Useful commands

Start a container:

docker run -it <image\_name>

Start a container with a mounted drive catkin\_ws:

docker run -it -v ~/workspaces/catkin\_ws:/workspace/catkin\_ws <image\_name>

Start a container and give tty/USB0 access:

docker run -it -v ~/workspaces/catkin\_ws:/workspace/catkin\_ws -i --device=/dev/ttyUSB0 <image\_name>

include --network=host may be helpful

Enter terminal of existing running container:

docker exec -it <container> bash

Commit a docker container to new image:

docker commit <container> ros\_noetic:versionx

Save image:

docker save -o ros\_noetic\_image.tar ros\_noetic:version3

Load image

docker load -i <path to image tar file>

Bring up:

1. Enable SPI with opt/nvidia/jetson-io
2. Sudo modprobe spidev
3. To get dev/ttyUSB0, call sudo apt remove brltty
4. Git clone <https://github.com/dusty-nv/jetson-containers.git>
5. Follow instructions to set up
6. Build the image with sudo docker run --runtime nvidia -it --rm –network=host dustynv/ros:noetic-desktop-l4t-r32.7.1

Suggested packages to install:

1. sudo apt-get update
2. sudo apt install net-tools
3. git clone rplidar: <https://github.com/satomm1/rplidar_ros.git>
4. Install bigger version of ros noetic:

sudo apt install ros-noetic-desktop

1. Git clone MattbotBringup: <https://github.com/satomm1/MattbotBringup.git>
2. Pip install spidev
3. Git clone slam\_gmapping: [https://github.com/satomm1 /slam\_gmapping.git](https://github.com/satomm1%20/slam_gmapping.git)

In ~/.bashrc file:

1. source ~/workspace/catkin\_ws/devel/setup.bash
2. export ROS\_IP=192.168.50.\*\*\*
3. export ROS\_MASTER\_URI=http://$ROS\_IP:11311
4. export MATTBOT\_3D\_SENSOR=astra

Git token:

github\_pat\_11AV2UEYA01EME4tOAQAkg\_8NE9AA4FTG7umeMbIlTZXQU82imcVUF0ShMteU7avzfQDH26AKTIb2Q9pMz