# RealSense D555 PoE Quick Setup User Guide

Revision 001

Nov 2025

# Contents

The RealSense™ Depth Camera D555 is powered by the new RealSense Vision SoC V5. V5 is a small low power vision SoC with industry leading stereo disparity processing and motion estimation, Vision DSP optimized for computer vision and best-in-class Image Signal Processor (ISP) IPU7.

The ISP IPU7 enhances the RGB with Geometric Distortion Correction (GDC) and Temporal Noise Reduction (TNR).

D555 introduces Power over Ethernet interface. Ethernet interface is typically used in robotics, retail and restaurant market segments. This depth camera is composed of the long-range global shutter D450 optical module with IMU.

This is a quick setup guide for D555 over the ethernet.

# 1. Hardware Requirement

- At least two ethernet cables (Cat 6 or better)
- PoE switch or PoE injector - Must be Gigabit or above and support jumbo frames
    - PoE injector example:
        - TP-Link TL-POE150S PoE injector
        - BV-Tech 30W Gigabit PoE injector
        - UCY Gigabit PoE injector
- PC with Windows 10/11 or Linux Ubuntu 22.04/24.04 installed

# 2. Hardware Connection

- **For PoE switch**
    - Connect one of PoE switch ports to PC by ethernet cable
    - Connect another PoE switch port to D555 by ethernet cable
    - Connect PoE switch to the power supply
    - Ensure PoE switch's LED indicators are not showing any errors

**NOTE:** If the PoE switch has separated data/data+POE ports, please connect the data port to the PC and the data+PoE port to the camera.

- **For PoE injector**
    - Connect PoE injector's IN (LAN) port to PC by ethernet cable
    - Connect PoE injector's OUT port to D555 by ethernet cable
    - Connect PoE injector to the power supply
    - Ensure PoE injector's LED indicators are not showing any errors

# 3. SW and FW Requirement

- **SDK Version:** librealsense v2.56.4 or above
- **FW Version:** v7.56.19918.835 or above

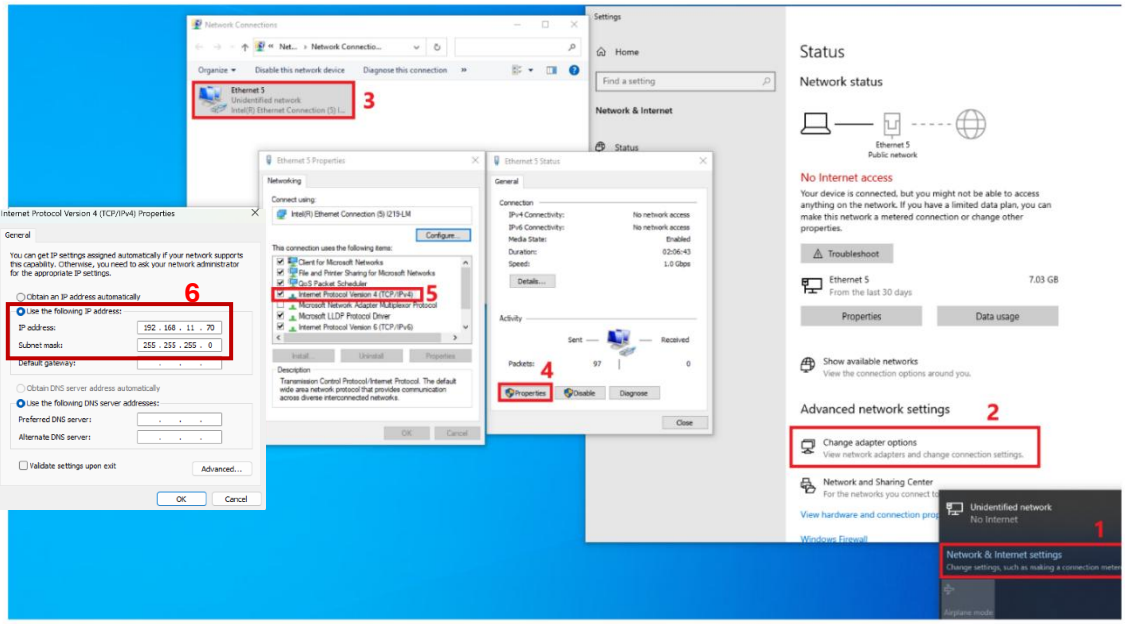
**NOTE:** If build from librealsense source code to install SDK, need enable DDS option ***BUILD_WITH_DDS*** for cmake.

# 4. Networks Settings on Host

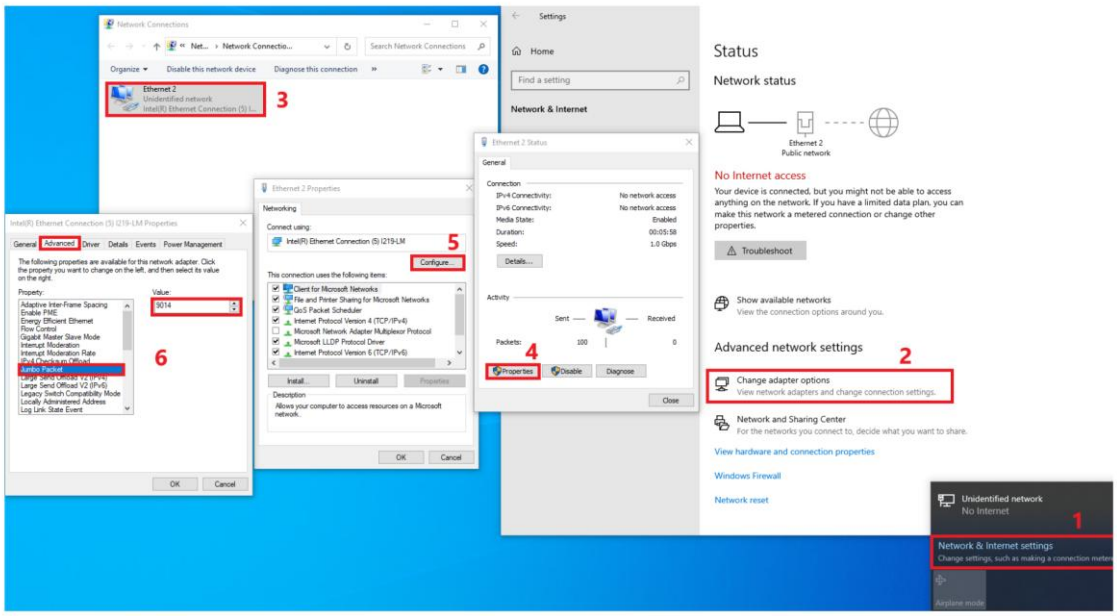
- **IP Address:** 192.168.11.70 (Or any IP address in 192.168.11.55/24 range that does not conflict with the other IP addresses on the same network. D555's IP address is set to 192.168.11.55 by default from the factory.)
- **Subnet mask:** 255.255.255.0
- **Jumbo Packet:** 9014 (Set this to 9000 on Linux)

## 4.1. Networks Settings for Windows

- Configure IP address and subnet mask

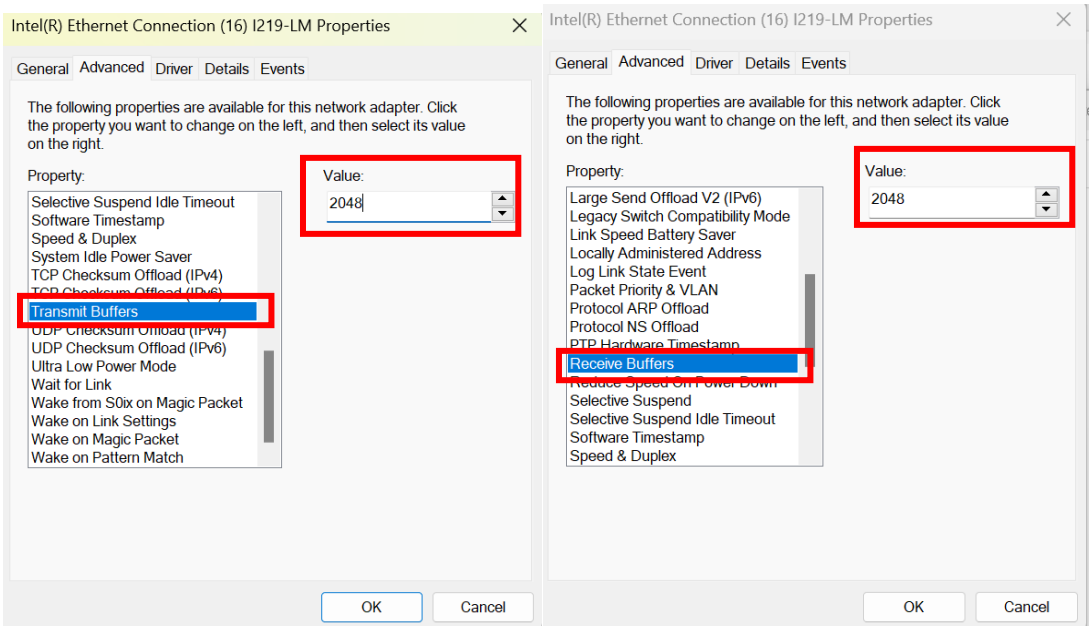



- Configure Jumbo packet as 9014



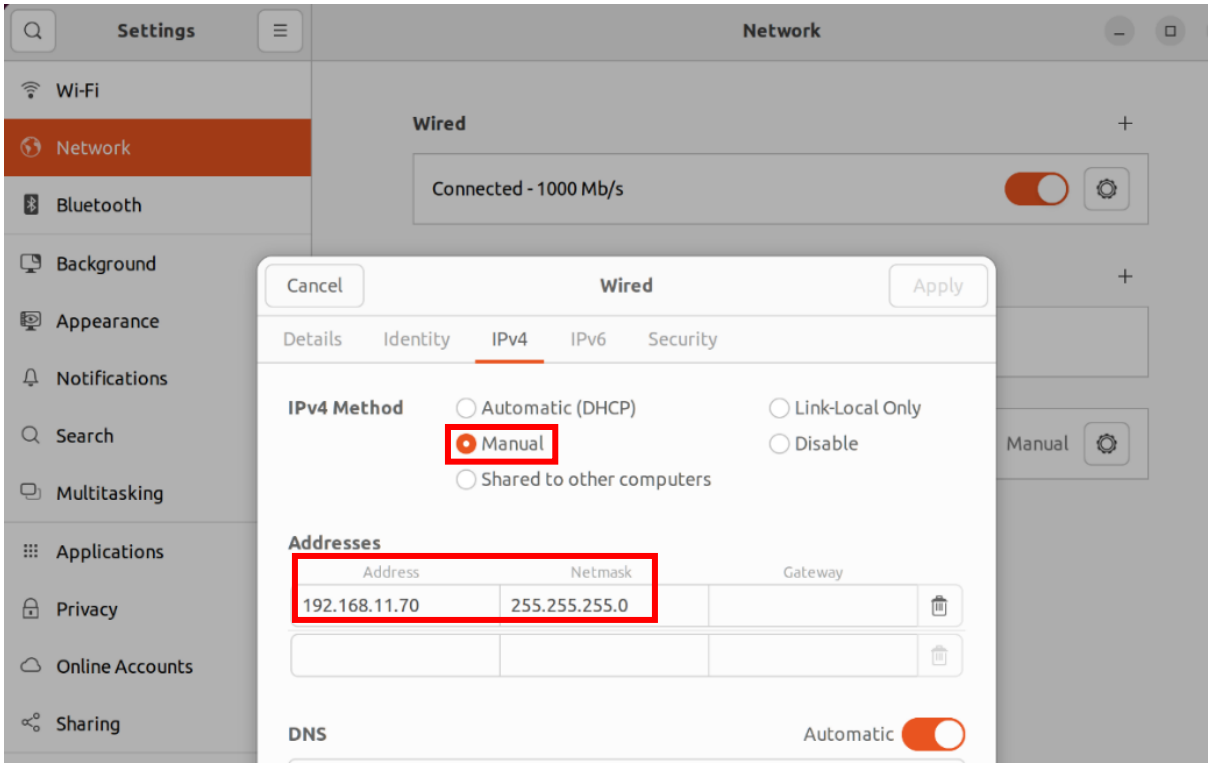
**NOTE:** Please refer to the link below for more details:
https://github.com/IntelRealSense/librealsense/blob/development/doc/stepbystep/setting_mtu_on_host.md

- (Optional) To achieve better performance, configure transmit buffers and receive buffers to maximum.




# 4.2. Networks Settings for Linux

- Configure IP address and subnet mask



- Configure Jumbo packet (MTU size) as 9000 for the interface (e.g. enp0s31f6)

```
realsense@realsense:~$ sudo ip link set enp0s31f6 mtu 9000
realsense@realsense:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: enp0s31f6: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 9000 qdisc fq_codel state UP group defaul
    link/ether 74:d7:13:a7:80:90 brd ff:ff:ff:ff:ff:ff
    inet 192.168.11.70/24 brd 192.168.11.255 scope global noprefixroute enp0s31f6
       valid_lft forever preferred_lft forever
    inet6 fe80::5d1d:f3c0:886a:f617/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
```

**NOTE:** "ip link set" command is temporary and MTU configuration will go back to the default setting after reboot. To make MTU configuration take effect permanently, below commands can be used.

- Check the device status to get the connection name under "CONNECTION"(e.g. Wired connection 1)

```
realsense@realsense:~$ sudo nmcli device status
DEVICE     TYPE      STATE         CONNECTION
enp0s31f6  ethernet  connected     Wired connection 1
```

- configure MTU size as 9000 using below command (e.g. Wired connection 1)

```
sudo nmcli connection modify "Wired connection 1" 802-3-ethernet.mtu 9000
```

- Bring up the connection and check MTU setting

```
realsense@realsense:~$ sudo nmcli connection up "Wired connection 1"
Connection successfully activated (D-Bus active path: /org/freedesktop/NetworkManager/ActiveConnection/2)
realsense@realsense:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: enp0s31f6: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 9000 qdisc fq_codel state UP group default qlen 1000
    link/ether 74:d7:13:a7:80:90 brd ff:ff:ff:ff:ff:ff
    inet 192.168.11.70/24 brd 192.168.11.255 scope global noprefixroute enp0s31f6
       valid_lft forever preferred_lft forever
    inet6 fe80::5d1d:f3c0:886a:f617/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
3: wlp0s20f3: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether e4:0d:36:2e:b4:d1 brd ff:ff:ff:ff:ff:ff
```

- (Optional) To achieve better performance, configure transmit and receive buffers to maximum.

```
sudo nmcli connection modify "Wired connection 1" ethtool.ring-rx 4096 ethtool.ring-tx 4096
```

**NOTE:** Need bring up the connection to take effect.

# 5. Sanity Check

Ping the camera to do the sanity check.

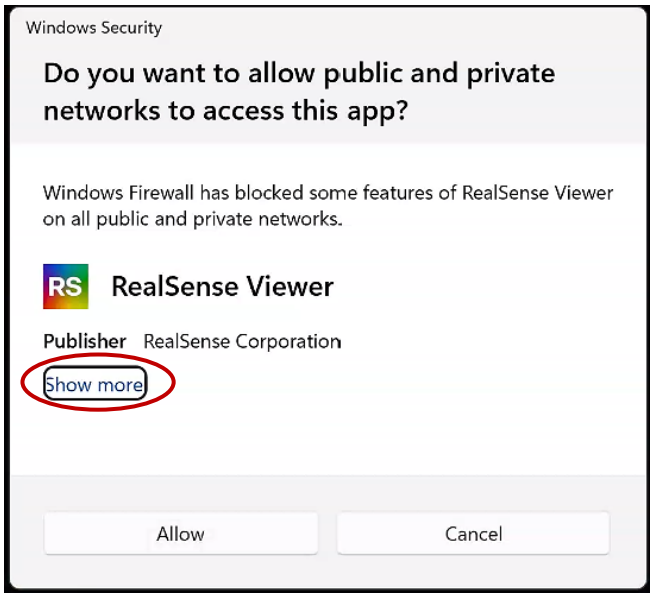
```
realsense@realsense:~$ ping 192.168.11.55
PING 192.168.11.55 (192.168.11.55) 56(84) bytes of data.
64 bytes from 192.168.11.55: icmp_seq=1 ttl=64 time=2.03 ms
64 bytes from 192.168.11.55: icmp_seq=2 ttl=64 time=2.05 ms
64 bytes from 192.168.11.55: icmp_seq=3 ttl=64 time=2.05 ms
64 bytes from 192.168.11.55: icmp_seq=4 ttl=64 time=2.07 ms
```

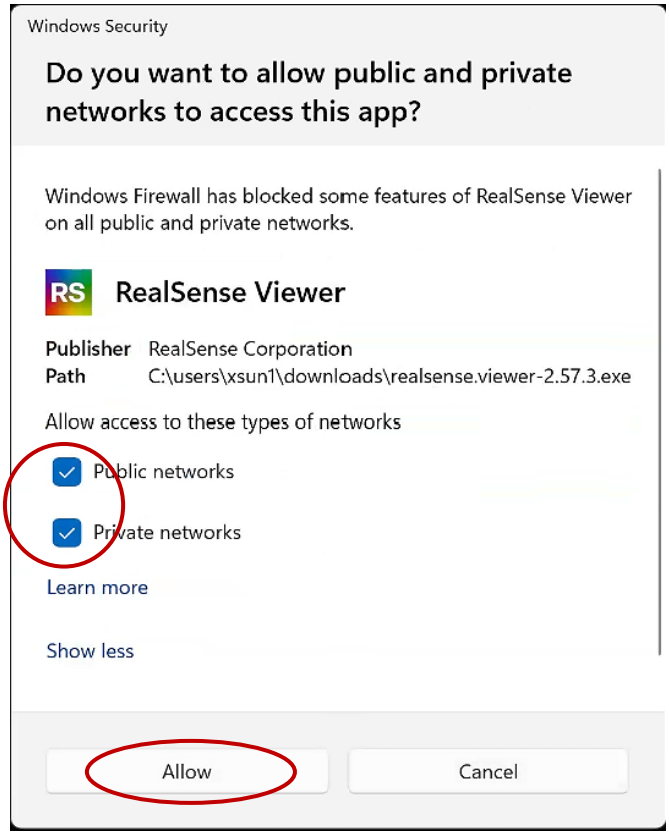
# 6. Enable DDS

There're two options to enable DDS.

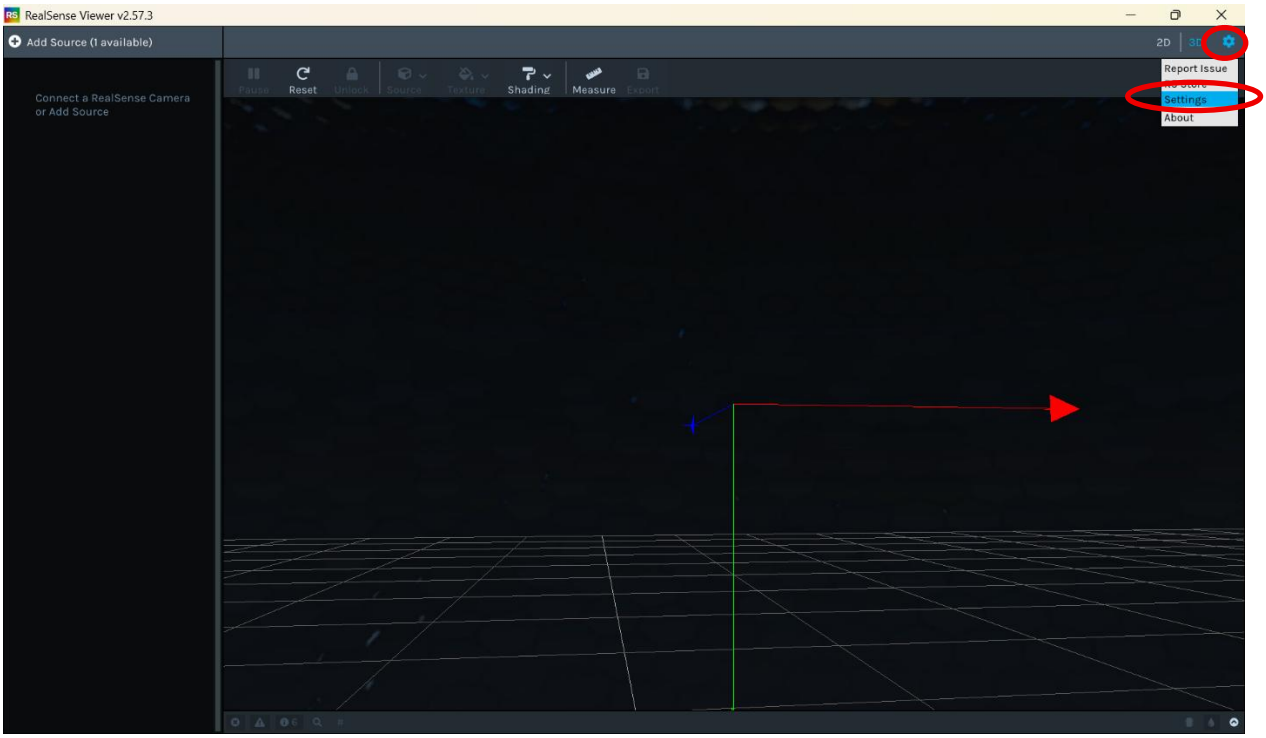
- Option 1: Enable DDS in RealSenseViewer

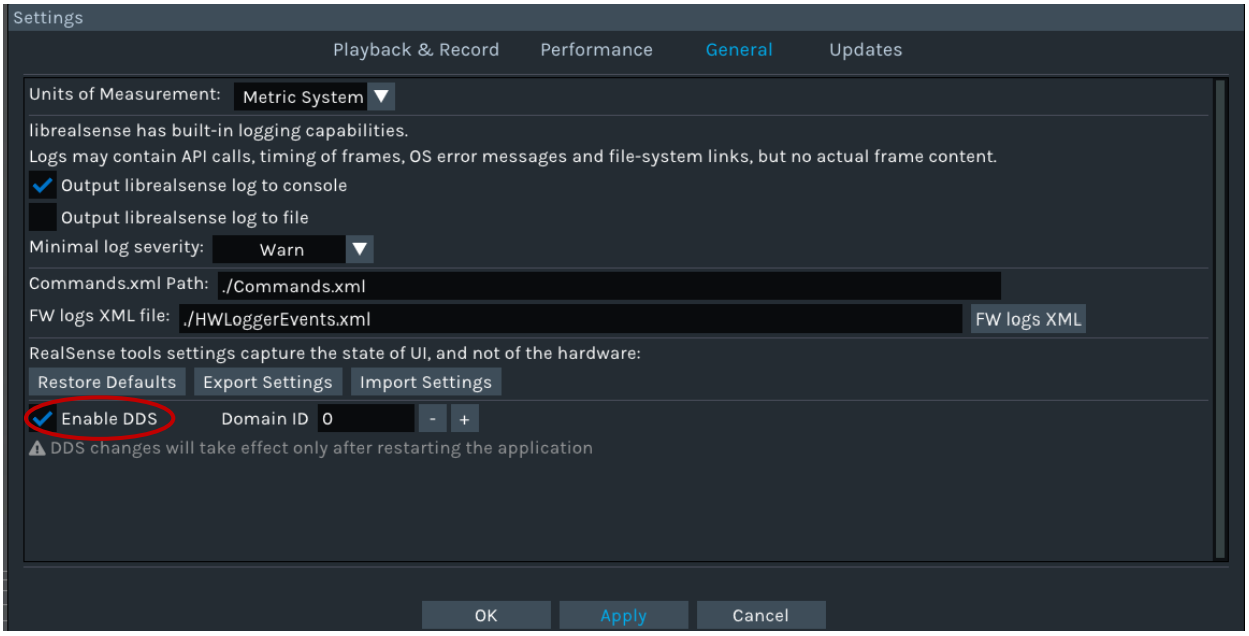
Open RealSenseViewer and allow network access when prompted by Windows Firewall.



- Make sure DDS is enabled in the settings.




- Option 2: Run *rs-dds-config* to enable DDS

Windows:

```
rs-dds-config.exe --eth-first
```

```
C:\>rs-dds-config.exe --eth-first
-I- DDS is now enabled by default in realsense-config.json
-I- [DDS] Intel RealSense D555 s/n 336222300361, FW version 7.56.19918.835
-I-     MAC address: 98:4f:ee:19:e1:37
-I-     configured: 192.168.11.55 & 255.255.255.0 / 192.168.11.1
-I-     DDS:
-I-         domain ID: 0
-I-     link: 1000 Mbps
-I-         MTU, bytes: 9000
-I-         timeout, ms: 4000
-I-         priority: eth-first
-I-     DHCP: OFF
-I-         timeout, sec: 30
-I-     transmission delay, us: 0
```

Linux:

```
rs-dds-config --eth-first
```

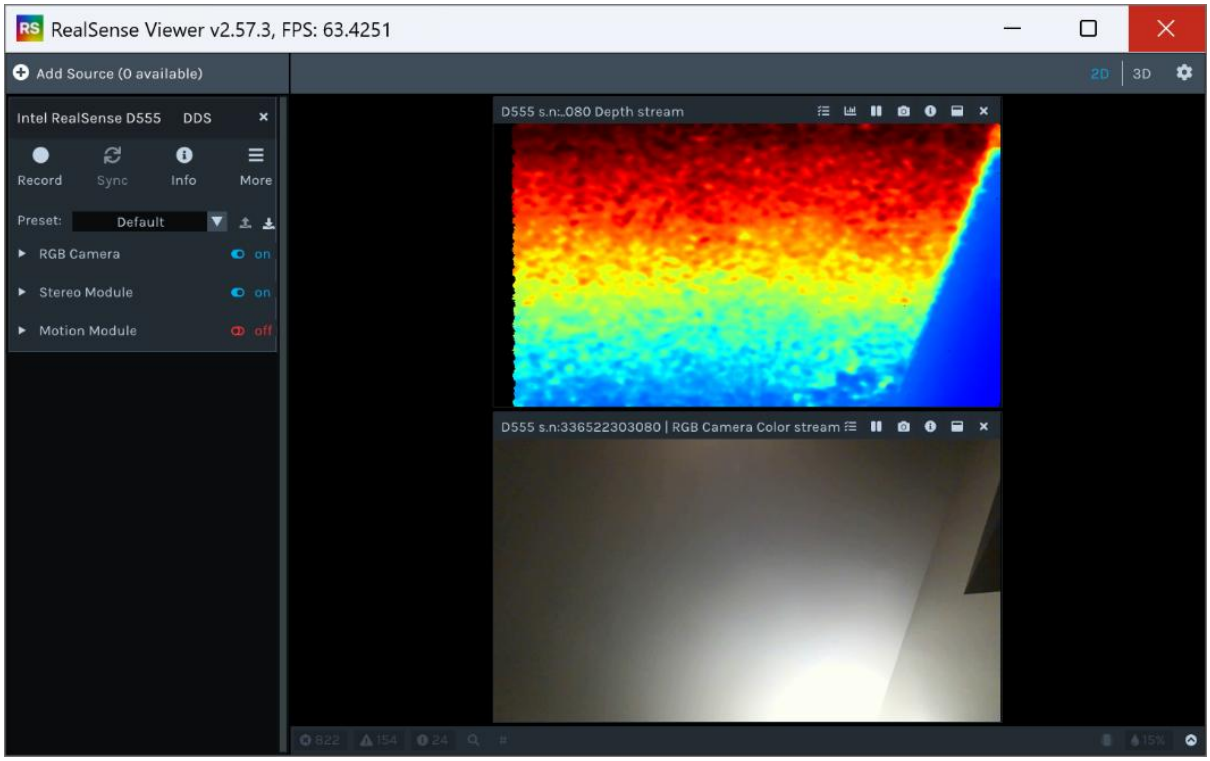
```
realsense@ThinkBook-14-G6-IMH:~$ rs-dds-config --eth-first
-I- DDS is now enabled by default in realsense-config.json
-I- [DDS] Intel RealSense D555 s/n 336222300361, FW version 7.56.19918.835
-I-     MAC address: 98:4f:ee:19:e1:37
-I-     configured: 192.168.11.55 & 255.255.255.0 / 192.168.11.1
-I-     DDS:
-I-         domain ID: 0
-I-     link: 1000 Mbps
-I-         MTU, bytes: 9000
-I-         timeout, ms: 4000
-I-         priority: eth-first
-I-     DHCP: OFF
-I-         timeout, sec: 30
-I-     transmission delay, us: 0
```

**NOTE:** DDS configuration is saved and read from the config file *realsense-config.json* on the file system.

- Windows: %appdata%
- Linux: ~/.realsense-config.json

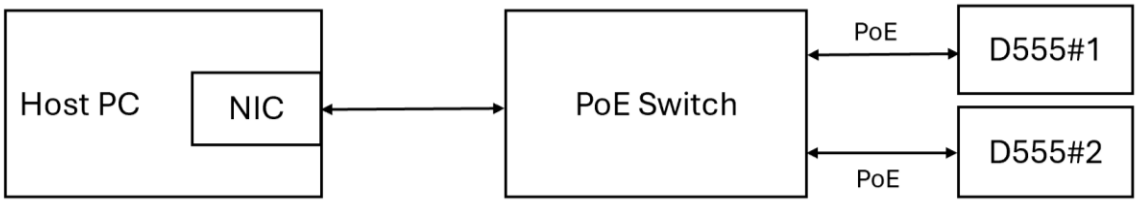
# 7. RealSenseViewer Test

With the steps above, D555 should be enumerated in RealSenseViewer for streaming test.




# 8. Multi-Camera Setup

## 8.1. Connect to Single NIC




- Need configure different IP addresses for the cameras using *rs-dds-config* tool.

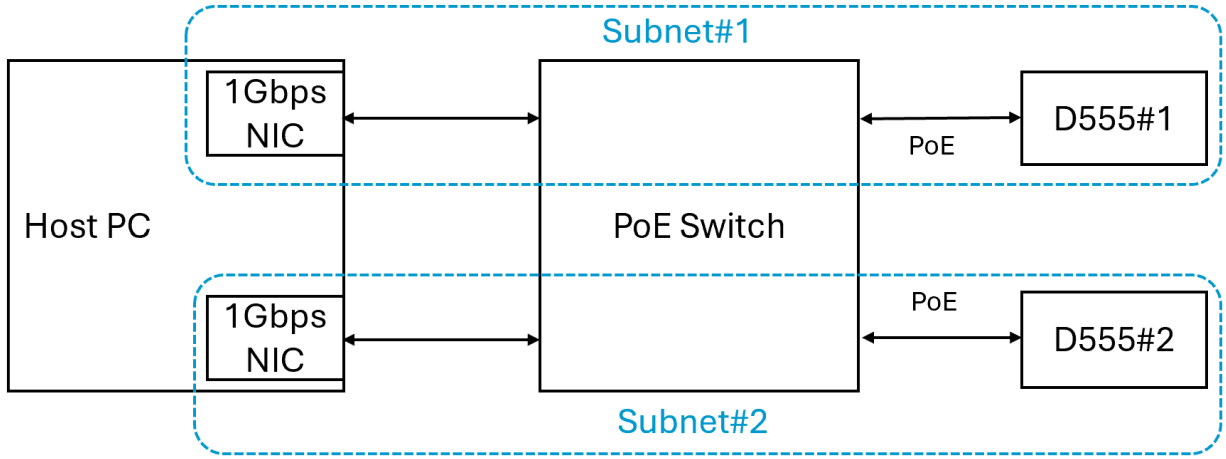
```
rs-dds-config --serial-number <SN> --ip <IP address>
```

```
realsense@realsense:~$ rs-dds-config --serial-number 338522300311 --ip 192.168.11.88
-I- [DDS] Intel RealSense D555 s/n 338522300311, FW version 7.56.19918.835
-I-     MAC address: 98:4f:ee:19:e1:3c
-I-     configured: 192.168.11.55 & 255.255.255.0 / 192.168.11.1 --> 192.168.11.88 & 255.255.255.0 / 192.168.11.1
-I-     DDS:
-I-         domain ID: 0
-I-     link: 1000 Mbps
-I-         MTU, bytes: 9000
-I-         timeout, ms: 4000
-I-         priority: dynamic-eth-first
-I-     DHCP: OFF
-I-         timeout, sec: 30
-I-     transmission delay, us: 0

-I- Successfully changed
-I- Resetting device...
```

- For details about rs-dds-config, please refer to https://github.com/IntelRealSense/librealsense/tree/development/tools/dds/dds-config

## 8.2. Connect to Separate NICs




- Make sure each camera is on separate subnets.

Example:

D555 #1:

Device Address: 192.168.11.55

NIC Address: 192.168.11.70

Gateway: 192.168.11.1

D555 #2:

Device Address: 192.168.12.55

NIC Address: 192.168.12.70

Gateway: 192.168.12.1

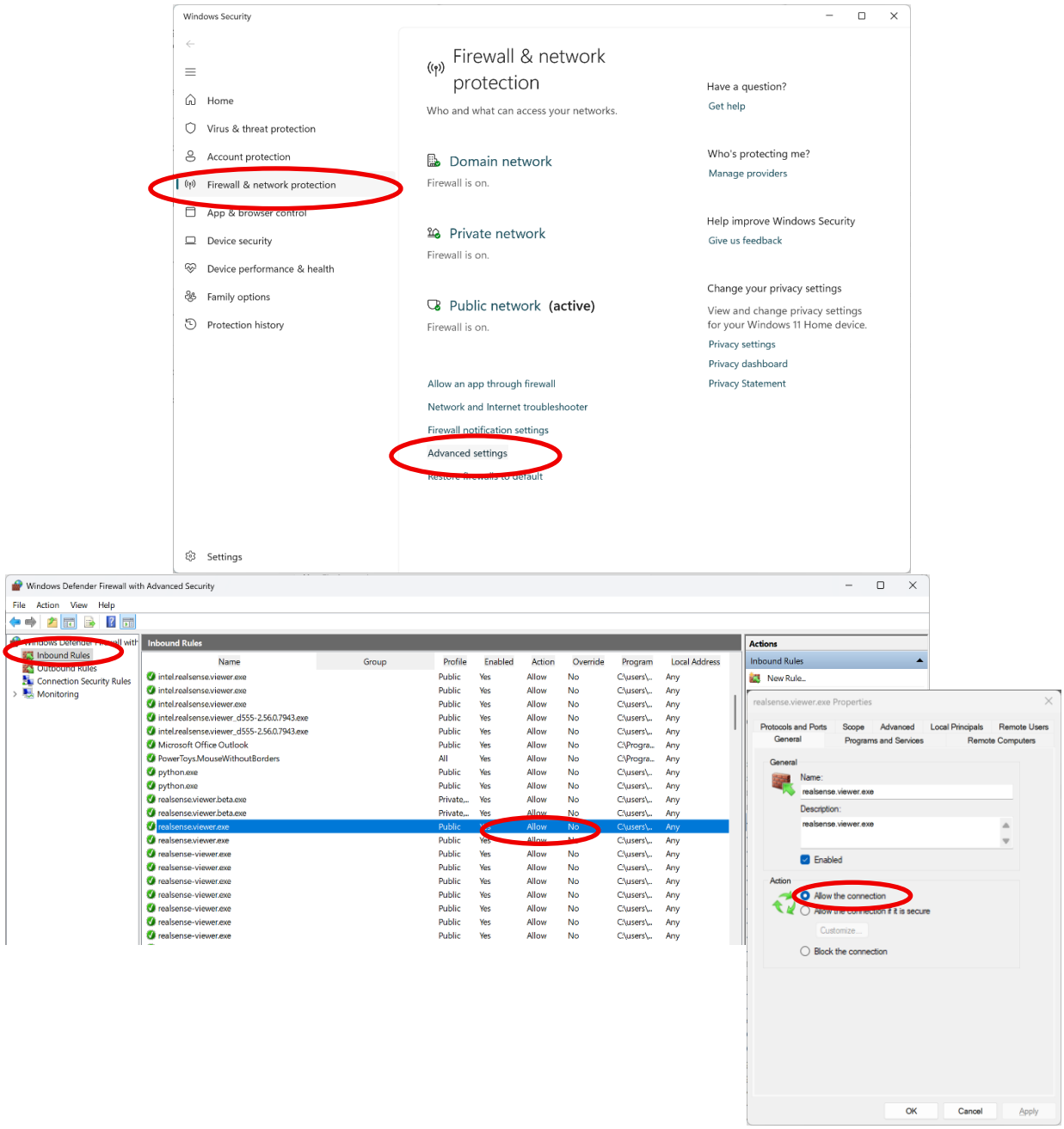
Run the following command to configure for each camera.

```
rs-dds-config --serial-number <SN> --ip <IP address> --gateway <gateway>
```

# 9. Troubleshooting

## 9.1. Windows Firewall

If D555 camera can't be recognized in RealSenseViewer, please check Windows security settings as below.




## 9.2. Ubuntu Firewall

The firewall on Ubuntu is disabled by default. If it is enabled, need to turn it off.