

liunx高阶命令

1. 面试官问你，Liunx系统变慢了，怎么办

1.1 查看整体机器性能

1.2 低配版top命令

2. 其他高阶命令

1. 面试官问你，Liunx系统变慢了，怎么办

1.1 查看整体机器性能

- **top**命令查看整体机器性能

1.1cpu 和 MEM

1.2 cpus **按1查看单个 来回切换**

1.3 id=idle **空闲率**

1.4 time(运行时间) command(进程名如: redis,tomcat) pid 进程id

1.5 load average: **系统负载率** 三个值 1, 5, 15**分钟**平均负载, $\text{sum}/3 \times 100\% > 60\%$ 负担重, $> 80\%$ 隔屁了

1.6 关闭命令: **不要强制 ctrl c qq**

```
top - 11:46:00 up 7 days, 17:53, 2 users, load average: 0.00, 0.01, 0.05
Tasks: 82 total, 1 running, 81 sleeping, 0 stopped, 0 zombie
%Cpu(s): 2.3 us, 2.7 sy, 0.0 ni, 95.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 1881620 total, 260928 free, 839460 used, 781232 buff/cache
KiB Swap: 0 total, 0 free, 0 used, 866696 avail Mem
1 cpu 内存使用百分比
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
2962	root	20	0	161972	2152	1564	R	0.7	0.1	0:00.02	top
842	root	20	0	157916	6384	4664	S	0.3	0.3	0:00.39	sshd
1	root	20	0	125452	2868	1460	S	0.0	0.2	0:57.95	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd
4	root	0	-20	0	0	0	S	0.0	0.0	0:00.00	kworker/0:0H
5	root	20	0	0	0	0	S	0.0	0.0	0:05.82	kworker/u2:0

```
top - 09:46:07 up 14 min, 2 users, load average: 0.00, 0.02, 0.05
Tasks: 197 total, 1 running, 196 sleeping, 0 stopped, 0 zombie
1 默认为cpu(s) 按 键盘1查看每个cpu使用情况
%Cpu0 : 0.0 us, 0.0 sy, 0.0 ni, 100.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
%Cpu1 : 0.3 us, 0.0 sy, 0.0 ni, 99.7 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
%Cpu2 : 0.0 us, 0.0 sy, 0.0 ni, 100.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
%Cpu3 : 0.0 us, 0.0 sy, 0.0 ni, 100.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
%Cpu4 : 0.7 us, 0.0 sy, 0.0 ni, 99.3 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
%Cpu5 : 0.3 us, 0.0 sy, 0.0 ni, 99.7 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
%Cpu6 : 0.0 us, 0.0 sy, 0.0 ni, 100.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
%Cpu7 : 0.0 us, 0.0 sy, 0.0 ni, 100.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 7994076 total, 6465972 free, 881112 used, 646992 buff/cache
KiB Swap: 2097148 total, 2097148 free, 0 used, 6802144 avail Mem
```

```
top - 11:54:06 up 7 days, 18:01, 2 users, load average: 0.11, 0.06, 0.06
Tasks: 82 total, 2 running, 80 sleeping, 0 stopped, 0 zombie
%Cpu0 : 1.7 us, 2.0 sy, 0.0 ni, 96.3 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 1881620 total, 259032 free, 839464 used, 783124 buff/cache
KiB Swap: 0 total, 0 free, 0 used, 800000 avail Mem
```

看id,俗称空闲率,值越大越好,cpu不会引起

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
28221	root	20	0	2633004	439236	4896	S	0.3	23.3	15:11.11	java
1	root	20	0	125452	2868	1460	S	0.0	0.2	0:58.00	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd
4	root	0	-20	0	0	0	S	0.0	0.0	0:00.00	kworker/0:0H
5	root	20	0	0	0	0	S	0.0	0.0	0:05.83	kworker/u2:0
6	root	20	0	0	0	0	S	0.0	0.0	0:04.92	ksoftirqd/0

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
1	root	20	0	125452	2868	1460	S	0.0	0.2	0:58.02	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd
4	root	0	-20	0	0	0	S	0.0	0.0	0:00.00	kworker/0:0H
5	root	20	0	0	0	0	S	0.0	0.0	0:05.83	kworker/u2:0
6	root	20	0	0	0	0	S	0.0	0.0	0:04.94	ksoftirqd/0
7	root	rt	0	0	0	0	S	0.0	0.0	0:00.00	migration/0

```
top - 11:44:15 up 7 days, 17:52, 2 users, load average: 0.00, 0.01, 0.05
Tasks: 82 total, 1 running, 81 sleeping, 0 stopped, 0 zombie
top - 12:04:13 up 7 days, 18:12, 2 users, load average: 0.38, 0.12, 0.07
Tasks: 84 total, 1 running, 83 sleeping, 0 stopped, 0 zombie
%Cpu0 : 1.7 us, 2.3 sy, 0.0 ni, 96.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 1881620 total, 256120 free, 840016 used, 785484 buff/cache
KiB Swap: 0 total, 0 free, 0 used, 866140 avail Mem
```

1.2 低配版top命令

2.1 uptime 查看load average

```
[root@ecs-340489 ~]# uptime
12:05:47 up 7 days, 18:13, 2 users, load average: 0.08, 0.09, 0.06
[root@ecs-340489 ~]#
```

2.2 查看内存 free -g(-----G为单位, 四舍五入了) (free---->字节为单位) free -m(----->mb为单位)

一般用free -m

```
[root@ecs-340489 ~]# free
      total        used        free      shared  buff/cache   available
Mem:    1881620      839868      253788         16976        787964        866292
Swap:          0           0           0

[root@ecs-340489 ~]# free -g
      total        used        free      shared  buff/cache   available
Mem:         1           0           0           0           0           0
Swap:         0           0           0

[root@ecs-340489 ~]# free -m
      total        used        free      shared  buff/cache   available
Mem:        1837           819          248          16           769          846
Swap:         0           0           0

[root@ecs-340489 ~]#
```

2.3 查看硬盘剩余空间数 df (dfree) -h

```
[root@ecs-340489 ~]# df -h
文件系统 容量 已用 可用 已用% 挂载点
devtmpfs 909M  0  909M  0% /dev
tmpfs    919M  0  919M  0% /dev/shm
tmpfs    919M  17M  903M  2% /run
tmpfs    919M  0  919M  0% /sys/fs/cgroup
/dev/vda1 40G  5.9G  32G  16% /
tmpfs    184M  0  184M  0% /run/user/0

[root@ecs-340489 ~]#
```

2.4 cpu 包含而不限于 (内存, cpu) vmstat -n 2 3(2--->代表每秒刷一次) (3----->代表共刷几次)


```
[root@ecs-340489 ~]# vmstat -n 2 3
```

procs		memory				swap		io		system		cpu			
r	b	swpd	free	buff	cache	si	so	bi	bo	in	cs	us	sy	id	wa
8	1	0	248752	98344	695176	0	0	17	21	52	20	0	0	99	0
4	0	0	248752	98344	695180	0	0	0	16	181	448	2	2	96	0
4	0	0	248320	98348	695192	0	0	0	0	144	383	1	2	97	0

运行进程数
阻塞进程数

us+sy越高,cpu占用率越高, id是idle 系统负载率,越大越空闲

- 主页这里有错误 id 代表idle 空闲率

2.5 查看磁盘io 磁盘io高, 代表读写高, 你的垃圾sql出现了 `iostat -xdk 2 3`

- 可能需要我们 `yum install -y sysstat`

```
[root@ecs-340489 ~]# iostat -xdk 2 3
```

Linux 3.10.0-1160.53.1.el7.x86_64 (ecs-340489) 2022年05月28日 _x86_64_ (1 CPU)

Device:	rrqm/s	wrqm/s	r/s	w/s	rkB/s	wkB/s	avgrq-sz	avgqu-sz	await	r_await	w_await	svctm	%util
vda	0.00	0.95	0.39	1.00	16.85	20.52	53.75	0.02	12.68	38.78	2.50	0.54	0.08
Device:	rrqm/s	wrqm/s	r/s	w/s	rkB/s	wkB/s	avgrq-sz	avgqu-sz	await	r_await	w_await	svctm	%util
vda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

读写高, 磁盘io次数多

util长期高, 你的sql需要调优

2. 其他高阶命令

3.1 chmod 其他命令文件授权命令

3.2 ip addr or ifconfig

3.3 防火墙命令