

Getting Started

Prerequisites

All development happens on [Ubuntu 22.04 \(Jammy Jellyfish\)](#). If you are running Windows, the easiest way to install it is [through WSL2](#).

If you prefer to work in Docker, you can use image `docker.io/osrf/ros:humble-desktop-full`.

You need to have a basic understanding of ROS2. Follow [ROS2 tutorials](#) before you continue.

First time setup

See [README.md](#) for more up-to-date instructions.

Watch out! NVIDIA “helpfully” keeps packages more up-to-date than stock Ubuntu, so e.g. OpenCV's version will be fresher on Jetson, compared to your development laptop.

```
### Download the code
git clone https://github.com/RoboTeamTwente/erc-software-rover
cd erc-software-rover
git submodule update --init --recursive

### Launch ROS2 in Docker (only if you don't have Ubuntu 22.04)
#docker run --rm -it -v $PWD:/src -v /tmp/.X11-unix:/tmp/.X11-unix -e DISPLAY osrf/ros:humble-
desktop-full
#cd /src

### Install dependencies
apt update
rosdep install -iy --from-path src

### Compile RealSense depth cam driver with custom flags
```

```
# It is a good time to grab some tea.  
# Compilation will take about 5 minutes on a reasonably modern laptop,  
# or about 30 minutes on Jonny Boi.  
colcon build --packages-select librealsense2 --cmake-args \  
-DCHECK_FOR_UPDATES=OFF \  
-DFORCE_RSUSB_BACKEND=ON
```

`librealsense2` is built from source to switch it to the `RSUSB` backend. We use this backend because it does not require a kernel patch, unlike the default one. See the [RealSense installation guide](#) for details. We also disable the update checker, because it fails to build for some reason.

Common operations

Compile

While working on a package, you'll frequently want to compile it and all its dependencies:

```
colcon build --packages-up-to=$PACKAGE  
source install/local_setup.bash
```

Don't forget to `cd` to the root of the repo!

`local_setup.bash` doesn't need to be sourced most of the time.

Run your code

There are two different things you can run in ROS2: A node, and a launch file. For more details see [Understanding nodes](#) and [Launching nodes](#).

```
ros2 run $PACKAGE $EXECUTABLE  
# -- or --  
ros2 launch $PACKAGE $LAUNCH_FILE
```

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