

Setup

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Sources

Sources used while getting this up and running:

ROS

Cartographer

Cartographer install: <https://google-cartographer-ros.readthedocs.io/en/latest/compilation.html>

Cartographer dependencies issue: https://github.com/cartographer-project/cartographer_ros/issues/1726

Cartographer build issues: <https://stackoverflow.com/questions/32801638/cmake-error-at-cmakelists-txt30-project-no-cmake-c-compiler-could-be-found>

All the dependencies which were problematic during the build process:

```
# Install Boost iostreams
sudo apt install libboost-iostreams-dev

# Install Ceres
sudo apt install libceres-dev

# Install Lua
sudo apt install liblua5.2-dev

# Install Protobuf
sudo apt install libprotobuf-dev protobuf-compiler

# Install Cairo
sudo apt install libcairo2-dev
```

```
# Install PCL Conversions
```

```
sudo apt install ros-noetic-pcl-conversions
```

```
# Install tf2_eigen
```

```
sudo apt install ros-noetic-tf2-eigen
```

```
# Install URDF
```

```
sudo apt install ros-noetic-urdf
```

```
# Install Google Mock (GMock)
```

```
sudo apt install libgmock-dev
```

```
# Install Google Test (if needed)
```

```
sudo apt install libgtest-dev
```

```
cd /usr/src/gtest
```

```
sudo cmake .
```

```
sudo make
```

```
sudo cp *.a /usr/lib
```

```
# Install RViz
```

```
sudo apt install ros-noetic-rviz
```

```
# Install roslint
```

```
sudo apt install ros-noetic-roslint
```

```
# Install PCL ROS
```

```
sudo apt install ros-noetic-pcl-ros
```

Docker

The ros:noetic-ros-core container is already pulled and created on the system. If it's not running it can be started again with

```
rkitec@gibsonhh:~$ docker start rosbag_container
```