

RunBook incl. Installation

Runbook -- Raspberry Pi Webcam-Streaming mit Logitech C920 und MediaMTX

****Version:**** 2.0\

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1. Ziel

Bereitstellung einer Logitech C920 als RTSP-Stream für:

- OBS
 - VLC
 - Home Assistant
 - weitere RTSP-Clients
-

2. Architektur

```
``` text
```

Logitech C920

|



Raspberry Pi

|

/dev/video0

|

FFmpeg (H.264)

|

MediaMTX

|

rtsp://<IP>:8554/webcam

|

├─ OBS

├─ VLC

└─ Home Assistant

```
```
```

3. Hardware

- Raspberry Pi 4 oder 5 (64 Bit empfohlen)
- Logitech C920
- stabiles Netzteil
- Netzwerkverbindung

4. Software

- Raspberry Pi OS 64 Bit
- FFmpeg
- MediaMTX

5. Voraussetzungen

```
``` bash
```

uname -a

```
```
```

Sollte `aarch64` enthalten.

6. Installation

Webcam prüfen

```
``` bash
lsusb
ls /dev/video*
v4l2-ctl --all
v4l2-ctl --list-formats-ext
```
```

Auflösung setzen:

```
``` bash
v4l2-ctl --set-fmt-video=width=1920,height=1080,pixelformat=MJPEG
v4l2-ctl --set-parm=30
```
```

FFmpeg

```
``` bash
sudo apt update
sudo apt install ffmpeg
```
```

MediaMTX

```
``` bash
cd /tmp
wget
https://github.com/bluenvron/mediamtx/releases/download/v1.19.2/mediamtx_v1.19.2_linux_arm64.tar.gz
tar xzf mediamtx_v1.19.2_linux_arm64.tar.gz

sudo mv mediamtx /usr/local/bin/
sudo mkdir -p /etc/mediamtx
sudo cp mediamtx.yml /etc/mediamtx/
```
```

Version:

```
``` bash
mediamtx --version
```
```

7. MediaMTX konfigurieren

Datei:

```
`/etc/mediamtx/mediamtx.yml`
```

```
``` yml
paths:
 webcam:
```
```

8. systemd-Dienst MediaMTX

Datei:

```
`/etc/systemd/system/mediamtx.service`
```

```
``` ini
[Unit]
Description=MediaMTX RTSP Server
After=network.target

[Service]
ExecStart=/usr/local/bin/mediamtx /etc/mediamtx/mediamtx.yml
Restart=always
RestartSec=5

[Install]
WantedBy=multi-user.target
```
```

Aktivieren:

```
``` bash
sudo systemctl daemon-reload
sudo systemctl enable mediamtx
sudo systemctl start mediamtx
```
```

9. Webcam-Dienst

Datei:

```
`/etc/systemd/system/webcam.service`
```

```
``` ini
```

```
[Unit]
```

```
Description=Logitech C920 RTSP Stream
```

```
After=mediamtx.service
```

```
Requires=mediamtx.service
```

```
[Service]
```

```
ExecStart=/usr/bin/ffmpeg \
```

```
-f v4l2 \
```

```
-input_format mjpeg \
```

```
-framerate 30 \
```

```
-video_size 1920x1080 \
```

```
-i /dev/video0 \
```

```
-c:v libx264 \
```

```
-preset ultrafast \
```

```
-tune zerolatency \
```

```
-pix_fmt yuv420p \
```

```
-f rtsp \
```

```
-rtsp_transport tcp \
```

```
rtsp://127.0.0.1:8554/webcam
```

```
Restart=always
```

```
RestartSec=5
```

```
[Install]
```

```
WantedBy=multi-user.target
```

```
```\n
```

Aktivieren:

```
``` bash
```

```
sudo systemctl daemon-reload
```

```
sudo systemctl enable webcam
```

```
sudo systemctl start webcam
```

```
```\n
```

10. Funktionstest

Dienste

```
``` bash
systemctl status mediamtx
systemctl status webcam
```
```

Logs

```
``` bash
journalctl -u mediamtx -f
journalctl -u webcam -f
```
```

Port

```
``` bash
ss -tulpn | grep 8554
```
```

Kamera

```
``` bash
sudo fuser -v /dev/video0
```
```

11. OBS

Quelle:

****Medienquelle****

URL:

```
``` text
rtsp://192.168.190.69:8554/webcam
```
```

Lokale Datei deaktivieren.

12. VLC

```
``` text
rtsp://192.168.190.69:8554/webcam
```
```

13. Home Assistant

```
``` yaml
camera:
 - platform: ffmpeg
 name: Logitech C920
 input: rtsp://192.168.190.69:8554/webcam
```
```

14. Fehlerbehebung

Device or resource busy

```
``` bash
sudo fuser -v /dev/video0
```
```

Prozesse

```
``` bash
ps -ef | grep ffmpeg
ps -ef | grep mediamtx
```
```

Neustart

```
``` bash
sudo systemctl restart mediamtx
sudo systemctl restart webcam
```
```

15. Performance

CPU:

```
``` bash
top
```
```

Temperatur:

```
``` bash
vcgencmd measure_temp
```
```

16. Mehrere Kameras

Weitere Pfade in MediaMTX:

```
``` yaml
paths:
 webcam1:
 webcam2:
```
```

Weitere systemd-Dienste:

- webcam1.service
- webcam2.service

17. Updates

MediaMTX:

1. neue Version herunterladen
2. Binary ersetzen
3. Dienst neu starten

```
``` bash
sudo systemctl restart mediamtx
```
```

18. Backup

Sichern:

- /etc/mediamtx
 - /etc/systemd/system/webcam.service
 - /etc/systemd/system/mediamtx.service
-

Versionshistorie

| Version | Beschreibung |
|---------|--------------|
|---------|--------------|

| | |
|-----|---|
| 1.0 | Erste Version |
| 2.0 | Erweitertes Installations- und Wartungs-Runbook |

Revision #1

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