LINUX SERVER

- I chose Ubuntu server 18.04 because it is quite popular, I did not include system installation because the internet is full of examples. The required software is Node Red and MQTT Broker. Below you have presented the installation and configuration of these two software step by step.

1. Node Red

   Server preparation for Node Red installation:

   - ✓ Executa comanda > sudo apt-get install -y nodejs
   - ✓ Executa comanda > sudo apt-get install npm
   - ✓ Executa comanda > sudo apt-get install coreutils
   - ✓ Executa comanda > sudo ufw allow from any to any port 1880 proto tcp
   - ✓ Executa comanda > sudo npm install -g --unsafe-perm node-red

   Start Node Red and check the connection for everything to be fine

   - ✓ Executa comanda > node-red

   Check the connection from another device on the same network as the server open the browser and enter the IP address of the local server followed by port 1880. Exp. xxx.xxx.xxx.xxx:1880

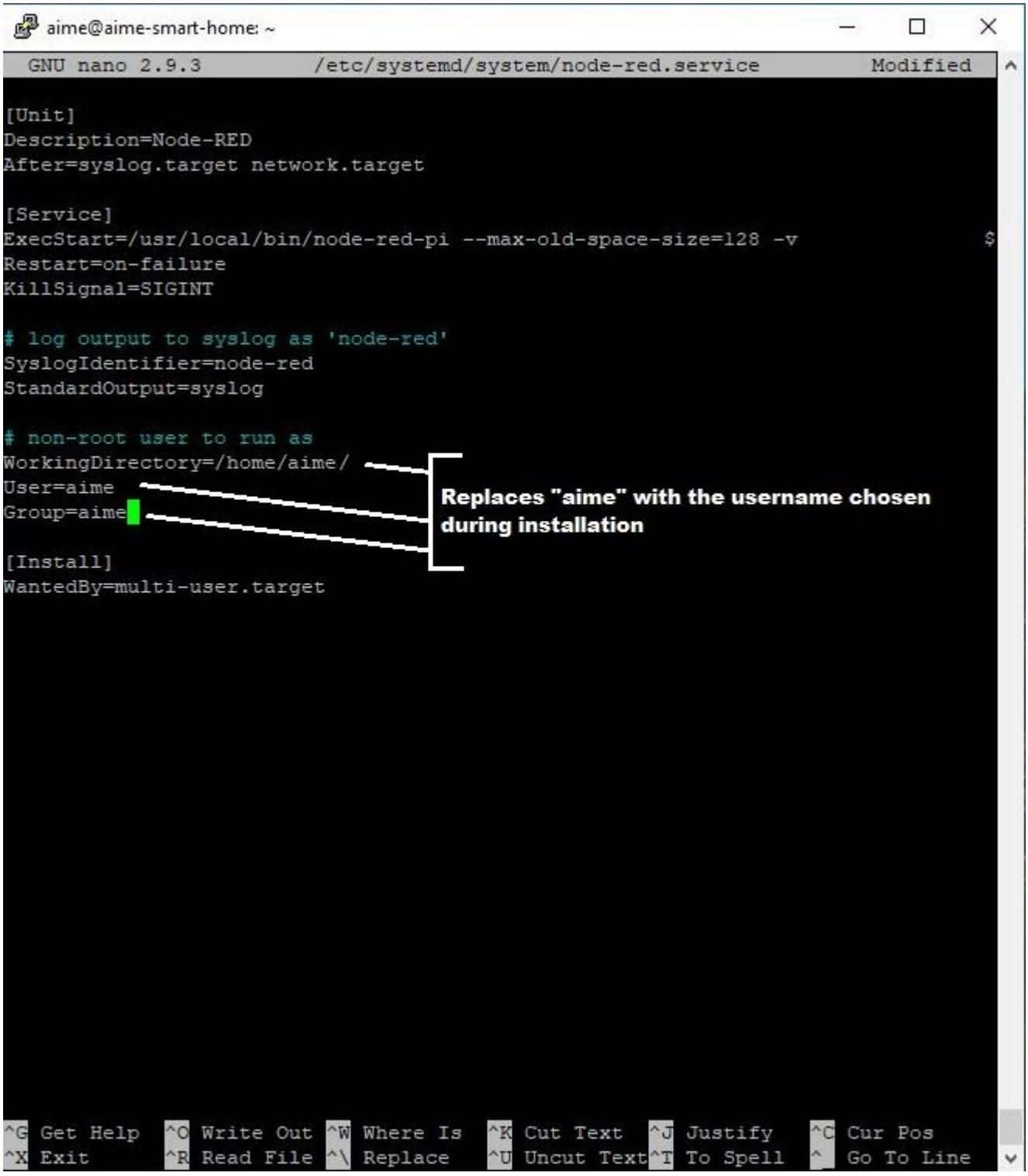
If everything is fine we can continue with the configuration of Node Red in case the server restarts to start automatically Node Red. Back to the server.

- ✓ From the keyboard press > CRTL + C < to terminate the process
- ✓ Executa comanda > sudo nano /etc/systemd/system/node-red.service

And copy the following text

```
[Unit]
Description=Node-RED
After=syslog.target network.target

[Service]
ExecStart=/usr/local/bin/node-red-pi --max-old-space-size=128 -v
Restart=on-failure
KillSignal=SIGINT

# log output to syslog as 'node-red'
SyslogIdentifier=node-red
StandardOutput=syslog

# non-root user to run as
WorkingDirectory=/home/aime/
User=aime
Group=aime

[Install]
WantedBy=multi-user.target
```

And change



- ✓ From the keyboard press > CRTL + X < to exit followed by > Y < to save followed by > Enter < for confirmation

- ✓ Executa comanda > sudo systemctl enable node-red
- ✓ Executa comanda > sudo systemctl stop node-red

Next we will install Node-RED Library needed:

- ✓ Executa comanda > cd ~/.node-red

- ✓ Executa comanda > npm install node-red-dashboard
- ✓ Executa comanda > npm install node-red-contrib-onvif
- ✓ Executa comanda > npm install node-red-node-openweathermap
- ✓ Executa comanda > npm install node-red-contrib-bigtimer
- ✓ Executa comanda > npm install node-red-contrib-moment
- ✓ Executa comanda > npm install node-red-contrib-throttle

- ✓ Executa comanda > cd ..

2. MQTT Broker

And finally installing MQTT Broker

- ✓ Executa comanda > sudo ufw allow from any to any port 1883 proto tcp
- ✓ Executa comanda > sudo apt-get install mosquitto
- ✓ Executa comanda > sudo systemctl restart mosquitto

We can restart the server to see if everything is fine

- ✓ Executa comanda > sudo reboot

After restarting the server we should be able to connect remotely to Node Red and MQTT. And the server configuration is complete!