

🔧 One-Time Setup (Laptop)

Follow these steps once to prepare your laptop for the drone demo.

1. Clone the Repository

Open a terminal (e.g. CMD, PowerShell, or Terminal on Mac) and run:

```
git clone https://github.com/NienkeDriessen/DroneSwarm.git  
cd DroneSwarm
```

Sudo apt install npm npm install

2. Install Python Requirements

Ensure Python 3.10+ is installed. Then, create a virtual environment (optional but recommended):

```
python -m venv venv  
venv\Scripts\activate # On Windows  
source venv/bin/activate # On Mac/Linux
```

Install the required packages:

```
pip install -r requirements.txt
```

You're done! You only need to do this setup once per machine.

If a new application host laptop is used

We use a router (which doesn't need internet access), to host our application over Local Area Network (LAN). Thus all devices (main swarming lab laptop, this app's host laptop, interfacing tablets/laptops, etc.) must first be connected to the router. It is shown below.

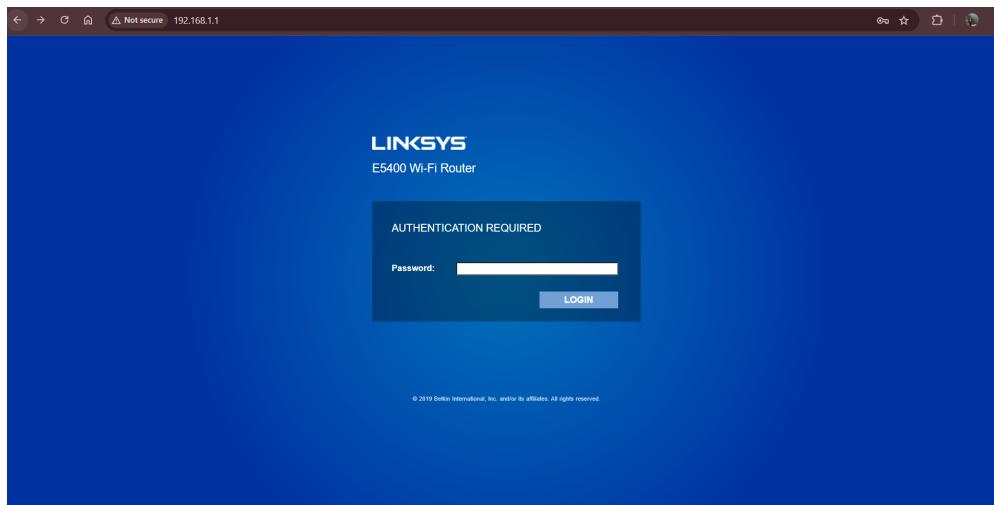


You can connect to the router via the app or directly to the router, seen below.

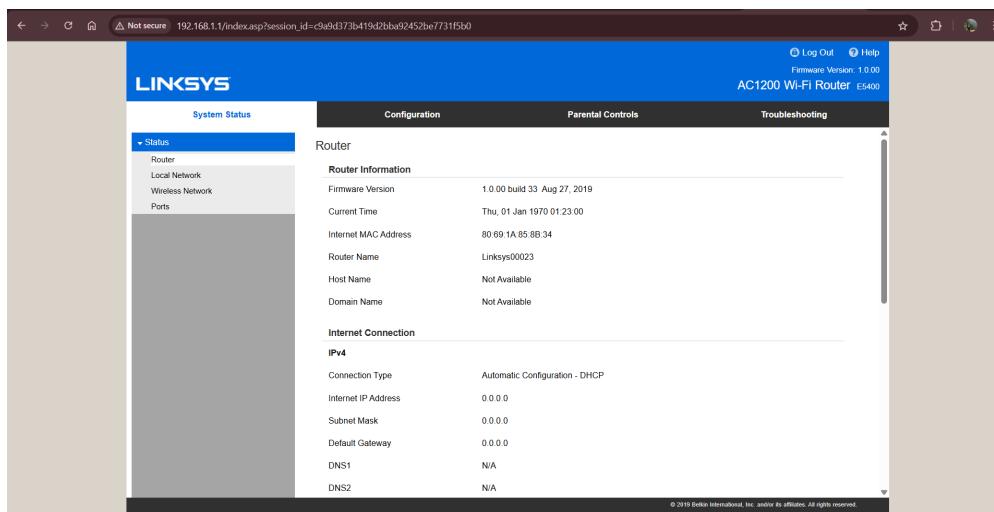


The app assumes a standard setup for this device. You will need to start this up for a new device

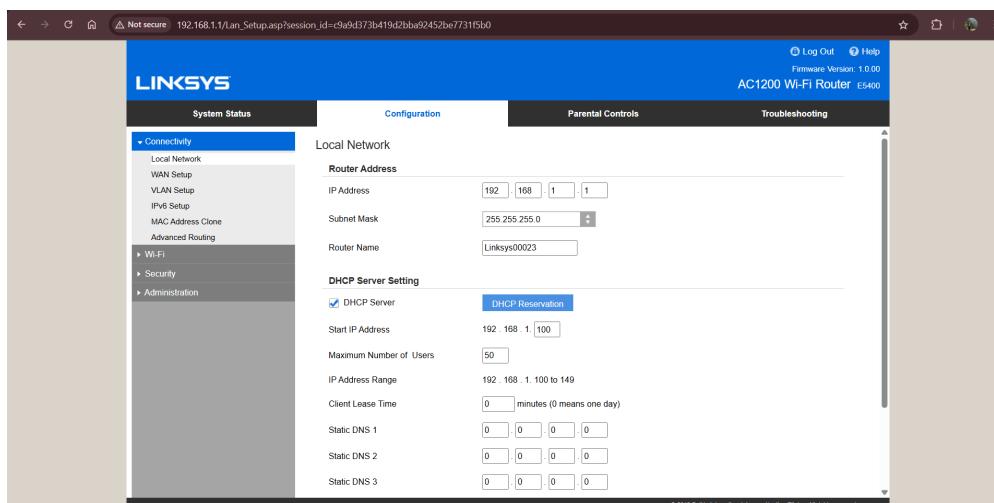
Once your new device is connected to the router. Open a browser tab, and navigate to the web address in the picture, i.e. 192.168.1.1



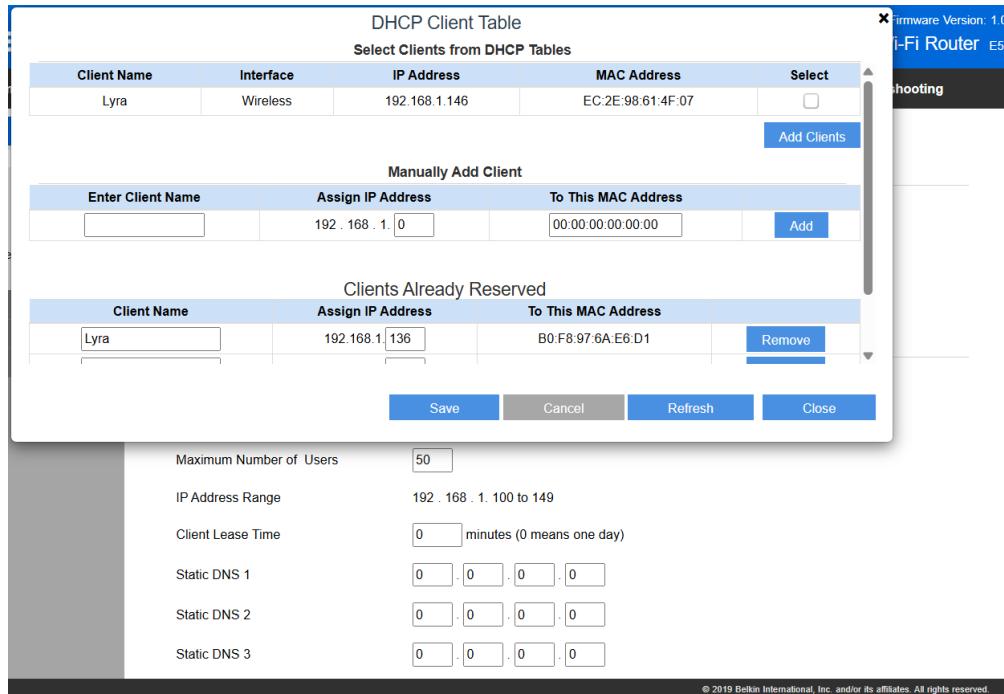
This webpage should appear, which is A login screen. the password is: **admin**. This screen appears after you log in



Then Click on the configuration tab on the top bar. Click on connectivity sub-menu. And under local network, click on DHCP reservation button (in **blue** below)



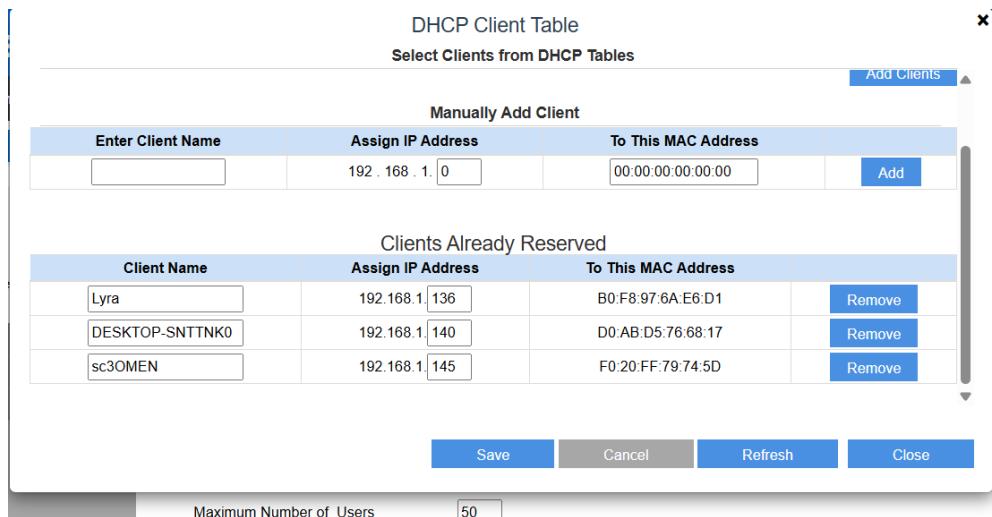
While your device is connected to the router, you should be able to see the device, select it and click add clients.



Then in 'Clients already reserved' You can assign an IP address, change it to

192.168.1.145 (TODO CHECK)

And remove the old one that was assigned with the same static IP



Be sure to save and then quit the app and then reconnect your device to the router. It should then be assigned the IP address you have set.

Note: If you want to verify this

- On Windows, open a console and run `ipconfig`. Check the IPv4 address assigned by the router network connection
- on Linux/MacOS, open a console and run `ip -4 addr`. Check the IPv4 address assigned by the router network connection