

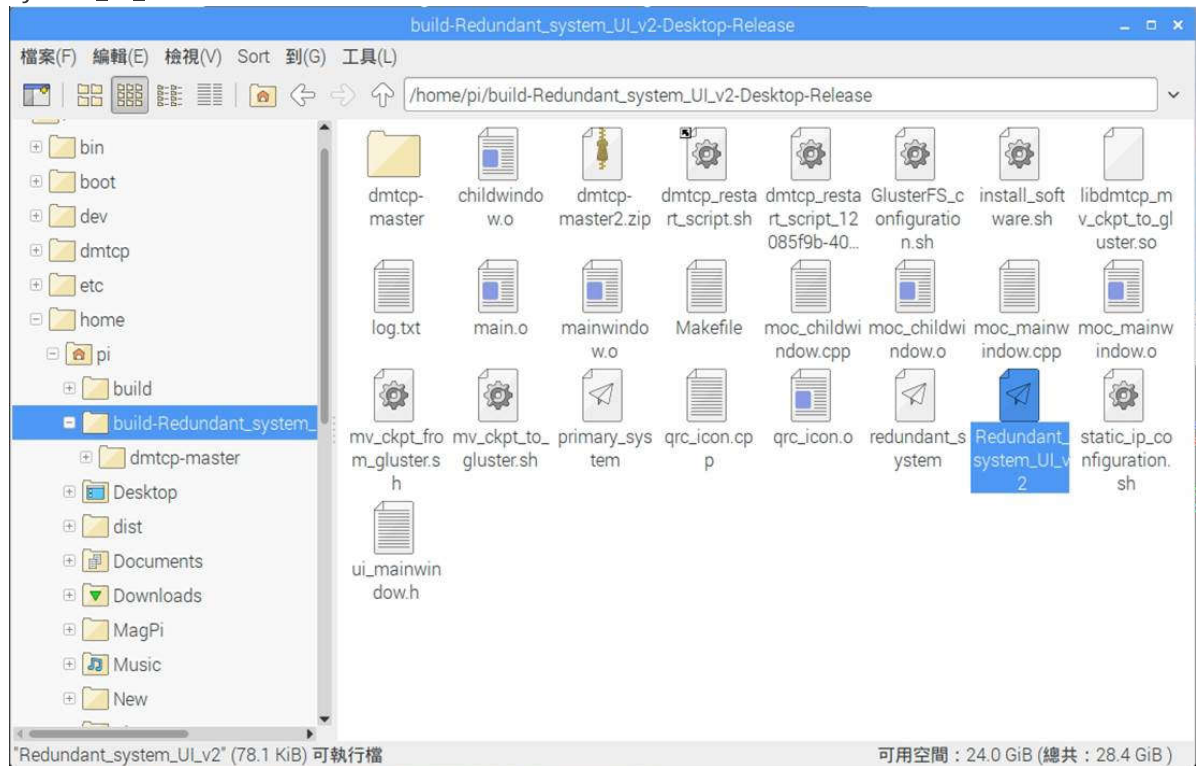
1. Preparation

(1-1) First prepare two Raspberry Pi EVBs and two SD cards.

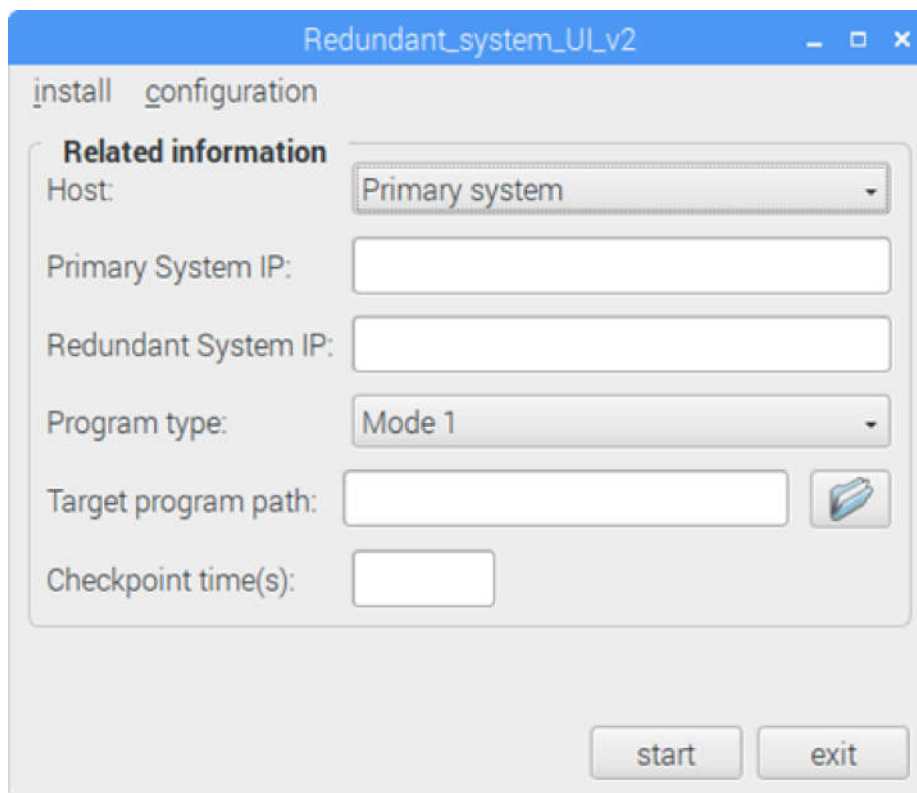
(1-2) Install the Raspbian operating system on the SD card. The version we have tested is 2018-11-13-raspbian-stretch.

(1-3) Unzip the compressed file "build-Redundant_system_UI_v2-Desktop-Release.zip".

(1-4) Enter the folder "build-Redundant_system_UI_v2-Desktop-Release" and click Redundant_system_UI_v2 to execute.

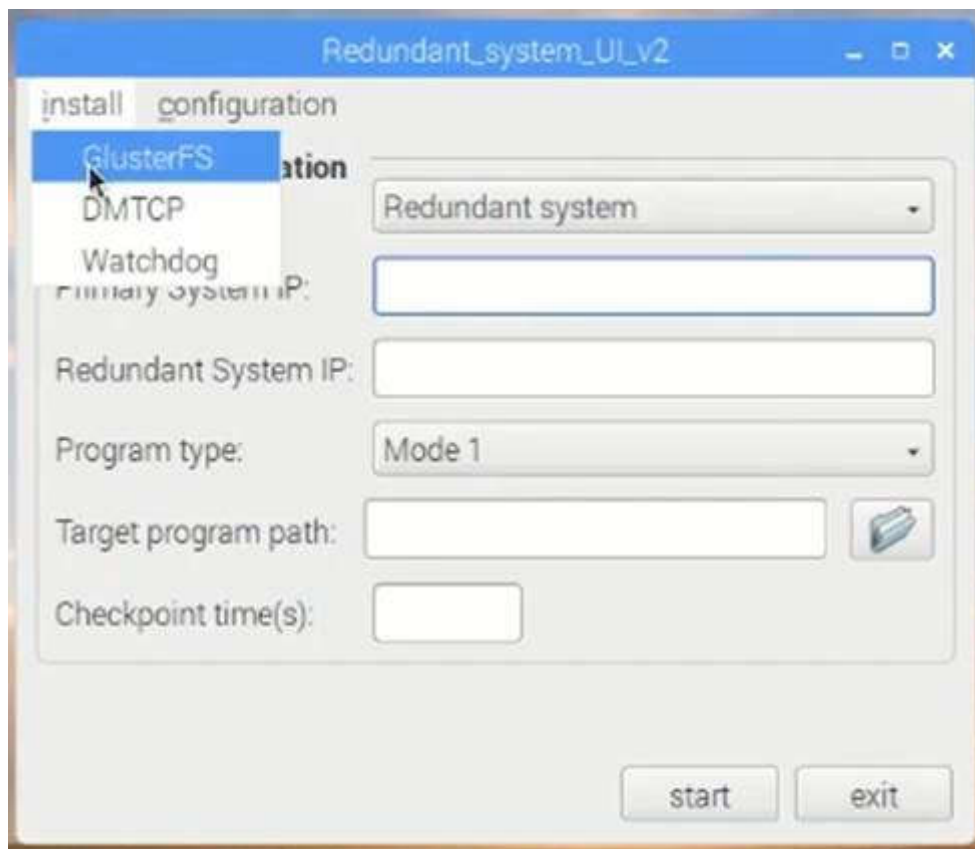


(1-5) You will see the following window.



2. Installation of related software

(2-1) First click install to install GlusterFS, DMTCP, and Watchdog respectively. It will take some time to install DMTCP. The screenshot is shown in the figure below.



(2-2) Click configuration to set the environment: static IP and GlusterFS.

Redundant_system_UI_v2

install configuration


Related information

Host: Static IP
GlusterFS Primary system

Primary System IP:

Redundant System IP:

Program type: Mode 1

Target program path: 

Checkpoint time(s):

start exit

Redundant_system_UI_v2

install configuration


Related information

Host: Primary system

Primary System IP:

Redundant System IP:


Program type: Mode 1


Target program path: 


Checkpoint time(s):


start exit


Setting static ip...


IP: 10.0.0.6 

Gateway: 10.0.0.1 

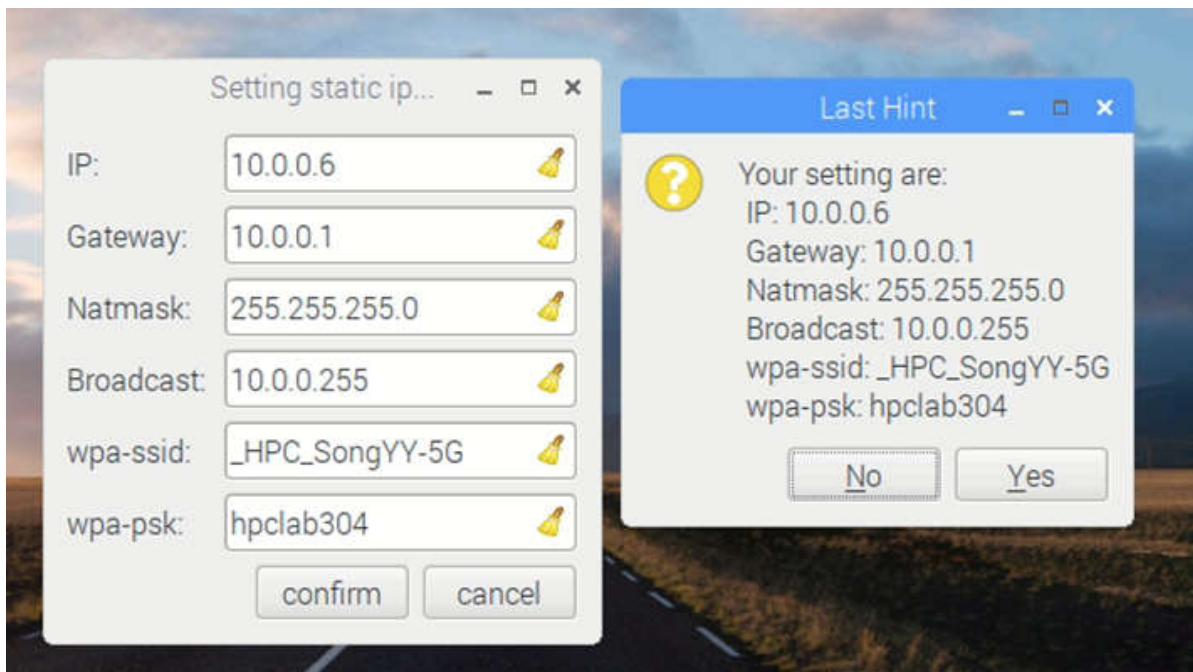
Netmask: 255.255.255.0 

Broadcast: 10.0.0.255 

wpa-ssid: _HPC_SongYY-5G 

wpa-psk: hpclab304 

confirm cancel



NOTE: Remember to reboot after setting.

```

bash
檔案(F) 編輯(E) 分頁(T) 說明(H)
setting static ip...
your setting are:
# interfaces(5) file used by ifup(8) and ifdown(8)

# Please note that this file is written to be used with dhcpcd
# For static IP, consult /etc/dhcpcd.conf and 'man dhcpcd.conf'

# Include files from /etc/network/interfaces.d:
source-directory /etc/network/interfaces.d

auto lo
iface lo inet loopback
iface eth0 inet dhcp

allow-hotplug wlan0
iface wlan0 inet static
address 10.0.0.6
gateway 10.0.0.1
netmask 255.255.255.0
broadcast 10.0.0.255
wpa-ssid "_HPC_SongYY-5G"
wpa-psk "hpclab304"
setting finished...
[ ok ] Restarting networking (via systemctl): networking.service.
Please reboot your raspberrypi...

```

After rebooting, check whether the IP has been changed successfully

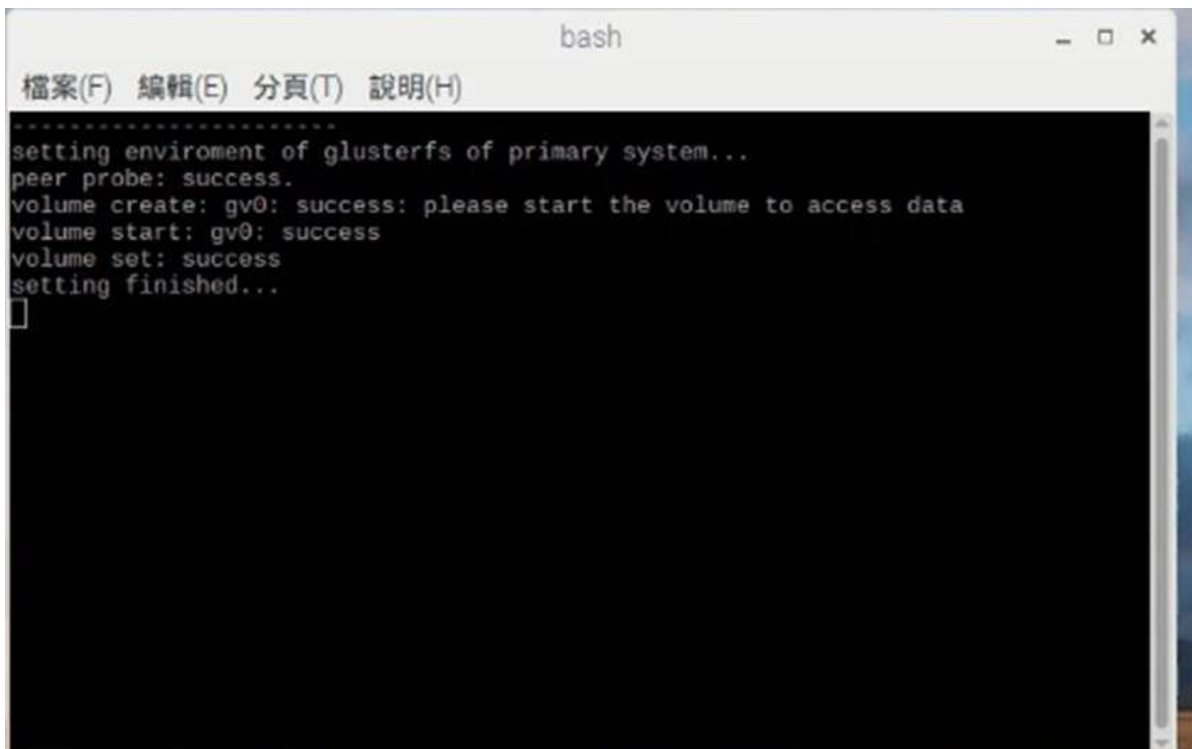
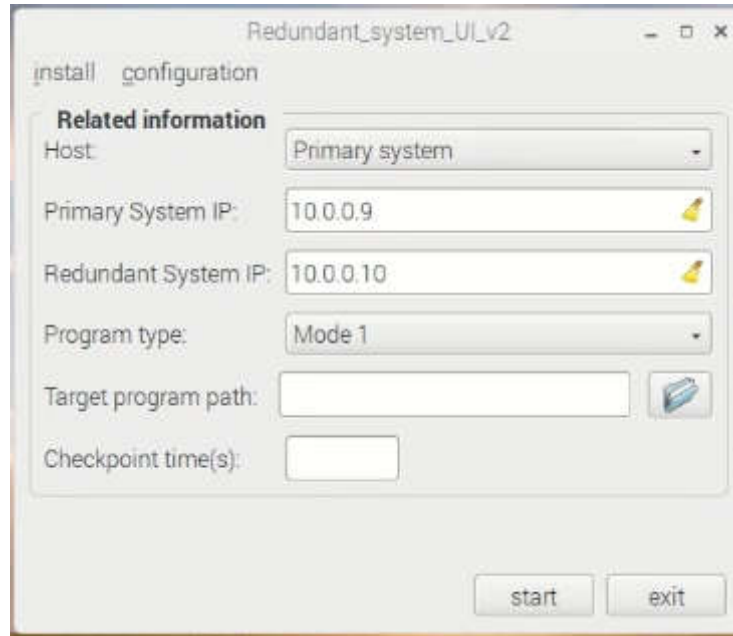
NOTE: Both Raspberry Pi EVBs must be installed software and set static IP.

3. Configuration of GlusterFS

(3-1) Choose which Raspberry Pi to use as the primary system.

(3-2) Select the primary system in the "Host" field, and fill the primary system IP and redundant system IP, and then click configuration->GlusterFS. The operations are similar in the redundant system.

NOTE: You should set the primary system first and then set the redundant system.



Use the "sudo gluster volume info command" to check whether the gluster setting is successful.

```
pi@raspberrypi-active:/ $ sudo gluster volume info
```

```
Volume Name: gv0  
Type: Replicate  
Volume ID: 168eae8d-0674-413b-8320-30e97c23ce05  
Status: Started  
Snapshot Count: 0  
Number of Bricks: 1 x 2 = 2  
Transport-type: tcp  
Bricks:  
Brick1: 10.0.0.17:/srv/gv0  
Brick2: 10.0.0.18:/srv/gv0  
Options Reconfigured:  
transport.address-family: inet  
performance.readdir-ahead: on  
nfs.disable: on  
pi@raspberrypi-active:/ $ █
```

4. Mode selection

(4-1) According to program property, select Mode-1 or Mode-2 in the field "Program type".

(4-2) Fill target program path that is supposed to be executed.

(4-3) The "checkpoint time" field is the time interval to execute a checkpointing.

NOTE: For the redundant system In Mode-2, you do not need to fill the target program path and checkpoint time

Redundant_system_UI_v2

install configuration

Related information

Host: Primary system

Primary System IP: 10.0.0.9

Redundant System IP: 10.0.0.10

Program type: Mode 2

Target program path: /home/pi/test

Checkpoint time(s): 10

start exit

(4-4) Finally, click start to start to build the system automatically.

5. Other reminders

The program and installation data are in the file, but the protected program is provided by the user.

Thank you for using this function. You can also refer to demo.mp4 to view the function usage.