

# CS214 - Advanced UNIX

*Lecture 12 - Administration and various Linux tidbits*

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# Compression utilities

- `zip` and `unzip` handle `.zip` files.
- `gzip` and `gunzip` handle `.gz` files (GNU version)
- `compress` and `uncompress` handle `.Z` files (UNIX version)

# Compression utilities

- `tar` can create an archive of files and directories. For instance,
  - `tar -zcf dir.tgz dir1/ file2 dir3` will create an archive that contains all of the files recursively.
- The `-z` flag compresses the resulting archive using `gzip`.
  - `tar -zxf dir.tgz` will uncompress the archive.

# Configuration files

- Most system-wide configuration files reside in `/etc`
- For instance, `/etc/passwd` contains account information
- `/etc/shadow` contains the hashed passwords for users (only readable as root)
- `/etc/fstab` lists file systems that should be mounted on start-up.

# Configuration files

- `/etc/default/*` has various default options on Ubuntu
- `/etc/init.d` are the start-up scripts
- `/etc/vim` tell you how vim should be

# Custom configuration files

- Users can customize various programs using hidden files in their home directories.
- A hidden file starts with '.'.
- For example, `/home/ymir/.vimrc` tells vim my preferences.

# Emulation

- The free software community strives to support all standards and platforms.
- “The good thing about standards is that there are so many of them”.
- For instance, `wine` allows you to emulate Windows programs.
- `dosemu` is a DOS environment emulator.
- Most game platforms (e.g. Nintendo) have various Linux emulators.

# Adoption of Linux

- Many network routers run some sort of stripped down Linux kernel.
- You can install Linux on your iPod.
- Recent lawsuit for DVD players that apparently just ran `mplayer`.

# Communication between users

- In the old days, `write user tty` chats with another local user.
- `talk user` is more advanced, can run across hosts.
- `wall` will broadcast a message to everyone logged on.

# Administration

- `su` and `sudo` allow you to change who you are.
- E.g. `sudo bash` will run `bash` as root.
- `shutdown`, `reboot` and `halt` do what you'd think.
- `shutdown -r +1 "Save your work"` will send a message to the users, then reboot the system in 1 minute.

# Administration

- `w` and `who` tell you who's logged on.
- `/var/log` stores all log messages.

# How to be a BOFH

- Randomly `kill -9` processes
- Spy on what users are doing using `lsof -n`
- Read their e-mails in `/var/spool/mail`.

# Using the Ubuntu package system

- `apt-cache search minesweeper` lists all programs that could match 'minesweeper'
- `apt-get install xbomb` will install xbomb.
- `apt-get update` looks for recent patches.

# Setting up a web-server

- Let's set up the Apache web server.
- `apt-get install apache`
- The server gets set up in `/usr/local/apache2`

# Other software

- Suppose we need custom, unsupported software.
- Usually written in C.
- `./configure` sets up Makefiles for this platform
- `make all`
- `make install`

# Cool/geeky things

- Hi there. This slide is being read by `festival` for fun.
- Using text-to-speech is perfect for extremely geeky occasions.
- For example you could write a program to automatically read the subject of your e-mail when you receive it.

# End-of-214

- Hope you had fun
- Hope you learned something
- Hope you fill out a course-evaluation on CMS.
- Hope you have a nice spring break!