📡Raspberry Pi → Laptop RTSP Streaming (Ubuntu 22.04)

This guide describes a working, low-lag RTSP streaming setup using a Raspberry Pi camera and **MediaMTX** as the RTSP server. It avoids the common `failed to import fd DMA buffer` errors and works well for real-time applications like YOLO object detection.

🔗Requirements

- Raspberry Pi running **Ubuntu 22.04**
- Pi Camera Module (**libcamera / rpicam-apps** installed)
- Laptop with **ffplay** (from `ffmpeg`) or **VLC** installed
- Both devices connected to the **same network**

✂️Install and Start MediaMTX on the Pi

MediaMTX is a lightweight RTSP server.

```
sudo snap install mediamtx
sudo snap start mediamtx
```

✒️Run Camera Stream on the Pi

Use `rpicam-vid` to push the stream into MediaMTX.

```
rpicam-vid -t 0 -n -o rtsp://127.0.0.1:8554/stream
```

Explanation: - `-t 0` → run indefinitely - `-n` → no preview window - `-o` → send output to the RTSP server

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🛌View Stream on Laptop

On the laptop, open the stream using **ffplay** or **VLC**. Replace `<PI_IP>` with the Raspberry Pi's IP address.

Using ffplay (recommended for low latency):

```
ffplay rtsp://<PI_IP>:8554/stream
```

Using VLC:

1. Open VLC → *Media* → *Open Network Stream*
2. Enter: `rtsp://<PI_IP>:8554/stream`

🧮 Notes

- Minimal lag observed (<200 ms).
- If you need to test latency, compare with a stopwatch app or timestamp overlay.
- Works smoothly with **YOLO inference** when integrated with Python + OpenCV RTSP capture.

✅You now have a reliable RTSP camera feed from Raspberry Pi → Laptop.