

03_RealSense D435i + ROS2 Humble install (VMware Ubuntu 22.04) English

System Environment

- System: Ubuntu 22.04 (Virtual Machine, VMware)
- ROS 2 Version: Humble
- Camera: Intel RealSense D435i
- Usage: RealSense Viewer + ROS2 Wrapper + RTAB-Map

1. Install ROS 2 Humble

[01_ROS 2 Humble Installation and Verification \(Ubuntu 22.04\)](#)

2. Create ROS2 Workspace

```
mkdir -p ~/ros2_ws/src
cd ~/ros2_ws
colcon build
source install/setup.bash
echo "source ~/ros2_ws/install/setup.bash" >> ~/.bashrc
```

`echo "source ~/ros2_ws/install/setup.bash" >> ~/.bashrc` adds this environment to the `.bashrc` file.

3. Install librealsense (Source Compilation Method)

 Reason: Intel's apt repository is inaccessible, manual compilation required.

Install Dependencies:

```
sudo apt install git libssl-dev libusb-1.0-0-dev pkg-config libgtk-3-dev cmake
libglfw3-dev libgl1-mesa-dev libglu1-mesa-dev
```

Clone and Build librealsense:

```
cd ~
git clone https://github.com/IntelRealSense/librealsense.git
cd librealsense
mkdir build && cd build
cmake .. -DCMAKE_BUILD_TYPE=Release -DBUILD_EXAMPLES=true
make -j$(nproc)
sudo make install
```

Add UDEV Rules:

```
cd ~/librealsense
sudo cp config/99-realsense-libusb.rules /etc/udev/rules.d/
sudo udevadm control --reload-rules
sudo udevadm trigger
```

Recommended to reboot: `reboot`

✓ 4. RealSense Viewer Test

```
realsense-viewer
```

Confirm that you can see the image feed, IMU data, etc.

✓ 5. VMware Virtual Machine Configuration (Very Important!)

Set USB Controller to 3.0:

- Shut down the virtual machine
- Settings → USB Controller → Select **USB 3.0 (xHCI)**

Enable Device Connection:

- VMware top menu → Devices → Removable Devices → Intel RealSense D435i → Connect (Disconnect from Host)

If Unable to Mount Device:

1. Run VMware as Administrator
 2. Disable the RealSense driver in the host's Device Manager (to prevent host occupation)
 3. Restart the virtual machine and reconnect
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✓ 6. Check Camera Recognition

```
lsusb
```

Should see:

