

天坑系列 bash 之命令执行上下文是否为子进程

mnstory.net

写了一段脚本，如果系统有 flock 命令，就用 flock 来加锁，否则用 ps 来查看是否已经有本进程在运行，以保障其单例性。

```
lockEntry()
{
    if ! which flock >/dev/null 2>&1; then
        #if no which or no flock, use ps style
        echo "[ps] flock is not found"

        # 1, 0(ps not found) or empty(wc not found) or anything other
        # invalid, can run
        # 2 is not running, can run
        # > 2 has already running, can't run
        local count=$(ps aux 2>/dev/null | grep $YOUREPROCESSNAME | grep
-v grep | wc -l 2>/dev/null)
        if [ "" != "$count" -a $count -gt 2 ]; then
            echo "[ps] has same process already running"
            return 1
        fi
        echo "[ps] found count $count, can run"
        main
    else
        echo "[flock] flock found"
        local lock=""
        if [ -d "/tmp" ]; then
            lock="/tmp"
        fi
        lock="$lock/heartalive.lock"
        touch ${lock}
        (
            if ! flock -n -x 200; then
                echo "[flock] flock $lock failed $"
                return 1
            fi
        )
    fi
}
```

```

        fi
        echo "[flock] flock $lock success"
    main
) 200<${lock}
fi
return 0
}

```

lockEntry

这里用了：

```

local count=$(ps aux 2>/dev/null | grep $YOUREPROCESSNAME | grep -v grep
| wc -l 2>/dev/null)
if [ "" != "$count" -a $count -gt 2 ]; then
    echo "[ps] has same process already running"
    return 1
fi

```

来获取进程个数，判断的时候，却用的是\$count -gt 2 而不是\$count -gt 1？

这个问题，剥离出来，是 wc -l 命令执行的上下文是当前脚本进程还是其子进程。

你在脚本里，这么调用，显示的是 1：

```
ps aux | grep $YOUREPROCESSNAME | grep -v grep 2>/dev/null | wc -l
```

你想获取变量值的时候，如下，count 却是 2：

```
local count=`ps aux | grep $YOUREPROCESSNAME | grep -v grep 2>/dev/null
| wc -l`
```

因为``,\$()等执行上述命令时，又会 fork 一个子进程来执行，在``,\$()等内部显示类似

这样：

```

root      20553  0.0  0.0  12428  1640 pts/0    S+   14:39   0:00  |
\_ /bin/bash ./YOUREPROCESSNAME.sh
root      20568  0.0  0.0  12428   688 pts/0    S+   14:39   0:00  |
\_ /bin/bash ./YOUREPROCESSNAME.sh

```

所以，上面的\$count，如果在脚本你们要判断脚本名称的进程是否存在，条件为大于 2 而

不是大于 1。