

上机实验报告

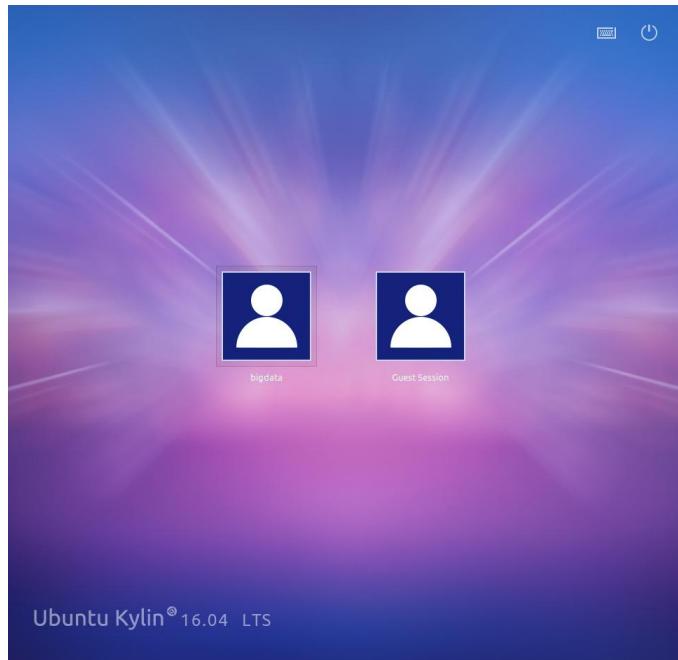
实验题目	班级	姓名	学号
熟悉 Linux 操作系统环境（验证性实验）	计科 2303 班	林烨洋	202318140126

实验目的与要求：

1. 了解 Linux 操作系统环境。
2. 熟悉 Linux 的基本操作技能。
3. 熟悉和理解各种常用的 Shell 命令

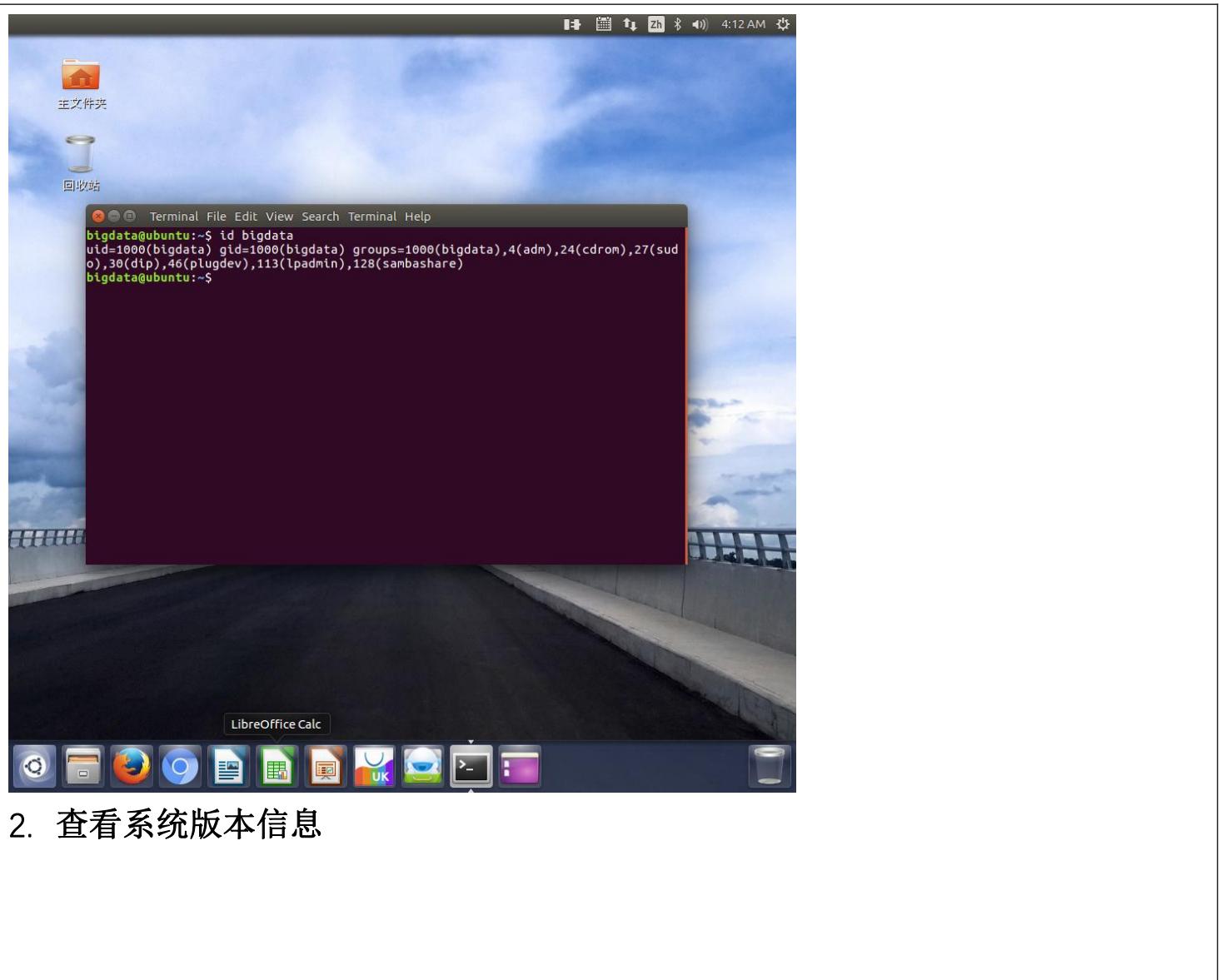
实验步骤与内容：（可加附页）

一、以超级用户的身份登录 Linux 系统

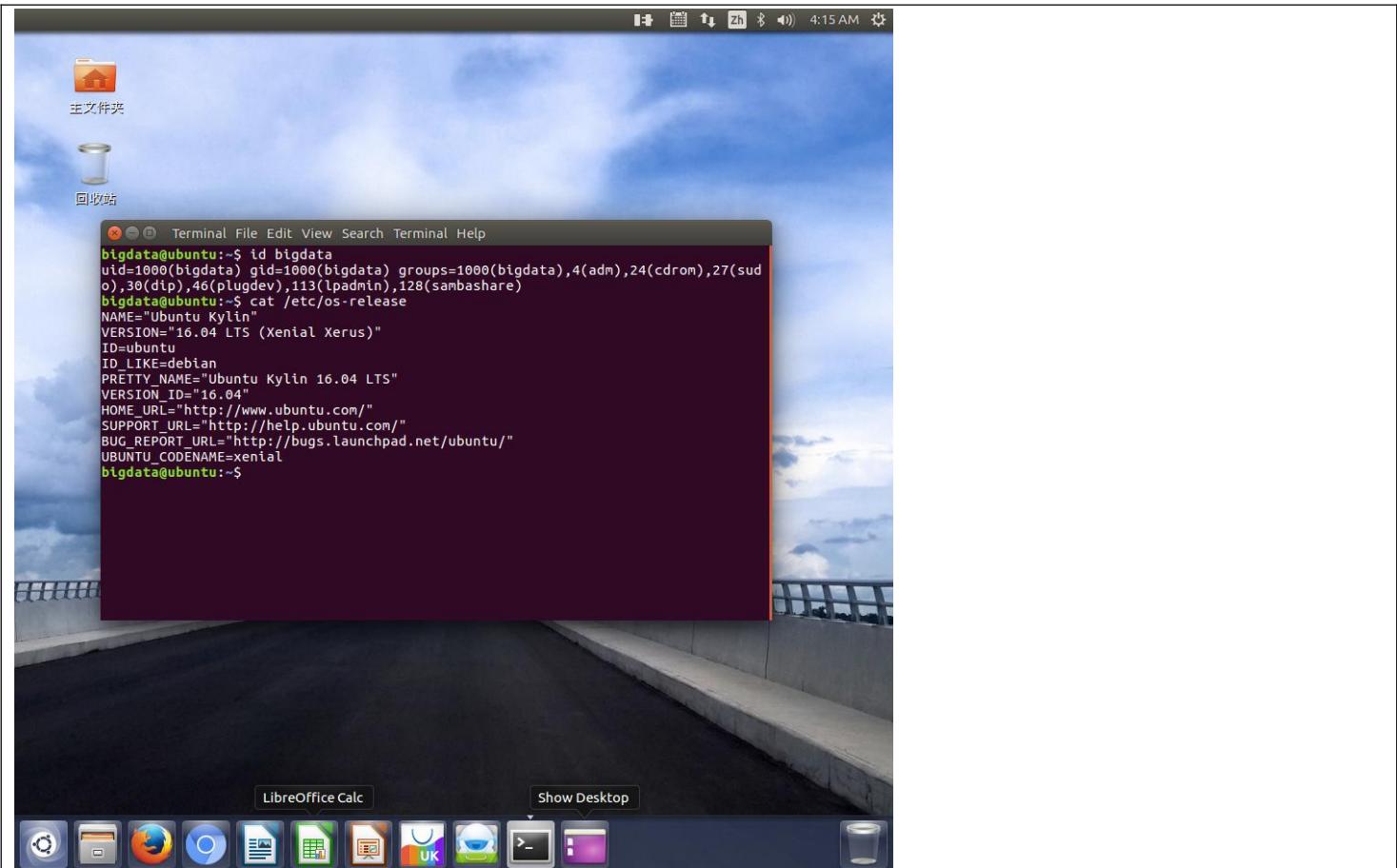


二、查看系统信息

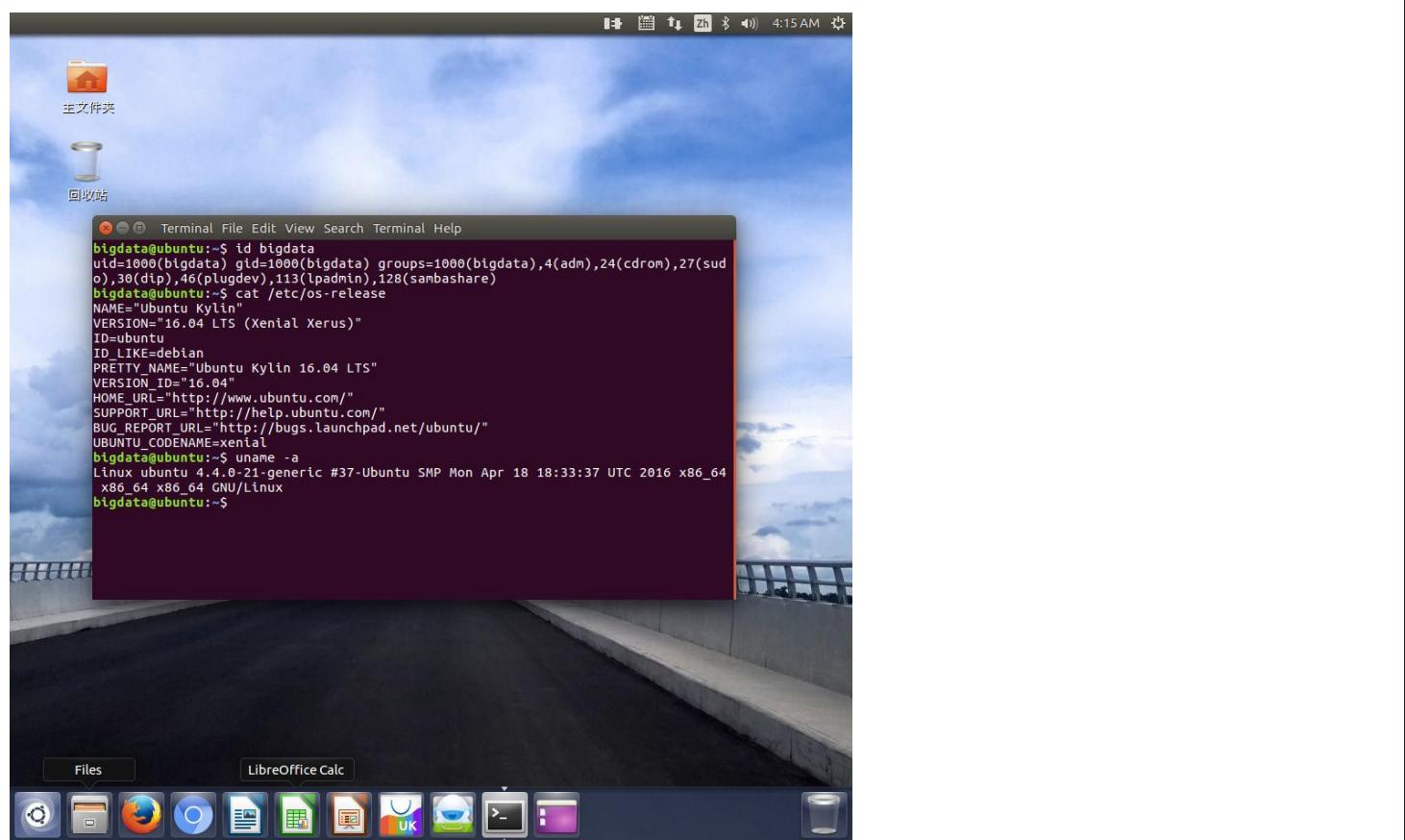
1. 查看用户信息



2. 查看系统版本信息



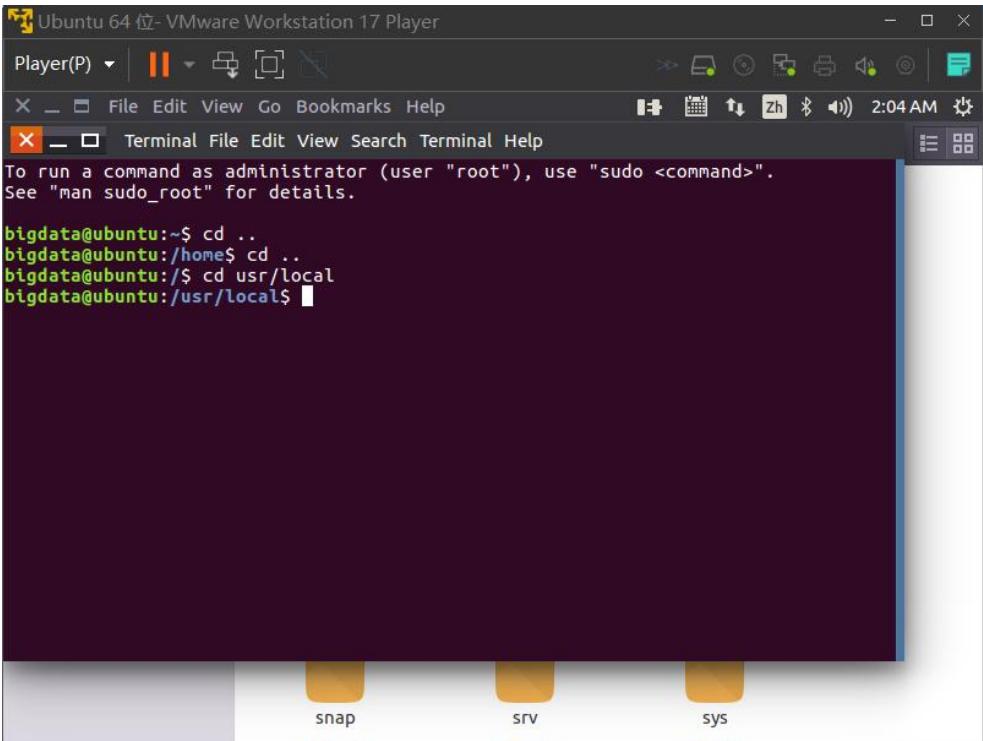
3. 查看系统内核信息



三、 熟悉各种命令

1.cd 命令：切换目录

(1) 切换到目录 /usr/local



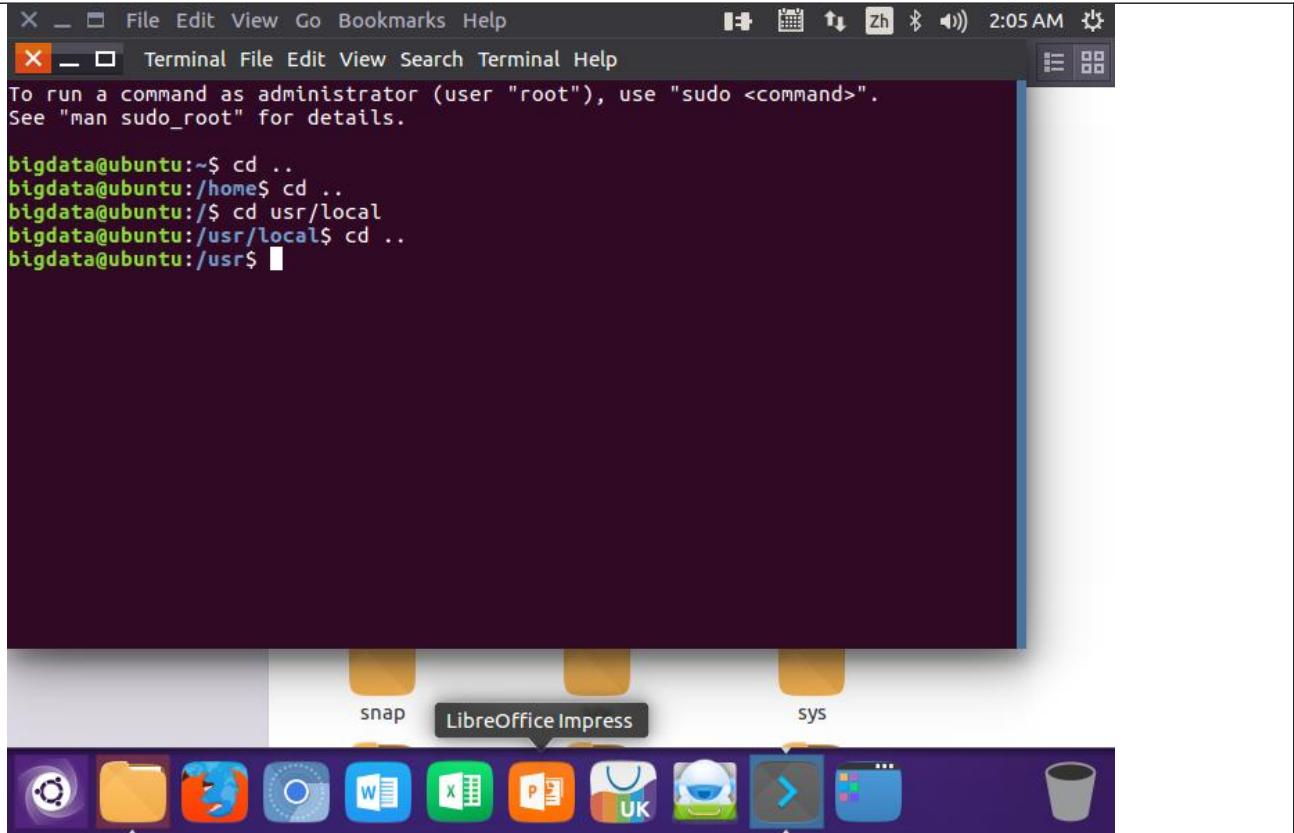
```
Ubuntu 64 位- VMware Workstation 17 Player
Player(P) | || □ [X] Terminal File Edit View Search Terminal Help
File Edit View Go Bookmarks Help
Terminal File Edit View Search Terminal Help
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

bigdata@ubuntu:~$ cd ..
bigdata@ubuntu:/home$ cd ..
bigdata@ubuntu:/$ cd usr/local
bigdata@ubuntu:/usr/local$
```

在\$后输入: cd usr/local

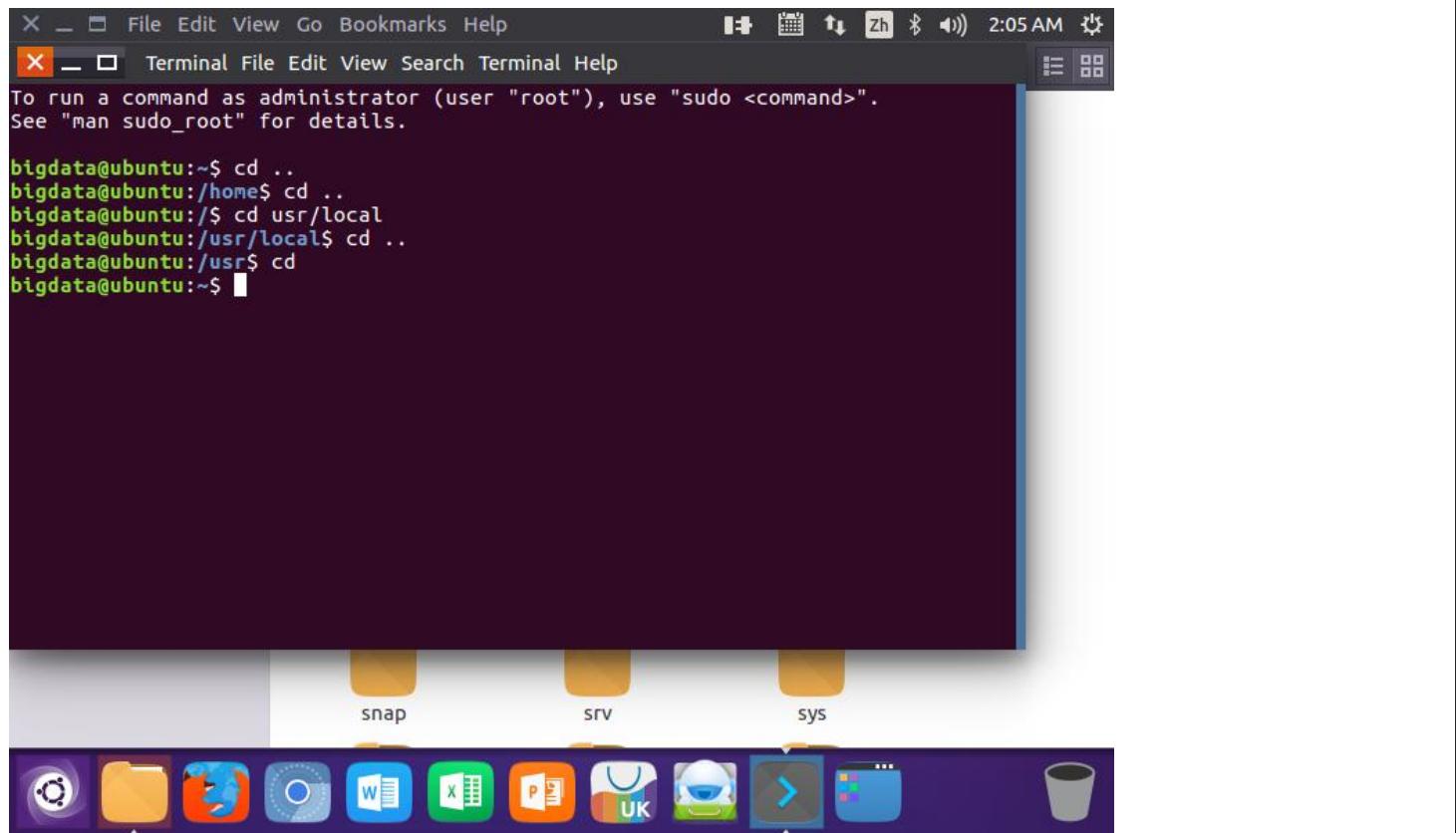
(2) 切换到当前目录的上层目录

在\$后输入: cd ..



(3) 回到当前登录用户的主文件夹

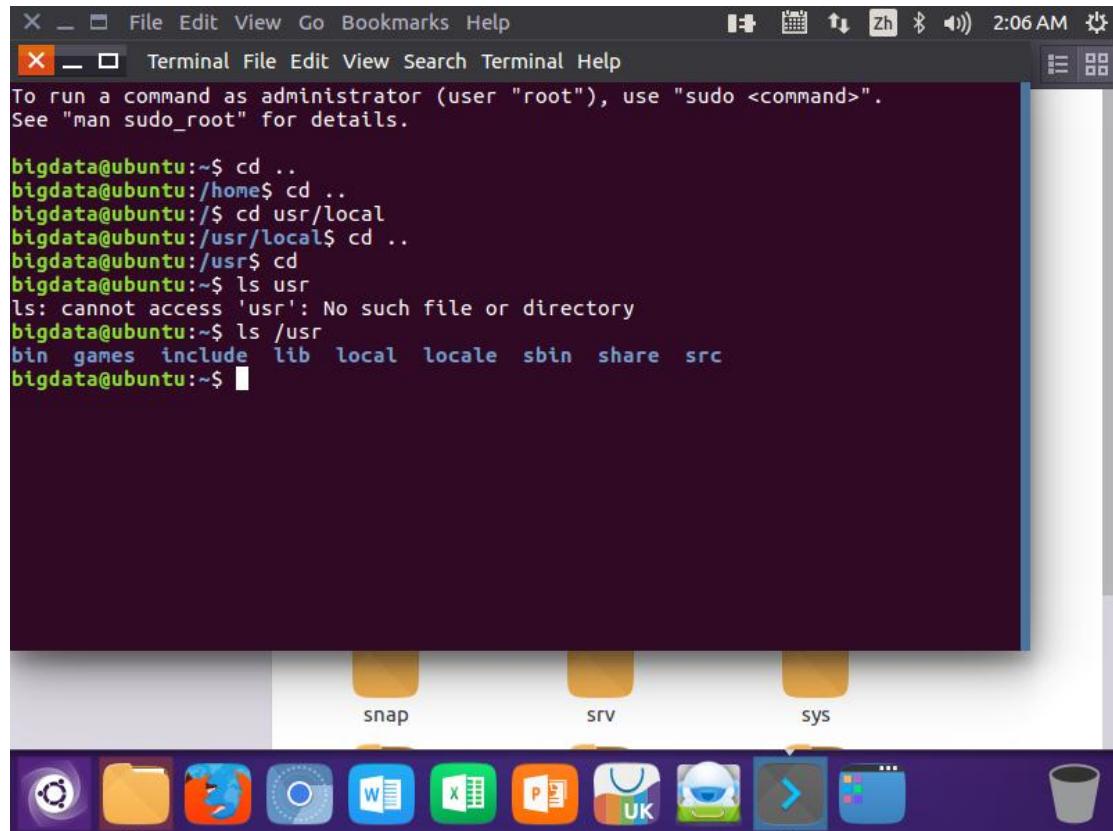
在\$后输入: cd ~或者 cd



2.ls 命令：查看文件与目录

(4) 查看目录/usr 下所有的文件

在\$后输入：ls /usr



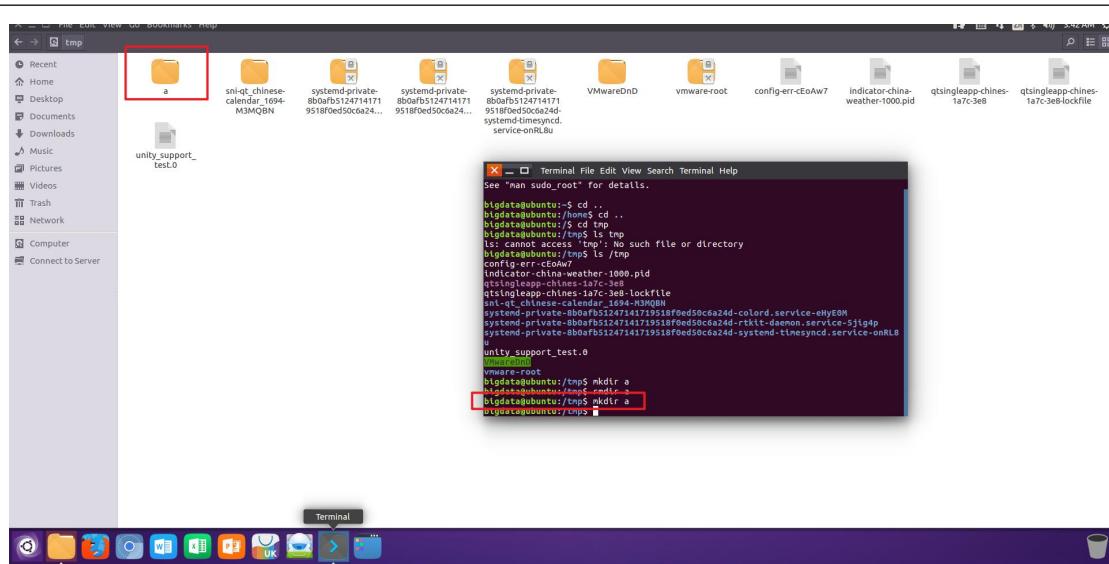
The screenshot shows a terminal window in the foreground displaying a command-line session. The user has navigated to the root directory ('cd ..') and then to the '/usr/local' directory ('cd usr/local'). They then attempted to list files in the current directory ('ls') but received an error message stating 'ls: cannot access 'usr': No such file or directory'. Finally, they listed the contents of the '/usr' directory, which includes subdirectories like 'bin', 'games', 'include', 'lib', 'local', 'locale', 'sbin', 'share', and 'src'. The terminal window is part of a desktop environment, with a taskbar visible below it containing icons for various applications such as the Dash, Home, Dash to Dock, and System Monitor.

```
bigdata@ubuntu:~$ cd ..
bigdata@ubuntu:/home$ cd ..
bigdata@ubuntu:$ cd usr/local
bigdata@ubuntu:/usr/local$ cd ..
bigdata@ubuntu:/usr$ cd
bigdata@ubuntu:~$ ls usr
ls: cannot access 'usr': No such file or directory
bigdata@ubuntu:~$ ls /usr
bin games include lib local locale sbin share src
bigdata@ubuntu:~$
```

3.mkdir 命令：新建新目录

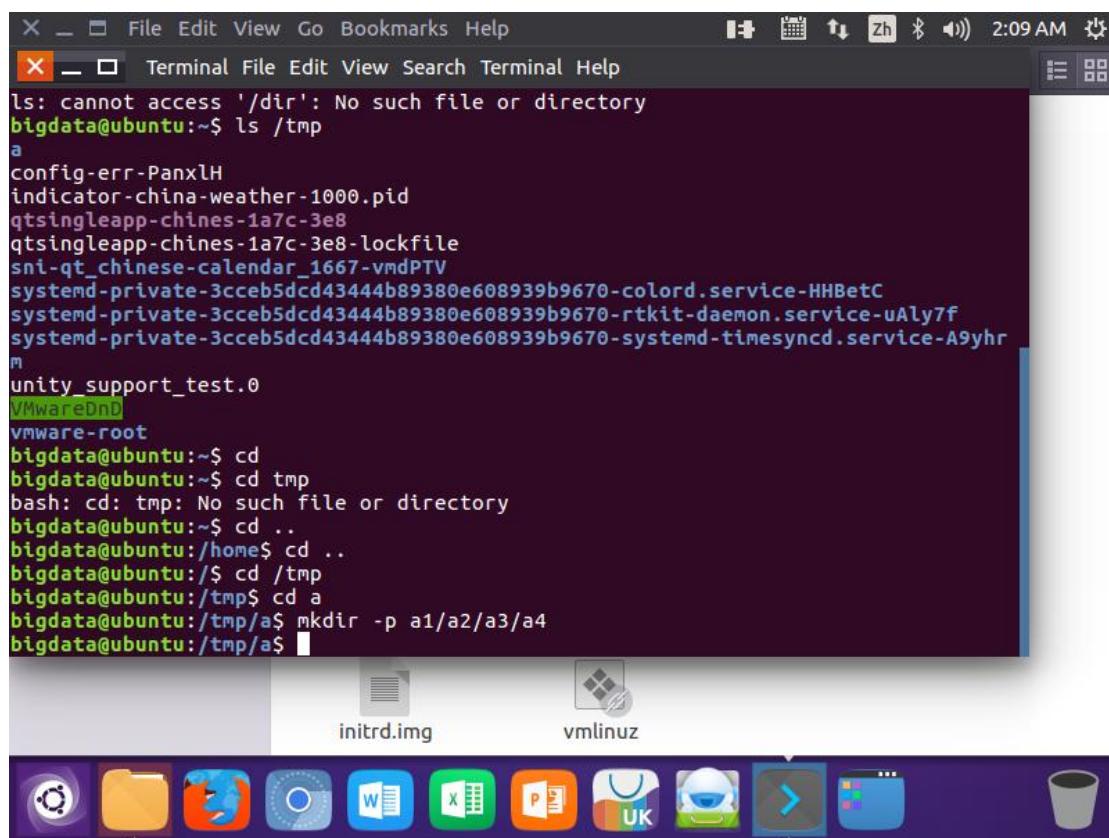
(5) 进入/tmp 目录，创建一个名为 a 的目录，并查看有多少目录存在

在\$后输入：cd/tmp 然后 mkdir a



(6) 创建目录 a1/a2/a3/a4

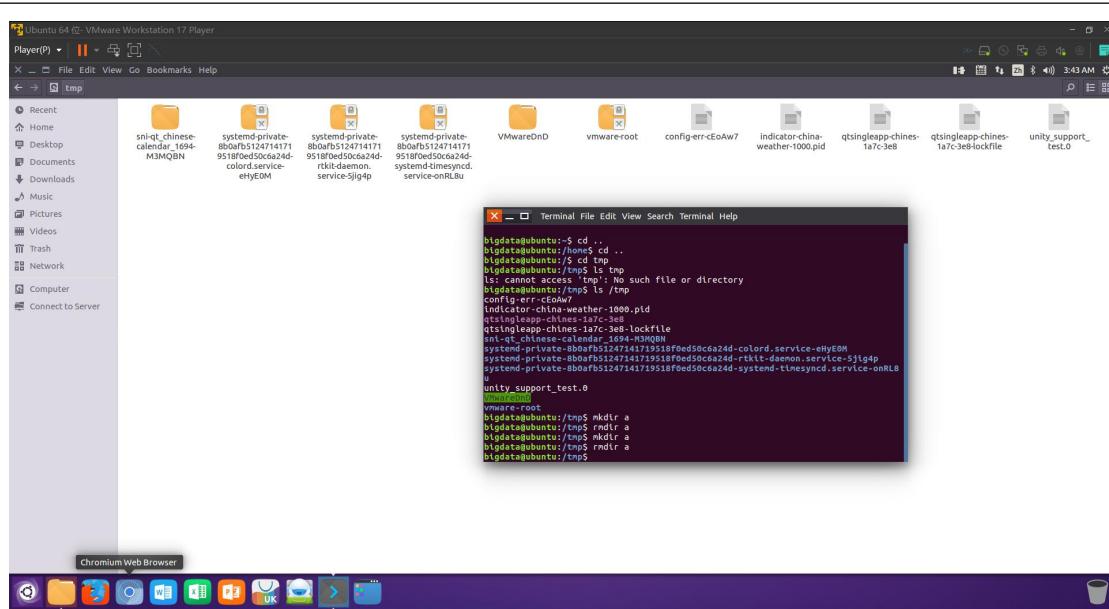
在\$后输入: mkdir -p a1/a2/a3/a4



4.rmdir 命令: 删除空的目录

(7) 将上例创建的目录 a (/tmp 下面) 删除

在\$后输入: rmdir /tmp/a



(8) 删除目录 a1/a2/a3/a4, 查看有多少目录存在

在\$后输入: rmdir -p a1/a2/a3/a4 然后再 ls -d */

```

X - Terminal File Edit View Search Terminal Help
qtsingleapp-chines-1a7c-3e8
qtsingleapp-chines-1a7c-3e8-lockfile
sni-qt_chinese-calendar_1694-M3MQBN
systemd-private-8b0afb51247141719518f0ed50c6a24d-colord.service-eHyE0M
systemd-private-8b0afb51247141719518f0ed50c6a24d-rtkit-daemon.service-5jig4p
systemd-private-8b0afb51247141719518f0ed50c6a24d-timesyncd.service-onRL8
u
unity_support_test.0
VMwareDnD
vmware-root
bigdata@ubuntu:/tmp$ mkdir a
bigdata@ubuntu:/tmp$ rmdir a
bigdata@ubuntu:/tmp$ mkdir a
bigdata@ubuntu:/tmp$ rmdir a
bigdata@ubuntu:/tmp$ mkdir a
bigdata@ubuntu:/tmp$ cd a
bigdata@ubuntu:/tmp/a$ mkdir -p a1/a2/a3/a4
bigdata@ubuntu:/tmp/a$ rmdir -p a1/a2/a3/a4
bigdata@ubuntu:/tmp/a$ ls -d*/
ls: invalid option -- '*'
Try 'ls --help' for more information.
bigdata@ubuntu:/tmp/a$ ls -d
.

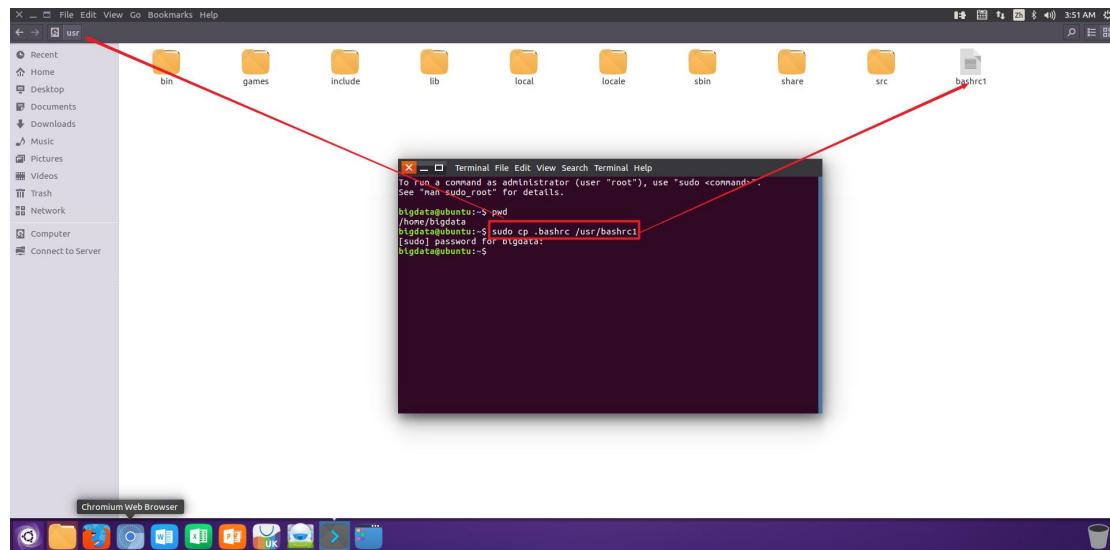
bigdata@ubuntu:/tmp/a$ 

```

5.cp 命令：复制文件或目录

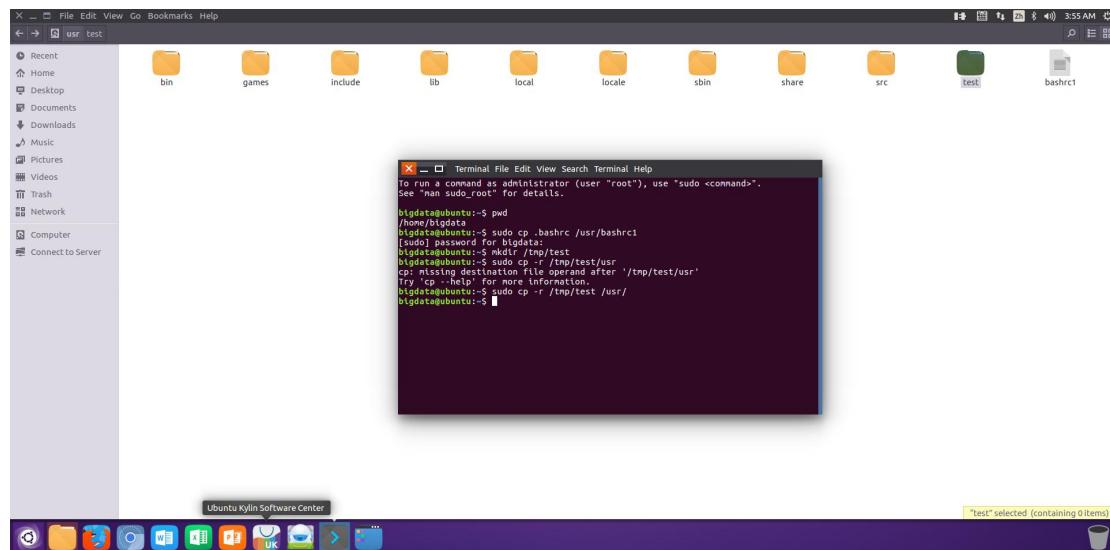
(9) 将主文件夹下的.bashrc 复制到/usr 下，命名为 bashrc1

在\$后输入: sudo cp ./bashrc /usr/bashrc1



(10) 在/tmp 下新建目录 test, 再复制这个目录内容到/usr

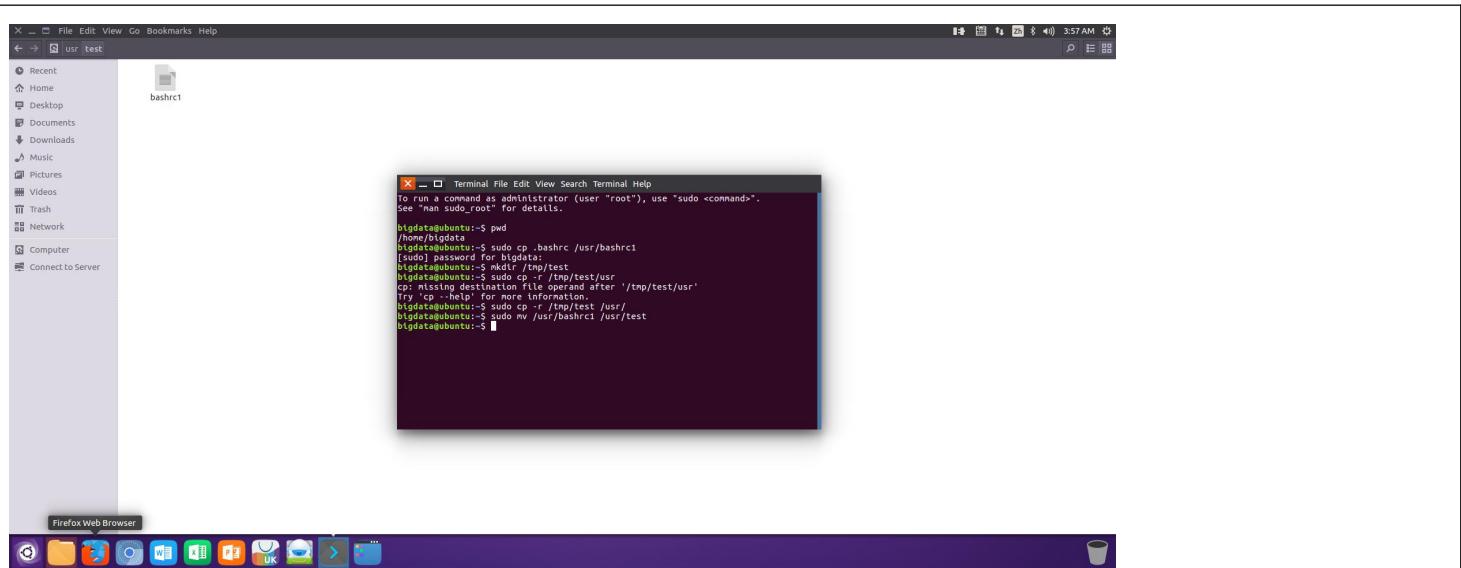
在\$后输入: mkdir /tmp/test 然后 sudo cp -r /tmp/test /usr



6.mv 命令：移动文件与目录，或更名

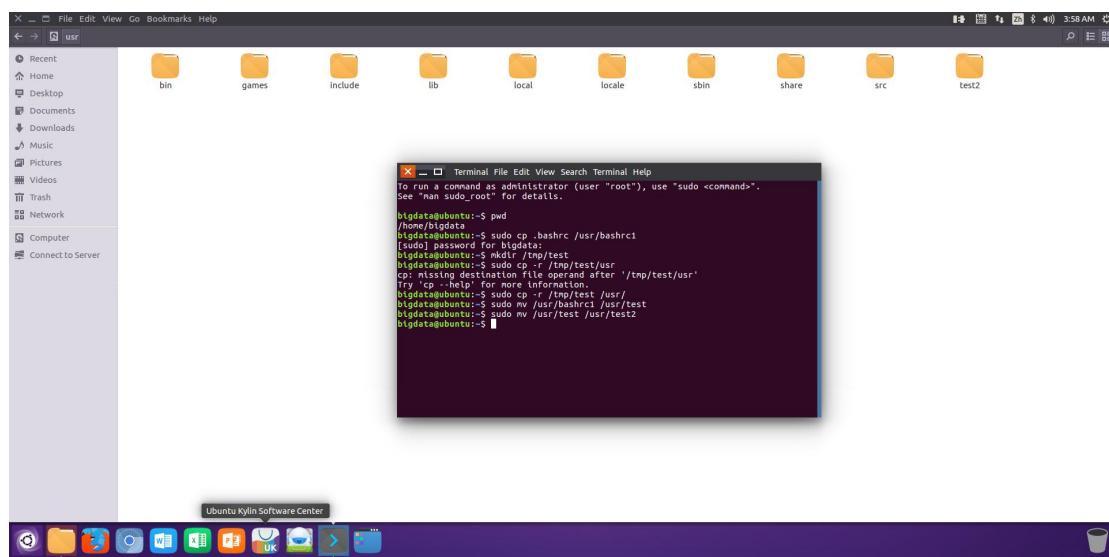
(11) 将上例文件 bashrc1 移动到目录/usr/test

在\$后输入: sudo mv /usr/bashrc1 /usr/test



(12) 将上例 test 目录重命名为 test2

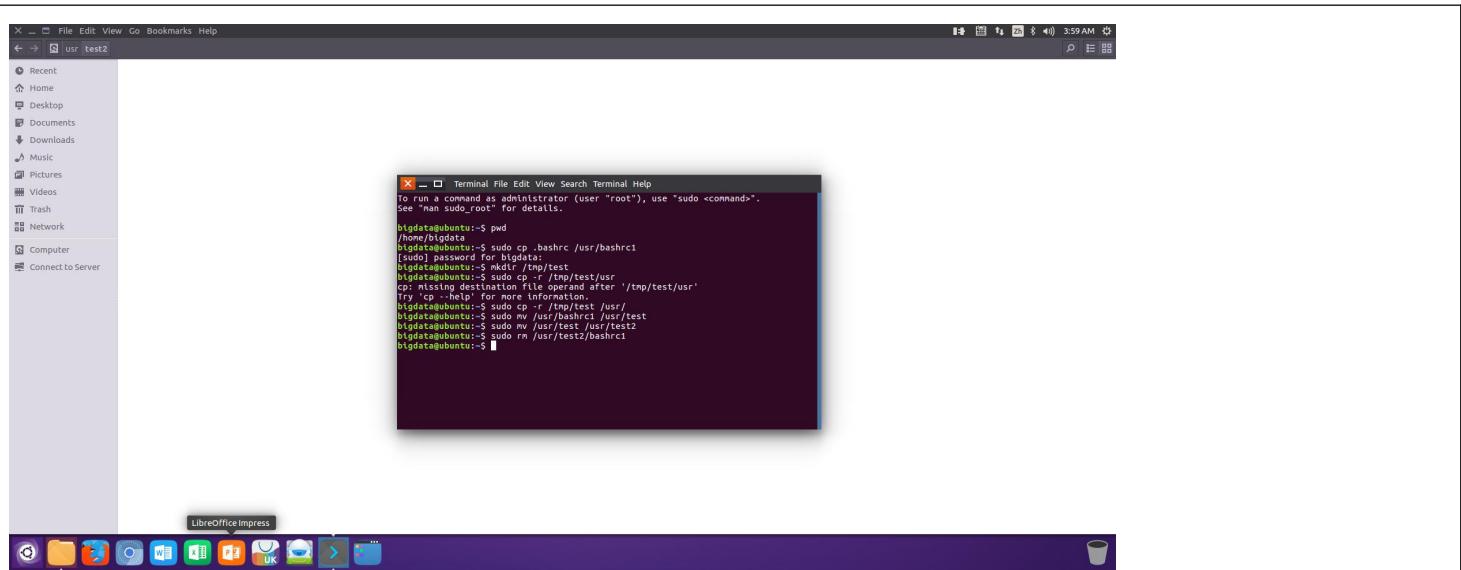
在\$后输入: sudo mv /usr/test /usr/test2



7.rm 命令：移除文件或目录

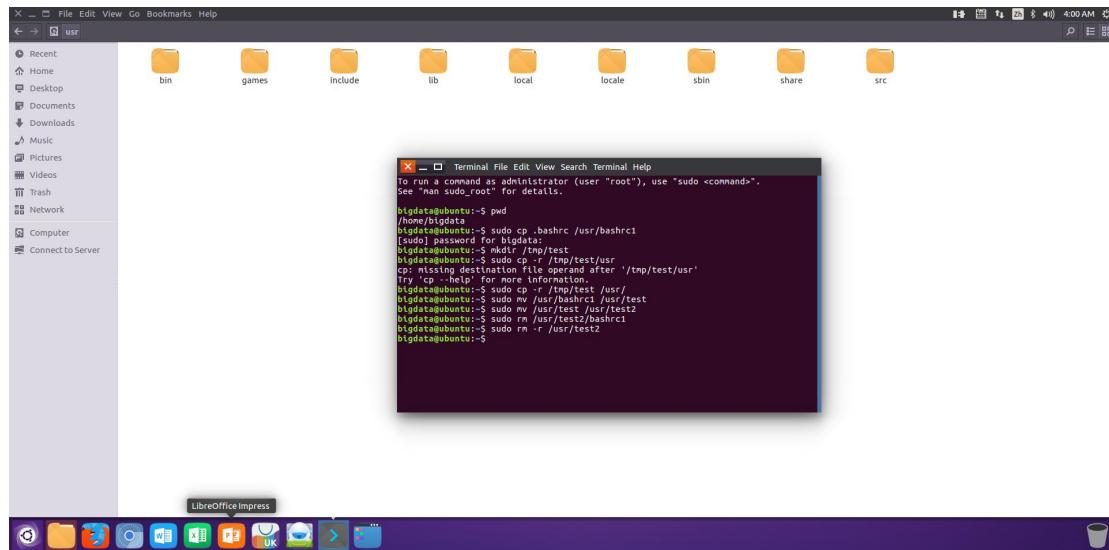
(13) 将上例复制的 bashrc1 文件删除

在\$后输入: sudo rm /usr/test2/bashrc1



(14) 将上例的 test2 目录删除

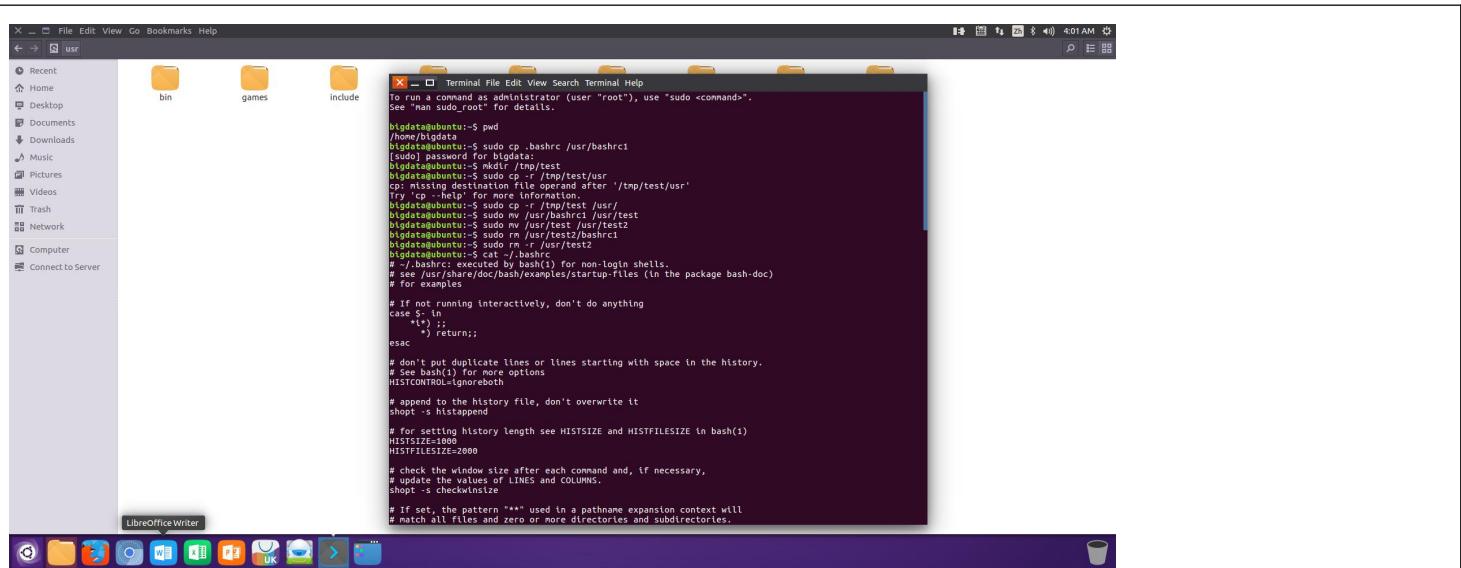
在\$后输入: sudo rm -r /usr/test2



8.cat 命令：查看文件内容

(15) 查看主文件夹下的.bashrc 文件内容

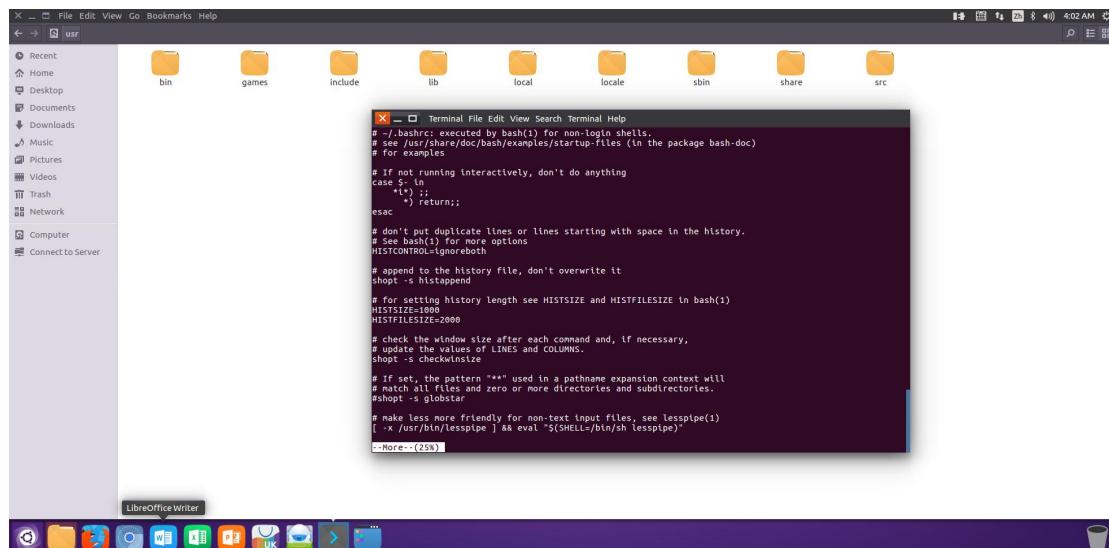
在\$后输入: cat ~/.bashrc



9.more 命令：一页一页翻动查看

(16) 翻页查看主文件夹下.bashrc 文件内容

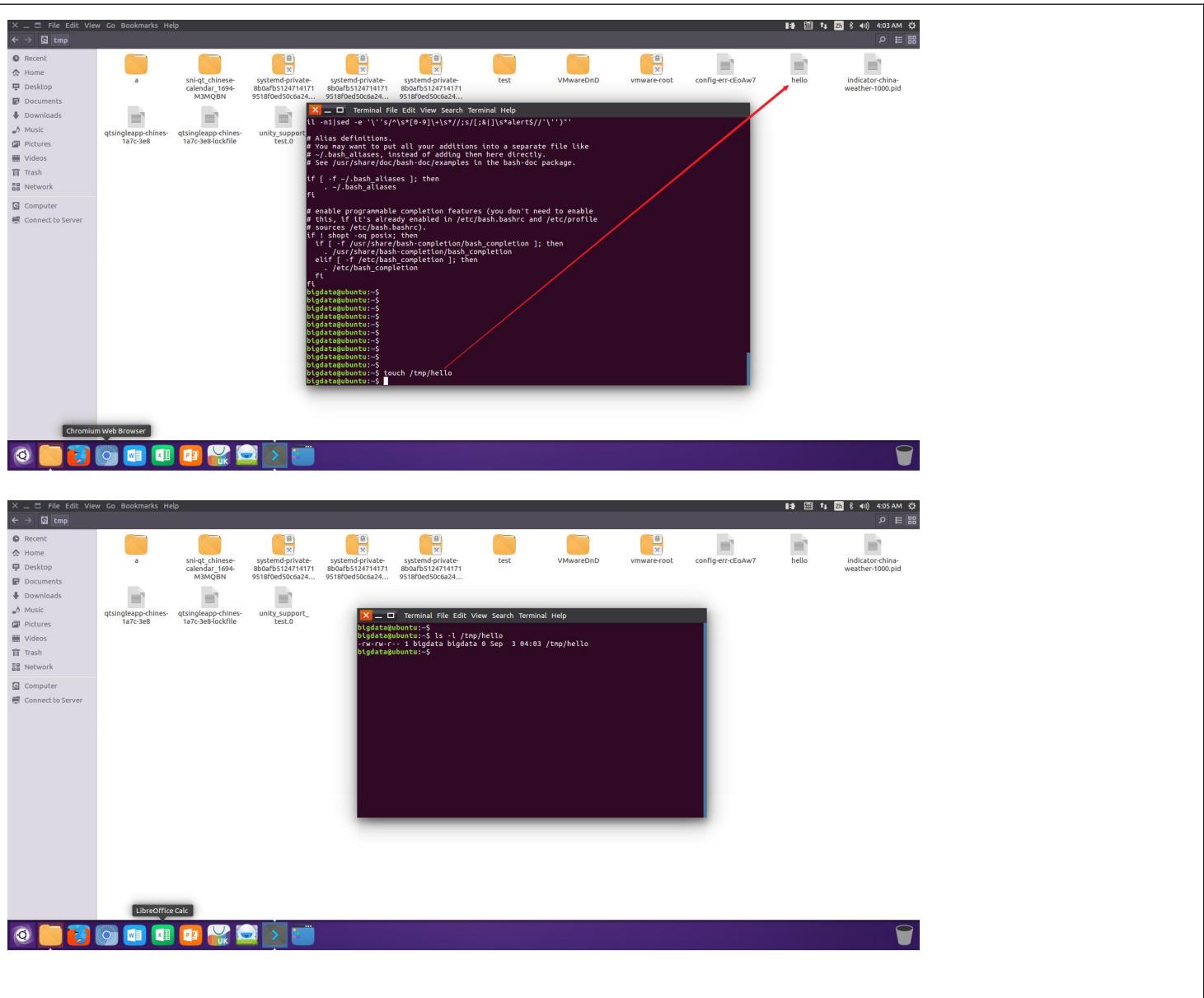
在\$后输入：more ~./.bashrc



10.touch 命令：修改文件时间或创建新文件

(17) 在/tmp 下创建一个空文件 hello 并查看时间

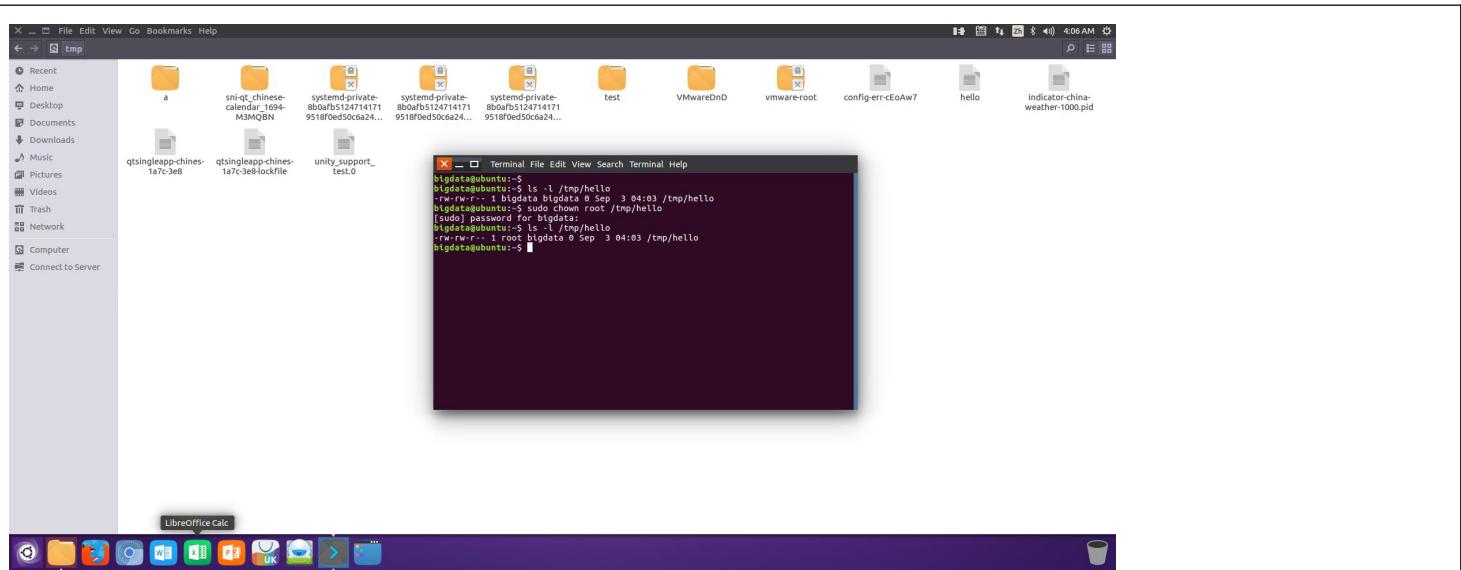
在\$后输入：先 touch /tmp/hello；再 ls -l /tmp/hello



11.chown 命令：修改文件所有者权限

(18) 将 hello 文件所有者改为 root 帐号，并查看属性

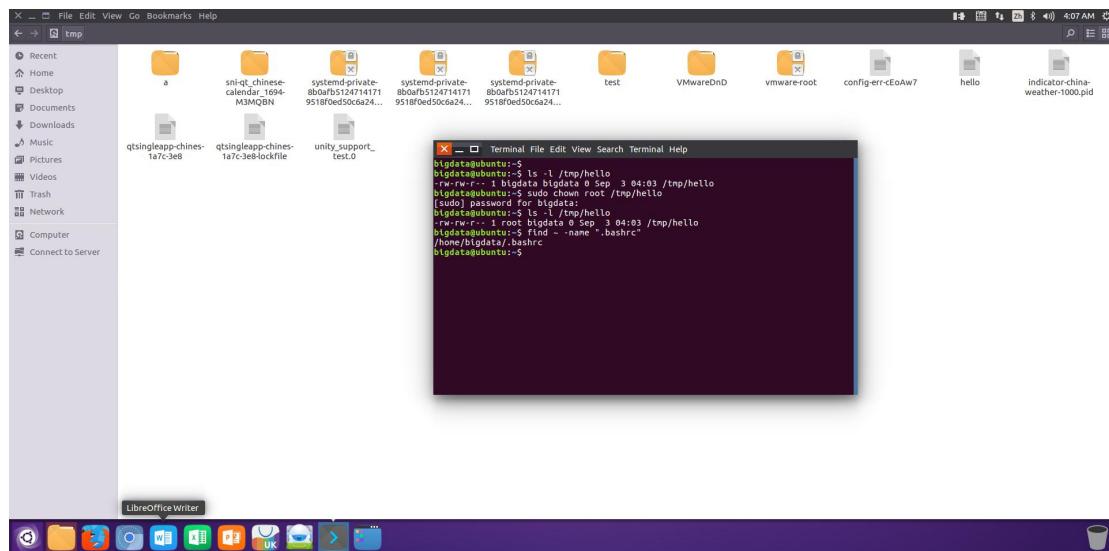
在\$后输入：先 sudo chown root /tmp/hello；再 ls -l /tmp/hello



12.find 命令：文件查找

(19) 找出主文件夹下文件名为.bashrc 的文件

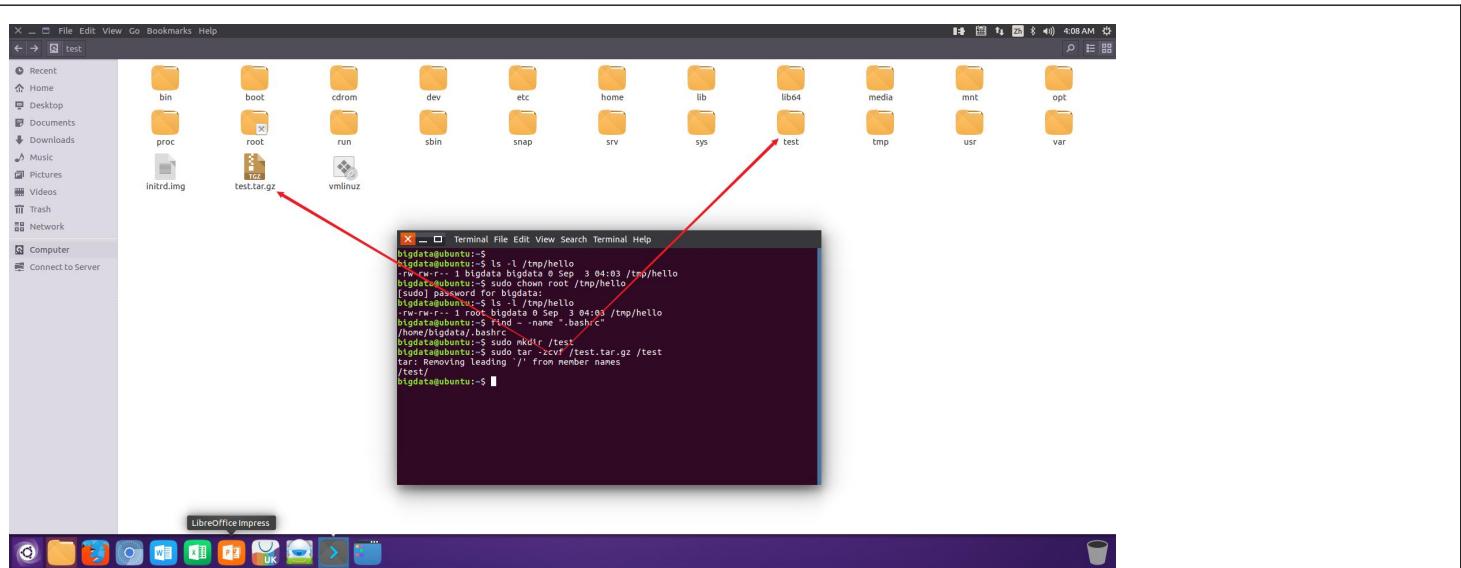
在\$后输入： find ~ -name ".bashrc"



13.tar 命令：压缩命令

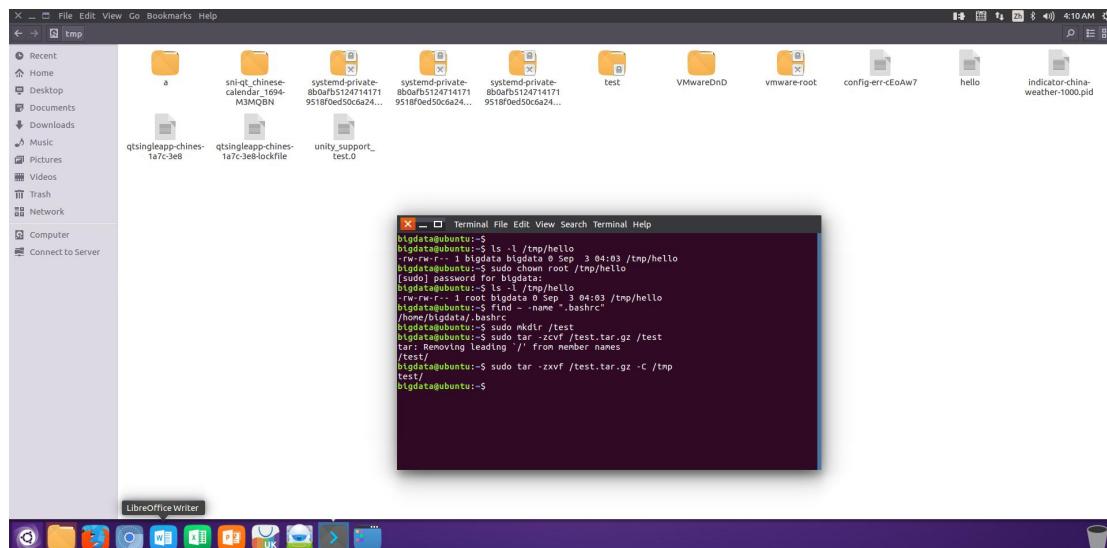
(20) 在/目录下新建文件夹 test,然后在/目录下打包成 test.tar.gz

在\$后输入：先 sudo mkdir /test; 再 sudo tar -zcvf /test.tar.gz /test



(21) 解压缩到/tmp 目录

在\$后输入: sudo tar -zxvf /test.tar.gz -C /tmp



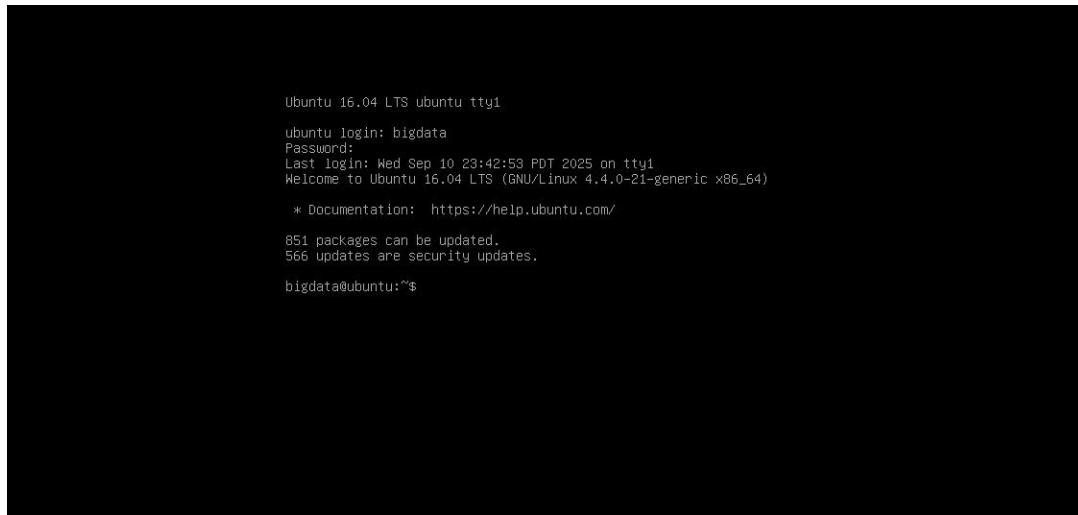
13.显示当前目录

在\$后输入: pwd

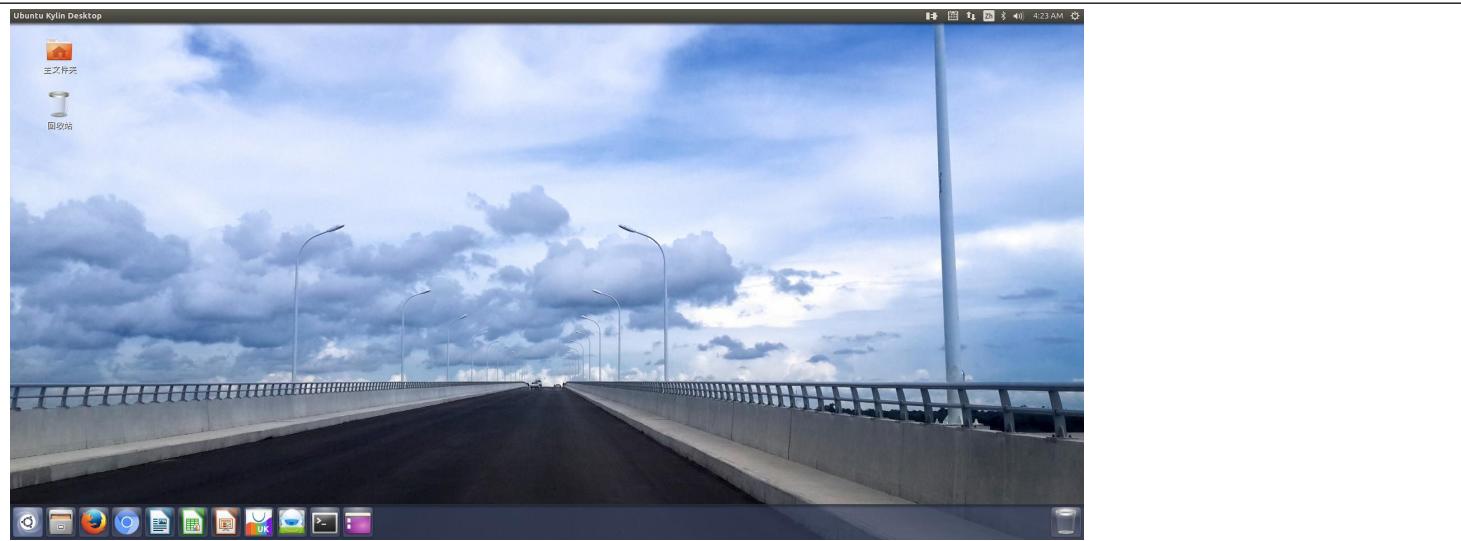
```
Terminal File Edit View Search Terminal Help
bigdata@ubuntu:~$ cat /etc/os-release
NAME="Ubuntu Kylin"
VERSION="16.04 LTS (Xenial Xerus)"
ID=ubuntu
ID_LIKE=debian
PRETTY_NAME="Ubuntu Kylin 16.04 LTS"
VERSION_ID="16.04"
HOME_URL="http://www.ubuntu.com/"
SUPPORT_URL="http://help.ubuntu.com/"
BUG_REPORT_URL="http://bugs.launchpad.net/ubuntu/"
UBUNTU_CODENAME=xenial
bigdata@ubuntu:~$ uname -a
Linux ubuntu 4.4.0-21-generic #37-Ubuntu SMP Mon Apr 18 18:33:37 UTC 2016 x86_64
x86_64 x86_64 GNU/Linux
bigdata@ubuntu:~$ ls
a.out          Desktop   Downloads  Music      Public  Templates
chinesecalendar.log  Documents lyy       Pictures  root.c  Videos
bigdata@ubuntu:~$ cd ..
bigdata@ubuntu:/home$ ls
bigdata hadoop
bigdata@ubuntu:/home$ cd bigdata
bigdata@ubuntu:~/bigdata$ pwd
/home/bigdata
bigdata@ubuntu:~/bigdata$
```

四、 图形化界面和命令行界面

Ctrl+alt+f1~f6 进入命令行界面，如下图所示



Ctrl+alt+f7 进入图形化界面，如下图所示



五、用 vi(vim)编辑文件

```
Terminal File Edit View Search Terminal Help
bigdata@ubuntu:~$ vi tmp.txt
bigdata@ubuntu:~$ cat tmp.txt
hello world!
2025/09/18/19:29

bigdata@ubuntu:~$ vi tmp.txt
bigdata@ubuntu:~$ cat tmp.txt
hello world!
2025/09/18/19:29

bigdata@ubuntu:~$
```

备注：

2025年 09月 18日

程序清单（操作步骤）

2025 年 09 月 18 日