

5.Common commands and vim editor

1. Linux common commands

1.Check operating system version

```
cat /proc/version
```

2.Check Raspberry Pi board version

```
cat /proc/cpuinfo
```

3.Check the remaining space on the TF card

```
df -h
```

4.View IP address

```
ifconfig
```

5.Compression

```
tar -zcvf filename.tar.gz dirname
```

6.Unzip

```
tar -zxvf filename.tar.gz
```

7.Linux systems commonly use the apt (Advanced Package Tool) advanced software tool to install software.

```
sudo apt-get install
```

xxx installs the software.

```
sudo apt-get update
```

Updates the software list.

```
sudo apt-get upgrade
```

Updates installed software.

```
sudo apt-get remove xxx
```

Delete software.

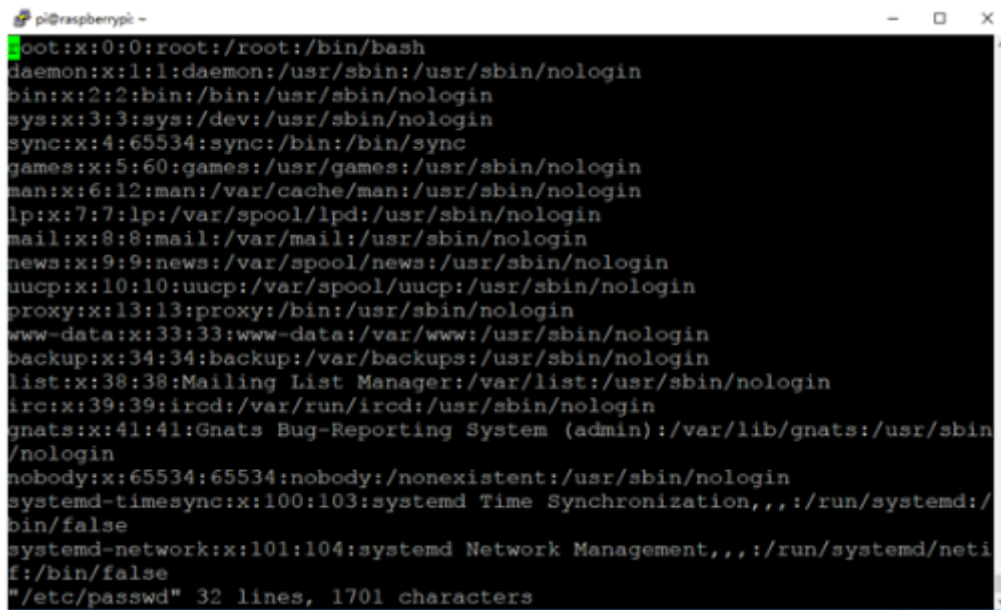
2. Vim editor and its configuration

Input following command to update index source.

```
sudo apt-get update
```

Install vim editor

```
sudo apt-get install vim
```



```
pi@raspberrypi ~  
root:x:0:0:root:/root:/bin/bash  
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin  
bin:x:2:2:bin:/bin:/usr/sbin/nologin  
sys:x:3:3:sys:/dev:/usr/sbin/nologin  
sync:x:4:65534:sync:/bin:/bin/sync  
games:x:5:60:games:/usr/games:/usr/sbin/nologin  
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin  
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin  
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin  
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin  
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin  
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin  
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin  
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin  
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin  
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin  
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin  
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin  
systemd-timesync:x:100:103:systemd Time Synchronization,,,:/run/systemd:/bin/false  
systemd-network:x:101:104:systemd Network Management,,,:/run/systemd/netif:/bin/false  
"/etc/passwd" 32 lines, 1701 characters
```

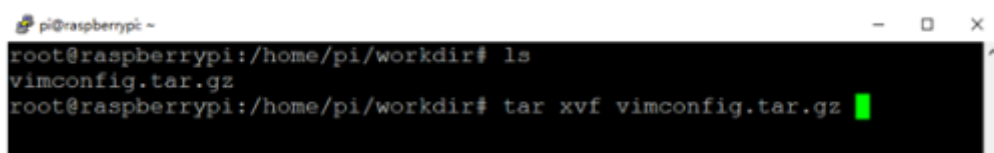
We use the SSH Secure File Transfer tool to transfer files between Windows and Raspberry Pi files across systems.

Transfer the vimconfig.tar.gz file in the **Tools and System Image Required for Building Development Environment** directory to the file on the Raspberry Pi system through the SSH Secure File Transfer tool.

Enter in command line mode

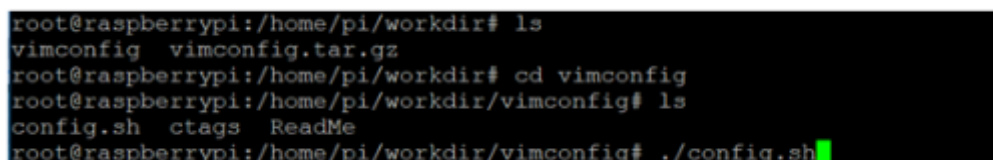
Extract the compressed package.

```
tar xvf vimconfig.tar.gz
```



```
pi@raspberrypi ~  
root@raspberrypi:/home/pi/workdir# ls  
vimconfig.tar.gz  
root@raspberrypi:/home/pi/workdir# tar xvf vimconfig.tar.gz
```

Enter the vimconfig directory and run the config.sh script.



```
root@raspberrypi:/home/pi/workdir# ls  
vimconfig vimconfig.tar.gz  
root@raspberrypi:/home/pi/workdir# cd vimconfig  
root@raspberrypi:/home/pi/workdir/vimconfig# ls  
config.sh ctags ReadMe  
root@raspberrypi:/home/pi/workdir/vimconfig# ./config.sh
```

If the following error occurs

```

root@raspberrypi:/home/pi/workdir/vimconfig# ./config.sh
Bakup your vimconfig file...
cp: cannot stat '/root/.vim': No such file or directory
cp: cannot stat '/root/.vimrc': No such file or directory
Config your vim now !
Make tags in /usr/include
/bin/ctags: 1: /bin/ctags: Syntax error: word unexpected (expecting "
)")
root@raspberrypi:/home/pi/workdir/vimconfig# touch /root/.vim /root/.vimrc

```

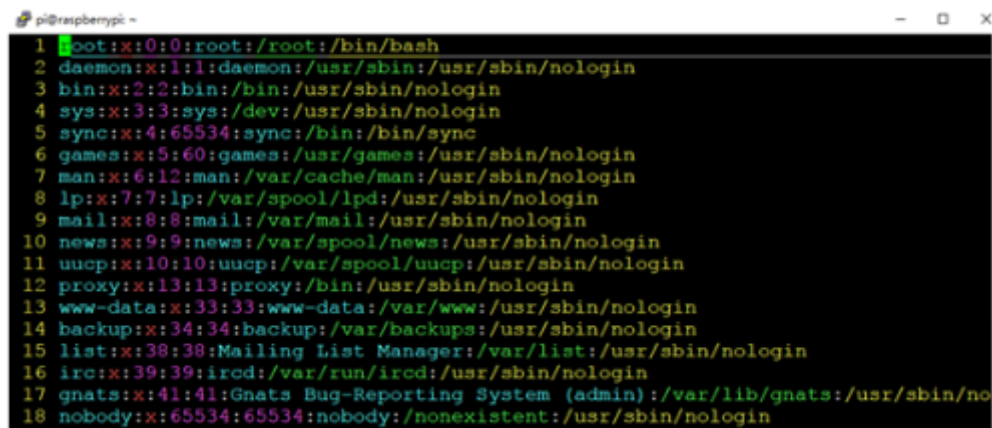
We only need to create new .vim and .vimrc files in the /root/ directory and enter the apt-get install ctags command

```

root@raspberrypi:/home/pi/workdir/vimconfig# apt-get install ctags

```

Configured vim editor:



```

pi@raspberrypi ~
1 root:x:0:0:root:/root:/bin/bash
2 daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
3 bin:x:2:2:bin:/usr/sbin/nologin
4 sys:x:3:3:sys:/dev:/usr/sbin/nologin
5 sync:x:4:65534:sync:/bin:/bin/sync
6 games:x:5:60:games:/usr/games:/usr/sbin/nologin
7 man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
8 lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
9 mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
10 news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
11 uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
12 proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
13 www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
14 backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
15 list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
16 irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
17 gnats:x:41:41:Gnats Bug-Reporting System (admin)/var/lib/gnats:/usr/sbin/no
18 nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin

```

vi has three modes: insert mode, command mode, and low-line mode.

Insert mode: In this mode, characters can be entered, and pressing ESC will return to command mode.

Command mode: You can move the cursor, delete characters, etc.

Low-line mode: You can save files, exit vi, set vi, search and other functions (low-line mode can also be regarded as the command mode)

Open files, save, close files (used in vi command mode)

vi filename //Open the filename file

:w //Save file

:q //Exit the editor. If the file has been modified, please use the following command

:q! //Exit the editor without saving

:wq //Exit the editor and save the file

Insert text or lines

a //Add text to the right of the current cursor position

i //Add text to the left of the current cursor position

- A //Add text to the end of the current line
- I //Add text at the beginning of the current line (beginning of line with non-null characters)
- O //Create a new line above the current line
- o //Create a new row below the current row
- R //Replace (cover) the current cursor position and some text behind it
- J //Merge the line where the cursor is and the next line into one line (still in command mode)

Delete and restore characters or lines (used in vi command mode)

- x //Delete current character
- nx //Delete n characters starting from the cursor
- dd //Delete current row
- ndd //Delete n lines downwards including the current line
- u //Undo the previous action
- U //Undo all operations on the current row

Copy and paste (used in vi command mode)

- yy //Copy the current line to the cache
- nyy //Copies the current line n lines down to the buffer
- yw //Copy characters from the cursor to the end of the word
- nyw //Copy n words starting from the cursor
- y^ //Copy content from cursor to beginning of line
- y\$ //Copy content from cursor to end of line
- p //Paste the contents of the clipboard after the cursor
- P //Paste the contents of the clipboard in front of the cursor

Set line number (used in vi command mode)

- :set nu //Show line number
- :set nonu //Suppress display of line numbers