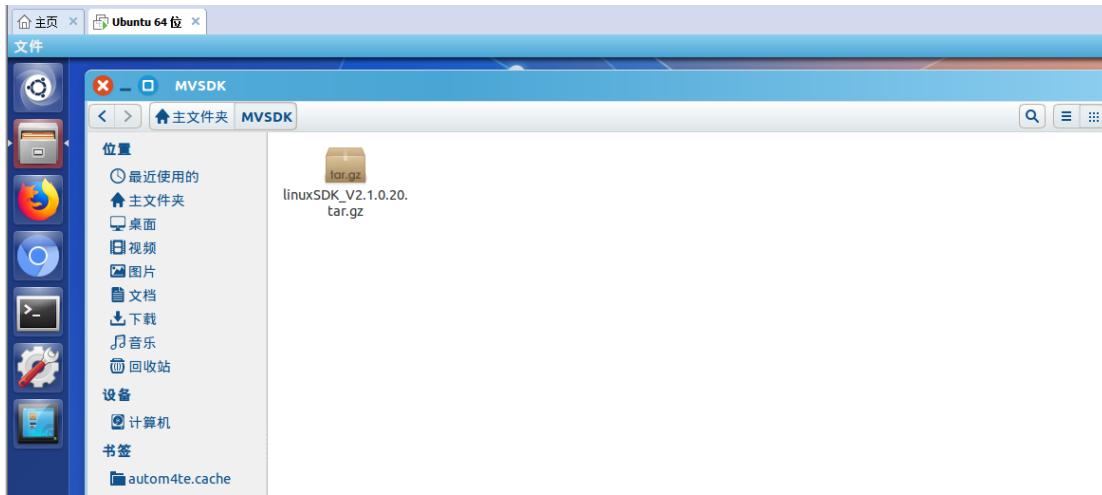


# Linux SDK 使用

## 1. 官网下载 linux SDK

开启虚拟机，创建文件夹 MVSDK, 将 linuxSDK 包拷贝到目录下

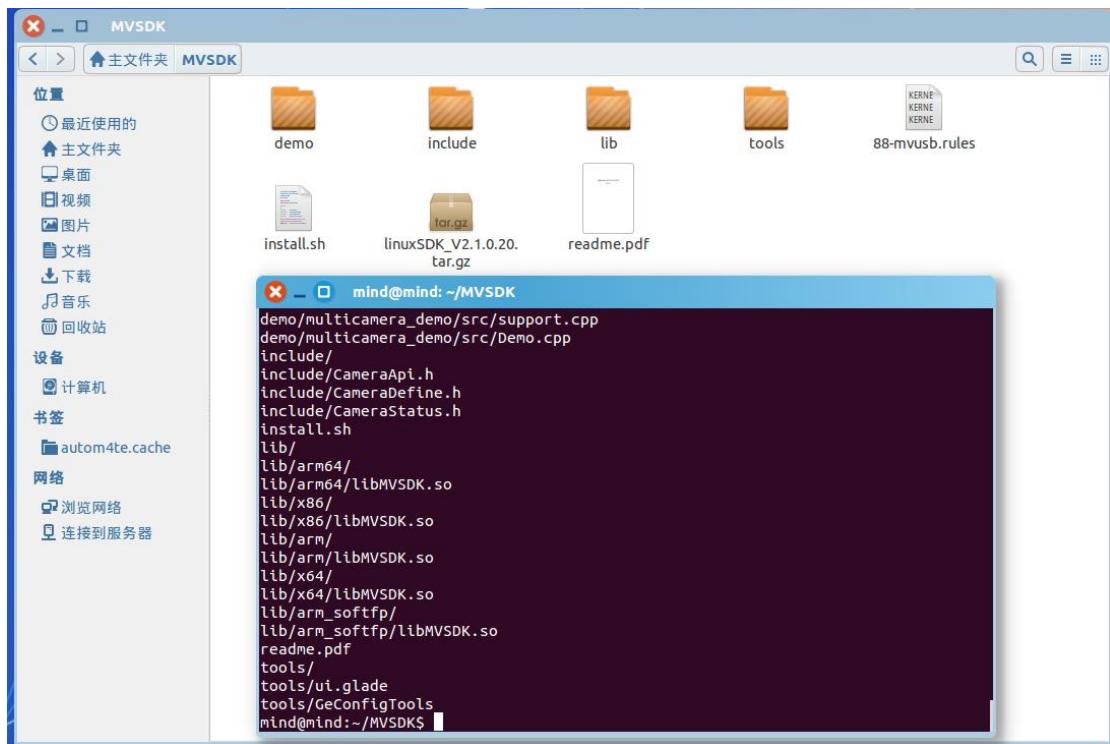


打开终端

输入 **cd MVSDK** 进入 MVSDK 目录

**tar -zxvf linuxSDK\_V2.1.0.20.tar.gz** 解压到当前目录下

A screenshot of a terminal window on a Linux system. The terminal prompt is 'mind@mind:~\$'. The user types the command 'cd MVSDK' and then 'tar -zxvf linuxSDK\_V2.1.0.20.tar.gz'. The terminal shows the command being entered and then the progress of the tar command as it extracts files from the archive.



执行脚本，将库和头文件拷贝到系统目录下    ***sudo ./install.sh***

```
mind@mind:~/MVSDK$ sudo ./install.sh
Your current directory is /home/mind/MVSDK. This is where the MVSDK software will be installed...
Copy header files
Copy x64/libMVSDK.so to /lib
Successful
Please restart system now!!!
mind@mind:~/MVSDK$
```

如果安装脚本失效，可以手动拷贝库和头文件完成安装

#拷贝头文件

```
sudo cp MVSDK/include/* /usr/include/
```

#拷贝对应平台库

x86 64 位系统: sudo cp MVSDK/lib/x64/libMVSDK.so /lib

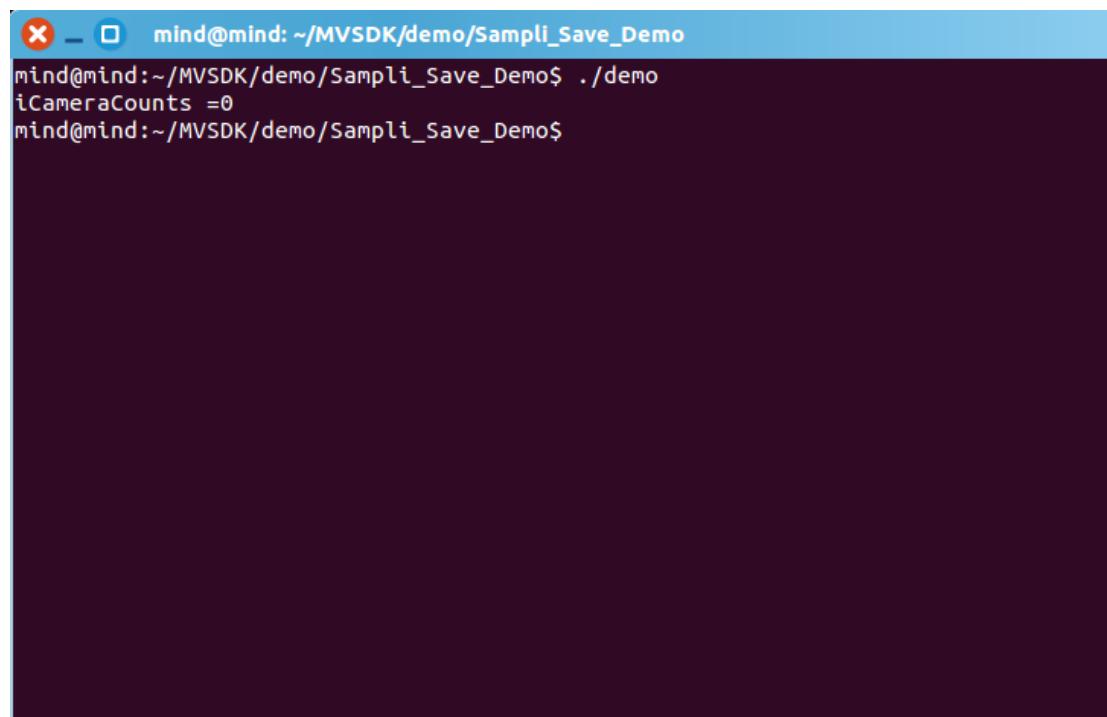
arm 32 硬浮点系统: sudo cp MVSDK/lib/arm/libMVSDK.so /lib

arm 32 软浮点系统: sudo cp MVSDK/lib/arm\_softfp/libMVSDK.so /lib

arm 64 位系统: sudo cp MVSDK/lib/arm64/libMVSDK.so /lib

## 2. 运行 Demo 出现找不到相机情况

相机数量为 0



```
mind@mind:~/MVSDK/demo/Sampli_Save_Demo
mind@mind:~/MVSDK/demo/Sampli_Save_Demo$ ./demo
iCameraCounts =0
mind@mind:~/MVSDK/demo/Sampli_Save_Demo$
```

### 1. 网口

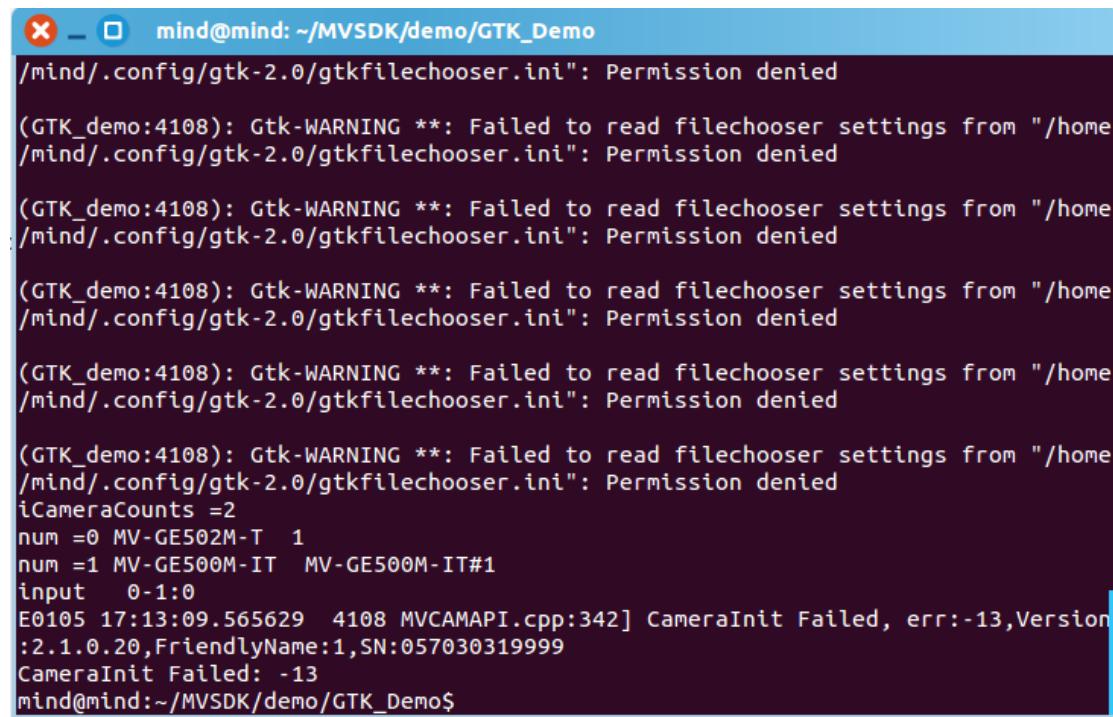
1. 关闭防火墙    sudo ufw disable
2. 配置 linux 电脑网卡 IP 为固定 IP
3. 编辑/etc/sysctl.d/10-network-security.conf 文件，将 rp\_filter 赋为 0，如下：  
# Turn on Source Address Verification in all interfaces to  
# prevent some spoofing attacks.  
net.ipv4.conf.default.rp\_filter=0  
net.ipv4.conf.all.rp\_filter=0  
重启电脑生效

## 2. USB

1. Lsusb 查看是否加载驱动成功 f622:da01 f622 开头代表迈德威视相机加载驱动成功
2. sudo 运行
3. 尝试更换其他 USB 口
4. 虚拟机，使用 USB3.0 相机时,USB 控制器设置 USB3.0 模式

## 3. 打开相机常见错误

返回-13，相机已经被打开，或者是网卡 IP 和相机 IP 不在同一网段。尝试修改相机 IP，详见[相机 IP 配置](#)。



```
mind@mind: ~/MVSDK/demo/GTK_Demo
/mind/.config/gtk-2.0/gtkfilechooser.ini": Permission denied
(GTK_demo:4108): Gtk-WARNING **: Failed to read filechooser settings from "/home
/mind/.config/gtk-2.0/gtkfilechooser.ini": Permission denied
(GTK_demo:4108): Gtk-WARNING **: Failed to read filechooser settings from "/home
/mind/.config/gtk-2.0/gtkfilechooser.ini": Permission denied
(GTK_demo:4108): Gtk-WARNING **: Failed to read filechooser settings from "/home
/mind/.config/gtk-2.0/gtkfilechooser.ini": Permission denied
(GTK_demo:4108): Gtk-WARNING **: Failed to read filechooser settings from "/home
/mind/.config/gtk-2.0/gtkfilechooser.ini": Permission denied
(GTK_demo:4108): Gtk-WARNING **: Failed to read filechooser settings from "/home
/mind/.config/gtk-2.0/gtkfilechooser.ini": Permission denied
iCameraCounts =2
num =0 MV-GE502M-T 1
num =1 MV-GE500M-IT MV-GE500M-IT#1
input 0-1:0
E0105 17:13:09.565629 4108 MVCAMAPI.cpp:342] CameraInit Failed, err:-13, Version
:2.1.0.20,FriendlyName:1,SN:057030319999
CameraInit Failed: -13
mind@mind:~/MVSDK/demo/GTK_Demo$
```

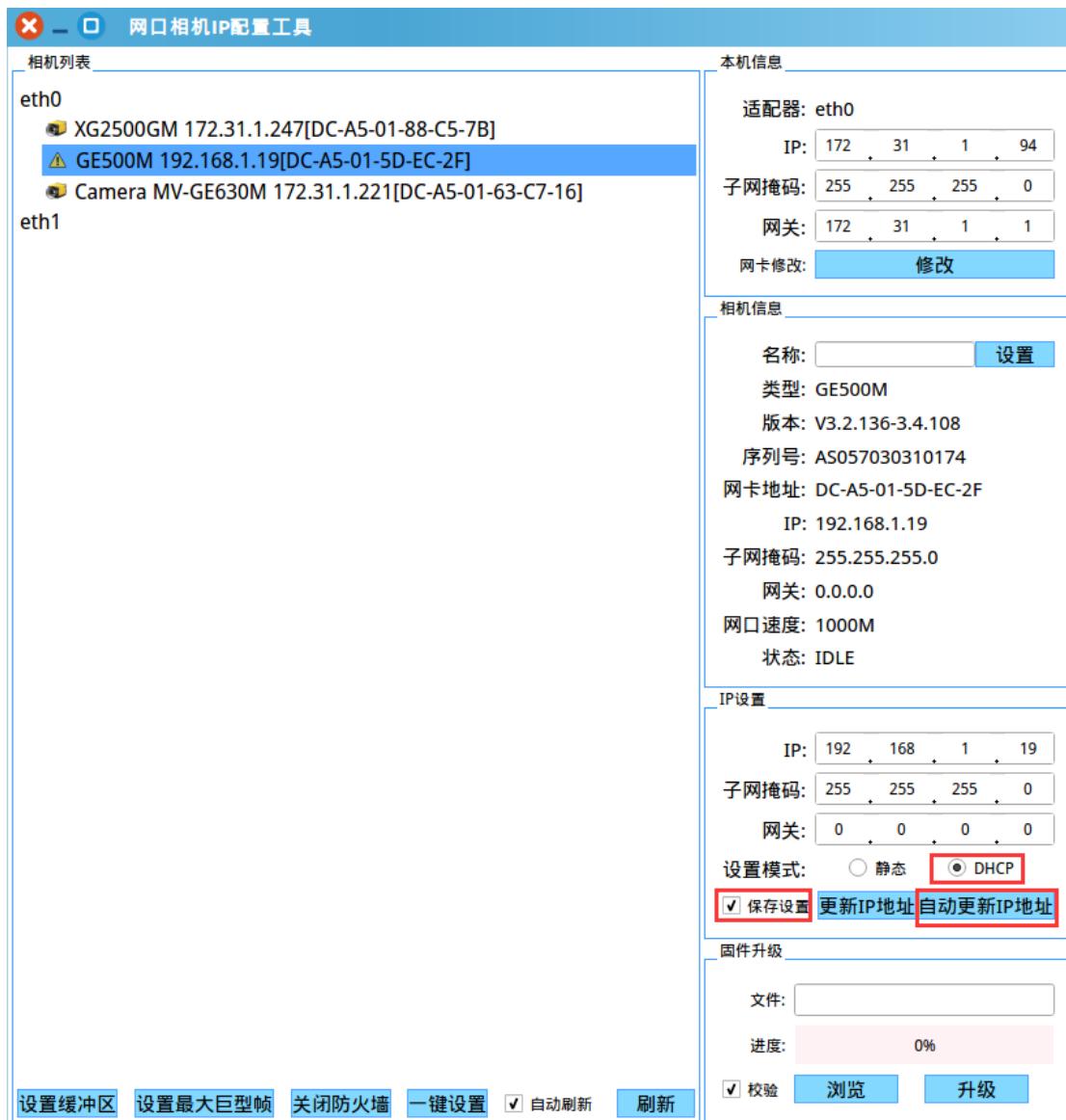
## 4. 相机 IP 配置

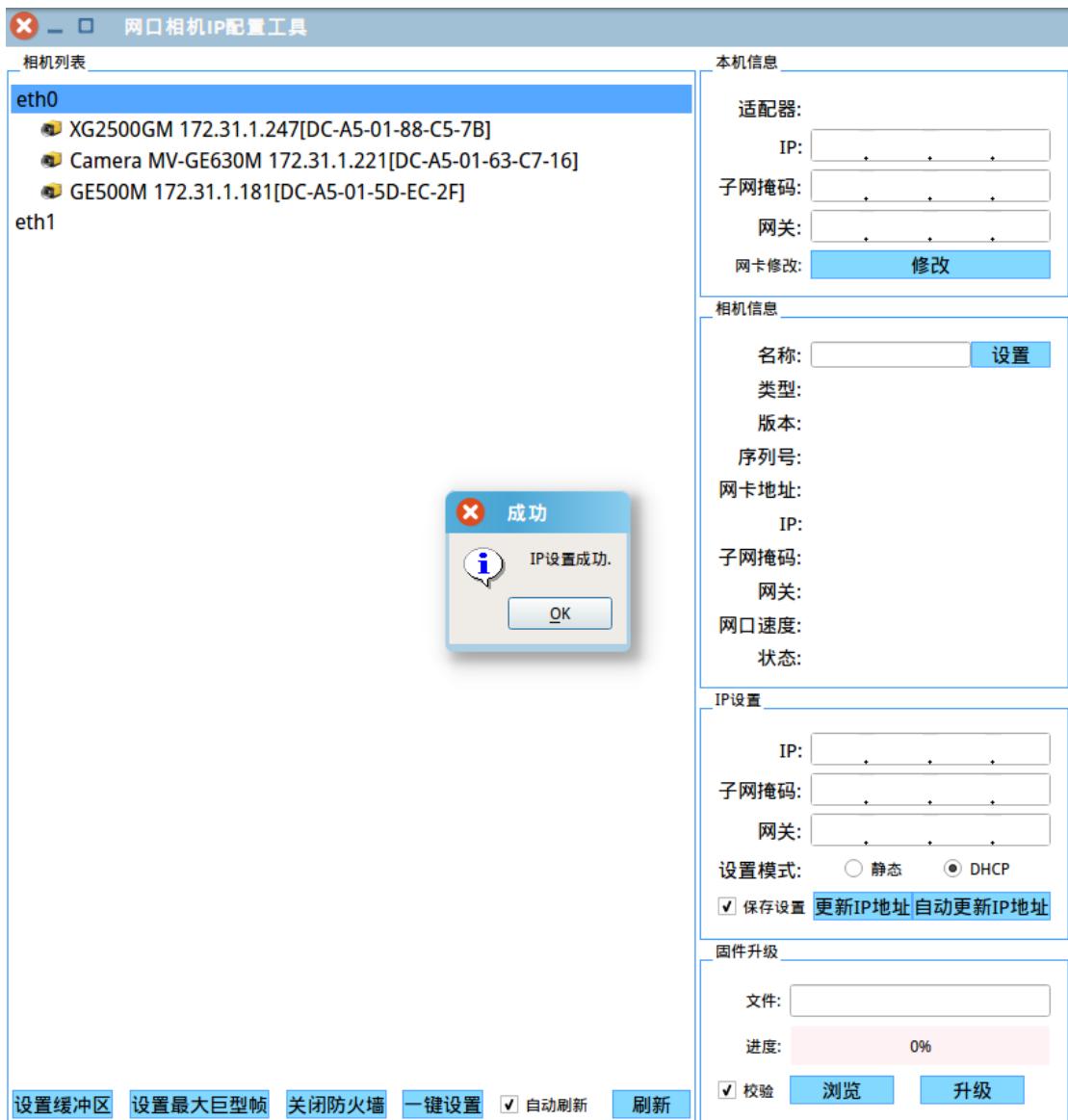
### 1. QT 工具修改 IP ( 仅支持 x64 )

工具路径: tools/QGeConfigTools/QGeConfigTools

#### 1. 自动更新 IP

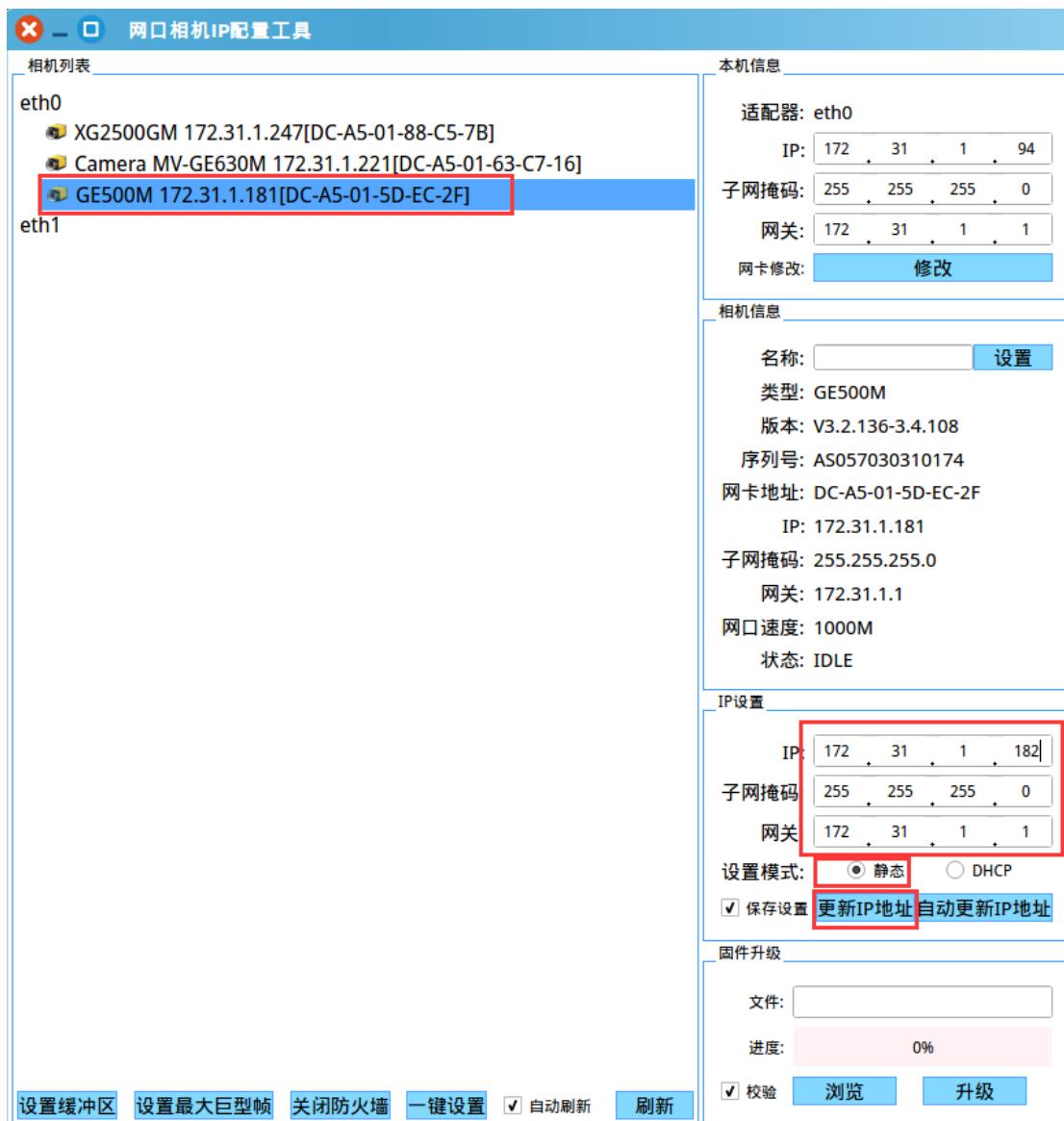
选择要修改的相机，选择 DHCP 模式，勾选保存配置，点击自动更新 IP 地址按钮，修改 IP 成功

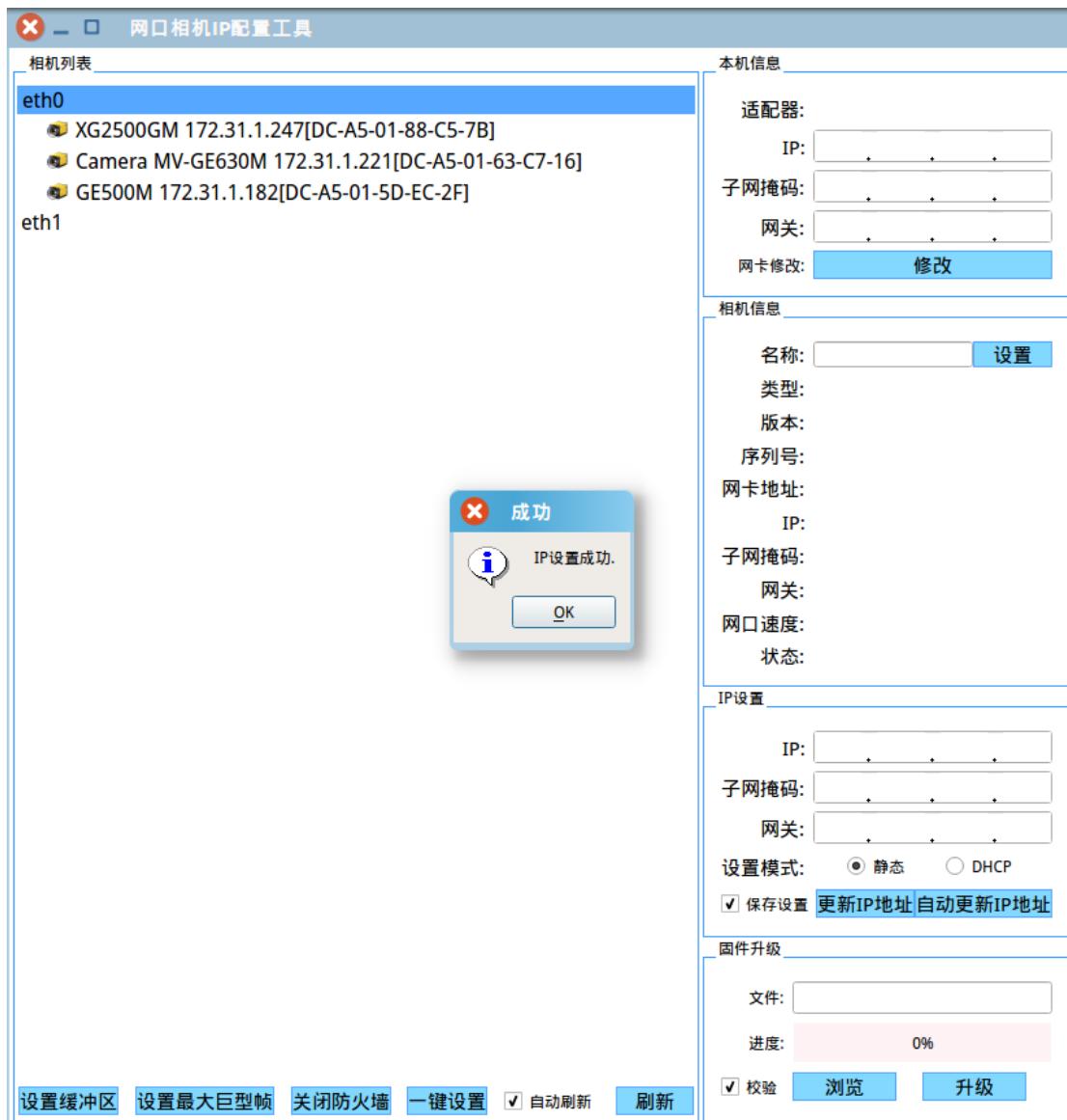




## 2. 手动更新 IP

如果需要修改成特定 IP，选择静态模式，输入 IP 地址，子网掩码，网关，勾选保存配置，点击更新 IP 地址按钮，修改 IP 成功





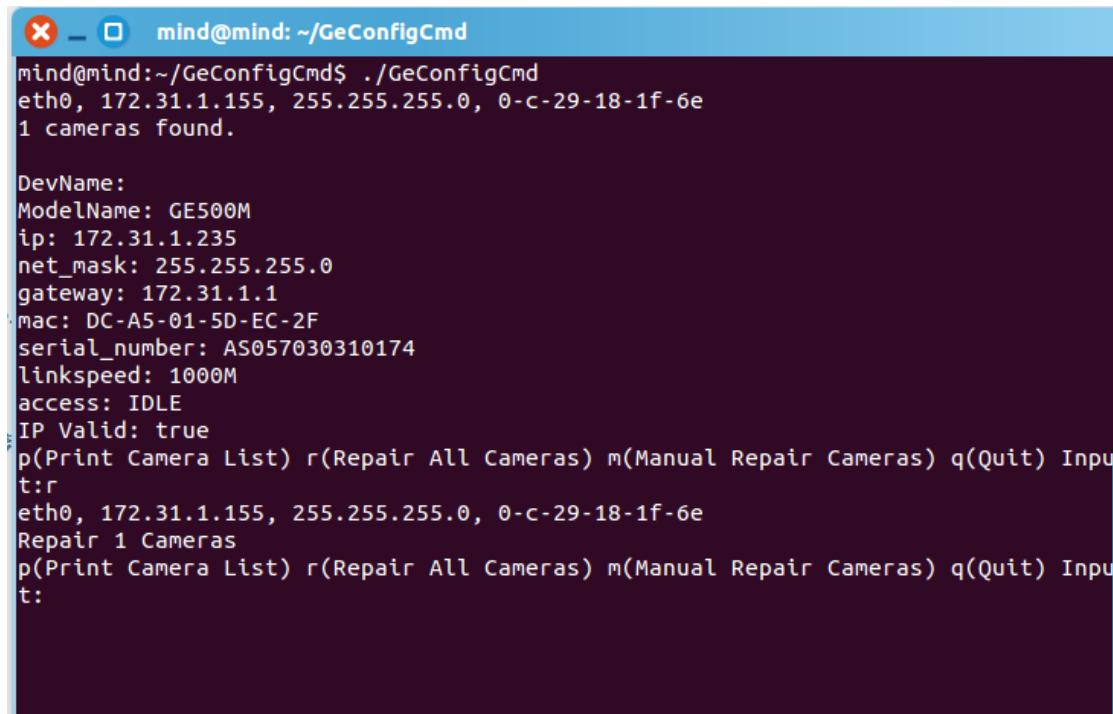
## 2. 命令行工具修改 IP(支持 x86、x64、arm、arm64)

工具路径:

```
x86:      tools/GeConfigCmd/x86/GeConfigCmd  
x64:      tools/GeConfigCmd/x64/GeConfigCmd  
arm:      tools/GeConfigCmd/arm/GeConfigCmd  
arm64:    tools/GeConfigCmd/arm64/GeConfigCmd
```

运行工具，输入 r 自动修改 IP

```
./GeConfigCmd
```



The screenshot shows a terminal window titled "mind@mind: ~/GeConfigCmd". The command "./GeConfigCmd" is run, displaying the following output:

```
mind@mind:~/GeConfigCmd$ ./GeConfigCmd  
eth0, 172.31.1.155, 255.255.255.0, 0-c-29-18-1f-6e  
1 cameras found.  
  
DevName:  
ModelName: GE500M  
ip: 172.31.1.235  
net_mask: 255.255.255.0  
gateway: 172.31.1.1  
mac: DC-A5-01-5D-EC-2F  
serial_number: AS057030310174  
linkspeed: 1000M  
access: IDLE  
IP Valid: true  
p(Print Camera List) r(Remove All Cameras) m(Manual Repair Cameras) q(Quit) Input:  
r  
eth0, 172.31.1.155, 255.255.255.0, 0-c-29-18-1f-6e  
Repair 1 Cameras  
p(Print Camera List) r(Remove All Cameras) m(Manual Repair Cameras) q(Quit) Input:
```

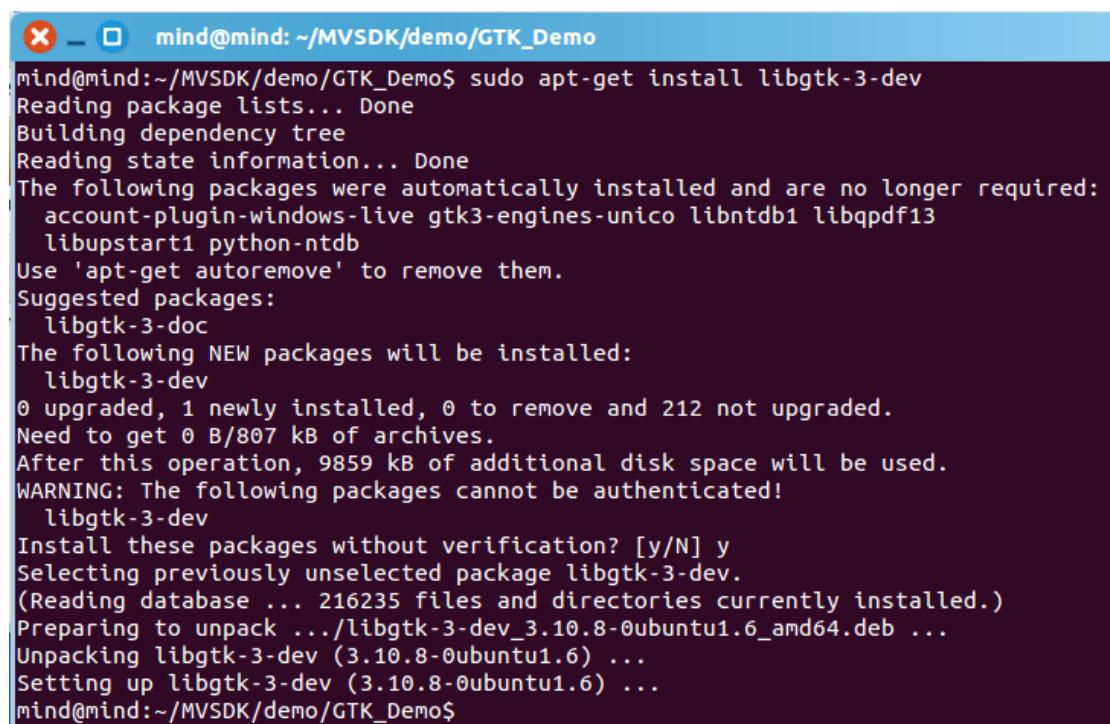
### 3. 编译 GTK\_Demo

#### 1. 安装 GTK 库

安装 GTK 库，清理项目，make 编译，./Gtk\_Demo 运行，输入 0 打开第 1 个相机

`sudo apt-get install libgtk2.0-dev`

```
cd MVSDK/demo/GTK_Demo          #进入目录  
make clean                         #清理项目  
make                                #编译 GTKdemo
```



The screenshot shows a terminal window titled "mind@mind: ~/MVSDK/demo/GTK\_Demo". The user runs the command "sudo apt-get install libgtk-3-dev". The terminal output shows the package manager reading lists, building dependency trees, and listing packages that were automatically installed and no longer required. It then lists suggested packages like libgtk-3-doc and new packages to be installed like libgtk-3-dev. The user is prompted to install libgtk-3-dev without verification, which they confirm with "y". The process continues with preparing to unpack the package, unpacking it, and setting up the library. Finally, the user exits the terminal.

```
mind@mind:~/MVSDK/demo/GTK_Demo$ sudo apt-get install libgtk-3-dev  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following packages were automatically installed and are no longer required:  
  account-plugin-windows-live gtk3-engines-unico libntdb1 libqpdf13  
  libupstart1 python-ntdb  
Use 'apt-get autoremove' to remove them.  
Suggested packages:  
  libgtk-3-doc  
The following NEW packages will be installed:  
  libgtk-3-dev  
0 upgraded, 1 newly installed, 0 to remove and 212 not upgraded.  
Need to get 0 B/807 kB of archives.  
After this operation, 9859 kB of additional disk space will be used.  
WARNING: The following packages cannot be authenticated!  
  libgtk-3-dev  
Install these packages without verification? [y/N] y  
Selecting previously unselected package libgtk-3-dev.  
(Reading database ... 216235 files and directories currently installed.)  
Preparing to unpack .../libgtk-3-dev_3.10.8-0ubuntu1.6_amd64.deb ...  
Unpacking libgtk-3-dev (3.10.8-0ubuntu1.6) ...  
Setting up libgtk-3-dev (3.10.8-0ubuntu1.6) ...  
mind@mind:~/MVSDK/demo/GTK_Demo$
```

```

mind@mind: ~/MVSDK/demo/GTK_Demo
size [-Wint-to-pointer-cast]
ECT(radio_speed[i]), "released", G_CALLBACK(on_radio_speed_clicked), (gpointer)i);

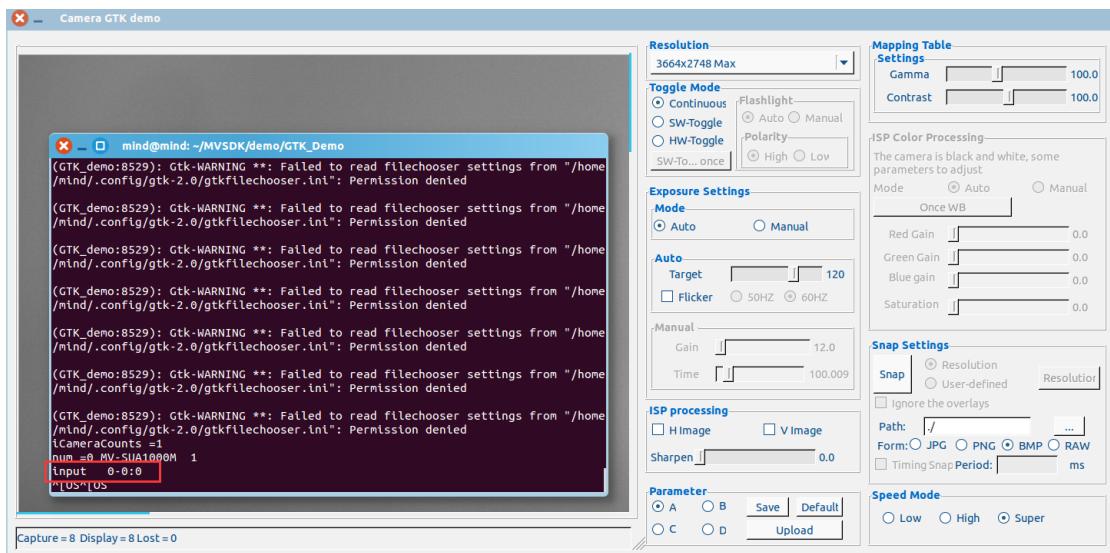
/usr/include/glib-2.0/gobject/gsignal.h:472:73: note: in definition of macro 'g_signal_connect'
g_signal_connect_data ((instance), (detailed_signal), (c_handler), (data), NULL
^

mv -f .deps/interface.Tpo .deps/interface.Po
g++ -DHAVE_CONFIG_H -I. -I./inc -I../../../include -pthread -I/usr/include/gtk-2.0 -I/usr/lib/x86_64-linux-gnu/gtk-2.0/include -I/usr/include/gio-unix-2.0/ -I/usr/include/cairo -I/usr/include/pango-1.0 -I/usr/include/atk-1.0 -I/usr/include/cairo -I/usr/include/pixman-1 -I/usr/include/libpng12 -I/usr/include/gdk-pixbuf-2.0 -I/usr/include/libpng12 -I/usr/include/pango-1.0 -I/usr/include/harfbuzz -I/usr/include/pango-1.0 -I/usr/include/glib-2.0 -I/usr/lib/x86_64-linux-gnu/glib-2.0/include -I/usr/include/freetype2 -g -O2 -MT support.o -MD -MP -MF .deps/support.Tpo -c -o support.o `test -f './src/support.cpp' || echo './'`./src/support.cpp
mv -f .deps/support.Tpo .deps/support.Po
g++ -g -O2 -L/lib -o GTK_demo GTK_demo.o callbacks.o Demo.o interface.o support.o -lgtk-x11-2.0 -lgdk-x11-2.0 -lpangocairo-1.0 -latk-1.0 -lcairo -lgdk_pixbuf-2.0 -lgio-2.0 -lpangoft2-1.0 -lpango-1.0 -lgobject-2.0 -lglib-2.0 -lfontconfig -lfreetype -lpthread -lrt -lgthread-2.0 -lMVSdk -lpthread
make[1]: Leaving directory '/home/mind/MVSDK/demo/GTK_Demo'
mind@mind:~/MVSDK/demo/GTK_Demo$
```

无明显错误，可以直接执行 GTK\_DEMO

`sudo ./GTK_demo`

选择第几个相机，默认按 0 开始 输入 0 回车打开第 1 个相机



## 4. 编译 multicamera\_demo

清理项目，make 编译，运行程序，打开 2 个相机

`cd MVSDK/demo/multicamera_demo`

`make clean`

`make`

```
x - mind@mind: ~/MVSDK/demo/multicamera_demo
from /usr/include/gtk-2.0/gdk/gdk.h:32,
from /usr/include/gtk-2.0/gtk/gtk.h:32,
from ./src/interface.cpp:2:
/usr/include/glib-2.0/glib/gmacros.h:229:0: note: this is the location of the previous definition
#define FALSE (0)
^
mv -f .deps/interface.Tpo .deps/interface.Po
g++ -DHAVE_CONFIG_H -I. -I./inc -I../../include -pthread -I/usr/include/gtk-2.0 -I/usr/lib/x86_64-linux-gnu/gtk-2.0/include -I/usr/include/gio-unix-2.0/ -I/usr/include/cairo -I/usr/include/pango-1.0 -I/usr/include/atk-1.0 -I/usr/include/cairo -I/usr/include/pixman-1 -I/usr/include/libpng12 -I/usr/include/gdk-pixbuf-2.0 -I/usr/include/libpng12 -I/usr/include/pango-1.0 -I/usr/include/harfbuzz -I/usr/include/pango-1.0 -I/usr/include/glib-2.0 -I/usr/lib/x86_64-linux-gnu/glib-2.0/include -I/usr/include/freetype2 -g -O2 -MT support.o -MD -MP -MF .deps/support.Tpo -c -o support.o `test -f './src/support.cpp' || echo './'`./src/support.cpp
mv -f .deps/support.Tpo .deps/support.Po
g++ -g -O2 -L/lib -o multicamera_demo multicamera_demo.o callbacks.o Demo.o interface.o support.o -lgtk-x11-2.0 -lgdk-x11-2.0 -lpangocairo-1.0 -latk-1.0 -lcairo -lgdk_pixbuf-2.0 -lgio-2.0 -lpangoft2-1.0 -lpango-1.0 -lgobject-2.0 -lglib-2.0 -lfreetype -lpthread -lrt -lgthread-2.0 -lMVSdk -lpthread
make[1]: Leaving directory '/home/mind/MVSDK/demo/multicamera_demo'
mind@mind:~/MVSDK/demo/multicamera_demo$
```

无明显错误，运行程序

```
sudo ./multicamera_demo
```



## 5. 编译 OpenCv

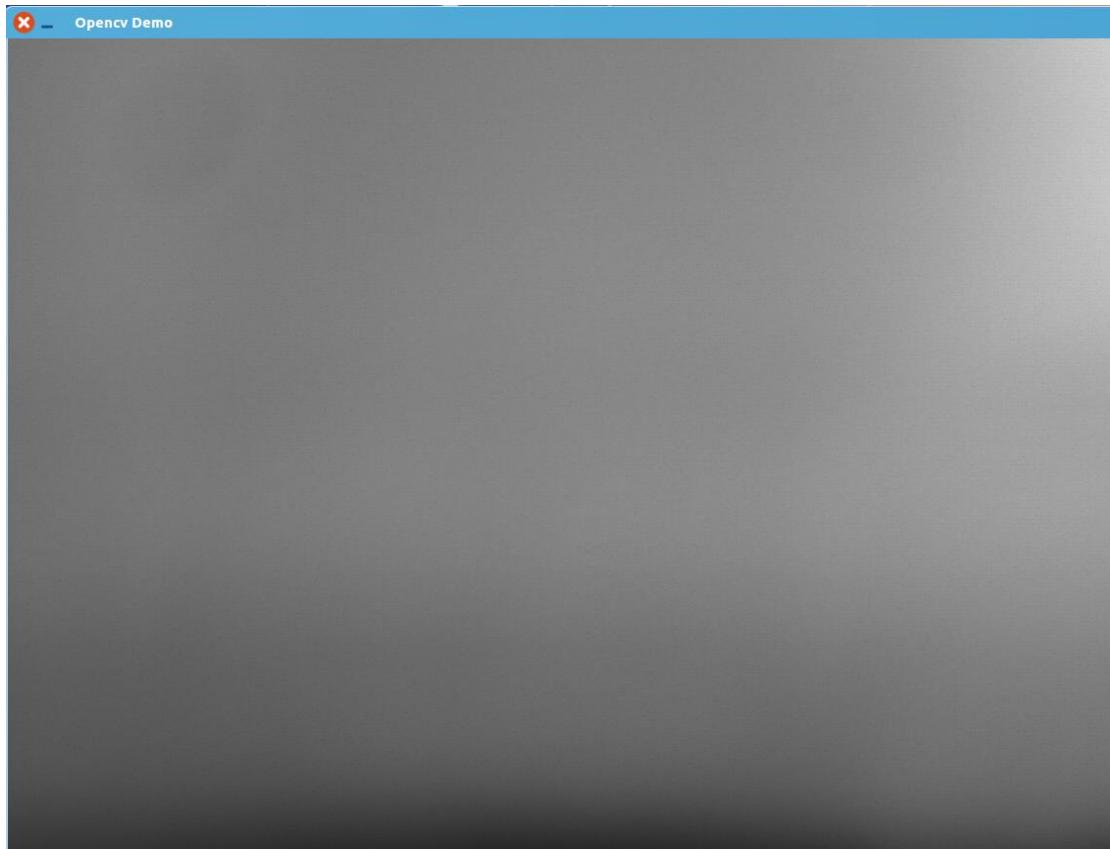
先安装 **opencv**，或者官网下载源码，进行编译

进入目录，编译，运行

```
cd MVSDK/demo/OpenCv
```

```
make
```

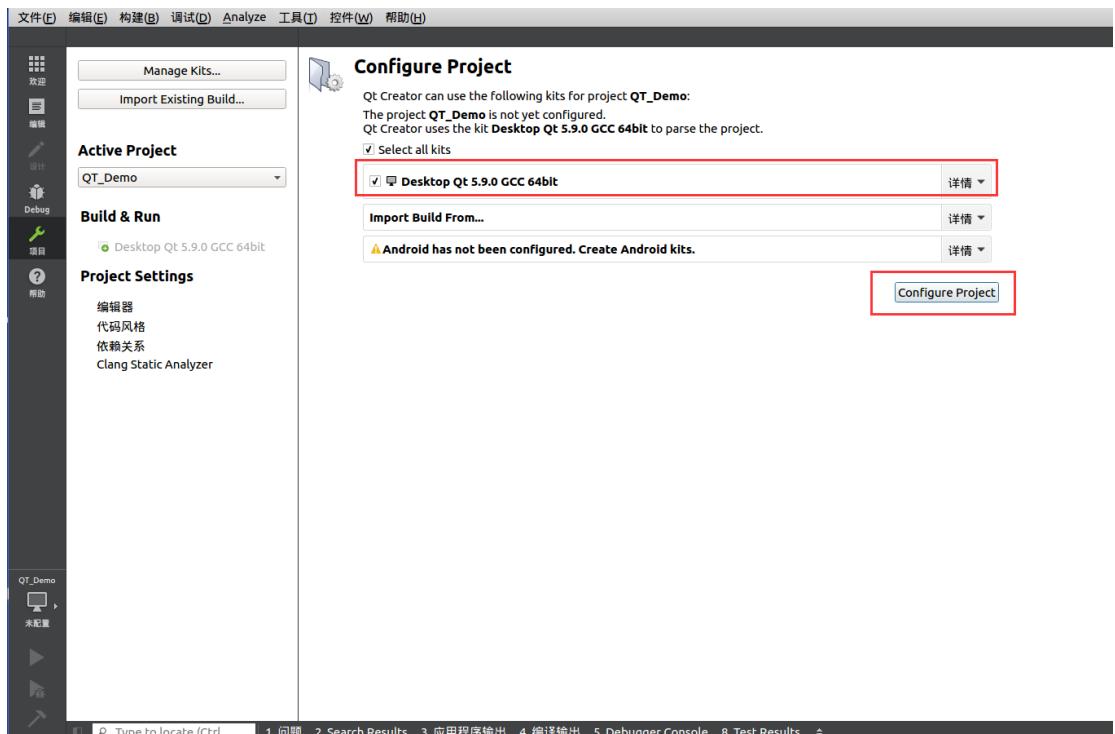
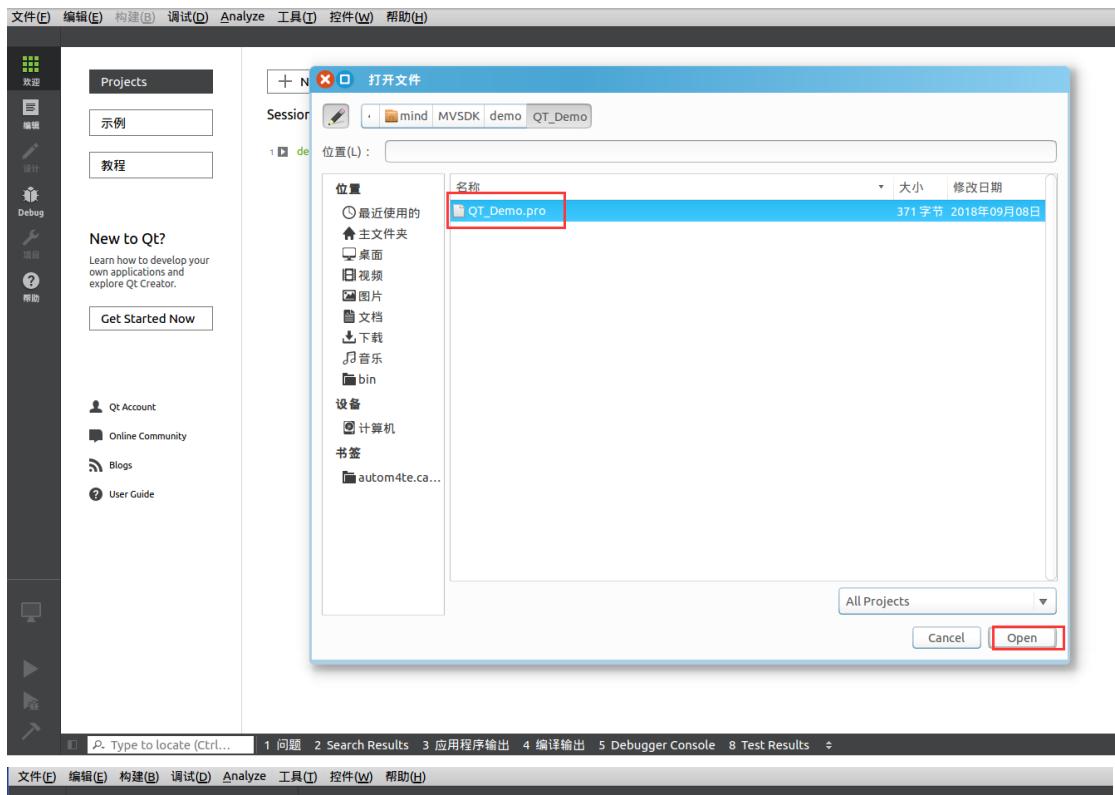
```
sudo ./main #运行
```



## 6. 编译 QT\_Demo4

### 1. 需要先安装 Qt

打开 Qt, 打开项目, 选择 pro 文件, 打开, 选择对应的构建器 (QT\_Demo4 改 QT5)

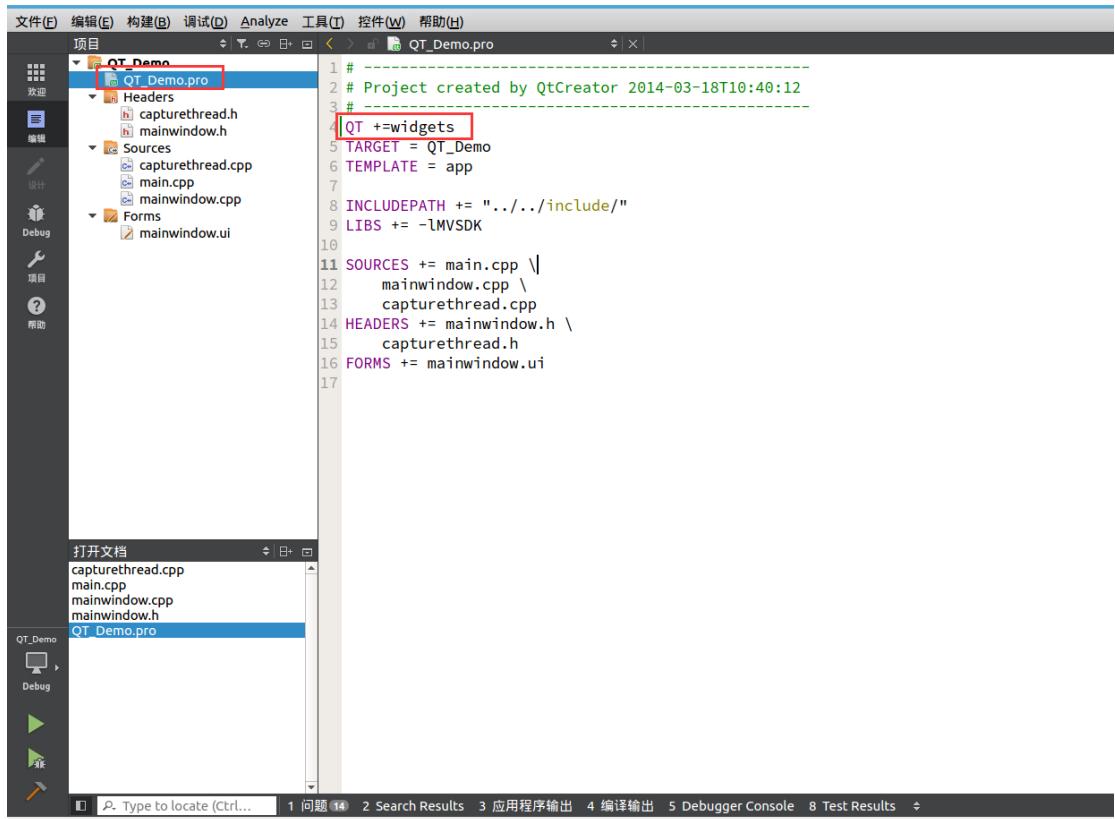


## 开始构建

Pro 文件 添加 `QT += widgets`

`INCLUDEPATH += ..../include` #修改

`LIBS += -L/lib -IMVSDK` #修改



如果出现 `#include <QtGui/QApplication>` 报错 改成`#include <QApplication>`

出现大量报错，添加头文件引用

mainwindow.h 头文件添加引用

```
#include <QLabel>
#include <QGraphicsScene>
#include <QGraphicsPixmapItem>
#include <QRadioButton>
#include <QDesktopWidget>
#include <QFileDialog>
#include <QTextCodec>
#include <QMessageBox>
```

`QTextCodec::setCodecForCStrings(QTextCodec::codecForName("GB2312"));` 删除

`fileDialog->setFilterst(tr("config Files(*.config ))");`

改成

`fileDialog->setNameFilters(QStringList()<<tr("config Files(*.config ))");`

The screenshot shows the Qt Creator IDE interface. The main window displays the code for `main.cpp`:

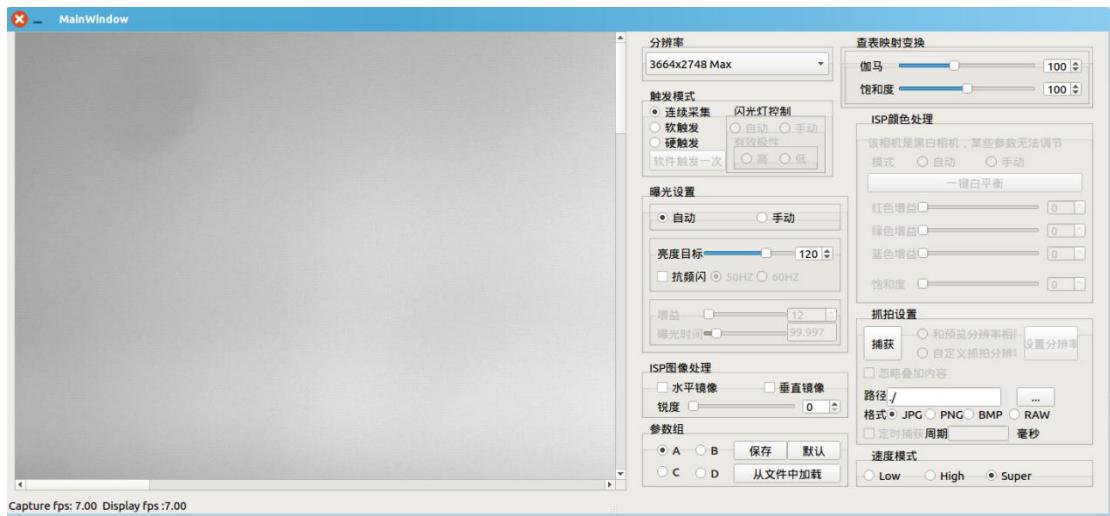
```

1 #include <QApplication>
2 #include "mainwindow.h"
3
4 int main(int argc, char *argv[])
5 {
6     QApplication a(argc, argv);
7     MainWindow w;
8     //没有发现设备
9     if(!w.status){
10         return 1;
11     }
12
13     w.show();
14     w.move ((QApplication::desktop()->width() - w.width())/2,(QApplication::desktop()->heig
15
16     return a.exec();
17
18 }
19
20

```

The Problems panel at the bottom lists several compilation errors:

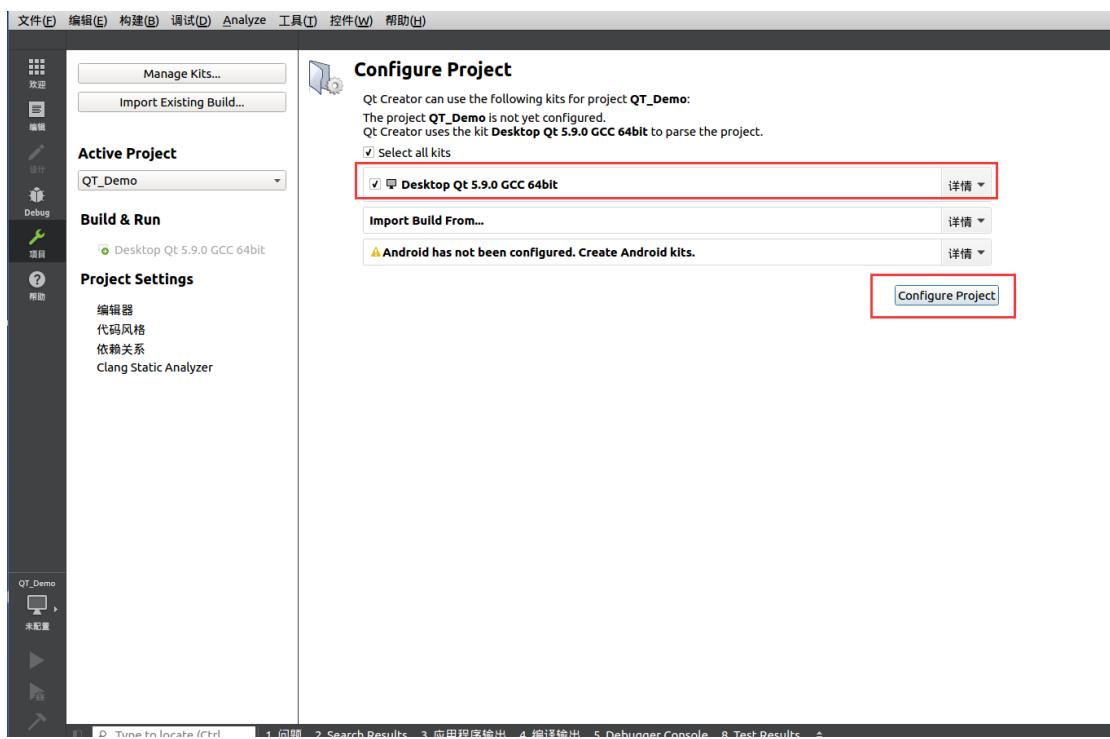
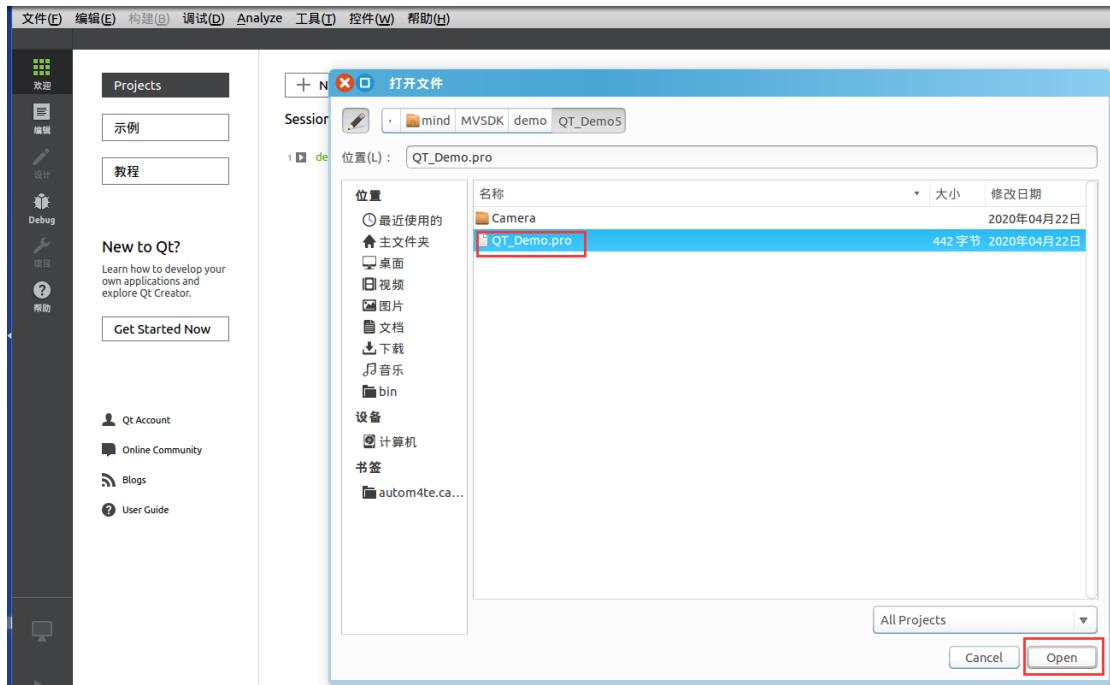
- 'QGraphicsScene' does not name a type
- 'QGraphicsPixmapItem' does not name a type
- 'QRadioButton' does not name a type
- In function 'int main(int, char\*)':
- invalid use of incomplete type 'class QDesktopWidget'
- In file included from /opt/Qt5.9.0/5.9/gcc\_64/include/QtWidgets/QApplication:1:0, from ./QT\_Demo/mainwindow.cpp:1:
- forward declaration of 'class QDesktopWidget'
- invalid use of incomplete type 'class QDesktopWidget'
- In file included from /opt/Qt5.9.0/5.9/gcc\_64/include/QtWidgets/QApplication:1:0, from ./QT\_Demo/mainwindow.cpp:1:
- forward declaration of 'class QDesktopWidget'

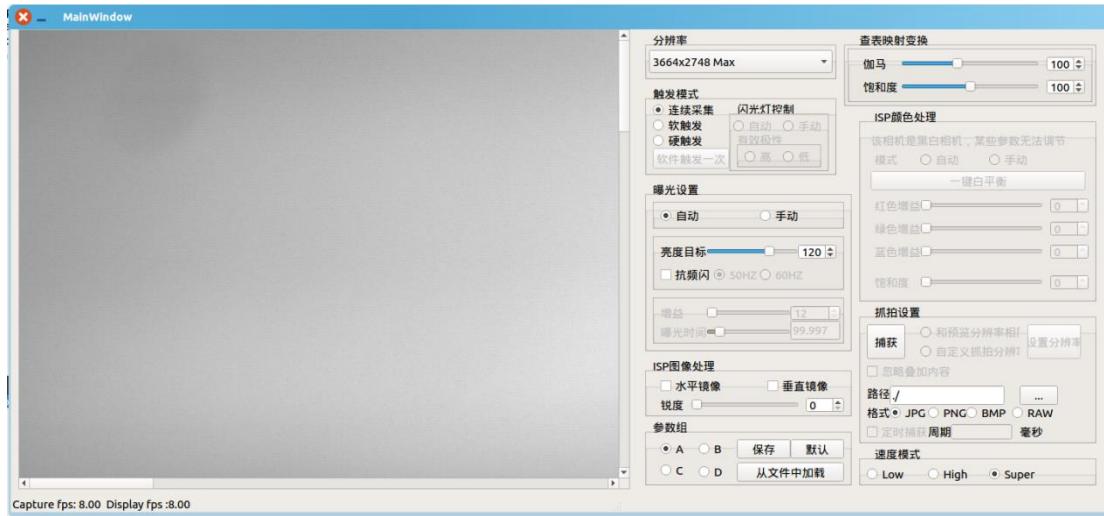


## 7. 编译 QT\_Demo5

### 1. 需要先安装 Qt

打开 Qt，打开项目，选择 pro 文件，打开，选择对应的构建器  
编译运行，即可





## 8. 编译 Sampli\_Save\_Demo

进入目录，清理项目，make 编译./demo 运行，输入 0，打开第 0 个相机，保存一张图像  
 cd MVSDK/demo/Sampli\_Save\_Demo

make clean

make

sudo ./demo

```

mind@mind:~/MVSDK/demo/Sampli_Save_Demo$ make all-am
make[1]: Entering directory `/home/mind/MVSDK/demo/Sampli_Save_Demo'
g++ -DHAVE_CONFIG_H -I. -I../../include -g -O2 -MT main.o -MD -MP -MF .deps/main.Tpo -c -o main.o main.cpp
main.cpp: In function 'int main()':
main.cpp:51:22: warning: ignoring return value of 'int scanf(const char*, ...)',
declared with attribute warn_unused_result [-Wunused-result]
    scanf("%d", &num);
mv -f .deps/main.Tpo .deps/main.Po
g++ -g -O2 -L/lib -o demo main.o -lMVSDK -lrt -lpthread -lpthread
make[1]: Leaving directory `/home/mind/MVSDK/demo/Sampli_Save_Demo'
mind@mind:~/MVSDK/demo/Sampli_Save_Demo$ ./demo
iCameraCounts =2
num =0 MV-SUA1000M 1
num =1 MV-GE500M-IT MV-GE500M-IT#0
Input 0-1:0
you input num 0
CameraInit iStatus =0
CameraGetCapability
CameraPlay
CameraSetIspOutFormat
end
mind@mind:~/MVSDK/demo/Sampli_Save_Demo$ 
```

