# Step-by-step guide for setting up Ngrok to access recording device remotely via SSH:

### ****Step 1: Sign up and Install Ngrok****

**Sign Up for Ngrok**: Go to [Ngrok's website](https://ngrok.com/" \t "_new) and sign up for a free account. After registering, you’ll receive an **authtoken** which you'll need to configure Ngrok.

**Download and Install Ngrok**:

* 1. Download Ngrok for our platform from Ngrok's download page.
  2. Unzip the file and move it to a directory that is accessible in your system's PATH. For example, on Linux you can move it to /usr/local/bin.

On Linux, use this command to unzip:

***unzip /path/to/ngrok.zip***

***sudo mv ngrok /usr/local/bin/ngrok***

On Windows, unzip the file and run it directly from the unzipped folder.

**Authenticate Ngrok**: We’ll need to authenticate Ngrok with our account. Run the following command (replace your\_authtoken with the token we got from Ngrok after signing up):

***ngrok authtoken your\_authtoken***

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### ****Step 2: Set up the Recording Device for SSH Access****

**Ensure SSH is Installed**: Check if our recording device has SSH enabled. If SSH is not installed, we can install it depending on the operating system.

*sudo apt-get update*

*sudo apt-get install openssh-server*

Start SSH Service: Ensure the SSH service is running. On most systems, the SSH service starts automatically after installation. Check if it’s running by executing:

*sudo systemctl status sshd*

*To Start : sudo systemctl start sshd*

### ****Step 3: Expose SSH Port Using Ngrok****

**Start Ngrok TCP Tunnel**: To expose the SSH port (typically port 22), we will use Ngrok's **TCP tunnel**. Run the following command on the recording device:

*ngrok tcp 22*

Ngrok will output a URL that looks something like this:

*Forwarding tcp://0.tcp.ngrok.io:XXXXX -> localhost:22*

This means the SSH service running on localhost:22 is now accessible via the public address 0.tcp.ngrok.io:XXXXX.

### ****Step 4: SSH Into the Device From the Office****

**Get the Ngrok Tunnel URL**: Once Ngrok is running, note down the public URL that it provides (e.g., tcp://0.tcp.ngrok.io:XXXXX).

**SSH into the Device**: From the office or any remote location, we can now access the recording device by running this command in your terminal:

ssh username@0.tcp.ngrok.io -p XXXXX

### ****Step 5: Stopping Ngrok****

To stop the Ngrok tunnel, simply press CTRL + C in the terminal where Ngrok is running. This will terminate the tunnel.

# **Step-by-Step Guide to Access a Raspberry Pi via SSH Using Ngrok**

#### ****Step 1: Install Ngrok on the Raspberry Pi****

**Download Ngrok**:

* 1. Go to Ngrok's download page and download the ARM version for Raspberry Pi.
  2. Alternatively, we can download Ngrok on the Pi via the terminal

wget https://bin.equinox.io/c/4VmDzA7iaHb/ngrok-stable-linux-arm.zip

**Unzip the Ngrok file**:

unzip ngrok-stable-linux-arm.zip

**Move Ngrok to a directory in our PATH**:

Move the Ngrok binary to /usr/local/bin so that we can use it globally:

sudo mv ngrok /usr/local/bin

#### ****Step 2: Sign Up for Ngrok and Get an Authtoken****

1. **Sign up for a free Ngrok account** at [Ngrok](https://ngrok.com/" \t "_new).
2. **Obtain authtoken** from the Ngrok dashboard.
3. **Authenticate Raspberry Pi** with Ngrok by running the following command (replace your\_authtoken with the token you got from the dashboard):

*ngrok authtoken your\_authtoken*

#### ****Step 3: Expose the SSH Port (22) of the Raspberry Pi via Ngrok****

**Run Ngrok to expose the SSH port** (which is port 22 on the Raspberry Pi):

***ngrok tcp 22***

**Ngrok will display a forwarding address**, which looks something like this:

Forwarding tcp://0.tcp.ngrok.io:XXXXX -> localhost:22

#### ****Step 4: SSH into Raspberry Pi from Office****

**From office** (or any remote location), open a terminal and run the following SSH command:

***ssh pi@0.tcp.ngrok.io -p XXXXX***

* Replace pi with the username on your Raspberry Pi (the default username for Raspbian is pi).
* Replace 0.tcp.ngrok.io with the actual forwarding address from Ngrok.
* Replace XXXXX with the port number provided by Ngrok.

· **Enter the password for your Pi user** when prompted.

Once connected, we’ll have full access to the Raspberry Pi as were on the same local network.