How to Build a Map Using Logged Data

安装gmapping运行数据集

1. ROS下安装gmapping的两种方式

slam-gmapping封装好的代码包

openslam-gmapping源代码

方法一：软件包安装

$ sudo apt-get install ros-indigo-openslam-gmapping

将会安装1个软件包：ros-indigo-openslam-gmapping

$ sudo apt-get install ros-indigo-slam-gmapping

$ rosmake gmapping

将会安装3个软件包：ros-indigo-gmapping ros-indigo-slam-gmapping ros-indigo-openslam-gmapping

方法二：github安装

cd ~/catkin\_ws/src

git clone https://github.com/ros-perception/slam\_gmapping.git

git clone https://github.com/ros-perception/openslam\_gmapping.git

cd ..

catkin\_make

以上方法安装后，运行的方式一样。

1. Get a bag. 找一个数据集

例如：basic\_localization\_stage.bag

拷贝到主文件夹或者其他目录下。目前测试过发现其他数据集不能使用，例如Team\_Hector\_MappingBox\_RoboCup\_2011\_Rescue\_Arena.bag数据集。

2. Bring up the master:

$ roscore

3. Make sure that use\_sim\_time is set to true before any nodes are started:

$ rosparam set use\_sim\_time true

4. Bring up slam\_gmapping, which will take in laser scans (in this case, on the base\_scan topic) and produce a map:

$ rosrun gmapping slam\_gmapping scan:=base\_scan

Note: On the PR2, the odom frame is named odom\_combined. Use the command:

$ rosrun gmapping slam\_gmapping scan:=base\_scan \_odom\_frame:=odom\_combined

5. In a new terminal, start playing back the bag file to feed data to slam\_gmapping:

$ rosbag play --clock <name of the bag that you downloaded / created in step 2>

Wait for rosbag to finish and exit.

6. Save your new map to disk using map\_saver from the map\_server package:

$ rosrun map\_server map\_saver -f <map\_name>

You now have a map, saved locally as map.pgm. Congratulations. You can view it with any image viewer (gimp, eog, gthumb, etc.).

7. Variation: watching the mapping progress

If you don't care to wait until the log playback and mapping process has finished before seeing some results, then you can watch the progress in rviz.

$ rosrun rviz rviz

Add a display with a map, set to the topic /map