Lio-Mapping compilation

1、Install dependencies

ROS(ubuntu 18.04 melodic)

If Ceres solver is not installed, follow the steps below to install it.

```
#Find it under the lio_mapping/dependent software folder and extract it to the
motherboard for installation.
mkdir build && cd build
cmake ..
sudo make install
```

If GTSAM is not installed, follow the steps below to install it.

```
wget -O ~/Downloads/gtsam.zip https://github.com/borglab/gtsam/archive/4.0.0-
alpha2.zip
#If the download is slow, find it under the lio_mapping/dependent software folder
and extract it to the motherboard for installation.
cd ~/Downloads/ && unzip gtsam.zip -d ~/Downloads/
cd ~/Downloads/gtsam-4.0.0-alpha2/
mkdir build && cd build
cmake ..
sudo make install
```

ndt_omp

2、Source code path

imuCalibEx：

```
src/imuCalibEx
```

Lio-Mapping:

```
src/lio-mapping
```

3、Compile

Here we take Jetson nano as an example. The installation environment is ubuntu 18.04 and the ROS version is melodic. ROS (ubuntu 18.04 melodic), Ceres solver, GTSAM and other dependencies have been installed by default.

Compile

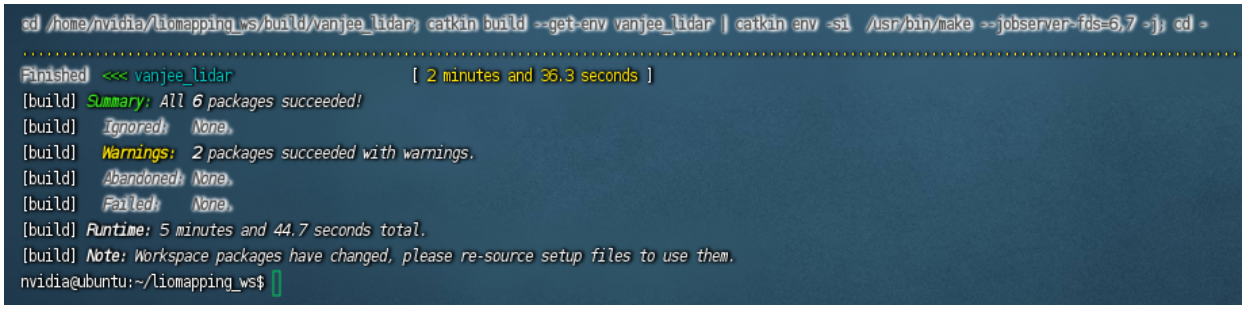
If it is the first time to compile, please enter the following command:

```
sudo mv /usr/include/flann/ext/lz4.h /usr/include/flann/ext/lz4.h.bak

sudo mv /usr/include/flann/ext/lz4hc.h /usr/include/flann/ext/lz4.h.bak

sudo ln -s /usr/include/lz4.h /usr/include/flann/ext/lz4.h

sudo ln -s /usr/include/lz4hc.h /usr/include/flann/ext/lz4hc.h
```

Then enter Lio_Sam's workspace to compile

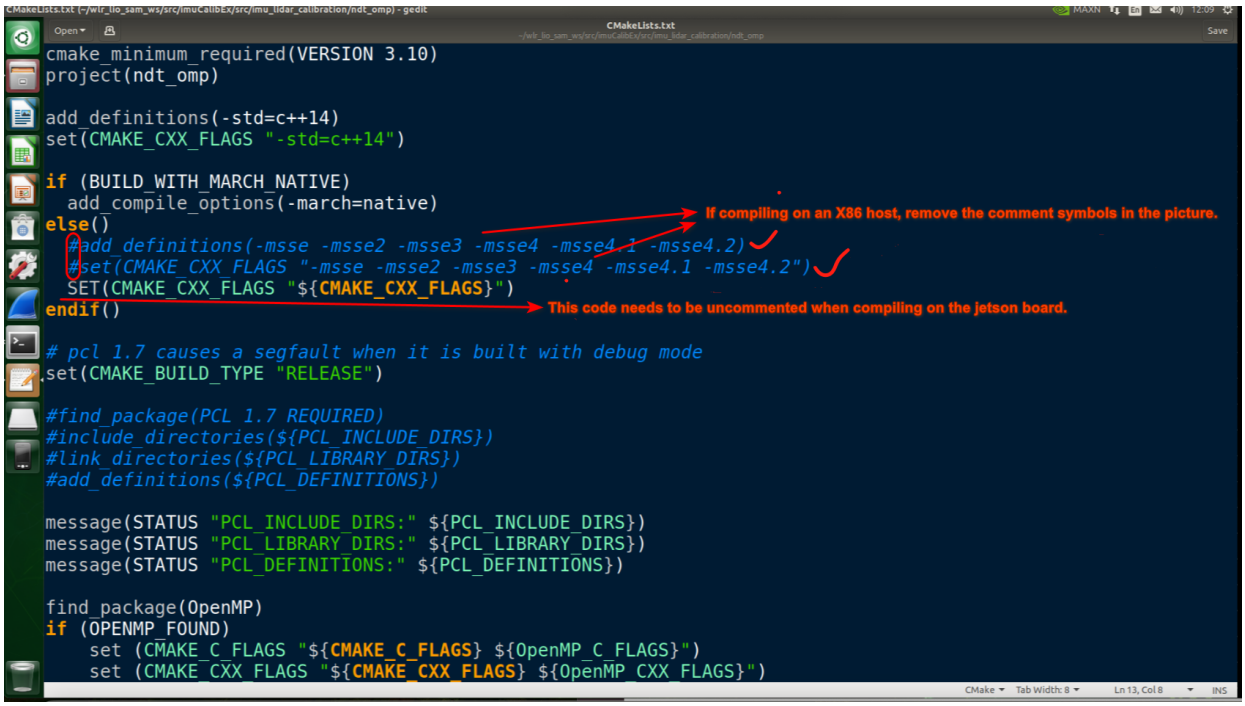
```
cd ~/lio_mapping_ws

catkin build
```

Compilation completed effect:



What you need to pay attention to is when compiling imuCalibEx, if it is on a Jetson nano class arm motherboard. You need to modify the location in the src/imuCalibEx/src/imu_lidar_calibration/ndt_omp/CMakeLists.txt file, as shown in the figure below.

```
SET(CMAKE_CXX_FLAGS "${CMAKE_CXX_FLAGS}")
```



You also need to modify the file src/imuCalibEx/src/imu_lidar_calibration/linkalibr/CMakeLists.txt, as shown below:

```
set(LIB_TBB_DIR /usr/lib/aarch64-linux-gnu)
```