

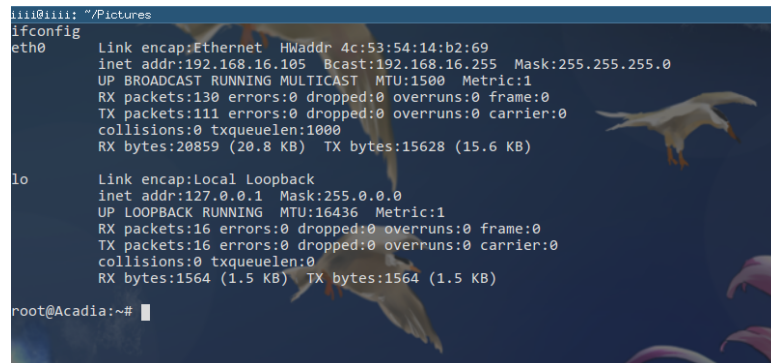
# Find your pcDuino

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## 1 Find the MAC address of Acadia

Type the command "ifconfig" in terminal, I find the MAC address is **4c:53:54:14:b2:69**.

A terminal window with a dark blue background and a faint image of a bird in flight. The terminal shows the output of the 'ifconfig' command. The first interface, 'eth0', is an Ethernet interface with MAC address 4c:53:54:14:b2:69 and IP address 192.168.16.105. The second interface, 'lo', is a local loopback interface with IP address 127.0.0.1. The prompt at the bottom is 'root@Acadia:~#'.

```
iiii@iiii: ~/Pictures
ifconfig
eth0      Link encap:Ethernet  HWaddr 4c:53:54:14:b2:69
          inet addr:192.168.16.105  Bcast:192.168.16.255  Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:130 errors:0 dropped:0 overruns:0 frame:0
          TX packets:111 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:20859 (20.8 KB)  TX bytes:15628 (15.6 KB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:16 errors:0 dropped:0 overruns:0 frame:0
          TX packets:16 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:1564 (1.5 KB)  TX bytes:1564 (1.5 KB)

root@Acadia:~#
```

Figure 1: MAC address and ip

## 2 Write a program

The task is to find the IP address of Acadia via the correspondence of IP and MAC in arp table. We have known the MAC address of Acadia by last step. We can ping each address in LAN, and look up the relative MAC in arp table. So, we can write a bash script to find the correct IP address.

```
iiii@iiii:~/Templates/pcduino$ ./seek.sh
Searching 192.168.16.100
Searching 192.168.16.101
Searching 192.168.16.102
Searching 192.168.16.103
Searching 192.168.16.104
Searching 192.168.16.105
The IP of pcDuino is ? (192.168.16.105) at 4c:53:54:14:b2:69 [ether] on wlan0
iiii@iiii:~/Templates/pcduino$
```

```
seek.sh + <"/Templates/pcduino" - GVIM
File Edit Tools Syntax Buffers Window Help
1 #!/bin/bash
2
3 for i in `seq 100 120`
4 do
5     ip=192.168.16.$i
6     echo "Searching $ip"
7     ping -c 1 $ip >/dev/null
8     if [ $? -eq 0 ]; then
9         target_ip=`arp -a $ip | grep 4c:53:54:14:b2:69`
10        if [ -n "$target_ip" ]; then
11            echo "The IP of pcDuino is $target_ip"
12            break
13        fi
14    fi
15 done
~
~
```

Figure 2: bash script and the output