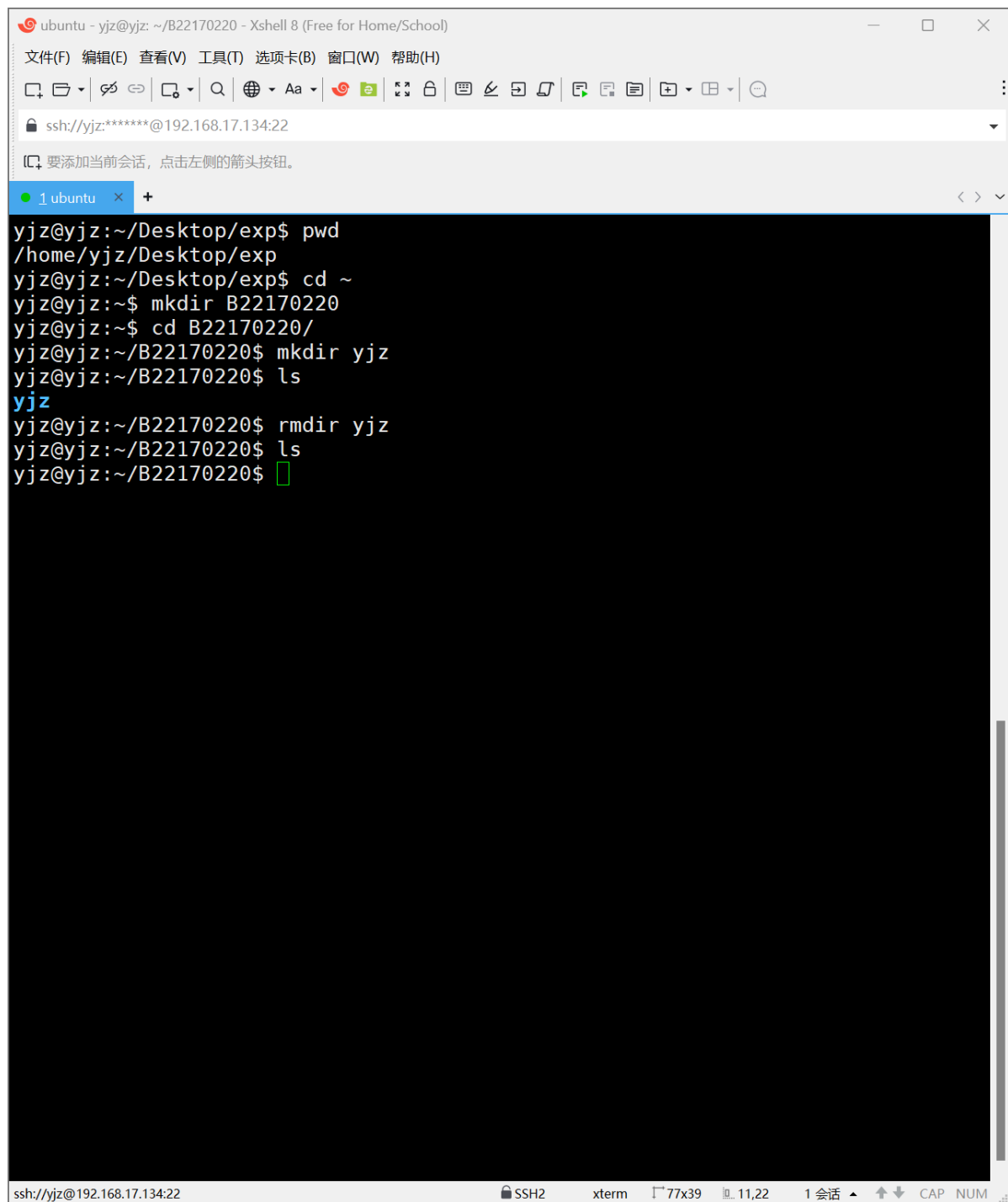


Experiment 1

(1)Directory Operation

```
$pwd
$cd ~
$mkdir B22170220
$cd B22170220
$mkdir yjz
$ls
$rmkdir yjz
$ls
```



The screenshot shows an Xshell terminal window titled "ubuntu - yjz@yjz: ~/B22170220 - Xshell 8 (Free for Home/School)". The terminal displays the following commands and output:

```
yjz@yjz:~/Desktop/exp$ pwd
/home/yjz/Desktop/exp
yjz@yjz:~/Desktop/exp$ cd ~
yjz@yjz:~$ mkdir B22170220
yjz@yjz:~$ cd B22170220/
yjz@yjz:~/B22170220$ mkdir yjz
yjz@yjz:~/B22170220$ ls
yjz
yjz@yjz:~/B22170220$ rmdir yjz
yjz@yjz:~/B22170220$ ls
yjz@yjz:~/B22170220$
```

The terminal window includes a menu bar with options like "文件(F)", "编辑(E)", "查看(V)", "工具(T)", "选项卡(B)", "窗口(W)", and "帮助(H)". It also features a toolbar with various icons for file operations and a status bar at the bottom showing "SSH2", "xterm", "77x39", "11,22", "1 会话", and "CAP NUM".

(2)File operation

```
$cd ~
$touch yjz.txt
$ls
$echo "hello world" > yjz.txt
$cat yjz.txt
$cp yjz.txt yjz2.txt
$mv yjz.txt yjzB22170220.txt
$ls
```

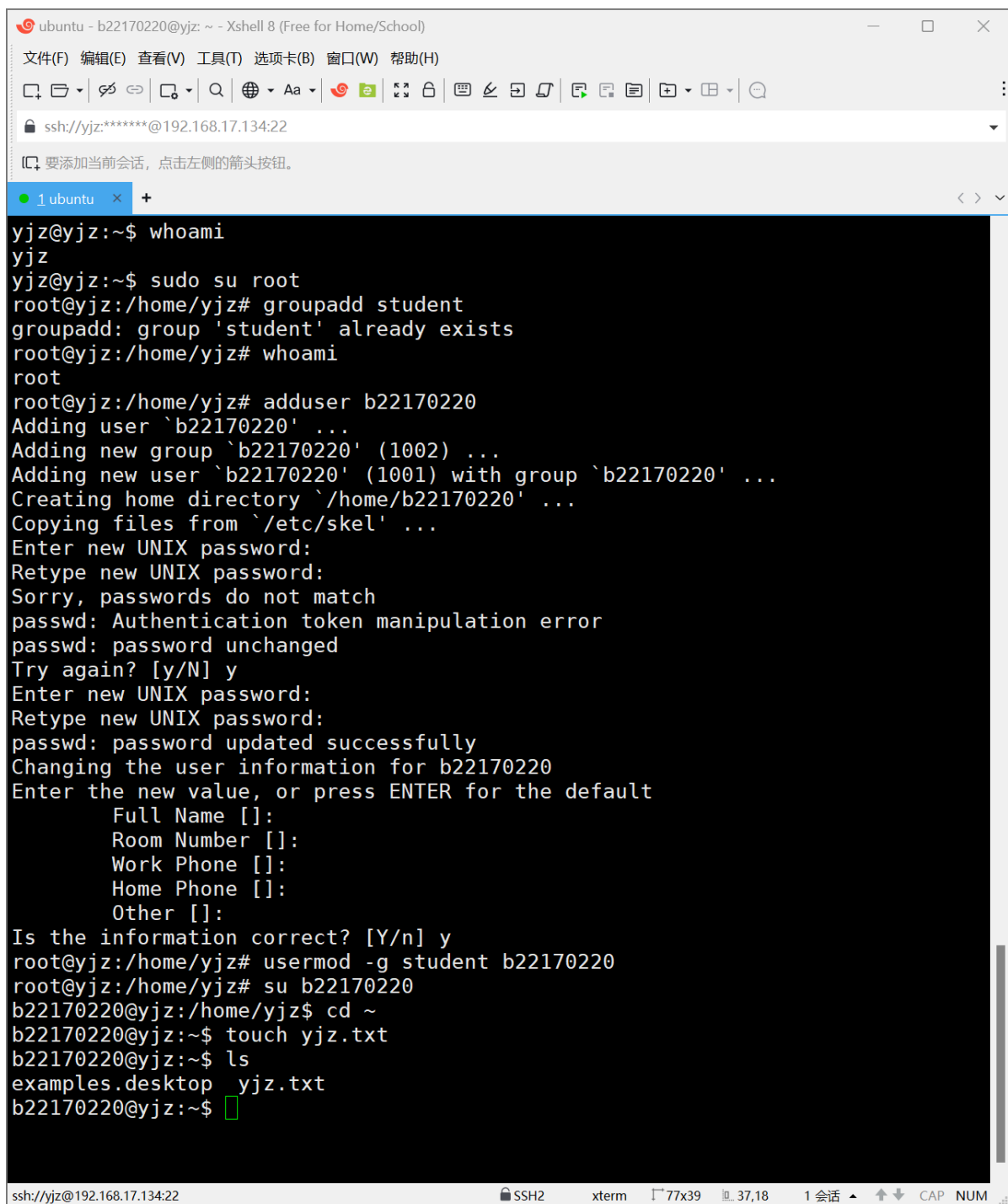
```
yjz@yjz:~/B22170220$ cd ~
yjz@yjz:~$ touch yjz.txt
yjz@yjz:~$ ls
B22170220  Documents  examples.desktop  ngrok  Pictures  Templates  yjz.txt
Desktop    Downloads  Music             notes   Public    Videos
yjz@yjz:~$ echo "hello world" > yjz.txt
yjz@yjz:~$ cat yjz.txt
hello world
yjz@yjz:~$ cp yjz.txt yjz2.txt
yjz@yjz:~$ mv yjz.txt yjzB22170220.txt
yjz@yjz:~$ ls
B22170220  Downloads  ngrok  Public  yjz2.txt
Desktop    examples.desktop  notes   Templates  yjzB22170220.txt
Documents  Music          Pictures Videos
yjz@yjz:~$ █
```

(3)User Management

```
$whoami
$sudo su root
```

```
#groupadd student
#whoami
#adduser yourstudentID
#usermod -g student yourstudentID

#su yourstudentID
$cd ~
$touch yourname.txt
$ls -l
```



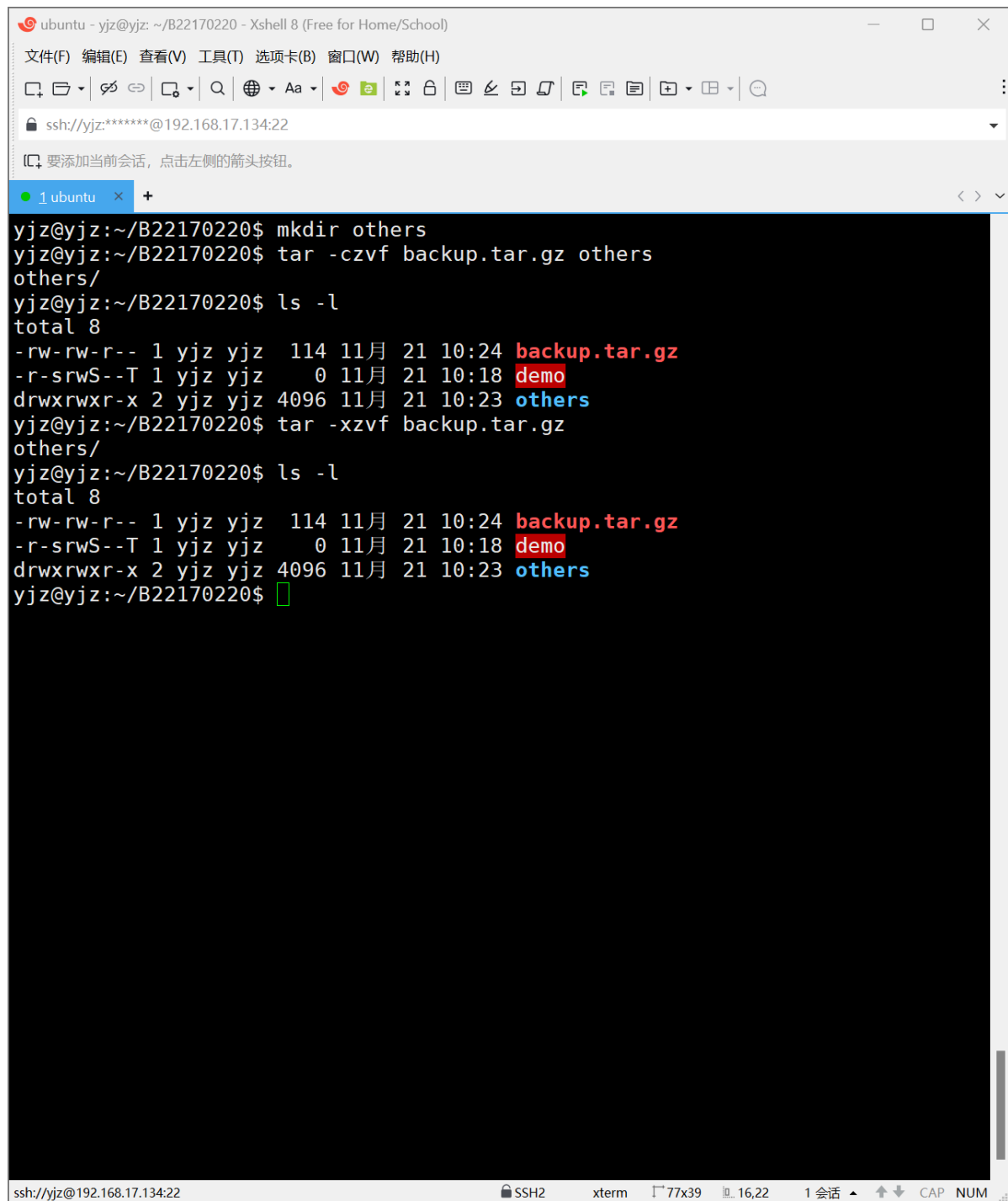
```
ubuntu - b22170220@yjj: ~ - Xshell 8 (Free for Home/School)
文件(F) 编辑(E) 查看(V) 工具(T) 选项卡(B) 窗口(W) 帮助(H)
ssh://yjj:*****@192.168.17.134:22
要添加当前会话，点击左侧的箭头按钮。
1 ubuntu x +
yjj@yjj:~$ whoami
yjj
yjj@yjj:~$ sudo su root
root@yjj:/home/yjj# groupadd student
groupadd: group 'student' already exists
root@yjj:/home/yjj# whoami
root
root@yjj:/home/yjj# adduser b22170220
Adding user `b22170220' ...
Adding new group `b22170220' (1002) ...
Adding new user `b22170220' (1001) with group `b22170220' ...
Creating home directory `/home/b22170220' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
Sorry, passwords do not match
passwd: Authentication token manipulation error
passwd: password unchanged
Try again? [y/N] y
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for b22170220
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] y
root@yjj:/home/yjj# usermod -g student b22170220
root@yjj:/home/yjj# su b22170220
b22170220@yjj:/home/yjj$ cd ~
b22170220@yjj:~$ touch yjj.txt
b22170220@yjj:~$ ls
examples.desktop  yjj.txt
b22170220@yjj:~$
```

(4)Permission management

```
$ touch demo
$ chmod 777 demo
$ chmod a-x demo # result is rw-rw-rw-
$ chmod go-w demo # result is rw-r--r--
$ chmod g+w demo # result is rw-rw-r--
$ chmod a= demo # result is -----
$ chmod +t demo # result is -----T
$ chmod u+s demo # result is --S-----T
$ chmod u+rx demo # result is r-s-----T
$ chmod g+rws demo # result is r-srws--T
```

```
ubuntu - yjz@yjz: ~/B22170220 - Xshell 8 (Free for Home/School)
文件(F) 编辑(E) 查看(V) 工具(T) 选项卡(B) 窗口(W) 帮助(H)
ssh://yjz:*****@192.168.17.134:22
要添加当前会话，点击左侧的箭头按钮。
1 ubuntu x +
yjz@yjz:~/B22170220$ touch demo
yjz@yjz:~/B22170220$ chmod 777 demo
yjz@yjz:~/B22170220$ ls -l
total 0
-rwxrwxrwx 1 yjz yjz 0 11月 21 10:18 demo
yjz@yjz:~/B22170220$ chmod a-x demo
yjz@yjz:~/B22170220$ ls -l
total 0
-rw-rw-rw- 1 yjz yjz 0 11月 21 10:18 demo
yjz@yjz:~/B22170220$ chmod go-w demo
yjz@yjz:~/B22170220$ ls -l
total 0
-rw-r--r-- 1 yjz yjz 0 11月 21 10:18 demo
yjz@yjz:~/B22170220$ chmod g+w demo
yjz@yjz:~/B22170220$ ls -l
total 0
-rw-rw-r-- 1 yjz yjz 0 11月 21 10:18 demo
yjz@yjz:~/B22170220$ chmod a= demo
yjz@yjz:~/B22170220$ ls -l
total 0
----- 1 yjz yjz 0 11月 21 10:18 demo
yjz@yjz:~/B22170220$ chmod +t demo
yjz@yjz:~/B22170220$ ls -l
total 0
-----T 1 yjz yjz 0 11月 21 10:18 demo
yjz@yjz:~/B22170220$ chmod u+s demo
yjz@yjz:~/B22170220$ ls-l
ls-l: command not found
yjz@yjz:~/B22170220$ ls -l
total 0
---S-----T 1 yjz yjz 0 11月 21 10:18 demo
yjz@yjz:~/B22170220$ chmod u+rx demo
yjz@yjz:~/B22170220$ ls -l
total 0
-r-s-----T 1 yjz yjz 0 11月 21 10:18 demo
yjz@yjz:~/B22170220$ chmod g+rws demo
yjz@yjz:~/B22170220$ ls -l
total 0
-r-srwS--T 1 yjz yjz 0 11月 21 10:18 demo
```

(5)Other management



The screenshot shows an Xshell terminal window titled "ubuntu - yjz@yjz: ~/B22170220 - Xshell 8 (Free for Home/School)". The terminal displays the following commands and output:

```
yjz@yjz:~/B22170220$ mkdir others
yjz@yjz:~/B22170220$ tar -czvf backup.tar.gz others
others/
yjz@yjz:~/B22170220$ ls -l
total 8
-rw-rw-r-- 1 yjz yjz 114 11月 21 10:24 backup.tar.gz
-r-srwS--T 1 yjz yjz 0 11月 21 10:18 demo
drwxrwxr-x 2 yjz yjz 4096 11月 21 10:23 others
yjz@yjz:~/B22170220$ tar -xzvf backup.tar.gz
others/
yjz@yjz:~/B22170220$ ls -l
total 8
-rw-rw-r-- 1 yjz yjz 114 11月 21 10:24 backup.tar.gz
-r-srwS--T 1 yjz yjz 0 11月 21 10:18 demo
drwxrwxr-x 2 yjz yjz 4096 11月 21 10:23 others
yjz@yjz:~/B22170220$
```

The terminal window includes a menu bar with options like "文件(F)", "编辑(E)", "查看(V)", "工具(T)", "选项卡(B)", "窗口(W)", and "帮助(H)". A toolbar with various icons is located below the menu. The status bar at the bottom shows "ssh://yjz@192.168.17.134:22", "SSH2", "xterm", "77x39", "16,22", "1 会话", and "CAP NUM".

ubuntu - yjz@yjz: ~/B22170220 - Xshell 8 (Free for Home/School)

文件(F) 编辑(E) 查看(V) 工具(T) 选项卡(B) 窗口(W) 帮助(H)

ssh://yjz:*****@192.168.17.134:22

要添加当前会话，点击左侧的箭头按钮。

1 ubuntu x +

```
1 no, I study in njupt.  
2 this line ends with 00  
3 this line ends with .00  
4 I am 25 years old.  
5 He is 15. It is 16.00  
6 wy is the short of my name.
```

yjz.txt [+]

6,27

All

ssh://yjz@192.168.17.134:22

SSH2

xterm

77x39

6,31

1 会话

CAP

NUM

ubuntu - yjz@yjz: ~/B22170220 - Xshell 8 (Free for Home/School)

文件(F) 编辑(E) 查看(V) 工具(T) 选项卡(B) 窗口(W) 帮助(H)

ssh://yjz:*****@192.168.17.134:22

要添加当前会话，点击左侧的箭头按钮。

1 ubuntu x +

```
yjz@yjz:~/B22170220$ vim yjz.txt
yjz@yjz:~/B22170220$ grep '^n' yjz.txt
no, I study in njupt.
yjz@yjz:~/B22170220$ grep '\.00$' yjz.txt
this line ends with .00
He is 15. It is 16.00
yjz@yjz:~/B22170220$ grep '5\..' yjz.txt
He is 15. It is 16.00
yjz@yjz:~/B22170220$ grep '^[wy]' yjz.txt
wy is the short of my name.
yjz@yjz:~/B22170220$
```

ssh://yjz@192.168.17.134:22 SSH2 xterm 77x39 11.22 1 会话 CAP NUM