# Streaming RTSP Over the Internet Using Ngrok

## Introduction

This document explains how to stream a local RTSP feed over the internet using Ngrok. The guide includes steps to set up Ngrok for TCP tunneling, dynamic DNS configuration, and firewall adjustments.

## Step 1: Download and Install Ngrok

1. Download Ngrok from the official website: https://ngrok.com/download.

2. Extract and install Ngrok on your machine by adding it to the system PATH.

## Step 2: Start an Ngrok Tunnel for RTSP

To forward the RTSP server port over the internet, run the following command in your terminal:

ngrok tcp 8554

This command will establish a TCP tunnel to port 8554, providing a public URL such as 'tcp://x.tcp.ngrok.io:xxxxx'.

## Step 3: Access the Public RTSP Stream

After starting the Ngrok tunnel, the RTSP stream can be accessed via the provided public URL. For example:

rtsp://0.tcp.in.ngrok.io:12658/video\_stream

You can use VLC Media Player or Python OpenCV to view the RTSP stream from any internet-connected device.

## Step 4: Dynamic DNS (Optional)

If your public IP changes frequently, consider using a Dynamic DNS (DDNS) service like No-IP or DynDNS to maintain a consistent domain name linked to your changing IP address.

## Step 5: Firewall Configuration

Ensure that the firewall (both on the router and the local machine) allows incoming traffic on port 8554 to enable seamless access to the RTSP stream.

## Step 6: Security Considerations

For secure access, consider adding user authentication to the RTSP server to prevent unauthorized access. Additionally, using a VPN or a secure tunnel can enhance encryption and overall security.

## Notes

- Ngrok free plan has a time limit, so the session will need to be restarted periodically.  
- Stability and latency of the RTSP stream might be affected by internet speed and region.  
- Always keep Ngrok running to maintain the public RTSP tunnel.