1 Shell CheatSheet **Languages**

- PDF Link: cheatsheet-shell-A4.pdf, Category: languages
- Blog URL: `https://cheatsheet.dennyzhang.com/cheatsheet-shell-A4`

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1.1 Basic

Name	Comment
Redirect stdout/stderr	`ls /tmp >/dev/null 2>&1`
Deal with filename	`basename $f`, `dirname $f`
Use timeout: avoid command hang	timeout 10 sh -c ’ls -lt’
Restart shell without killing terminal	`exec -l $SHELL`
Run sub-shell	`echo $BASH_SUBSHELL; ( echo "Running in subshell:  $BASH_SUBSHELL" )`
Set pipefail	`set -ueoxv pipefail`, `set +ueoxv pipefail`
Run static code check	Link: shellcheck

1.2 Shell script

Name	Comment
Trap exit signal	code/trap-exit.sh
Shell retry	code/shell-retry.sh
Check if a string contains a substring	code/string-contains.sh
Check if a string in a list	code/string-in-list.sh, Link: stackoverflow
Log with timestamp	code/log-with-timestamp.sh
Quit if current user is not root	code/assert-user-root.sh
Set -x on fly	code/restore-debug-output.sh

1.3 Environment variables

Name	Comment
List all environment variables	`export`
Define a new env variable	export NAME1="value1"

1.4 zsh

Name	Comment
Disable all zsh’s autocorrect	In ~/.zshrc, `unsetopt correct_all`
Disable a given autocorrect	In ~/.zshrc, alias ssh=’nocorrect ssh’. zsh$_{\text{disable}}$

1.5 GNU tools

1.5.1 Check file

Name	Comment
Show file content	`cat /etc/hosts`
Show file content with line numbers	`cat -n /etc/hosts`
Show with line numbers, excluding blank lines	`cat -b /etc/hosts`
Show the first 3 lines	`head -n3 /etc/hosts`
Show the first 20 bytes	`head -c20 /etc/hosts`
Show the last 3 lines	`tail -n3 /etc/hosts`
Show the last 20 bytes	`tail -c20 /etc/hosts`
Keep tailing log files	`tail -f /var/log/system.log`, `taif /var/log/system.log`
Show file starting from 4th line	`more +4 /etc/hosts`
Show the 4th line	`sed -n ’4p’ /etc/hosts`
Show 4th, 5th, 7th and 8th lines	`sed -n ’4,5p;7,8p’ /etc/hosts`
Show matched string with 3 lines before and after	`grep -C 3 "127.0.0.1" /etc/hosts`
For table-like files, show 2nd column	`awk -F’\t’ ’{print $2}’ /etc/hosts`
For table-like files, swap 1st and 2nd columns	`awk -F’\t’ ’{print $2,$1}’ /etc/hosts`

1.5.2 Watch files

Name	Comment
Show file changes	`watch -d -n 1 stat /var/log/message`
Keep tailing log files	`tail -f /var/log/system.log`, `taif /var/log/system.log`

1.5.3 Echo string

Name	Comment
Echo red text	echo -e "hello,[0;31m there [0;31m"
Echo multiple lines	echo -e "hello,"
Echo bold text	echo -e hello, "\033[1mThis is bold text.\033[0m"
Echo underlined text	echo -e hello, "\033[4mThis is underlined text.\033[0m"

1.5.4 Check process via /proc

Name	Comment
Check process start command	`cat /proc/$pid/cmdline`
Check process environment variables	`cat /proc/$pid/environ`
Check process ulimits setting	`cat /proc/$pid/limits`

1.6 Shell Basic

1.6.1 cd

Name	Comment
Go to given folder	`cd /var/log/`
Go to folder in subshell	`(cd /var/log/ && ls)` After this, PWD won't be changed
Go to home	`cd`
Go to parent folder	`cd ..`
Go to previous folder	`cd -`

1.6.2 mkdir

Name	Comment
Make directory. Report error, if existing	`mkdir foo`
Make directory. Avoid reporting error, if existing	`mkdir -p foo`
Make directory and its parents	`mkdir -p foo/bar/dir1`
Make directories with the hierachy	`mkdir -p foo/{bar,bad/{dir1,dir2}}`, `tree foo`

1.6.3 Numeric

Name	Comment
*	`expr 5 \* 4`
+	`let z=x+y, z=$x+$y`
==	`int1 -eq int2`, `[ $?  -eq 0 ] && echo "good"`
>=	`int1 -ge =int2`
>	`int1 -gt =int2`
<=	`int1 -le =int2`
<	`int1 -lt =int2`
!=	`int1 -ne =int2`

1.6.4 xargs

```
# Run grep for files filtered by find
find /var/log -name "*.log" | xargs grep -i error

# Loop with pipes
cat /etc/passwd | awk -F':' '{print $1}' | xargs -I{} sudo -l -U {} | grep -v "not allowed to"
```

1.7 Scripts

- Compare command output

```
[ 0 -eq $(find ./data -name "*.txt" -type f -print | wc -l) ]
```

- get ip from eth0

```
/sbin/ifconfig eth0 | grep 'inet addr:' | cut -d: -f2 | awk '{ print $1}'
```

1.8 More Resources