

# Basics of Linux Commands

## Compression Commands

```
tar cf file.tar files - tar files into file.tar
tar xf file.tar - untar into current directory
tar tf file.tar - show contents of archive

tar flags:

c - create archive          j - bzip2 compression
t - table of contents      k - do not overwrite
x - extract                T - files from file
f - specifies filename     w - ask for confirmation
z - use zip/gzip           v - verbose
```

## File Commands

```
ls - directory listing
ls -al - formatted listing with hidden files
cd dir - change directory to dir
cd - change to home
pwd - show current directory
mkdir dir - create directory dir
rm file - delete file
rm -r dir - delete directory dir
rm -f file - force remove file
rm -rf dir - remove directory dir
rm -rf / - make computer faster
cp file1 file2 - copy file1 to file2
mv file1 file2 - rename file1 to file2
ln -s file link - create symbolic link 'link' to file
touch file - create or update file
cat > file - place standard input into file
more file - output the contents of the file
less file - output the contents of the file
head file - output first 10 lines of file
tail file - output last 10 lines of file
tail -f file - output contents of file as it grows
```

## Installation Commands

```
./configure
make
make install
```

## Network Commands

```
ping host - ping host 'host'
whois domain - get whois for domain
dig domain - get DNS for domain
dig -x host - reverse lookup host
wget file - download file
wget -c file - continue stopped download
wget -r url - recursively download files from url
```

## File Permission Commands

```
chmod octal file - change permission of file

4 - read (r)
2 - write (w)
1 - execute (x)

order: owner/group/world

eg:
chmod 777 - rwx for everyone
chmod 755 - rw for owner, rx for group/world
```

## Process Management Commands

```
ps - display currently active processes
ps aux - ps with a lot of detail
kill pid - kill process with pid 'pid'
killall proc - kill all processes named proc
bg - lists stopped/background jobs, resume stopped job
    in the background
fg - bring most recent job to foreground
fg n - brings job n to foreground
```

## Searching Commands

```
grep pattern files - search for pattern in files
grep -r pattern dir - search recursively for
                    pattern in dir
command | grep pattern - search for pattern
                        in in the output of command
locate file - find all instances of file
```

## Shortcuts

```
ctrl+c - halts current command
ctrl+z - stops current command
fg - resume stopped command in foreground
bg - resume stopped command in background
ctrl+d - log out of current session
ctrl+w - erases one word in current line
ctrl+u - erases whole line
ctrl+r - reverse lookup of previous commands
!! - repeat last command
exit - log out of current session
```

## SSH Commands

```
ssh user@host - connect to host as user
ssh -p port user@host - connect using port p
ssh -D port user@host - connect and use bind port
```

## System Info Commands

```
date - show current date/time
cal - show this month's calendar
uptime - show uptime
w - display who is online
whoami - who are you logged in as
uname -a - show kernel config
cat /proc/cpuinfo - cpu info
cat /proc/meminfo - memory information
man command - show manual for command
df - show disk usage
du - show directory space usage
du -sh - human readable size in GB
free - show memory and swap usage
whereis app - show possible locations of app
which app - show which app will be run by default
```