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# Barcode Buddy Documentation

*Release 1.4.0.0*

Apr 06, 2020



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Barcode Buddy for Grocy is an extension for [Grocy](#), allowing to pass barcodes to Grocy. It supports barcodes for products and chores. If you own a physical barcode scanner, it can be integrated, so that all barcodes scanned are automatically pushed to BarcodeBuddy/Grocy.



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## Why use Barcode Buddy and how does it work

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Barcode Buddy makes using a barcode scanner a lot easier - ideally the barcode scanner is connected to a server / computer so it can send the barcodes to the programm. Alternatively the barcodes can be manually added with the web ui. In contrast to Grocy, unknown barcodes are looked up with OpenFoodFacts.org first, in order to find out the product name / category. If found, BarcodeBuddy checks if the user has stored any tags associated with the name: For example, if the name is “Chocolate bar”, it can automatically be set to the Grocy product “Chocolate”.

A known barcode will be processed, so it reduces / increases the inventory or manipulates the shopping list.

If the product could not be looked up, the user can select it manually.

Chores can also be executed with barcodes.





## 2.1 Setup

There are two different ways to setup BarcodeBuddy: Either a bare metal approach or docker

### 2.1.1 Docker

#### Requirements

- A host running docker

#### Installation

To download, run the following command, and replace YOURTAG with one from the list below:

```
docker pull f0rc3/barcodebuddy-docker:YOURTAG
```

| Tag                | Architecture | Version  |
|--------------------|--------------|----------|
| latest             | x86-64       | stable   |
| arm32v7-latest     | armhf        | stable   |
| arm64v8-latest     | arm64        | stable   |
| latest-dev         | x86-64       | unstable |
| arm32v7-latest-dev | armhf        | unstable |
| arm64v8-latest-dev | arm64        | unstable |

Most of the time, you will need the *latest* tag. If you are running docker on a Raspberry Pi, you will need the *arm32v7-latest* tag.

*Stable* indicates, that you are using the latest release which should work without any bugs. *Unstable* is the latest developer version, which might include more features, but could also contain bugs.

If you don't want to download the prebuilt image, you can find the Dockerfile on the [Github project page](#).

### Starting the Container

To start the container, run the following command:

```
docker run -d -v bbconfig:/config -p 80:80 -p 443:443 f0rc3/barcodebuddy-  
↪docker:YOURTAG
```

You can now open `http://DOCKER_HOST_IP/` to set up BarcodeBuddy. If you are already serving a webserver on your Docker host, you need to change the ports, eg.:

```
docker run -d -v bbconfig:/config -p 8080:80 -p 9443:443 f0rc3/barcodebuddy-  
↪docker:latest
```

The following arguments can also be passed:

| Argument              | Value      | Effect  |
|-----------------------|------------|---|
| ATTACH_BARCODESCANNER | true/false | Attach barcodescanner                                 |
| IGNORE_SSL_CA         | true/false | Accept self-signed SSL certificates                   |
| IGNORE_SSL_HOST       | true/false | Accept SSL certificates where the host does not match |

For more information on how to attach a barcode scanner, see [Using a physical barcode scanner](#)

To pass an argument, use the `-e` function, eg:

```
docker run -d -v bbconfig:/config -e ATTACH_BARCODESCANNER=true -p 80:80 -p 443:443 ↪  
↪f0rc3/barcodebuddy-docker:latest
```

## 2.1.2 Bare Metal

### Requirements

- webserver (eg. NGINX, Apache)
- curl
- Access to the command line
- PHP (PHP5 min, however PHP7+ highly recommended)
- The following PHP modules:
  - curl
  - date
  - json
  - sqlite3
  - sockets
- When using a barcode scanner:
  - Root access!
  - sudo

- screen
- evtest

## Installation

*Stable* indicates, that you are using the latest release which should work without any bugs. *Unstable* is the latest developer version, which might include more features, but could also contain bugs.

It is strongly recommended to change `pm.max_children` to a value of 10 or higher in `/etc/php7/php-fpm.d/www.conf` (path might be different, depending on PHP version and distribution; for Ubuntu 18.04 it is `/etc/php/7.2/fpm/pool.d/www.conf`).

## Webserver setup

This guide is written for a Debian based server, including Ubuntu. If you already have a webserver setup, you can skip this section.

## Installing NGINX

- Get root, ideally with `sudo -i`
- Install nginx: `apt-get install nginx`
- If you are running a server with ufw active, run `ufw allow 'Nginx Full'`
- Install all php modules and other requirements `apt-get install php-fpm php-curl php-date php-json php-sqlite sudo screen evtest`
- Check what PHP version you are using with `php --version` (eg. “7.2”).
- Copy the [Nginx example file](#) to `/etc/nginx/sites-enabled/`
- Adjust the new file:
  - If you are not using PHP7.2, change the line `fastcgi_pass unix:/var/run/php/php7.2-fpm.sock;` to your PHP version
  - If you are not installing Barcode Buddy to `/var/www/html/barcodebuddy/`, change the line `root /var/www/html/barcodebuddy/;` to your directory
- Follow the steps below to download either the stable or unstable version
- Execute the command `chown www-data:www-data -R /path/to/the/barcodebuddy/folder` for the folder that you just created
- Change `pm.max_children` to a value of 10 in `/etc/php/7.2/fpm/pool.d/www.conf` (adjust path for your PHP version)
- Restart NGINX service `nginx restart`

## Stable version

Download [the project](#) and copy all files into your webserver.

### Unstable version

Execute

```
git clone https://github.com/Forceu/barcodebuddy.git
```

and move the folder into your webserver directory.

### Starting the websocket service

If you have access to your webserver's command line, make sure to start the websocket server. This way you can use the Screen module and if there are any changes, BarcodeBuddy will automatically refresh.

Navigate to your installation folder and execute `php wsserver.php` to start the server. To have it run in the background, either use the screen application (recommended)

```
screen -S bbuddyserver -d -m /usr/bin/php /path/to/the/barcodebuddy/folder/wsserver.  
↵php
```

or the following command:

```
nohup php wsserver.php &
```

### Further Setup

You will find the file `config.php` in the folder “`incl`”. This file is for further configuration - the following values can be changed:

| Argument                 | Value           | Effect  |
|--------------------------|-----------------|---|
| PORT_WEBSOCKET_SERVER    | 65535           | The port that the websocket server listens to. Change if you running multiple instances or the default port is already used by another application. |
| DATABASE_PATH            | A writable path | The path where the database file is written to. Make sure that the webserver does not allow the download of the file.                               |
| CURL_TIMEOUT_S           | 5-60            | How long to wait for a request  |
| CURL_ALLOW_INSECURE_SSL  | TRUE/FALSE      | Accept self-signed SSL certificates   |
| CURL_ALLOW_INSECURE_HOST | TRUE/FALSE      | Accept SSL certificates where the host does not match   |

### 2.1.3 VirtualBox

We have also released a [VirtualBox](#) image, which automatically downloads the latest docker image and runs it.

#### Installation

Open VirtualBox, and go to File/Host Network Manager. If there is no network listed yet, click on “Create” and make sure that the box for DHCP Server is ticked. [Download the image](#) and open it with VirtualBox, then click on “Import” in the new window.

Start the image - once it is completely running, you will see a login prompt. Above that, you will see two IP addresses. Normally with the second one you can reach the server, so simply connect in your web browser to `http://THE_IP/`.

If you need to log in to the image, the default username is `root` and the default password is `barcode`.

## 2.1.4 Hass.IO

### Connecting to Grocy

If you are running Grocy in a HASS.io container, further configuration is needed. Open HASS and go to the Grocy plugin section (not Grocy itself). Scroll down and enter 9192 in the `Network` section and press save. Make sure that you disable SSL in the Grocy config section above, if you are not using a proper certificate. Then restart Grocy. You will now be able to access Grocy under the URL `http://hassio.local:9192`. In BarcodeBuddy setup, enter `http://hassio.local:9192/api/` as URL.

## 2.2 Usage

### 2.2.1 First Start

Open your Grocy website. Click on Settings in the top right corner and then click on *Manage API keys*. Click on *add* and copy the long API key to your clipboard. You can now open Barcode Buddy by visiting your webserver's URL. The setup will ask you to enter the API details. Make sure to have the trailing `"/api/"` for your Grocy URL at the end.

### 2.2.2 Using The Web UI

#### Overview

When you open the web ui, you will see three cards:

- New Barcodes: Barcodes that are unknown to Grocy, but the name could be looked up
- Unknown Barcodes: Barcodes that are unknown to Grocy and could not be looked up
- Processed Barcodes: A history of all barcodes that were processed by BarcodeBuddy

#### Special Barcodes

There are seven special barcodes - if you scan the barcode, BarcodeBuddy goes into a different mode: Eg. in Purchase mode all barcodes that are scanned will be added to Grocy's inventory.

| Mode                        | De-<br>fault<br>Bar-<br>code | Explanation   |
|-----------------------------|------------------------------|---|
| Con-<br>sume                | BBUDDY<br>C                  | All items scanned in this mode will be removed from the inventory   |
| Con-<br>sume<br>(spoiled)   | BBUDDY<br>CS                 | All items scanned in this mode will be removed from the inventory and marked as spoiled   |
| Pur-<br>chase               | BBUDDY<br>P                  | All items scanned in this mode will be added to the inventory   |
| Open                        | BBUDDY<br>O                  | All items scanned in this mode will be marked as opened   |
| Inven-<br>tory              | BBUDDY<br>I                  | Displays the current amount of items in stock of that product   |
| Add to<br>shop-<br>pinglist | BBUDDY<br>AS                 | All items scanned in this mode will be added to the default shopping list   |
| Quan-<br>tity               | BBUDDY<br>Q-?                | Sets a quantity for a barcode. Replace ? with number of items. Eg. if you have a carton with 10 eggs, scan the barcode BBUDDY-Q-10 and then the barcode of the carton. The next time you scan the carton barcode, it will register as 10 units. |

You can find printable copies of the barcodes in the [example folder](#) .

## Using the UI

Once a barcode was added and is not recognised by Grocy, it will be added to the list in the web ui. Simply select the Grocy product from the drop-down list. If the name could be looked up, you will also see checkboxes for each word that was used in the name. If you want the selected Grocy product preselected for a different barcode that includes such a word, tick it and then press either “Consume” or “Add”. The barcode will then saved to Grocy and the next time you scan it, the product will automatically be processed.

Barcode Buddy
Grocy
Screen

### New Barcodes

| Name                 | Barcode       | Quantity | Product  | Action      | Tags   | Create         | Remove |
|----------------------|---------------|----------|----------|-------------|--|----------------|--------|
| Coca Cola            | 54490000      | 1        | Coke     | ADD CONSUME | <input type="checkbox"/> Coca<br><input checked="" type="checkbox"/> Cola                                      | CREATE PRODUCT | REMOVE |
| Greek Yoghurt        | 27030868      | 1        | Yoghurt  | ADD CONSUME | <input type="checkbox"/> Greek   | CREATE PRODUCT | REMOVE |
| Sella basmati Rice   | 890800068362  | 1        | Rice     | ADD CONSUME | <input type="checkbox"/> Sella<br><input type="checkbox"/> basmati<br><input checked="" type="checkbox"/> Rice | CREATE PRODUCT | REMOVE |
| Sodastream Apple Mix | 7290002793229 | 1        | = None = | ADD CONSUME | <input type="checkbox"/> Sodastream<br><input type="checkbox"/> Apple<br><input type="checkbox"/> Mix          | CREATE PRODUCT | REMOVE |

### Unknown Barcodes

No unknown barcodes yet.

### Processed Barcodes

2019-08-29 15:19:40: Unknown barcode looked up, found name: Sodastream Apple Mix. Barcode: 7290002793229  
2019-08-29 15:19:01: Unknown barcode looked up, found name: Sella basmati Rice. Barcode: 890800068362  
2019-08-29 15:19:00: Unknown barcode looked up, found name: Greek Yoghurt. Barcode: 27030868  
2019-08-29 15:19:00: Unknown barcode looked up, found name: Pizza reich belegt mit Tomaten, Thunfisch und Käse auf knusprig dünnem Boden, tiefgefroren. Barcode: 4001724819301  
2019-08-29 15:17:24: Unknown barcode looked up, found name: Coca Cola. Barcode: 54490000

ADD BARCODE

Barcode Buddy
Help
Source Code
License
Version 1.2.2.0
by Marc Ole Bulling

## 2.2.3 Adding Barcodes

### Adding Barcodes Manually

The easiest option, ideally for testing out Barcode Buddy: Simply open the web ui and click on “Add barcode”. Enter the barcode (use one line per barcode) and click on “Add”.

If you are using a barcode scanner, but don’t want to attach it to BarcodeBuddy (yet), you can also plug it into the device that runs the webbrowser and use it to enter the barcodes in the textfield. Each line is parsed as a barcode.

### Adding Barcodes automatically

The preferred way. Most barcode scanners register as a USB keyboard. That way, it is possible to grab the input and send it to Barcode Buddy.

### Using a physical barcode scanner

Plug in your barcode scanner to the linux computer / server you will be using. Run the command `evtest` as root. You will see a list of devices, select the one that is your barcode scanner and remember the number (eg. event6). Scan a barcode. You will now see output in the `evtest` program. If not, you have selected the wrong source.

### Docker

Create a docker container with

```
docker run -v bbconfig:/config -e ATTACH_BARCODESCANNER=true -p 80:80 -p 443:443 --  
↪device /dev/input/eventX f0rc3/barcodebuddy-docker:YOURTAG
```

where X in `--device /dev/input/eventX` is the number of your event you selected previously. You might need to change the values for the ports. Scan a barcode - it should be sent directly to BarcodeBuddy.

### Bare Metal

Navigate to the example folder in the BarcodeBuddy directory. In the file `grabInput.sh` edit the following values:

- **If your barcode scanner is attached to the same computer / server:**
  - `SCRIPT_LOCATION`: Replace with the location where your `index.php` file is located
- **If the scanner is attached to a different computer / server:**
  - `SERVER_ADDRESS`: Replace with the URL where your `index.php` file can be accessed from
  - `USE_CURL`: Set to “true”
- **If the webserver does not run as user `www-data` (uncommon):**
  - `WWW_USER`: Set to the name of the user

Then run as root

```
bash grabInput.sh /dev/input/eventX
```

where X is the number of your event you selected previously. Scan a barcode - it should be sent directly to BarcodeBuddy.

To run the script in the background, run

```
screen -S barcodegrabber -d -m /bin/bash /path/to/the/barcodebuddy/folder/example/  
↪grabInput.sh /dev/input/eventX
```



## Using a 3rd party application / script

If you want to write your own script, there are two ways to send the barcodes to Barcode Buddy: either by calling `php index.php yourBarcode` or by calling the URL: `https://url.to.barcode.buddy/index.php?add=123456789`. Only one barcode can be given with each call. You will only receive a return value if there was an error. If you are using the URL method, you can display the UI with the additional parameter `showui`. For example:

```
https://your.webhost.com/index.php?showui&add=123456789
```

You can also specify the mode for each barcode with a GET parameter. Simply add `&mode=NEWMODE` and replace `NEWMODE` with one of the following modes:

- consume
- consume\_s (Consume spoiled)
- purchase
- open
- inventory

## Example

To show the current stock on the webui of the Product “Pizza” which already has the barcode “123456” assigned:

```
https://your.webhost.com/index.php?showui&add=123456&mode=inventory
```

## Using a 3rd party mobile app

Although we have not released an app (yet), you can use the [Android app QR & Barcode Scanner](#) and point it to the `index.php` file. BarcodeBuddy supports the `text` GET variable that is used by the app since version 1.4.1.0.

## 2.2.4 Web UI: Settings menu

### General Settings

In this tab you can set the barcodes for changing Barcode Buddy modes. For example, if you scan the barcode “BBUDDY-P”, Barcode Buddy will change to “Purchase” mode and add all following items to your Grocy inventory. By default it is in “Consume” mode. The edit field below allows you to set the time in minutes, which is required to pass in order to revert back to the default “Consume” mode. E.g. if “Purchase” mode is active and the field is set to 10 minutes, Barcode Buddy will revert back to “Consume” mode 10 minutes later.

If you scan the “Inventory” barcode, Barcode Buddy will simply output the current stock, but not change any values. If an unknown barcode is scanned, it is added to the regular list.

The “Add to shopping list” barcode adds all future barcodes to the default shopping list.

With the “Revert after single item scan in “Open” or “Spoiled” mode” checkbox ticked, Barcode Buddy only stays in this mode for one scan and then reverts back to the default “Consume” mode. It does not affect the “Purchase” mode however!

With “Remove purchased items from shoppinglist” enabled, items that are scanned in purchase mode are removed from all Grocy shopping lists.

When “more verbose logs” is disabled, only barcode scans are logged in the log part of the main page.

### Grocy API

Here you can change your Grocy API details. Refer to *First Start*.

### Websocket Status

This section gives the status of the websocket server and if BarcodeBuddy is able to connect to it

## 2.2.5 Web UI: Settings Chores

This menu lists all available Grocy chores. Simply enter a barcode for a chore and press “Add”. The next time you scan this barcode, the chore will be executed. To change the barcode, simply edit it and press “Edit”. To remove, delete the barcode and press “Edit”.

## 2.2.6 Web UI: Tags

All saved tags are listed here

### Adding tags

Scan a barcode that was not recognized by Grocy yet, but could be looked up. Before pressing “Add” or “Consume” in the main menu, select a word from the list to the right. The next time a barcode is looked up that contains the word, the product is preselected.

### Managing tags

The list shows an overview of the tags. Click on “Delete” to remove the tag.

## 2.2.7 Web UI: Quantities

This features is for products that come in packs containing more than one item.

In the settings you see the quantity barcode (default “BBUDDY-Q-“). If you scan a barcode that starts with this text and has a number at the end, Barcode Buddy sets the quantity of the units from the previously scanned barcode to the number. For example: You scan Barcode “123”, which is a pack of 6 eggs. Then you scan the barcode “BBUDDY-Q-6”. The next time you scan the barcode “123” in purchase mode, Barcode Buddy will automatically add 6 eggs.

## 2.3 Updating Barcode Buddy

### 2.3.1 Docker

To update, run the following command:

```
docker pull f0rc3/barcodebuddy-docker:YOURTAG
```

Then stop the running container and follow the same steps as in SETUP. All userdata will be preserved, as it is saved to the bbuddy volume (-v command)

## 2.3.2 Bare Metal

### Stable version

To update, download the latest release and unzip it to the directory that contains the old version. Overwrite any existing files.

### Unstable version

To update, execute the command `git pull`

## 2.4 Plugins

Barcode Buddy offers plugin support. All PHP scripts in the folder “plugins” are automatically loaded. See also the [example script](#).

## 2.5 Contributions

All contributions are very welcome! If you have an issue or would like to add a pull request, please visit our Github pages:

<https://github.com/Forceu/barcodebuddy>

<https://github.com/Forceu/barcodebuddy-docker>

## 2.6 Changelog

### 2.6.1 Overview of all Changes

#### v1.4.1.1: 26 Mar 2020

- Fixed problems with SSE, in some cases it was stuck in a feedback loop, causing PHP-FPM to freeze
- Fixed bug that fullscreen setting was not acknowledged
- Added “text” GET variable (alias of “add”) so it can be used with the Android App QR & Barcode Scanner
- Added option to ignore invalid SSL certificates (config.php)
- Added bash script for grabbing barcode scanner input
- Moved documentation to ReadTheDocs
- Detect if API key is rejected by Grocy
- Items that were added by clicking on “Add” in the UI were not removed from the shoppinglist
- Ignore case for sorting products

- Display errors in log view as well
- Set HTTP Agent to BarcodeBuddy
- Check if php-sockets is installed
- Added more docker options
- Minor UI changes

### v1.4.0.0: 20 Mar 2020

- External websockets have been replaced with Server Sent Events. This means that you finally don't need any complicated configuration anymore and that all the websocket features should work without setting anything up. You still need to start the websocket server however, as it is used for internal communication. (SEE is basically a proxy for the websockets)
- Docker image available at <https://github.com/Forceu/barcodebuddy-docker>

### v1.3.2.0: 16 Mar 2020

- Moved database location to “/data/” folder. Existing database will be moved automatically, however you need to make sure that your webserver does not allow access to this directory!
- Added functionality to make running in docker easier
- Tags ignore whitespaces and special characters now
- Added a second variant that grabs barcode scanner input (see example/grabInput\_variant2.py, thanks @ChadOhman )
- Refactoring of code

### v1.3.1.1: 24 Oct 2019

- Fixed bug in which the state reverted to consume immediately
- If an unknown barcode was scanned, the barcode showed up as state in the screen module
- Refactored code.

### v1.3.1.0: 14 Oct 2019

- Fixed issue #14 that disabled buttons when creating a new Grocy product
- The Screen module now shows the current state
- Added settings menu to test websocket connection
- Fixed some websocket bugs

### v1.3.0.3: 28 Sep 2019

- Grocy 2.5.1+ now required
- Screen module now features button to enable sound and wakelock for mobile devices
- Screen module can now be set to open in fullscreen

- Add barcode to add items to the default shopping list

#### **v1.3.0.1: 4 Sep 2019**

- fixed several issues with Quantity management

#### **v1.3.0.0: 29 Aug 2019**

- Added feature to create new Grocy product
- Added feature to handle multipacks (eg. set quantity per barcode)

#### **v1.2.2.0: 13 Aug 2019**

- Added Inventory mode
- Modes can be changed with GET variables
- Setup checks if all required extensions are installed
- Bug fixes

#### **v1.2.1.0: 7 Aug 2019**

- Added option to remove purchased item from shopping list
- Many minor fixes, full support for PHP5 now
- Fixed crash from library when websockets were enabled, but server not started

#### **v1.2.0.0: 1 Aug 2019**

- Settings are now no longer saved in the config.php file. After upgrading you will be asked to re-enter your Grocy \* API details. If previously active, you need to enable websockets again as well in Menu / Settings.
- Added Chore support - add a barcode for your chore in Menu / Chores.
- Default barcodes were changed, as underscores cannot reliably be output with all barcode scanners

#### **v1.1.2.1: 29 Jul 2019**

- Fixed problems that default barcodes were processed and then added to the “unknown barcodes” list
- Added Tag viewer
- Fixed problem where products were not selectable in v1.2.0

#### **v1.0.1.1: 28 Jul 2019**

- Added PHP5 support for websocket server
- Hotfix for a communication problem with the database, which stopped Barcode Buddy from working

**v1.0.0.0: 25 Jul 2019**

- First stable release of the program