

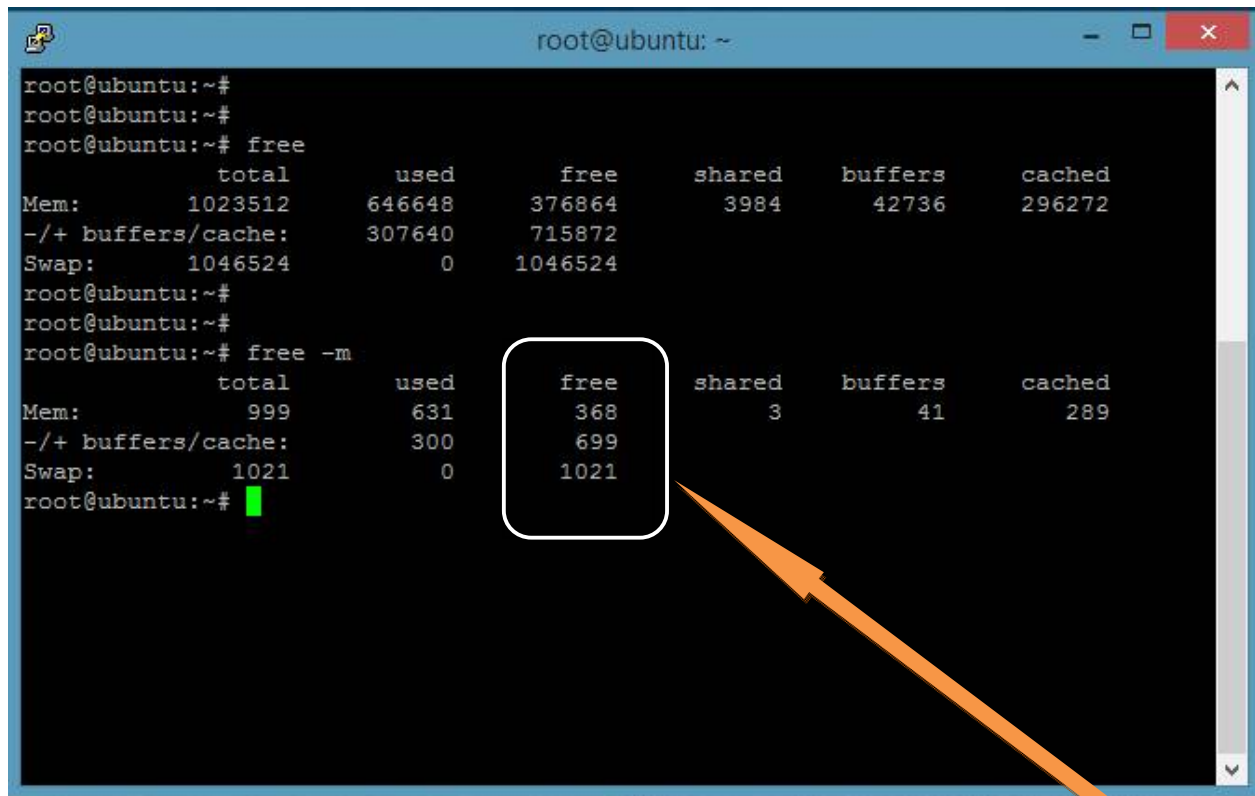
Create custom script(command) as system commands

We have a commands in linux like ls, cd, pwd...

Like that now I want to create a custom command and convert this as a system command.

For example I want know free memory in the system with one command.

Generally to know free memory we use the command free



```
root@ubuntu:~#  
root@ubuntu:~#  
root@ubuntu:~# free  
              total        used        free      shared    buffers     cached  
Mem:           1023512      646648      376864        3984       42736      296272  
-/+ buffers/cache:      307640       715872  
Swap:          1046524           0      1046524  
root@ubuntu:~#  
root@ubuntu:~#  
root@ubuntu:~# free -m  
              total        used        free      shared    buffers     cached  
Mem:              999         631         368          3          41         289  
-/+ buffers/cache:          300         699  
Swap:             1021           0         1021  
root@ubuntu:~#
```

This is the free memory in my system

To get this free memory size we can use custom command(custom command means defined by us)

```
free -m | awk 'NR==2 {print $4, "MB"}'
```

```
root@ubuntu: ~  
root@ubuntu:~#  
root@ubuntu:~#  
root@ubuntu:~#  
root@ubuntu:~# free -m | awk 'NR==2 {print $4, "MB"}'  
350 MB  
root@ubuntu:~#
```

Now I am going to create a shell file with this command,

```
GNU nano 2.2.6      File: freememory.sh      Modified  
#!/bin/bash  
free -m | awk 'NR==2 {print $4, "MB"}'  
[  
  
^G Get Help  ^C WriteOut  ^R Read File  ^Y Prev Page  ^K Cut Text   ^C Cur Pos  
^X Exit      ^J Justify   ^W Where Is   ^V Next Page  ^U UnCut Text ^T To Spell
```

```
root@ubuntu: ~/mybin
root@ubuntu:~#
root@ubuntu:~#
root@ubuntu:~# cd /home/ubuntu/mybin/
root@ubuntu:~/mybin# nano freememory.sh
root@ubuntu:~/mybin#
root@ubuntu:~/mybin# ls -la
total 12
drwxr-xr-x  2 root   root   4096 Jun  6 18:51 .
drwxr-xr-x 20 ubuntu ubuntu 4096 Jun  6 18:46 ..
-rw-r--r--  1 root   root    52 Jun  6 18:48 freememory.sh
root@ubuntu:~/mybin#
root@ubuntu:~/mybin#
root@ubuntu:~/mybin# chmod 755 freememory.sh
root@ubuntu:~/mybin#
root@ubuntu:~/mybin# ls -la
total 12
drwxr-xr-x  2 root   root   4096 Jun  6 18:51 .
drwxr-xr-x 20 ubuntu ubuntu 4096 Jun  6 18:46 ..
-rwxr-xr-x  1 root   root    52 Jun  6 18:48 freememory.sh
root@ubuntu:~/mybin#
root@ubuntu:~/mybin# ./freememory.sh
342 MB
root@ubuntu:~/mybin#
```

Here I created a script file by using this script we can get free memory directly...

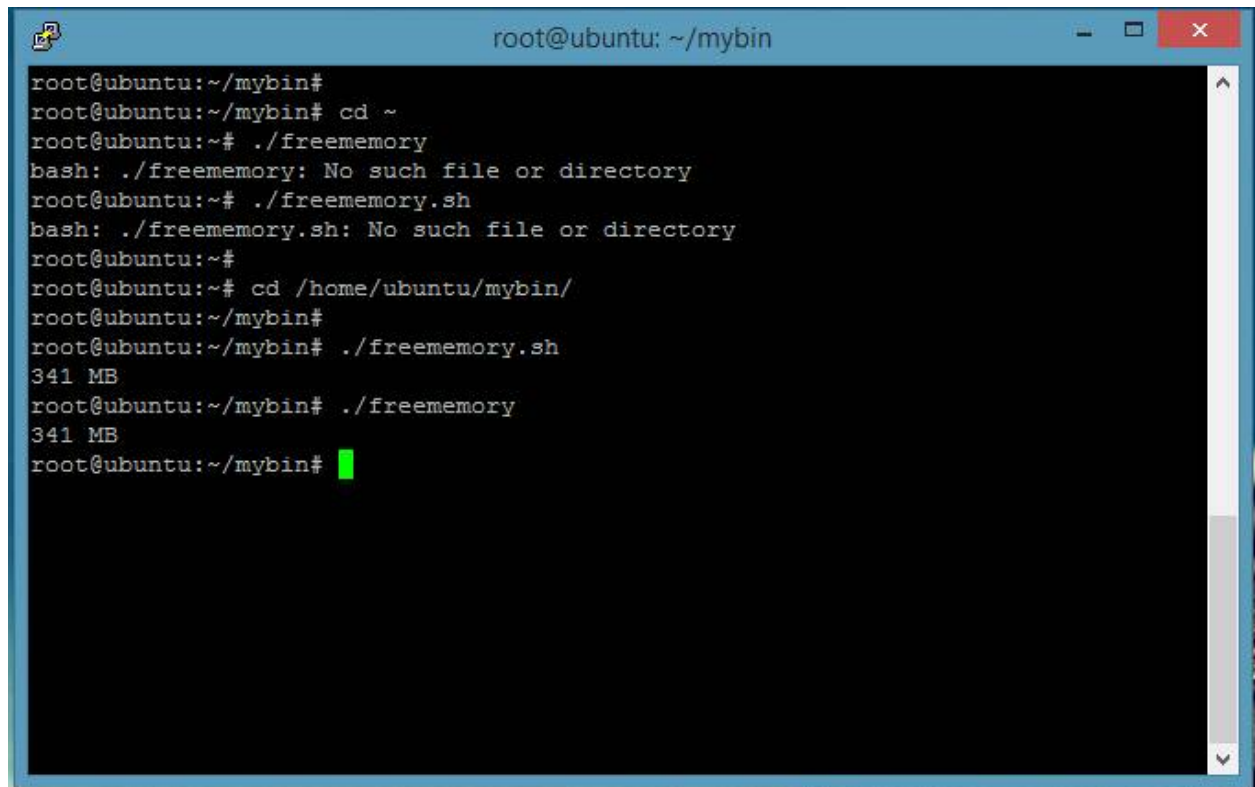
We can remove .sh extension also

```
root@ubuntu: ~/mybin
root@ubuntu:~/mybin# cp freememory.sh freememory
root@ubuntu:~/mybin# ll
total 16
drwxr-xr-x  2 root   root   4096 Jun  6 18:54 ./
drwxr-xr-x 20 ubuntu ubuntu 4096 Jun  6 18:46 ../
-rwxr-xr-x  1 root   root    52 Jun  6 18:54 freememory*
-rwxr-xr-x  1 root   root    52 Jun  6 18:48 freememory.sh*
root@ubuntu:~/mybin# ./freememory
341 MB
root@ubuntu:~/mybin# ./freememory.sh
341 MB
root@ubuntu:~/mybin#
```

Actually my goal is create system command, system commands we can use any where in the system like cd, pwd, ls,mv,cp..

But now this command we can't use like that for that we need to go file location

And for system commands no need to use ./

A terminal window titled 'root@ubuntu: ~/mybin' with a blue header bar. The terminal shows a series of commands and their outputs. The user starts in the directory ~/mybin. They run 'cd ~' to move to the home directory. Then they run './freememory', which results in an error: 'bash: ./freememory: No such file or directory'. Next, they run './freememory.sh', which also results in an error: 'bash: ./freememory.sh: No such file or directory'. Then they run 'cd /home/ubuntu/mybin/' to move back to the mybin directory. Finally, they run './freememory.sh' again, which outputs '341 MB'. They then run './freememory' again, which also outputs '341 MB'. The terminal ends with a green cursor on the prompt 'root@ubuntu:~/mybin#'.

```
root@ubuntu:~/mybin#  
root@ubuntu:~/mybin# cd ~  
root@ubuntu:~# ./freememory  
bash: ./freememory: No such file or directory  
root@ubuntu:~# ./freememory.sh  
bash: ./freememory.sh: No such file or directory  
root@ubuntu:~#  
root@ubuntu:~# cd /home/ubuntu/mybin/  
root@ubuntu:~/mybin#  
root@ubuntu:~/mybin# ./freememory.sh  
341 MB  
root@ubuntu:~/mybin# ./freememory  
341 MB  
root@ubuntu:~/mybin#
```

For that we have 2 options

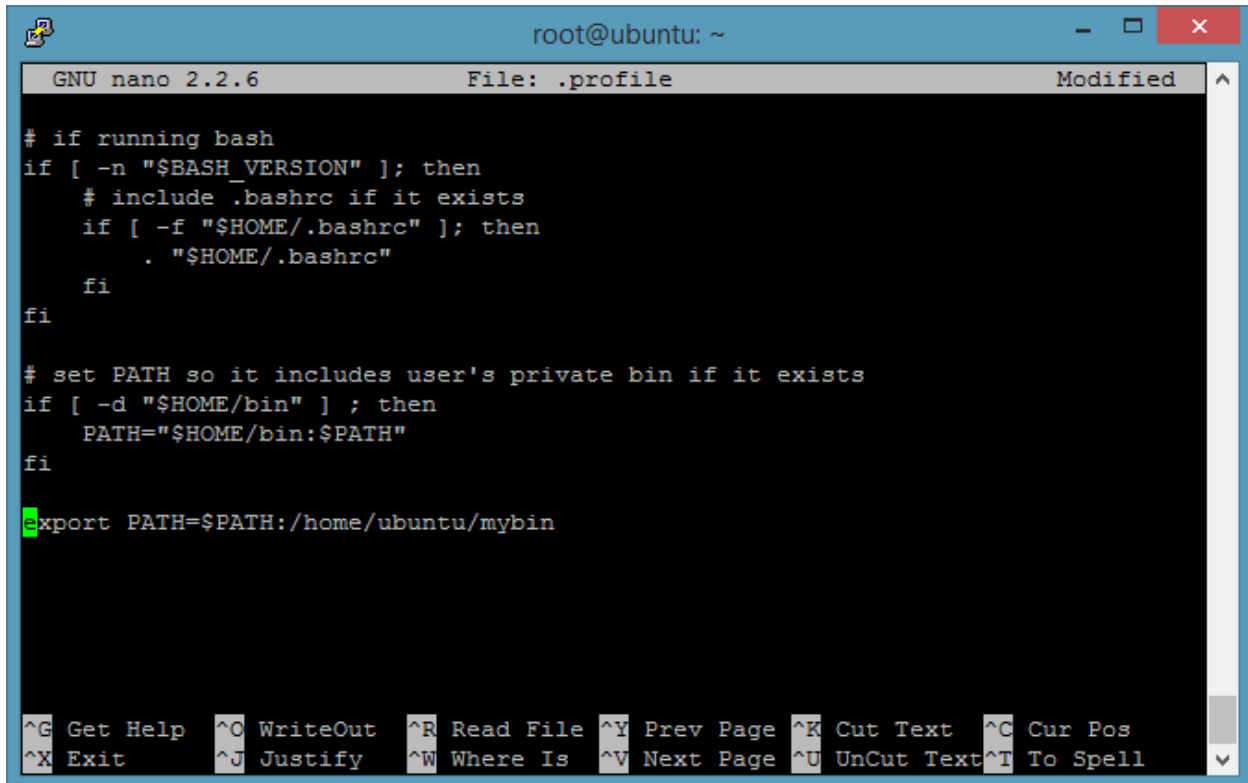
1. Check the system commands path and copy file into that location.
See below figure,
First checked the commands path and move my file into one of that path (/bin)
And run that command from different location, command working as a system command.

```
root@ubuntu: ~  
root@ubuntu:~#  
root@ubuntu:~# echo $PATH  
/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/snap/bin  
root@ubuntu:~#  
root@ubuntu:~#  
root@ubuntu:~# cd mybin/  
root@ubuntu:~/mybin# ls  
freememory freememory.sh  
root@ubuntu:~/mybin# mv freememory /bin  
root@ubuntu:~/mybin# ls  
freememory.sh  
root@ubuntu:~/mybin# rm freememory.sh  
root@ubuntu:~/mybin# ls  
root@ubuntu:~/mybin#  
root@ubuntu:~/mybin#  
root@ubuntu:~/mybin# cd ~  
root@ubuntu:~# pwd  
/home/ubuntu  
root@ubuntu:~# ls  
Desktop Downloads Music Pictures Templates  
Documents examples.desktop mybin Public Videos  
root@ubuntu:~# freememory  
340 MB  
root@ubuntu:~#
```

2. Add file path into the system commands path

```
root@ubuntu: ~  
root@ubuntu:~# mv /bin/freememory /home/ubuntu/mybin/  
root@ubuntu:~#  
root@ubuntu:~# pwd  
/home/ubuntu  
root@ubuntu:~#  
root@ubuntu:~# nano .profile
```

Add file path (/home/ubuntu/mybin) into .profile file



```
root@ubuntu: ~
GNU nano 2.2.6 File: .profile Modified
# if running bash
if [ -n "$BASH_VERSION" ]; then
    # include .bashrc if it exists
    if [ -f "$HOME/.bashrc" ]; then
        . "$HOME/.bashrc"
    fi
fi

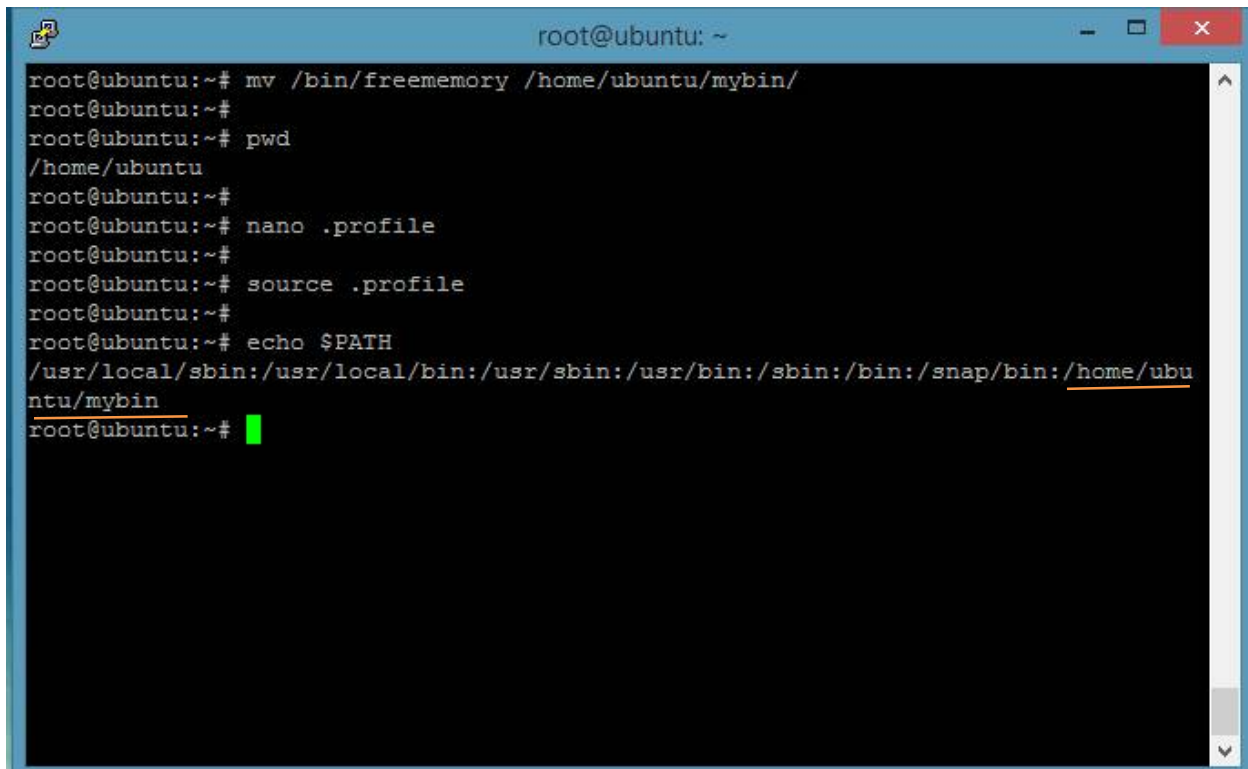
# set PATH so it includes user's private bin if it exists
if [ -d "$HOME/bin" ] ; then
    PATH="$HOME/bin:$PATH"
fi

export PATH=$PATH:/home/ubuntu/mybin

^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text ^T To Spell
```

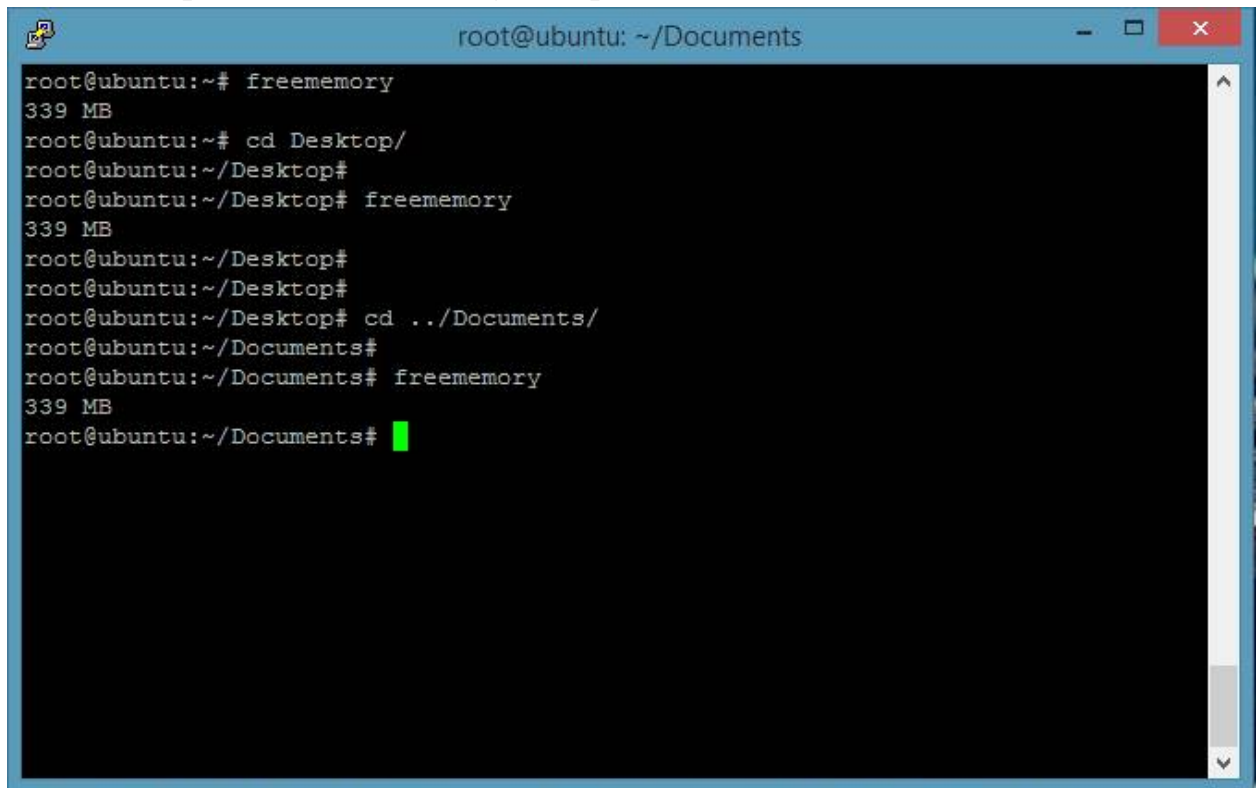
After that run **source .profile** command

And check the path



```
root@ubuntu: ~
root@ubuntu:~# mv /bin/freememory /home/ubuntu/mybin/
root@ubuntu:~#
root@ubuntu:~# pwd
/home/ubuntu
root@ubuntu:~#
root@ubuntu:~# nano .profile
root@ubuntu:~#
root@ubuntu:~# source .profile
root@ubuntu:~#
root@ubuntu:~# echo $PATH
/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/snap/bin:/home/ub
untu/mybin
root@ubuntu:~#
```

See custom path added into the system path

A terminal window titled 'root@ubuntu: ~/Documents' with standard window controls. The terminal shows a series of commands and their outputs. The 'freememory' command is executed in the root directory, Desktop, and Documents directories, all returning '339 MB'. The terminal text is as follows:

```
root@ubuntu:~# freememory
339 MB
root@ubuntu:~# cd Desktop/
root@ubuntu:~/Desktop#
root@ubuntu:~/Desktop# freememory
339 MB
root@ubuntu:~/Desktop#
root@ubuntu:~/Desktop#
root@ubuntu:~/Desktop# cd ../Documents/
root@ubuntu:~/Documents#
root@ubuntu:~/Documents# freememory
339 MB
root@ubuntu:~/Documents#
```

Our Command working in different locations as a system command.