测试学linux命令和shell

测试为什么学习linux命令和shell?

- 常用的服务器都是Linux，没有GUI界面，只能使用命令
- 日常获取日志错误，部署服务，等等都需要linux命令
- 使用shell可以结合linux命令，自动化操作
- 日常可能使用上传下载文件到远程服务器
- ....

如何linux命令查看帮助

- 使用帮助命令 `man`

```
man tail
```

- `tldr` 这个工具的帮助会精炼很多

```
npm install tldr -g
```

如何查看日志

- 不停的监控日志

```
tail -f log.log
tail -f -n 1000 application.log
```

- 从日志中查找错误

```
grep exception log.log
```

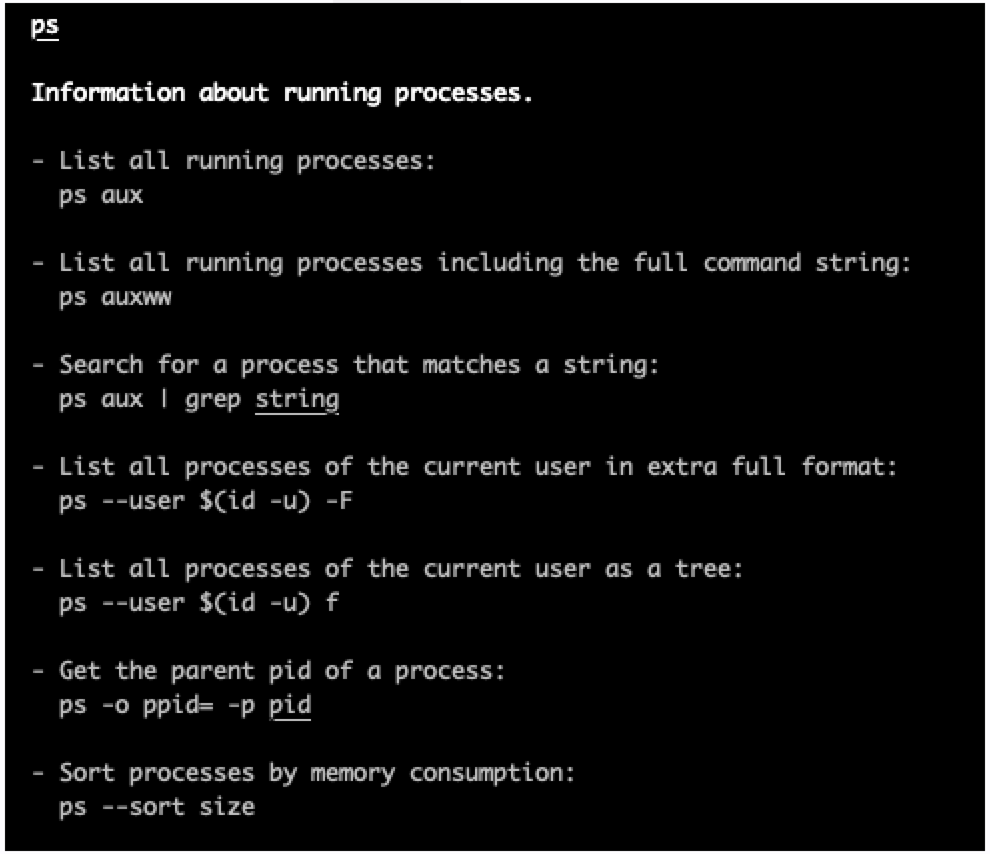
- 一直不停的监控出错的日志

```
tail -f log.log | grep exception
```

如何查看JAVA进程是否存在

```
ps aux | grep java
```

`ps` 帮助



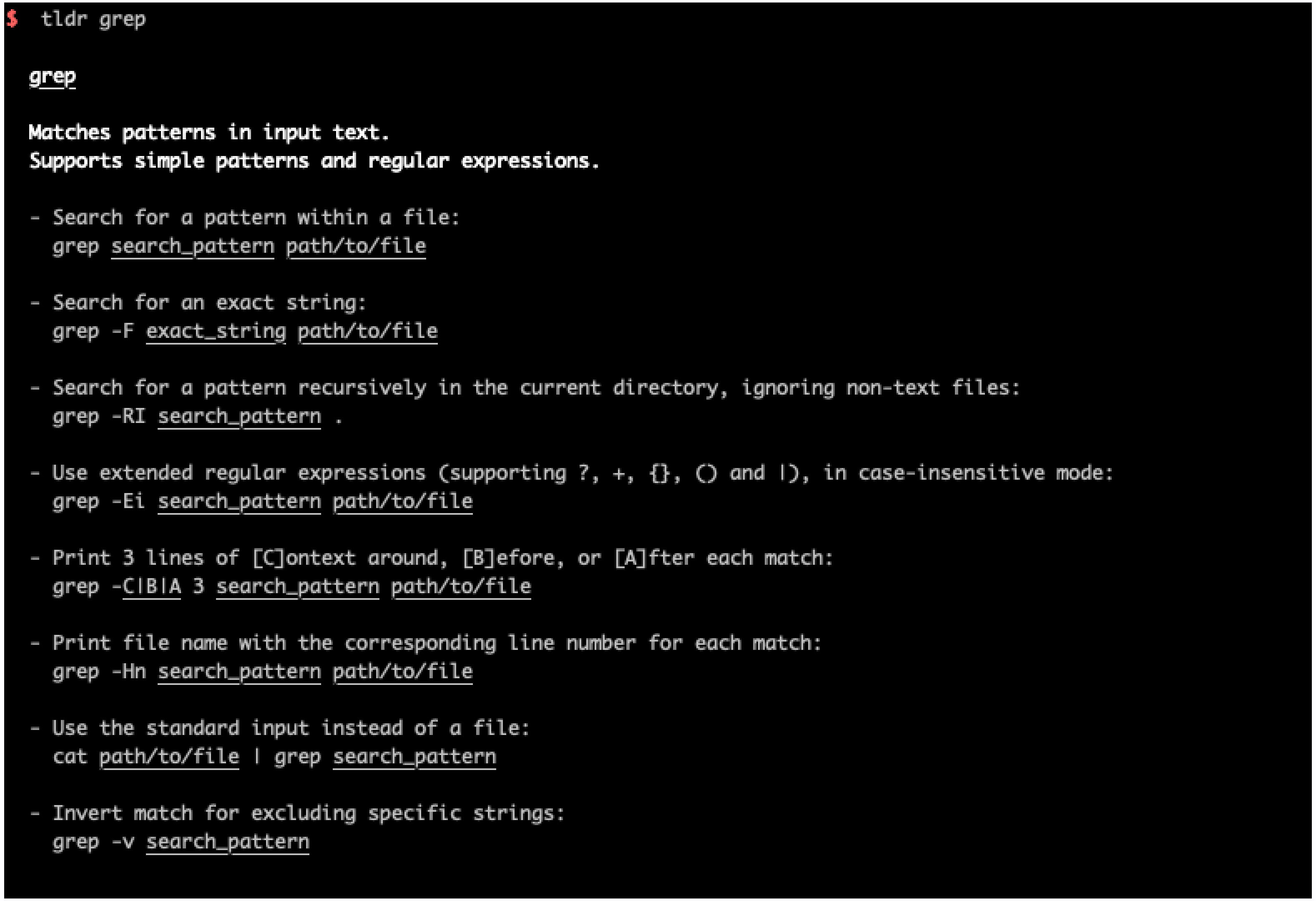
```
ps

Information about running processes.

- List all running processes:
  ps aux

- List all running processes including the full command string:
  ps auxww

- Search for a process that matches a string:
  ps aux | grep string

- List all processes of the current user in extra full format:
  ps --user $(id -u) -F

- List all processes of the current user as a tree:
  ps --user $(id -u) f

- Get the parent pid of a process:
  ps -o ppid= -p pid

- Sort processes by memory consumption:
  ps --sort size
```

如何杀死一个进程

```
ps aux | grep java | grep -v grep | xargs kill -9
```

tips: `grep -v` 是什么？ 好好看看那grep命令哦

grep 简单说明



```
$  tldr grep

  grep

  Matches patterns in input text.
  Supports simple patterns and regular expressions.

  - Search for a pattern within a file:
    grep search_pattern path/to/file

  - Search for an exact string:
    grep -F exact_string path/to/file

  - Search for a pattern recursively in the current directory, ignoring non-text files:
    grep -RI search_pattern .

  - Use extended regular expressions (supporting ?, +, {}, () and |), in case-insensitive mode:
    grep -Ei search_pattern path/to/file

  - Print 3 lines of [C]ontext around, [B]efore, or [A]fter each match:
    grep -C|B|A 3 search_pattern path/to/file

  - Print file name with the corresponding line number for each match:
    grep -Hn search_pattern path/to/file

  - Use the standard input instead of a file:
    cat path/to/file | grep search_pattern

  - Invert match for excluding specific strings:
    grep -v search_pattern
```

`|` 是什么？

`|` 管道符号：上一个命令的返回是下一个命令的输入

find 如何查找文件

```
find . -name *.py
```

tips: 想查查find 的其他用法要怎么办?

一些有用的命令 -1

- `xargs` : shell scripts

```
ps aux | grep java | grep -v 'grep' | xargs kill -9
```

- `netstat` : the network status,获取使用占用8080端口的程序

```
netstat -antlp | grep 8080
```

一些有用的命令 -2

- tee: write to new std output and a file

```
man tee | tee man_tee.txt
```

- systemctl: runing/stop/restart service

```
systemctl nginx status
```

还有很多很多，有空再说

- tar
- head
- sort
- uniq
- tr
- rsync
- df/du
- free

还有很多很多，有空再说

- vmstat
- iostat
- top/htop
- sar

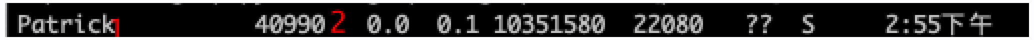
还有很多很多，有空再说

- awk
- sed
- crontab

awk 最简单的用法

如何把进程名字包含有python的进程号打印出来

```
ps aux | grep python | grep -v grep | awk {'print $2'}
```



```
Patrick1         40990 2  0.0  0.1 10351580  22080   ??  S      2:55下午
```

sed 最简单的用法

- 在testfile文件的第四行后添加一行，并将结果输出到标准输出，在命令行提示符下输入如下命令：

```
sed -e 4a\newLine testfile
```

- 删除文件中的2-5行

```
nl /etc/passwd | sed '2,5d'
```

Linux中的文件编辑vim常用方法

Key	direction
k	up
j	down
h	left
i	right
10k	up to 10 lines
5h	move right 5 words

Vim 光标移动快捷方式

Key	direction
0	jump to beginnign of a line
^	first word of a line
$	end of a line
g_	last word of a line

vim 更多

Key	direction
Ctrl+f	screen forward
Ctrl+b	screen backward
Ctrl+d	half screen forward
Ctrl+u	half screen backward
N%	N% of file
NG	GO to N Line
gg	head of a file
G	end of a file

Vim Cheatsheet-Paragraph and Search

Key	direction
{	head of paragraph
}	end of a big word
/text	search after the cursor
?text	search before the cursor

Vim 复制和删除

Key	direction
yy	复制一行
p	粘贴
dd	删除一行
10dd	?猜猜干什么的
dw	?猜猜干什么的?
d$	?猜猜干什么的?

Vim 替换

vim和sed结合

- sed