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# **marshmallow***configparser* Documentation

***Release 0.3.3***

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Ever wanted to load plain `.ini` config files and then validate loaded config?

Ever wanted to load config from multiple locations (`/etc/appconfig.conf`, `~/.appconfig.conf`) into single object and then validate that?

Worry no more!

Python's `ConfigParser` met `marshmallow` and now they get along just fine - without any JSON in sight to spoil the fun.



# CHAPTER 1

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## Installation

---

```
pip install marshmallow_configparser
```





## CHAPTER 2

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### Example

---

Having config file `/tmp/example_config.conf` looking like this:

```
[Section1]
option1 = mandatory string
option2 = optional string
option3 = 42
option4 = 24

[Section2]
option1 = mandatory string
option2 = optional string
option3 = 42
option4 = 24
```

And wanting to load it into our config object:

```
class ConfigObject(object):
    MANDATORY_STRING1 = None
    OPTIONAL_STRING1 = None
    MANDATORY_INTEGER1 = None
    OPTIONAL_INTEGER1 = None
    MANDATORY_STRING2 = None
    OPTIONAL_STRING2 = None
    MANDATORY_INTEGER2 = None
    OPTIONAL_INTEGER2 = None
```

We can define `marshmallow` schema:

```
from marshmallow.validate import Range

from marshmallow_configparser import (ConfigBoolean, ConfigInteger,
                                       ConfigParserSchema, ConfigString,
                                       IsNotBlank)

class ConfigSchema(ConfigParserSchema):
```

```
class Meta:
    model = ConfigObject

    MANDATORY_STRING1 = ConfigString(
        section='Section1', load_from='option1', dump_to='option1',
        validate=[IsNotBlank()]
    )
    OPTIONAL_STRING1 = ConfigString(
        section='Section1', load_from='option2', dump_to='option2',
    )
    MANDATORY_INTEGER1 = ConfigInteger(
        section='Section1', load_from='option3', dump_to='option3',
        validate=[Range(min=24, max=42)]
    )
    OPTIONAL_INTEGER1 = ConfigInteger(
        section='Section1', load_from='option4', dump_to='option4',
    )

    MANDATORY_STRING2 = ConfigString(
        section='Section2', load_from='option1', dump_to='option1',
        validate=[IsNotBlank()]
    )
    OPTIONAL_STRING2 = ConfigString(
        section='Section2', load_from='option2', dump_to='option2',
    )
    MANDATORY_INTEGER2 = ConfigInteger(
        section='Section2', load_from='option3', dump_to='option3',
        validate=[Range(min=24, max=42)]
    )
    OPTIONAL_INTEGER2 = ConfigInteger(
        section='Section2', load_from='option4', dump_to='option4',
    )
```

Which can then load and validate our config:

```
schema = ConfigSchema()
obj, errors = schema.load(['/tmp/example_config.conf'])
```

In the end we have:

```
obj.__dict__

{'MANDATORY_INTEGER1': 42,
 'MANDATORY_INTEGER2': 42,
 'MANDATORY_STRING1': 'mandatory string',
 'MANDATORY_STRING2': 'mandatory string',
 'OPTIONAL_INTEGER1': 24,
 'OPTIONAL_INTEGER2': 24,
 'OPTIONAL_STRING1': 'optional string',
 'OPTIONAL_STRING2': 'optional string'}
```

Instead of using convenience classes like `ConfigString`, there are also classes in `marshmallow_configparser.fields` module that expose full `marshmallow` API. Check the docs for details.

<http://marshmallow-configparser.readthedocs.io/en/latest/index.html>

## Tables of contents and indices

### API reference

#### marshmallow\_configparser

```
class Boolean(section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.Boolean

class ConfigParserFieldMixin
    Bases: object

    dump_to

    load_from

class Date(section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.Date

class DateTime(section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.DateTime

class Decimal(section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.Decimal

class Dict(section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.Dict
```

```

class Email (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.Email

class Float (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.Float

class FormattedString (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.FormattedString

class Function (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.Function

class Integer (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.Integer

class List (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.List

class LocalDateTime (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.LocalDateTime

class Method (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.Method

class Number (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.Number

class String (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.String

class Time (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.Time

class TimeDelta (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.TimeDelta

class UUID (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.UUID

class Url (section, *args, **kwargs)
    Bases: marshmallow_configparser.fields.ConfigParserFieldMixin, marshmallow.
           fields.Url

class ConfigParserSchema (extra=None, only=(), exclude=(), prefix=u'', strict=None, many=False, con-
                           text=None, load_only=(), dump_only=(), partial=False)
    Bases: marshmallow.schema.Schema

OPTIONS_CLASS
    alias of ModelOpts

```

**dump** (*obj*)  
 Dump object to list of strings representing INI file.

**dumps** (*obj*)  
 Dump object to string representing INI file.

**load** (*config\_files*)  
 Load configuration from list of config file paths.

**loads** (*ini\_file\_data*)  
 Load configuration from string representing INI file.

**make\_config\_object** (*data*)

**opts** = <marshmallow\_configparser.schema.ModelOpts object>

**class ModelOpts** (*meta*, *\*\*kwargs*)  
 Bases: marshmallow.schema.SchemaOpts

**is\_blank** (*line*)

**class IsNotBlank**  
 Bases: marshmallow.validate.Validator  
 Validator which succeeds if the value passed is not blank string.  
**error** = None

**class IsNotNone**  
 Bases: marshmallow.validate.Validator  
 Validator which succeeds if the value passed is not blank string.  
**error** = None

**class ConfigBoolean** (*section*, *default=None*, *attribute=None*, *load\_from=None*, *dump\_to=None*, *error=None*, *error\_messages=None*, *\*\*metadata*)  
 Bases: marshmallow\_configparser.fields.Boolean

**marshmallow.fields.Field that ensures:**

- option is always present in deserialized data

This is pretty similar to *Boolean*, except this one assumes defaults for some of *Integer* attributes.

**class ConfigInteger** (*section*, *default=None*, *attribute=None*, *load\_from=None*, *dump\_to=None*, *error=None*, *error\_messages=None*, *as\_string=False*, *validate=None*, *\*\*metadata*)  
 Bases: marshmallow\_configparser.fields.Integer

**marshmallow.fields.Field that ensures:**

- option is always present in deserialized data
- deserialized value is either the one read from config file or one declared in default
- allows None as deserialized value (*Integer* raises *ValidationError*('Not a valid integer.')

This is pretty similar to *Integer*, except this one assumes defaults for some of *Integer* attributes and changes treating of None values.

**class ConfigString** (*section*, *default=''*, *attribute=None*, *load\_from=None*, *dump\_to=None*, *error=None*, *load\_only=False*, *dump\_only=False*, *error\_messages=None*, *validate=None*, *\*\*metadata*)  
 Bases: marshmallow\_configparser.fields.String

**marshmallow.fields.Field that ensures:**

- option is always present in deserialized data

- deserialized value is either the one read from config file or one declared in default

This is pretty similar to *String*, except this one assumes defaults for some of *String* attributes.

## License

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```

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SOFTWARE.
```

## Development

### Preparing development environment

Create new virtual environment

```
cd path/to/cloned/repo/marshmallow_configparser
python3 -m venv .venv
source .venv/bin/activate
pip install -u pip wheel
```

### Installing in develop mode

```
python setup.py develop
```

Later, to uninstall it

```
python setup.py develop --uninstall
```

To install extra packages useful in development

```
pip install -e .[dev]
```

## Running tests

```
py.test
```

or to get more verbose output

```
py.test -p no:sugar --spec
```

or to generate tests coverage

```
py.test --cov=marshmallow_configparser --cov-report=html
```

and finally, tests can be run with `tox`

```
tox
```

Note, to combine the coverage data from all the tox environments run:

Windows	<pre>set PYTEST_ADDOPTS=--cov-append tox</pre>
Other	<pre>PYTEST_ADDOPTS=--cov-append tox</pre>

## Running under PyPy3

```
wget https://bitbucket.org/pypy/pypy/downloads/pypy3-v5.8.0-linux64.tar.bz2
tar -xvjf pypy3-v5.8.0-linux64.tar.bz2
virtualenv -p pypy3-v5.8.0-linux64/bin/pypy3 .venvpypy
source .venvpypy/bin/activate
pip install -U pip wheel
```

## Profiling

Use IPython shell to generate profiling data

```
%prun -D program.prof [mover.move(d) for d in moves_cycle]
```

After that, it is viewable by either Snakeviz

```
snakeviz program.prof
```

or as call graph through KCacheGrind

```
pyprof2calltree -i program.prof
kcacheGrind program.prof.log
```

## Uploading to PyPI

```
pip install -U twine
```

Prepare ~/.pyirc

```
[distutils]
index-servers=
    pypi
    pypitest

[pypitest]
repository = https://test.pypi.org/legacy/
username = <username>
password = <password>

[pypi]
username = <username>
password = <password>
```

Create dist

```
python setup.py sdist bdist_wheel
```

An upload it

```
twine upload -r pypitest dist/*
```

## Changelog

### 0.3.3 (2017-09-20)

- Added attribute to Schema that gives access to underlying config data

### 0.3.2 (2017-08-07)

- docs cleanup

### 0.3.1 (2017-08-07)

- repo cleanup

### 0.3.0 (2017-05-08)

- config validation now fails if there is no config files to read from or they are not readable.

### 0.2.0 (2017-05-02)

- Added convenience\_fields module

### 0.1.0 (2017-04-30)

- First release on PyPI.
- genindex



- [modindex](#)
- [search](#)



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