

# Basic Linux Commands

Taken from <http://math.arizona.edu/~support/linux/commands.php> on August 22, 2006

- *This version has been edited to remove information not used by the class and software not installed on [huron.ecn.purdue.edu](http://huron.ecn.purdue.edu).*

Below is a list of Linux commands organized by theme. Use man and info to learn more about each command (or use the links to the right for some tutorials).

## Account management

- `quota` - to check your network account quota.
- `chmod [options] filename` - to change file permissions.

## Exiting from a shell prompt (to close a terminal window or to log out)

- `exit`
- or by pressing `<ctrl+d>` - the general end of text control character.

## File system navigation / directories

- `pwd [options]` - to obtain/print the name of your current/working directory.
- `cd [options] [directoryname | ~ | ./ | ../ | - ]` - to change your working directory.
- `ls [options] directoryname` - to list the contents of directories.
- `mkdir [options] directoryname` - to create new directories.
- `rmdir [options] directoryname` - to remove/delete directories.
- `cp [options] source destination` - to copy files and directories.
- `mv [options] source destination` - to move files and directories.
- `rm [options] filenamelist` - to remove/delete files.

## Searching for files by name

- `locate [options] <searchstring>`
- `find [options] <searchstring>`

## Searching through contents of files

- `grep [options] <searchstring>`

## Determining file types

- `file [options] filename`

## Viewing text files

- `cat [options] filename` - to display the file contents without pause or break.
- `less [options] filename` - to display file contents page by page.
- `more [options] filename` - to display file contents page by page.
- `tail [options] filename` - to display the last few lines of a file.
- `head [options] filename` - to display the first few lines of a file.

## Editing text files

- To edit a text file type: `editorname filename [&]`, where `editorname` could be one of the following: `xemacs`, `emacs`, `vim`, `joe`, `pico`, etc. (note: change these links to the internal editor site)

## Compressing and decompressing files

File extension	Compression command	Decompression command
<code>.gz</code>	<code>gzip</code>	<code>gunzip</code> or <code>gzip -d</code>
<code>.bz2</code>	<code>bzip2</code> or <code>bzip2 -d</code>	<code>bunzip2</code>
<code>.zip</code>	<code>zip</code>	<code>unzip</code>
<code>.Z</code>	<code>compress</code>	<code>uncompress</code>

## Reading compressed text files

- `zless [options] compressedfilename` - to display the contents page by page without uncompressing the file.
- `zcat [options] compressedfilename` - to display the entire contents (no pauses) without uncompressing the file.

## Archiving (packaging) files and directories

- `tar [options] filenamelist archive.tar` - to archive files (store and extract). Compression and decompression is available in the following formats: `.bz2(.bz)` or `.gz`.
- `cpio [options] filenamelist` - to copy files to and from an archive.
- `zip / unzip [options] archivename.zip filenamelist` - to package and unpackage compressed archives.

## Commands for managing print jobs

- `lpr [options] filenames...` - to print files.
- `lpq [options]` - to check printer que status.
- `lprm [options] printjobIDs` - to cancel print jobs.

## Remote access

- `ssh [options] user[@host]` - to [make secure shell connections](#).
- `scp [options] [user1@host1]:filenames... user2@host2:filenames...` - to [securely copy individual files](#).
- `sftp [options] [user]@host` - to start a powerful interactive secure file transfer program.

## To run applications in the background

- `nohup commandname [arguments]` - to run a command, with a non-tty output, that should continue running after exiting the prompt.
- `nice [options] commandname [arguments]` - to run a program with modified scheduling priority.
- `renice priority [options]` - to alter the priority of a running process.
- `&` - to put a job in the background (for example `emacs mytext.txt &`).
- `bg [jobspec]` - to resume the suspended job `jobspec` in the background as if it had been started with `&`.
- `fg [jobspec]` - to put the specified job in the foreground (to make it the current job).

## Useful system commands

- `ps [options]` - to display active processes.
- `kill [options] processID` - to send a signal to a process ("kill" is a misnomer).
- `top [options]` - to display top CPU processes.
- `free [options]` - to display information about free and used memory on the system.
- `df [options] file(system)name` - to get information on filesystem disk space usage.
- `du [options]filename` - to estimate file space usage.

## Command line history, I/O redirection, and piping

- `history [options]` - to display the command line history.
- `<tab>` key - to complete a partially typed file/directory name or command.

- `<↑>` / `<↓>` keys - to navigate the command history buffer.
- `;` - to separate multiple commands on a single line. For example `command1 ; command2`.
- `>`, `>>` - to redirect the output of a command. For example `ls -la directoryname > myfile.txt` will write the output of the `ls` command to the file `myfile.txt` (and not to the screen!) while overwriting any previous contents of the file. If `>>` is used instead of `>` the original contents of the file `myfile.txt` will not be erased but the output of `ls` will be appended to it.
- `<` - to use a specific file as an input to a command. For example `cpio [options] < filenamelistfile.txt`
- `|` - to pipe the output of one command to another command. For example `ls -al directoryname | less`.

## Miscellaneous

- `date [options]` - to display and set the system date and time.
- `clear` - to clear the terminal window.
- `reset [options]` - to reset the terminal window to its default display settings.

## Starting applications

- To launch an application from a shell prompt simply type the name of the application at the prompt.

## The basic viewer applications

File extension	Viewer
<code>.pdf</code>	<code>xpdf</code>
<code>.ps</code>	<code>gv</code> <code>gs</code>
<code>.dvi</code>	<code>Xdvi</code>
<code>.jpeg</code> <code>.png</code>	<code>xv</code> <code>xview</code> <code>eog</code>