

Lesson Module Checklist

- Slides
- WB
- Flash cards
- Page numbers
- 1st minute quiz
- Web Calendar summary
- Web book pages
- Commands
- Practice test uploaded
- Backup slides, CCC info, handouts on flash drive
- Check that backup room headset is charged
- Spare 9v battery for mic



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/)



and the second s



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







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









[] Video (webcam) optional[] layout and share apps







- [] Video (webcam) optional
- [] Follow moderator
- [] Double-click on postages stamps





Universal Fix for CCC Confer:

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



Control Panel (small icons)

Adjust your computer's settings			View by: Small icons *
Action Center	Administrative Tools	AutoPlay	😸 Backup and Restore
Bamboo Preferences	Beats Audio Control Panel	Biometric Devices	Color Management
Credential Manager	Date and Time	@ Default Programs	Desktop Gadgets
Device Manager	Bevices and Printers	Tisplay Display	S Ease of Access Center
Flash Player (32-bit)	Folder Options	Fonts	Getting Started
HomeGroup	III and the former state	HP CosiSense	D HP Power Manager
HP Security Assistant		A Indexing Options	Mantal(R) Graphics and Media
Internet Options	S lava	E Keyboard	101 Location and Other Sensors
9 Mouse	=/ /0/0	Retification Area Icons	B Parental Controls
Pen and Touch	Too	s Personalization	Phone and Modern
Power Options	Programs and Features	P Recovery	Argion and Language
RemoteApp and Desktop Connection	s 🖷 Sound	Speech Recognition	Synaptics TouchPad VIL0
Symc Center	🚰 System	Tablet PC Settings	Taskbar and Start Menu
Troubleshooting	SUser Accounts	S Windows Anytime Upgrade	📑 Windows CardSpace
III Windows Defender	P Windows Firewall	Windows Live Language Setting	Windows Mobility Center
Windows Update			

General Tab > Settings...

General Java Se	curity Advanced		
About			
About			
View version infor	mation about Java Contro	Panel.	
			About
Network Settings			
Network settings	are used when making Inte	ernet connections. By d	efault, Java w
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500MB cache size

Temporary Files Settings Image: Setting setti

Delete these

Delete Files and Applications							
Delete the following files?							
✓ Trace and Log Files							
Cached Applications and Applets							
Installed Applications and Applets							
OK Cancel							

Google Java download





Quiz

No Quiz Today !



File Transfer and Review

Objectives	Agenda
 Transfer project files to Windows and Linux systems 	No QuizQuestions from last week
 Prepare for final exam 	 File transfer continued Project Presentations Practice Test #3



Questions



. Graded Work in the started work in the start Questions?

Lesson material?

Labs? Tests?

How this course works?

Who questions much, shall learn much, and retain much. - Francis Bacon

. Answers in cis90 answers

If you don't ask, you don't get. - Mahatma Gandhi





Housekeeping



Due 11:59 PM tonight:Final Project submittal

Due 11:59 PM next week:

- Five forum posts
- Extra credit labs



Grading rubric (60 points maximum)

Possible Points	Requirements]	
25	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 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 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 Jud or user (5 points) Use of a signal (5 points) Use of an environment variable (5 points) Use of an environment variable (5 points) Use of a conditional (5 points) The maximum for this section is 25 points. 		- Make sure you have at least five of these implemented
5	Present your script to the class		
Doints lost		-	
-15	Fails to run from allscripts		
-15	Other students in the class are unable to read and execute your script.		Log in as cis90 and
-15	Error messages are displayed when running one or more tasks		test vour script so
-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 		you don't lose any points
Extra credit		1	
30	Up to three additional tasks (10 points each)		



Spring 2014 Linux Classes

CIS 90 Introduction to UNIX/Linux

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Provides a technical overview of the UNIX/Linux operating system, including hands-on experience with commands, files, and tools. Recommended Preparation: CS 1L or CIS 172. *Transfer Credit:* CSU.

Section	Days	Times	Units	Instructor	Room		
82750	W	09:00AM-12:05PM	3.00	R.Simms	OL		
Section 82750 is an ONLINE course. Meets weekly throughout the semester online at							
the scheduled times by remote technology using CCC Confer. For details, see							
instructor	r's web pag	e at go.cabrillo.edu/online.	-				

Tell your friends that want to learn UNIX/Linux

CIS 98 UNIX/Linux Shell Programming

Presents an introduction to shell programming in a UNIX/Linux environment, and is designed for system administrators or technical users with little or no programming background. Prerequisite: CIS 90.

Transfer Credit: CSU.

Section	Days	Times	Units	Instructor	Room
83707	TH	11:00AM-02:05PM	4.00	M.Matera	829
&	Arr.	Arr.		M.Matera	OL

Section 83707 is a Hybrid ONLINE course. Meets weekly throughout the semester at the scheduled times with an additional 5 hr 5 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.

You have the prerequisites now for CIS 98

If you have taken CIS 81 then you also have the prerequisites for CIS 192AB

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. Recommended Preparation: CIS 191AB.

Section	Days	Times	Units	Instructor	Room
82744	TH	05:30PM-09:35PM	4.00	M.Matera	OL
&	Arr.	Arr.		M.Matera	OL

Section 82744 is an ONLINE course. Meets weekly throughout the semester online at the scheduled times by remote technology using CCC Confer with an additional 2 hr 5 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.



Next week is Cabrillo Finals Week

- Our final exam is Test #3 (30 points)
- Time: 1:00PM 3:50PM
- Date: Tuesday December 15
- Place: Room 828

The final exam:

- must be taken in Room 828 (no CCC Confer)
- timed test (no grace extension period till 11:59PM)
- no makeups
- contact instructor regarding any accommodations
- practice test available



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





- 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



Current Point Tally

As of 12/09/2013

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					

adaldrida: 95% (430 of 450 points) anborn: 0% (0 of 450 points) aragorn: 95% (428 of 450 points) arwen: 79% (357 of 450 points) balrog: 33% (150 of 450 points) barliman: 0% (4 of 450 points) beregond: 74% (336 of 450 points) boromir: 5% (25 of 450 points) celebrian: 79% (359 of 450 points) dori: 32% (146 of 450 points) dwalin: 71% (320 of 450 points) elrond: 92% (415 of 450 points) eomer: 66% (299 of 450 points) faramir: 95% (429 of 450 points) frodo: 97% (438 of 450 points) gimli: 93% (419 of 450 points)

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

goldberry: 109% (494 of 450 points) ingold: 103% (465 of 450 points) ioreth: 65% (295 of 450 points) legolas: 72% (328 of 450 points) marhari: 100% (450 of 450 points) pallando: 101% (456 of 450 points) pippen: 91% (413 of 450 points) quickbeam: 26% (121 of 450 points) samwise: 84% (379 of 450 points) sauron: 101% (457 of 450 points) shadowfax: 62% (280 of 450 points) strider: 87% (394 of 450 points) theoden: 99% (446 of 450 points) treebeard: 88% (399 of 450 points) tulkas: 82% (373 of 450 points) ulmo: 70% (316 of 450 points)





CIS Lab Schedule http://webhawks.org/~cislab/





Work on assignments together with other classmates



Get help from instructors and student lab assistants



MESA grants requires logging help sessions with MESA funded student assistants



Michael, CIS 90 alumnus just hired, is now working mornings, Wednesday to Friday



File Transfer



File Transfer

Downloading your Opus files to your home computer









Windows



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



File Transfer

http://filezilla-project.org



Download and install FileZilla on your Windows PC



EFileZilla On Windows, connect to your Opus

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EFileZilla Select destination and source directories

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FileZilla Initiate Download

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EFileZilla Failed transfers

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Failed transfers can happen if you lack read permission on a file 156 Image: style		👢 👢 simben		F	ile folder	I. Hidden			File folder File folder	2/1/2002 11/21/2010		
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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) Users Queue: empty		•	III		•	■ newdir	111		File tolder	10/16/2012 0.0		
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) Centry Queue: empty		1 directory				60 files an	d 15 directo	ries. Total siz	ze: 360,582	bytes		
sftp://simben90@osl C:\Users\Rich Simms C:\Users\Rich Simms Queued files Failed transfers (1) Successful transfers (383)		Server/Local file	Direc Remot	e file	9	Size Priority	Time	Reason				
Queued files Failed transfers (1) Successful transfers (383)		sftp://simben90	@osl iimms << /home	/cis90/simben/newer		0 Norm	12/9/2013	Could not start	tran			
🚨 🏧 Queue: empty 🔍 🖷		Queued files	Failed transfers (1)	Successful transfers (383)							
								j.	🗋 👎 Quei	ue: empty 🔹		



FileZilla File transfers

Your CIS 90 home directory files are now on Windows

And and an Dominant	-			2/4			×
Correction Libraries Documents	► M	ly Documents 🔸 CIS 90 Class 🕨 sim	nben 🕨 👻 😽	Search simben		_	٩
Organize ▼ Share with ▼ Burn	New	folder			•		2
My Documents	^	Documents library		Arrange	by: Fol	der 🔻	
simben		Name	Date modified	Туре	Size	-	•
🐌 basket		plan	12/9/2013 7:07 PM	PLAN File		1 KB	
👢 bin	=	.sh_history	12/9/2013 7:07 PM	SH_HISTO		1 KB	
> 👢 class	-	.bash_logout	12/9/2013 7:07 PM	BASH_LOG		1 KB	
👢 docs		myfile	12/9/2013 7:07 PM	File		1 KB	
🛛 🔍 dogs		names	12/9/2013 7:07 PM	File		1 KB	
👢 edits		helper	12/9/2013 7:07 PM	File		1 KB	
👢 etc		stash	12/9/2013 7:07 PM	File		1 KB	
📜 firefly		📄 cinderella	12/9/2013 7:07 PM	File		0 KB	
📜 Hidden		📄 cinderella.bak	12/9/2013 7:07 PM	BAK File		0 KB	Ξ
👢 misc		hola	12/9/2013 7:07 PM	File		0 KB	-
👢 newdir	-					1	•
74 items							

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-

PSFTP-

pscp.exe

psftp.exe

(or by FTP)

(or by FTP)

(RSA sig)

(RSA sig)

(DSA sig)

(DSA sig)

CIS 90 - Lesson 15

PSCP (Putty SCP) Downloading

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



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



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\sy	vstem32\cmd.exe	9					_			X
Moon		1 kB		1.3 kB/	/s	ETA:	00:00:00	I	100%	
readme		0 kB		0.1 kB,	/s	ETA:	00:00:00	I	100%	
Hamlet		0 kB		0.2 kB,	/s	ETA:	00:00:00	I	100%	
Caesar		0 kB		0.8 kB,	/s	ETA:	00:00:00	I	100%	
Romeo		0 kB		0.8 kB,	/s	ETA:	00:00:00	I	100%	
author		0 kB		0.0 kB,	/s	ETA:	00:00:00	I	100%	
Persuasion		0 kB		0.7 kB,	/s	ETA:	00:00:00	I	100%	
author		0 kB		0.0 kB,	/s	ETA:	00:00:00	I	100%	
Sensibility		0 kB		0.7 kB,	/s	ETA:	00:00:00	I	100%	
Phaedo		2 kB		2.1 kB,	/s	ETA:	00:00:00	I	100%	
author		0 kB		0.0 kB,	/s	ETA:	00:00:00	I	100%	
Apology		1 kB		1.8 kB,	/s	ETA:	00:00:00	I	100%	
Shadow		0 kB		0.6 kB,	/s	ETA:	00:00:00	I	100%	
Ass		0 kB		0.9 kB,	/s	ETA:	00:00:00	I	100%	
author		0 kB		0.0 kB,	/s	ETA:	00:00:00	I	100%	
Fox		0 kB		1.0 kB,	/s	ETA:	00:00:00	I	100%	
errors		3 kB		3.7 kB,	/s	ETA:	00:00:00	I	100%	
myfiles		8 kB		8.8 kB,	/s	ETA:	00:00:00	I	100%	
.history		0 kB		0.2 kB,	/s	ETA:	00:00:00	I	100%	
whomai		0 kB		0.1 kB,	/s	ETA:	00:00:00	I	100%	
lab08.graded		5 kB		5.1 kB,	/s	ETA:	00:00:00	I	100%	
whoami		0 kB		0.1 kB,	/s	ETA:	00:00:00	I	100%	
pscp: unable to	o open /home/c	is90	/si	mben/newe	er:	permi	ssion deni	ied	ł	=
C:\Users\Rich S	imms\Document	s\CI	S 9	0 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

						X
🚱 🔍 🛛 🕨 🕨 Computer 🔸 Local Disk (C:) 🔸	Users ► Rich Simms ► cis90-files	▶ bin		- 4 Search bin		٩
Organize Include in library Share with the second seco	ith ▼ Burn New folder				•	0
4 👪 Rich Simms	Name	Date modified	Туре	Size		
Image: Participation of the second	ann	12/4/2012 10·52 PM	File	1 KB		
⊳ 퉲 .m2	hanner	12/4/2012 10:52 PM	File	7 KB		
🖻 🍌 .nbi	datecal	12/4/2012 10:52 PM	File	1 KB		
鷆 .VirtualBox		12/4/2012 10:52 PM	File	4 KB		
🖻 퉲 AppData	hi hi	12/4/2012 10:52 PM	File	1 KB		
4 🍌 cis90-files		12/4/2012 10:52 PM	File	1 KB		
\mu .crazy		12/4/2012 10:52 PM	File	11 KB		
🍌 .ssh	myscript v1	12/4/2012 10:52 PM	V1 File	11 KB		
🍑 .vim	myscript.v1	12/4/2012 10:52 PM	V2 File	11 KB		
🍌 bag		12/4/2012 10:52 PM	File	5 KB		
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I class	= tread	12/4/2012 10.52 PM	Ella	1 KD		
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🐌 edits	200m	12/4/2012 10:52 PW	FIIe	I ND		
🐌 etc						
🐌 Hidden						
HowTheShellWorks						
Þ 🐌 jobs						
🐌 misc						
퉬 newdir						
🍑 olddir						
N M	T					
14 items						

CIS 90 files copied from Opus to home Windows system





File Transfer Linux or Mac

scp



Downloading your Opus files to your home computer







Linux 39



Downloading your Opus files to Pxx-Arwen (Linux Mint VM)

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

Arwen		
🛃 p06-arwen on		
<u>Fi</u> le Vie <u>w</u> <u>V</u> M		
		Source
cis00 · bash – K		directory on
File Edit View Bookmarks Settings Help		0000
<pre>cis90@p06-arwen:~/cis90 > scp -r -P 2220 simben90@oslab.c simben90@oslab.cishawks.net's password:</pre>	ishawks.net:/home/cis90/simben/ .	Opus
lab05.graded	100% 923 0.9KB/s 00:00 100% 21 0.0KB/s 00:00	Destination
bigshell	100% 70 0.1KB/s 00:00	
treasure	100% 93 0.1KB/s 00:00	directory on
treat2	100% 697 0.7KB/s 00:00	
lab02.graded	100% 1523 1.5KB/s 00:00	Arwen
.viminfo	100% 7477 7.3KB/s 00:00	
treat3	100% 1129 1.1KB/s 00:00	
lab02.graded	100% 1523 1.5KB/s 00:00 100% 3282 3.2KB/s 00:00	
lab03.graded	100% 18KB 17.8KB/s 00:00	Files lacking read
lab01.graded	100% 587 0.6KB/s 00:00	
treat5	100% 795 0.8KB/s 00:00	permission generate
treat6	100% 730 0.7KB/s 00:00	permission generate
sonnet15	100% 618 0.6KB/s 00:00	an error and are not
sonnet26	100% 601 0.6KB/s 00:00	
sonnet3	100% 615 0.6KB/s 00:00 100% 598 0.6KB/s 00:00	
sonnet6	100% 611 0.6KB/s 00:00	
sonnet2	100% 631 0.6KB/s 00:00	
cis90 : bash	100% 300 0.000/3 00.00	Empty files are copied
		as well
🥮 🧱 📔 cis90 : bash – Konsole	🚬 😻 🐰 🕼 庙 🗅 07:54 PM	40



Downloading your Opus files to Pxx-Arwen (Linux Mint VM)

🛃 p06-arwen on							
Eile Vie <u>w V</u> M			b				
File Edit Vie cis90@p06-arwer simben cis90@p06-arwer basket bf bigfile bigshell bin bin.tar calculations cinderella.bak cis90@p06-arwer cis90@p06-arwer	Bookmarks n:~/cis90 > ls class cmds dead.letter docs dogs dogs.tar edits errors etc n:~/cis90 > cl n:~/cis90 > l	s Settings He simben experiment100 experiment09 files.out firefly helper Hidden hola lab01.graded ear	cis90:bash - Ki lp lab02.graded lab03.graded lab04.graded lab05.graded lab07 lab07 lab08 lab08 lab08 lab08	labx1.simben90 labx2 labx2.graded labx2.simben90 letter log musd myfile myfiles	names new revolution olddir poems smallshell stash test01.graded	the Torvalds treat1 uhistory uhistory.bak whomai whomai words	× •
	cis90 : cis90 : bash –	bash				೨∭ 💼 △ 07::	55 PM (6

Now your Opus CIS 90 files are on Arwen



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

scp -P 2220 -r simben90@oslab.cishawks.net:.

Daughter-of-Opus Daughter-of-Opus [Running] - Oracle VM VirtualBox Machine View Devices Help 🔆 Applications Places System 👹 🕸 国 🌞 🍁 💷 🍺 Mon Dec 9, 8:21 PM E simben90@daughter-of-opus:~/cis90 • × File Edit View Search Terminal Help [simben90@daughter-of-opus cis90]\$ scp -r -P 2220 simben90@oslab.cishawks.net:. . The authenticity of host '[oslab.cishawks.net]:2220 ([207.62.187.230]: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.cishawks.net]:2220,[207.62.187.230]:2220' (RSA) to the list of know n hosts. simben90@oslab.cishawks.net's password: lab05.graded 100% 923 0.9KB/s 00:00 names 100% 21 0.0KB/s 00:00 bigshell 100% 70 0.1KB/s 00:00 treasure 100% 93 0.1KB/s 00:00 .trove 100% 1910 1.9KB/s 00:00 treat2 100% 697 0.7KB/s 00:00 lab02.graded 100% 1523 1.5KB/s 00:00 uhistory.bak 14KB 14.1KB/s 100% 00:00 .viminfo 100% 7477 7.3KB/s 00:00 treat3 100% 1129 1.1KB/s 00:00 lab02.graded 100% 1523 1.5KB/s 00:00 lab04.graded 100% 3282 3.2KB/s 00:00 lab03.graded 100% 18KB 17.8KB/s 00:00 lab01.graded 100% 587 0.6KB/s 00:00 treat4 100% 1023 1.0KB/s 00:00 795 0.8KB/s treat5 100% 00:00 100% 730 0.7KB/s treat6 00:00 일 💿 🖉 🗗 🛄 🛄 🖉 💽 Ctrl + Alt

Source directory on Opus Destination directory on Daughter-of-

Opus



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

-	Daughter-of-O	pus (Running	g] - Oracle VM	VirtualBox	Microsoft Per	and the second data			×
N	lachine View	Devices He	elp						
	Applications Pla	ces System	🥹 🧆 🔄			I 🌞 🌵 💻 🖹	Mon Dec 9	, 8:22 PM	E 🔺
			simben 90@c	laughter-of-on	us:~/cis90			~	
	File Edit View	Search Termi	nal Help	laughter-or-op			_ U	^	
	[simben90@daugh	ter-of-opus c	is90]\$ ls					<u>^</u>	
	basket	class	experiment100	lab02.graded	labx1.simben90	names	the Torvoldo		
	bigfile	dead.letter	experimention experiment99	lab03.graded	labx2.graded	newdir	treat1		
	bigshell	docs	files.out	lab05.graded	labx2.simben90	old	uhistory		
	bin bin.tar	dogs dogs.tar	firefly helper	lab07 lab07.graded	letter log	olddir	uhistory.bak whoami		=
	calculations	edits	Hidden	lab08	misc	smallshell	whomai		-
	cinderella cinderella bak	errors	hola lab01 graded	lab08.graded	myfile myfiles	stash test01 graded	words		
	[simben90@daugh	ter-of-opus c	is90]\$	cabos	myrices	cestor.graded			
						T			
						-			
								=	
								<u>~</u>	
									Ŧ
•				111					•
						9 () 🌶 🛃 🛄 💟	🎯 💌 Ctrl + /	Alt "

CIS 90 files copied from Opus to home Linux system





Archiving 8 Restoring



Archiving tar command (on Opus)

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

/home \$ cd /home/cis90								
/home/ci	s90 \$ ls							
adasha	bin	chejul	fekzso	halluc	medism	pauhun	rodduk	watroc
answers	boyand	cis	frajos	josaar	menfid	pendav 🤇	simben	wootyl
balcor	brimar	depot	grodav	lamdav	milhom	pitmic	skizac	zamhum
bardeb	carand	dhaima	guest	leebri	mongeo	rawjes	smimat	
beledt	caumar	error	hahtay	mahtab	norwil	roclea	tapart	

/home/cis90 \$ find simben bin/ answers depot | wc -1 568

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)



Backup all these files into a single tarball



Archiving tar command (on Opus)



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
```



CIS 90 - Lesson 15

Archiving tar command (on Opus)

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

Change "simben" to your home directory!

cd /home/cis90

find simben bin/ answers/ depot/ | wc -1 Count the files to be archived

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

tar tvf simben/simben90.tar | wc -1

This counts the files that were archived



CIS 90 - Lesson 15



49



Restoring

tar command (extracting on home Linux computer)

Login to your Arwen 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:~/opus-files >

Retrieve your archive from Opus using scp command

```
cis90@p06-arwen:~/opus-files > scp -P 2220 simben90@oslab.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 >
```



depot/smb.conf

depot/randomjokes

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/lab05.graded
simben/names
simben/bigshell
simben/.vim/
< snipped >
depot/scrooge
```

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)

cis900p06-arwen:~/opus-files > cd simben/bin
cis900p06-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.





Archives gzip and gunzip



Archiving gzip and gunzip commands (on Opus)

/home/cis90/simben \$ **ls -1 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 -1 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

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 17 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)



The login needs the domain name "cislab\\" added

ssh cislab\\simben90@sun-hwa





<pre>[[Classimplene99@an-bwa -1@ cas: /cto:/parswd totxi:00irco:/poirco:/poirco:/parswd pin:xi:11:bin:/bin/hologin ddm:xi:31:damci/abin/bologin ddm:xi:31:damci/abin/bologin ddm:xi:31:damci/abin/bologin ddm:xi:31:damci/abin/bologin ddm:xi:31:damci/abin/hologin ddm:xi:31:damci/a</pre>	Generation CISLAB\simben90@sun-hwa:~		The		ccount	te are not	in
<pre>kotside:indexide:indexide indexide indexide</pre>	[CISLAB\simben90@sun-hwa ~]\$ cat /etc/passwd	*	l me	CIS 90 a	ccoum	s are not	. 111
<pre>bints:/lin/bin/bin/bin/bin/bin/bin/bin/ologin ddm:si34:adm:/war/yadm:/bin/bin/ologin ddm:si34:adm:/war/yadm:/bin/bin/ologin ddm:si34:adm:/war/yadm:/bin/bin/bin/bin/bin/bin/bin/bin/bin/bin</pre>	root:x:0:0:root:/root:/bin/bash		late passed on Cup Hugh				
<pre>latemonix::2::datemoni/shir/shir/shir/shir/shir/shir/shir/shi</pre>	bin:x:1:1:bin:/bin:/sbin/nologin		/etc/passwa on Sun-Hwa!				
<pre>Idm:xi3:4:adm:/var/spoil/pdi/bbin/nologin Hym(si3:4:adm:/var/spoil/pdi/bbin/nologin Hym(si3:4:adm:/var/spoil/sdi/bbin/nologin Hym(si3:4:adm:/var/spoil/sdi/nologin Hym(si3:4:adm:/var/spoil/sdi/nologin Hym(si3:4:adm:/var/spoil/sdi/nologin Hym(si3:4:adm:/var/spoil/sdi/lologin Hym(si3:4:adm:/var/spoil/sdi/nologin Hym(si3:4:adm:/var/</pre>	daemon:x:2:2:daemon:/sbin:/sbin/nologin			-			
Ip:xi:4:7:1p:/var/spool/upi/shi/shi/shi/shi/shi/shi/shi/shi/shi/sh	adm:x:3:4:adm:/var/adm:/sbin/nologin						
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				•			



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



The MLOGNAME variable is set in your .bash_profile



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

8	CISL	AB\milhom90@sun-hwa:~						ς
[CISLAB\simben90@sun-hwa ~]\$ mail cislab\\\\milhom90 cislab\\\\rodduk90 Subject: Chicken pot pies At my house tonight. Be there or be square! - Benji								
EOT [CI	EOT [CISLAB\simben90@sun-hwa ~]\$ su - cislab\\milhom90							
/ho Hei	me/	/CISLAB/milhom90 \$ mai: oom Mail version 12.5 '	l -f /vai 7/5/10.	c/ma Tvi	ail/CIS be ? for	LABmilhom9 r help.	90	
"/⊽	ar/	/mail/CISLABmilhom90":	10 messa	age:	s 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"	
&								Ŧ



The . directory is not on your path



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





Make your own Opus at home



CIS 90 - Lesson 15

P rsimms@oslab:~	
login as: rsimms	*
rsimms@oslab.cabrillo.edu's password:	
Last login: Mon Dec 3 08:02:00 2012 from 50-0-68-235.dsl.dynamic.fusionbroadban	
d.com	
('v') //-=-\\ (_=_/) welcome to Opus Serving Cabrillo College	
[rsimms@oslab ~]\$ cat /etc/*-release	
CentOS release 6.2 (Final)	
CentOS release 6.2 (Final)	
CentoS release 6.2 (Final)	
[rsimms@oslab ~]\$ cat /etc/issue	
Centos release 6.2 (rinal)	
Kerner (r on (r	
[rsimms@oslab ~]\$	
	Ŧ

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)



CIS 90 - Lesson 15

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		Rich's Cabril Resources Home Reso	lo College CIS	CIS Lab Blackboard		*
	Login	Links				
	Flashcards					
	Admin	Instructors Inux Master	Getting Linux/UNIX	Commands • Practical		
	<u>CIS 90</u> <u>Previous Classes</u>	 <u>Jim</u> <u>Programming</u> <u>Master Ed</u> <u>Network</u> 	<u>Kernels</u> <u>RPMs (rpmfind)</u> <u>RPMs (pbone)</u> <u>OpenSolaris</u>	Summary Useful vi summary vi cheat sheet		
	11 days till term ends!	Master Gerlinde • <u>Network</u> Master Rick	Tools and Software Apache Bastile	Howtos <u>HowtoForge</u> email 		
	Cabrillo College	<u>Web Master</u> <u>John</u>	<u>CoRD</u> Cvgwin	DNS Ethernet (NIC drivers)		
	Commands and Files	<u>Systems</u> <u>Master Michael</u>	DOS boot disks Dynamips/Dynagen	<u>NFS</u> <u>NIS</u>		
	VLab RDP file	Clubs Clubs GNU Linux	John the Ripper <u>Netfilter</u> <u>Putty SSH Tools</u>	PPP Putty SSH Keys sed		
	CIS 90 VLab VM	<u>Users Group</u>	Quagga routing suite Tripuire	Student Howtos		
	Assignements	<u>CNSA</u>	<u>Wireshark</u>	<u>Monitor Script</u> by Sean Callahan		
	<u>RIP Dennis Ritchie</u>	• <u>CIS</u> • <u>CS</u>	e-academy sites for CIS students	<u>wiFi Penetration</u> by Ryan Schell		
	Opus Status: UP	Crib Sheets	<u>MSDN Academic</u> Alliance	 Logging into opus nonra mac by Laura Sreckovic LDAP Implementation 		
		Ollie Wright (CIS 90)	<u>VMware e-academy</u>	by Tim Childers	ft	
		Documentation		Windows 7 and Linux Ubuntu by Richie Fou		
		<u>ILDP</u> <u>LINFO</u> UNIX Rosetta	VMware ESXi and vSphere client	<u>Making an ethernet cable</u> by Michael George		
		Stone	Standards	Home VM access via Linksys rou by Marc Romansky	<u>iter</u>	
		Animations	IETF (RFCs) TEFE	 <u>Putty to VMs</u> by Marc Romansky 		-

Shopping for the ingredients



VMware Workstation



Provides you with an empty (No OS) virtual computer



VMware Workstation (Windows) or Fusion (Mac)



Obtaining VMware Workstation



Oracle VirtualBox

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Daughter-of-Opus	🧕 General	Preview
robin	Name: Daughter-of-Opus Operating System: Red Hat (64 bit)	
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	Controller: IDE IDE Secondary Master: [CD/DVD] Empty Controller: SATA SATA Port 0: My-Opus.vdi (No	rmal, 8.00 GB)
	🖗 Audio	
	P Network	
	Ø USB	•
		.4

Provides you with an empty (No OS) virtual computer



virtualbox.org




http://iso.linuxquestions.org/



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



centos.org

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Download an iso image of the Linux distribution







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



VirtualBox



of memory and a 8GB hard drive





The new VM has no operating system



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Image: Control of the list on the left-hand side and move the mouse over a settings item to get more information. Image: Control of the list on the left-hand side and move the mouse over a settings Image: Control of the list on the left-hand side and move the mouse over a settings Image: Control of the list on the left-hand side and move the mouse over a settings Image: Control of the list on the left-hand side and move the mouse over a settings Image: Control of the list on the left-hand side and move the mouse over a settings				

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.





CentOS-6.3-x86_64-LiveCD.iso



Image: System Storage Image: Storage Storage Image: Storage Controller: IDE Image: Storage Controller: SATA Image: Storage My-Opus.vdi Image: Storage My-Opus.vdi Image: Storage My-Opus.vdi Image: Storage My-Opus.vdi Image: Storage Storage Image: Storage My-Opus.vdi Image: Storage Storage Image: Storage Stor	🥸 My-Opus - Setting:	5	? ×
Attached 10:	 My-Opus - Setting: General System Display Storage Audio Network Serial Ports USB 	Storage Storage Tree Controller: IDE 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
OK Cancel Help	USB Shared Folders	Contains all storage controllers for this mach them.	Location: C: \Depot \sos \CentOS-6.3-x86 Attached To:





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





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











VirtualBox









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!



CCC Confer - Attending class online









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Elevated Privileges

When User Account Control (UAC) is enabled on Vista, Application Sharing in Blackboard Collaborate may be hosted with either standard or elevated privileges. Elevated privileges are required to share applications that use elevated privileges.

Elevated privileges are acquired via Tools > Application Sharing > Request Elevated Privileges. They can be relinquished via Tools > Application Sharing > Yield Elevated Privileges (returning you to standard privileges). If you are hosting an application sharing session with standard privileges and you (or a person remotely controlling your desktop or application) perform an action that requires elevated privileges, Vista will prompt you for consent via a UAC consent dialog. This will cause the application sharing session to terminate. Also, without elevated privileges, sharing of applications will require more host CPU time than sharing the desktop (all of it or a region).

If you are hosting an application sharing session with elevated privileges and you perform an action that requires elevated privileges, Vista will not prompt you for consent. Instead, the action automatically will be either denied (if you are logged on as a standard user) or allowed (if you are logged on as an administrator).

OK

Never show this dialog again



Either share putty/terminal or entire desktop





Click stop symbol to end sharing ~





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)



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)