

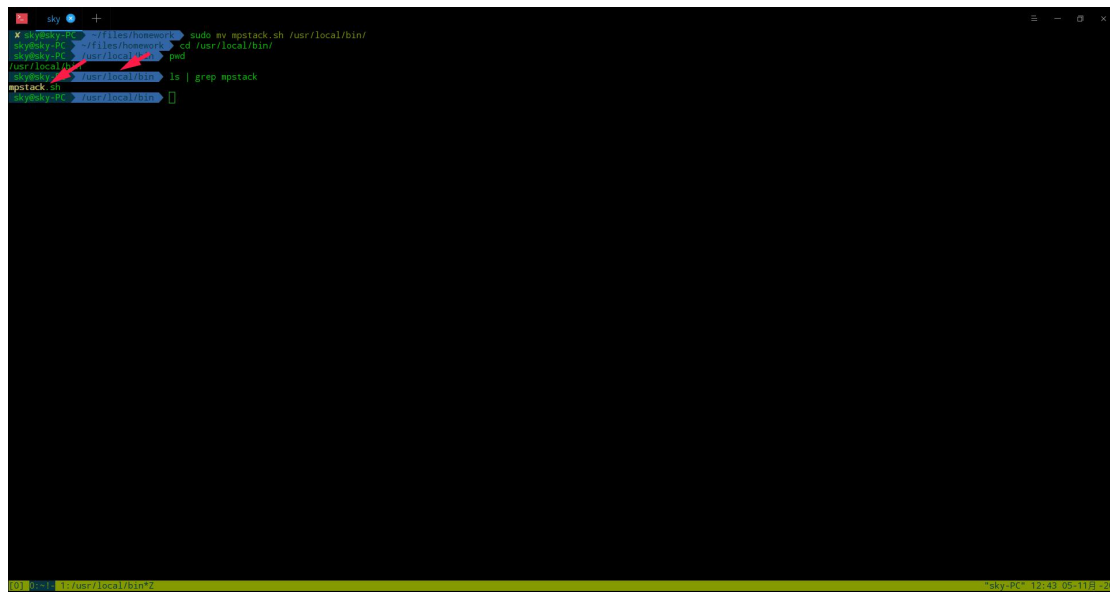
如果系统安装的 `pstack` 可以用，不用进行如下操作，本教程针对 `pstack` 无法下载、不可用或者出现 `pstack: Input/output error failed to read target.` 的错误。

A terminal window with a black background and green text. The prompt is 'sky@sky-PC: ~/files/homework'. The user enters 'sudo pstack 6523'. The output shows '6523: ./a.out', 'pstack: Input/output error', and 'failed to read target.' followed by a new prompt.

```
sky@sky-PC: ~/files/homework$ sudo pstack 6523
6523: ./a.out
pstack: Input/output error
failed to read target.
sky@sky-PC: ~/files/homework$
```

图 1pstack 错误

## 1. 下载附件中 `mpstack.sh`,移动至`/usr/local/bin`

A terminal window with a black background and green text. The prompt is 'sky@sky-PC: ~/files/homework'. The user enters 'sudo mv mpstack.sh /usr/local/bin/'. The prompt changes to 'sky@sky-PC: /usr/local/bin/'. The user enters 'pwd', which outputs '/usr/local/bin/'. The user enters 'ls | grep mpstack', which outputs 'mpstack.sh'. The prompt changes to 'sky@sky-PC: /usr/local/bin\$'.

```
sky@sky-PC: ~/files/homework$ sudo mv mpstack.sh /usr/local/bin/
sky@sky-PC: /usr/local/bin$ pwd
/usr/local/bin
sky@sky-PC: /usr/local/bin$ ls | grep mpstack
mpstack.sh
sky@sky-PC: /usr/local/bin$
```

## 2. 给该文件添加执行权

```
sky +
sky@sky-PC: ~/files/homework$ sudo mv npstack.sh /usr/local/bin/
sky@sky-PC: ~/files/homework$ cd /usr/local/bin/
sky@sky-PC: /usr/local/bin$ pwd
/usr/local/bin
sky@sky-PC: /usr/local/bin$ ls | grep npstack
npstack.sh
sky@sky-PC: /usr/local/bin$ sudo chmod +x /usr/local/bin/npstack.sh
sky@sky-PC: /usr/local/bin$ ls -l | grep npstack
-rwxr-xr-x 1 sky 1091 11月 5 11:27 npstack.sh
sky@sky-PC: /usr/local/bin$
```

3. 测试是否配置成功,出现下图则表示成功

```
sky +
sky@sky-PC: /usr/local/bin$ sudo npstack.sh
usage: npstack5 npprocess id
sky@sky-PC: /usr/local/bin$
```

4. 测试能否正常使用

```
sky@sky-PC: ~/files/homework1$ ps -aux | grep a.out
sky  6523  0.0  0.0 39124  816 pts/0  Sl+  12:47   0:00 ./a.out
sky  6583  0.0  0.0 14532  948 pts/0  S+   12:47   0:00 grep --color-mute --exclude-dir=.bzr --exclude-dir=CVS --exclude-dir=.git --exclude-dir=.hg --exclude-dir=.svn --exclude-dir=.idea --exclude-dir=.tox a.out
sky@sky-PC: ~/files/homework1$

sky@sky-PC: ~/files/homework1$ ./a.out
#5 0x00007f9856ef6acf in clone ()
Thread 4 (Thread 0x7f9855e0b700 (LWP 6526)):
#0 __lll_lock_wait () at ../sysdeps/unix/sysv/linux/x86_64/lowlevellock.S:135
#1 0x00007f98571b6a95 in __GI___pthread_mutex_lock ()
#2 0x000055720b50ba3b in func2 ()
#3 0x000055720b50ba3b in start_routine ()
#4 0x00007f98571b4494 in start_thread (arg=0x7f9855e0b700)
#5 0x00007f9856ef6acf in clone ()
Thread 3 (Thread 0x7f9856e0c700 (LWP 6525)):
#0 __lll_lock_wait () at ../sysdeps/unix/sysv/linux/x86_64/lowlevellock.S:135
#1 0x00007f98571b6a95 in __GI___pthread_mutex_lock ()
#2 0x000055720b50ba3b in func1 ()
#3 0x000055720b50ba3b in start_routine ()
#4 0x00007f98571b4494 in start_thread (arg=0x7f9856e0c700)
#5 0x00007f9856ef6acf in clone ()
Thread 2 (Thread 0x7f9856e0d700 (LWP 6524)):
#0 0x00007f9856ec628d in nanosleep () at ../sysdeps/unix/syscall-template.S:84
#1 0x00007f9856ec61da in __sleep (seconds=0) at ../sysdeps/posix/sleep.c:55
#2 0x000055720b50ba3b in func3 ()
#3 0x000055720b50ba3b in start_routine ()
#4 0x00007f98571b4494 in start_thread (arg=0x7f9856e0d700)
#5 0x00007f9856ef6acf in clone ()
Thread 1 (Thread 0x7f98575c3700 (LWP 6523)):
#0 0x00007f98571b56cd in pthread_join (threadid=140292269332224,
#1 0x000055720b50ba3b in main ()
sky@sky-PC: ~/files/homework1$ sudo apstack.sh 6523
```

## 5. 成功

```
sky@sky-PC: ~/files/homework1$ ./a.out
#5 0x000055720b50ba3b in start_routine ()
#4 0x00007f98571b4494 in start_thread (arg=0x7f9855e0b700)
#5 0x00007f9856ef6acf in clone ()
Thread 3 (Thread 0x7f9856e0c700 (LWP 6525)):
#0 __lll_lock_wait () at ../sysdeps/unix/sysv/linux/x86_64/lowlevellock.S:135
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#2 0x000055720b50ba3b in func1 ()
#3 0x000055720b50ba3b in start_routine ()
#4 0x00007f98571b4494 in start_thread (arg=0x7f9856e0d700)
#5 0x00007f9856ef6acf in clone ()
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#3 0x000055720b50ba3b in start_routine ()
#4 0x00007f98571b4494 in start_thread (arg=0x7f9856e0d700)
#5 0x00007f9856ef6acf in clone ()
Thread 1 (Thread 0x7f98575c3700 (LWP 6523)):
#0 0x00007f98571b56cd in pthread_join (threadid=140292269332224,
#1 0x000055720b50ba3b in main ()
sky@sky-PC: ~/files/homework1$ sudo apstack.sh 6523
#5 0x00007f9856ec628d in nanosleep () at ../sysdeps/unix/syscall-template.S:84
#4 0x00007f9856ec61da in __sleep (seconds=0) at ../sysdeps/posix/sleep.c:55
#5 0x000055720b50ba3b in func3 ()
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#4 0x00007f98571b4494 in start_thread (arg=0x7f9856e0d700)
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Thread 4 (Thread 0x7f9855e0b700 (LWP 6526)):
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#2 0x000055720b50ba3b in func2 ()
#3 0x000055720b50ba3b in start_routine ()
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#2 0x000055720b50ba3b in func1 ()
#3 0x000055720b50ba3b in start_routine ()
#4 0x00007f98571b4494 in start_thread (arg=0x7f9856e0c700)
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#3 0x000055720b50ba3b in start_routine ()
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#5 0x00007f9856ef6acf in clone ()
Thread 1 (Thread 0x7f98575c3700 (LWP 6523)):
#0 0x00007f98571b56cd in pthread_join (threadid=140292269332224,
#1 0x000055720b50ba3b in main ()
sky@sky-PC: ~/files/homework1$ sudo apstack.sh 6523
```