

# 1 Shell CheatSheet

## LINUX

- PDF Link: [cheatsheet-shell-A4.pdf](#)
- Blog URL: <https://cheatsheet.dennyzhang.com/cheatsheet-shell-A4>
- Category: languages

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See more CheatSheets from Denny: [#denny-cheatsheets](#)

## 1.1 Basic

Name	Comment
Redirect stdout/stderr	<code>ls /tmp &gt;/dev/null 2&gt;&amp;1</code>
Deal with filename	<code>basename \$f, dirname \$f</code>
Use timeout: avoid command hang	<code>timeout 10 sh -c 'ls -lt'</code>
Restart shell without killing terminal	<code>exec -l \$SHELL</code>
Run sub-shell	<code>echo \$BASH_SUBSHELL; ( echo "Running in subshell: \$BASH_SUBSHELL" )</code>
Run static code check	link: <a href="#">shellcheck</a>

## 1.2 GNU tools

### 1.2.1 Check file

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

### 1.2.2 Echo string

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

### 1.2.3 Check process via /proc

Name	Comment
Check process start command	<code>cat /proc/\$pid/cmdline</code>
Check process environment variables	<code>cat /proc/\$pid/environ</code>
Check process ulimits setting	<code>cat /proc/\$pid/limits</code>

### 1.2.4 Copy files

Name	Comment
Copy one file	<code>cp /etc/hosts /tmp/hosts</code>
Copy one folder	<code>cp -r /usr/local/bin/ /tmp/bin/</code>
Copy for backup	<code>cp /tmp/hosts{,.bak}, ls -lth /tmp/hosts*</code>

## 1.3 Shell Basic

### 1.3.1 cd

Name	Comment
Go to given folder	<code>cd /var/log/</code>
Go to home	<code>cd</code>
Go to parent folder	<code>cd ..</code>
Go to previous folder	<code>cd -</code>

### 1.3.2 Numeric

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

### 1.3.3 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"
```

## 1.4 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}'
```

- Check if a string contains a substring

```
#!/bin/bash
```

```
S="Pineapple"
```

```
if [[ "${S}" == *apple* ]]; then
    echo "Yes"
else
    echo "No"
fi
```

- Check if a string in a list

```
stackoverflow link
```

```
#!/usr/bin/env bash
IAAS_TYPE="gcp|aws"
TYPE="gcp"
```

```
if [[ "gcp|aws" == *${TYPE}* ]]; then
    echo "yes"
else
    echo "no"
fi
```

## 1.5 More Resources

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