# Foamyguy CircuitPython nvm$_helperLibraryDocumentation$

***Release 1.0***

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Easy interface to store and retrieve objects persisted via NVM

CHAPTER

ONE

# DEPENDENCIES

This driver depends on:

- Adafruit CircuitPython

Please ensure all dependencies are available on the CircuitPython filesystem. This is easily achieved by downloading the Adafruit library and driver bundle or individual libraries can be installed using circup.

CHAPTER

TWO

# INSTALLING FROM PYPI

On supported GNU/Linux systems like the Raspberry Pi, you can install the driver locally from PyPI. To install for current user:

```
pip3 install foamyguy-circuitpython-nvm-helper
```

To install system-wide (this may be required in some cases):

```
sudo pip3 install foamyguy-circuitpython-nvm-helper
```

To install in a virtual environment in your current project:

```
mkdir project-name && cd project-name
python3 -m venv .env
source .env/bin/activate
pip3 install foamyguy-circuitpython-nvm-helper
```

CHAPTER

THREE

# INSTALLING TO A CONNECTED CIRCUITPYTHON DEVICE WITH CIRCUP

Make sure that you have `circup` installed in your Python environment. Install it with the following command if necessary:

```
pip3 install circup
```

With `circup` installed and your CircuitPython device connected use the following command to install:

```
circup install nvm_helper
```

Or the following command to update an existing version:

```
circup update
```

CHAPTER

FOUR

# USAGE EXAMPLE

```
import foamyguy_nvm_helper as nvm_helper

nvm_helper.save_data(
    {"name": "nvm_helper", "num": 92, "float": 3.14}, test_run=False, verbose=True
)
read_data = nvm_helper.read_data()
print("read data is:")
print(read_data)
```

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FIVE

# CONTRIBUTING

Contributions are welcome! Please read our Code of Conduct before contributing to help this project stay welcoming.

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# DOCUMENTATION

For information on building library documentation, please check out this guide.

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SEVEN

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## 7.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/nvm_helper_simpletest.py

```
# SPDX-FileCopyrightText: Copyright (c) 2021 Tim Cocks for foamyguy
#
# SPDX-License-Identifier: Unlicense
import foamyguy_nvm_helper as nvm_helper

nvm_helper.save_data(
    {"name": "nvm_helper", "num": 92, "float": 3.14}, test_run=False, verbose=True
)
read_data = nvm_helper.read_data()
print("read data is:")
print(read_data)
```

## 7.2 foamyguy_nvm_helper

Easy interface to store and retrieve objects persisted via NVM. First 4 bytes are an int that contains the total size of bytes stored in nvm. Remaining space used to store data packed with msgpack.pack()

- Author(s): Tim Cocks

### 7.2.1 Implementation Notes

**Hardware:**

**Software and Dependencies:**

- Adafruit CircuitPython firmware for the supported boards: https://github.com/adafruit/circuitpython/releases

`foamyguy_nvm_helper.read_data`(*verbose: bool = False*) → Union[object, list, dict, int, float, str]

**Parameters**
**verbose** (*bool*) – Informative prints about reading and unpacking the data.

**Returns**
The data object that was saved with save_data().

`foamyguy_nvm_helper.`**`save_data`**(*data: Union[object, list, dict, int, float, str]*, *test_run: bool = True*, *verbose: bool = False*) → None

Save arbitrary data objects to persist in nvm storage.

**Parameters**

- **data** (*Union[list, dict, int, float, str]*) – The data to save in nvm.
- **test_run** (*bool*) – True will process data, but not save it to nvm. Set False to save the data.
- **verbose** (*bool*) – Informative prints about packaging and saving the data.

**Returns**

None

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