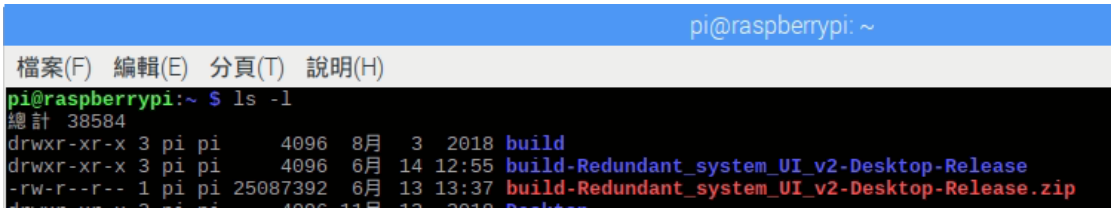
1. Prepare in advance

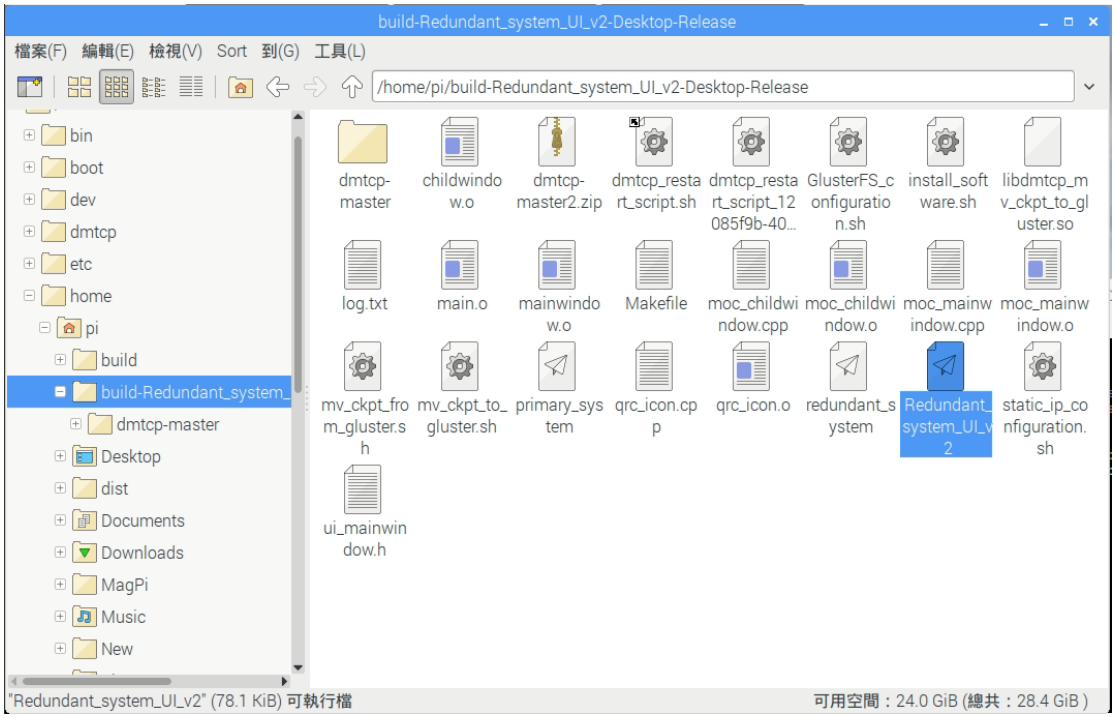
(1-1) First prepare two raspberry pi and two SD cards.

(1-2) Install the raspbian operating system on the SD card, the version I use is 2018-11-13-raspbian-stretch.

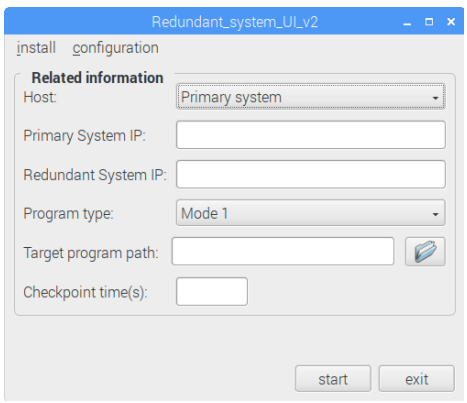
(1-3) Unzip the compressed file build-Redundant System... in the folder, as shown in the figure below.



(1-4)Then enter the folder and click Redundant system_UI_v2 to execute.

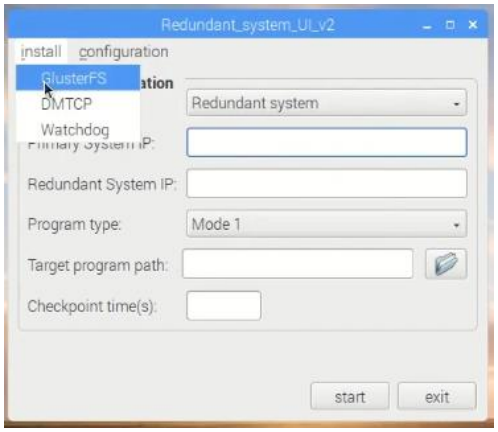


Click to display the picture

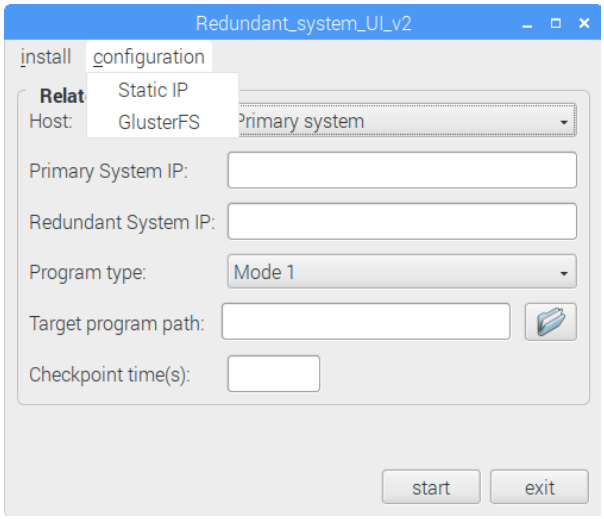


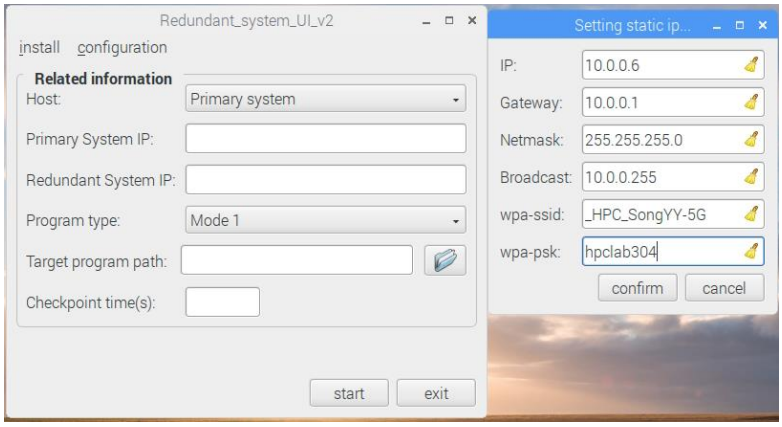
2. Install related software

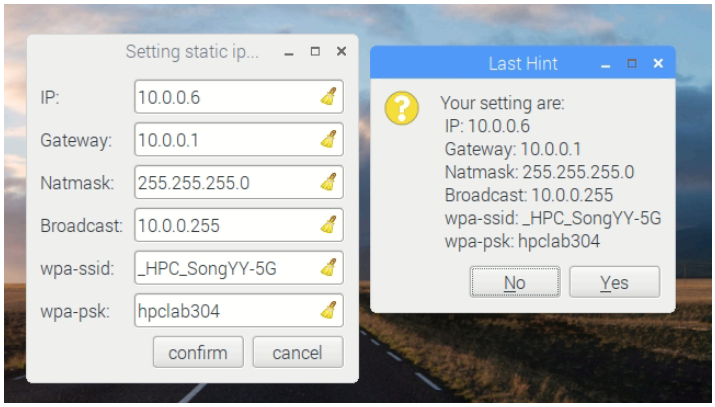
(2-1) First click install to install glusterFS, DMTCP, Watchdog respectively. It will take some time to install DMTCP.As shown in the figure below



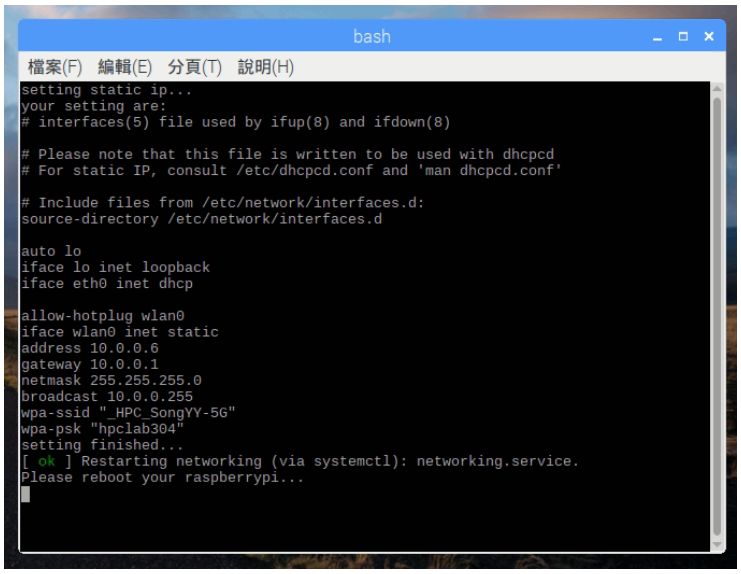
(2-2) Click configuration to set the environment, first set static ip and then set up GlusterFS.







NOTE:Remember to reboot after setting, the set parameters will take effect.



After rebooting, check whether the IP has been changed successfully

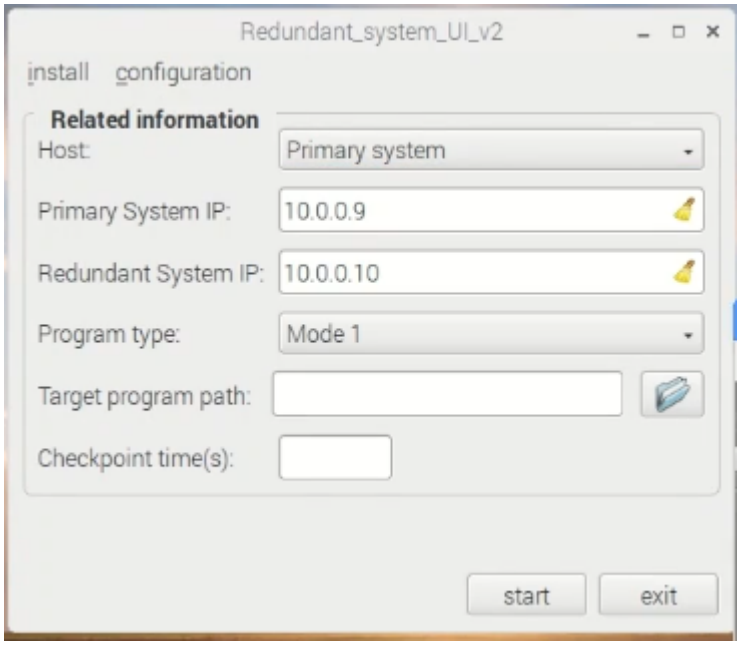
NOTE: Both raspberry pi must install software and set static ip.

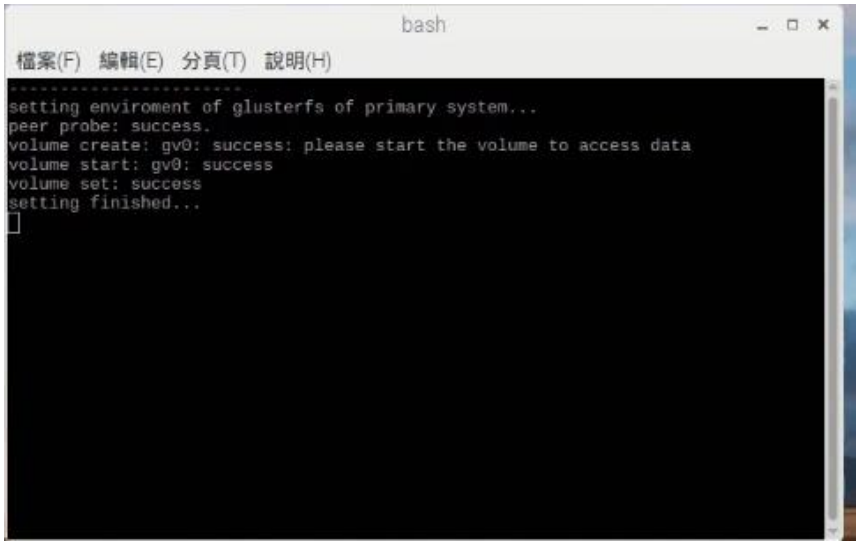
3. Configure GlusterFS

(3-1)Choose which raspberry pi to use as the primary system.

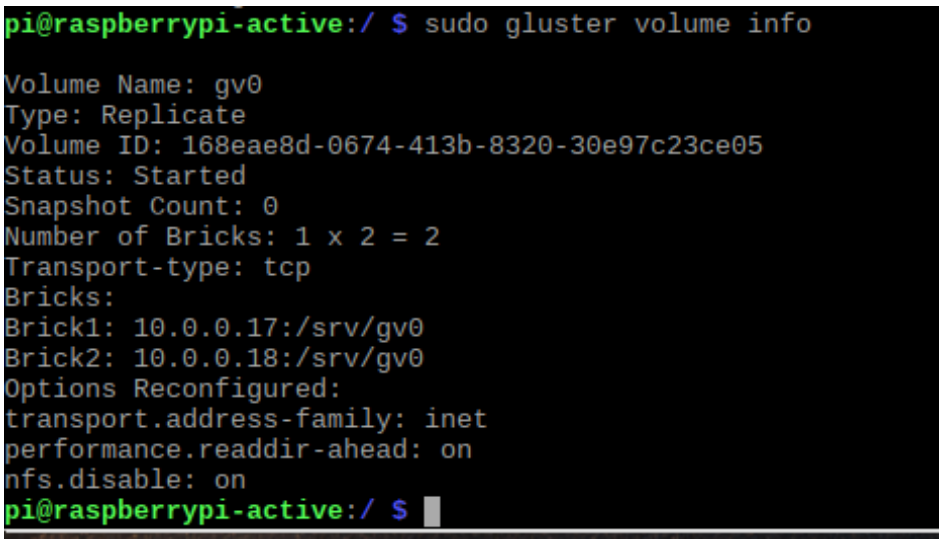
(3-2) Select Primary system in the Host field, and enter the primary system IP and redundant system IP into the fields, and then click configuration->GlusterFS. operate like a redundant system.

NOTE: First, set the primary system and then set the redundant system, otherwise problems will occur.





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



4. Select mode

(4-1) Select Mode-1 or Mode-2 in the Program type field

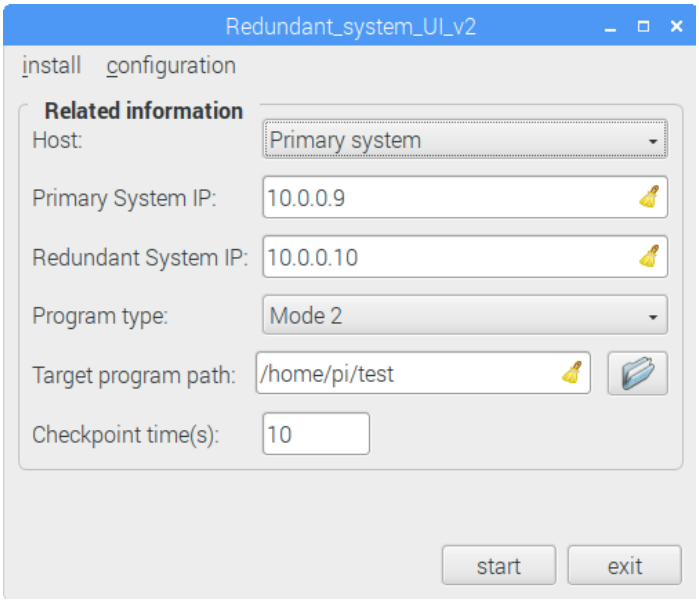
(4-2) Mode-1 is a normal mode and has no recovery function

(4-3) Mode-2 general program needs to save the memory state program in order to recover after failure.

(4-4) Target program path enter the path of the program to be executed

(4-5) The checkpoint time field is to execute a checkpoint every few seconds

NOTE: redundant system In Mode-2, you don't need to fill in the target program path and checkpoint time



(4-6) Finally, click start to start using it, no matter which raspberry pi clicks start, it will not affect the execution of the program.

5. Other reminders

The program and installation data are in the file, but the running program is provided by the user, or you can select the example execution in dmtcp. There is a test counting program in the file for you to test. Thank you for using this function. You can also refer to demo.mp4 to view the function usage.