

# Quick start with QTrobot

## Turning off/on QTrobot

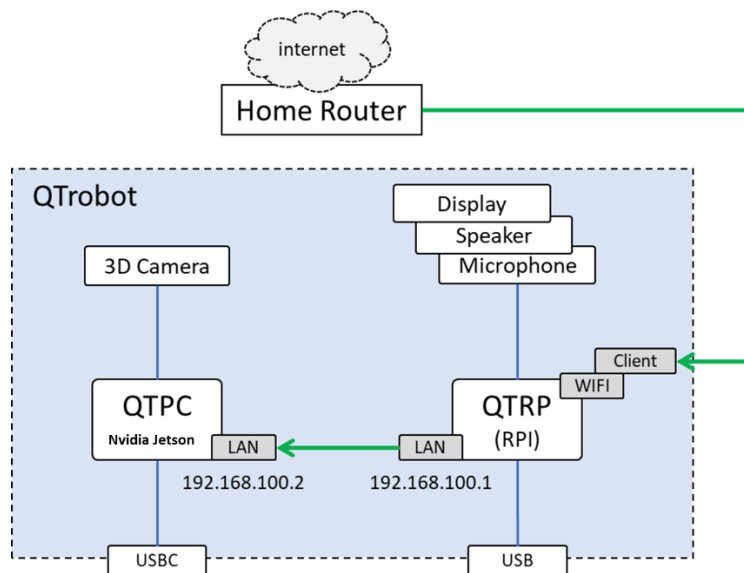
- To turn OFF your robot, simply **press the power button** located on the back of the robot. Wait a minute until robot is properly shutdown. Then unplug it's power supply.
- To turn ON, **plug in its power supply**. (*Notice: pressing power button does not turn on the QTPC (Nvidia Jetson)!!!*)

## Connect QTrobot to the Internet

To have access to the internet from all machines (as it is demonstrated in the following diagram), the Wi-Fi of QTRP should be connected to your home router. The internet from the router, is shared to all other machines (including QTPC) via QTRP. The green arrows shows the direction and how internet shared between QTRP and QTPC.



**IMPORTANT:** Do NOT connect QTPC's WiFi to any router and do not edit it's Ethernet setup!



## Step 1. Access QTRP via ssh

From the Ubuntu desktop of QTPC, open a terminal and access QTRP via ssh (*For the password use `qtrobot`*):

```
ssh developer@192.168.100.1
# or ssh developer@QTRP
```

## Step 2. Configure qt\_wlan0\_client service

First, edit the `/etc/wpa_supplicant/wpa_supplicant-wlan0.conf` file to update 'ssid' and 'psk':

```
cd /etc/wpa_supplicant
sudo nano wpa_supplicant-wlan0.conf
```

set the `ssid` (your router ssid) and `psk` (your router passphrase) of your home router setup:

```
country=LU
ctrl_interface=DIR=/var/run/wpa_supplicant GROUP=netdev
update_config=1

network={
    ssid="<your router SSID>"
    psk="<your router passphrase>"
}
```

Next, restart the `qt_wlan0_client` service:

```
sudo systemctl restart qt_wlan0_client.service
```

### IMPORTANT:

- Pay attention that the values for **ssid** and **psk** are wrapped with double quotation marks!
- Pay attention to the **<TAB>** before **ssid** and **psk**!
- Do not create or change any other files related to `wpa_supplicant` or `systemd` network! this may break your QTrobot network setup!
- Ensure that you are modifying the `wpa_supplicant-wlan0.conf` file and NOT `wpa_supplicant.conf`

## Step 3. Test and make it permanent

After following the above steps, your QTrobot should be connected to your home/office network and have access to the Internet (i.e. you should be able to ping `www.google.com` for example).

```
ping www.google.com
```

Disable the `qt_wlan0_ap` service and enable the `qt_wlan0_client` service to keep QTrobot internet configuration permanent:

```
sudo systemctl enable qt_wlan0_client.service
sudo systemctl disable qt_wlan0_ap.service
```

You are all settled! QTRP gets internet connection from your router and will automatically share it with QTPC and any other devices connected to QTrobot Wi-Fi hotspot.

## TROUBLESHOOTING

- Check if QTrobot is connected to your home/office network. Run the following command on QTRP via ssh: `sudo wpa_cli -i wlan0 status`. You should see `wpa_state=COMPLETED` and the correct ssid is reported.
- Double check that you have entered correct values for ssid and psk in `/etc/wpa_supplicant/wpa_supplicant-wlan0.conf`!
- See the status of the `qt_wlan0_client` service for any typo or misformatted lines in `/etc/wpa_supplicant/wpa_supplicant-wlan0.conf`. To do that, run the following command on QTRP: `sudo systemctl status qt_wlan0_client.service` this should show that the service is running and *active*. If not, follow the error messages reported by the service.
- If you are connected to your home/office network (by checking the previous command) but still does not have access to the internet (e.g. cannot ping google), please double check that your home/office network providing any internet connection!