Abeeway Device Updater 2.0.0 Documentation

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This Document is intended to help users updating trackers by using the docking station and the Abeeway Device Updater software.

Setup

Hardware Setup

If you will work with the provided mini pc or raspberry PI 4, you will first need to plug it with the sector adaptor then connect it:

- USB Mouse
- USB Keyboard
- HDMI or VGA Screen (HDMI cable is in the box)

AcePC AK3

We recommend you use a AcePC AK3 to run the application. You can get it here.

At startup, the computer may ask you which operating system you want to boot on. Just select **Ubuntu**. If you do not touch anything, it will boot up automatically on it within 5 seconds.

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*Note: Everything is already installed on the computer. You will not need to do the **Software Installation** step. Jump to **Prerequisites**.*

Software Installation

You will need **Python 3** installed on your system.

The latest stable Abeeway Device Updater release can be installed by downloading the DEBIAN package (abeeway-updater-[arch]-[version].deb).

For the Raspberry PI 4, the file should be **abeeway-updater-armhf-2.0.0.deb**

For the PC, the file should be **abeeway-updater-amd64-2.0.0.deb**

When you have the file, install using the following command lines:

```
sudo apt-get install ./abeeway-updater-armhf-2.0.0.deb
```

Uninstall

To uninstall Abeeway Device Updater, type:

```
sudo dpkg --remove abeeway-updater
```

Note: If you want to update the software, you will need to uninstall it first.

Prerequisites

Connect the trackers

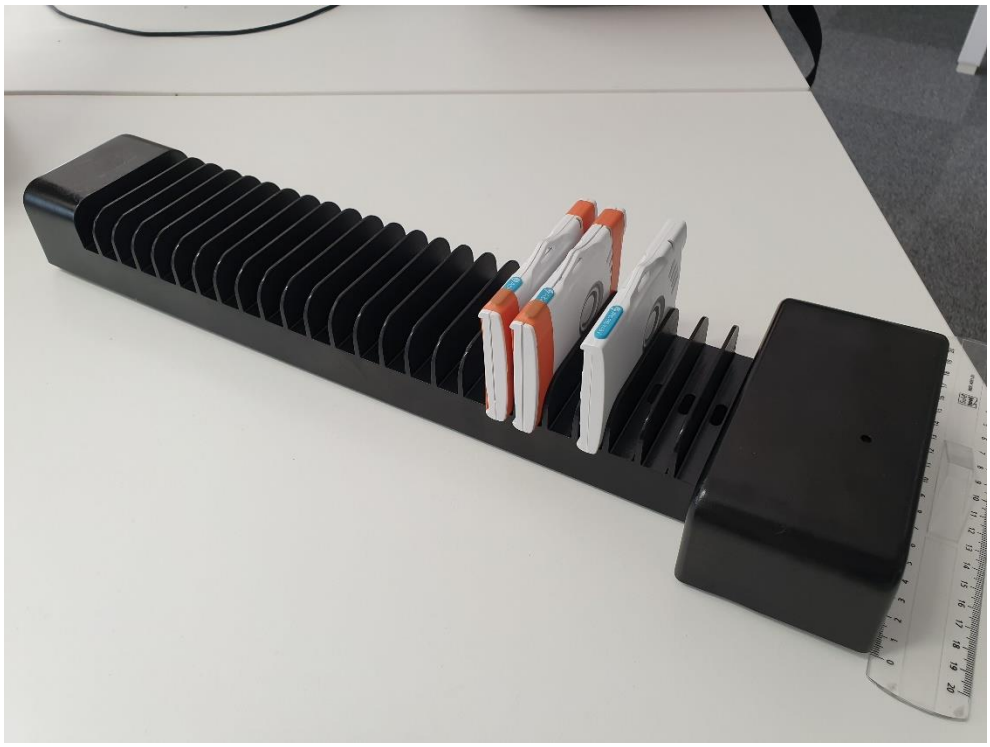
You can connect the trackers to the computer by either a POGO cable or with the Docking Station.

Use the docking station :

1. Connect the power supply to the docking station first. WARNING: Be sure to plug it correctly, the flat side up (with the arrow).

2. Connect the docking station to the computer using a mini-USB cable.

3. Plug the devices in the docking station.

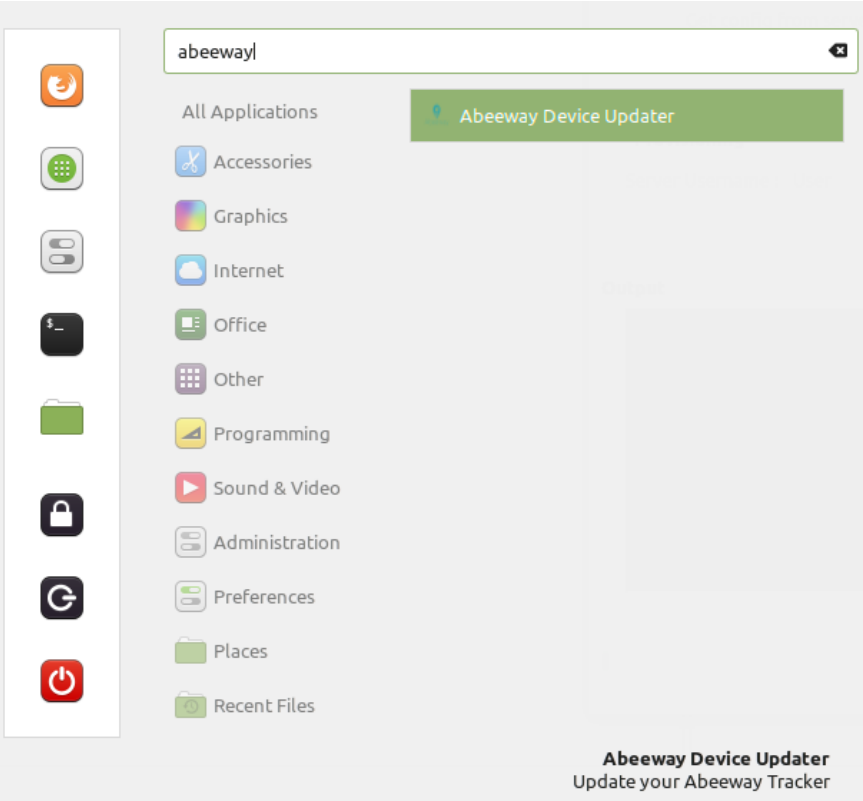


Warning: Be sure to respect the first step. It is very important to plug the docking station to the power supply before connecting it to the computer and to connect it the right way.

Usage

Start

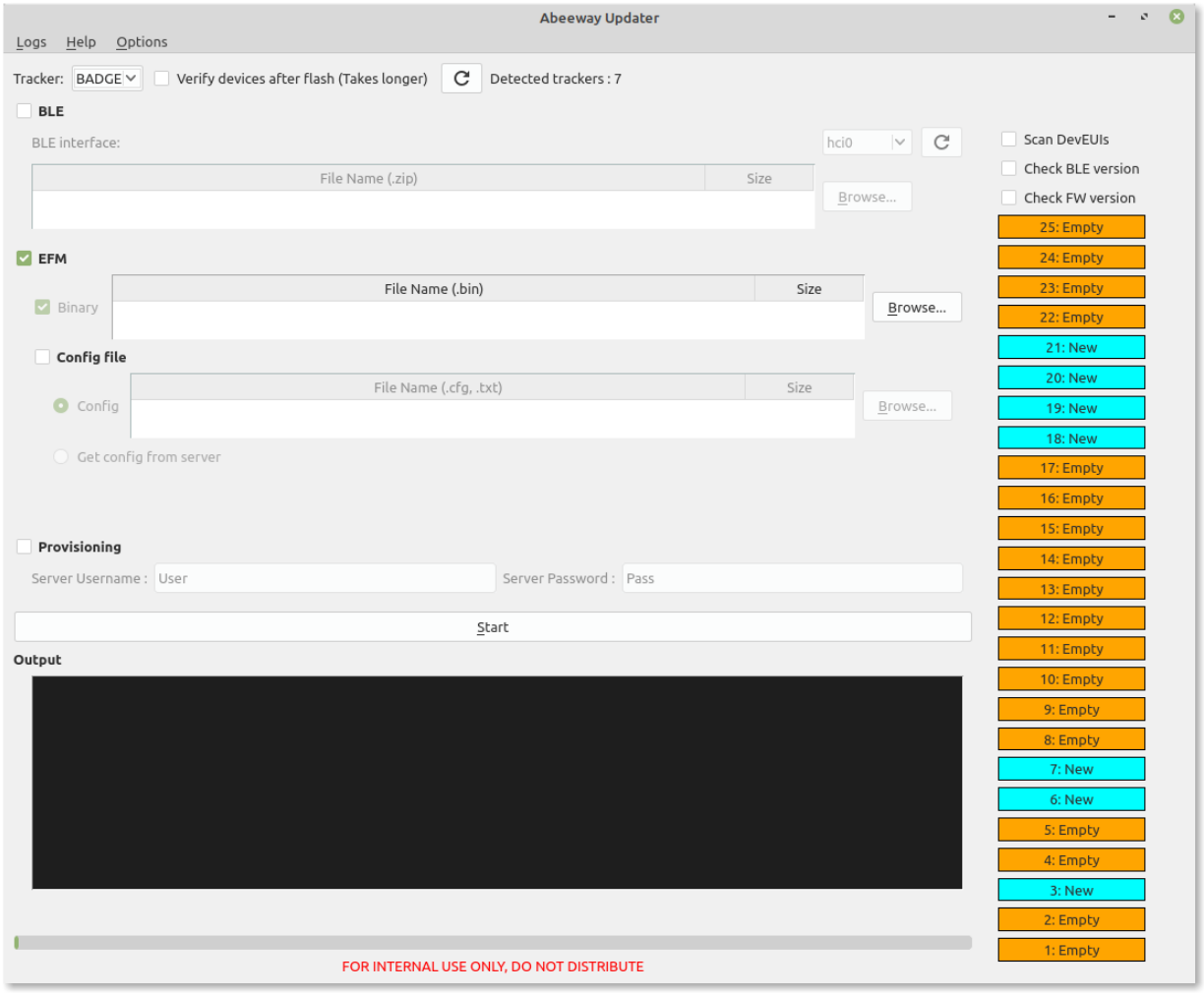
Launch the Abeeway Device Updater by opening the application menu or by pressing the Windows key on your keyboard and type “Abeeway Device Updater” then click on the icon.



Note : You can also launch it with the following command line so you can see errors in the terminal if any and report it to Abeeway:

python3 /usr/local/bin/abeeway-updater/script/updater.py

Once launched, you will have a page like that:



Note: If you need to update more than 16 devices and you see that some of them are marked "No port attached" in yellow, please relaunch the updater with this command:

sudo python3 /usr/local/bin/abeeway-updater/script/updater.py

This will launch the updater in administrator mode, and it will be able to deal with the "No port attached" devices.

Menu

At the top of the UI, you have 3 menus: Files, Options and Help.

Files Menu

The files menu will allow you to see some files related to the updater such as the logs.

Logs

The submenu Logs Allow you to access the different logs of the updater. Log files are created every new day when launching the software. They are located under /var/log/abeeway/ and are sorted by day in directories named following this template: YYYY-MM-DD

There are 3 types of logs:

- Log : These are the main logs of the updater. It prints everything that is prompted during the software execution.
- DevEUI Logs : This log shows the results of the flashes. It shows the DevEUI, the state of the flash [PASSED/FAILED] and the files that were flashed to it.
- Errors Logs : Logs to retrieve errors if any so you can send it to Abeeway for investigation.

In this submenu, there is also a button “Logs Directory” that opens the directory where logs are stored so you do not have to search it on your computer.

Type Table

The Type Table is a CSV file that store pairs DevEUI/Tracker Type so the updater knows the type of a tracker from its DevEUI. This prevents the user to flash the wrong firmware.

Options Menu

The options menu will allow you to modify parameters used by the software.

Depth

The depth parameter is used if you see that the docking station visualization is wrong. By default, it is set to 1 on PC and 2 for Raspberry PI. You can change it to the other and see if it fixes the grid.

Schema Type

The schema type parameter is used to change the visualization type of the grid. There are 2 types of schemas:

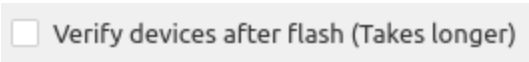
- Location : This is the default parameter if you use a Docking Station. It shows the devices by their physical place on the Docking Station.

- Ports : This is the default parameter if you use a USB Hub. It shows the devices by the port they use.

Note: If you are using a USB Hub, the Location option will not be enabled.

Verifying devices after flash

If you want to check the device's state (DevEUI, Firmware version, BLE version) after the flash, you can check this box.



It will take a little more time than just flashing so this is why it is disabled by default. You can also check theses information from the docking station panel of the software.

Bypass DevEUI check

By default, if the software cannot retrieve the DevEUI of a device for any reason, this device will not be updated.

By checking this option, the flash will still be processed even if the DevEUI cannot be retrieved. In this case, the identifier of the device in the logs will be its Hardware ID.

Bypass type check

By default, if the software cannot verify the type of the tracker with the Type Table CSV (see Files->Type Table) or if the type of the tracker is not contained in the name of the binary, the program will not flash it to ensure that no wrong firmware is flashed on a tracker.

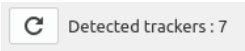
By checking this option, the flash will still be processed even if the type does if wrong or if it is not registered is the CSV file.

Help Menu

The help menu contains buttons to open this documentation and see information about the software.

Docking Panel

You can find on the right of the interface the physical representation of the docking station. The number of detected trackers is printed at the top left of the UI, there is also a button to refresh the UI in case of problems:



If you are using a USB hub or if the docking station is not correctly plugged, the grid will prompt the devices by the port they use.

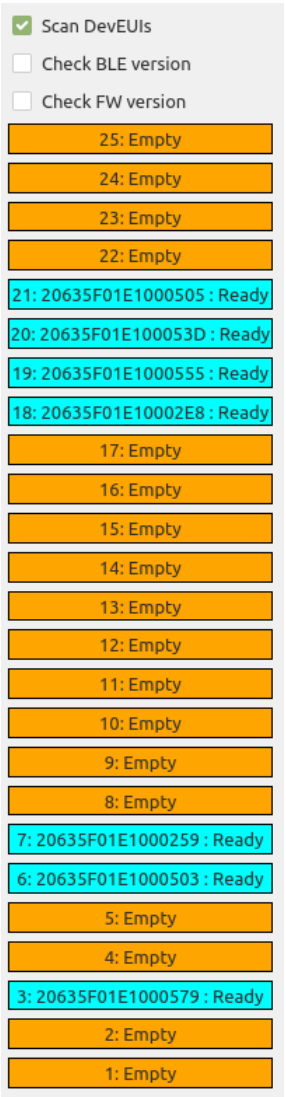
Note : Some USB Hubs are known to be detected the same way as the docking station by the system. In these cases, the grid may be displayed with strange positions, but it will not affect the flashing, it is only visual.

Display DevEUI

By default, the grid will just display “New” at the position of the tracker on the docking station. You can check the following checkbox to allow the software to ask the devices their DevEUI:

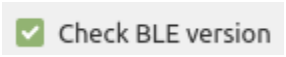
After a little time, it will display the DevEUI instead of “New”.

If the device is written “No port attached”, you will not be able to retrieve information from it.

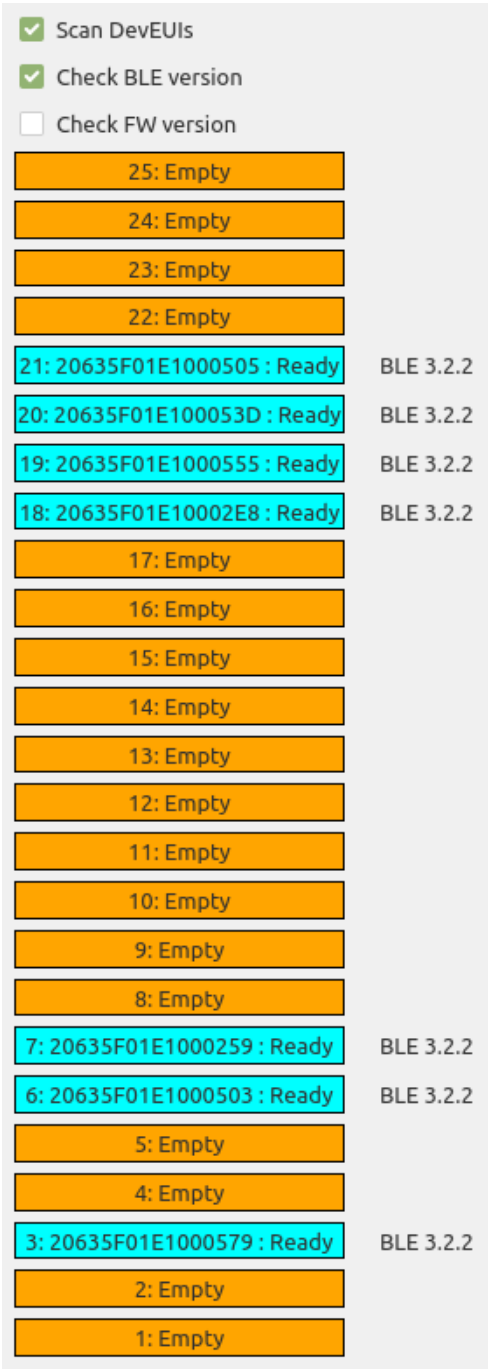


Display BLE Version

You can display the devices BLE version by checking the following box:



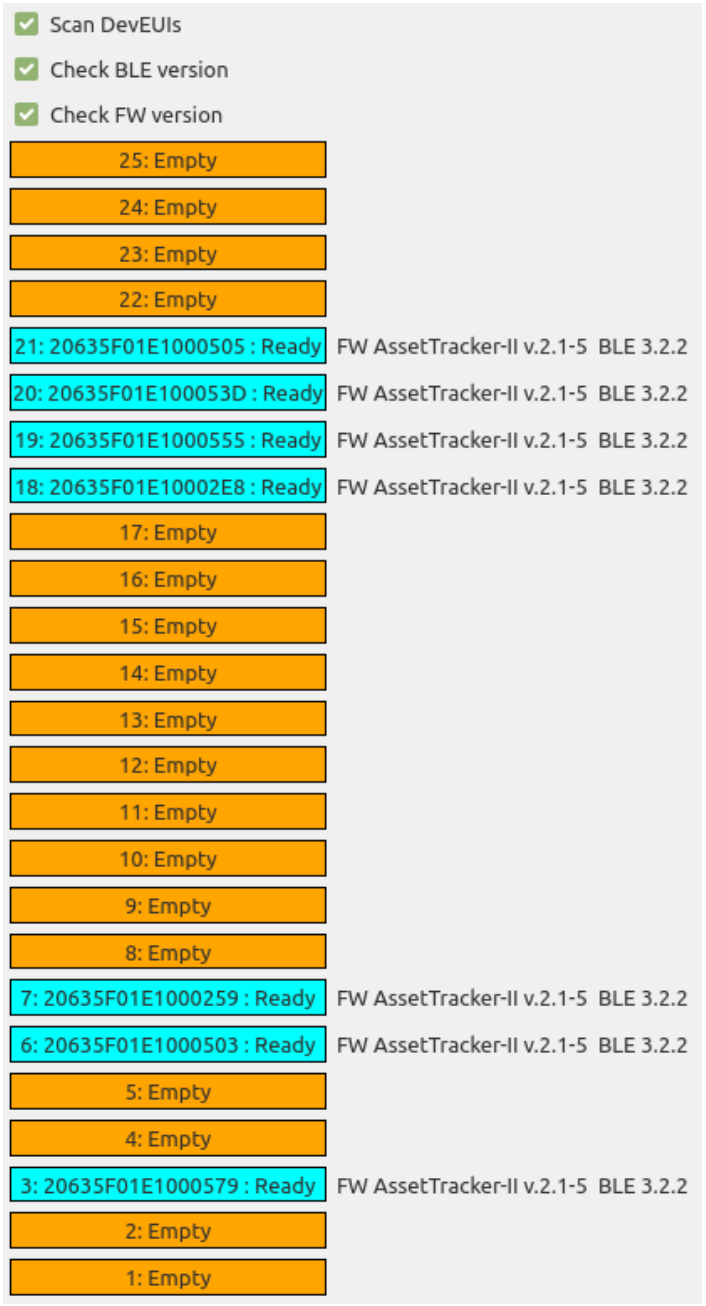
After a little time, the BLE version will be displayed next to the DevEUI box.



Check Firmware Version

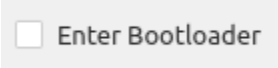
You can display the devices Firmware version by checking the following box:

After a little time, the Firmware version will be displayed next to the DevEUI box.



Enter Bootloader

The following box will allow you to enter every device connected to the Docking station into Bootloader mode:



While it is checked, every new device plugged will automatically put in bootloader mode. It comes back to its normal state when you plug it off from the docking station.

Since you cannot retrieve the DevEUI of the tracker when it is on Bootloader mode, you need to enter your provisioning server credentials to get it.

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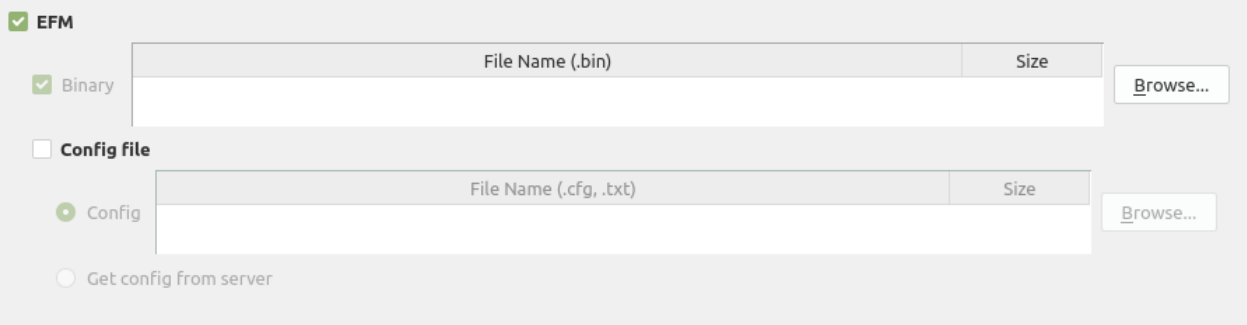
*Note: If you do not mind of the DevEUI, you can check the box under **Options**->**Bypass DevEUI Check** as said before.*

*If you do so, be sure to also check the **Bypass Type Check** from the same menu. Otherwise, it will not be able to verify the if the firmware and the tracker type match and it will not flash it.*

MCU Firmware Update

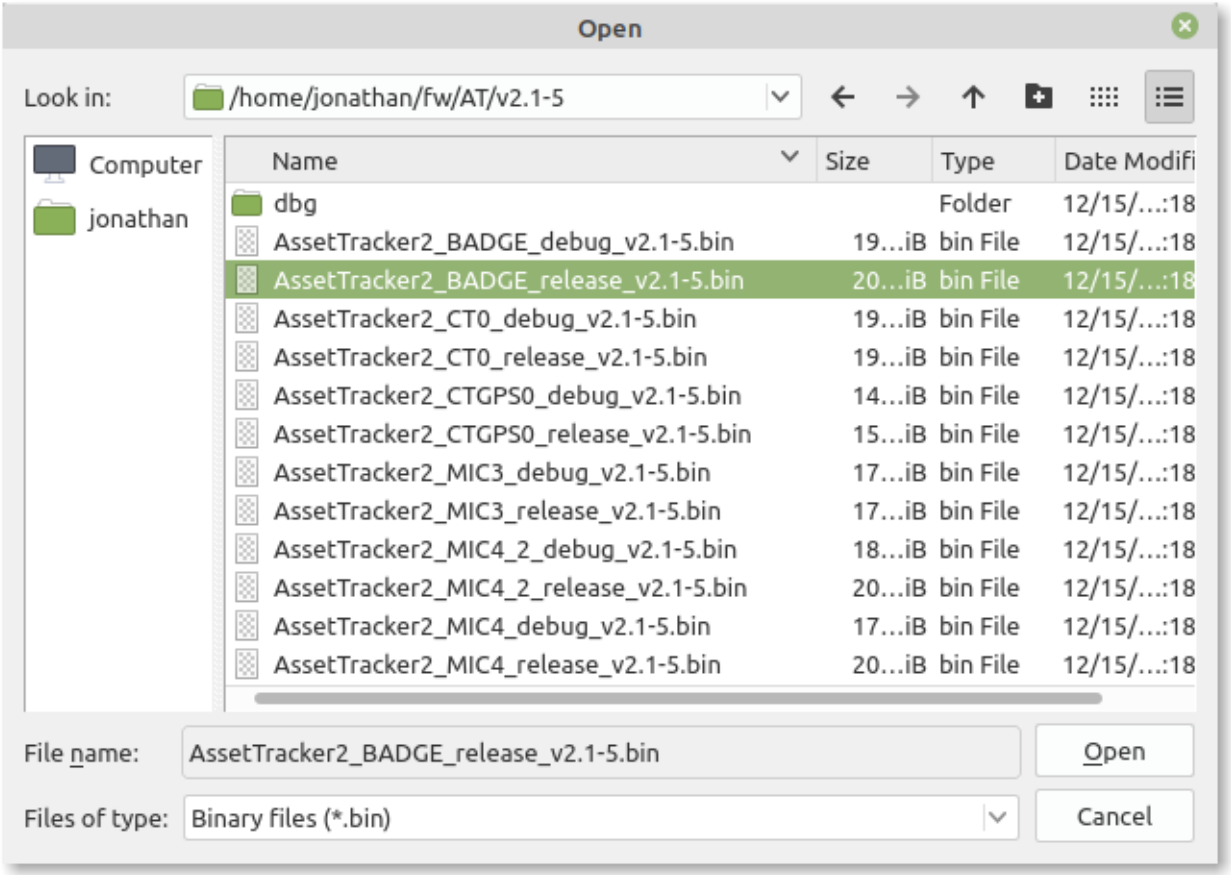
Activate MCU

If a MCU firmware update is intended, activate the EFM options menu. It is already activated by default.



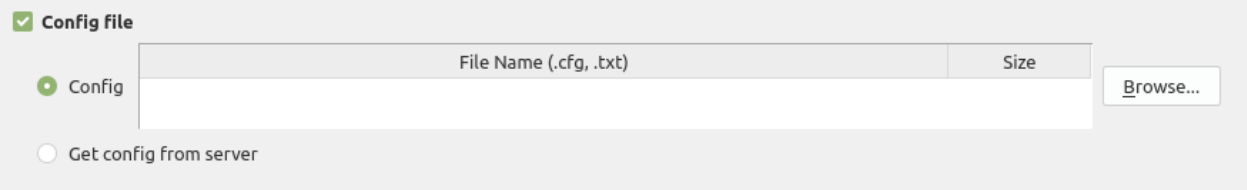
Set MCU firmware

Click the "Browse…" button and select in your computer the MCU firmware binary file (.bin) to flash to the trackers.



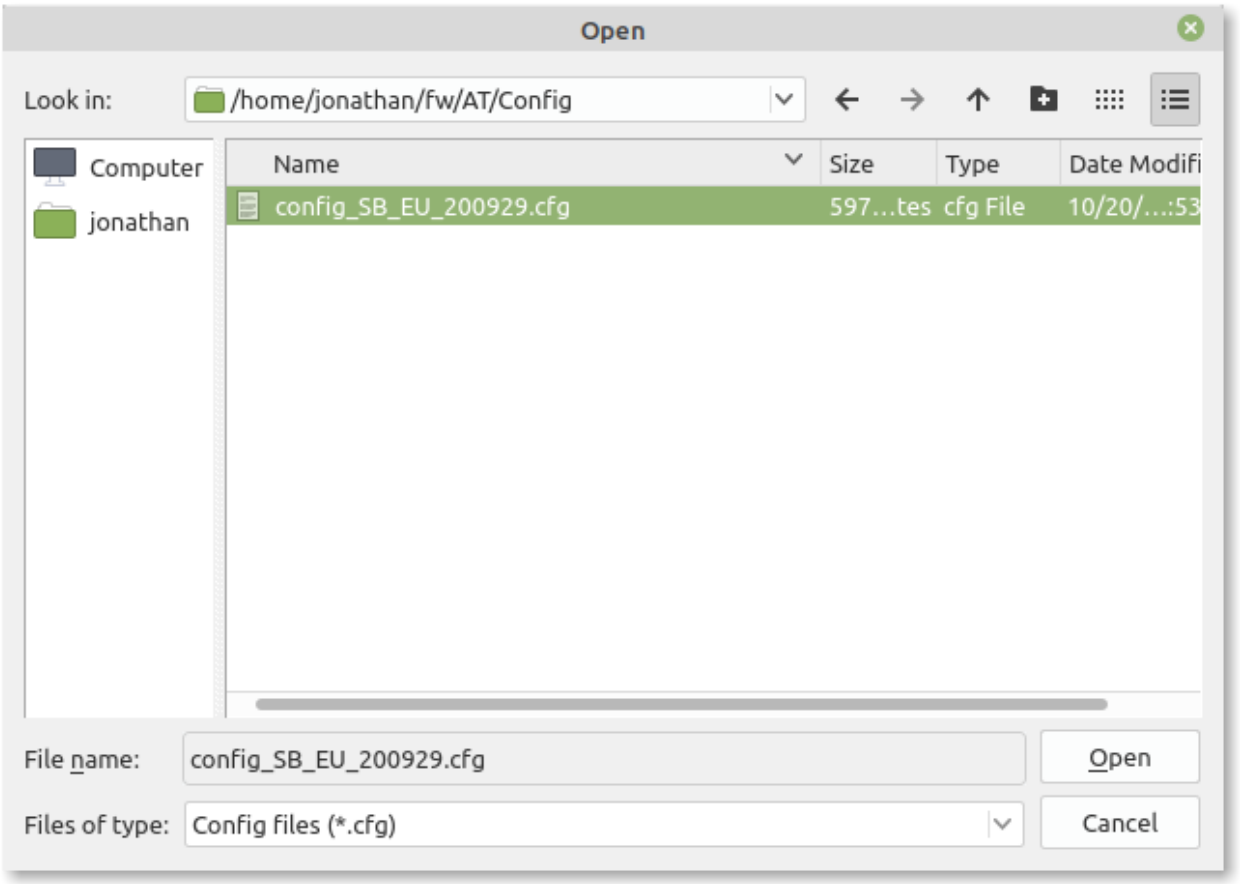
Activate configuration file

If a configuration file must be appended, activate “Config file” menu.



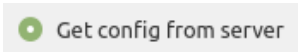
Set MCU configuration file

Click the “Browse…” button and select the MCU configuration file (.cfg or .txt) on your computer.

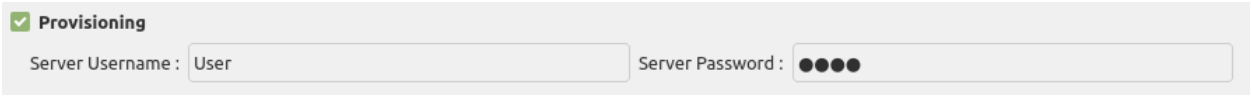


Get configuration file from provisioning server

If you want to get the configuration file from the provisioning server, you must check the following box:



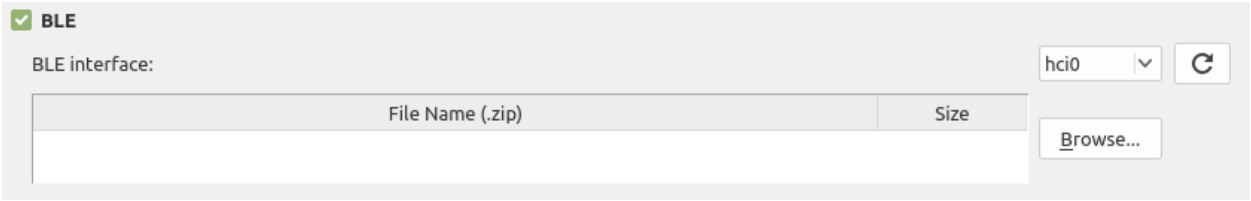
You will also need to log into the provisioning server by providing your credentials at the bottom of the window.



BLE Firmware Update

Activate BLE

If you need to update the BLE Firmware, just activate the BLE checkbox.

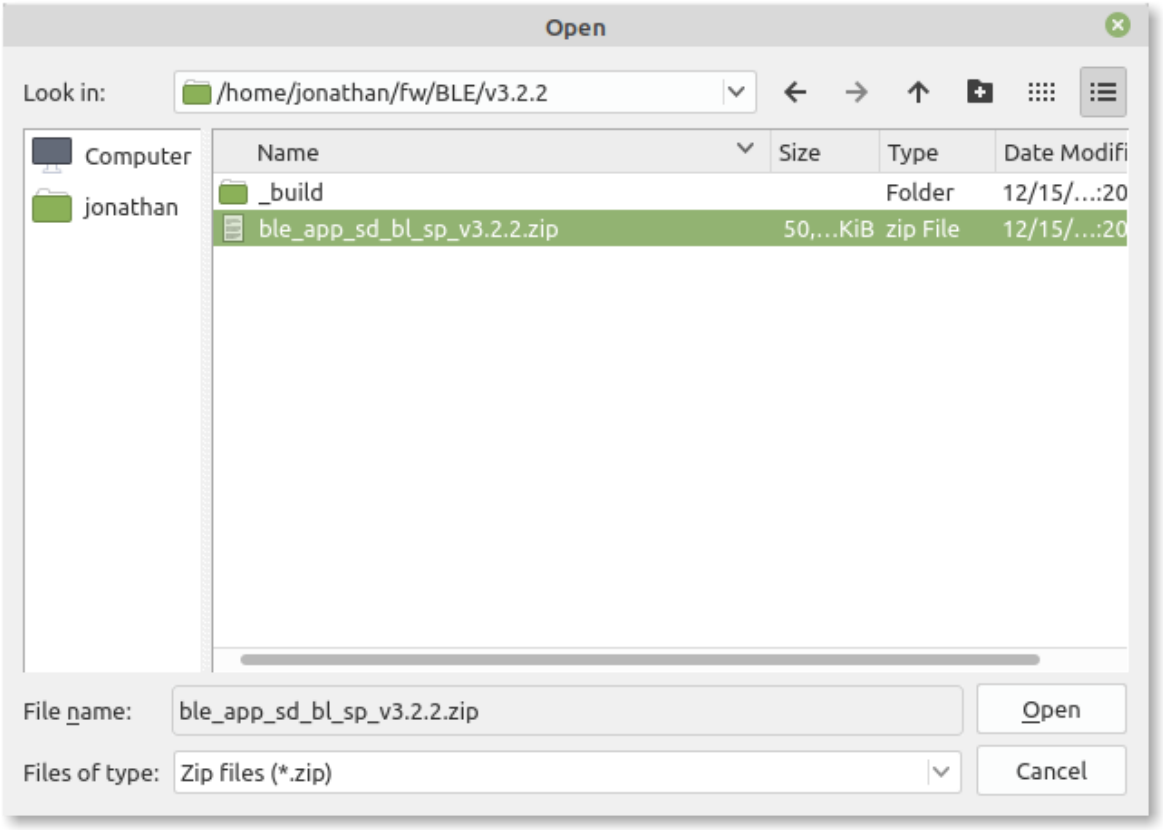


The dropdown at the top right shows you if your system has Bluetooth. If not, the dropdown will be like this and you will not be able to update BLE:

You could refresh this for example if you plugged a USB Bluetooth dongle after launch.

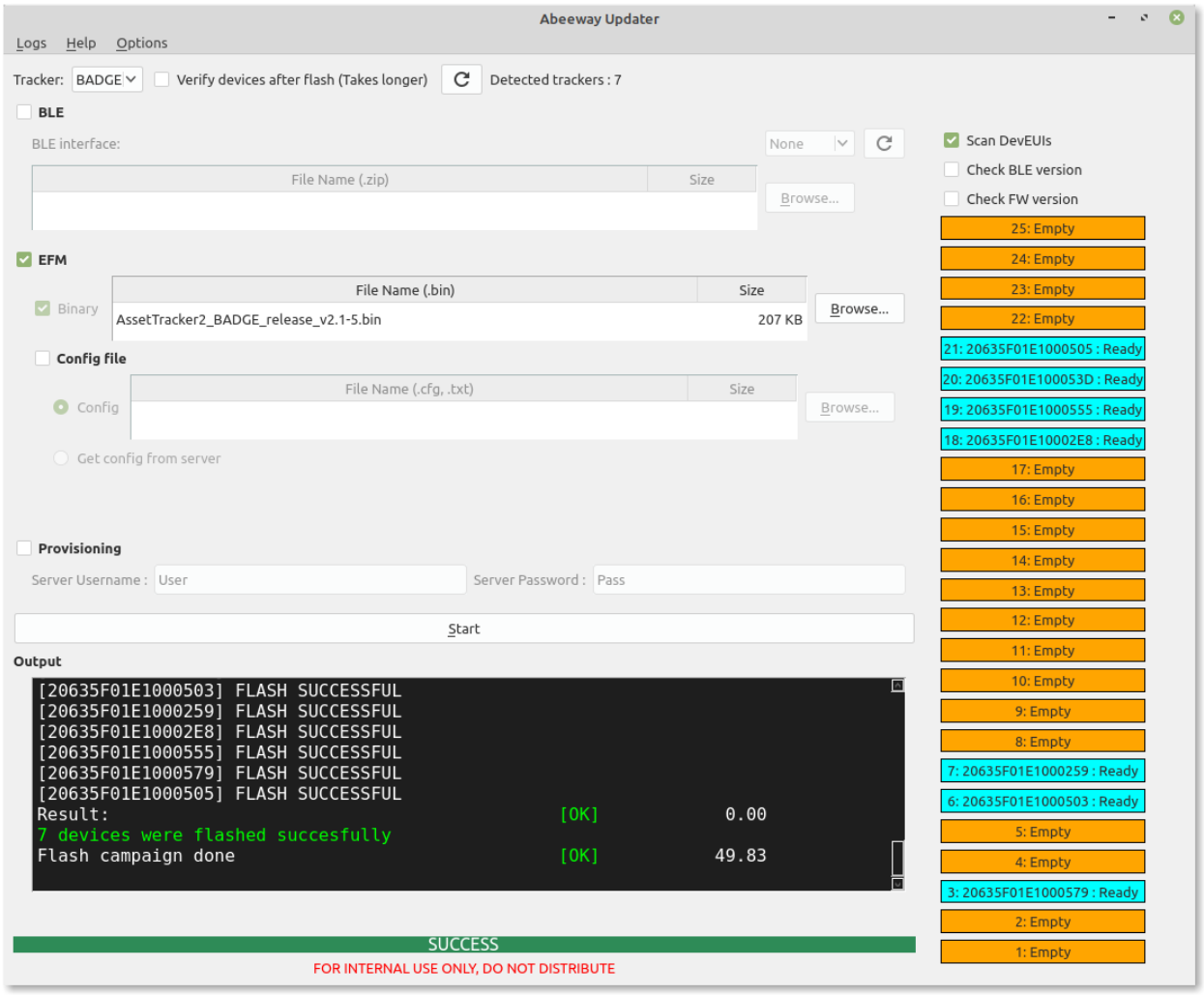
Set BLE File

Click the “Browse…” button and select the BLE firmware file (.zip) on your computer.



Result

Once you have selected everything you want, click on the “Start” button. You will see the ongoing operations on the black box at the bottom. Once update procedure has been completed, you should see the status:



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