VSCode调试利器: Debug LIO-SAM





分类专栏: LIO-SAM 文章标签: vscode ide 编辑器 c++

版权声明:本文为博主原创文章,遵循 CC 4.0 BY-SA 版权协议,转载请附上原文出处链接和本声明。

本文链接: https://blog.csdn.net/SunLHanC/article/details/127980345

版权



LIO-SAM 专栏收录该内容

0 订阅 1 篇文章

订阅专栏

跑通LIO_SAM->用VSCode调试ROS项目

1、编译lio-sam

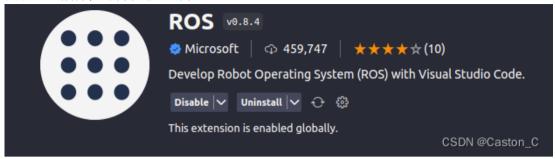
根据官方github的REAME即可,链接在此: LIO_SAM

安装好ros-melodic-navigation; ros-melodic-robot-localization; ros-melodic-robot-state-publisher: gtsam之后就可以编译运行程序。具体看README。

2、配置VSCode

2.1 在VSCode中设置ROS

安装ROS插件,选择微软的那款。



选择install即可

2.2 用VSCode来调试LIO-SAM(launch)

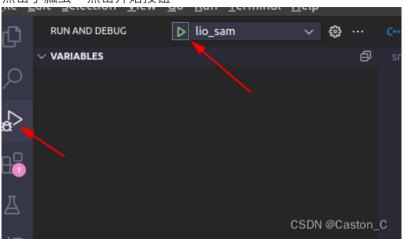
在.vscode文件夹下添加launch.json文件,复制如下到该文件。修改target为你的run.launch的绝对路径。

```
1
 2
      "version": "0.2.0",
 3
      "configurations": [
 4
          "name": "lio sam",
 5
          "type": "ros",
 6
          "request": "launch",
          "target": "/home/caston/Code/Cpp/lio_ws/src/LIO-SAM/launch/run.launch"
 8
 9
10
11
12 | }
```

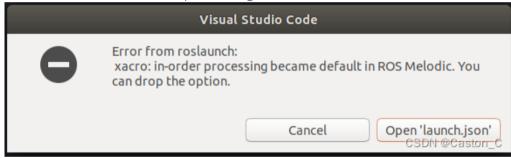
这里设置好以后,点击左侧小瓢虫就可以出现2.3中的效果啦。

2.3、直接debug报错

点击小瓢虫->点击开始按钮



出现了错误【xacro:in-order processing became default in ROS Melodic.You can drop the option】



错误提示: in-order选项在ROS-melodic版本中是默认的。

我们在项目中全局搜索这个选项找到在LIO-SAM的launch/include/module_robot_state_publisher.launch中有提到。在这里把-inorder给删掉即可。 接下来再点击开始按钮,可以看到,执行到预设的断点处了,也可以查看当前存活的变量值了。

```
VARIABLES
                                                                                           src > LIO-SAM > src > C mapOptmization.cpp > tamapOptimization > tamapOptmization > tamap
 Locals
                                                                                                                                           Pose3 latestEstimate:

∨ pcl:: PointXYZI (base): pcl:: PointXYZI
                                                                                                                                          isamCurrentEstimate = isam->calculateEstimate():
    > <anonymous union>
                                                                                                                                          latestEstimate = isamCurrentEstimate.at<Pose3>(isamCurrentEstimate.size()-1);

√ <anonymous struct>
          intensity: 0
                                                                                                                                          // isamCurrentEstimate.print("Current estimate: ");
    ∨ data c
          [0]: 0
                                                                                                 1656
          [1]: 4.59163468e-41
                                                                                                                                          thisPose3D.x = latestEstimate.translation().x():
                                                                                                                                          thisPose3D.y = latestEstimate.translation().y();
          [3]: 4.59163468e-41
                                                                                                                                          thisPose3D.z = latestEstimate.translation().z();
                                                                                                1660
                                                                                                                                          thisPose3D.intensity = cloudKeyPoses3D->size(); // this can be used as index, 这个索
                                                                                                 1061
                                                                                                                                          cloudKeyPoses3D->push back(thisPose3D);
                                                                                           1662
                                                                                                                                          thisPose6D.x = thisPose3D.x;
 Registers
                                                                                                                                          thisPose6D.y = thisPose3D.y;
                                                                                                1664
                                                                                                                                          thisPose6D.z = thisPose3D.z;
                                                                                                                                          thisPose6D.intensity = thisPose3D.intensity ; // this can be used as index
                                                                                                                                          thisPose6D.roll = latestEstimate.rotation().roll();
WATCH
                                                                                                                                          thisPose6D.pitch = latestEstimate.rotation().pitch();
                                                                                                                                          thisPose6D.yaw = latestEstimate.rotation().yaw();
                                                                                                                                          thisPose6D.time = timeLaserInfoCur;
                                                                                                1670
                                                                                                1671
                                                                                                                                          cloudKeyPoses6D->push back(thisPose6D);
                                                                                                                                                                                                                                                                                                                                                                    CSDN @Caston C
```

ps1:记得另启一个终端,rosbag play~

ps2:如果想尽可能显示多变量信息,记得在CMakeLists.txt中关闭优化,在其中注释掉RELEASE相关行,并添加两行即可

SET(CMAKE_BUILD_TYPE Debug)

set(CMAKE_CXX_FLAGS_RELEASE "-00 -Wall -g -pthread")

ps3:切记,打开工程从命令行进入,具体操作如下:

- cd code path
- source devel/setup.bash
- rm -rf .vscode # 这里删除.vscode是因为不删除的话每次打开我的vscode就会丧失变量类型查看的功能。一堆飘红,看着很难受!
- 4 code.