```
dominik@dominik-ubuntu:~/Documents/Robotics$ bash run_cpu.sh
non-network local connections being added to access control list
xauth:  /tmp/.docker.xauth not writable, changes will be ignored
xauth: (argv):1:  unable to read any entries from file "(stdin)"
chmod: changing permissions of '/tmp/.docker.xauth': Operation not permitted
LabRobotics02
LabRobotics02
root@dominik-ubuntu:/# exit
```

```
dominik@dominik-ubuntu:~/Documents/Robotics$ docker exec -it LabRobotics02 bash
root@dominik-ubuntu:/# source /opt/ros/noetic/setup.bash
root@dominik-ubuntu:/# rescore
bash: rescore: command not found
root@dominik-ubuntu:/# roscore
... logging to /root/.ros/log/c8b238ba-bf88-11ed-9d31-9cb6d01baea1/roslaunch-dominik-ubuntu-54.log
Checking log directory for disk usage. This may take a while.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.

started roslaunch server http://dominik-ubuntu:36567/
ros_comm version 1.15.15


SUMMARY
========

PARAMETERS
 * /rosdistro: noetic
 * /rosversion: 1.15.15

NODES

auto-starting new master
process[master]: started with pid [62]
ROS_MASTER_URI=http://dominik-ubuntu:11311/

setting /run_id to c8b238ba-bf88-11ed-9d31-9cb6d01baea1
process[rosout-1]: started with pid [72]
started core service [/rosout]
```

```
dominik@dominik-ubuntu:~/Documents/Robotics$ docker exec -it LabRobotics02 bash
root@dominik-ubuntu:/# source /opt/ros/noetic/setup.bash
root@dominik-ubuntu:/# rosnode list
/rosout
root@dominik-ubuntu:/# rostopic list
/rosout
/rosout_agg
root@dominik-ubuntu:/#
```

```
root@dominik-ubuntu:/# sudo apt-get install ros-noetic-cv-camera
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  ros-noetic-cv-camera
0 upgraded, 1 newly installed, 0 to remove and 178 not upgraded.
Need to get 61.8 kB of archives.
After this operation, 300 kB of additional disk space will be used.
Get:1 http://packages.ros.org/ros/ubuntu focal/main amd64 ros-noetic-cv-camera amd64 0.6.0-1focal.20230215.235810 [61.8 kB]
Fetched 61.8 kB in 1s (59.6 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package ros-noetic-cv-camera.
(Reading database ... 110618 files and directories currently installed.)
Preparing to unpack .../ros-noetic-cv-camera_0.6.0-1focal.20230215.235810_amd64.deb ...
Unpacking ros-noetic-cv-camera (0.6.0-1focal.20230215.235810) ...
Setting up ros-noetic-cv-camera (0.6.0-1focal.20230215.235810) ...
root@dominik-ubuntu:/#
```

```
root@dominik-ubuntu:/# rosparam set cv_camera/device_id 0
root@dominik-ubuntu:/# osrun cv_camera cv_camera_node
bash: osrun: command not found
root@dominik-ubuntu:/# rosrun cv_camera cv_camera_node
[ WARN:0] global ../modules/videoio/src/cap_gstreamer.cpp (480) isPipelinePlaying OpenCV | GStreamer warning: GStreamer: pipeline have not been created
[ INFO] [1678483280.801651469]: using default calibration URL
[ INFO] [1678483280.803310399]: camera calibration URL: file:///root/.ros/camera_info/camera.yaml
[ INFO] [1678483280.803428952]: Unable to open camera calibration file [/root/.ros/camera_info/camera.yaml]
[ WARN] [1678483280.803523393]: Camera calibration file /root/.ros/camera_info/camera.yaml not found.
```

```
root@dominik-ubuntu:/# source /opt/ros/noetic/setup.bash
root@dominik-ubuntu:/# rostopic list
/cv_camera/camera_info
/cv_camera/image_raw
/cv_camera/image_raw/compressed
/cv_camera/image_raw/compressed/parameter_descriptions
/cv_camera/image_raw/compressed/parameter_updates
/cv_camera/image_raw/compressedDepth
/cv_camera/image_raw/compressedDepth/parameter_descriptions
/cv_camera/image_raw/compressedDepth/parameter_updates
/cv_camera/image_raw/theora
/cv_camera/image_raw/theora/parameter_descriptions
/cv_camera/image_raw/theora/parameter_updates
/rosout
/rosout_agg
root@dominik-ubuntu:/#
```
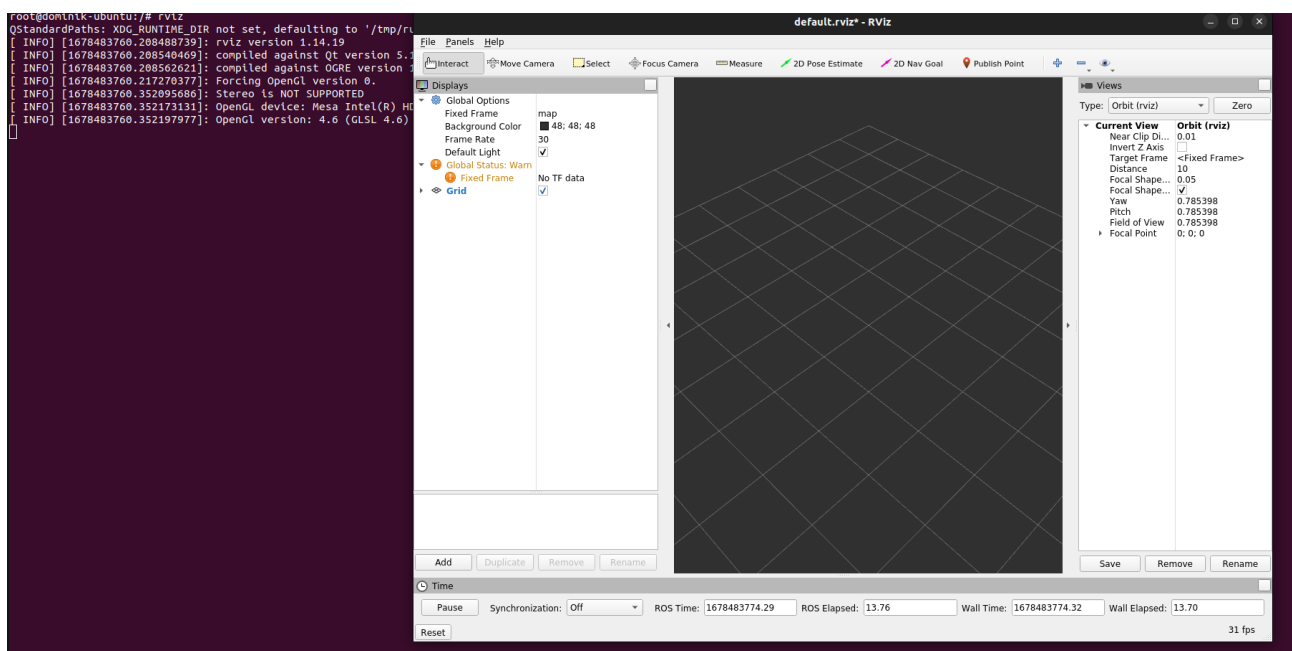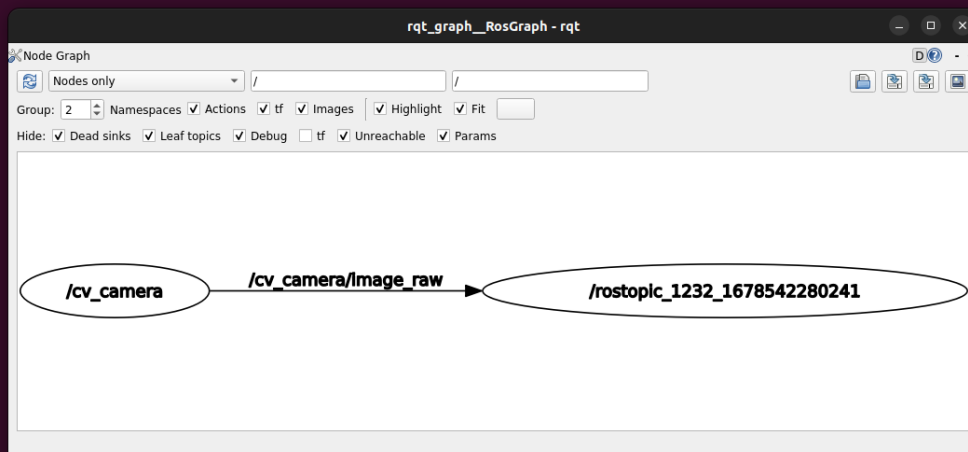
```
root@dominik-ubuntu:~/catkin_ws# source devel/setup.bash
root@dominik-ubuntu:~/catkin_ws# catkin_make
Base path: /root/catkin_ws
Source space: /root/catkin_ws/src
Build space: /root/catkin_ws/build
Devel space: /root/catkin_ws/devel
Install space: /root/catkin_ws/install
####
#### Running command: "make cmake_check_build_system" in "/root/catkin_ws/build"
####
####
#### Running command: "make -j8 -l8" in "/root/catkin_ws/build"
####
root@dominik-ubuntu:~/catkin_ws#
```

```
root@dominik-ubuntu:~/catkin_ws/src# git clone https://github.com/dominikbelter/sensors_demos_gazebo
Cloning into 'sensors_demos_gazebo'...
remote: Enumerating objects: 37, done.
remote: Counting objects: 100% (37/37), done.
remote: Compressing objects: 100% (29/29), done.
remote: Total 37 (delta 8), reused 25 (delta 3), pack-reused 0
Unpacking objects: 100% (37/37), 474.84 KiB | 3.06 MiB/s, done.
root@dominik-ubuntu:~/catkin_ws/src#
```

```
root@dominik-ubuntu:~/catkin_ws# catkin_make
Base path: /root/catkin_ws
Source space: /root/catkin_ws/src
Build space: /root/catkin_ws/build
Devel space: /root/catkin_ws/devel
Install space: /root/catkin_ws/install
####
#### Running command: "cmake /root/catkin_ws/src -DCATKIN_DEVEL_PREFIX=/root/catkin_ws/devel -DCMAKE_INSTALL_PREFIX=/root/catkin_ws/install -G Unix Makefiles" in "/root/catkin_ws/build"
####
-- Using CATKIN_DEVEL_PREFIX: /root/catkin_ws/devel
-- Using CMAKE_PREFIX_PATH: /root/catkin_ws/devel;/opt/ros/noetic
-- This workspace overlays: /root/catkin_ws/devel;/opt/ros/noetic
-- Found PythonInterp: /usr/bin/python3 (found suitable version "3.8.10", minimum required is "3")
-- Using PYTHON_EXECUTABLE: /usr/bin/python3
-- Using Debian Python package layout
-- Using empy: /usr/lib/python3/dist-packages/em.py
-- Using CATKIN_ENABLE_TESTING: ON
-- Call enable_testing()
-- Using CATKIN_TEST_RESULTS_DIR: /root/catkin_ws/build/test_results
-- Forcing gtest/gmock from source, though one was otherwise available.
-- Found gtest sources under '/usr/src/googletest': gtests will be built
-- Found gmock sources under '/usr/src/googletest': gmock will be built
-- Found PythonInterp: /usr/bin/python3 (found version "3.8.10")
-- Using Python nosetests: /usr/bin/nosetests3
-- catkin 0.8.10
-- BUILD_SHARED_LIBS is on
-- BUILD_SHARED_LIBS is on
-- ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
-- ~~  traversing 1 packages in topological order:
-- ~~  - sensors_demos_gazebo
-- ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
-- +++ processing catkin package: 'sensors_demos_gazebo'
-- ==> add_subdirectory(sensors_demos_gazebo)
-- Using these message generators: gencpp;geneus;genlisp;gennodejs;genpy
-- Configuring done
-- Generating done
-- Build files have been written to: /root/catkin_ws/build
####
#### Running command: "make -j8 -l8" in "/root/catkin_ws/build"
####
root@dominik-ubuntu:~/catkin_ws#
```