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IMPORTANT: Model Mommy is no longer maintained and was replaced by Model Bakery. Please, consider migrating your project to use the new lib.

Model Mommy’s creator and the maintainers decided to rename the project to not reinforce gender stereotypes for women in technology. You can read more about this subject here.
1.1 Install Instructions

Model-mommy offers you a smart way to create fixtures for testing in Django. With a simple and powerful API you can create many objects with a single line of code.

1.2 Compatibility

model_mommy supports Django >= 1.11 and Python 3

1.3 Install

Run the command above

```
pip install model_mommy
```

1.4 Inspiration

*Model-mommy* was inspired by many great open source software like ruby’s ObjectDaddy and FactoryGirl.

1.5 Basic Usage

Let’s say you have an app *family* with a model like this:

File: model.py
class Kid(models.Model):
    
    Model class Kid of family app
    
    happy = models.BooleanField()
    name = models.CharField(max_length=30)
    age = models.IntegerField()
    bio = models.TextField()
    wanted_games_qtd = models.BigIntegerField()
    birthday = models.DateField()
    appointment = models.DateTimeField()

To create a persisted instance, just call Mommy:

File: test_model.py

```python
# -*- coding:utf-8 -*-

# Core Django imports
from django.test import TestCase

# Third-party app imports
from model_mommy import mommy
from model_mommy.recipe import Recipe, foreign_key

# Relative imports of the 'app-name' package
from .models import Kid

class KidTestModel(TestCase):
    
    Class to test the model Kid
    
    def setUp(self):
        
        Set up all the tests
        
        self.kid = mommy.make(Kid)
```

No need to pass attributes every damn time.

Importing every model over and over again is boring. So let Mommy import them for you:

```python
from model_mommy import mommy

# 1st form: app_label.model_name
kid = mommy.make('family.Kid')

# 2nd form: model_name
dog = mommy.make('Dog')
```

**Note:** You can only use the 2nd form on unique model names. If you have an app family with a Dog, and an app farm with a Dog, you must use the app_label.model_name form.
Note: model_name is case insensitive.

1.5.1 Model Relationships

Mommy also handles relationships. Say the kid has a dog:

File: model.py

```python
class Kid(models.Model):
    
    Model class Kid of family app
    
    happy = models.BooleanField()
    name = models.CharField(max_length=30)
    age = models.IntegerField()
    bio = models.TextField()
    wanted_games_qtd = models.BigIntegerField()
    birthday = models.DateField()
    appointment = models.DateTimeField()

    class Meta:
        verbose_name = _(u'Kid')
        verbose_name_plural = _(u'Kids')

    def __unicode__(self):
        
        Return the name of kid
        
        return u'%s' % (self.name)

class Dog(models.Model):
    
    Model class Dog of family app
    
    owner = models.ForeignKey('Kid')
```

when you ask Mommy:

File: test_model.py

```python
# -*- coding:utf-8 -*-

# Core Django imports
from django.test import TestCase

# Third-party app imports
from model_mommy import mommy
from model_mommy.recipe import Recipe, foreign_key

# Relative imports of the 'app-name' package

class DogTestModel(TestCase):
    
    Class to test the model
    Dog
```

(continues on next page)
She will also create the Kid, automagically. **NOTE: ForeignKeys and OneToOneFields** Since Django 1.8, ForeignKey and OneToOne fields don’t accept unpersisted model instances anymore. This means if you do:

```
mommy.prepare('family.Dog')
```

You’ll end with a persisted “Kid” instance.

### 1.5.2 M2M Relationships

File: test_model.py

```python
# -- coding: utf-8 --

# Core Django imports
from django.test import TestCase

# Third-party app imports
from model_mommy import mommy
from model_mommy.recipe import Recipe, foreign_key

# Relative imports of the 'app-name' package

class DogTestModel(TestCase):
    
    def setUp(self):
        
        self.rex = mommy.make('family.Dog', make_m2m=True)
```

### 1.5.3 Explicit M2M Relationships

If you want to, you can prepare your own set of related object and pass it to model_mommy. Here’s an example:

File: test_models.py ::

```python
dogs_set = mommy.prepare(models.Dog, _quantity=2) home = mommy.make(models.Home, owner=owner, dogs=dogs_set)
```

### 1.5.4 Defining some attributes

Of course it’s possible to explicitly set values for attributes.

File: test_model.py
1.5. Basic Usage

```python
# -*- coding:utf-8 -*-

#Core Django imports
from django.test import TestCase

#Third-party app imports
from model_mommy import mommy
from model_mommy.recipe import Recipe, foreign_key

# Relative imports of the 'app-name' package
from .models import Kid

class KidTestModel(TestCase):
    
    def setUp(self):
        self.kid = mommy.make(Kid, age=3)
        self.another_kid = mommy.make('family.Kid', age=6)

Related objects attributes are also reachable by their name or related names:

File: test_model.py

```
1.5.5 Creating Files

Mommy does not creates files for FileField types. If you need to have the files created, you can pass the flag \_create_files=True (defaults to False) to either mommy.make or mommy.make_recipe.

**Important**: Mommy does not do any kind of file clean up, so it’s up to you to delete the files created by it.

1.5.6 Non persistent objects

If you don’t need a persisted object, *Mommy* can handle this for you as well:

```python
from model_mommy import mommy
kid = mommy.prepare('family.Kid')
```

It works like `make`, but it doesn’t persist the instance neither the related instances.

If you want to persist only the related instances but not your model, you can use the \_save_related parameter for it:

```python
from model_mommy import mommy

dog = mommy.prepare('family.Dog', \_save_related=True)
assert dog.id is None
assert bool(dog.owner.id) is True
```

1.5.7 More than one instance

If you need to create more than one instance of the model, you can use the \_quantity parameter for it:

```python
from model_mommy import mommy

kids = mommy.make('family.Kid', \_quantity=3)
assert len(kids) == 3
```

It also works with `prepare`:

```python
from model_mommy import mommy

kids = mommy.prepare('family.Kid', \_quantity=3)
assert len(kids) == 3
```

1.6 How mommy behaves?

By default, *model-mommy* skips fields with `null=True` or `blank=True`. Also if a field has a `default` value, it will be used.
You can override this behavior by:

1. Explicitly defining values

```python
# from "Basic Usage" page, assume all fields either null=True or blank=True
from .models import Kid
from model_mommy import mommy

kid = mommy.make(Kid, happy=True, bio='Happy kid')
```

2. Passing `_fill_optional` with a list of fields to fill with random data

```python
kid = mommy.make(Kid, _fill_optional=['happy', 'bio'])
```

3. Passing `_fill_optional=True` to fill all fields with random data

```python
kid = mommy.make(Kid, _fill_optional=True)
```

1.6.1 When shouldn’t you let mommy generate things for you?

If you have fields with special validation, you should set their values by yourself.

*Model-mommy* should handle fields that:

1. don’t matter for the test you’re writing;
2. don’t require special validation (like unique, etc);
3. are required to create the object.

1.6.2 Currently supported fields

- BooleanField, IntegerField, BigIntegerField, SmallIntegerField, PositiveIntegerField, PositiveSmallIntegerField, FloatField, DecimalField
- CharField, TextField, BinaryField, SlugField, URLField, EmailField, IPAddressField, GenericIPAddressField
- ForeignKey, OneToOneField, ManyToManyField (even with through model)
- DateField, DateTimeField, TimeField
- FileField, ImageField
- JSONField, ArrayField, HStoreField

*Require* [django.contrib.gis](https://docs.djangoproject.com/en/3.2/ref/contrib/gis/) in *INSTALLED_APPS*:

- GeometryField, PointField, LineStringField, PolygonField, MultiPointField, MultiLineStringField, MultiPolygonField, GeometryCollectionField

1.6.3 Custom fields

*Model-mommy* allows you to define generators methods for your custom fields or overrides its default generators. This could be achieved by specifying the field and generator function for the `generators.add` function. Both can be the real python objects imported in settings or just specified as import path string.

Examples:
from model_mommy import mommy

def gen_func():
    return 'value'

mommymommy.generators.add('test.generic.fields.CustomField', gen_func)

# in the module code.path:
def gen_func():
    return 'value'

# in your tests.py file:
from model_mommy import mommy

mommymommy.generators.add('test.generic.fields.CustomField', 'code.path.gen_func')

1.6.4 Customizing Mommy

In some rare cases, you might need to customize the way Mommy behaves. This can be achieved by creating a new class and specifying it in your settings files. It is likely that you will want to extend Mommy, however the minimum requirement is that the custom class have make and prepare functions. In order for the custom class to be used, make sure to use the model_mommy.mommy.make and model_mommy.mommy.prepare functions, and not model_mommy.mommy.Mommy directly.

Examples:

# in the module code.path:
class CustomMommy(mommy.Mommy):
    def get_fields(self):
        return [field
            for field in super(CustomMommy, self).get_fields()
            if not field isinstance CustomField
        ]

# in your settings.py file:
MOMMY_CUSTOM_CLASS = 'code.path.CustomMommy'

Additionally, if you want to your created instance to be returned respecting one of your custom ModelManagers, you can use the _from_manager parameter as the example bellow:

movie = mommy.make(Movie, title='Old Boys', _from_manager='availables')  # This will use the Movie.availables model manager

1.6.5 Save method custom parameters

If you have overwritten the save method for a model, you can pass custom parameters to it using model mommy. Example:

class ProjectWithCustomSave(models.Model):
    # some model fields
    created_by = models.ForeignKey(settings.AUTH_USER_MODEL)

(continues on next page)
def save(self, user, *args, **kwargs):
    self.created_by = user
    return super(ProjectWithCustomSave, self).save(*args, **kwargs)

# with model mommy:
user = mommy.make(settings.AUTH_USER_MODEL)
project = mommy.make(ProjectWithCustomSave, _save_kwargs={'user': user})
assert user == project.user

1.7 Recipes

If you’re not comfortable with random data or even you just want to improve the semantics of the generated data, there’s hope for you.

You can define a recipe, which is a set of rules to generate data for your models.

It’s also possible to store the Recipes in a module called mommy_recipes.py at your app’s root directory. This recipes can later be used with the make_recipe function:

File: mommy_recipes.py

```python
from model_mommy.recipe import Recipe
from family.models import Person

person = Recipe(
    Person,
    name = 'John Doe',
    nickname = 'joe',
    age = 18,
    birthday = date.today(),
    appointment = datetime.now()
)
```

Note: You don’t have to declare all the fields if you don’t want to. Omitted fields will be generated automatically.

File: test_model.py

```python
from django.test import TestCase

from model_mommy import mommy
from model_mommy.recipe import Recipe, foreign_key
```
# Relative imports of the 'app-name' package

```python
from .models import Person, Contact
```

```python
class PersonTestModel(TestCase):
    """Class to test the model Person""

def setUp(self):
    # Load the recipe 'person' from 'family/mommy_recipes.py'
    self.person_one = mommy.make_recipe('family.person')

    self.person_simpsons = Recipe(Person,
        name='Moe',
    )

    self.contact = Recipe(Contact,
        person=foreign_key(self.person_simpsons),
        tel='3333333eeeeR'
    )

def test_kind_contact_create_instance(self):
    """True if create instance""
    contact = self.contact.make()
    self.assertIsInstance(contact, Contact)
```

Or if you don’t want a persisted instance:

```python
from model_mommy import mommy
mommym.prepare_recipe('family.person')
```

Another examples

**Note:** You can use the _quantity parameter as well if you want to create more than one object from a single recipe.

**Note:** You can define recipes locally to your module or test case as well. This can be useful for cases where a particular set of values may be unique to a particular test case, but used repeatedly there.

Look:

File: mommy_recipes.py

```python
company_recipe = Recipe(Company, name='WidgetCo')
```

File: test_model.py

```python
class EmployeeTest(TestCase):
    def setUp(self):
        self.employee_recipe = Recipe(
```

(continues on next page)
Employee,
    name=seq('Employee '),
    company=company_recipe.make()
)

def test_employee_list(self):
    self.employee_recipe.make(_quantity=3)
    # test stuff....

def test_employee_tasks(self):
    employee1 = self.employee_recipe.make()
    task_recipe = Recipe(Task, employee=employee1)
    task_recipe.make(status='done')
    task_recipe.make(due_date=datetime(2014, 1, 1))
    # test stuff....

1.7.1 Recipes with foreign keys

You can define foreign_key relations:

```python
from model_mommy.recipe import Recipe, foreign_key
from family.models import Person, Dog

person = Recipe(Person,
    name = 'John Doe',
    nickname = 'joe',
    age = 18,
    birthday = date.today(),
    appointment = datetime.now()
)

dog = Recipe(Dog,
    breed = 'Pug',
    owner = foreign_key(person)
)
```

Notice that person is a recipe.

You may be thinking: “I can put the Person model instance directly in the owner field”. That’s not recommended.

Using the foreign_key is important for 2 reasons:

- Semantics. You’ll know that attribute is a foreign key when you’re reading;
- The associated instance will be created only when you call make_recipe and not during recipe definition;

You can also use related, when you want two or more models to share the same parent:

```python
from model_mommy.recipe import related, Recipe

dog = Recipe(Dog,
    breed = 'Pug',
)
other_dog = Recipe(Dog,
    breed = 'Boxer',
)
```

(continues on next page)
person_with_three_dogs = Recipe(Person,
    dog_set = related('dog', 'other_dog')
)

Note this will only work when calling make_recipe because the related manager requires the objects in the related_set to be persisted. That said, calling prepare_recipe the related_set will be empty.

If you want to set m2m relationship you can use related as well:

class Dog(models.Model):
    owner = models.ForeignKey('Person')
    breed = models.CharField(max_length=50)
    created = models.DateTimeField(auto_now_add=True)
    friends_with = models.ManyToManyField('Dog')

from model_mommy.recipe import related, Recipe
dog = Recipe(Dog,
    breed = 'Pug',
)
dog_with_friends = dog.extend(
    friends_with=related(dog, dog),
)

### 1.7.2 Recipes with callables

It’s possible to use callables as recipe’s attribute value.

```python
from datetime import date
from model_mommy.recipe import Recipe
from family.models import Person

person = Recipe(Person,
    birthday = date.today,
)
```

When you call make_recipe, Mommy will set the attribute to the value returned by the callable.

### 1.7.3 Recipes with iterators

You can also use iterators (including generators) to provide multiple values to a recipe.

```python
from itertools import cycle

colors = ['red', 'green', 'blue', 'yellow']
person = Recipe(Person,
    favorite_color = cycle(colors)
)
```

Mommy will use the next value in the iterator every time you create a model from the recipe.
1.7.4 Sequences in recipes

Sometimes, you have a field with an unique value and using `make` can cause random errors. Also, passing an attribute value just to avoid uniqueness validation problems can be tedious. To solve this you can define a sequence with `seq`.

```python
from model_mommy.recipe import Recipe, seq
from family.models import Person

person = Recipe(Person,
    name = seq('Joe'),
    age = seq(15)
)
p = mommy.make_recipe('myapp.person')
p.name >>> 'Joe1'
p.age >>> 16

p = mommy.make_recipe('myapp.person')
p.name >>> 'Joe2'
p.age >>> 17
```

This will append a counter to strings to avoid uniqueness problems and it will sum the counter with numerical values.

Sequences can be used not only for recipes, but with `mommymake` as well:

```python
# it can be imported directly from model_mommy
from model_mommy import seq
from model_mommy import mommy

p = mommy.make('Person', name=seq('Joe'))
p.name >>> 'Joe1'

people = mommy.make('Person', name=seq('Chad'), _quantity=3)
for person in people:
    print(person.name)
>>> 'Chad1'
>>> 'Chad2'
>>> 'Chad3'
```

You can also provide an optional `increment_by` argument which will modify incrementing behaviour. This can be an integer, float, Decimal or timedelta.

```python
from datetime import date, timedelta
from model_mommy.recipe import Recipe, seq
from family.models import Person

person = Recipe(Person,
    age = seq(15, increment_by=3)
    height_ft = seq(5.5, increment_by=.25)
    # assume today's date is 21/07/2014
    appointment = seq(date(2014, 7, 21), timedelta(days=1))
)
```

(continues on next page)
p = mommy.make_recipe('myapp.person')
p.age
>>> 18
p.height_ft
>>> 5.75
p.appointment
>>> datetime.date(2014, 7, 22)

p = mommy.make_recipe('myapp.person')
p.age
>>> 21
p.height_ft
>>> 6.0
p.appointment
>>> datetime.date(2014, 7, 23)

1.7.5 Overriding recipe definitions

Passing values when calling make_recipe or prepare_recipe will override the recipe rule.

```python
from model_mommy import mommy
momy.make_recipe('model_mommy.person', name='Peter Parker')
```

This is useful when you have to create multiple objects and you have some unique field, for instance.

1.7.6 Recipe inheritance

If you need to reuse and override existent recipe call extend method:

```python
dog = Recipe(Dog,
    breed = 'Pug',
    owner = foreign_key(person)
)
extended_dog = dog.extend(  
    breed = 'Super basset',
)
```

1.8 Deprecation Warnings

Because of the changes of model_mommy’s API, the following methods are deprecated and will be removed in one of the future releases:

**After 1.5.0 release:**
- `momy.make` and `momy.prepare` methods renamed `model` parameter to `_model`.

**After 1.4.0 release:**
- `model_mommy` does not create file automagically anymore. To enable it, you have to pass the parameter `_create_files` to `momy.make` or `momy.make_recipe` method.
• `MOMMY_CUSTOM_FIELDS_GEN` -> should use the method `mommy.generators.add` instead

Older Warnings:

• `mommy.make_one` -> should use the method `mommy.make` instead
• `mommy.prepare_one` -> should use the method `mommy.prepare` instead
• `mommy.make_many` -> should use the method `mommy.make` with the `_quantity` parameter instead
• `mommy.make_many_from_recipe` -> should use the method `mommy.make_recipe` with the `_quantity` parameter instead

1.9 Known Issues

1.9.1 django-taggit

Model-mommy identifies django-taggit’s `TaggableManager` as a normal Django field, which can lead to errors:

```
TypeError: <class 'taggit.managers.TaggableManager'> is not supported by mommy.
```

The fix for this is to set `blank=True` on your `TaggableManager`.

1.10 Extensions

1.10.1 GeoDjango

Works with it? This project has some custom generators for it: `https://github.com/sigma-consultoria/mommy.spatial_generators`
CHAPTER 2

Indices and tables

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