

## Command line pipes

- output of first cmd is used as input for the second cmd
- allow for quick execution of cmds performing complex tasks

## grep cmd

- searches for keywords in the output

## Input/output redirection

- program's output can be used as an input via the process of piping

## xargs

- Enable a user to generate cmd line options from files or other programs outputs

## Redirection operators

- > - create new file containing standard output, if specified file exists then it is over overwritten
- >> - append standard output to existing file add stuff to the end
- 2> - new file containing err standard errors the program throws, if file exists, it will be overwritten
- 2>> - append standard errors
- >& - new file with standard output & error. File will be overwritten
- < - send contents of specified file as input back into standard input
- << - looks up text on the following lines as standard input
- <> - specified file to be used for both standard input and output

## Standard output

- normal program messages

## Standard errors

- any error message

## wc -cmd

- word count

## head -x

- get first x items

## tail

- last items

## Regular Expressions

- way to describe patterns that a user might want to look for in data files
- similar to wildcards

## HWaddr - hardware address

## Linux 3

## File-archiving tool

- collects a group of files into a single "package" file to easily move around on a single system

## Tar (tape archiver)

- used to archive various data files into a single file (archive file) while the original files remain on the disk
- tarball - compress file

## Compressed file types

- |         |      |              |         |
|---------|------|--------------|---------|
| - GZip  | .gz  | - uncompress | gunzip  |
| - BZip2 | .bz2 | -            | bunzip2 |
| - XZ    | .xz  | -            | unxz    |

- .tgz - tarball GZip

- .tbz, .tbz2, .tbz - tarball BZip2

- .txz - tarball xz

## grep -E

- Search for expressions

## Regular expressions

- basic

- extended

- ^ represents start of line

- \$ represents end of line

- regular expression search