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# **Anyblok / Marshmallow Documentation**

***Release 2.3.0***

**Jean-Sébastien SUZANNE**

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## Contents

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<b>1</b>	<b>Front Matter</b>	<b>3</b>
1.1	Project Homepage . . . . .	3
1.2	Project Status . . . . .	3
1.3	Installation . . . . .	3
1.4	Unit Test . . . . .	4
1.5	Dependencies . . . . .	4
1.6	Contributing (hackers needed!) . . . . .	4
1.7	Author . . . . .	4
1.8	Contributors . . . . .	4
1.9	Bugs . . . . .	4
<b>2</b>	<b>Memento</b>	<b>7</b>
2.1	Declare your <b>AnyBlok model</b> . . . . .	7
2.2	Declare your schema . . . . .	8
2.3	(De)serialize your data and validate it . . . . .	9
2.4	Give the registry . . . . .	10
2.5	<b>model</b> option . . . . .	11
2.6	<b>only_primary_key</b> option . . . . .	11
2.7	<b>required_fields</b> option . . . . .	12
2.8	Use the field <b>JsonCollection</b> . . . . .	12
<b>3</b>	<b>Exceptions</b>	<b>15</b>
3.1	<b>RegistryNotFound</b> . . . . .	15
<b>4</b>	<b>Fields</b>	<b>17</b>
4.1	<b>Nested</b> . . . . .	17
4.2	<b>File</b> . . . . .	18
4.3	<b>Text</b> . . . . .	19
4.4	<b>JsonCollection</b> . . . . .	20
4.5	<b>PhoneNumer</b> . . . . .	21
4.6	<b>Country</b> . . . . .	21
4.7	<b>InstanceField</b> . . . . .	22
<b>5</b>	<b>Schema</b>	<b>25</b>
5.1	<b>update_from_kwargs</b> . . . . .	25
5.2	<b>format_field</b> . . . . .	25
5.3	<b>ModelConverter</b> . . . . .	25

5.4	<b>TemplateSchema</b>	25
5.5	<b>PostLoadSchema</b>	26
5.6	<b>SchemaWrapper</b>	26
<b>6</b>	<b>CHANGELOG</b>	<b>29</b>
6.1	2.3.1 (Unreleased)	29
6.2	2.3.0 (2019-10-31)	29
6.3	2.2.4 (2019-09-09)	29
6.4	2.2.3 (2019-05-06)	29
6.5	2.2.2 (2018-12-06)	29
6.6	2.2.1 (2018-10-26)	30
6.7	2.2.0 (2018-10-17)	30
6.8	2.1.0 (2018-09-26)	30
6.9	2.0.1 (2018-06-07)	30
6.10	2.0.0 (2018-05-30)	30
6.11	1.4.0 (2018-04-07)	30
6.12	1.3.0 (2017-12-23)	31
6.13	1.2.0 (2017-11-30)	31
6.14	1.1.0 (2017-11-02)	31
6.15	1.0.2 (2017-10-25)	31
6.16	1.0.0 (2017-10-24)	31
<b>7</b>	<b>Indices and tables</b>	<b>33</b>
	<b>Python Module Index</b>	<b>35</b>
	<b>Index</b>	<b>37</b>

## Contents

- *Front Matter*
  - *Project Homepage*
  - *Project Status*
  - *Installation*
  - *Unit Test*
  - *Dependencies*
  - *Contributing (hackers needed!)*
  - *Author*
  - *Contributors*
  - *Bugs*



Information about the AnyBlok / Marshmallow project.

## 1.1 Project Homepage

AnyBlok is hosted on [github](#) - the main project page is at [https://github.com/AnyBlok/AnyBlok\\_Marshmallow](https://github.com/AnyBlok/AnyBlok_Marshmallow). Source code is tracked here using [GIT](#).

Releases and project status are available on Pypi at [http://pypi.python.org/pypi/anyblok\\_marshallow](http://pypi.python.org/pypi/anyblok_marshallow).

The most recent published version of this documentation should be at <http://doc.anyblok-marshmallow.anyblok.org>.

## 1.2 Project Status

AnyBlok with Marshmallow is currently in beta status and is expected to be fairly stable. Users should take care to report bugs and missing features on an as-needed basis. It should be expected that the development version may be required for proper implementation of recently repaired issues in between releases;

## 1.3 Installation

Install released versions of AnyBlok from the Python package index with [pip](#) or a similar tool:

```
pip install anyblok_marshallow
```

Installation via source distribution is via the `setup.py` script:

```
python setup.py install
```

Installation will add the `anyblok` commands to the environment.

## 1.4 Unit Test

Run the test with `pytest`:

```
pip install pytest pytest-cov
ANYBLOK_DRIVER_NAME=postgres ANYBLOK_DATABASE_NAME=mybase pytest anyblok_marshmallow/
↪ tests
```

## 1.5 Dependencies

AnyBlok works with **Python 3.6** and later. The install process will ensure that [AnyBlok](#), [marshmallow >= 3.2.0](#) and [marshmallow-sqlalchemy](#) are installed, in addition to other dependencies. The latest version of them is strongly recommended.

## 1.6 Contributing (hackers needed!)

Anyblok / Marshmallow is at a very early stage, feel free to fork, talk with core dev, and spread the word!

## 1.7 Author

Jean-Sébastien Suzanne

## 1.8 Contributors

[Anybox](#) team:

- Jean-Sébastien Suzanne

[Sensee](#) team:

- Franck Bret

## 1.9 Bugs

Bugs and feature enhancements to AnyBlok should be reported on the [Issue tracker](#).

### Contents

- *Memento*
  - *Declare your **AnyBlok** model*
  - *Declare your schema*
  - *(De)serialize your data and validate it*
  - *Give the registry*



- \* *Add the **registry** by the class attribute*
- \* *Add the **registry** during init*
- \* *Add the **registry** by the context*
- \* *Add the **registry** when the de(serialization or validator is called*
- *model option*
- *only\_primary\_key option*
- *required\_fields option*
- *Use the field JsonCollection*



## 2.1 Declare your AnyBlok model

```
from anyblok.column import Integer, String
from anyblok.relationship import Many2One, Many2Many
from anyblok import Declarations

@Declarations.register(Declarations.Model)
class City:

    id = Integer(primary_key=True)
    name = String(nullable=False)
    zipcode = String(nullable=False)

    def __repr__(self):
        return '<City(name={self.name!r})>'.format(self=self)

@Declarations.register(Declarations.Model)
class Tag:

    id = Integer(primary_key=True)
    name = String(nullable=False)

    def __repr__(self):
        return '<Tag(name={self.name!r})>'.format(self=self)

@Declarations.register(Declarations.Model)
class Customer:
    id = Integer(primary_key=True)
    name = String(nullable=False)
    tags = Many2Many(model=Declarations.Model.Tag)
```

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```

def __repr__(self):
    return '<Customer(name={self.name!r}, '
        'tags={self.tags!r})>'.format(self=self)

@Declarations.register(Declarations.Model)
class Address:

    id = Integer(primary_key=True)
    street = String(nullable=False)
    city = Many2One(model=Declarations.Model.City, nullable=False)
    customer = Many2One(
        model=Declarations.Model.Customer, nullable=False,
        one2many="addresses")

```

**Warning:** The AnyBlok model must be declared in a blok

## 2.2 Declare your schema

```

from anyblok_marshmallow import SchemaWrapper, PostLoadSchema, Nested

class CitySchema(SchemaWrapper):
    model = 'Model.City'

class TagSchema(SchemaWrapper):
    model = 'Model.Tag'

class AddressSchema(SchemaWrapper):
    model = 'Model.Address'

class Schema:
    # Add some marshmallow fields or behaviours

    # follow the relationship Many2One and One2One
    city = Nested(CitySchema)

class CustomerSchema(SchemaWrapper):
    model = 'Model.Customer'
    # optionally attach an AnyBlok registry
    # to use for serialization, deserialization and validation
    registry = registry

class Schema(PostLoadSchema):
    # follow the relationship One2Many and Many2Many
    # - the many=True is required because it is *2Many
    # - exclude is used to forbid the recurse loop
    addresses = Nested(AddressSchema, many=True, exclude=('customer', ))
    tags = Nested(TagSchema, many=True)

```

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```
customer_schema = CustomerSchema()
```

**Note:** New in version **1.1.0** the Nested field must come from **anyblok\_marshmallow**, because **marshmallow** cache the Nested field with the context. And the context is not propagated again if it changed

**Note:** Ref in version **1.4.0**, `post_load_return_instance` was replaced by the mixin class `PostLoadSchema`

**Note:** Ref in version **2.1.0**, `ModelSchema` was replaced by `SchemaWrapper`. This action break the compatibility with the previous version, but allow to follow the upgrade of **marshmallow**

## 2.3 (De)serialize your data and validate it

```
customer = registry.Customer.insert(name="JS Suzanne")
tag1 = registry.Tag.insert(name="tag 1")
customer.tags.append(tag1)
tag2 = registry.Tag.insert(name="tag 2")
customer.tags.append(tag2)
rouen = registry.City.insert(name="Rouen", zipcode="76000")
paris = registry.City.insert(name="Paris", zipcode="75000")
registry.Address.insert(customer=customer, street="Somewhere", city=rouen)
registry.Address.insert(customer=customer, street="Another place", city=paris)

dump_data = customer_schema.dump(customer).data
# {
#     'id': 1,
#     'name': 'JS Suzanne',
#     'tags': [
#         {
#             'id': 1,
#             'name': 'tag 1',
#         },
#         {
#             'id': 2,
#             'name': 'tag 2',
#         },
#     ],
#     'addresses': [
#         {
#             'id': 1
#             'street': 'Somewhere'
#             'city': {
#                 'id': 1,
#                 'name': 'Rouen',
#                 'zipcode': '76000',
#             },
#         },
#     ],
# }
```

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```
#         },
#         {
#             'id': 2
#             'street': 'Another place'
#             'city': {
#                 'id': 2,
#                 'name': 'Paris',
#                 'zipcode': '75000',
#             },
#         },
#     ],
# }

customer_schema.load(dump_data).data
# <Customer(name='JS Suzanne' tags=[<Tag(name='tag 1')>, <Tag (name='tag 2')>])>

errors = customer_schema.validate(dump_data)
# dict with all the validating errors
```

---

**Note:** We have an instance of the model cause of the mixin `PostLoadSchema`

---

## 2.4 Give the registry

The schema need to have the registry.

If no registry found when the de(serialization) or validation then the **RegistryNotFound** exception will be raised.

### 2.4.1 Add the registry by the class attribute

This is the solution given in the main exemple:

```
class CustomerSchema(SchemaWrapper):
    model = 'Model.Customer'
    registry = registry
```

### 2.4.2 Add the registry during init

This solution is use during the instantiation

```
customer_schema = CustomerSchema(registry=registry)
```

### 2.4.3 Add the registry by the context

This solution is use during the instantiation or after

```
customer_schema = CustomerSchema(context={'registry': registry})
```

or

```
customer_schema = CustomerSchema()
customer_schema.context['registry'] = registry
```

## 2.4.4 Add the registry when the de(serialization or validator is called

```
customer_schema.dumps(customer, registry=registry)
customer_schema.dump(customer, registry=registry)
customer_schema.loads(dump_data, registry=registry)
customer_schema.load(dump_data, registry=registry)
customer_schema.validate(dump_data, registry=registry)
```

## 2.5 model option

This option add in the model name. As the registry, this option can be passed by definition, initialization, context or during the call of the (de)serialization / validation

```
class AnySchema (SchemaWrapper) :
    model = "Model.Customer"
```

or

```
any_schema = AnySchema(model="Model.customer")
```

or

```
any_schema.context['model'] = "Model.Customer"
```

or

```
any_schema.dumps(instance, model="Model.Customer")
any_schema.dump(instance, model="Model.Customer")
any_schema.loads(dump_data, model="Model.Customer")
any_schema.load(dump_data, model="Model.Customer")
any_schema.validate(dump_data, model="Model.Customer")
```

## 2.6 only\_primary\_key option

This option add in the only argument the primary keys of the model. As the registry, this option can be passed by definition, initialization, context or during the call of the (de)serialization / validation

```
class CustomerSchema (SchemaWrapper) :
    model = "Model.Customer"
    only_primary_key = True
```

or

```
customer_schema = CustomerSchema(only_primary_key=True)
```

or

```
customer_schema.context['only_primary_key'] = True
```

or

```
customer_schema.dumps(instance, only_primary_key=True)
customer_schema.dump(instance, only_primary_key=True)
customer_schema.loads(dump_data, only_primary_key=True)
customer_schema.load(dump_data, only_primary_key=True)
customer_schema.validate(dump_data, only_primary_key=True)
```

## 2.7 required\_fields option

This option force the generated fields, and only them to be required.

```
class CustomerSchema(SchemaWrapper):
    model = "Model.Customer"
    required_fields = True
    # or required_fields = [ list of fieldname ]
```

or

```
customer_schema = CustomerSchema(required_fields=True)
```

or

```
customer_schema.context['required_fields'] = True
```

or

```
customer_schema.loads(dump_data, required_fields=True)
customer_schema.load(dump_data, required_fields=True)
customer_schema.validate(dump_data, required_fields=True)
```

---

**Note:** All the attributes can take **True** or the list of the fieldname to be required

---

## 2.8 Use the field JsonCollection

This field allow the schema to inspect an AnyBlok.fields.Json in an any specific instance to validate the value.

AnyBlok models:

```
@register(Model)
class Template:
    name = anyblok.column.String(primary_key=True)
    properties = anyblok.column.Json(default={})

@register(Model)
class SaleOrder:
    id = anyblok.column.Integer(primary_key=True)
    number = anyblok.column.Integer(nullable=False)
    discount = anyblok.column.Integer()
```



AnyBlok / Marchmallow schema:

```
class SaleOrderSchema(SchemaWrapper):
    model = 'Model.SaleOrder'

    class Schema:
        discount = JsonCollection(
            fieldname='properties',
            keys=['allowed_discount'],
            cls_or_instance_type=marshmallow.fields.Integer(required=True)
        )
```

Use:

```
goodcustomer = registry.Template.insert(
    name='Good customer',
    properties={'allowed_discount': [10, 15, 30]}
)
customer = registry.Template.insert(
    name='Customer',
    properties={'allowed_discount': [0, 5, 10]}
)
badcustomer = registry.Template.insert(
    name='Bad customer',
    properties={'allowed_discount': [0]}
)

schema = SaleOrderSchema(registry=registry)

-----

data = schema.load(
    {
        number='SO0001',
        discount=10,
    },
    instances={'default': goodcustomer}
)

-----

data = schema.load(
    {
        number='SO0001',
        discount=10,
    },
    instances={'default': customer}
)
==> error = {}

-----

data = schema.load(
    {
        number='SO0001',
        discount=10,
    },
    instances={'default': badcustomer}
```

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```
)  
==> error = {'discount': ['Not a valid choice']}
```

## Contents

- *Exceptions*
  - *RegistryNotFound*
- *Fields*
  - *Nested*
  - *File*
  - *Text*
  - *JsonCollection*
  - *PhoneNumer*
  - *Country*
  - *InstanceField*
- *Schema*
  - *update\_from\_kwargs*
  - *format\_field*
  - *ModelConverter*
  - *TemplateSchema*
  - *PostLoadSchema*
  - *SchemaWrapper*

#### 3.1 RegistryNotFound

**exception** `anyblok_marshmallow.exceptions.RegistryNotFound`

Bases: `Exception`

Exception raised when no registry is found to build schema

**with\_traceback()**

Exception.with\_traceback(tb) – set `self.__traceback__` to `tb` and return `self`.



## 4.1 Nested

```
class anyblok_marshmallow.fields.Nested(nested: Union[mmarshmallow.base.SchemaABC,
                                                    type, str], *, default: Any = <marshmallow.missing>,
                                                    only: Union[Sequence[str],
                                                                Set[str]] = None,
                                                    exclude: Union[Sequence[str],
                                                                Set[str]] = (),
                                                    many: bool = False,
                                                    unknown: str = None,
                                                    **kwargs)
```

Bases: marshmallow.fields.Nested

Inherit marshmallow fields.Nested

**context**

The context dictionary for the parent Schema.

**deserialize** (value: Any, attr: str = None, data: Mapping[str, Any] = None, \*\*kwargs)  
 Deserialize value.

**Parameters**

- **value** – The value to deserialize.
- **attr** – The attribute/key in *data* to deserialize.
- **data** – The raw input data passed to *Schema.load*.
- **kwargs** – Field-specific keyword arguments.

**Raises ValidationError** – If an invalid value is passed or if a required value is missing.

**fail** (key: str, \*\*kwargs)

Helper method that raises a *ValidationError* with an error message from *self.error\_messages*.

Deprecated since version 3.0.0: Use *make\_error* <marshmallow.fields.Field.make\_error> instead.

**get\_value** (obj, attr, accessor=None, default=<marshmallow.missing>)

Return the value for a given key from an object.

**Parameters**

- **obj** (*object*) – The object to get the value from.
- **attr** (*str*) – The attribute/key in *obj* to get the value from.
- **accessor** (*callable*) – A callable used to retrieve the value of *attr* from the object *obj*. Defaults to *marshmallow.utils.get\_value*.

**make\_error** (*key: str, \*\*kwargs*) → *marshmallow.exceptions.ValidationError*

Helper method to make a *ValidationError* with an error message from *self.error\_messages*.

**root**

Reference to the *Schema* that this field belongs to even if it is buried in a container field (e.g. *List*). Return *None* for unbound fields.

**schema**

Overload the super property to remove cache

it is the only way to propagate the context at each call

**serialize** (*attr: str, obj: Any, accessor: Callable[[Any, str, Any], Any] = None, \*\*kwargs*)

Pulls the value for the given key from the object, applies the field's formatting and returns the result.

**Parameters**

- **attr** – The attribute/key to get from the object.
- **obj** – The object to access the attribute/key from.
- **accessor** – Function used to access values from *obj*.
- **kwargs** – Field-specific keyword arguments.

## 4.2 File

```
class anyblok_marshmallow.fields.File(*, default: Any = <marshmallow.missing>,
                                     missing: Any = <marshmallow.missing>,
                                     data_key: str = None, attribute: str =
                                     None, validate: Union[Callable[[Any], Any],
                                     Sequence[Callable[[Any], Any]],
                                     Generator[Callable[[Any], Any], None, None]] = None,
                                     required: bool = False, allow_none: bool = None,
                                     load_only: bool = False, dump_only: bool = False,
                                     error_messages: Dict[str, str] = None, **metadata)
```

Bases: *marshmallow.fields.Field*

**context**

The context dictionary for the parent *Schema*.

**deserialize** (*value: Any, attr: str = None, data: Mapping[str, Any] = None, \*\*kwargs*)

Deserialize value.

**Parameters**

- **value** – The value to deserialize.
- **attr** – The attribute/key in *data* to deserialize.
- **data** – The raw input data passed to *Schema.load*.
- **kwargs** – Field-specific keyword arguments.

**Raises `ValidationError`** – If an invalid value is passed or if a required value is missing.

**fail** (*key*: *str*, *\*\*kwargs*)

Helper method that raises a *ValidationError* with an error message from *self.error\_messages*.

Deprecated since version 3.0.0: Use *make\_error* *<marshmallow.fields.Field.make\_error>* instead.

**get\_value** (*obj*, *attr*, *accessor*=*None*, *default*=*<marshmallow.missing>*)

Return the value for a given key from an object.

#### Parameters

- **obj** (*object*) – The object to get the value from.
- **attr** (*str*) – The attribute/key in *obj* to get the value from.
- **accessor** (*callable*) – A callable used to retrieve the value of *attr* from the object *obj*. Defaults to *marshmallow.utils.get\_value*.

**make\_error** (*key*: *str*, *\*\*kwargs*) → *marshmallow.exceptions.ValidationError*

Helper method to make a *ValidationError* with an error message from *self.error\_messages*.

**root**

Reference to the *Schema* that this field belongs to even if it is buried in a container field (e.g. *List*). Return *None* for unbound fields.

**serialize** (*attr*: *str*, *obj*: *Any*, *accessor*: *Callable[[Any, str, Any], Any] = None*, *\*\*kwargs*)

Pulls the value for the given key from the object, applies the field's formatting and returns the result.

#### Parameters

- **attr** – The attribute/key to get from the object.
- **obj** – The object to access the attribute/key from.
- **accessor** – Function used to access values from *obj*.
- **kwargs** – Field-specific keyword arguments.

## 4.3 Text

```
class anyblok_marshmallow.fields.Text(*, default: Any = <marshmallow.missing>,
                                     missing: Any = <marshmallow.missing>,
                                     data_key: str = None, attribute: str =
                                     None, validate: Union[Callable[[Any], Any],
                                     Sequence[Callable[[Any], Any]],
                                     Generator[Callable[[Any], Any], None, None]] = None,
                                     required: bool = False, allow_none: bool = None,
                                     load_only: bool = False, dump_only: bool = False,
                                     error_messages: Dict[str, str] = None, **metadata)
```

Bases: *marshmallow.fields.String*

Simple field use to distinct by the class *String* and *Text*

**context**

The context dictionary for the parent *Schema*.

**deserialize** (*value*: *Any*, *attr*: *str* = *None*, *data*: *Mapping[str, Any]* = *None*, *\*\*kwargs*)

Deserialize value.

#### Parameters

- **value** – The value to deserialize.
- **attr** – The attribute/key in *data* to deserialize.
- **data** – The raw input data passed to *Schema.load*.
- **kwargs** – Field-specific keyword arguments.

**Raises *ValidationError*** – If an invalid value is passed or if a required value is missing.

**fail** (*key: str, \*\*kwargs*)

Helper method that raises a *ValidationError* with an error message from *self.error\_messages*.

Deprecated since version 3.0.0: Use *make\_error* <*marshmallow.fields.Field.make\_error*> instead.

**get\_value** (*obj, attr, accessor=None, default=<marshmallow.missing>*)

Return the value for a given key from an object.

#### Parameters

- **obj** (*object*) – The object to get the value from.
- **attr** (*str*) – The attribute/key in *obj* to get the value from.
- **accessor** (*callable*) – A callable used to retrieve the value of *attr* from the object *obj*. Defaults to *marshmallow.utils.get\_value*.

**make\_error** (*key: str, \*\*kwargs*) → *marshmallow.exceptions.ValidationError*

Helper method to make a *ValidationError* with an error message from *self.error\_messages*.

**root**

Reference to the *Schema* that this field belongs to even if it is buried in a container field (e.g. *List*). Return *None* for unbound fields.

**serialize** (*attr: str, obj: Any, accessor: Callable[[Any, str, Any], Any] = None, \*\*kwargs*)

Pulls the value for the given key from the object, applies the field's formatting and returns the result.

#### Parameters

- **attr** – The attribute/key to get from the object.
- **obj** – The object to access the attribute/key from.
- **accessor** – Function used to access values from *obj*.
- **kwargs** – Field-specific keyword arguments.

## 4.4 JsonCollection

```
class anyblok_marshmallow.fields.JsonCollection (fieldname=None,          keys=None,
                                                  instance='default',
                                                  cls_or_instance_type=<class
                                                  'marshmallow.fields.String'>, *args,
                                                  **kwargs)
```

Bases: *marshmallow.fields.Field*

**context**

The context dictionary for the parent *Schema*.

**deserialize** (*value: Any, attr: str = None, data: Mapping[str, Any] = None, \*\*kwargs*)

Deserialize value.

#### Parameters



- **value** – The value to deserialize.
- **attr** – The attribute/key in *data* to deserialize.
- **data** – The raw input data passed to *Schema.load*.
- **kwargs** – Field-specific keyword arguments.

**Raises `ValidationError`** – If an invalid value is passed or if a required value is missing.

**fail** (*key*: *str*, *\*\*kwargs*)

Helper method that raises a *ValidationError* with an error message from *self.error\_messages*.

Deprecated since version 3.0.0: Use *make\_error* <*marshmallow.fields.Field.make\_error*> instead.

**get\_value** (*obj*, *attr*, *accessor*=*None*, *default*=<*marshmallow.missing*>)

Return the value for a given key from an object.

#### Parameters

- **obj** (*object*) – The object to get the value from.
- **attr** (*str*) – The attribute/key in *obj* to get the value from.
- **accessor** (*callable*) – A callable used to retrieve the value of *attr* from the object *obj*. Defaults to *marshmallow.utils.get\_value*.

**make\_error** (*key*: *str*, *\*\*kwargs*) → *marshmallow.exceptions.ValidationError*

Helper method to make a *ValidationError* with an error message from *self.error\_messages*.

**root**

Reference to the *Schema* that this field belongs to even if it is buried in a container field (e.g. *List*). Return *None* for unbound fields.

**serialize** (*attr*: *str*, *obj*: *Any*, *accessor*: *Callable[[Any, str, Any], Any] = None*, *\*\*kwargs*)

Pulls the value for the given key from the object, applies the field's formatting and returns the result.

#### Parameters

- **attr** – The attribute/key to get from the object.
- **obj** – The object to access the attribute/key from.
- **accessor** – Function used to access values from *obj*.
- **kwargs** – Field-specific keyword arguments.

## 4.5 PhoneNumer

## 4.6 Country

```
class anyblok_marshmallow.fields.Country(mode=None, load_mode=<Modes.ALPHA_3:
                                         'alpha_3'>, dump_mode=<Modes.ALPHA_3:
                                         'alpha_3'>, *args, **kwargs)
```

Bases: *marshmallow.fields.String*

**class Modes**

Bases: *enum.Enum*

An enumeration.

**context**

The context dictionary for the parent *Schema*.

**deserialize** (*value: Any, attr: str = None, data: Mapping[str, Any] = None, \*\*kwargs*)  
Deserialize *value*.

**Parameters**

- **value** – The value to deserialize.
- **attr** – The attribute/key in *data* to deserialize.
- **data** – The raw input data passed to *Schema.load*.
- **kwargs** – Field-specific keyword arguments.

**Raises `ValidationError`** – If an invalid value is passed or if a required value is missing.

**fail** (*key: str, \*\*kwargs*)  
Helper method that raises a *ValidationError* with an error message from *self.error\_messages*.

Deprecated since version 3.0.0: Use *make\_error* `<marshmallow.fields.Field.make_error>` instead.

**get\_value** (*obj, attr, accessor=None, default=<marshmallow.missing>*)  
Return the value for a given key from an object.

**Parameters**

- **obj** (*object*) – The object to get the value from.
- **attr** (*str*) – The attribute/key in *obj* to get the value from.
- **accessor** (*callable*) – A callable used to retrieve the value of *attr* from the object *obj*. Defaults to *marshmallow.utils.get\_value*.

**make\_error** (*key: str, \*\*kwargs*) → *marshmallow.exceptions.ValidationError*  
Helper method to make a *ValidationError* with an error message from *self.error\_messages*.

**root**  
Reference to the *Schema* that this field belongs to even if it is buried in a container field (e.g. *List*). Return *None* for unbound fields.

**serialize** (*attr: str, obj: Any, accessor: Callable[[Any, str, Any], Any] = None, \*\*kwargs*)  
Pulls the value for the given key from the object, applies the field's formatting and returns the result.

**Parameters**

- **attr** – The attribute/key to get from the object.
- **obj** – The object to access the attribute/key from.
- **accessor** – Function used to access values from *obj*.
- **kwargs** – Field-specific keyword arguments.

## 4.7 InstanceField

```
class anyblok_marshmallow.fields.Country (mode=None, load_mode=<Modes.ALPHA_3:
                                         'alpha_3'>, dump_mode=<Modes.ALPHA_3:
                                         'alpha_3'>, *args, **kwargs)
```

Bases: *marshmallow.fields.String*

**class Modes**

Bases: *enum.Enum*

An enumeration.

**context**

The context dictionary for the parent *Schema*.

**deserialize** (*value: Any, attr: str = None, data: Mapping[str, Any] = None, \*\*kwargs*)

Deserialize *value*.

**Parameters**

- **value** – The value to deserialize.
- **attr** – The attribute/key in *data* to deserialize.
- **data** – The raw input data passed to *Schema.load*.
- **kwargs** – Field-specific keyword arguments.

**Raises *ValidationError*** – If an invalid value is passed or if a required value is missing.

**fail** (*key: str, \*\*kwargs*)

Helper method that raises a *ValidationError* with an error message from *self.error\_messages*.

Deprecated since version 3.0.0: Use *make\_error* <*marshmallow.fields.Field.make\_error*> instead.

**get\_value** (*obj, attr, accessor=None, default=<marshmallow.missing>*)

Return the value for a given key from an object.

**Parameters**

- **obj** (*object*) – The object to get the value from.
- **attr** (*str*) – The attribute/key in *obj* to get the value from.
- **accessor** (*callable*) – A callable used to retrieve the value of *attr* from the object *obj*. Defaults to *marshmallow.utils.get\_value*.

**make\_error** (*key: str, \*\*kwargs*) → *marshmallow.exceptions.ValidationError*

Helper method to make a *ValidationError* with an error message from *self.error\_messages*.

**root**

Reference to the *Schema* that this field belongs to even if it is buried in a container field (e.g. *List*). Return *None* for unbound fields.

**serialize** (*attr: str, obj: Any, accessor: Callable[[Any, str, Any], Any] = None, \*\*kwargs*)

Pulls the value for the given key from the object, applies the field's formatting and returns the result.

**Parameters**

- **attr** – The attribute/key to get from the object.
- **obj** – The object to access the attribute/key from.
- **accessor** – Function used to access values from *obj*.
- **kwargs** – Field-specific keyword arguments.



## 5.1 update\_from\_kwargs

`anyblok_marshmallow.schema.update_from_kwargs(*entries)`  
decorator to get temporary the value in kwargs and put it in schema

**Params** `entries` array of entry name to take from the kwargs

## 5.2 format\_field

`anyblok_marshmallow.schema.format_fields(x)`  
remove the anyblok prefix from the field name

## 5.3 ModelConverter

**class** `anyblok_marshmallow.schema.ModelConverter(schema_cls=None)`  
Bases: `marshmallow_sqlalchemy.convert.ModelConverter`

Overwrite the `ModelConverter` class of `marshmallow-sqlalchemy`

The goal is to fix the fieldname, because they are prefixed.

**fields\_for\_model** (`Model`, `**kwargs`)

Overwrite the method and remove prefix of the field name

## 5.4 TemplateSchema

**class** `anyblok_marshmallow.schema.TemplateSchema`  
Bases: `object`

Base class of Schema generated by SchemaWrapper

#### **OPTIONS\_CLASS**

alias of `marshmallow_sqlalchemy.schema.ModelSchemaOpts`

## 5.5 PostLoadSchema

**class** `anyblok_marshmallow.schema.PostLoadSchema`

Bases: `object`

Return the AnyBlok instance from marshmallow deserialize

## 5.6 SchemaWrapper

**class** `anyblok_marshmallow.schema.SchemaWrapper(*args, **kwargs)`

Bases: `marshmallow.base.SchemaABC`

Schema Wrapper to generate marshmallow schema

```
class MySchema(SchemaWrapper):  
    model = 'Model.Name'
```

the wrapper implement the **marshmallow.base.SchemaABC** abstract class. And call the methods of the marshmallow schema with the same parameter

Some class attributes can be added to improve the schema:

- **model**: str, the registry name of the AnyBlok model
- **required\_fields**: list of the field which become required In this case the anyblok columns are not required but schema force them to be required
- **registry**: the anyblok registry, only if you know it
- **only\_primary\_key**: boolean, if True the marshmallow parameter only will be filled with the name of the primary keys.

---

**Note:** The model and registry are required to generate the schema. they can be defined by class attribute, parameter in the methods (load, loads, validate, dump, dumps) or in the context attribute.

---

#### **generate\_marshmallow\_instance**

Generate the real mashmallow-sqlalchemy schema

#### **schema**

property to get the real schema

#### Contents

- *CHANGELOG*
  - 2.3.1 (Unreleased)
  - 2.3.0 (2019-10-31)
  - 2.2.4 (2019-09-09)

- 2.2.3 (2019-05-06)
- 2.2.2 (2018-12-06)
- 2.2.1 (2018-10-26)
- 2.2.0 (2018-10-17)
- 2.1.0 (2018-09-26)
- 2.0.1 (2018-06-07)
- 2.0.0 (2018-05-30)
- 1.4.0 (2018-04-07)
- 1.3.0 (2017-12-23)
- 1.2.0 (2017-11-30)
- 1.1.0 (2017-11-02)
- 1.0.2 (2017-10-25)
- 1.0.0 (2017-10-24)





### 6.1 2.3.1 (Unreleased)

- Improved Country field to add parametrization. Allowed modes are alpha 3, alpha 2, numeric, name and official name.

### 6.2 2.3.0 (2019-10-31)

- Fix Marshmallow dependency to 3.2.1 release

### 6.3 2.2.4 (2019-09-09)

- Fix Marshmallow dependency to 3.0.3 release
- Drop support for python 3.4 and 3.5

### 6.4 2.2.3 (2019-05-06)

- Fix Marshmallow dependency to 3.0.0RC5 release
- Refactored unittest from nosetest to pytest

### 6.5 2.2.2 (2018-12-06)

- Fix Marshmallow dependency to 3.0.0RC1 release

## 6.6 2.2.1 (2018-10-26)

- Fix Marshmallow dependency to 3.0.0b19 release

## 6.7 2.2.0 (2018-10-17)

- Fixed the conversion of type between **AnyBlok.Column** and **marshmallow.Field**

## 6.8 2.1.0 (2018-09-26)

- Fixed the compatibility with **Marshmallow > 3.0.0b8**
- Removed `ModelSchema` class
- Added `SchemaWrapper`, this is the best way to defined a generated schema with the **marshmallow-sqlalchemy** library

<p><b>Warning:</b> This version break the compatibility with previous version, in the only goal to be adapted with the latest version of <b>marshmallow</b></p>
---

## 6.9 2.0.1 (2018-06-07)

- Fix `required_field` put `allow_none` to `False`

## 6.10 2.0.0 (2018-05-30)

- Add `JsonCollection` field, Allow to add a check in function of an collection stored in a `AnyBlok.fields.Json`
- Add `Text` field, to represent an `anyblok.column.Text`
- Migration of the code and unit test to marshmallow 3.0.0
- Add Email matching for `anyblok.column.Email`
- Add URL matching for `anyblok.column.URL`
- Add `PhoneNumber` matching for `anyblok.column.PhoneNumber`
- Add `Country` matching for `anyblok.column.Country`
- Add `required_fields` option
- Add `InstanceField`

## 6.11 1.4.0 (2018-04-07)

- Replace `post_load_return_instance` method by `PostLoadSchema` class

- In the case of the field **Selection**, the validator **OneOf** is applied with the available values come from the AnyBlok columns
- Replace **marshmallow\_sqlalchemy.fields.Related** by **anyblok\_marshmallow.fields.Nested**. The goal is to improve the consistent between all field in the schema

## 6.12 1.3.0 (2017-12-23)

- [ADD] unittest on some case
- [FIX] AnyBlok field.Function is return as MarshMallow fields.Raw
- [ADD] fields.File, type to encode and decode to/from base 64

## 6.13 1.2.0 (2017-11-30)

- [REF] decrease complexity
- [IMP] Add `validates_schema` on `ModelSchema` to automaticly check if the field exist on the model

## 6.14 1.1.0 (2017-11-02)

- Add option put only the primary keys
- Fix the Front page
- REF model option, can be given by another way than Meta
- Put `RegistryNotFound` in exceptions
- Add Nested field, this field is not and have not to be cached

## 6.15 1.0.2 (2017-10-25)

- Fix pypi documentation

## 6.16 1.0.0 (2017-10-24)

- Add marshmallow schema for AnyBlok for:
  - Serialization
  - Deserialization
  - Validation



## CHAPTER 7

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### Indices and tables

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- `genindex`
- `modindex`
- `search`



### a

`anyblok_marshmallow.exceptions`, [15](#)  
`anyblok_marshmallow.fields`, [15](#)  
`anyblok_marshmallow.schema`, [23](#)





## A

`anyblok_marshmallow.exceptions` (*module*),  
15  
`anyblok_marshmallow.fields` (*module*), 15  
`anyblok_marshmallow.schema` (*module*), 23