

### Bash Commands

uname -a	Show system and kernel
head -n1 /etc/issue	Show distribution
mount	Show mounted filesystems
date	Show system date
uptime	Show uptime
whoami	Show your username
man <i>command</i>	Show manual for <i>command</i>

### Bash Shortcuts

CTRL-c	Stop current command
CTRL-z	Sleep program
CTRL-a	Go to start of line
CTRL-e	Go to end of line
CTRL-u	Cut from start of line
CTRL-k	Cut to end of line
CTRL-r	Search history
!!	Repeat last command
! <i>abc</i>	Run last command starting with <i>abc</i>
! <i>abc</i> :p	Print last command starting with <i>abc</i>
! <i>\$</i>	Last argument of previous command
ALT-.	Last argument of previous command
!*	All arguments of previous command
^ <i>abc</i> ^ 123	Run previous command, replacing <i>abc</i> with 123

### Bash Variables

env	Show environment variables
echo \$ <i>NAME</i>	Output value of \$ <i>NAME</i> variable
export <i>NAME</i> = <i>v al ue</i>	Set \$ <i>NAME</i> to <i>value</i>
\$PATH	Executable search path
\$HOME	Home directory
\$SHELL	Current shell

### IO Redirection

<i>cmd</i> < <i>file</i>   Input of <i>cmd</i> from <i>file</i>
<i>cmd</i> 1 <( <i>cmd</i> 2)   Output of <i>cmd</i> 2 as file input to <i>cmd</i> 1
<i>cmd</i> > <i>file</i>   Standard output (stdout) of <i>cmd</i> to <i>file</i>
<i>cmd</i> > /dev/null   Discard stdout of <i>cmd</i>
<i>cmd</i> >> <i>file</i>   Append stdout to <i>file</i>
<i>cmd</i> 2> <i>file</i>   Error output (stderr) of <i>cmd</i> to <i>file</i>
<i>cmd</i> 1>&2   stdout to same place as stderr
<i>cmd</i> 2>&1   stderr to same place as stdout
<i>cmd</i> >& <i>file</i>   Every output of <i>cmd</i> to <i>file</i>

### Directory Operations

pwd	Show current directory
mkdir <i>dir</i>	Make directory <i>dir</i>
cd <i>dir</i>	Change directory to <i>dir</i>
cd ..	Go up a directory
ls	List files

### ls Options

-a	Show all (including hidden)
-R	Recursive list
-r	Reverse order
-t	Sort by last modified
-S	Sort by file size
-l	Long listing format
-1	One file per line
-m	Comma-separated output
-Q	Quoted output

### Search Files

grep <i>pattern</i> <i>files</i>	Search for <i>pattern</i> in <i>files</i>
grep -i	Case insensitive search
grep -r	Recursive search
grep -v	Inverted search
grep -o	Show matched part of file only
find / <i>dir</i> / -name <i>name</i> *	Find files starting with <i>name</i> in <i>dir</i>
find / <i>dir</i> / -user <i>name</i>	Find files owned by <i>name</i> in <i>dir</i>
find / <i>dir</i> / -mmin <i>num</i>	Find files modified less than <i>num</i> minutes ago in <i>dir</i>
whereis <i>command</i>	Find binary / source / manual for <i>command</i>
locate <i>file</i>	Find <i>file</i> (quick search of system index)

### File Operations

touch <i>file</i> 1   Create <i>file</i> 1
cat <i>file</i> 1 <i>file</i> 2   Concatenate files and output
less <i>file</i> 1   View and paginate <i>file</i> 1
file <i>file</i> 1   Get type of <i>file</i> 1
cp <i>file</i> 1 <i>file</i> 2   Copy <i>file</i> 1 to <i>file</i> 2
mv <i>file</i> 1 <i>file</i> 2   Move <i>file</i> 1 to <i>file</i> 2
rm <i>file</i> 1   Delete <i>file</i> 1
head <i>file</i> 1   Show first 10 lines of <i>file</i> 1
tail <i>file</i> 1   Show last 10 lines of <i>file</i> 1

### Nano Shortcuts

Files	
Ctrl-R	Read file
Ctrl-O	Save file
Ctrl-X	Close file
Cut and Paste	
ALT-A	Start marking text
CTRL-K	Cut marked text or line
CTRL-U	Paste text
Navigate File	
ALT-/	End of file
CTRL-A	Beginning of line
CTRL-E	End of line
CTRL-C	Show line number
CTRL-_	Go to line number

### Search File

CTRL-W	Find
ALT-W	Find next
CTRL-\	Search and replace

More nano info at:  
<http://www.nano-editor.org/docs.php>

### Screen Shortcuts

screen   Start a screen session.
screen -r   Resume a screen session.
screen -list   Show your current screen sessions.
CTRL-A   Activate commands for screen.
CTRL-A c   Create a new instance of terminal.
CTRL-A n   Go to the next instance of terminal.
CTRL-A p   Go to the previous instance of terminal.
CTRL-A "   Show current instances of terminals.
CTRL-A A   Rename the current instance.

More screen info at:  
<http://www.gnu.org/software/screen/>

### File Permissions

chmod 775 <i>file</i>   Change mode of <i>file</i> to 775
chmod -R 600 <i>folder</i>   Recursively chmod <i>folder</i> to 600
chown <i>user:group</i> <i>file</i>   Change <i>file</i> owner to <i>user</i> and group to <i>group</i>

### File Permission Numbers

The first digit is the owner permission, the second the group and the third for everyone.

Every output of *cmd* to *file*

*cmd* refers to a command.

#### Pipes

*cmd1* | *cmd2*  
stdout of *cmd1* to *cmd2*

*cmd1* |& *cmd2*  
stderr of *cmd1* to *cmd2*

#### Command Lists

*cmd1* ; *cmd2*  
Run *cmd1* then *cmd2*

*cmd1* && *cmd2*  
Run *cmd2* if *cmd1* is successful

*cmd1* || *cmd2*  
Run *cmd2* if *cmd1* is not successful

*cmd* &  
Run *cmd* in a subshell

#### Cheatographer



**Dave Child** (DaveChild)  
cheatography.com/davechild/  
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tail -f *file1*

Output last lines of *file1* as it changes

#### Process Management

ps Show snapshot of processes

top Show real time processes

kill *pid* Kill process with id *pid*

pkill Kill process with name *name*

killall Kill all processes with names beginning  
*name* *name*

#### Watch a Command

watch -n 5 'ntpq -p'  
Issue the 'ntpq -p' command every 5 seconds and display output

Calculate each of the three permission digits by adding the numeric values of the permissions below.

4 read (r)

2 write (w)

1 execute (x)

#### Dates

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