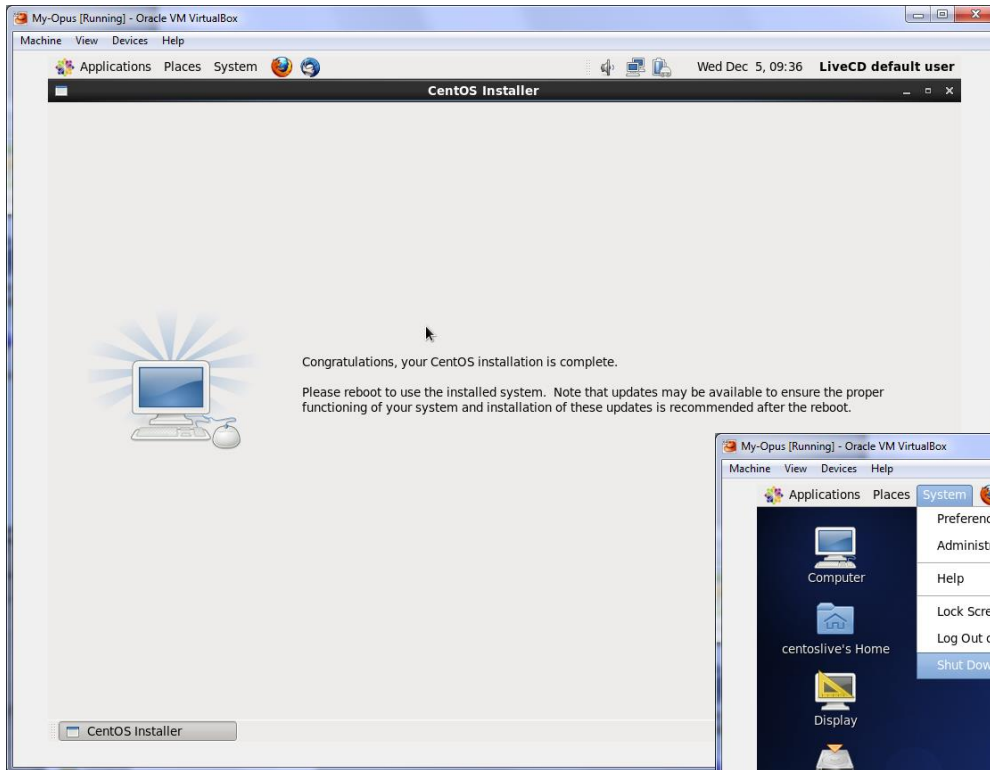
To install permanently to the VM hard drive open the "Install to Hard Drive" icon on the desktop

VirtualBox



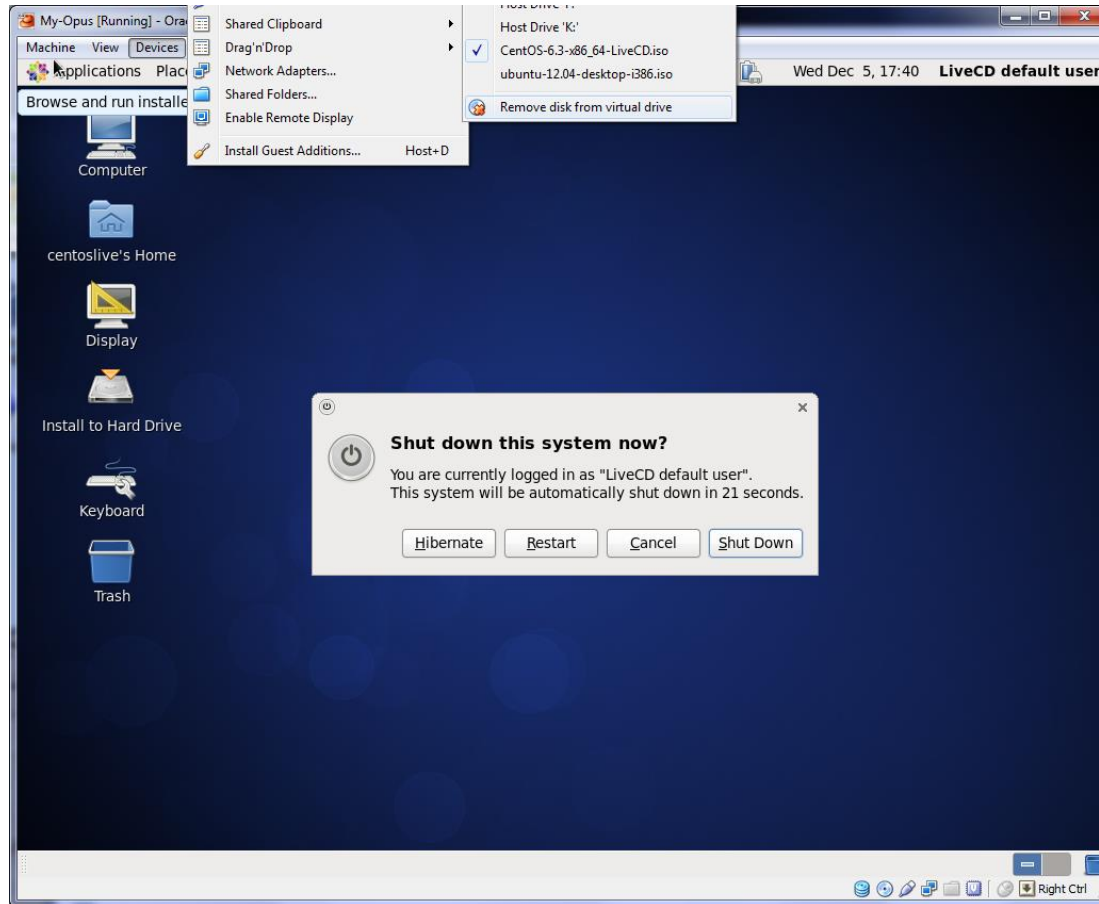
Keep hitting the Next button to let the wizard install the CentOS Linux distribution

VirtualBox

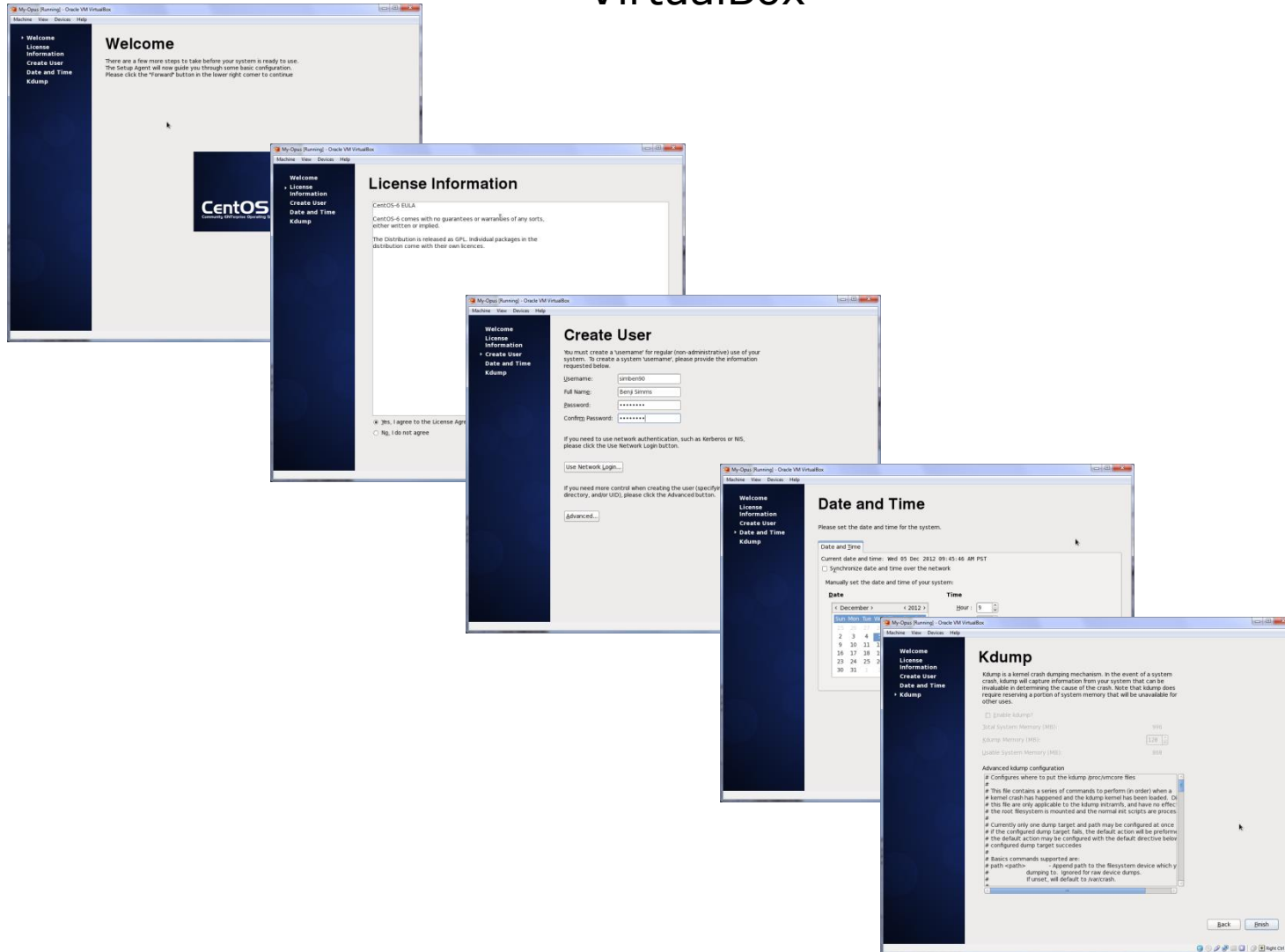


Shutdown the system and before starting again remove the CD from the drive (Settings > Storage)

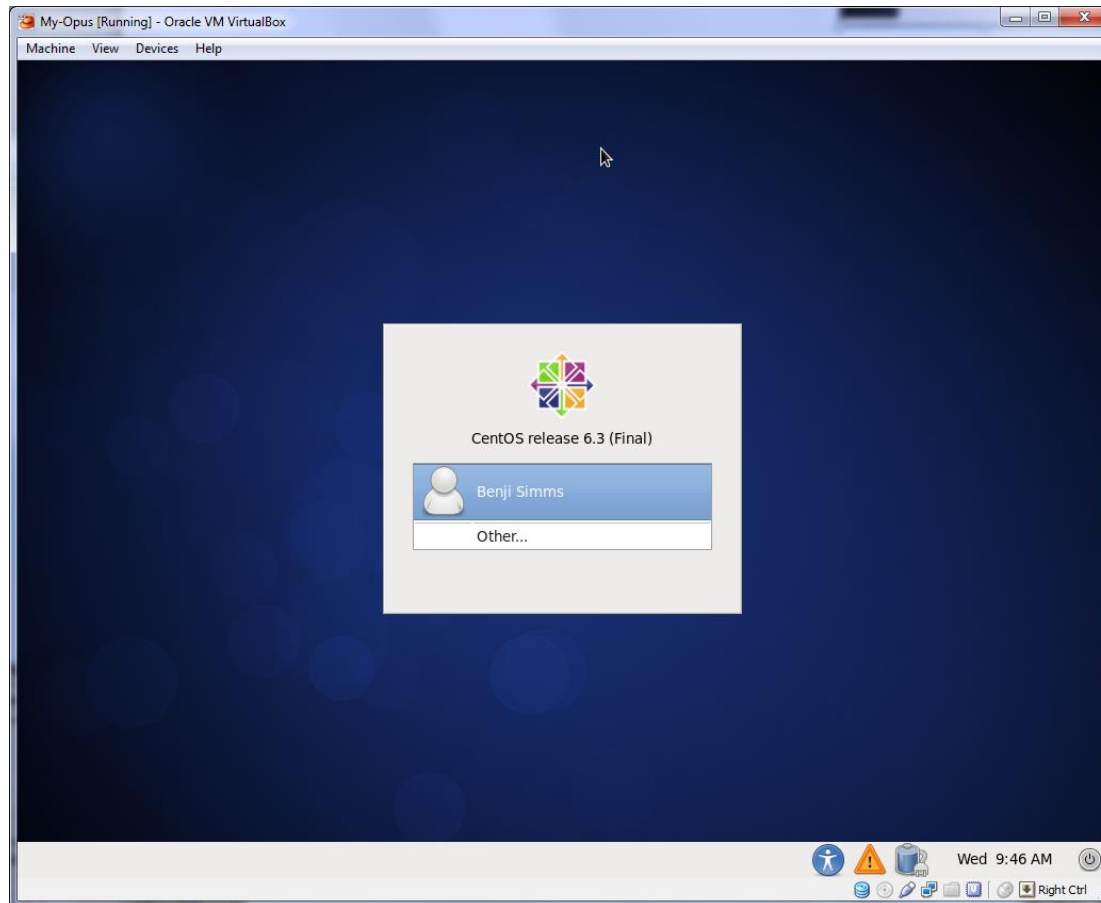
VirtualBox



VirtualBox



Voilà



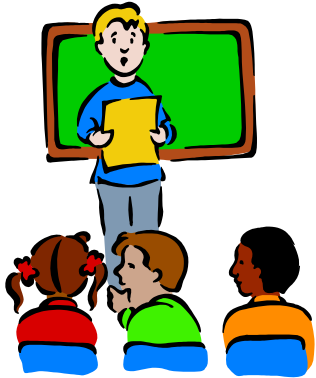
If you like doing this you will love CIS 191!

Activity
(If time permits)

1. Google "virtualbox download"
2. Install VirtualBox
3. Create a new Linux Ubuntu VM named MyOpus
4. Google "ubuntu download"
5. Download a ubuntu-14.04.1-desktop-amd64 iso
6. Put the iso "into" your CD drive on MyOpus
7. Power up MyOpus and install Ubuntu



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 888-886-3951 and use passcode: 136690
- Classroom students can use the station next to the Polycom teleconference phone.

Five minutes max please!

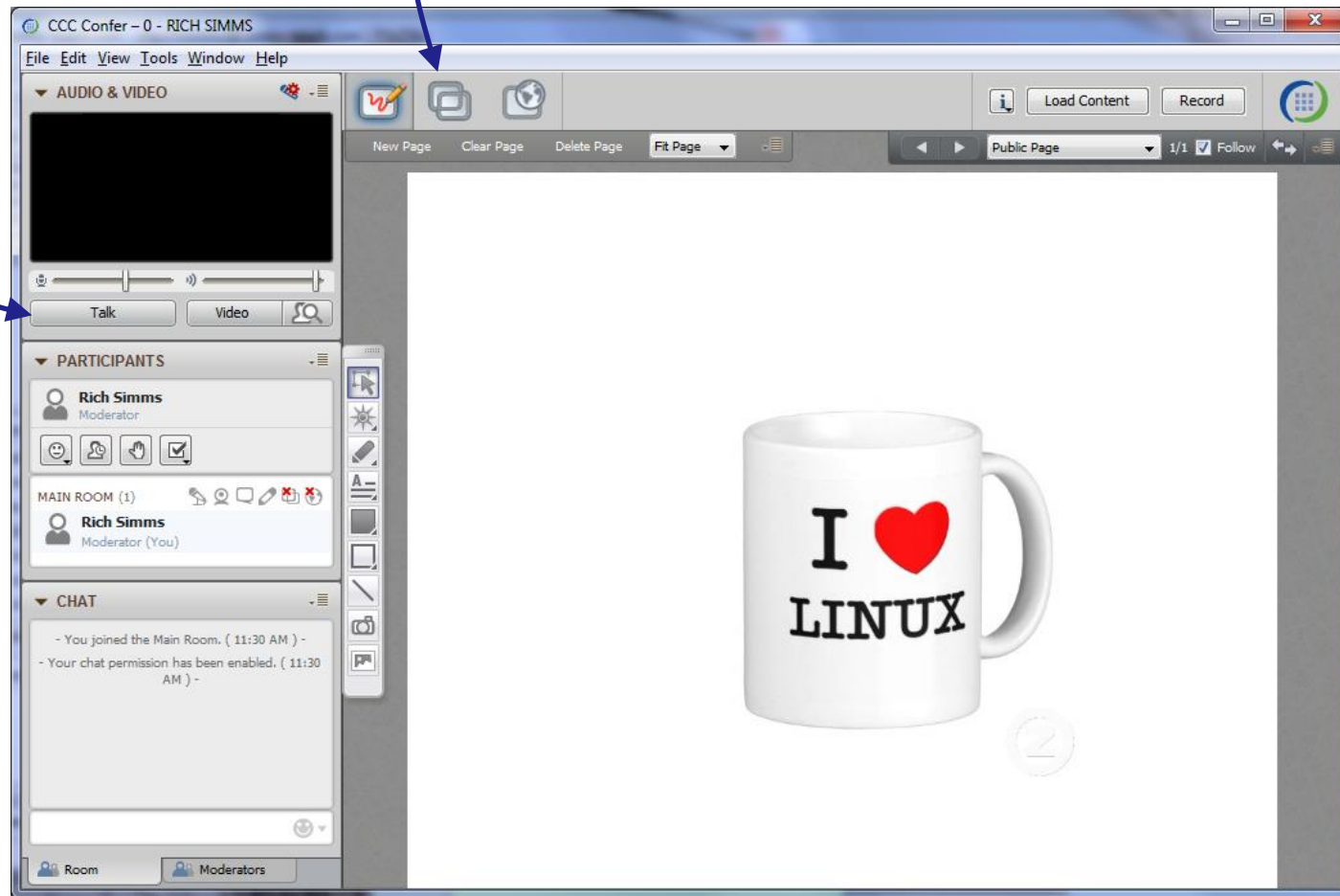
CCC Confer - Attending class online

The screenshot displays the CCC Confer application window titled "CCC Confer - 0 - RICH SIMMS". The interface includes a menu bar (File, Edit, View, Tools, Window, Help) and a toolbar with icons for drawing, erasing, and navigating. The main content area shows a slide titled "CIS Linux Classes" with the Cabrillo College logo and instructor information: "Instructor: Rich Simms" and "Dial-in: 888-450-4821". The slide background features a grid of 40 white silhouette icons on a green field. A blue callout box points to a set of icons (smiley face, hand, hand with pointer, checkmark) in the PARTICIPANTS panel, with the text: "Raise your hand, make gestures, use emoticons and indicate responses using these controls". Another blue callout box points to the CHAT panel, with the text: "Ask public or private questions using the chat area". The PARTICIPANTS panel lists "Benji" and "Rich Simms (Moderator)". The CHAT panel shows messages: "- You joined the Main Room. (2:23 PM) -" and "- Rich Simms joined the Main Room. (2:24 PM) -". The bottom right corner of the slide contains the text "of your face for 3 points extra credit".

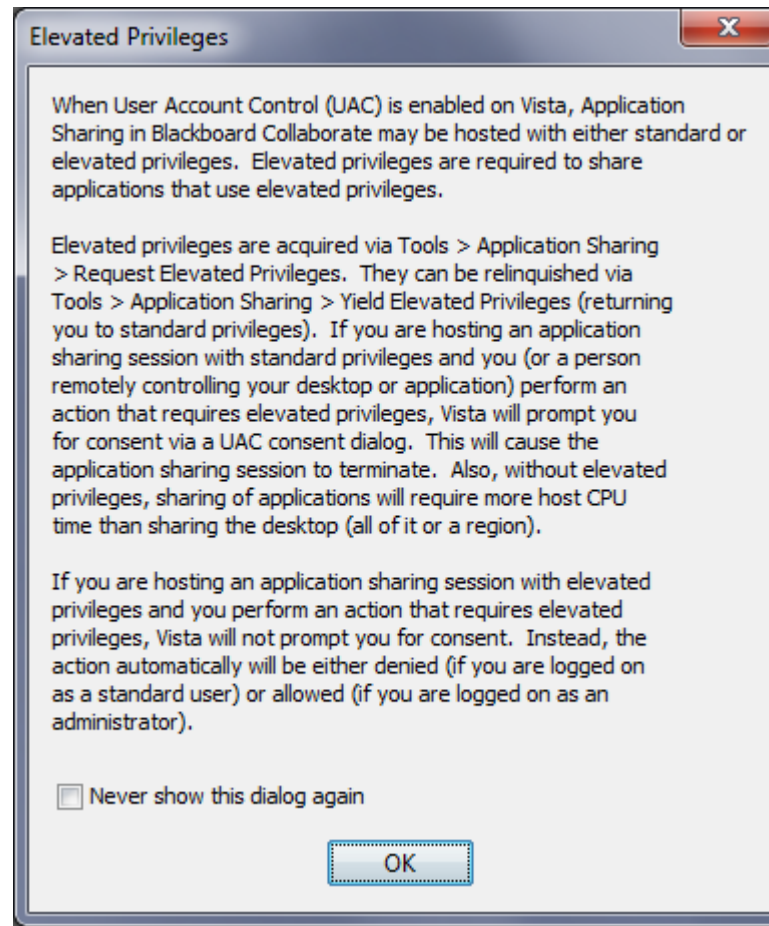
Sharing from CCC Confer

Click **Talk** so we can hear you from your computer's microphone

Click **overlapping rectangles** to share

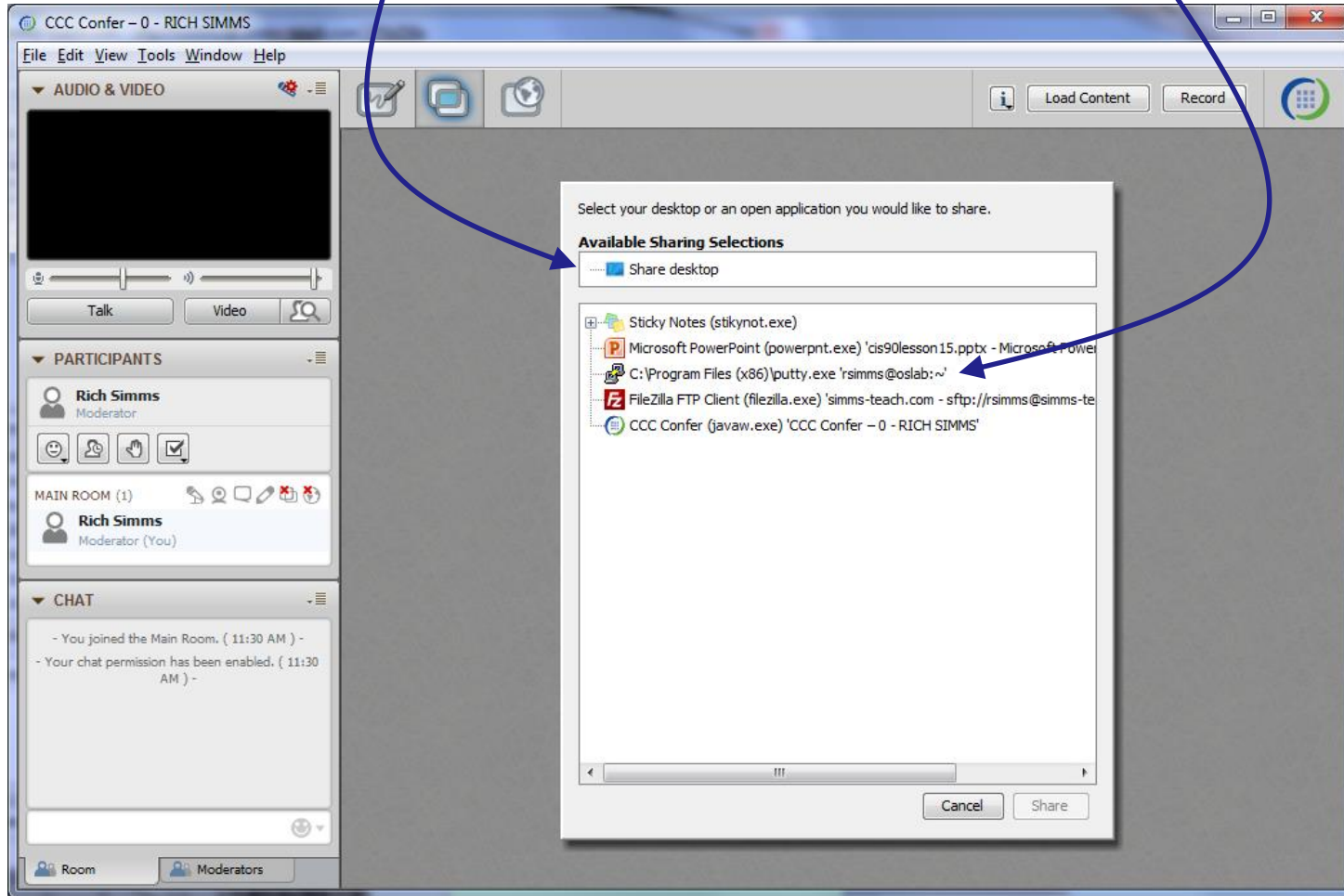


Sharing from CCC Confer



Sharing from CCC Confer

Either share putty/terminal or entire desktop



Sharing from CCC Confer

Click stop symbol to end sharing

The screenshot shows a Windows desktop environment. On the left, there is a 'CCC Confer - 0 - RIC...' window with a sidebar containing 'AUDIO & VIDEO', 'PARTICIPANTS', and 'CHAT' sections. The 'PARTICIPANTS' section lists 'Rich Simms' as the Moderator. The 'CHAT' section shows system messages: '- You joined the Main Room. (11:30 AM) -' and '- Your chat permission has been enabled. (11:30 AM) -'. In the center, a terminal window titled 'rsimms@oslab:~' is open, displaying login information and a welcome message: 'Welcome to Opus Serving Cabrillo College'. The terminal prompt is '[rsimms@oslab ~]\$'. A blue arrow originates from the text 'Click stop symbol to end sharing' and points to the stop icon (two vertical bars) in the taskbar of the CCC Confer window. The desktop background features a technical drawing of a building structure. The taskbar at the bottom shows various application icons and the system clock indicating 11:36 AM on 5/30/2013.



Wrap up

New commands:

tar

gzip

gunzip

Backup and restore files

Zip and compress files

Unzip files

New Files and Directories:

Next Class is the Final Exam

Test #3

Five Posts

Lab X1 (extra credit)

Lab X2 (extra credit)

Backup

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)