
django-plans Documentation

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Django-plans is a pluggable app for managing pricing plans with quotas and accounts expiration.

1.1 Installation

1.1.1 Installing module code

You can install with pip:

```
$ pip install django-plans
```

For integration instruction please see section *Integration*.

1.1.2 Running example project

Clone git repository to your current directory:

```
$ git clone git@github.com:swappsko/django-plans.git
```

Optionally create virtual environment and get required packages to run example project:

```
$ cd django-plans
$ pip install -r /demo/requirements.txt
$ pip install -e .
```

Initialize example project database:

Initial sample data will be loaded automatically.

Start development web server:

```
$ python manage.py runserver
```

Visit <http://localhost:8000/>

To implement a development environment with the development package and the chance to view the changes while they are made use:

```
$ cd django-plans/demo/  
$ pip install -e ../plans
```

This should install the development package and it will update each time you incorporate some changes to the project.

For the invoice generation we use wkhtmltopdf if it is installed, or return a plain html if it is not. You can install wkhtmltopdf on ubuntu with:

```
$ sudo apt-get install wkhtmltopdf
```

1.2 Integration

This section describes step by step integration of django-plans with your application.

1.2.1 Enable plans application in django

Add this app to your `INSTALLED_APPS` in your settings file:

```
INSTALLED_APPS += ('plans', 'ordered_model',)
```

Note: The app ‘ordered_model’ is required to display the assets used in the django admin to manage the plan model ordering

You should also define all other variables in `settings.py` marked as **required**. They are described in detail in section *Configuration via settings*.

Don’t forget to run:

```
$ python manage.py migrate
```

1.2.2 Add django-plans urls

Add django-plans urls to your URL general configuration:

```
add_url(r'^$', include('plans.urls')),
```

The basic django-plans urls are:

```
http://localhost:8000/pricing/  
http://localhost:8000/account/  
http://localhost:8000/upgrade/  
http://localhost:8000/order/  
http://localhost:8000/billing/
```

Note: To access all the django-plans urls, as well as their names, access `plans/urls.py` file in the repository

1.2.3 Enable context processor

Section *Templates* describes a very helpful context processor that you can enable by adding it to the `TEMPLATE` options:

```
'plans.context_processors.account_status'
```

1.2.4 Send signal when user account is fully activated

You need to explicitly tell django-plans that user has fully activated account. This can vary depending on your setup, so you may want to do this on email confirmation or in sign up if the confirmation is optional or disabled. django-plans provides a special signal that it listens to:

```
from plans.signals import activate_user_plan
activate_user_plan.send(sender=None, user=user)
```

You should send this signal providing `user` argument as an object of `auth.User` or a subclass of `AbstractUser` or `AbstractBaseUser`. django-plans will use this information to initialize plan for this user, i.e. set account expiration date and will mark the default plan as active for this account.

Note: If you use django-registration app for managing user registration process, you are done. django-plans automatically integrates with this app (if it is available) and will activate user plan when django-registration send it's signal after account activation.

Note: For previously created users, you can run `update_users_plans` management command. It will create a users plans instance for each User instance in the database.

1.3 Configuration via *settings*

1.3.1 `PLANS_CURRENCY`

Required

Three letter code for system currency. Should always be capitalized.

Example:

```
PLANS_CURRENCY = 'EUR'
```

1.3.2 `DEFAULT_FROM_EMAIL`

Required

This is the default mail `FROM` value for sending system notifications.

1.3.3 PLANS_INVOICE_COUNTER_RESET

Optional

Default: `monthly`

This settings switches invoice counting per days, month or year basis. It requires to provide one of the value:

- `Invoice.NUMBERING.DAILY`
- `Invoice.NUMBERING.MONTHLY`
- `Invoice.NUMBERING.ANNUALY`

Example:

```
PLANS_INVOICE_COUNTER_RESET = Invoice.NUMBERING.MONTHLY
```

Warning: Remember to set `PLANS_INVOICE_NUMBER_FORMAT` manually to match preferred way of invoice numbering schema. For example if you choose reset counter on daily basis, you need to use in `PLANS_INVOICE_NUMBER_FORMAT` at least `{{ invoice.issued|date:'d/m/Y' }}` to distinguish invoice's full numbers between days.

1.3.4 PLANS_INVOICE_NUMBER_FORMAT

Optional

Default: `"{{ invoice.number }}/{% ifequal invoice.type invoice.INVOICE_TYPES.PROFORMA %}PF{% else %}FV{% endifequal %}/{% invoice.issued|date:'m/Y' %}"`

A django template syntax format for rendering invoice full number. Within this template you can use one variable `invoice` which is an instance of `Invoice` object.

Example:

```
PLANS_INVOICE_NUMBER_FORMAT = "{{ invoice.number }}/{% invoice.issued|date='m/FV/Y' %}"
```

This example for invoice issued on March 5th, 2010, with sequential number 13, will produce the full number `13/03/FV/2010` or `13/03/PF/2010` based on invoice type.

Warning: Full number of an invoice is saved with the `Invoice` object. Changing this value in settings will affect only newly created invoices.

1.3.5 PLANS_INVOICE_LOGO_URL

Optional

Default: `None`

URL of logo image that should be placed in an invoice. It will be available in invoice template as `{{ logo_url }}` context variable.

Example:

```
from urllib.parse import urljoin
PLANS_INVOICE_LOGO_URL = urljoin(STATIC_URL, 'my_logo.png')
```

1.3.6 PLANS_INVOICE_TEMPLATE

Optional

Default: 'plans/invoices/PL_EN.html'

Template name for displaying invoice.

Warning: Invoices are generated on the fly from database records. Therefore changing this value will affect all previously created invoices.

Example:

```
PLANS_INVOICE_TEMPLATE = 'plans/invoices/PL_EN.html'
```

1.3.7 PLANS_INVOICE_ISSUER

Required

You need to define a dictionary that will store information needed to issue an invoice. Fill dict fields as in an example.

Example:

```
PLANS_INVOICE_ISSUER = {
    "issuer_name": "Joe Doe Company",
    "issuer_street": "Django street, 34",
    "issuer_zipcode": "123-3444",
    "issuer_city": "Djangoko",
    "issuer_country": "DJ", # Must be a country code with 2 characters
    "issuer_tax_number": "1222233334444555",
}
```

1.3.8 PLANS_ORDER_EXPIRATION

Optional

Default: 14

A number of days that an Order is valid (e.g. to start a payment) counting from order creation date. This value is only used in `is_ready_for_payment()` method for django-getpaid integration. This value has no effect on processing already paid orders before `PLANS_ORDER_EXPIRATION` period, even if confirmation for this payment will come after `PLANS_ORDER_EXPIRATION` period.

Example:

```
PLANS_ORDER_EXPIRATION = 14
```

1.3.9 PLANS_EXPIRATION_REMIND

Optional

Application is responsible for expiring user accounts. Before account became expired it is able to send expiration warnings to the users. This setting should contain a list of numbers, that corresponds to days before expiration period. User will receive expiration warning at each moment from that list.

Default: []

Example:

```
PLANS_EXPIRATION_REMIND = [1, 3, 7]
```

User will receive notification before 7, 3 and 1 day to account expire.

1.3.10 PLANS_CHANGE_POLICY

Optional

Default: 'plans.plan_change.StandardPlanChangePolicy'

A full python to path that should be used as plan change policy.

1.3.11 PLANS_DEFAULT_GRACE_PERIOD

Optional

Default: 30

New account default plan expiration period counted in days.

Example:

```
PLANS_DEFAULT_GRACE_PERIOD = 30
```

Note: Default plan should be selected using site admin. Set default flag to one of available plans.

1.3.12 PLANS_VALIDATORS

Optional

Default: {}

A dict that stores mapping "Quota codename" : "validator object". Validators are used to check if user account can be activated for the given plan. Account cannot exceed certain limits introduced by quota.

Given account will be activated only if calling all validators that are defined with his new plan does not raise any `ValidationError`. If account cannot be activated user will be noticed after logging with information that account needs activation.

Example:

```
PLANS_VALIDATORS = {
    'CAN_DO_SOMETHING' : 'myproject.validators.can_do_something_validator',
    'MAX_STORAGE' : 'myproject.validators.max_storage_validator',
}
```

Further reading: *Validation of quota*

1.3.13 SEND_PLANS_EMAILS

Optional

Default: True

Boolean value for enabling (default) or disabling the sending of plan related emails.

1.3.14 PLANS_TAX

Optional

Decimal or integer value for default TAX (usually referred as VAT). If this is setted, PLANS_TAXATION_POLICY will be ignored.

Example:

```
from decimal import Decimal
PLANS_TAX = Decimal('23.0') # for 23% VAT
```

Default: None

Warning: The value None means “TAX not applicable, rather than value `Decimal('0')` which is 0% TAX.

1.3.15 PLANS_TAXATION_POLICY

Required if PLANS_TAX is not setted

Class that realises taxation of an order.

Example:

```
PLANS_TAXATION_POLICY='plans.taxation.eu.EUTaxationPolicy'
```

Further reading: *Taxation Policies*

1.3.16 PLANS_TAX_COUNTRY

Optional

Two letter ISO country code. This variable is used to determine origin issuers country. Taxation policy uses this value to determine tax amount for any order.

Example:

```
PLANS_TAX_COUNTRY = 'PL'
```

Note: `settings.PLANS_TAX_COUNTRY` is a separate value from `settings.PLANS_INVOICE_ISSUER.issuer_country` on purpose. `PLANS_INVOICE_ISSUER` is just what you want to have printed on an invoice.

1.4 Plans and pricing definition

All definition of an offer (like plans, options, pricing, etc. . .) is made by django admin panel. That means that there no need to make any hardcoded definitions of plans, they are stored in the database.

Engine allows for the following customisation:

- Many plans can be defined, plan can be considered as a named group of account features for a specific price in specific period.
- Many pricing periods can be defined (e.g. monthly, annually, quarterly or any other), pricing is basically named amount of days.
- Many types of account feature (called quotas) can be defined (eg. maximum number of some items, account transfer limit, does the account is allowed to customize something).
- After defining quotas, each plan can define its own set of quotas with given values.
- I18n is supported in every aspect (in database text name fields also)

1.4.1 Plan

Plan stores information about single plan that is offered by a service. Each plan has related quotas and pricings that will define the permissions of the user using this plan and how much is going to pay to subscribe to it.

It is defined by the following properties:

name

type: text

Plan name that is visible in headers, invoice, etc. This should be a short name like: “Basic”, “Premium”, “Pro”.

Note: This field supports i18n. In admin view you will be able to input this name in all available languages.

description

type: text

Stores a short description for the plan that will be used in various places mostly for marketing purposes, eg. “For small groups”, “Best value for medium companies”, etc.

Note: This field supports i18n. In admin view you will be able to input this name in all available languages.

`available`

type: boolean

Only plans that are marked as `available` will be enabled to buy for the customers.

Warning: You should never delete once created `Plan` unless you are sure that nobody is using it. If you want to stop offering some plan to customers, just mark it `unavailable` and create other plan (even with the same name; plan name is not unique in the system). Users will be asked to switch to the other plan when they will try to extend their accounts bound to `Plan` which is not available.

`customized`

type: User

Setting `customized` value to a specific users creates a special `Plan` that will be available only for that one user. This allows to setup a tailored `Plans` that are not available for public.

Note: Plan that is customized for a user need to be also `available` if user need to be able to buy this plan.

Note: It is not possible to share one customized plan for two users. Even if plans are the same, there must be two identical custom plans for both users.

List of pricing periods

type: Many-to-many with `Pricing` by `PlanPricing`

Many pricing periods can be defined for a given plan. For each entry there is a need of defining price. The currency of price is defined by `settings.PLANS_CURRENCY`.

Warning: It is not possible to define multiple price currencies in the system. You can define only one type of currency and it will describe a currency of all amounts in the system.

Note: Not all plans need necessarily to define all available pricing periods. Therefore a single plan need to define at least single pricing period, because it will be not possible to buy one without it.

List of quotas

type: Many-to-many with `Quota` by `PlanQuota`

Account that uses a given `Plan` can have various restrictions. Those restrictions are realised by `Quota` parameter. Each plan can have defined multiple set of `Quota` parameters with theirs corresponding values.

Please refer to `Quota` documentation for description of parameters types.

Warning: Unless you know what you are doing all available plans should have defined the same set of quotas.

Note: Omitting value for integer type quota is interpreted as “no limit”.

1.4.2 Quota

Quota represents a single named parameter that can be given to restrict functionality in the system. Parameters can have two types:

- integer type - `is_boolean` is off, then the value for a `Quota` will be interpreted as numerical (integer) restriction (e.g. “number of photos”).
- boolean type - `is_boolean` is on, the value will be interpreted as boolean flag (e.g. “user can add photos”).

Warning: Making actual restrictions based on that values is a part of development process and is not covered here. In admin module you can only define any named quotas, but of course it will not magically affect anything unless any part of code implement some restrictions based on that.

Quota is made of following fields:

`codename`

type: string

This is a name for internal use by developers. They can use this name to identity quotas in the system and fetch their values.

`name`

type: string

Human readable name of restriction (e.g. “Total number of photos”)

Note: This field supports i18n. In admin view you will be able to input this name in all available languages.

`unit`

type: string

For displaying purposes you can define a unit that will be displayed after value (e.g. “MB”).

Note: This field supports i18n. In admin view you will be able to input this name in all available languages.

description**type:** string

Short description of the restriction (e.g. “This is a limit of total photos that you can have in your account”)

Note: This field supports i18n. In admin view you will be able to input this name in all available languages.

is_boolean**type:** boolean

This field flags this restriction as boolean type field. Value of this quota will be evaluated to `True` or `False` to determine provided option.

1.4.3 Pricing

Pricing defines a single period of time that can be billed and account can be extended for this period. Because periods can be named differently in many languages you can provide following properties for this objects:

name**type:** string

Pricing period name (e.g. “Monthly”, “Month”, “Full 30 days”, “Annually”, etc.)

Note: This field supports i18n. In admin view you will be able to input this name in all available languages.

period**type:** integer

Number that is representing a period in days (e.g. for month - 30, for annual - 365, etc.)

1.5 Validation of quota

The model of plans introduced in this application make use of quota, which are just some arbitrarily given limits. Quota definition is quite flexible and allows to define many different types of restrictions. Conceptually you may need one of following types of quota in your system.

- **limiting resources** - limiting number of some entities on user account (typically an entities is a single django model instance); e.g. an image gallery system could limit number of images per account as one of the system parameter. Each image is represented by one instance of e.g. `UploadedImage` model.
- **limiting states** - limiting that some entities on user account can be in a given state (typically some model instance attributes can have specific values)
- **limiting actions** - limiting if user can perform some kind of action (typically an action is a specific POST request which creates/updates/delete a model instance)

Note: Presented list of quota types is only a conceptual classification. It may not be directly addressed in django-plans API, however django-plans aims to support those kind of limitations.

1.5.1 Account complete validation

Complete account validation is needed when user is switching a plan (or in a general - activating a plan). The reason is that user account can be in the state that exhausting limits of new plan (e.g. on downgrade). Plan should not be activated on the user account until user will not remove over limit resources until the account could validate in limits of the new plan.

In django-plans there is a common validation mechanism which requires defining `PLANS_VALIDATORS` variable in `settings.py`.

The format of `PLANS_VALIDATORS` variable is given as a dict:

```
PLANS_VALIDATORS = {
    '<QUOTA_CODE_NAME>' : '<full.python.path.to.validator.class>',
    [...]
}
```

First of all this variable defines all quota that should be validated on any plan activation.

Note: Please note that the only quota that can be added to `PLANS_VALIDATORS` are “limiting resources quota” and “limiting states” quota. Those are the kind of quota that conceptually can be validated within the database state. The third kind of quota (“limiting actions quota”) are to be checked on to go when user is just using it’s account and performing certain actions.

Secondly each quota has a specific validator defined that is custom to your need of validations.

1.5.2 Quota validators

Each validator should inherit from `plans.validators.QuotaValidator`.

Validator should have defined `__call__(self, user, **kwargs)` method which should raise `django.core.exceptions.ValidationError` if account does not meet limits requirement.

Model count validator

Currently django-plans is shipped with one handy validator. It can easily validate number of instances of any model for a given user.

We recommend to create `validators.py` in your application path with your own custom validators.

E.g. this limits number of `Foo` instances in the example project, in `foo/validators.py`:

```
from example.foo.models import Foo
from plans.validators import ModelCountValidator

class MaxFoosValidator(ModelCountValidator):
    code = 'MAX_FOO_COUNT'
```

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```

model = Foo

def get_queryset(self, user):
    return super(MaxFoosValidator, self).get_queryset(user).filter(user=user)

max_foos_validator = MaxFoosValidator()

```

You can easily re-use it also in create model form for this object to check if user can add a number of instances regarding his quota, in `foo/forms.py`:

```

from django.forms import ModelForm, HiddenInput
from example.foo.models import Foo
from example.foo.validators import max_foos_validator

class FooForm(ModelForm):
    class Meta:
        model = Foo
        widgets = {'user': HiddenInput,}

    def clean(self):
        cleaned_data = super(FooForm, self).clean()
        max_foos_validator(cleaned_data['user'], add=1)
        return cleaned_data

```

Model attribute validator

This validator can validate that every object returned from a queryset have correct value of attribute.

E.g.:

```

from example.foo.models import Foo
from plans.validators import ModelCountValidator

class MaxFooSizeValidator(ModelAttributeValidator):
    code = 'MAX_FOO_SIZE'
    model = Foo
    attribute = 'size'

    def get_queryset(self, user):
        return super(MaxFoosValidator, self).get_queryset(user).filter(user=user)

max_foo_size_validator = MaxFooSizeValidator()

```

This validator will ensure that user does not have any object with attribute ‘size’ which is greater then the quota. If you need to provide any custom comparison other than “greater than” just override method `check_attribute_value(attribute_value, quota_value)`.

1.6 Plan change policies

Changing (upgrading or downgrading) plan is another thing that can be highly customizable. You can choose which `ChangePlanPolicy` should be used via `PLANS_CHANGE_POLICY` settings variable.

Plan change policy is a class that derives from `plans.plan_change.PlanChangePolicy` which should implement `get_change_price(plan_old, plan_new, period)`. This method returns should return total price of changing current plan to new one, assuming that a given active period left on the account.

There are some default change plan policies already implemented.

1.6.1 StandardPlanChangePolicy

Note: Values of `UPGRADE_CHARGE`, `DOWNGRADE_CHARGE`, `FREE_UPGRADE` and `UPGRADE_PERCENT_RATE` can be customized by creating a custom change plan class that derives from `StandardPlanChangePolicy`.

1.7 Taxation Policies

Creating new order is a process that apart from counting item values depends also on specific rules how to apply a tax to the order. Django-plans is designed with internationalization in mind, therefore the way that the module calculates additional tax for an order is highly customizable and depends in general on locale.

For each country, or more generally for each specific use, there need to be created specific taxation policy which defines what rate of tax is suitable for an order depending on issuer country and customer billing data.

Taxation policy can be defined as a simple class that should inherit from `plans.taxation.TaxationPolicy` and provide `get_default_tax(vat_id, country_code)` method. Having arguments like customer

Django-plans application is shipped with some default taxation policies. You can choose them via settings-`PLANS_TAXATION_POLICY` variable.

1.7.1 EUTaxationPolicy

Note: This taxation policy requires `suds` (we use `suds-jurko`) and `vatnumber` python modules (connecting to [VIES](#)). If you want them automatically installed please remember to insert extra dependencies for pip:

```
$ pip install django-plans[eu]
```

1.7.2 RussianTaxationPolicy

FIXME: under developement

1.8 Invoicing

There is a built in support for creating invoices. This functionality brings powerful features like:

- invoices are linked to orders,
- invoices can have different shipping info,
- invoices can be marked as “requiring shipment”
- invoices can be previewed as HTML or PDF (depends on `wkhtmltopdf`)

1.8.1 Changing values of VAT tax and PLANS_INVOICE_ISSUER in a living system

Your system can be running for a while. You can have a multiple orders and you could have issued a multiple invoices already. There can be a situation that you need to change after a while a tax or your company. This can be easily done by changing those data in django settings. This will **not** affect any already created payment, order or invoice. System is designed in such way, that those information are duplicated and stored within proper object in the moment of those object creation.

After changing those settings every new order, payment, invoice will use those new values.

Warning: Remember that orders can be payed in some time window (e.g. 14 days). This mean that even if you change VAT tax rate, all your already created orders but not yet paid will have old tax. If this is what you don't want you need to cancel those orders manually and remember to contact your client that theirs orders were cancelled!

This however is not a case with `PLANS_INVOICE_ISSUER` change, because those data are taken in the same moment of issuing invoice. Even an old order will use new `PLANS_INVOICE_ISSUER` when invoicing a new payment.

1.8.2 Billing data

First of all you should provide a way to input a billing data by the customer. Billing data are stored as model `BillingInfo`.

There are four class-based views to manage deleting and adding billing data:

Described views are pointed by following urls name patterns:

- `billing_info`,
- `billing_info_create`,
- `billing_info_update`,
- `billing_info_delete`.

Described views require creating following templates:

- `billing_info`,
- `plans/billing_info_create.html`,
- `plans/billing_info_update.html`,
- `plans/billing_info_delete.html`.

Basically you need only to manage `{ { form } }` displaying and sending within these templates.

1.8.3 Invoice model class

1.9 Templates

1.9.1 General django-plans templates

django-plans uses its own templates to all the views related to its flow. If you want to use your custom templates, create a folder named `templates/plans` and include them in there with the same name that django-plans uses. Check `django-plans/templates/plans` for the name and the structure of each template.

1.9.2 Account expiration warnings

Via the `plans.context_processors.account_status` this module allows to get information in any template about:

- user account has expired - `{{ ACCOUNT_EXPIRED }}`,
- user account is not active - `{{ ACCOUNT_NOT_ACTIVE }}`,
- user account will expire soon - `{{ EXPIRE_IN_DAYS }}`,
- an URL of account extend action - `{{ EXTEND_URL }}`,
- an URL of account activate action - `{{ ACTIVATE_URL }}`.

First you need to add a context processor to your settings, e.g.:

```
TEMPLATE_CONTEXT_PROCESSORS = global_settings.TEMPLATE_CONTEXT_PROCESSORS + (
    'plans.context_processors.account_status',
)
```

The context processor is defined as follows:

What you might want to do now is to create a custom `expiration_messages.html` template:

```
{% load i18n %}

{% if ACCOUNT_EXPIRED %}
    <div class="messages_permanent error">
        {% blocktrans with url=EXTEND_URL %}
            Your account has expired. Please <a href="{{ url }}">extend your account</a>.
        ↪a>
        {% endblocktrans %}
    </div>
{% else %}

    {% if ACCOUNT_NOT_ACTIVE %}
        <div class="messages_permanent warning">
            {% blocktrans with url=ACTIVATE_URL %}
                Your account is not active. Possibly you are over some limits.
                Try to <a href="{{ url }}">activate your account</a>.
            {% endblocktrans %}
        </div>
    {% endif %}

    {% if EXPIRE_IN_DAYS >= 0 and EXPIRE_IN_DAYS <= 14 %}
        <div class="messages_permanent warning">
            {% blocktrans with extend_url=EXTEND_URL days_to_expire=EXPIRE_IN_DAYS %}
                Your account will expire soon (in {{ days_to_expire }} days).
                We recommend to <a href="{{ extend_url }}">extend your account now.</a>
            ↪a>
            {% endblocktrans %}
        </div>
    {% endif %}

{% endif %}
```

and put `{% include "expiration_messages.html" %}` in suitable places (for example in base template of every user logged pages). Here in template you can customize when exactly you want to display notifications (e.g. how many days before expiration).

1.10 Working with South migrations

Because this project is designed with i18n and l10n in mind it supports translating some of model fields (e.g. plans names and descriptions). This feature is implemented using django-modeltranslation. Unfortunately this approach generate models on the fly - i.e. depending on activated translations in django settings.py it generate appropriate list of translated fields for every text field marked an translatable.

This bring a problem that south migrations cannot be made for an app itself due to lack of possibility to frozen such dynamically generated model. However you can still benefit from south migrations using django plans using an approach presented in this document. We will use a great feature of South module, which is accessible via `SOUTH_MIGRATION_MODULES` setting.

This option allows you to overwrite default South migrations search path and create your own project dependent migrations in scope of your own project files. To setup custom migrations for your project follow these simple steps.

1.10.1 Step 1. Add `SOUTH_MIGRATION_MODULES` setting

You should put your custom migrations somewhere. The good place seems to be path `PROJECT_ROOT/migrations/plans` directory.

Note: Remember that `PROJECT_ROOT/migrations/plans` path should be a python module, i.e. it needs to be importable from python.

Then put the following into `settings.py`:

```
SOUTH_MIGRATION_MODULES = {
    'plans' : 'yourproject.migrations.plans',
}
```

1.10.2 Step 2. Create initial migration

From now on, everything works like standard South migrations, with the only difference that migrations are kept in scope of your project files - not plans module files.

```
$ python migrate.py schemamigration --initial plans
```

1.10.3 Step 3. Migrate changes on deploy

```
$ python migrate.py migrate plans
```

1.10.4 Step 4. Upgrading to new a version of plans

When there is a new version of django-plans, you can upgrade your module by simply using South to generate custom migration:

```
$ python migrate schemamigration --auto plans
```

and then:

```
$ python migrate.py migrate plans
```

1.11 Caveats

1.11.1 Problem with generic Suds client

Suds client is used by `vatnumber` module to query VIES system for VAT ID numbers. The problem was it was making an error (exception that `NoneType` does not have `str` method). This error was shown only with `django` (with possibly `django-debug-toolbar` enabled). As we can read here <http://stackoverflow.com/questions/9664705/django-and-suds-nontype-object-has-no-attribute-str-in-suds> this is a bug in `Suds` that is caused by some logging problem. In console this bug fails silently, but when called from `django` make an `Exception`.

As `stackoverflow` answers, the solution is to use fixed version of `Suds` that unfortunately is not in `PyPi`. Working `suds` version can be clone from: <https://github.com/cypreess/suds-htj.git>

Version: 0.4.1-htj is reported to be working.

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

2.1 Developing

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Source code: <https://github.com/swappsco/django-plans>

You are very welcome to join the development team of django-plans. Contribution via github fork and pull requests. Here are some ideas what is needed:

- more tests,
- more precise documentation,
- documentation proofreading and copyediting,
- taxation backends for you country/area,
- translations,
- other then default change plan policies.