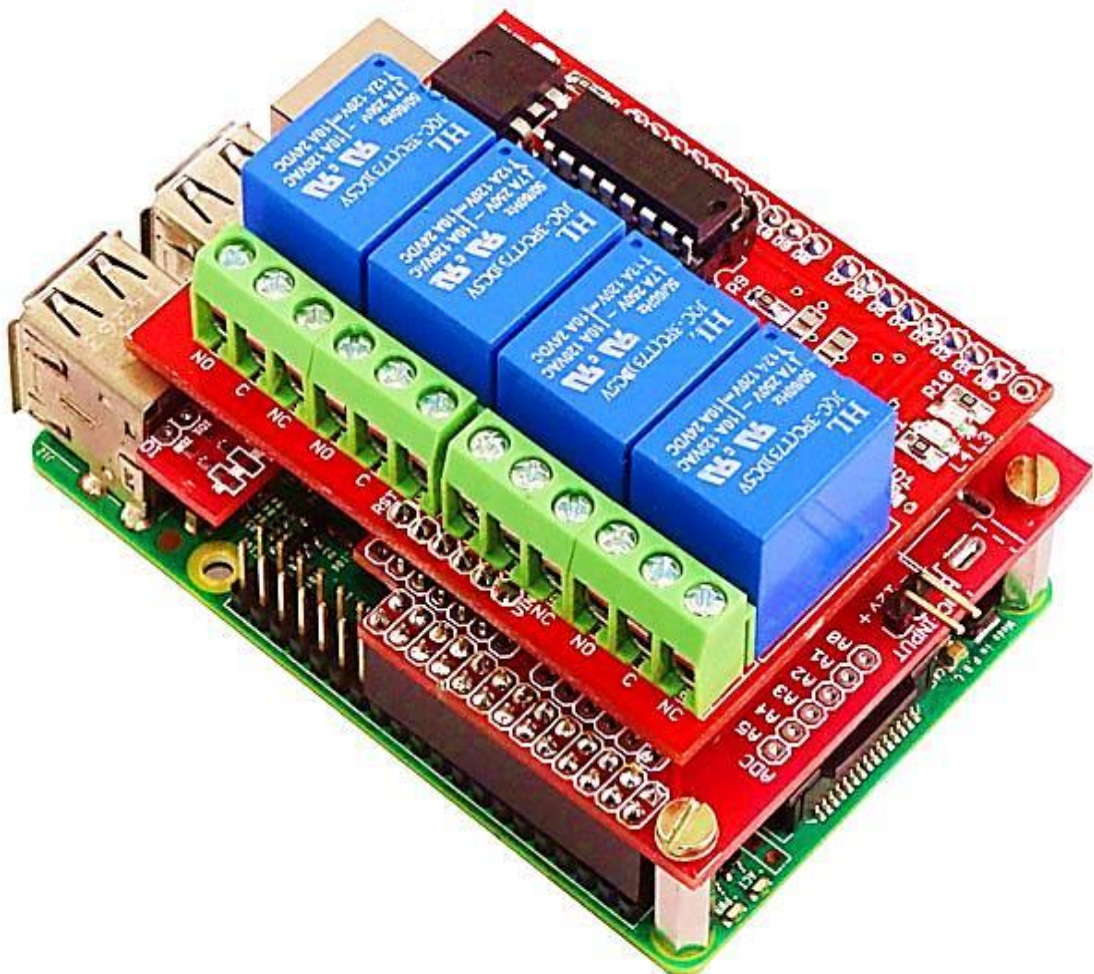




**Research
Design Lab**



RDL 12V RELAY SHEILD FOR RASPBERRY-PI

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Introduction:

The Relay shield is capable of controlling 4 relays. The max switching power could be 7A/250VAC. It could be directly controlled by Raspberry Pi through digital IOs.

Features:

- 4 channel Relay.
- Raspberry Pi compatible.
- **4 SPDT Relay channels (7A 250VAC).**
- Power supply:12VDC 1AMP
- Current consumption: 400 mA.
- LED indication for relay & power supply.
- Design based on highly proven IC ULN2003 as driver.
- High quality PCB FR4 Grade with FPT Certified.

Compatibility:

- Raspberry Pi
- Raspberry Pi 2
- Raspberry Pi Model B+
- Raspberry Pi zero

Package contains:

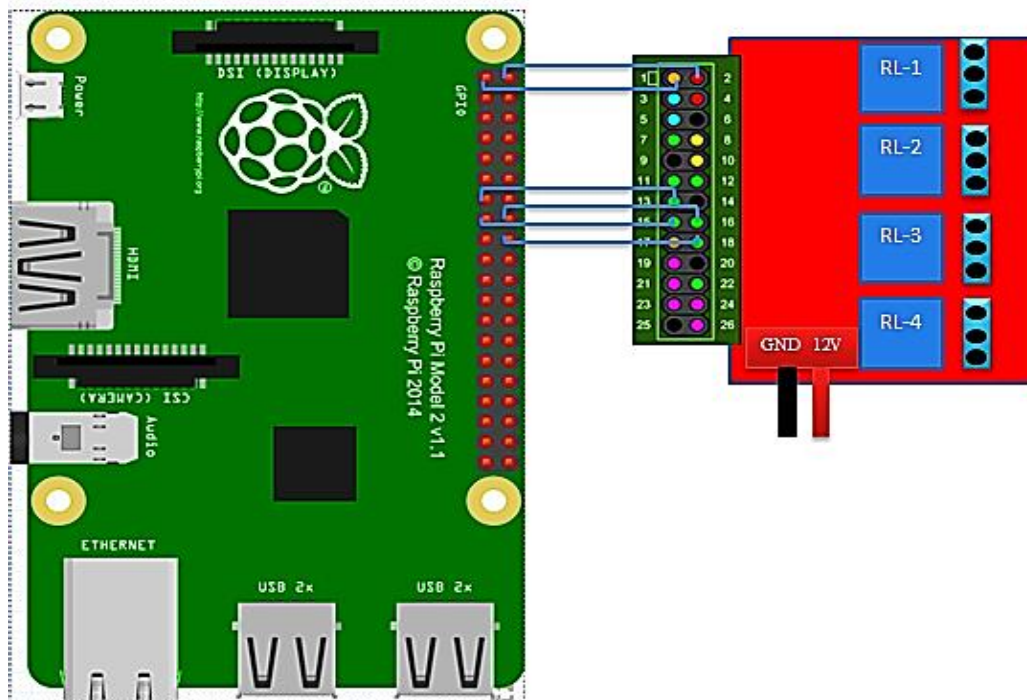
- 4 Channel Relay Board 12V.

Note1 : The Raspberry Pi in the picture above is just for reference , it does not include in the package.

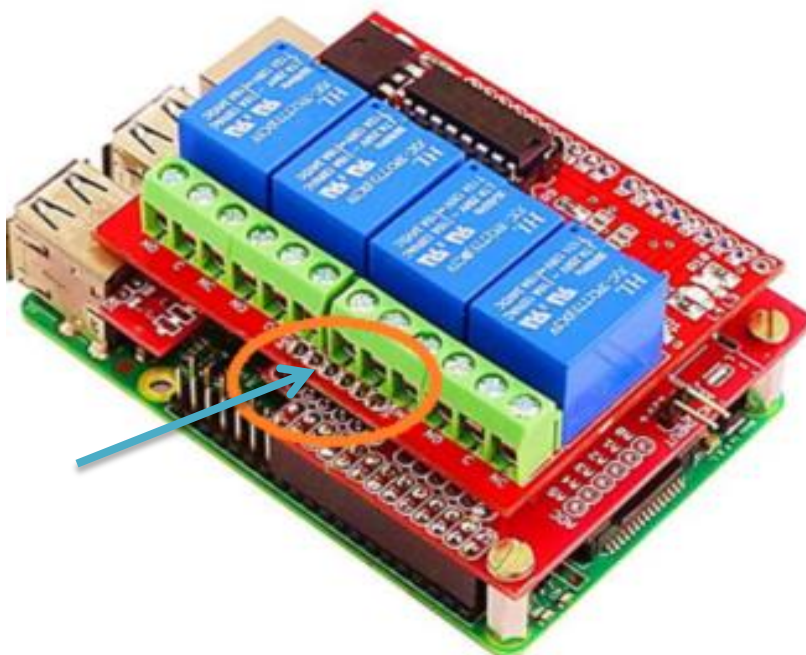
Note2: Base board is only used for soldering the relay shield and establishing the respective connectivity with Raspberry Pi I/O pins.

Internal Block Connections:

Here relay shield is connected to pin no 18,16,15,13 of the raspberry pi which is gpio mode 5,4,3,2,1. This is shown in below figure.



Important note:



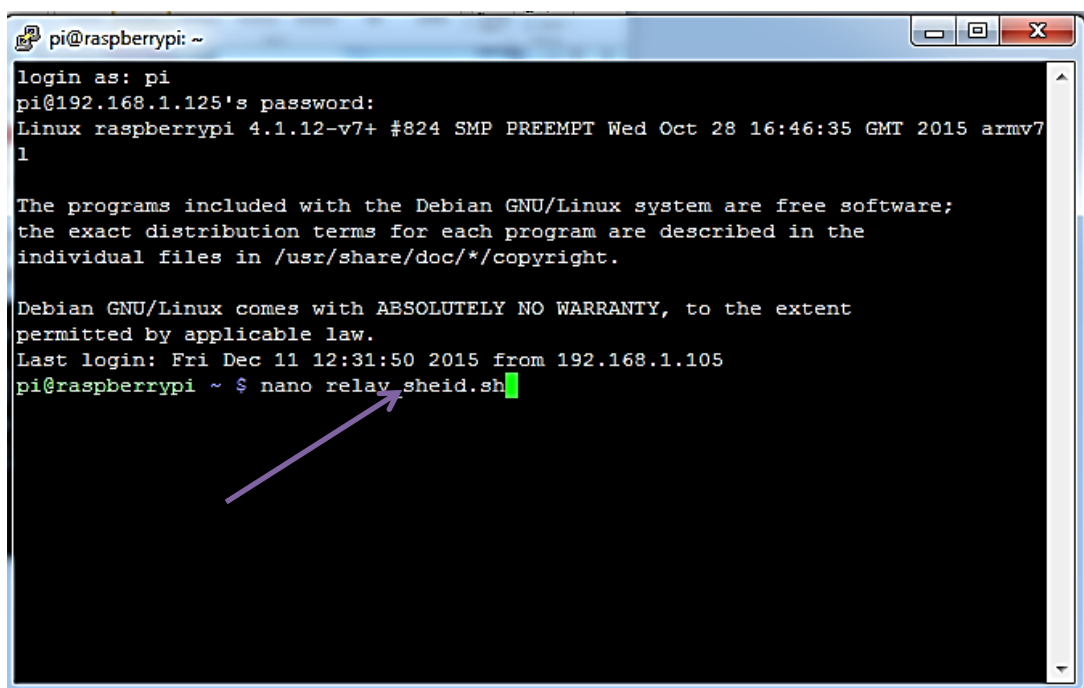
Note 1: Care should be taken while connecting AC voltages at the marked end.

Note 2: Make sure that wires are not broken or wire skins are not out at the marked end.

Sample LINUX script:

In raspberry pi open nano editor by typing following command

nano filename.sh



```
pi@raspberrypi: ~  
login as: pi  
pi@192.168.1.125's password:  
Linux raspberrypi 4.1.12-v7+ #824 SMP PREEMPT Wed Oct 28 16:46:35 GMT 2015 armv7  
1  
  
The programs included with the Debian GNU/Linux system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.  
Last login: Fri Dec 11 12:31:50 2015 from 192.168.1.105  
pi@raspberrypi ~ $ nano relay_sheid.sh
```

Inside nano editor enter the following command

gpio mode 5 out

gpio write 5 1

gpio mode 4 out

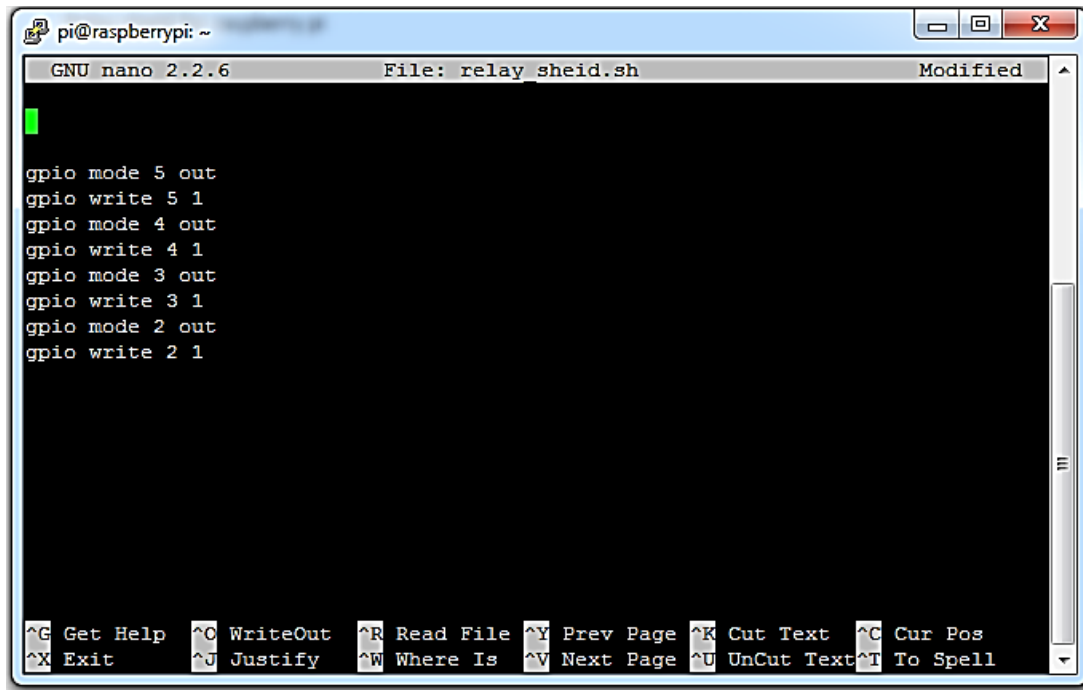
gpio write 4 1

gpio mode 3 out

gpio write 3 1

gpio mode 2 out

gpio write 2 1



```
pi@raspberrypi: ~
GNU nano 2.2.6 File: relay_sheid.sh Modified

gpio mode 5 out
gpio write 5 1
gpio mode 4 out
gpio write 4 1
gpio mode 3 out
gpio write 3 1
gpio mode 2 out
gpio write 2 1

^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text ^T To Spell
```

Here gpio mode X out will sets particular pin as output mode. And g3pio mode X 1 will writes 1 to the particular pin which will turns on the relay connected to the particular mode.

Run the above code by following command

sh filename.sh