

# Update system utilities

With the setup now complete, you have the capability to connect to your MBot remotely through **the VSCode terminal**.

Firstly establish a remote connection to your MBot. Once the remote connection is set, open a terminal within VSCode. In the VSCode terminal, navigate to the home directory by entering the command `cd ~`.

In the home directory, you will find a folder named `mbot_sys_utils` (Otherwise clone it from [mbot\\_sys\\_utils](#)). The `mbot_sys_utils` has been updated after the OS image was generated, and we need to update the settings accordingly. This step is essential for the firmware set up later.

**Note:** Your laptop is now just a gateway for the SSH connection to your MBot. All programming is executed on the MBot, not on your laptop. When we mention opening a terminal in this guide later, we’re referring to using a VSCode terminal to access your MBot.

1. Pull the latest changes from the `mbot_sys_utils` repository using the following commands:

```
cd ~/mbot_sys_utils
git pull
```

2. Append the last line of `mbot_config.txt` to the system configuration:

```
tail -n 1 mbot_config.txt | sudo tee -a /boot/firmware/mbot_config.txt > /dev/null
```

To verify the update, execute the command below, and you should see the output “autostart=run” in your terminal. Ensure this output is present before proceeding to the next step.

```
tail -n 1 /boot/firmware/mbot_config.txt && echo ""
```

If there is no output “autostart=run” in your terminal, check your `mbot_config.txt` file by running

```
sudo nano /boot/firmware/mbot_config.txt
```

- If “autostart=run” is not at a new line at the bottom of the file, but append after `mbot_ip_list_token`, please move it to the next line and save the file.
- This issue depends how you edit your `mbot_config.txt` after flashing the SD card. Some editing tools automatically insert a newline character at the end of the last line, preventing this issue from occurring, while others do not.

3. Install the services manually:

```
cd ~/mbot_sys_utils/services
./install_mbot_services.sh
```

4. After installation, power off the device, your VS Code connection will drop at this point, then turn the power back on and reconnect to the MBot using VS Code.

5. Ensure the updates are properly loaded by checking the log:

```
code /var/log/mbot/mbot_start_networking.log
```

At the bottom of this log file, if you see the message “Autostart is set to run”, that means your update was successful.

```
===== 2023-10-24 22:09:19 =====
hostname set to 'mbot-0000-example'
Connected to active WiFi network 'example'. Done.
Autostart is set to run
```