

Introduction

Saturday, July 29, 2017 11:12 AM

Login to a Classroom computer, or your own laptop if you have a Mac or linux computer

Install the Slack App on your phone, or use your browser to:

Connect to the class Slack organization (<http://scststudents.slack.com>)

Edit your profile to display your real name, if you have not already done so.

Shake hands with a person sitting near you and introduce yourself

Post a message to the class Slack channel about this person

Tell us

- Their name, major, minor and class standing (i.e. sophomore, junior or senior)
- Whether or not they had an internship or job during the past summer and, if so, the tools they used and skills they developed.
 - If they did:
 - How did they get it?
 - What software tools, if any, did they use?
 - If they did not:
 - What kind of job or internship would they like to have next summer?
- How was the handshake?
 - Limp
 - Firm
 - Bone-crushing

History

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- 1969 - Multics: Multiplexed Information and Computing Service
 - MIT, AT&T Bell Labs, GE
 - Time Sharing Operating System
- 1970 - Unics: Uniplexed Information and Computing Service
 - AT&T Bell Labs: Ken Thompson and Dennis Ritchie
 - Eventually spelling changed to Unix
- 1973 - Unix version 4
 - Written in C
 - Presented to outside world
 - AT&T Version 5 Unix licensed to educational institutions
- 1975 - AT&T Version 6
 - Licensed commercially
- 1976 - Unix on ARPAnet
 - Unix implemented on the original nodes of ARPAnet which became the Internet
- 1977 - Berkeley Software Distribution (BSD)
 - Developed at UC Berkeley between 1977 and 1995 from AT&T UNIX
 - Basis for Mac OS/X and iOS
- 1981 - 4.1BSD
 - Included the TCP/IP protocol suite
 - Windows did not include TCP/IP until Windows 98
- 1982 - SunOS
 - Bill Joy, one of the leading BSD Developers, founder of Sun Microsystems
 - Derived from 4.2BSD
 - Became Solaris in 1993
- 1991 - Linux
 - Linus Torvalds begins work on a reimplementation of Unix from scratch
 - Uses parts of MIT's GNU project
 - GNU - 1983 - Gnu is Not Unix
 - Richard Stallman - MIT AI
- 1993 - Unixware
 - AT&T sold Unix to Novell
 - Merged with Netware to become Unixware
 - 1995 - fuzzy transfer to the Santa Cruz Operation (SCO)
- 1993 - Slackware
 - Patrick Volkerding
 - First commercial Linux distribution
- 1993 - Debian
 - Ian Murdock - undergraduate at Purdue University
 - Named for Ian and his girlfriend Debra.
- 1995 - Red Hat Advanced Development Labs founded
- 1997 - Darwin
 - Developed by Apple
 - Based on NextStep, which was based on BSD
- 1999 - SAMBA 2.0
 - enables Linux servers to provide complete services to Windows networks
- 2000

- Linux is second most popular server OS with 25% share
 - mySQL relicensed under GPL
- 2002 - Arch Linux
 - Judd Vinet - undergrad at University of Victoria
 - Minimalist distribution
- 2003 - Android
 - Andy Rubin, Rich Miner, Nick Sears, and Chris White
 - Android's kernel is a modified version of the Linux kernel
- 2004 - Ubuntu
 - Mark Shuttleworth - a South African entrepreneur
 - Based on Debian
- 2005 - OpenSolaris
 - Sun makes Solaris Open Source
- 2006 - mint
 - Clément Lefèbvre MS Computer Science, University of South Paris
 - Based on ubuntu
- 2007 - iPhone OS (OS)
 - Apple
 - based on OS X, a variant of a BSD UNIX kernel
- 2012 - kali
 - Mati Aharoni and Devon Kearns of Offensive Security
 - Based on Debian, but a rewrite of BackTrack
 - Penetration testing
- 2018 - Linux is the most popular Operating System for
 - Web servers
 - Supercomputers
 - "Internet of Things" devices
 - Tablets (iOS based on linux)
 - Smart phones (Android based on linux)

Intro to linux

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Linux distribution = linux kernel + filesystem + other Operating system files

Kernel

- Boots the system
- Interacts with hardware

Families of distributions

Debian

- Ubuntu
- Mint
- kali

Red Hat

- Fedora
- CentOS

Slackware/SUSE	
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OpenSUSE

SUSE = Software und System Entwicklung (German: Software and Systems Development)

Logging in

GUI

- GNOME
- KDE
- Unity (ubuntu)

Command line

Network

- Ssh
- Putty (Windows)

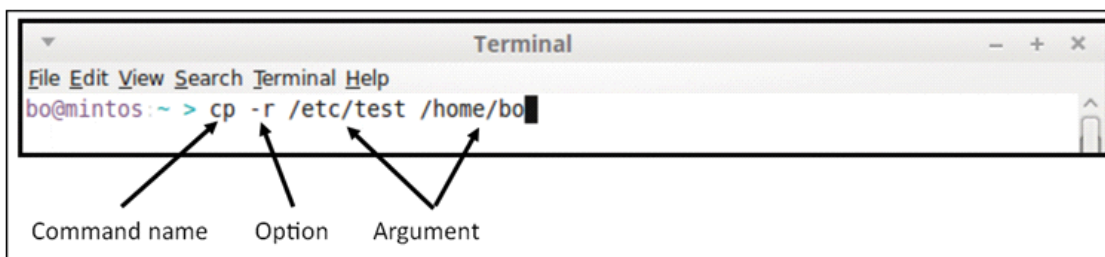
Command Line

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To use the command line from a GUI, open a Terminal

A command has three components:

- Command name—This is just the name of the command.
- Option(s)—An option (also referred to as a flag) is a predefined value that changes the behavior of the command. The format of options can vary.
 - In some cases, the option begins with a single hyphen followed by a single character;
 - for example: `ls -a`.
 - In other cases, the option begins with two hyphens followed by a word;
 - for example: `ls --all`.
 - **Usually**, a single character option requires one hyphen and a multiple character option requires two
- Arguments—Arguments are used to provide additional information to the command.
 - This information could be things like a filename, user name, or host name.



Some commands for you to try

<code>pwd</code>	displays the path to your current directory
<code>ls</code>	lists the files in your current directory
<code>ls -a</code>	lists all the files in your current directory, including hidden files
<code>ls -l</code>	long listing of the files in your current directory including file permissions

You can get help for most commands by viewing the manual page, or "man page" using the "man" command. For example, to view the man page for the "ls" command, type:

```
man ls
```

And you will see something like:

LS(1) User Commands LS(1)

NAME

ls - list directory contents

SYNOPSIS

ls [OPTION]... [FILE]...

DESCRIPTION

List information about the FILES (the current directory by default).
Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

Mandatory arguments to long options are mandatory for short options too.

-a, --all
do not ignore entries starting with .

--author
with -l, print the author of each file

-c with -lt: sort by, and show, ctime (time of last modification of file status information); with -l: show ctime and sort by name; otherwise: sort by ctime, newest first

-C list entries by columns

--color[=WHEN]
colorize the output; WHEN can be 'never', 'auto', or 'always' (the default); more info below

-d, --directory
list directories themselves, not their contents

More commands

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clear	Clear the screen	
date	Display the system date	-u displays the time in Greenwich mean time
exit or logout	Exit UNIX	
head	Display the first few lines of a file	-n displays the first n lines of the specified file
less	Display a long file one screen at a time and scroll up and down	
man	Display the online manual for the specified command	
more	Display a long file one screen at a time and scroll down	
passwd	Change your UNIX password	
tail	Display the last few lines of a file	-n displays the last n lines of the specified file
whatis	Display a brief description of a command	
who	See who is logged on	-H displays column headings -i displays session idle times q displays a quick list of users

Rotate right screen

Monday, August 27, 2018 6:08 AM

```
xrandr --output HDMI-0 --rotate left
```