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marshmallow-jsonapi, Release 0.23.1

Release v0.23.1. (Changelog)

JSON API 1.0 (https://jsonapi.org) formatting with marshmallow.

marshmallow-jsonapi provides a simple way to produce JSON API-compliant data in any Python web framework.

```python
from marshmallow_jsonapi import Schema, fields

class PostSchema(Schema):
    id = fields.Str(dump_only=True)
    title = fields.Str()

    author = fields.Relationship(
        related_url="/authors/{author_id}",
        related_url_kwargs={'author_id': '<author.id>'},
    )

    comments = fields.Relationship(
        related_url="/posts/{post_id}/comments",
        related_url_kwargs={'post_id': '<id>'},
        # Include resource linkage
        many=True,
        include_resource_linkage=True,
        type_='comments',
    )

    class Meta:
        type_ = "posts"
        strict = True

post_schema = PostSchema()
post_schema.dump(post)
# {
#   "data": {
#       "id": "1",
#       "type": "posts"
#   },
#   "relationships": {
#       "author": {
#           "links": {
#               "related": "/authors/9"
#           },
#       },
#       "comments": {
#           "data": [
#               {"id": 5, "type": "comments"},
#               {"id": 12, "type": "comments"}
#           ],
#           "links": {
#               "related": "/posts/1/comments/"
#           }
#       }
#   }
# }
```
CHAPTER
ONE

INSTALLATION

```
pip install marshmallow-jsonapi
```
2.1 Quickstart

Note: The following guide assumes some familiarity with the marshmallow API. To learn more about marshmallow, see its official documentation at https://marshmallow.readthedocs.io.

2.1.1 Declaring schemas

Let’s start with a basic post “model”.

```python
class Post:
    def __init__(self, id, title):
        self.id = id
        self.title = title
```

Declare your schemas as you would with marshmallow.

A Schema MUST define:

- An id field
- The type_class Meta option

It is RECOMMENDED to set strict mode to True.

Automatic self-linking is supported through these Meta options:

- `self_url` specifies the URL to the resource itself
- `self_url_kwargs` specifies replacement fields for `self_url`
- `self_url_many` specifies the URL the resource when a collection (many) are serialized

```python
from marshmallow_jsonapi import Schema, fields

class PostSchema(Schema):
    id = fields.Str(dump_only=True)
    title = fields.Str()

    class Meta:
        type_ = "posts"
        self_url = ""/posts/{id}""
```

(continues on next page)
These URLs can be auto-generated by specifying `self_view`, `self_view_kwargs` and `self_view_many` instead when using the *Flask integration*.

### 2.1.2 Serialization

Objects will be serialized to JSON API documents with primary data.

```python
post = Post(id="1", title="Django is Omakase")
PostSchema().dump(post)
# {  
#   'data': {  
#     'id': '1',  
#     'type': 'posts',  
#     'attributes': {'title': 'Django is Omakase'},  
#     'links': {'self': '/posts/1'}  
#   },  
#   'links': {'self': '/posts/1'}
# }
```

### 2.1.3 Relationships

The `Relationship` field is used to serialize relationship objects. For example, a Post may have an author and comments associated with it.

```python
class User:
    def __init__(self, id, name):
        self.id = id
        self.name = name

class Comment:
    def __init__(self, id, body, author):
        self.id = id
        self.body = body
        self.author = author

class Post:
    def __init__(self, id, title, author, comments=None):
        self.id = id
        self.title = title
        self.author = author  
        # User object
        self.comments = [] if comments is None else comments  
        # Comment objects
```

To serialize links, pass a URL format string and a dictionary of keyword arguments. String arguments enclosed in `< >` will be interpreted as attributes to pull from the object being serialized. The relationship links can automatically be generated from Flask view names when using the *Flask integration*.

```python
class PostSchema(Schema):
    id = fields.Str(dump_only=True)
```

(continues on next page)
Resource linkages

You can serialize resource linkages by passing include_resource_linkage=True and the resource type_ argument.

```python
class PostSchema(Schema):
    id = fields.Str(dump_only=True)
    title = fields.Str()

    author = fields.Relationship(
        self_url="/posts/{post_id}/relationships/author",
        self_url_kwargs={"post_id": "<id>",
        related_url="/authors/{author_id}",
        related_url_kwargs={"author_id": "<author.id>",
        # Include resource linkage
        include_resource_linkage=True,
        type_="users",
    )

    class Meta:
        type_ = "posts"
```

(continues on next page)
PostSchema().dump(post)
# {
#   'data': {
#     'id': '1',
#     'type': 'posts',
#     'attributes': {'title': 'Django is Omakase'},
#     'relationships': {
#       'author': {
#         'data': {'type': 'users', 'id': '94'},
#         'links': {
#           'self': '/posts/1/relationships/author',
#           'related': '/authors/94'
#         }
#       }
#     }
#   }
# }

Compound documents

Compound documents allow to include related resources into the request with the primary resource. In order to include objects, you have to define a Schema for the respective relationship, which will be used to render those objects.

class PostSchema(Schema):
    id = fields.Str(dump_only=True)
    title = fields.Str()

    comments = fields.Relationship(
        related_url="/posts/{post_id}/comments",
        related_url_kwargs={"post_id": "<id>"},
        many=True,
        include_resource_linkage=True,
        type_="comments",
        # define a schema for rendering included data
        schema="CommentSchema",
    )

    author = fields.Relationship(
        self_url="/posts/{post_id}/relationships/author",
        self_url_kwargs={"post_id": "<id>"},
        related_url="/authors/{author_id}",
        related_url_kwargs={"author_id": "<author.id>"},
        include_resource_linkage=True,
        type_="users",
    )

    class Meta:
        type_ = "posts"

class CommentSchema(Schema):
    id = fields.Str(dump_only=True)
    body = fields.Str()

    author = fields.Relationship(}
Just as with nested fields the `schema` can be a class or a string with a simple or fully qualified class name. Make sure to import the schema beforehand.

Now you can include some data in a dump by specifying the `include_data` argument (also supports nested relations via the dot syntax).

```python
armin = User(id="101", name="Armin")
laura = User(id="94", name="Laura")
steven = User(id="23", name="Steven")
comments = [
    Comment(id="5", body="Marshmallow is sweet like sugar!", author=steven),
    Comment(id="12", body="Flask is Fun!", author=armin),
]
post = Post(id="1", title="Django is Omakase", author=laura, comments=comments)
PostSchema(include_data=("comments", "comments.author")).dump(post)
# {
#   'data': {
#       'id': '1',
#       'type': 'posts',
#       'attributes': {'title': 'Django is Omakase'},
#       'relationships': {
#           'author': {
#               'data': {'type': 'users', 'id': '94'},
#               'links': {
#                   'self': '/posts/1/relationships/author',
#                   'related': '/authors/94'
#               }
#           },
#           'comments': {
#               'data': [
#                   {'type': 'comments', 'id': '5'},
#                   {'type': 'comments', 'id': '12'}
#               ],
#               'links': {
#                   'related': '/posts/1/comments'
#               }
#           }
#       }
#   }
#}
```

(continues on next page)
# }  
# },  
# 'included': [  
# {  
# 'id': '5',  
# 'type': 'comments',  
# 'attributes': {'body': 'Marshmallow is sweet like sugar!'},  
# 'relationships': {  
# 'author': {  
# 'data': {'type': 'users', 'id': '23'},  
# 'links': {  
# 'self': '/comments/5/relationships/author',  
# 'related': '/comments/23'  
# }  
# }  
# },  
# },  
# {  
# 'id': '12',  
# 'type': 'comments',  
# 'attributes': {'body': 'Flask is Fun!'},  
# 'relationships': {  
# 'author': {  
# 'data': {'type': 'users', 'id': '101'},  
# 'links': {  
# 'self': '/comments/12/relationships/author',  
# 'related': '/comments/101'  
# }  
# }  
# },  
# },  
# {  
# 'id': '23',  
# 'type': 'users',  
# 'attributes': {'name': 'Steven'}  
# },  
# {  
# 'id': '101',  
# 'type': 'users',  
# 'attributes': {'name': 'Armin'}  
# }  
# ]
2.1.4 Meta Information

The `DocumentMeta` field is used to serialize the meta object within a document’s “top level”.

```python
from marshmallow_jsonapi import Schema, fields

class UserSchema(Schema):
    id = fields.Str(dump_only=True)
    name = fields.Str()
    document_meta = fields.DocumentMeta()

    class Meta:
        type_ = "users"

user = {"name": "Alice", "document_meta": {"page": {"offset": 10}}}
UserSchema().dump(user)
# {
#     "meta": {
#         "page": {
#             "offset": 10
#         }
#     },
#     "data": {
#         "id": "1",
#         "type": "users"
#         "attributes": {"name": "Alice"},
#     }
# }
```

The `ResourceMeta` field is used to serialize the meta object within a resource object.

```python
from marshmallow_jsonapi import Schema, fields

class UserSchema(Schema):
    id = fields.Str(dump_only=True)
    name = fields.Str()
    resource_meta = fields.ResourceMeta()

    class Meta:
        type_ = "users"

user = {"name": "Alice", "resource_meta": {"active": True}}
UserSchema().dump(user)
# {
#     "data": {
#         "type": "users",
#         "attributes": {"name": "Alice"},
#         "meta": {
#             "active": true
#         }
#     }
# }
```
2.1.5 Errors

Schema.load() and Schema.validate() will return JSON API-formatted Error objects.

```python
from marshmallow_jsonapi import Schema, fields
from marshmallow import validate, ValidationError

class AuthorSchema(Schema):
    id = fields.Str(dump_only=True)
    first_name = fields.Str(required=True)
    last_name = fields.Str(required=True)
    password = fields.Str(load_only=True, validate=validate.Length(6))
    twitter = fields.Str()

    class Meta:
        type_ = "authors"

author_data = {
    "data": {"type": "users", "attributes": {"first_name": "Dan", "password": "short"}}
}

AuthorSchema().validate(author_data)
```

If an invalid “type” is passed in the input data, an IncorrectTypeError is raised.

```python
from marshmallow_jsonapi.exceptions import IncorrectTypeError

author_data = {
    "data": {
        "type": "invalid-type",
        "attributes": {
            "first_name": "Dan",
            "last_name": "Gebhardt",
            "password": "verysecure",
        },
    }
}

try:
    AuthorSchema().validate(author_data)
```

(continues on next page)
except IncorrectTypeError as err:

    pprint(err.messages)
    # {  
    #     'errors': [  
    #         {'detail': 'Invalid type. Expected "users".',  
    #         'source': {  
    #             'pointer': '/data/type'  
    #         }  
    #     }  
    # ]  
    # }

2.1.6 Inflection

You can optionally specify a function to transform attribute names. For example, you may decide to follow JSON API’s recommendation to use “dasherized” names.

```python
from marshmallow_jsonapi import Schema, fields

def dasherize(text):
    return text.replace('_', '-')

class UserSchema(Schema):
    id = fields.Str(dump_only=True)
    first_name = fields.Str(required=True)
    last_name = fields.Str(required=True)

    class Meta:
        type_ = "users"
        inflect = dasherize

UserSchema().dump(user)
    # {  
    #     'data': {  
    #         'id': '9',  
    #         'type': 'users',  
    #         'attributes': {  
    #             'first-name': 'Dan',  
    #             'last-name': 'Gebhardt'  
    #         }  
    #     }  
    # }
    # }

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2.1.7 Flask integration

marshmallow-jsonapi includes optional utilities to integrate with Flask.

A Flask-specific schema in `marshmallow_jsonapi.flask` can be used to auto-generate self-links based on view names instead of hard-coding URLs.

Additionally, the Relationship field in the `marshmallow_jsonapi.flask` module allows you to pass view names instead of path templates to generate relationship links.

```python
from marshmallow_jsonapi import fields
from marshmallow_jsonapi.flask import Relationship, Schema

class PostSchema(Schema):
    id = fields.Str(dump_only=True)
    title = fields.Str()

    author = fields.Relationship(
        self_view="post_author",
        self_url_kwargs={"post_id": "<id>"},
        related_view="author_detail",
        related_view_kwargs={"author_id": "<author.id>"},
    )

    comments = Relationship(
        related_view="post_comments",
        related_view_kwargs={"post_id": "<id>"},
        many=True,
        include_resource_linkage=True,
        type_="comments",
    )

    class Meta:
        type_ = "posts"
        self_view = "post_detail"
        self_view_kwargs = {"post_detail": "<id>"}
        self_view_many = "posts_list"
```

See [here](#) for a full example.
3.1 API Reference

3.1.1 Core

class marshmallow_jsonapi.Schema(*args, **kwargs)
    Schema class that formats data according to JSON API 1.0. Must define the type_class Meta option.

Example:

```python
from marshmallow_jsonapi import Schema, fields
def dasherize(text):
    return text.replace('_', '-

class PostSchema(Schema):
    id = fields.Str(dump_only=True)  # Required
title = fields.Str()

    author = fields.HyperlinkRelated(
        '/authors/{author_id}',
        url_kwargs={'author_id': '<author.id>'},
    )

    comments = fields.HyperlinkRelated(
        '/posts/{post_id}/comments',
        url_kwargs={'post_id': '<id>'},
        # Include resource linkage
        many=True, include_resource_linkage=True,
        type_='comments'
    )

    class Meta:
        type_ = 'posts'  # Required
        inflect = dasherize
```

class Meta
    Options object for Schema. Takes the same options as marshmallow.Schema.Meta with the addition of:
    - type_ - required, the JSON API resource type as a string.
    - inflect - optional, an inflection function to modify attribute names.
    - self_url - optional, URL to use to self in links
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- **self_url_kws** - optional, replacement fields for self_url. String arguments enclosed in < > will be interpreted as attributes to pull from the schema data.
- **self_url_many** - optional, URL to use to self in top-level links when a collection of resources is returned.

**OPTIONS_CLASS**
alias of SchemaOpts

**check_relations (relations)**
Recursive function which checks if a relation is valid.

**format_error (field_name, message, index=None)**
Override-able hook to format a single error message as an Error object.

See: http://jsonapi.org/format/#error-objects

**format_errors (errors, many)**
Format validation errors as JSON Error objects.

**format_item (item)**
Format a single datum as a Resource object.

See: http://jsonapi.org/format/#document-resource-objects

**format_items (data, many)**
Format data as a Resource object or list of Resource objects.

See: http://jsonapi.org/format/#document-resource-objects

**format_json_api_response (data, many, **kwargs)**
Post-dump hook that formats serialized data as a top-level JSON API object.

See: http://jsonapi.org/format/#document-top-level

**generate_url (link, **kwargs)**
Generate URL with any kwargs interpolated.

**get_resource_links (item)**
Hook for adding links to a resource object.

**get_top_level_links (data, many)**
Hook for adding links to the root of the response data.

**inflect (text)**
Inflect text if the inflect class Meta option is defined, otherwise do nothing.

**on_bind_field (field_name, field_obj)**
Schema hook override. When binding fields, set data_key (on marshmallow 3) or load_from (on marshmallow 2) to the inflected form of field_name.

**wrap_response (data, many)**
Wrap data and links according to the JSON API

**class marshmallow_jsonapi.SchemaOpts (meta, *args, **kwargs)**
3.1.2 Fields

Includes all the fields classes from `marshmallow.fields` as well as fields for serializing JSON API-formatted hyperlinks.

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

Base relationship field.

This is used by `marshmallow_jsonapi.Schema` to determine which fields should be formatted as relationship objects.


```python
class marshmallow_jsonapi.fields.DocumentMeta(**kwargs)
```

Field which serializes to a “meta object” within a document’s “top level”.

Examples:

```python
from marshmallow_jsonapi import Schema, fields

class UserSchema(Schema):
    id = fields.String()
    metadata = fields.DocumentMeta()

    class Meta:
        type_ = 'product'
```

See: [http://jsonapi.org/format/#document-meta](http://jsonapi.org/format/#document-meta)

```python
class marshmallow_jsonapi.fields.Relationship(related_url='', related_url_kwargs=None, *, self_url='', self_url_kwargs=None, include_resource_linkage=False, schema=None, many=False, type_=None, id_field=None, **kwargs)
```

Framework-independent field which serializes to a “relationship object”.


Examples:

```python
author = Relationship(
    related_url='/authors/{author_id}',
    related_url_kwargs={'author_id': '<author.id>'},
)

comments = Relationship(
    related_url='/posts/{post_id}/comments/',
    related_url_kwargs={'post_id': '<id>'},
)
```

(continues on next page)
This field is read-only by default.

Parameters

- `related_url` (str) – Format string for related resource links.
- `related_url_kwargs` (dict) – Replacement fields for related_url. String arguments enclosed in `< >` will be interpreted as attributes to pull from the target object.
- `self_url` (str) – Format string for self relationship links.
- `self_url_kwargs` (dict) – Replacement fields for self_url. String arguments enclosed in `< >` will be interpreted as attributes to pull from the target object.
- `include_resource_linkage` (bool) – Whether to include a resource linkage (http://jsonapi.org/format/#document-resource-object-linkage) in the serialized result.
- `schema` (marshmallow_jsonapi.Schema) – The schema to render the included data with.
- `many` (bool) – Whether the relationship represents a many-to-one or many-to-many relationship. Only affects serialization of the resource linkage.
- `type` (str) – The type of resource.
- `id_field` (str) – Attribute name to pull ids from if a resource linkage is included.

`deserialize` (value, attr=None, data=None, **kwargs)

Deserializes value.

Raises `ValidationError` – If the value is not type dict, if the value does not contain a data key, and if the value is required but unspecified.

`extract_value` (data)

Extract the id key and validate the request structure.

`serialize` (attr, obj, accessor=None)

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.

The `ResourceMeta` class is a field which serializes to a “meta object” within a “resource object”.

Examples:

```python
from marshmallow_jsonapi import Schema, fields

class UserSchema(Schema):
    id = fields.String()
    meta_resource = fields.ResourceMeta()
```

(continues on next page)
class Meta:
    type_ = 'product'

See: http://jsonapi.org/format/#document-resource-objects

### 3.1.3 Flask

Flask integration that avoids the need to hard-code URLs for links.

This includes a Flask-specific schema with custom Meta options and a relationship field for linking to related resources.

```python
class marshmallow_jsonapi.flask.Relationship(related_view=None, related_view_kwargs=None, *, self_view=None, self_view_kwargs=None, **kwargs)
```

Field which serializes to a “relationship object” with a “related resource link”.

See: http://jsonapi.org/format/#document-resource-object-relationships

Examples:

```python
author = Relationship(
    related_view='author_detail',
    related_view_kwargs={'author_id': '<author.id>'},
)

comments = Relationship(
    related_view='posts_comments',
    related_view_kwargs={'post_id': '<id>'},
    many=True, include_resource_linkage=True,
    type_='comments'
)
```

This field is read-only by default.

**Parameters**

- **related_view** *(str)* – View name for related resource link.
- **related_view_kwargs** *(dict)* – Path kwargs fields for related_view. String arguments enclosed in `< >` will be interpreted as attributes to pull from the target object.
- **self_view** *(str)* – View name for self relationship link.
- **self_view_kwargs** *(dict)* – Path kwargs for self_view. String arguments enclosed in `< >` will be interpreted as attributes to pull from the target object.
- ****kwargs – Same keyword arguments as `marshmallow_jsonapi.fields.Relationship`.

```python
class marshmallow_jsonapi.flask.Schema(*args, **kwargs)
```

A Flask specific schema that resolves self URLs from view names.

**class Meta**

Options object that takes the same options as `marshmallow-jsonapi.Schema`, but instead of `self_url`, `self_url_kwargs` and `self_url_many` has the following options to resolve the URLs from Flask views:
• **self_view** - View name to resolve the self URL link from.
• **self_view_kwargs** - Replacement fields for **self_view**. String attributes enclosed in <> will be interpreted as attributes to pull from the schema data.
• **self_view_many** - View name to resolve the self URL link when a collection of resources is returned.

**OPTIONS_CLASS**
alias of **SchemaOpts**

```python
generate_url(view_name, **kwargs)
```
Generate URL with any kwargs interpolated.

```python
class marshmallow_jsonapi.flask.SchemaOpts(meta, *args, **kwargs)
```
Options to use Flask view names instead of hard coding URLs.

### 3.1.4 Exceptions

Exception classes.

```python
exception marshmallow_jsonapi.exceptions.IncorrectTypeError(message=None, actual=None, expected=None)
```
Raised when client provides an invalid `type` in a request.

```python
property messages
```
JSON API-formatted error representation.

```python
exception marshmallow_jsonapi.exceptions.JSONAPIError
```
Base class for all exceptions in this package.

### 3.1.5 Utilities

Utility functions.

This module should be considered private API.

```python
marshmallow_jsonapi.utils.resolve_params(obj, params, default=<marshmallow.missing>)
```
Given a dictionary of keyword arguments, return the same dictionary except with values enclosed in <> resolved to attributes on `obj`.

```python
marshmallow_jsonapi.utils.tpl(val)
```
Return value within <> if possible, else return `None`.
4.1 Changelog

4.1.1 0.23.1 (2020-03-22)

Bug fixes:
  • Fix nested fields validation error formatting (#120). Thanks @mahenzon and @debonzi for the PRs.

4.1.2 0.23.0 (2020-02-02)

  • Improve performance of link generation from Relationship (#277). Thanks @iamareebjamal for reporting and fixing.

4.1.3 0.22.0 (2019-09-15)

Deprecation/Removals:
  • Drop support for Python 2.7 and 3.5. Only Python>=3.6 is supported (#251).
  • Drop support for marshmallow 3 pre-releases. Only stable versions >=2.15.2 are supported.
  • Remove fields.Meta.

Bug fixes:
  • Address DeprecationWarning raised by Field.fail on marshmallow 3.

4.1.4 0.21.2 (2019-07-01)

Bug fixes:
  • marshmallow 3.0.0rc7 compatibility (#233).

Other changes:
  • Format with pyupgrade and black (#235).
  • Switch to Azure Pipelines for CI (#234).
4.1.5 0.21.1 (2019-05-05)

Bug fixes:

- marshmallow 3.0.0rc6 compatibility (#221).

4.1.6 0.21.0 (2018-12-16)

Bug fixes:

- *Backwards-incompatible*: Revert URL quoting introduced in 0.20.2 (#184). If you need quoting, override `Schema.generate_url`.

```python
from marshmallow_jsonapi import Schema
from werkzeug.urls import url_fix

class MySchema(Schema):
    def generate_url(self, link, **kwargs):
        url = super().generate_url(link, **kwargs)
        return url_fix(url)
```

Thanks @kgutwin for reporting the issue.

- Fix `Relationship` deserialization behavior when required=False (#177). Thanks @aberres for reporting and @scottwernervt for the fix.

Other changes:

- Test against Python 3.7.

4.1.7 0.20.5 (2018-10-27)

Bug fixes:

- Fix deserializing `id` field to non-string types (#179). Thanks @aberres for the catch and patch.

4.1.8 0.20.4 (2018-10-04)

Bug fixes:

- Fix bug where multi-level nested relationships would not be properly deserialized (#127). Thanks @ww3pl for the catch and patch.

4.1.9 0.20.3 (2018-09-13)

Bug fixes:

- Fix missing load validation when data is not a collection but many=True (#161). Thanks @grantHarris.
4.1.10 0.20.2 (2018-08-15)

Bug fixes:
- Fix issues where generated URLs are unquoted (#147). Thanks @grantHarris.

Other changes:
- Fix tests against marshmallow 3.0.0b13.

4.1.11 0.20.1 (2018-07-15)

Bug fixes:
- Fix deserializing missing with a Relationship field (#130). Thanks @kumy for the catch and patch.

4.1.12 0.20.0 (2018-06-10)

Bug fixes:
- Fix serialization of id for Relationship fields when attribute is set (#69). Thanks @jordal for reporting and thanks @scottwernervt for the fix.

Note: The above fix could break some code that set Relationship.id_field before instantiating it. Set Relationship.default_id_field instead.

```python
# before
fields.Relationship.id_field = "item_id"

# after
fields.Relationship.default_id_field = "item_id"
```

Support:
- Test refactoring and various doc improvements (#63, #86, #121# and #122). Thanks @scottwernervt.

4.1.13 0.19.0 (2018-05-27)

Features:
- Schemas passed to fields.Relationship will inherit context from the parent schema (#84). Thanks @asteinlein and @scottwernervt for the PRs.

4.1.14 0.18.0 (2018-05-19)

Features:
- Add fields.ResourceMeta for serializing a resource-level meta object (#107). Thanks @scottwernervt.

Other changes:
- Backwards-incompatible: Drop official support for Python 3.4.
4.1.15 0.17.0 (2018-04-29)

Features:
- Add support for marshmallow 3 (#97). Thanks @rockmnew.
- Thanks @mdodsworth for helping with #101.
- Move meta information object to document top level (#95). Thanks @scottwernervt.

4.1.16 0.16.0 (2017-11-08)

Features:
- Add support for excluding or including nested fields on relationships (#94). Thanks @scottwernervt for the PR.

Other changes:
- Backwards-incompatible: Drop support for marshmallow<2.8.0

4.1.17 0.15.1 (2017-08-23)

Bug fixes:
- Fix pointer for id in error objects (#90). Thanks @rgant for the catch and patch.

4.1.18 0.15.0 (2017-06-27)

Features:
- Relationship field supports deserializing included data (#83). Thanks @anuragagarwal561994 for the suggestion and thanks @asteinlein for the PR.

4.1.19 0.14.0 (2017-04-30)

Features:
- Relationship respects its passed Schema's get_attribute method when getting the id field for resource linkages (#80). Thanks @scmmnh for the PR.

4.1.20 0.13.0 (2017-04-18)

Features:
- Add support for including deeply nested relationships in compound documents (#61). Thanks @mrhanky17 for the PR.
4.1.21 0.12.0 (2017-04-16)

Features:

- Use default attribute value instead of raising exception if relationship is `None` on `Relationship` field (#75). Thanks @akira-dev.

4.1.22 0.11.1 (2017-04-06)

Bug fixes:

- Fix formatting JSON pointer when serializing an invalid object at index 0 (#77). Thanks @danpoland for the catch and patch.

4.1.23 0.11.0 (2017-03-12)

Bug fixes:

- Fix compatibility with marshmallow 3.x.

Other changes:

- Backwards-incompatible: Remove unused `utils.get_value_or_raise` function.

4.1.24 0.10.2 (2017-03-08)

Bug fixes:

- Fix format of error object returned when `data` key is not included in input (#66). Thanks @RazerM.
- Fix serializing compound documents when `Relationship` is passed a schema class and `many=True` (#67). Thanks @danpoland for the catch and patch.

4.1.25 0.10.1 (2017-02-05)

Bug fixes:

- Serialize `None` and empty lists `[]` to valid JSON-API objects (#58). Thanks @rgant for reporting and sending a PR.

4.1.26 0.10.0 (2017-01-05)

Features:

- Add `fields.Meta` for (de)serializing `meta` data on resource objects (#28). Thanks @rubdos for the suggestion and initial work. Thanks @RazerM for the PR.

Other changes:

- Test against Python 3.6.
4.1.27 0.9.0 (2016-10-08)

Features:

- Add Flask-specific schema with class Meta options for self link generation: `self_view`, `self_view_kwargs`, and `self_view_many` (#51). Thanks @asteinlein.

Bug fixes:

- Fix formatting of validation error messages on newer versions of marshmallow.

Other changes:

- Drop official support for Python 3.3.

4.1.28 0.8.0 (2016-06-20)

Features:

- Add support for compound documents (#11). Thanks @Tim-Erwin and @woodb for implementing this.

- Backwards-incompatible: Remove `include_data` parameter from `Relationship`. Use `include_resource_linkage` instead.

4.1.29 0.7.1 (2016-05-08)

Bug fixes:

- Format correction for error objects (#47). Thanks @ZeeD26 for the PR.

4.1.30 0.7.0 (2016-04-03)

Features:

- Correctly format `messages` attribute of `ValidationError` raised when `type` key is missing in input (#43). Thanks @ZeeD26 for the catch and patch.

- JSON pointers for error objects for relationships will point to the `data` key (#41). Thanks @cmanallen for the PR.

4.1.31 0.6.0 (2016-03-24)

Features:

- `Relationship` deserialization improvements: properly validate to-one and to-many relationships and validate the presence of the `data` key (#37). Thanks @cmanallen for the PR.

- `attributes` is no longer a required key in the `data` object (#39, #42). Thanks @ZeeD26 for reporting and @cmanallen for the PR.

- Added `id` serialization (#39). Thanks again @cmanallen.
4.1.32 0.5.0 (2016-02-08)

Features:

• Add relationship deserialization (#15).
• Allow serialization of foreign key attributes (#32).
• Relationship IDs serialize to strings, as is required by JSON-API (#31).
• Relationship field respects dump_to parameter (#33).

Thanks @cmanallen for all of these changes.

Other changes:

• The minimum supported marshmallow version is 2.3.0.

4.1.33 0.4.2 (2015-12-21)

Bug fixes:

• Relationship names are inflected when appropriate (#22). Thanks @angelosarto for reporting.

4.1.34 0.4.1 (2015-12-19)

Bug fixes:

• Fix serializing null and empty relationships with flask.Relationship (#24). Thanks @floqqi for the catch and patch.

4.1.35 0.4.0 (2015-12-06)

• Correctly serialize null and empty relationships (#10). Thanks @jo-tham for the PR.
• Add self_url, self_url_kwargs, and self_url_many class Meta options for adding self links. Thanks @asteinlein for the PR.

4.1.36 0.3.0 (2015-10-18)

• Backwards-incompatible: Replace HyperlinkRelated with Relationship field. Supports related links (related), relationship links (self), and resource linkages.
• Backwards-incompatible: Validate and deserialize JSON API-formatted request payloads.
• Fix error formatting when many=True.
• Fix error formatting in strict mode.
4.1.37 0.2.2 (2015-09-26)

• Fix for marshmallow 2.0.0 compat.

4.1.38 0.2.1 (2015-09-16)

• Compatibility with marshmallow>=2.0.0rc2.

4.1.39 0.2.0 (2015-09-13)

Features:
• Add framework-independent HyperlinkRelated field.
• Support inflection of attribute names via the inflect class Meta option.

Bug fixes:
• Fix for making HyperlinkRelated read-only by defualt.

Support:
• Docs updates.
• Tested on Python 3.5.

4.1.40 0.1.0 (2015-09-12)

• First PyPI release.
• Include Schema that serializes objects to resource objects.
• Flask-compatible HyperlinkRelate field for serializing relationships.
• Errors are formatted as JSON API error objects.

4.2 Authors

4.2.1 Lead

• Steven Loria @sloria

4.2.2 Contributors (chronological)

• Jotham Apaloo @jo-tham
• Anders Steinlein @asteinlein
• @floqqi
• Colton Allen @cmanallen
• Dominik Steinberger @ZeeD26
• Tim Mundt @Tim-Erwin
4.3 Contributing Guidelines

4.3.1 Questions, Feature Requests, Bug Reports, and Feedback…

…should all be reported on the Github Issue Tracker.

4.3.2 Setting Up for Local Development

1. Fork marshmallow-jsonapi on Github.

   $ git clone https://github.com/marshmallow-code/marshmallow-jsonapi.git
   $ cd marshmallow-jsonapi

2. Install development requirements. It is highly recommended that you use a virtualenv. Use the following command to install an editable version of marshmallow-jsonapi along with its development requirements.

   # After activating your virtualenv
   $ pip install -e './[dev]'

3. Install the pre-commit hooks, which will format and lint your git staged files.

   # The pre-commit CLI was installed above
   $ pre-commit install
4.3.3 Git Branch Structure

Marshmallow abides by the following branching model:

**dev** Current development branch. **New features should branch off here.**

**X.Y-line** Maintenance branch for release X.Y. **Bug fixes should be sent to the most recent release branch.** The maintainer will forward-port the fix to dev. Note: exceptions may be made for bug fixes that introduce large code changes.

**Always make a new branch for your work,** no matter how small. Also, **do not put unrelated changes in the same branch or pull request.** This makes it more difficult to merge your changes.

4.3.4 Pull Requests

1. Create a new local branch.

```
$ git checkout -b name-of-feature dev
```

2. Commit your changes. Write **good commit messages.**

```
$ git commit -m "Detailed commit message"
$ git push origin name-of-feature
```

3. Before submitting a pull request, check the following:
   - If the pull request adds functionality, it is tested and the docs are updated.
   - You’ve added yourself to AUTHORS.rst.

4. Submit a pull request to marshmallow-code:dev or the appropriate maintenance branch. The CI build must be passing before your pull request is merged.

4.3.5 Running tests

To run all tests:

```
$ pytest
```

To run syntax checks:

```
$ tox -e lint
```

(Optional) To run tests in all supported Python versions in their own virtual environments (must have each interpreter installed):

```
$ tox
```
4.3.6 Documentation

Contributions to the documentation are welcome. Documentation is written in reStructured Text (rST). A quick rST reference can be found here. Builds are powered by Sphinx.

To build the docs in “watch” mode:

```
$ tox -e watch-docs
```

Changes in the docs/ directory will automatically trigger a rebuild.

4.4 License

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