实现目的

1. 了解 Acadia 或 RPi 或 WRTnode 中如何对网络进行配置；
2. 了解 Acadia 或 RPi 或 WRTnode 中如何对 VPN 进行连接。

实验器材

硬件

- Acadia 或 RPi 或 WRTnode 板一块；
- 5V/1A 电源一个；
- microUSB 线一根；
- USB-TTL 串口线一根（FT232RL 芯片或 PL2303 芯片）。

以下为自备（可选）器材：

- PC（Windows/Mac OS/Linux）一台；
- 声卡一个；
- 以太网线一根（可能还需要路由器等）。

软件

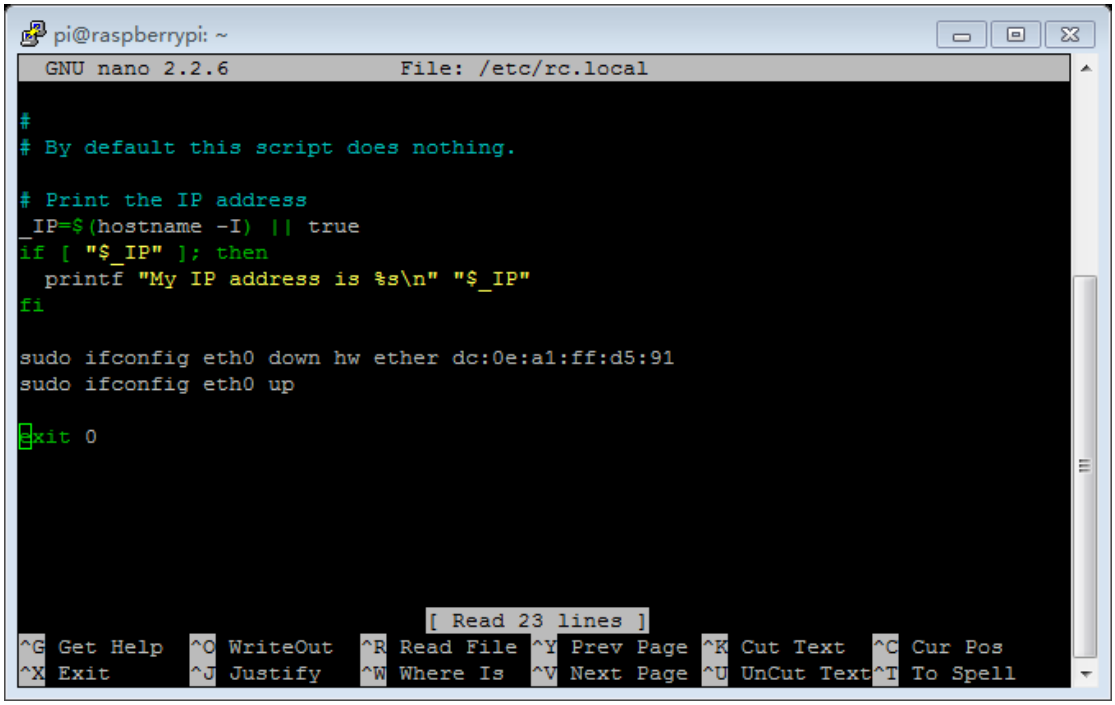
- PC 上的 USB-TTL 串口线配套的驱动程序；
- PC 上的串口终端软件，如 minicom、picocom、putty 等；
- PC 上的 SSH 软件，如 putty 等。

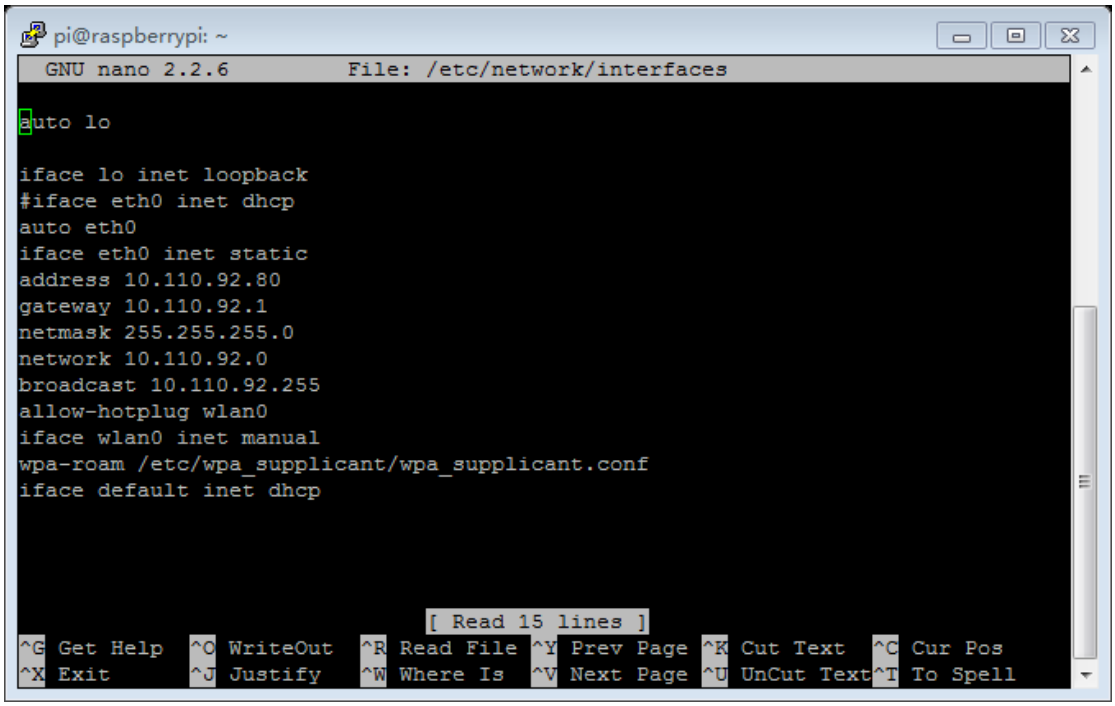
实验步骤

1. 对 Acadia 或 RPi 或 WRTnode 上的网卡进行配置；
2. 拨通校网 VPN。

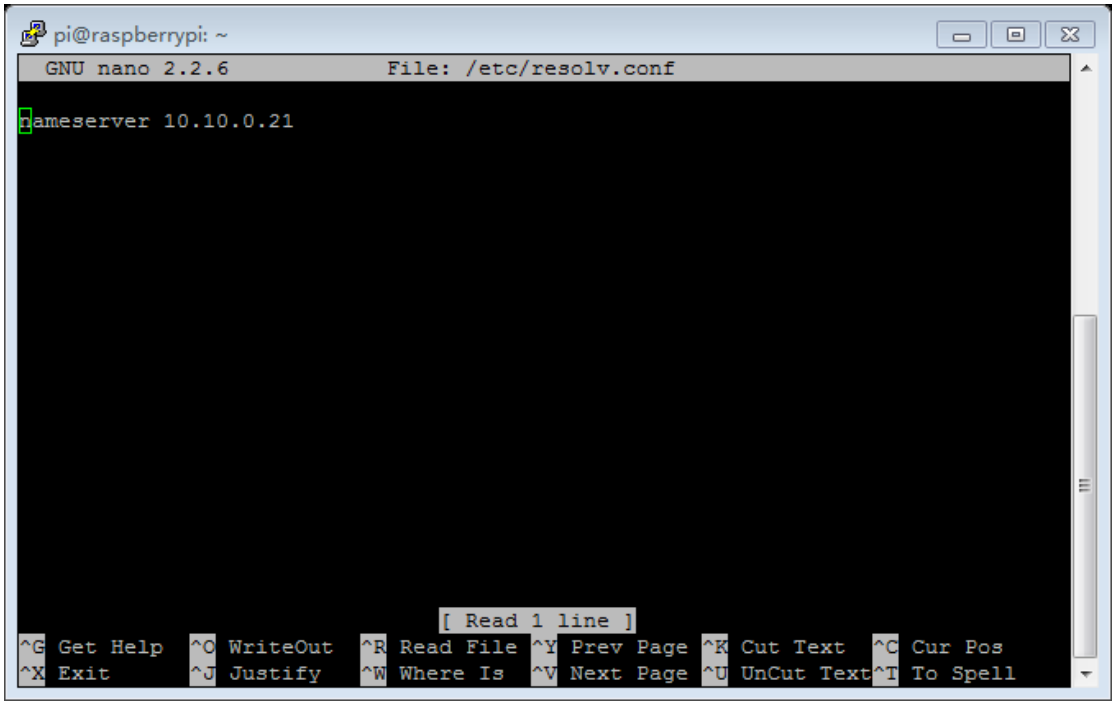
1. 设置 MAC, ip 地址

将网线插上后，编辑/etc/rc.local

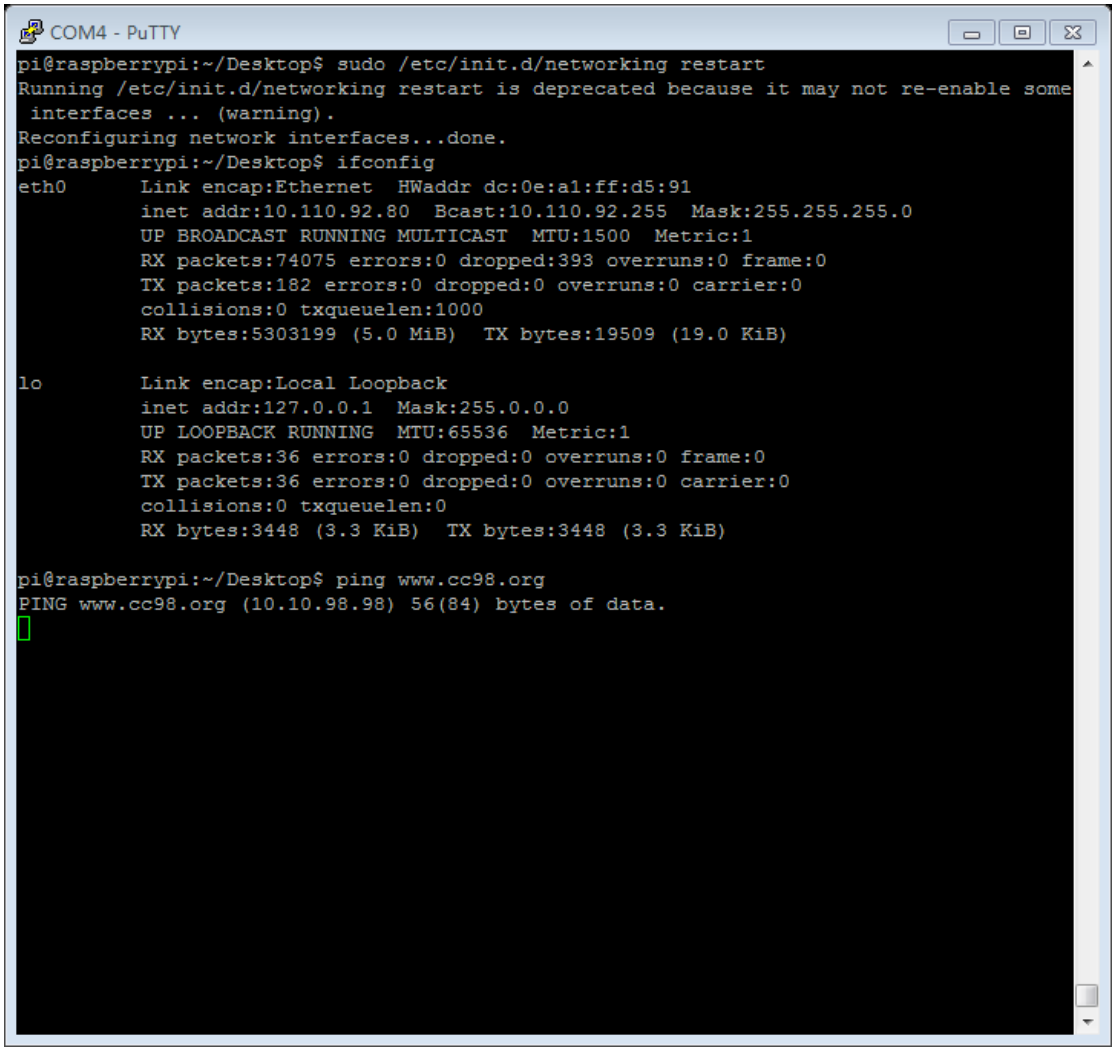

pi@raspberrypi: ~
GNU nano 2.2.6 File: /etc/rc.local
#
# By default this script does nothing.
# Print the IP address
_IP=$(hostname -I) || true
if ["$_IP"]; then
printf "My IP address is %s\n" "$_IP"
fi
sudo ifconfig eth0 down hw ether dc:0e:a1:ff:d5:91
sudo ifconfig eth0 up
exit 0
[Read 23 lines]
^G 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


pi@raspberrypi: ~
GNU nano 2.2.6 File: /etc/network/interfaces
auto lo
iface lo inet loopback
#iface eth0 inet dhcp
auto eth0
iface eth0 inet static
address 10.110.92.80
gateway 10.110.92.1
netmask 255.255.255.0
network 10.110.92.0
broadcast 10.110.92.255
allow-hotplug wlan0
iface wlan0 inet manual
wpa-roam /etc/wpa_supplicant/wpa_supplicant.conf
iface default inet dhcp
[Read 15 lines]
^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

2. 设置 DNS



ifconfig 查看设置



安装 VPN

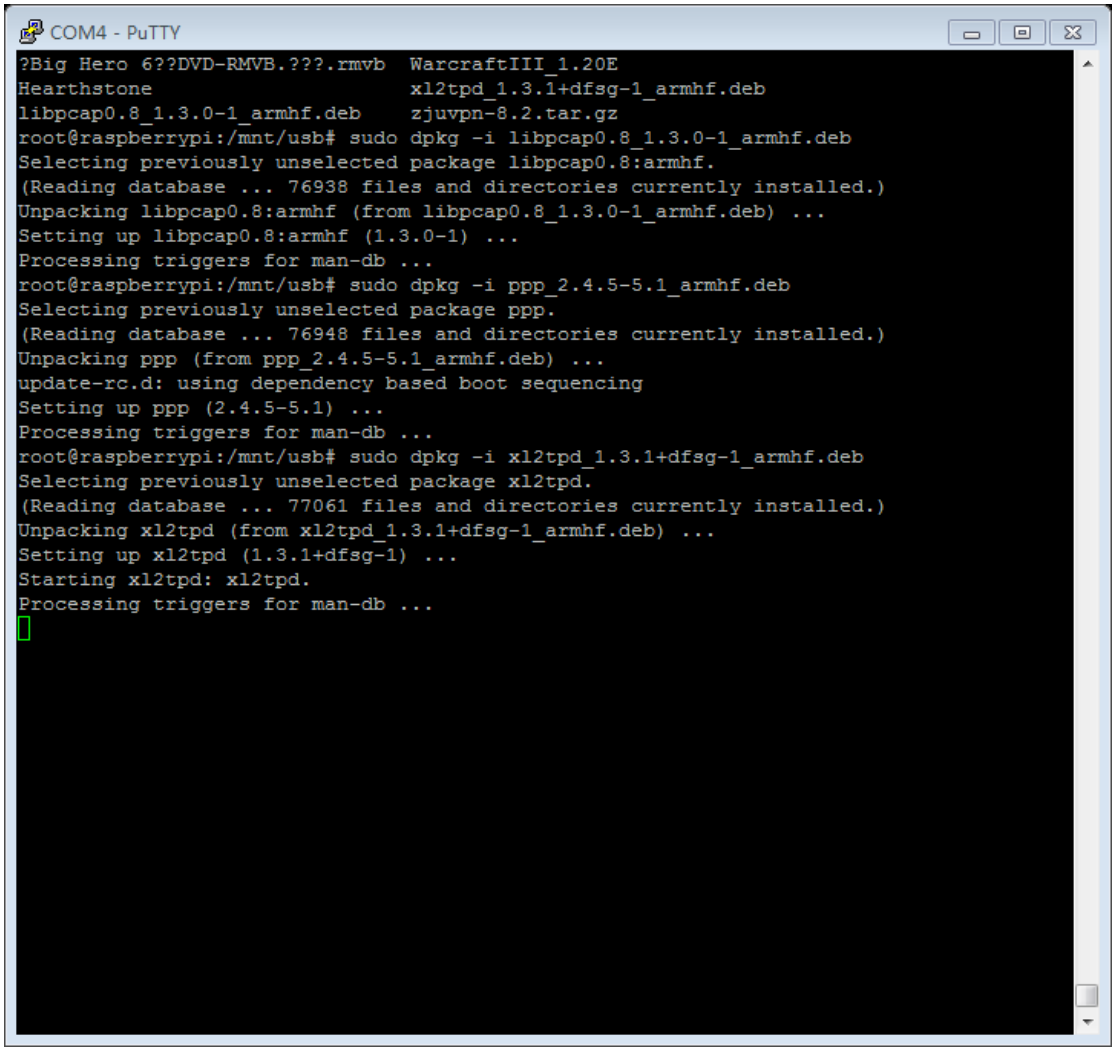
按顺序安装 libpcap0.8, ppp, xl2tpd，使安装顺序满足依赖性关系

sudo dpkg –i libpcap0.8_1.3.0-1_armhf.deb

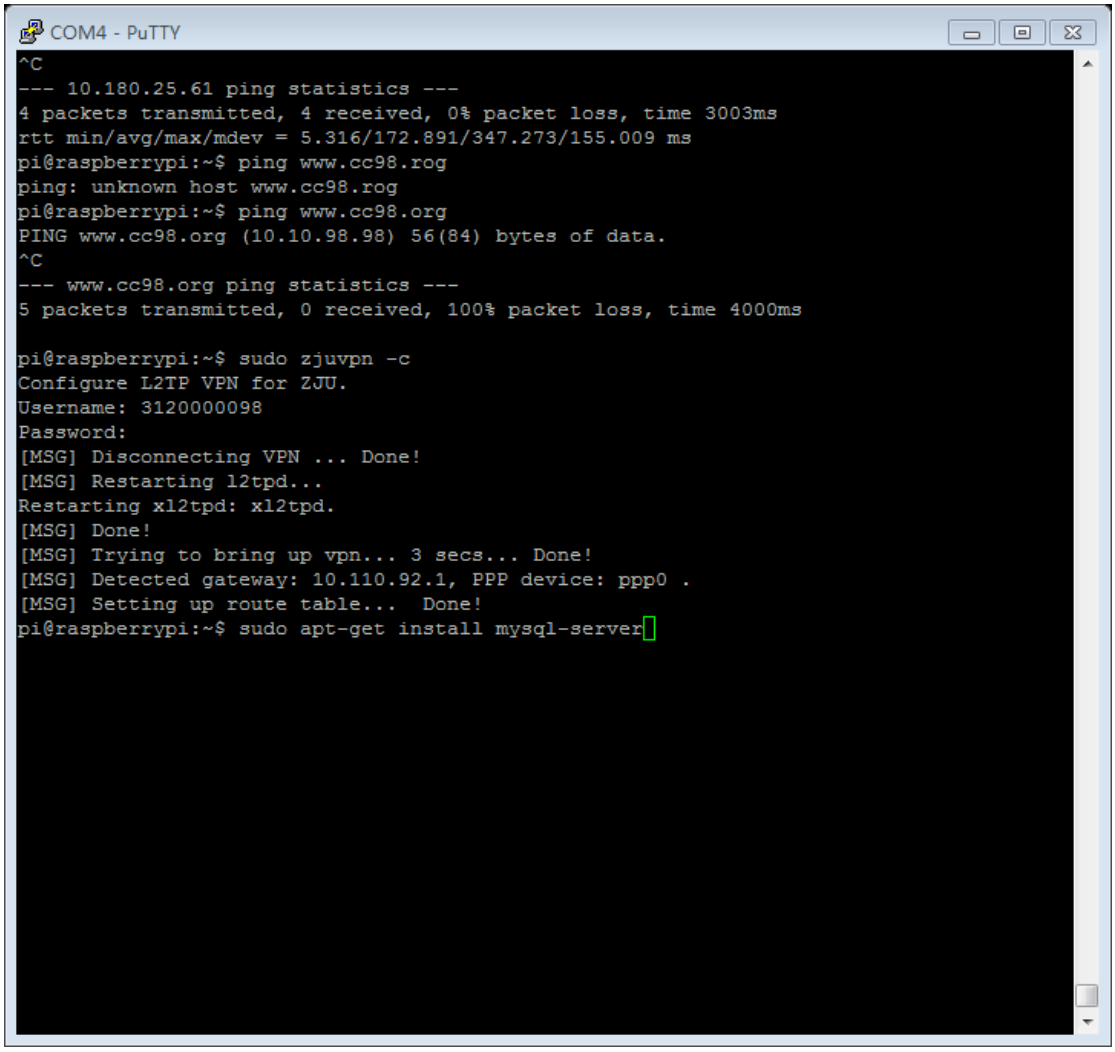
sudo dpkg –i ppp_2.4.5-5.1_armhf.deb

sudo dpkg –i xl2tpd_1.3.1+dfsg-1_armhf.deb

tar –zxvf zjuvpn-8.2.tar.gz –C



执行 sudo zjuvpn –c


COM4 - PuTTY
^C
--- 10.180.25.61 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3003ms
rtt min/avg/max/mdev = 5.316/172.891/347.273/155.009 ms
pi@raspberrypi:~$ ping www.cc98.rog
ping: unknown host www.cc98.rog
pi@raspberrypi:~$ ping www.cc98.org
PING www.cc98.org (10.10.98.98) 56(84) bytes of data.
^C
--- www.cc98.org ping statistics ---
5 packets transmitted, 0 received, 100% packet loss, time 4000ms
pi@raspberrypi:~$ sudo zjuvpn -c
Configure L2TP VPN for ZJU.
Username: 3120000098
Password:
[MSG] Disconnecting VPN ... Done!
[MSG] Restarting l2tpd...
Restarting xl2tpd: xl2tpd.
[MSG] Done!
[MSG] Trying to bring up vpn... 3 secs... Done!
[MSG] Detected gateway: 10.110.92.1, PPP device: ppp0 .
[MSG] Setting up route table... Done!
pi@raspberrypi:~$ sudo apt-get install mysql-server