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Install oToCAM222 Driver on AFE-R750 with JetPack 6.1v7

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Advantech
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Install Driver

Set GMSL camera device tree in system by running the built-in script based on SoC. Run this step only once and system will reboot automatically.

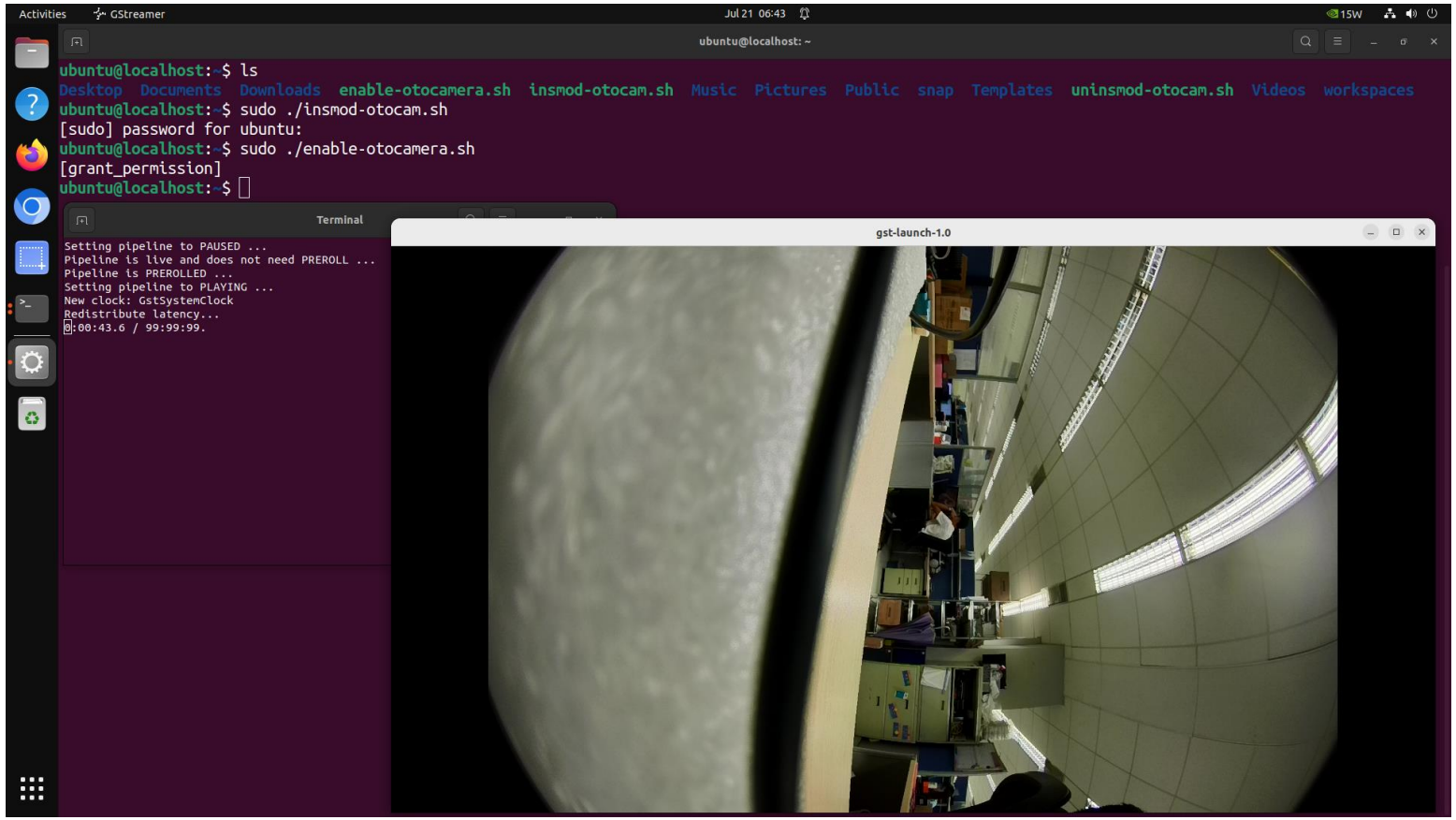
$ cd /usr/local/bin/otocam
[AGX Orin 64G]
$ sudo ./set_otocam_agxorin_64g.sh
[AGX Orin 32G]
$ sudo ./set_otocam_agxorin_32g.sh
[Orin NX]
$ sudo ./set_otocam_orinnx.sh



Light Up Camera Test

After AFE-R750 reboot, execute the inserting driver script and enabling camera script, the video stream will show up.

$ cd /home/ubuntu
$ sudo ./insmod-otocam.sh
$ sudo ./enable-otocamera.sh



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Integrate Camera Video Streaming into ROS2

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Install ROS2 and V4L2 ROS2 node

- Install ROS2 by Advantech Robotic Suite or official ROS2 website.

https://docs.robotic-suite.advantech.com/docs/Software/download/

https://docs.ros.org/en/jazzy/Installation/Ubuntu-Install-Debs.html

- Enable ROS2 environment in default (optional, run only once).

  $ echo source /opt/ros/humble/setup.bash >> ~/.bashrc

- Install V4L2 ROS2 node.

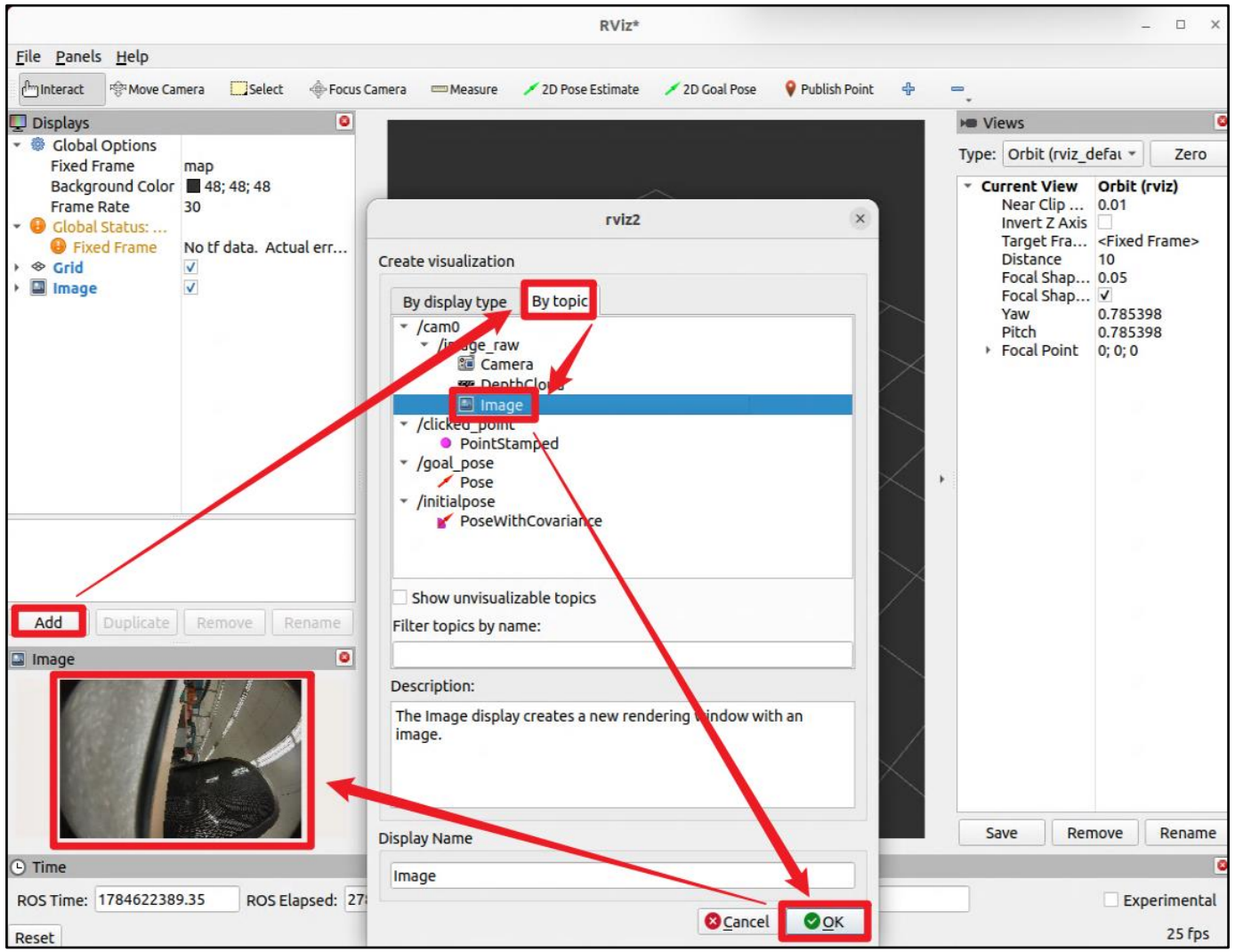
  $ sudo apt install ros-humble-v4l2-camera

Integrate Video into ROS2

- Run V4L2 ROS2 node with video0 parameter.
  - $ ros2 run v4l2_camera v4l2_camera_node --ros-args \
    -p video_device:="/dev/video0" \
    -p image_size:=[1920,1080] \
    -p pixel_format:="UYVY" \
    -p output_encoding:="yuv422" \
    -r __ns:=/cam0 --log-level FATAL
- Open another terminal and run second node with video1 parameter.
  - $ ros2 run v4l2_camera v4l2_camera_node --ros-args \
    -p video_device:="/dev/video1" \
    -p image_size:=[1920,1080] \
    -p pixel_format:="UYVY" \
    -p output_encoding:="yuv422" \
    -r __ns:=/cam1 --log-level FATAL

Integrate Video into ROS2

- Run rviz2 and add Image by topic.



Contact Window and File Link

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