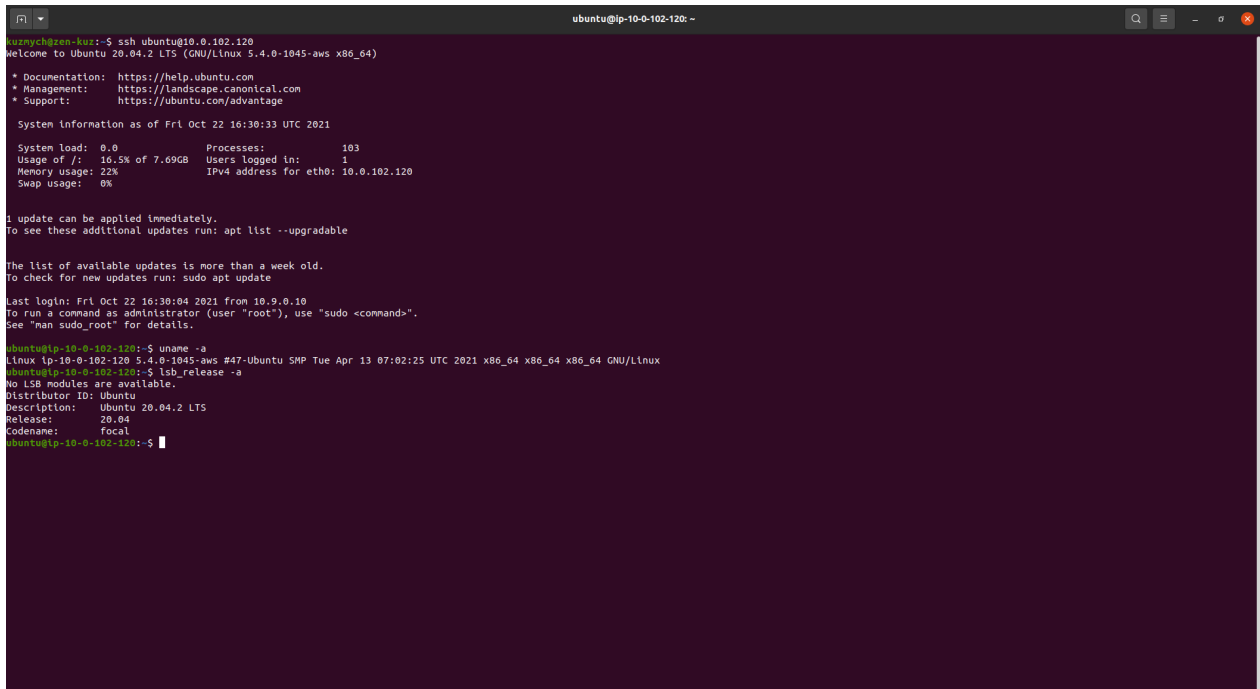


# How-to guide: Build Sowillo firmware with patched ESPHome on Linux

This tutorial describes how to build the firmware for sowillo box on Linux. All steps made on clean [Ubuntu 20.04](https://ubuntu.com/download/server).



```
kuzmich@zen-kuz:~$ ssh ubuntu@10.0.102.120
Welcome to Ubuntu 20.04.2 LTS (GNU/Linux 5.4.0-1045-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Fri Oct 22 16:30:33 UTC 2021

System load:  0.0          Processes:      103
Usage of /:   16.5% of 7.69GB    Users logged in: 1
Memory usage: 22%           IPv4 address for eth0: 10.0.102.120
Swap usage:   0%

1 update can be applied immediately.
To see these additional updates run: apt list --upgradable

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

Last login: Fri Oct 22 16:30:04 2021 from 10.9.0.10
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-10-0-102-120:~$ uname -a
Linux ip-10-0-102-120 5.4.0-1045-aws #47-Ubuntu SMP Tue Apr 13 07:02:25 UTC 2021 x86_64 x86_64 x86_64 GNU/Linux
ubuntu@ip-10-0-102-120:~$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description:   Ubuntu 20.04.2 LTS
Release:       20.04
Codename:      focal
ubuntu@ip-10-0-102-120:~$
```

Update cache and install dependencies:

```
sudo apt update
sudo apt install python3 unzip python3-venv
```

Create a separate directory for build:

```
mkdir build-sowillo && cd build-sowillo
```

Download and unzip latest patched ESPHome package:

```
wget \
https://rawcontent.sowillo.com/repository/binary-files-ext/
latest/esphome-patched.zip
mkdir esphome-patched && unzip esphome-patched.zip -d esphome-
patched
```

Download and unzip latest ESPHome configurations for **Sowillo IoT Board**:

```
wget \
https://rawcontent.sowillo.com/repository/binary-files-ext/
latest/sowillo-esphome-configuration.zip
```

```
mkdir sowillo-esphome-configuration && unzip  
sowillo-esphome-configuration.zip -d sowillo-esphome-  
configuration
```

Create a python virtual environment, activate it and install patched esphome to the environment:

```
python3 -m venv esphome-venv  
source esphome-venv/bin/activate  
pip install -U pip  
pip install -e esphome-patched
```

Build firmware:

```
cd sowillo-esphome-configuration  
mv secrets.yaml.in secrets.yaml
```

Edit `secrets.yaml`, you may configure your default WiFi settings and MQTT broker settings there:

```
nano secrets.yaml
```

Build the firmware that you're interested in:

```
esphome compile swlbox-300.yaml
```