
Pyforms Web Documentation

Release 4.0

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PYFORMS WEB

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Pyforms Web is Python 3 framework to create single-page web applications.

The framework aims to boost the development productivity by providing an API in Python that generates HTML Forms and manages all the client-server forms communications.

Developers do not require to write any HTML or Javascript code, all the code is done in Python 3.

Source code <https://github.com/UmSenhorQualquer/pyforms-web>

The next code produces the next web application.

Type something here and press the copy button

Result

The next example has a segment

Combo

☐ Check box

Label

Use the label for a dynamic text

```
class DefaultApp(BaseWidget):

    TITLE = 'Demo app'

    def __init__(self, *args, **kwargs):
        super(DefaultApp, self).__init__(*args, **kwargs)

        self._css_btn = ControlButton('Toggle css')
        self._toggle_btn = ControlButton('Toggle visibility')
        self._copy_btn = ControlButton('Copy the text')
        self._input = ControlText('Type something here and press the copy button')
        self._text = ControlTextArea('Result')
        self._combo = ControlCombo('Combo')
        self._check = ControlCheckBox('Check box')
        self._list = ControlList('List')
```

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```
self._label      = ControlLabel('Label', default='Use the label for a dynamic text')

self.formset = [
    no_columns('_toggle_btn', '_copy_btn', '_css_btn'),
    ' ',
    '_input',
    '_text',
    {
        'Free text': [],
        'Segments': [
            'The next example has a segment',
            segment(
                '_combo',
                '_check',
                css='secondary'
            ),
            '_list',
            '_label'
        ]
    }
]
```

Note: This framework is a software layer part of the Pyforms framework.

Pyforms <https://pyforms.readthedocs.io>

OVERVIEW

1.1 Pyforms Web



Pyforms Web is part the Pyforms framework. It implements the web layer to manage the communication between the Python applications and the client browser's.

With **Pyforms Web** you can create [single-page applications \(SPA\)](#) in Python quickly and without writing any HTML or Javascript code.

1.2 Pyforms



[Pyforms](#) is a Python 3 framework to develop applications capable of executing in 3 diferent environments, Desktop GUI, Terminal and Web.

1.3 Orquestra



Orquestra implements a layout environment to accommodate Pyforms applications. The examples shown on this documentation are based on the orquestra environment, but one can be replaced by any other layout environment.

Note: Please **star** the project at the [Github repository](#) to support the project.

QUICK START

- Install Pyforms using **pip**.

```
pip install pyforms-web
```

- Clone **pyforms-web** repository.

```
git clone https://github.com/UmSenhorQualquer/pyforms-web.git
```

- Access the **server** directory inside the **pyforms-web** local repository.

```
cd pyforms-web/server
```

- Initiate the django development server.

```
python manage.py migrate  
python manage.py runserver
```


INSTALL & CONFIGURE

On this page it is explained how to configure your environment and your django app to start using pyforms.

Note: The instructions on this page assumes you know how the [Django framework](#) works.

3.1 Configure the environment

- Install Pyforms using **pip**.

```
pip install pyforms-web
```

3.2 Configure a django project

Execute the next command in the terminal to start a Django project.

```
django-admin startproject <project-name>
```

Edit the django project **settings.py** file to include the next configurations.

```
INSTALLED_APPS = [  
    'orquestra',  
    'sorl.thumbnail',  
    'pyforms_web.web',  
    'jfu',  
    'sorl.thumbnail',  
    ...  
]  
  
MIDDLEWARE = [  
    ...  
    'pyforms_web.web.middleware.PyFormsMiddleware'  
]
```

Edit the django project **urls.py** file to include the next urls configurations.

```
from django.conf import settings
from django.contrib import admin
from django.urls import include, path

urlpatterns = [
    path('pyforms/', include('pyforms_web.web.urls') ),
    path('', include('orquestra.urls') ),
]

if settings.DEBUG:
    from django.conf.urls.static import static
    urlpatterns += static(settings.STATIC_URL, document_root=settings.STATIC_ROOT)
```

3.3 Create a pyforms settings file

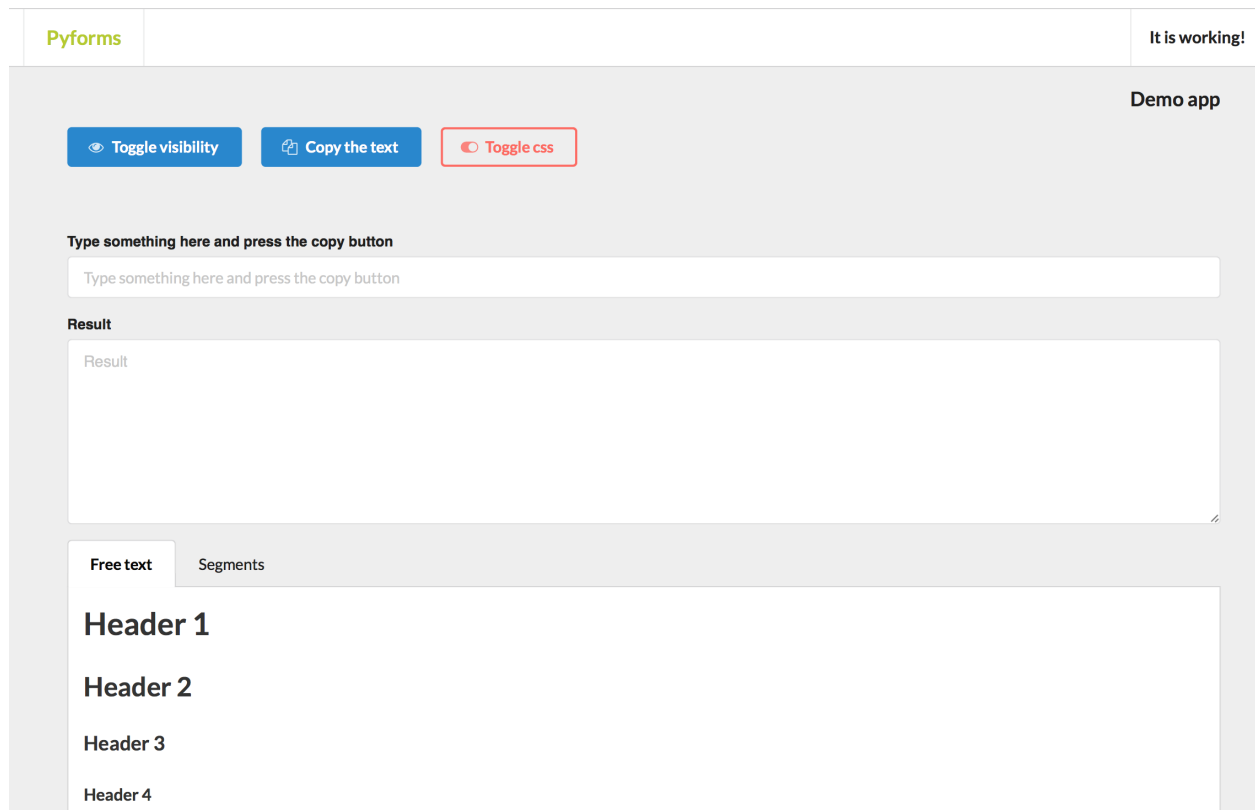
In the django project root folder (same folder of the manage.py file) create the local_settings.py file with the next content.

```
SETTINGS_PRIORITY = 0 # Will define this settings file as priority. Will override all
↳ the settings with lower priority.
PYFORMS_MODE = 'WEB' # Will configure pyforms to run as WEB mode.
```

3.4 Run the project

```
cd <project-name>
python3 manage.py migrate
python3 manage.py runserver
```

Access to <http://localhost:8000>



3.5 Configure pyforms-web

Use the `local_settings.py` file to set some pyforms-web settings.

```
# Do not use the compressed JS file, and use the original files
PYFORMS_DEBUG = True

# Activate verbose mode for the
PYFORMS_VERBOSE = True
```

(optional)

3.6 Configure django-allauth

django-allauth is a reusable Django app that allows for both local and social authentication, with flows that just work.

To make it work with Orquestra follow the instructions described [@django-allauth documentation](#).

3.6.1 Typical django-allauth configuration

```
pip install django-allauth
```

Add the next configuration to your Django project settings.

```
...

INSTALLED_APPS = [
    ...
    'allauth',
    'allauth.account',
    'allauth.socialaccount',
    'allauth.socialaccount.providers.google',
    'django.contrib.sites',
    ...
]

AUTHENTICATION_BACKENDS = [
    'django.contrib.auth.backends.ModelBackend',
    'allauth.account.auth_backends.AuthenticationBackend',
]

LOGIN_URL = '/accounts/login/'
LOGIN_REDIRECT_URL = '/'
```

Edit the urls.py file to add the next code.

```
from django.urls import path

urlpatterns = [
    path('accounts/', include('allauth.urls')),
    ...
]
```

Add the next configuration to the **local_settings.py** file to configure **orquestra** to require always authentication before accessing the applications.

```
ORQUESTRA_REQUIREAUTH = True
```

Note: Do not forget to apply the db migrations to your project.

Initialize allauth configuration by adding a new register to the sites.Site model, using the next command.

```
python manage.py loaddata conf-allauth-site
```


FIRST APPLICATION

Note: More documentation to read about this example at:

- [`pyforms_web.basewidget.BaseWidget`](#)
 - [`pyforms_web.controls.control_base.ControlBase`](#)
-

Here it is shown how to create the first pyforms app for a django project.

Note: The instructions on this page assumes you know how the [Django framework](#) works.

4.1 Prepare the django app

Create a empty django app folder with the next directory structure inside:

```
my_module_name
├── pyforms_apps
│   ├── __init__.py
└── __init__.py
```

Add the application to the settings.py

```
INSTALLED_APPS = [
    'my_module_name',
    ...
]
```

4.2 Create the first app

Create the file `my_module_name/pyforms_apps/site_crawl.py` and add the next code to it.

```
from pyforms.basewidget import BaseWidget
from confapp import conf

class SiteCrawlApp(BaseWidget):
```

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```

UID                = 'site-crawl-app'
TITLE              = 'Site crawl'

LAYOUT_POSITION    = conf.ORQUESTRA_HOME

ORQUESTRA_MENU      = 'left'
ORQUESTRA_MENU_ICON = 'browser'
ORQUESTRA_MENU_ORDER = 0

```

In the `my_module_name/pyforms_apps/__init__.py` add the next code:

```
from .site_crawl import SiteCrawlApp
```

You have created the most basic application. Access to <http://localhost:8000> using your browser and visualize it.

Now update the **SiteCrawlApp** application with the next code:

```

from pyforms.basewidget import BaseWidget
from confapp import conf

from pyforms.controls import ControlButton
from pyforms.controls import ControlText
from pyforms.controls import ControlList

class SiteCrawlApp(BaseWidget):

    UID                = 'site-crawl-app'
    TITLE              = 'Site crawl'

    LAYOUT_POSITION    = conf.ORQUESTRA_HOME

    ORQUESTRA_MENU      = 'left'
    ORQUESTRA_MENU_ICON = 'browser'
    ORQUESTRA_MENU_ORDER = 0

    def __init__(self, *args, **kwargs):

        super(SiteCrawlApp, self).__init__(*args, **kwargs)

        self._url        = ControlText('Page url')
        self._getlinks_btn = ControlButton('Get links', default=self.__getlinks_btn_evt,
↪ label_visible=False)

        self._links_list = ControlList('Links list', horizontal_headers=['Found links
↪'])

        self.formset = ['_url', '_getlinks_btn', '_links_list']

    def __getlinks_btn_evt(self):

        self._links_list.value = [

```

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```
['Link1'],  
['Link2']  
]
```

Restart your django project to visualize the updates.

Press the button to see what happens.



The screenshot shows the Pyforms Web application interface. On the right, there is a user menu with a person icon and the text 'admin.it' followed by a dropdown arrow. On the left, there is a dark blue sidebar with the text 'Site crawl' and a home icon. The main content area has a light gray background. At the top right of this area is the text 'Site crawl'. Below this, there is a section titled 'Page url' containing a text input field with the placeholder 'Page url'. Below the input field is a blue button with the text 'Get links'. At the bottom of this section is a light gray box with the text 'Found links'.

DATABASE WIDGETS

These examples shows how to build quick forms to manage Django models.

Note: Not all the configurations are explained on this page. Please take a look to the classes bellow to find more information.

- `pyforms_web.widgets.django.modeladmin.ModelAdminWidget`
 - `pyforms_web.widgets.django.modelform.ModelFormWidget`
 - `pyforms_web.widgets.django.modelviewform.ModelFormViewWidget`
-

5.1 Prepare the django app

Create a empty django app folder with the next directory structure inside:

```
my_dbmodule_name
├── pyforms_apps
│   └── __init__.py
├── models.py
└── __init__.py
```

Add the next code to the `models.py` file.

```
from django.db import models

class Supplier(models.Model):
    supplier_id = models.AutoField(primary_key=True) #: Pk ID
    supplier_name = models.CharField('Name', max_length=200) #: Name
    supplier_nif = models.CharField('NIF Number',max_length=50, blank=True, null=True)
    #: NIF number
    supplier_keywords = models.CharField('Keywords', max_length=200, blank=True,
    null=True) #: Free text Keywords
    supplier_contact = models.CharField('Contact Person', max_length=200, blank=True,
    null=True) #: The mani contact person of a supplier
    supplier_phone = models.CharField('Phone Number', max_length=200, blank=True,
    null=True) #: Phone number of a supplier
    supplier_mail = models.CharField('Email', max_length=200, blank=True, null=True) #:
    Email address of a supplier
    supplier_discounts = models.CharField('Discounts', max_length=200, blank=True,
    null=True) #: Free text Discounts
```

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```

        country = models.ForeignKey('Country', blank=True, null=True, on_delete=models.
↪ CASCADE) #: Fk Supplier's operation country
        category = models.ManyToManyField('Catproduct', blank=True) #: category of the_
↪ supplied product

def __str__(self):
    return self.supplier_name

```

Add the application to the settings.py

```

INSTALLED_APPS = [
    'my_dbmodule_name',
    ...
]

```

Commit the new model to the database.

```
python manage.py migrate
```

5.2 Model admin

To create an app to manage a Django model inherit your App from the ModelAdminWidget class.

Create the file `my_dbmodule_name/pyforms_apps/post_app.py` and add the next code to it.

```

from confapp import conf
from pyforms_web.widgets.django import ModelAdminWidget
from pyforms_web.organizers import segment

from my_dbmodule_name.models import Supplier

class SupplierApp(ModelAdminWidget):

    # Default id of the application.
    # Optional when the app is not to be shown in the menu.
    # When used on the menu the UID will used to generate
    # the url for the app: http://[server]/app/[UID]/
    UID = 'supplier-app'

    # Django model to manage.
    MODEL = Supplier

    # Title of the application.
    TITLE = 'Supplier app'

    # Position on HTML where the app should run.
    LAYOUT_POSITION = conf.ORQUESTRA_HOME

    # Optional: used to add the app to the menu.

```

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```

# Orquestra environment configuration.
ORQUESTRA_MENU = 'left'          # Add the application to the left menu.
ORQUESTRA_MENU_ICON = 'users'    # Icon menu.
ORQUESTRA_MENU_ORDER = 0         # Order where the application should be shown in the
↪menu.
#####

# Optional: django model fields to be used in the search field.
SEARCH_FIELDS = ['supplier_name__icontains']

# Optional: used to organize the Controls for the model edition form.
FIELDSETS = [
    (
        segment(
            ('supplier_name', 'supplier_nif'),
            ('supplier_mail', 'supplier_contact'),
            ('country', 'supplier_phone'),
            ('_category', '_addcategory_btn')
        ),
        segment(
            'supplier_keywords',
            'supplier_discounts',
            'category',
        )
    )
]

...

```

Access to <http://localhost:8000> using your browser and visualize your application.

Suppliers

+ Add

Search by

ACCU Source Electronics
100 DECIBEL ISOLAMENTOS
2007.COM INT.TEC.INF. COMUNIC.
27115
2BScientific Limited
5 ELEMENTOS , UNIP. LDA.
5 SEASONS INST. COMP. DIST. PROD. ORIENTAIS
A & L - CRIATIVIDADE E COMUNICACAO, LDA.
A BELTRONICA COMP. DE COMUNICACOES, LDA.
A Bolinha - FABRICAÇÃO DE PÃO E BOLOS, LDA

3428 results

1

2

3

4

5

6

>

Suppliers

Name <input style="width: 90%;" type="text" value="some"/>	Nif number <input style="width: 90%;" type="text" value="23223323231"/>	Keywords <input style="width: 90%;" type="text" value="Keywords"/>
Email <input style="width: 90%;" type="text" value="some@some.com"/>	Contact person <input style="width: 90%;" type="text" value="0"/>	Discounts <input style="width: 90%;" type="text" value="Discounts"/>
Country <div style="border: 1px solid #ccc; padding: 2px; display: flex; justify-content: space-between; align-items: center;"> Portugal ▼ </div>	Phone number <input style="width: 90%;" type="text" value="2324466323"/>	Category <div style="border: 1px solid #ccc; padding: 2px; display: flex; justify-content: space-between; align-items: center;"> 03-consumables/services OM × ▼ </div> <div style="margin-top: 5px;"> + Category </div>

Save

Close

Remove

Note: You set the apps that will work as edition or creation forms, by using the variables **ModelAdminWidget.EDITFORM_CLASS** and **ModelAdminWidget.ADDFORM_CLASS**.

```
...
```

```
class SupplierApp(ModelAdminWidget):
```

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Chapter 5. Database Widgets

(continued from previous page)

```

...

EDITFORM_CLASS = ...
ADDFORM_CLASS  = ...

...

```

5.3 Model form

To create an app to edit a Django model register, inherit from the `ModelFormWidget` class.

Add to the beginning of the file `my_dbmodule_name/apps/post_app.py` the next code.

```

from confapp import conf
from pyforms_web.widgets.django import ModelFormWidget
from pyforms_web.organizers import segment

from my_dbmodule_name.models import Supplier

class SupplierFormAdmin(ModelFormWidget):

    MODEL = Supplier # Model to manage.
    TITLE = 'Suppliers' # Title of the application.

    #formset of the edit form
    FIELDSETS = [
        (
            segment(
                ('supplier_name', 'supplier_nif'),
                ('supplier_mail', 'supplier_contact'),
                ('country', 'supplier_phone'),
            ),
            segment(
                'supplier_keywords',
                'supplier_discounts',
                'category',
                ('_category', '_addcategory_btn')
            )
        )
    ]

    ...

```

To call the app to edit a register use the parameter `pk`.

```

obj = SupplierFormAdmin(pk=1)

# or to create an empty register.

```

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```
obj = SupplierFormAdmin()
```

Access to <http://localhost:8000> using your browser and visualize your application.

The screenshot shows a web form titled "Suppliers". It has a light gray background. On the left, there are three rows of input fields: "Name" with value "some", "Nif number" with value "23223323231", "Email" with value "some@some.com", "Contact person" with value "0", "Country" with a dropdown menu showing "Portugal", and "Phone number" with value "2324466323". On the right, there are three sections: "Keywords" with a text input field, "Discounts" with a text input field, and "Category" with a dropdown menu showing "03-consumables/services OM". At the bottom, there are three buttons: "Save" (blue), "Close" (gray), and "Remove" (red).

5.4 Model view form

Use the `ModelViewFormWidget` widget to create a view only form.

```
from confapp import conf
from pyforms_web.widgets.django import ModelViewFormWidget
from pyforms_web.organizers import segment

from my_dbmodule_name.models import Supplier

class SupplierViewFormAdmin(ModelViewFormWidget):

    MODEL = Supplier # Model to manage.
    TITLE = 'Suppliers' # Title of the application.

    #formset of the edit form
    FIELDSETS = [
        (
            segment(
                ('supplier_name', 'supplier_nif'),
                ('supplier_mail', 'supplier_contact'),
                ('country', 'supplier_phone'),
            ),
            segment(
                'supplier_keywords',
                'supplier_discounts',
                'category',
            ),
        )
    ]
```

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```

        ('_category', '_addcategory_btn')
    )
]
...

```

5.5 Object access permissions

It is possible to restrict the objects a user has access in the widgets above using the Models Queryset manager. The idea here is to define the access rules in the Model side, instead of defining the rules in the Visualization side. These way the Model can be ported from application to application maintaining the access rules.

Example:

```

from django.db import models

class OrderQuerySet(models.QuerySet):
    """
    ORDER QUERYSET MANAGER DEFINITION
    """

    def list_permissions(self, user):
        """
        The function filters the queryset to return only the objects the user has
        ↪permissions to list.
        """
        ...
        return self

    def has_add_permissions(self, user):
        """
        The function returns a Boolean indicating if the user can add or not a new
        ↪object.
        """
        ...
        return True

    def has_view_permissions(self, user):
        """
        The function returns a boolean indicating if the user has view permissions to
        ↪the current queryset.
        """
        ...
        return self

    def has_update_permissions(self, user):
        """
        The function filters the queryset to return only the objects the user has
        ↪permissions to update.

```

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```
        """
        ...
        return self

    def has_remove_permissions(self, user):
        """
        The function filters the queryset to return only the objects the user has
        ↪permissions to remove.
        """
        ...
        return self


class Order(models.Model):
    """
    MODEL DEFINITION
    """
    ...

    objects = OrderQuerySet.as_manager()
```

WIDGET FORMSET

On this page it is shown examples of Widgets formsets configurations.

Example:

```
[
  no_columns('_toggle_btn', '_copy_btn', '_css_btn'),
  ' ',
  ('empty:twelve', '_input'),
  '_text',
  {
    'a:Free text': [
      'h1:Header 1',
      'h2:Header 2',
      'h3:Header 3',
      'h4:Header 4',
      'h5:Header 5',
      'h1-right:Header 1',
      'h2-right:Header 2',
      'h3-right:Header 3',
      'h4-right:Header 4',
      'h5-right:Header 5',
      '-',
      'Free text here',
      'msg:Message text',
      'info:Info message',
      'warning:Warning message',
      'alert:Alert message'
    ],
    'b:Segments': [
      'The next example has a segment',
      segment(
        '_combo',
        '_check',
        css='secondary'
      ),
      '_list',
      '_label'
    ]
  },
  'notifications-area'
]
```

6.1 Configuration options

6.1.1 tuple

Displays the controls horizontally.

6.1.2 list

Displays the controls vertically.

6.1.3 dict

Displays the controls in Tabs. Use [a;b;c:] prefix to sort the tabs.

6.1.4 ‘-’

Draw a vertical line.

6.1.5 Empty column

Use ‘ ’, or the prefix ‘empty:’ + size of the column (ex: one, two, ..., sixteen) to add a empty column.

```
...
('empty:twelve', ...),
...
```

6.1.6 segment

Wraps the formset around a segment ([Semantic UI segment](#)).

- Use the parameter **css**, to add extra CSS classes to the segment.
- Use the parameter **field_css**, to add CSS classes to the div.field containing the segment.

```
segment(
    ('person_first', 'person_middle', 'person_last'),
    ('person_gender', 'person_birthday'),
    ('degree', 'scientificarea'),
    ('person_cv', 'person_web'),
    'person_bio',
    css='inverted',
    field_css='fourteen wide',
),
```

6.1.7 no_columns

Do not apply the fields columns alignments.

6.1.8 Free text

Do not apply the fields columns alignments.

6.1.9 Message

By using the prefixes [msg:,info:,warning:,alert:] you will wrap a free message on message box.

6.1.10 Headers

Use the prefixes [h1:,h2:,h3:,h4:,h5:,h1-right:,h2-right:,h3-right:,h4-right:,h5-right:] on free text.

```
[
    ... ,
    'h3:PERSONAL INFORMATION' ,
    ...
]
```

6.1.11 Notifications area

By default the application's messages are shown on the top of each application, but it is possible to define a new position to these messages by including the code 'notifications-area' on the formset.

6.2 2 segments side by side

The screenshot shows a web form titled "PERSONAL INFORMATION". At the top, there are three tabs: "Private info" (highlighted with a red border), "Proposals", and "Contracts". To the right of these tabs is a toggle switch labeled "Active" which is currently turned on. The form is divided into two main sections. The left section contains several form fields: "First name" (Ricardo), "Middle name" (Jorge Vieira), "Last name" (Ribeiro), "Gender" (Male), "Birthday" (1984-04-01), "Degree" (Masters), "Scientific area" (Computer Science), "Short vitae" (Choose files To Upload), "Website" (Choose Files), and a "Biography" section with a text area. The right section features a profile picture of a man, a "Rotate" button, and a "Picture" section with "Choose files To Upload" and "Choose Files" buttons. Below the picture section, there is a file upload preview for "44.jpg" (size: 703 KB, type: jpg) with a delete icon.

```
class PeopleFormWidget(BaseWidget):

    def __init__(self, *args, **kwargs):
        super().__init__(*args, **kwargs)

        ... # fields definition

        # Use the field_style to align the checkbox to the middle.

        self.person_active.field_style = 'text-align: right;margin-top:5px;'
        self.person_active.field_css = 'two wide'

        self._rotimg_btn = ControlButton(
            '<i class="icon undo" ></i>Rotate',
            default=self._rotimg_evt,
            label_visible=False, # Remove all the labels from the fields to make the
row thinner.
            style='margin-top:5px;',
            field_style='text-align: right;',
            css='mini'
        )

        ...

        self.formset = [
            no_columns('_privateinfo_btn', '_proposals_btn', '_contracts_btn', 'person_
active'),
```

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```

'h3:PERSONAL INFORMATION',
( # Use the tuple to display the segments side by side.
    segment(
        ('person_first', 'person_middle', 'person_last'),
        ('person_gender', 'person_birthday'),
        ('degree', 'scientificarea'),
        ('person_cv', 'person_web'),
        'person_bio',
        field_css='fourteen wide', # Use the argument to resize the segment.
↪on the left.
    ),
    segment(
        '_img',
        '_rotimg_btn',
        'person_img',
        field_style='max-width:330px;' # Use the argument to define the
↪style of the div. field wrapping the Control.
    )
),
]

```

6.3 Customize fields css classes and styles

Use the constructor parameters **field_css**, **field_style**, **css**, and **style** to customize the visualization of each field.

Example:

```

self._field_example = ControlText(
    ...,
    style='margin-top:5px;',           # Extra style to add to the control.
    css='mini'                        # Extra css classes to add to the control.
    field_style='text-align: right;', # Extra style to add to the field div that
↪encapsulates the control.
    field_css='mini'                  # Extra css classes to add to the field dive
↪that encapsulates the control.
)

```

Note: Check the PeopleFormWidget example above for more examples.

APPS PERMISSIONS

Note: Checkout the `pyforms_web.basewidget.BaseWidget` class for more information.

For some web applications there is the need of implementing several users profiles, with different access to functionalities and data.

On this page we are going to show how the access to Pyforms applications can be restricted.

7.1 AUTHORIZED_GROUPS variable

This BaseWidget variable can be set with the list of Django groups that has access to the app.

Example:

```
...  
  
class EmployeesAdminApp(ModelAdminWidget):  
    ...  
  
    AUTHORIZED_GROUPS = ['superuser', 'django-group']  
  
    ...
```

Note: In the case you want to restrict the access to a **superuser** user then instead of using the name of a Django group you should use the label `'superuser'`.

7.2 Overwrite the BaseWidget functions

The second way of restricting the access to an app is by overwriting the permissions functions from the BaseWidget class.

Note: By overwriting the permissions' methods of the BaseWidget class your are overwriting the functionality of the **AUTHORIZED_GROUPS** variable.

Example:

```
...  
  
class EmployeesAdminApp(ModelAdminWidget):  
  
    ...  
  
    @classmethod  
    def has_permissions(cls, user):  
        """  
        This class method, verifies if a user has permissions to execute the application  
        """  
        return True or False  
  
    def has_session_permissions(self, user):  
        """  
        It verifies if a user has permissions to execute the application during the  
↪runtime.  
        """  
        return True or False  
  
    ...
```

PLAY WITH APPS INHERITANCE

Here it will be shown how flexible Pyforms is, and how this flexible can be used to improve productivity and design Applications.

Note: The examples shown here are based on the folder tutorials/tutorial

8.1 Example apps

Consider the next 2 apps

8.1.1 App one

This app has a button that generates a list of random numbers defined in a text control, and display them on a table.

```
import random
from confapp import conf
from decimal import Decimal
from pyforms.basewidget import BaseWidget
from pyforms.controls import ControlDecimal
from pyforms.controls import ControlButton
from pyforms.controls import ControlList

class AppOne(BaseWidget):

    UID = 'app-one'
    TITLE = 'App one'

    LAYOUT_POSITION = conf.ORQUESTRA_HOME
    ORQUESTRA_MENU = 'left'
    ORQUESTRA_MENU_ICON = 'cog'
    ORQUESTRA_MENU_ORDER = 0

    def __init__(self, *args, **kwargs):
        self._table = ControlList('Values')

        super().__init__(*args, **kwargs)
```

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```

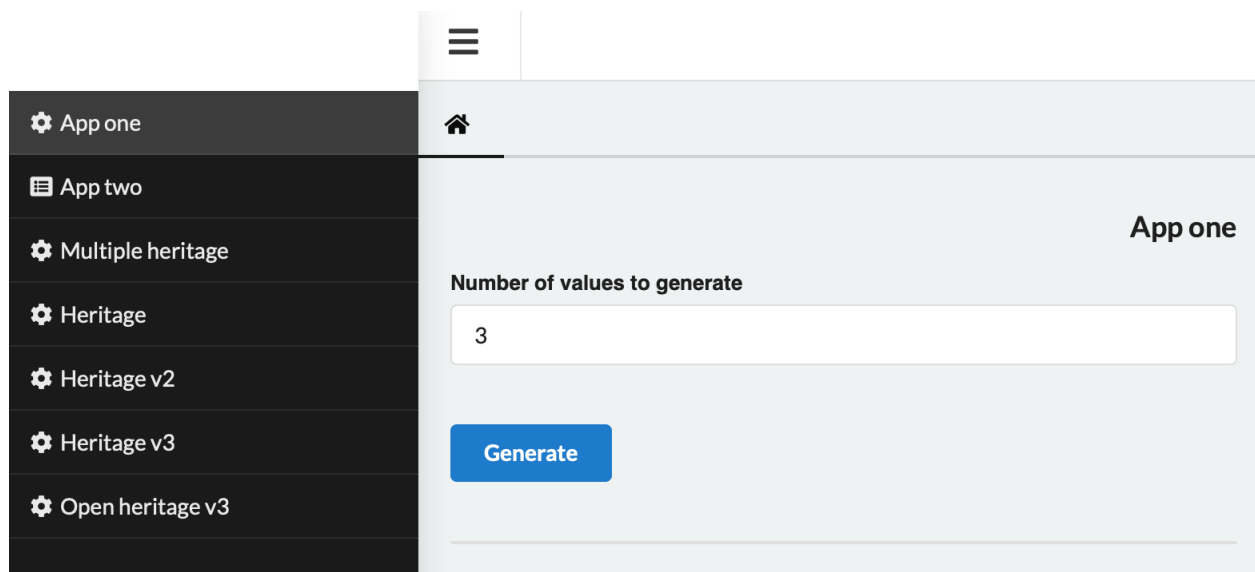
self._ndata = ControlDecimal('Number of values to generate', default=Decimal(3))
self._btn    = ControlButton('Generate', default=self.btn_evt)

self.formset = ['_ndata', '_btn', '_table']

def generate(self):
    data = []
    n = int(self._ndata.value)
    for i in range(n):
        data.append( (str(i), random.randint(0,1000)) )
    return data

def btn_evt(self):
    self._table.value = self.generate()

```



8.1.2 App two

This app does nothing, only includes a text field.

```

from pyforms.basewidget import BaseWidget
from confapp import conf
from pyforms.controls import ControlTextArea

class AppTwo(BaseWidget):

    UID                = 'app-two'
    TITLE              = 'App two'

    LAYOUT_POSITION    = conf.ORQUESTRA_HOME

    ORQUESTRA_MENU      = 'left'
    ORQUESTRA_MENU_ICON = 'browser'

```

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```

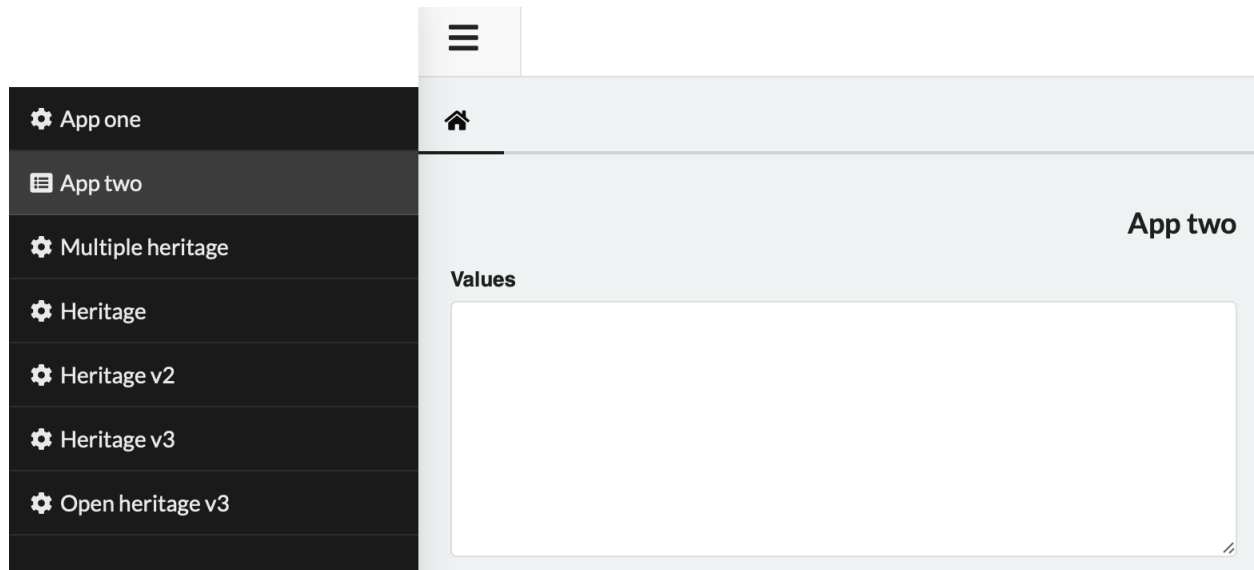
ORQUESTRA_MENU_ORDER = 1

def __init__(self, *args, **kwargs):
    super().__init__(*args, **kwargs)

    self._table = ControlTextArea('Values')

    self.formset = ['_table']

```



8.2 Multiple inheritance

Based on the 2 apps above we can combine them on a 3rd app using multiple inheritance. This new app will display the random numbers on a text area, instead of a table.

```

from .app_one import AppOne
from .app_two import AppTwo

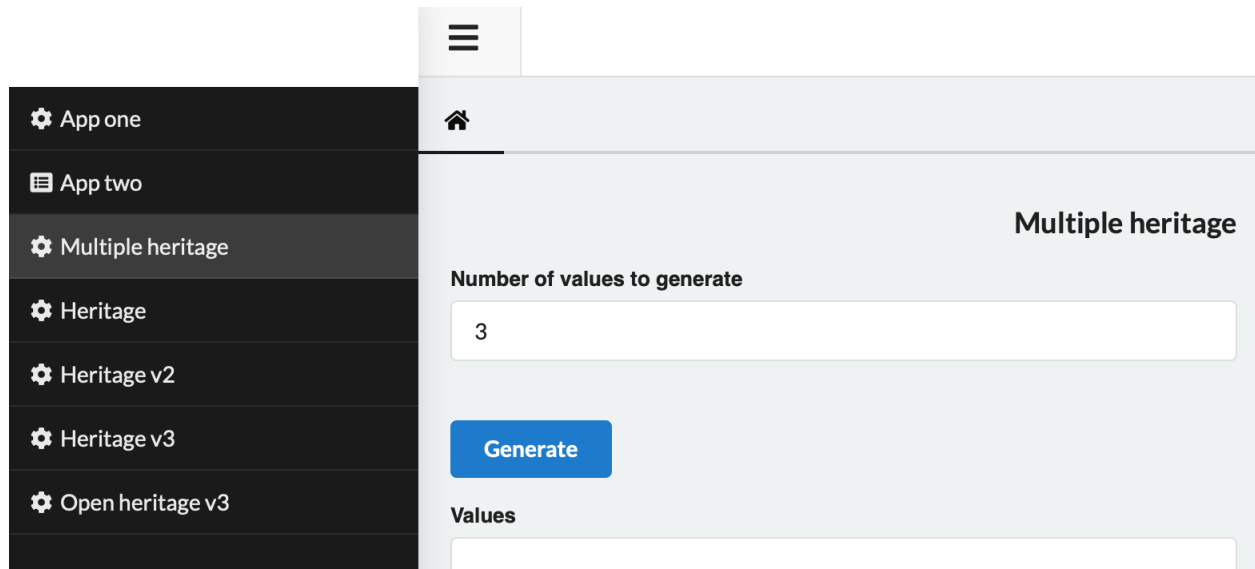
class MultipleInheritance(AppOne, AppTwo):

    UID = 'multiple-inheritance'
    TITLE = 'Multiple inheritance'

    ORQUESTRA_MENU_ORDER = 1

    def __init__(self, *args, **kwargs):
        super().__init__(*args, **kwargs)

```



8.3 Inheritance

8.3.1 Example 1

The same of the multiple inheritance example can be done using a simple inheritance.

```
from pyforms.controls import ControlTextArea
from .app_one import AppOne

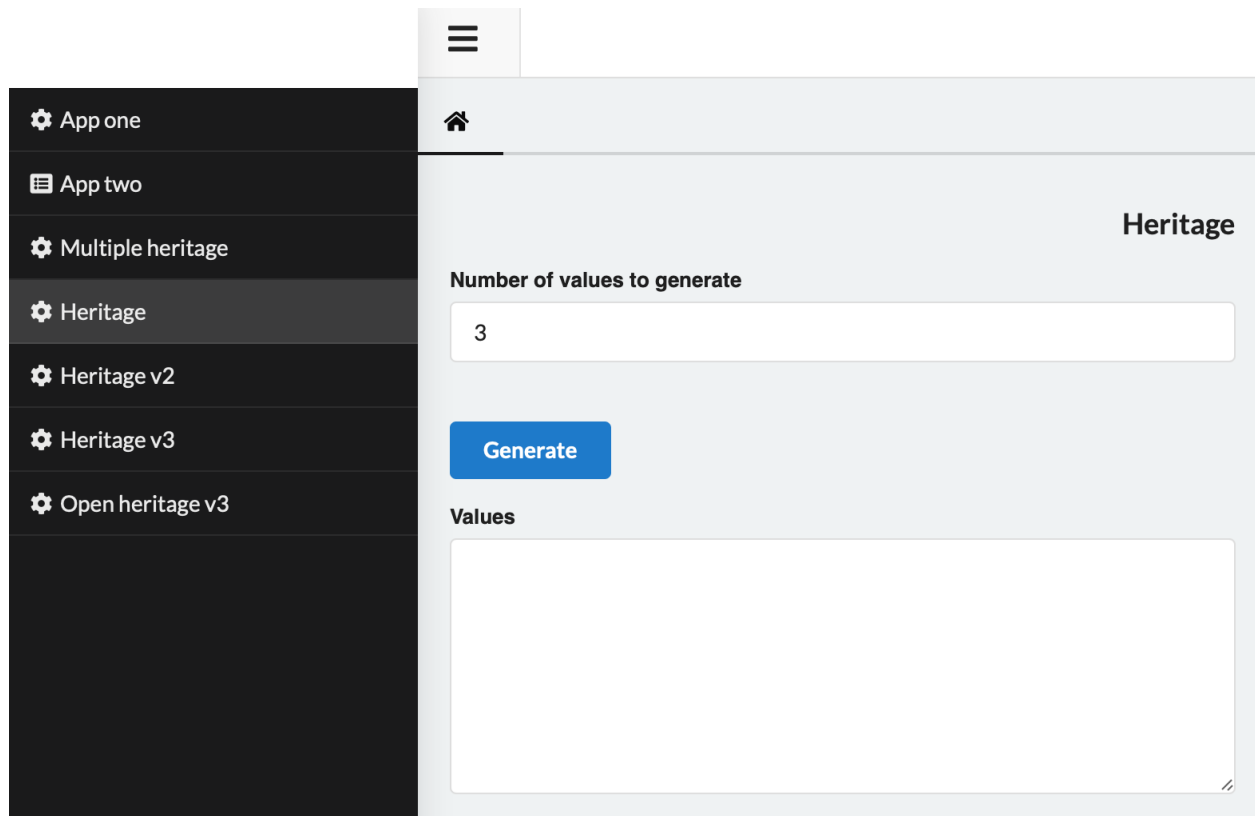
class Inheritance(AppOne):

    UID    = 'inheritance'
    TITLE = 'inheritance'

    ORQUESTRA_MENU_ORDER = 4

    def __init__(self, *args, **kwargs):
        super().__init__(*args, **kwargs)

        self._table = ControlTextArea('Values')
```

8.3.2 Example 2

Below the app inherits from the example above and an extra button to hide or show the text field.

```
from pyforms.controls import ControlButton
from .inheritance import Inheritance

class InheritanceV2(Heritage):

    UID = 'inheritance-v2'
    TITLE = 'Inheritance v2'

    ORQUESTRA_MENU_ORDER = 5

    def __init__(self, *args, **kwargs):
        super().__init__(*args, **kwargs)

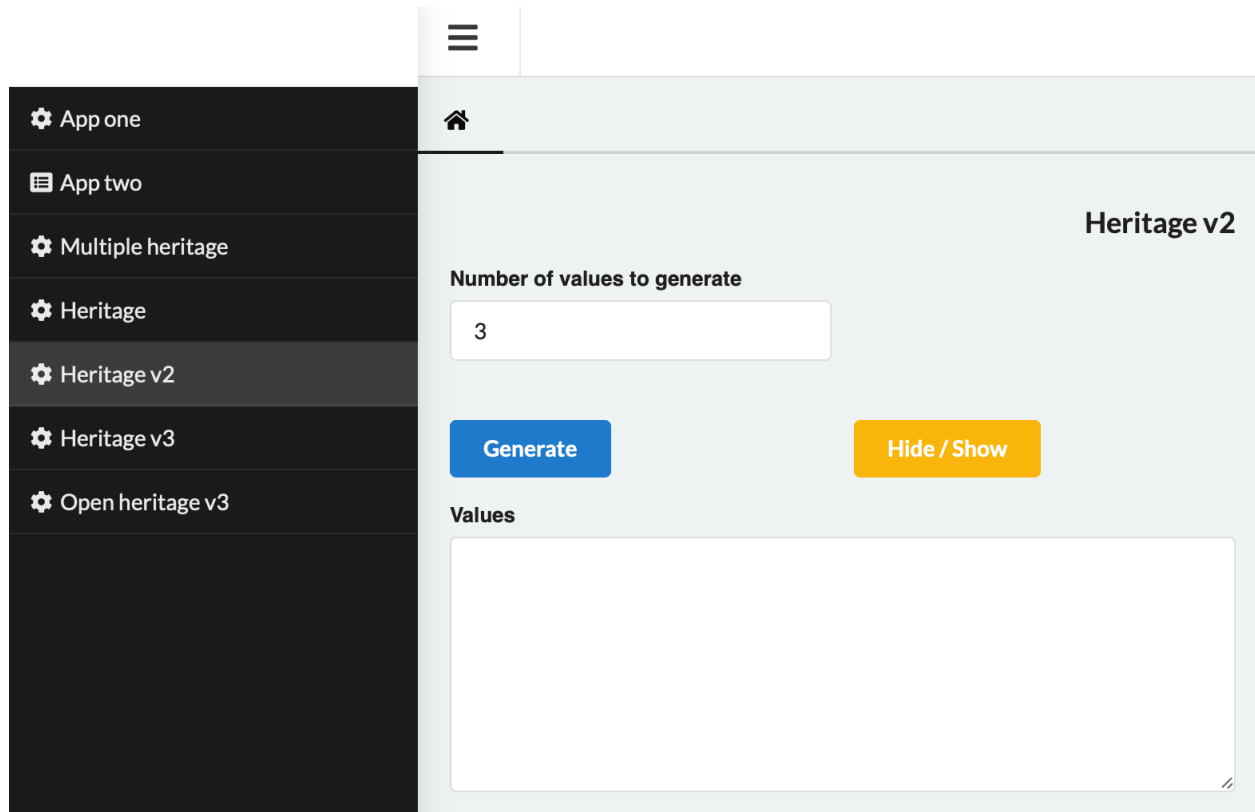
        self._togglebtn = ControlButton('Hide / Show', default=self.__togglebnt_evt, css=
↪ 'yellow')

        self.formset = [
            ('_ndata', ' '),
            ('_btn', '_togglebtn'),
            '_table'
        ]
```

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```
def __togglebnt_evt(self):
    if self._table.visible:
        self._table.hide()
    else:
        self._table.show()
```



8.3.3 Example 3

This app inherits all the functionalities of the app above, but it is configured to open on a popup window.

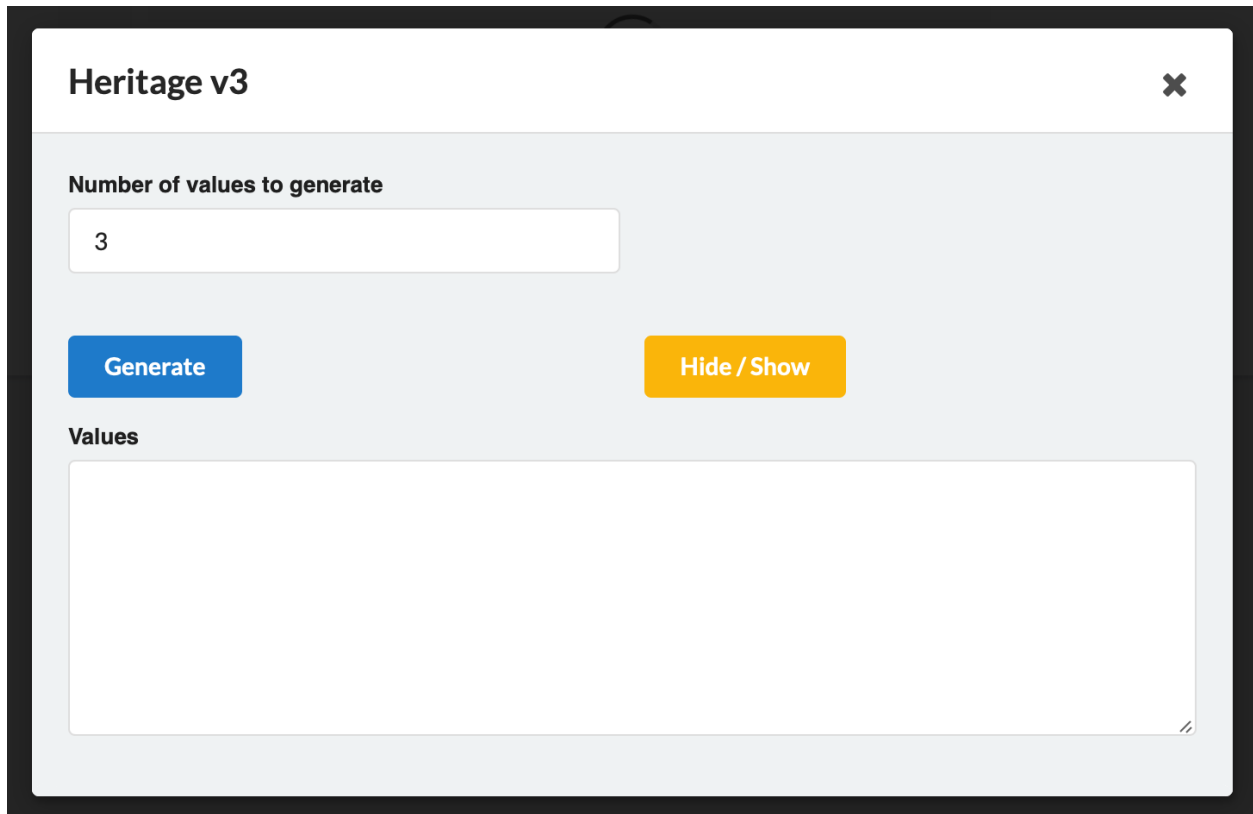
```
from .inheritance_v2 import HeritageV2
from confapp import conf

class InheritanceV3(HeritageV2):

    UID = 'inheritance-v3'
    TITLE = 'Inheritance v3'

    ORQUESTRA_MENU_ORDER = 6

    LAYOUT_POSITION = conf.ORQUESTRA_NEW_WINDOW
```



8.3.4 Example 4

This app opens, it exemplifies how the app above can be executed after the press of a button.

```
from pyforms.basewidget import BaseWidget
from confapp import conf
from pyforms.controls import ControlButton
from .inheritance_v3 import InheritanceV3

class OpenInheritanceV3(BaseWidget):

    UID                = 'app-inheritancev3'
    TITLE              = 'Open inheritance v3'

    LAYOUT_POSITION    = conf.ORQUESTRA_HOME
    ORQUESTRA_MENU     = 'left'
    ORQUESTRA_MENU_ICON = 'cog'
    ORQUESTRA_MENU_ORDER = 7

    def __init__(self, *args, **kwargs):
        super().__init__(*args, **kwargs)

        self._btn = ControlButton('Open inheritance v3', default=self.btn_evt)

        self.formset = ['_btn']
```

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```
def btn_evt(self):  
    InheritanceV3()
```

FROM SQL TO DJANGO MODELS' APPS

This example demonstrates how to start from a raw database and end up with the forms to manage it in few steps.

Note: This examples is based on the code available at the folder `tutorials/tutorial_advance_db`

First of all start your django project:

```
> django-admin startproject tutorial_advance_db
```

Configure your django app settings.py file to point your database and include the pyforms configurations.

```
...

INSTALLED_APPS = [
    'tutorial',

    'orquestra',
    'pyforms_web.web',
    'jfu',

    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
]

MIDDLEWARE = [
    'django.middleware.security.SecurityMiddleware',
    'django.contrib.sessions.middleware.SessionMiddleware',
    'django.middleware.common.CommonMiddleware',
    'django.middleware.csrf.CsrfViewMiddleware',
    'django.contrib.auth.middleware.AuthenticationMiddleware',
    'django.contrib.messages.middleware.MessageMiddleware',
    'django.middleware.clickjacking.XFrameOptionsMiddleware',
    'pyforms_web.web.middleware.PyFormsMiddleware'
]

...
```

Enter in the project folder and create the tutorial app:

```
> cd tutorial_advance_db  
> mkdir tutorial
```

Generate the Django models from your SQL database.

```
> python manage.py inspectdb > tutorial/models.py
```

Generate the Pyforms apps to manage the models by executing the next command:

```
> python manage.py export_pyforms_apps tutorial
```

Run migrations and execute the django project:

```
> python manage.py migrate  
> python manage.py runserver
```

ORQUESTRA

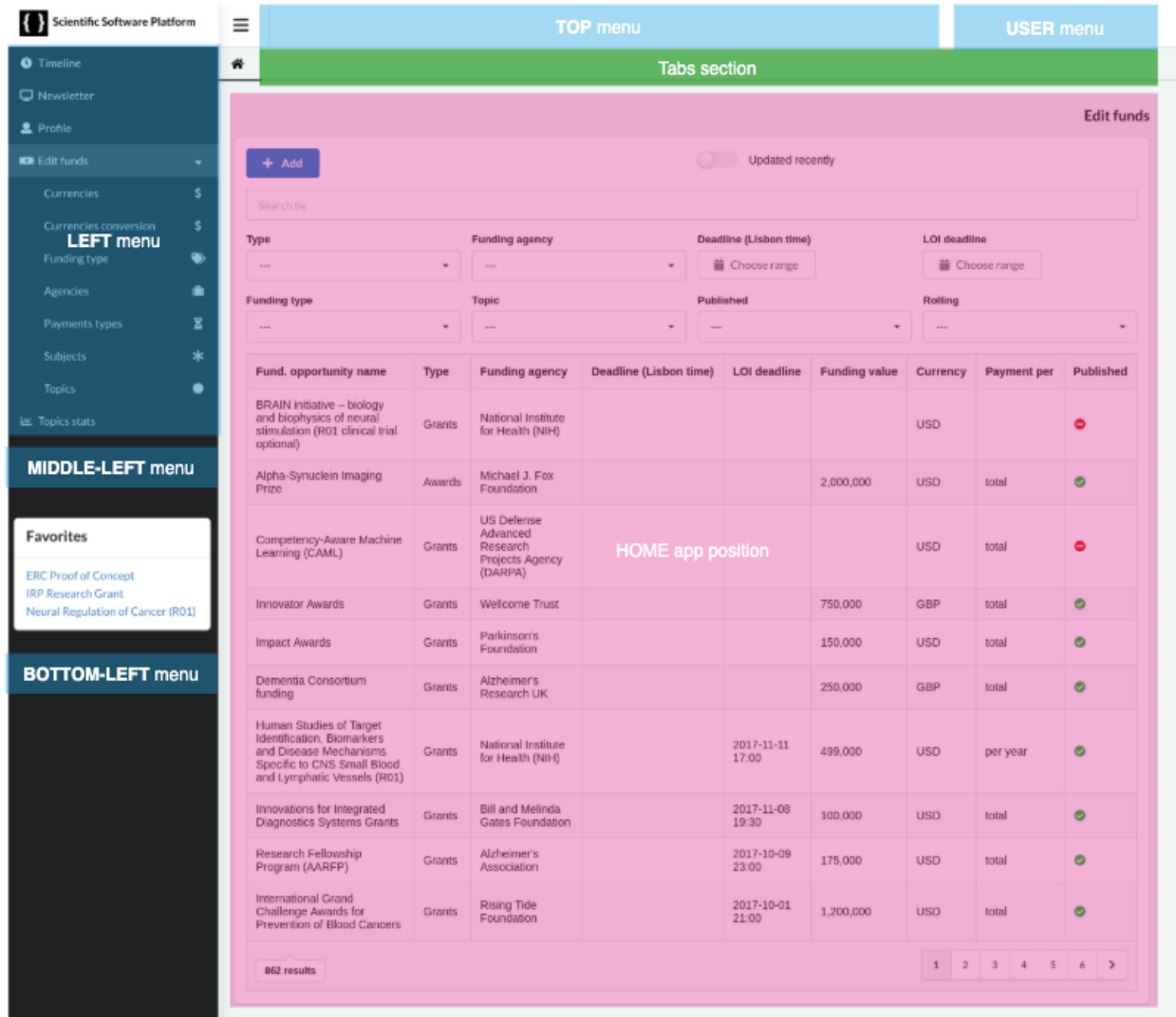


Orchestra is an application layout responsible for rendering applications' layout.

Note: The HTML generated by Orchestra is already prepared to be responsive, thanks to the SemanticUI framework.

10.1 Configure an app layout

The Orchestra layout has predefined the next menus and apps rendering sections:



The apps may contain Orquestra flags to configure their behavior on the layout.

The flags are configured in the app class as it is exemplified bellow:

```
class SiteCrawlApp(BaseWidget):

    ...

    LAYOUT_POSITION      = conf.ORQUESTRA_HOME

    ORQUESTRA_MENU       = 'left'
    ORQUESTRA_MENU_ICON  = 'browser'
    ORQUESTRA_MENU_ORDER = 0
```


10.1.1 Available flags

10.1.1.1 UID

The flag besides being used to define the unique identifier of the application it is also used by Orquestra to define the **url** of the app, therefore if an app has the UID='something' the url of the app will be /app/something

10.1.1.2 LAYOUT_POSITION

This flags is used to configure where the application should be rendered within the layout. It can has the next values:

VALUE	Description
ORQUESTRA_HOME	The app should be rendered in the home position.
ORQUESTRA_HOME_FULL	The app should be rendered in the home position but should occupy all the available space.
ORQUESTRA_NEW_TAB	The app should be rendered in the home position, but in a new tab.
ORQUESTRA_NEW_TAB_FULL	The app should be rendered in the home position, but in a new tab and should occupy all the available space.
ORQUESTRA_APPEND_HOME	The app should be appended to the end of the home position. This configuration can be used to stack several apps on the home.
ORQUESTRA_NEW_WINDOW	The app should be rendered in a popup window.
ORQUESTRA_NEW_BIGWINDOW	The app should be rendered in a wider popup window.

10.1.1.3 Menus related

ORQUESTRA_MENU

The flag has configures the menu where the application should be appear. The available options are:

- left
- middle-left
- bottom-left
- top-menu
- user-menu

ORQUESTRA_MENU_ORDER

This flag sets the order to witch the app should appear in the menu.

ORQUESTRA_MENU_ICON

Name of the icon to be used for the app. The name should be available in the SemanticUI framework.

ORQUESTRA_URL

You may want a menu option which is a simple link. For this you can create an empty app and set this flag. The menu will be rendered with the url configured here instead of the app url.

ORQUESTRA_TARGET

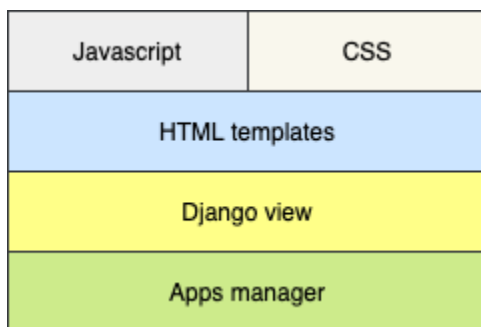
The flag will be used just in the case the ORQUESTRA_URL flag is set. The value of this flag will be setting the target attribute of the html tab <a>.

STATIC_FILES

The flag should be a list with the url of extra files we would like to import in the template. So if some app needs a specific javascript or css file to runs, you can use the flag to import them.

10.2 How Orquestra works

This module composed by the next layers.



10.2.1 Apps manager layer

The apps manager is the module responsible for finding and selecting the apps that are going to be used in the construction of the layout menus. Orquestra uses the apps manager to find

10.2.2 Django view layer

Orquestra has a django's view to generate the default html page. This view searches for all the available apps to render the menus and apps according to the defined environment configurations.

10.2.3 HTML templates layer

The templates layer is where the html is configured. Here is where the layout is defined.

10.2.4 Javascript & CSS layer

10.2.4.1 CSS

This layer includes all the css used to render the layout.

10.2.4.2 Javascript

This layer includes all the js required to render the layout and set its behaviour. It is here also that the rendered sections are defined, so for each *LAYOUT_POSITION* *flag* value, there is a corresponding javascript function that render the app for the specific section.

10.3 Why such architecture?

The reason why the Orquestra application layer was create, was because like that the layout is separated from the apps execution. Having the exact same apps without touching any code I can refactor all the layout without just by switching the Orquestra layer by another.

Example:

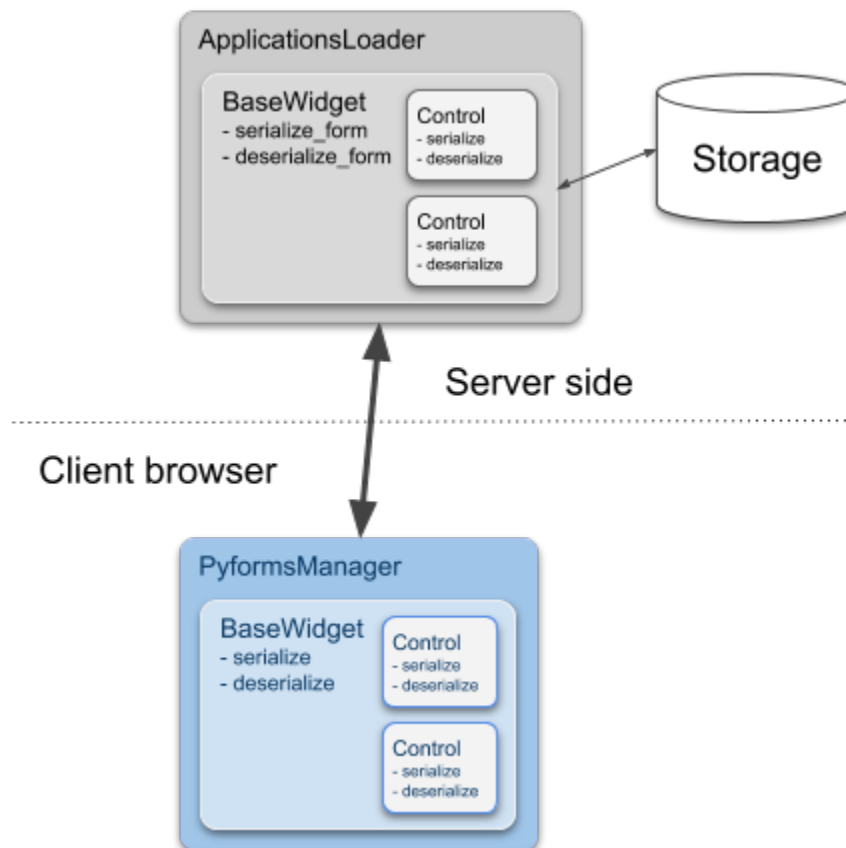
This is a representation of where the Orquestra layer is positioned in relation to the pyforms framework.

Now if we switch the Orquestra layer by another layer called Kuloneco which implements rearranges the layout, the result will be the next:


OVERVIEW


Pyforms web works by having on the client side a javascript layer handling all the Widgets and Controls updates occurred on the server side. The Widgets and Controls updates are exchanged using the functions **serialize** and **deserialize** on the client side and the **serialize_form** and **deserialize_form** on the server side. Only updated controls are communicated from one side to the other.


Python when running in a Apache2 does not maintain in memory the objects created in each HTTP request, therefore everytime there is an update to a Widget, one is dumped to the disk and loaded when a new HTTP request arrive.



12.1 BaseWidget

 Toggle visibility

 Copy the text

 Toggle css

Type something here and press the copy button

Type something here and press the copy button

Result

Result

Free text

Segments

The next example has a segment

Combo

Combo

☐

Check box

Label

Use the label for a dynamic text

12.1.1 Overview

The BaseWidget class is the base class of all pyforms applications.

12.1.2 API

class pyforms_web.basewidget.BaseWidget(*args, **kwargs)

Bases: `object`

The class implements a application form

Parameters

- **title** (`str`) – Title of the app. By default will assume the value in the class variable TITLE.
- **parent_win** (`BaseWidget`) – Parent BaseWidget

Example:

```
class FeedViewerApp(BaseWidget):  
  
    TITLE = 'Feed viewer'  
  
    def __init__(self, *args, **kwargs):  
  
        self._likebtn = ControlButton(label_visible=False, labeled=True)  
        self._htmlviewer = ControlTemplate('Html', template=self.VIEWER_TEMPLATE)  
  
        self.formset = ['_likebtn', '_htmlviewer']
```

URLS = None

list(str): Django urls to be added to the urls.py file

TITLE = None

str: Title of the application.

LAYOUT_POSITION = None

int or str: Id of the layout handler function registered in the javascript by the function [pyforms.register_layout_place] or Element DOM id in the HTML where the application should be shown.

REFRESH_TIMEOUT = None

str: Time in milliseconds to refresh the application.

AUTHORIZED_GROUPS = None

list(str): List of django groups authorized to run the application

CSS = ''

str: Css classes to add to the form.

STATIC_FILES = []

str: Static files to include in the page

TRIGGER_ON_KEYDOWN_CODES = []

list(int): List of keys codes to detect

init_form(parent=None)

Generate the application Form. Return the dict:


```
{
    'code': ...,          # HTML code that will initialize the application.
    'title': ...,         # Title of the application.
    'css': ...,           # Application CSS.
    'app_id': ...,        # Application id.
    'refresh_timeout': ... # Application refresh time.
}
```

generate_column(*row*)

Generate the html to organize the formset in segments

generate_nocolumns(*formset*)

Generate the html for the no_columns organizer

generate_panel(*formset*)

Generate a panel for the application form with all the controls:

Parameters **formset** (*list*) – formset configuration, used to generate the panel.

Example:

```
[
    no_columns('_toggle_btn', '_copy_btn', '_css_btn'),
    ' ',
    ('empty:twelve', '_input'),
    '_text',
    {
        'a:Free text': [
            'h1:Header 1',
            'h2:Header 2',
            'h3:Header 3',
            'h4:Header 4',
            'h5:Header 5',
            'h1-right:Header 1',
            'h2-right:Header 2',
            'h3-right:Header 3',
            'h4-right:Header 4',
            'h5-right:Header 5',
            '-',
            'Free text here',
            'msg:Message text',
            'info:Info message',
            'warning:Warning message',
            'alert:Alert message'
        ],
        'b:Segments': [
            'The next example has a segment',
            segment(
                '_combo',
                '_check',
                css='secondary'
            ),
            '_list',
            '_label'
        ]
    }
]
```

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```
}  
]
```

- **tuple**: displays the controls horizontally.
- **list**: displays the controls vertically.
- **dict**: displays the controls in Tabs.
 - Use [a;b;c] prefix to sort the tabs.
- ‘-’: Draw a vertical line.
- ‘ ‘: Empty column.
- **Empty column**: Use ‘ ‘, or the prefix ‘empty:’ + size of the column (ex: one, two, ..., sixteen) to add a empty column.
- **segment**: Wraps the formset around a segment (Semantic UI segment).
 - Call the parameter **css**, to add extra classes to the segment.
- **no_columns**: Do not apply the fields columns alignments.
- **Free text**: Do not apply the fields columns alignments.
- **Message**: By using the prefixes [msg:,info:,warning:,alert:] you will wrap a free message on message box.
- **Headers**: Use the prefixes [h1:,h2:,h3:,h4:,h5:,h1-right:,h2-right:,h3-right:,h4-right:,h5-right:] on free text.

close()

Close the application

message(msg, title=None, msg_type=None)

Write a simple message.

Parameters

- **msg** (*str*) – Message to show.
- **title** (*str*) – Message title.
- **msg_type** (*str*) – Message box css class.

success(msg, title=None)

Write a success message

Parameters

- **msg** (*str*) – Message to show.
- **title** (*str*) – Message title.

info(msg, title=None)

Write a info message

Parameters

- **msg** (*str*) – Message to show.
- **title** (*str*) – Message title.

warning(*msg*, *title=None*)

Write a warning message

Parameters

- **msg** (*str*) – Message to show.
- **title** (*str*) – Message title.

alert(*msg*, *title=None*)

Write a alert message

Parameters

- **msg** (*str*) – Message to show.
- **title** (*str*) – Message title.

message_popup(*msg*, *title=""*, *buttons=None*, *handler=None*, *msg_type=""*, *buttons_css=[]*)

Show a popup message window

Parameters

- **msg** (*str*) – Message to show.
- **title** (*str*) – Message title.
- **buttons** (*list(str)*) – List of buttons labels to create in the popup window.
- **msg_type** (*str*) – Message box css class.
- **handler** (*buttons_css*) – Method that will handle the press of the buttons.
- **handler** – CSS class of the buttons.

```
# Handler
def button_pressed_btn(popup=[Popup instance], button=[Label of the pressed_
button]):
    ...
```

success_popup(*msg*, *title=""*, *buttons=None*, *handler=None*, *buttons_css=[]*)

Show a popup success message window

Parameters

- **msg** (*str*) – Message to show.
- **title** (*str*) – Message title.
- **buttons** (*list(str)*) – List of buttons labels to create in the popup window.
- **handler** (*buttons_css*) – Method that will handle the press of the buttons.
- **handler** – CSS class of the buttons.

info_popup(*msg*, *title=""*, *buttons=None*, *handler=None*, *buttons_css=[]*)

Show a popup info message window

Parameters

- **msg** (*str*) – Message to show.
- **title** (*str*) – Message title.
- **buttons** (*list(str)*) – List of buttons labels to create in the popup window.
- **handler** (*buttons_css*) – Method that will handle the press of the buttons.

- **handler** – CSS class of the buttons.

warning_popup(*msg*, *title*="", *buttons*=None, *handler*=None, *buttons_css*=[])

Show a popup warning message window

Parameters

- **msg** (*str*) – Message to show.
- **title** (*str*) – Message title.
- **buttons** (*list*(*str*)) – List of buttons labels to create in the popup window.
- **handler** (*buttons_css*) – Method that will handle the press of the buttons.
- **handler** – CSS class of the buttons.

alert_popup(*msg*, *title*="", *buttons*=None, *handler*=None, *buttons_css*=[])

Show a popup alert message window

Parameters

- **msg** (*str*) – Message to show.
- **title** (*str*) – Message title.
- **buttons** (*list*(*str*)) – List of buttons labels to create in the popup window.
- **handler** (*buttons_css*) – Method that will handle the press of the buttons.
- **handler** – CSS class of the buttons.

add_timeout(*milliseconds*, *call_function*)

commit(*user*=None)

Save all the application updates to a file, so it can be used in the next session.

execute_js(*code*)

This function executes a javascript remotely on the client side.

Parameters **code** (*str*) – Javascript code to execute.

mark_to_update_client()

Used to flag pyforms that the application was updated and the updates should be sent to the client side

deserialize_form(*params*)

Load the json parameters sent by the client side

Parameters **params** (*dict*) – Data to load.

serialize_form()

Serialize the Form to a control.

Returns: dict: Data representing the current state of the application.

stream_status(*user*=None)

stream(*func*)

classmethod has_permissions(*user*)

This class method, verifies if a user has permissions to execute the application

Parameters **params** (*User*) – User to evaluate the permissions.

has_session_permissions(*user*)

It verifies if a user has permissions to execute the application during the runtime.

Parameters **params** (*User*) – User to evaluate the permissions.

refresh_event()

Event called every X time defined by REFRESH_TIMEOUT variable.

keydown_event()

property controls

Returns all the form controls from the the module

property form

Return the basewidget html. The html is based on the 'basewidget-template.html' template

property title

Return and set the title of the application

property formset

Return and set the controls organization in the form

property uid

Return and set the application unique identifier

property refresh_timeout

Return a boolean indicating if the form is visible or not

property parent

property form_loaded

Return True if the Widget already executed the init_form() function or not.

12.2 Controls

12.2.1 ControlBase

class pyforms_web.controls.control_base.**ControlBase**(*args, **kwargs)

Bases: `object`

Basis class from where all the Controls inherit from.

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

update_control_event()

init_form()

Render the control js

show()

Show the control

hide()

Hide the control

serialize()

Serialize the control data.

Returns: dict: Serialized data.

deserialize(properties)

Serialize the control data.

Parameters **properties** (*dict*) – Serialized data to load.

mark_to_update_client()

Mark the control to update in the client side.

changed_event()

Event called when the control value is changed.

property enabled

Set the control enabled or disabled.

property value

Set or return de control value.

property name

Set or return the name of the control.

property label

Set or return the label of the control.

property parent

Set or return the control window.

property visible

Set if the control is visible.

property help

Set or return the help text of the control.

property error

Set or return the error of the control.

property label_visible

Set or return the label visibility of the control.

property readonly

Set or return the control readonly mode.

property css

Set or return the extra css of the control.

property field_css

Set or return the extra css of the field div that encapsulates the control.

property style

Set or return the style of the control.

property field_style

Set or return the style of the field div that encapsulate the control.

property control_id

Return the control id.

property place_id

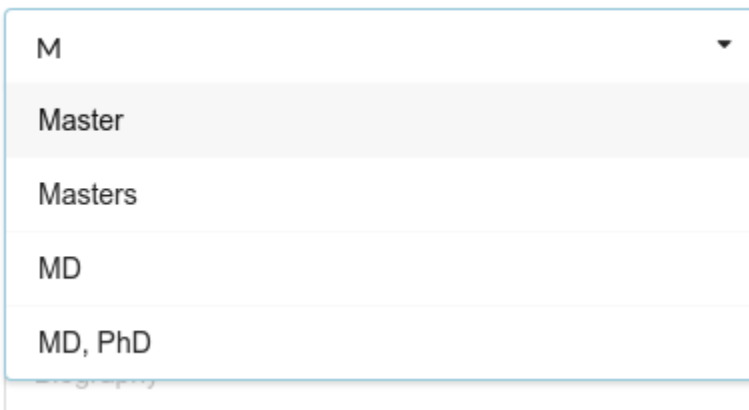
Return the place control id.

property was_updated

Return the if the control is marked as updated.

12.2.2 ControlAutoComplete

Degree



```
class pyforms_web.controls.control_autocomplete.ControlAutoComplete(*args, **kwargs)
```

Bases: [pyforms_web.controls.control_base.ControlBase](#)

This control implements an auto complete text box. The control gets its values from a url or from a queryset.

Parameters

- **items_url** (*str*) – (Mandatory) Configure the Combo to get its items from an URL. Default=None.
- **autocomplete_search** (*function*) – Set the function to query the items in the case we are using the url mode. Default=self.autocomplete_search.
- **queryset** (*str*) – Set the queryset to which the autocomplete will get the values. Default=None.
- **multiple** (*boolean*) – Allow multiple choices. Default=False.
- **queryset_filter** (*function*) – Function to filter the queryset. Default=self.queryset_filter.

..code: python

```
def queryset_filter(self, qs, keyword, control): return qs
```

In the case you are using a Model queryset to retrieve the values you can define the fields to lookup for using the staticmethod **autocomplete_search_fields** as it is shown in the example below.

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

init_form()

Render the control js

property queryset

autocomplete_search(*keyword*)

deserialize(*data*)

Serialize the control data.

Parameters properties (*dict*) – Serialized data to load.

serialize()

Serialize the control data.

Returns: dict: Serialized data.

property objects

Return the selected objects.

property parent

Set or return the control window.

12.2.3 ControlBarsChart

#.. image:: /_static/imgs/controls/autocomplete.png

class `pyforms_web.controls.control_barschart.ControlBarsChart`(*args, **kwargs)

Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.

- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

init_form()

Render the control js

remote_data_selected_event()

data_selected_event(*series_index, data*)

serialize()

Serialize the control data.

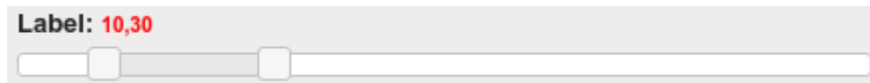
Returns: dict: Serialized data.

deserialize(*properties*)

Serialize the control data.

Parameters **properties** (*dict*) – Serialized data to load.

12.2.4 ControlBoundedSlider



class `pyforms_web.controls.control_boundedslider.ControlBoundedSlider(*args, **kwargs)`
 Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having and error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

property min

property max

12.2.5 ControlBreadcrumb

#.. image:: /_static/imgs/controls/autocomplete.png

class pyforms_web.controls.control_breadcrumb.**ControlBreadcrumb**(*args, **kwargs)

Bases: [pyforms_web.controls.control_base.ControlBase](#)

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

init_form()

Render the control js

pressed()

This event is called when the button is pressed. The correspondent js event is defined in the framework.js file

serialize()

Serialize the control data.

Returns: dict: Serialized data.

deserialize(properties)

Serialize the control data.

Parameters **properties** (*dict*) – Serialized data to load.

12.2.6 ControlButton



class `pyforms_web.controls.control_button.ControlButton(*args, **kwargs)`

Bases: `pyforms_web.controls.control_base.ControlBase`

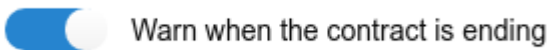
Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

`pressed()`

This event is called when the button is pressed. The correspondent js event is defined in the `framework.js` file

12.2.7 ControlCheckBox



class `pyforms_web.controls.control_checkbox.ControlCheckBox(*args, **kwargs)`

Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.

- **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
 - **style** (*str*) – Extra style to add to the control.
 - **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
 - **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
 - **readonly** (*bool*) – Set the control as read only. Default = False.
 - **label_visible** (*bool*) – Hide or show the label. Default = True.
-

12.2.8 ControlCheckBoxList

class `pyforms_web.controls.control_checkboxlist.ControlCheckBoxList(*args, **kwargs)`
Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having and error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

`item_selection_changed_event()`

`item_selection_changed_client_event()`

property `headers`

property `rows_count`

property `columns_styles`

property `columns_align`

property `selected_row_index`

property `value`

Sets and gets the values.

The values should have the

12.2.9 ControlCheckBoxListQuery

```
class pyforms_web.controls.control_checkboxlistquery.ControlCheckBoxListQuery(*args,  
                                                                              **kwargs)
```

Bases: *pyforms_web.controls.control_checkboxlist.ControlCheckBoxList*

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

obj2list (*row*)

remove_event ()

add_event ()

property **queryset**

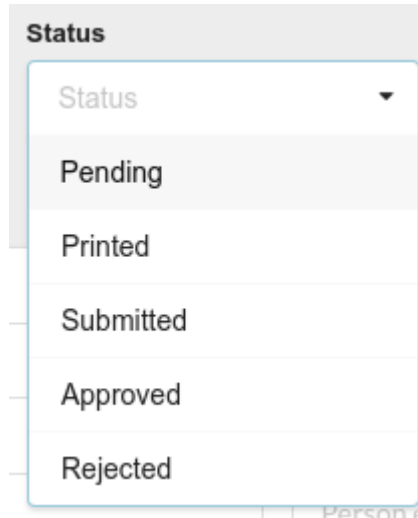
property **value**

Sets and gets the values.

The values should have the

property **items**

12.2.10 ControlCombo



```
class pyforms_web.controls.control_combo.ControlCombo(*args, **kwargs)
    Bases: pyforms\_web.controls.control\_base.ControlBase
```

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

```
add_item(label, value=<class 'pyforms_web.controls.control_combo.ValueNotSet'>)
```

```
clear_items()
```

```
property items
```

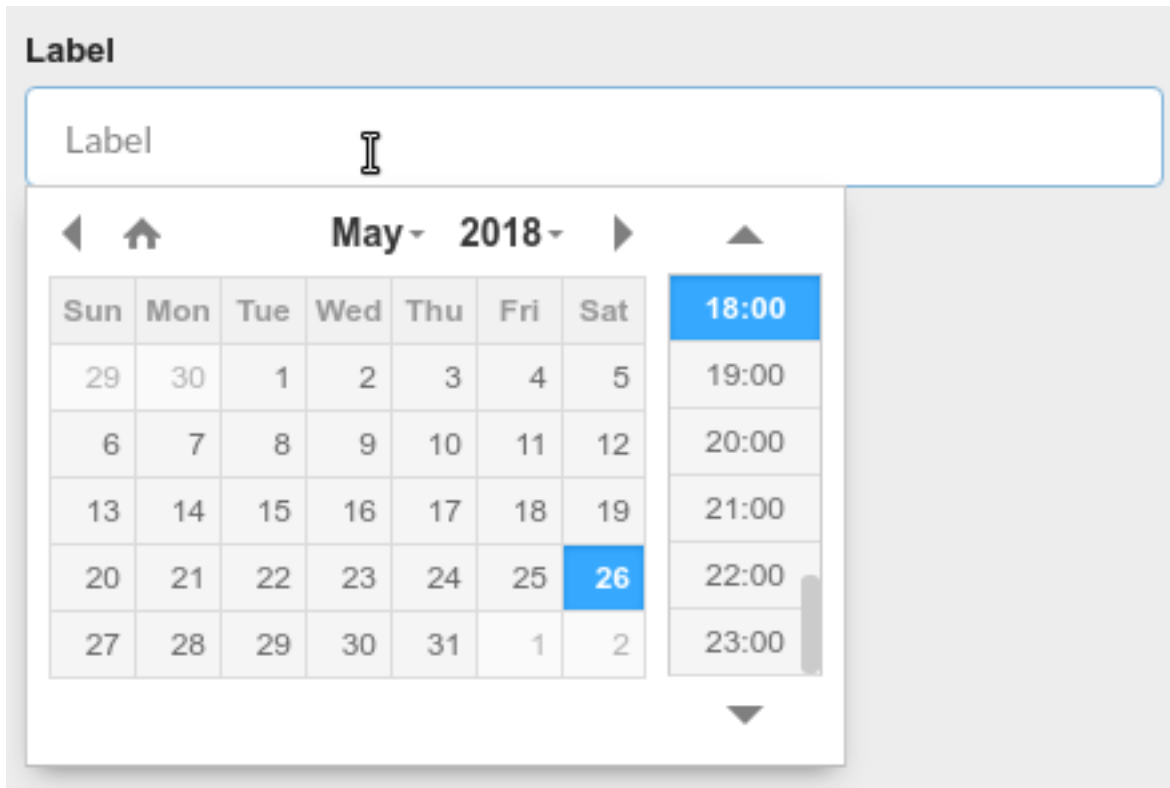
```
property values
```

```
property value
```

Set or return the control value.

```
property text
```


12.2.12 ControlDateTime



```
class pyforms_web.controls.control_datetime.ControlDateTime(*args, **kwargs)
```

Bases: [pyforms_web.controls.control_base.ControlBase](#)

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

property value

Set or return the control value.

12.2.13 ControlDecimal

class `pyforms_web.controls.control_decimal.ControlDecimal(*args, **kwargs)`
Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
 - **helptext** (*str*) – Set the help text. Default = None.
 - **default** (*str*) – Set the value. Default = None.
 - **visible** (*bool*) – Set the control visible or hidden. Default = True.
 - **error** (*bool*) – Mark the control as having an error. Default = False.
 - **css** (*str*) – Extra css classes to add to the control.
 - **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
 - **style** (*str*) – Extra style to add to the control.
 - **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
 - **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
 - **readonly** (*bool*) – Set the control as read only. Default = False.
 - **label_visible** (*bool*) – Hide or show the label. Default = True.
-

12.2.14 ControlEmail

class `pyforms_web.controls.control_email.ControlEmail(*args, **kwargs)`
Bases: `pyforms_web.controls.control_text.ControlText`

Parameters **on_enter_event** (*function*) – Event called when the Enter key is pressed.

12.2.15 ControlEmptyWidget

class `pyforms_web.controls.control_emptywidget.ControlEmptyWidget(*args, **kwargs)`
Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.

- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

property value

Set or return de control value.

12.2.16 ControlFile

Video file

/home/ricardo/Desktop/SWP-presentation-beerhour.v2.mp4

class `pyforms_web.controls.control_file.ControlFile(*args, **kwargs)`

Bases: `pyforms_web.controls.control_base.ControlBase`

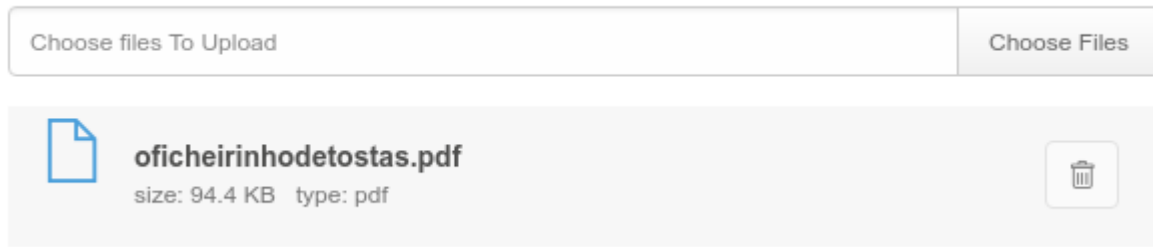
Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having and error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

`open_file_browser()`

12.2.17 ControlFileUpload

Picture



class `pyforms_web.controls.control_fileupload.ControlFileUpload(*args, **kwargs)`
 Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having and error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

property `filepath`

move_to(*dest_dirpath*)

12.2.18 ControlFloat

class `pyforms_web.controls.control_float.ControlFloat(*args, **kwargs)`
 Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having and error. Default = False.

- **css** (*str*) – Extra css classes to add to the control.
 - **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
 - **style** (*str*) – Extra style to add to the control.
 - **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
 - **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
 - **readonly** (*bool*) – Set the control as read only. Default = False.
 - **label_visible** (*bool*) – Hide or show the label. Default = True.
-

12.2.19 ControlHtml

class pyforms_web.controls.control_html.**ControlHtml**(*args, **kwargs)

Bases: [pyforms_web.controls.control_base.ControlBase](#)

Parameters

- **label** (*str*) – Control label.
 - **helptext** (*str*) – Set the help text. Default = None.
 - **default** (*str*) – Set the value. Default = None.
 - **visible** (*bool*) – Set the control visible or hidden. Default = True.
 - **error** (*bool*) – Mark the control as having an error. Default = False.
 - **css** (*str*) – Extra css classes to add to the control.
 - **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
 - **style** (*str*) – Extra style to add to the control.
 - **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
 - **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
 - **readonly** (*bool*) – Set the control as read only. Default = False.
 - **label_visible** (*bool*) – Hide or show the label. Default = True.
-

12.2.20 ControllImage



class `pyforms_web.controls.control_image.ControlImage(*args, **kwargs)`

Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

save(*data*)

load(*data*)

repaint()

set_url(*url*)

property value

Set or return the control value.

12.2.21 Controllmg

class `pyforms_web.controls.control_img.ControlImg(*args, **kwargs)`

Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
 - **helptext** (*str*) – Set the help text. Default = None.
 - **default** (*str*) – Set the value. Default = None.
 - **visible** (*bool*) – Set the control visible or hidden. Default = True.
 - **error** (*bool*) – Mark the control as having an error. Default = False.
 - **css** (*str*) – Extra css classes to add to the control.
 - **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
 - **style** (*str*) – Extra style to add to the control.
 - **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
 - **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
 - **readonly** (*bool*) – Set the control as read only. Default = False.
 - **label_visible** (*bool*) – Hide or show the label. Default = True.
-

12.2.22 ControllInteger

Duration

12

class `pyforms_web.controls.control_integer.ControlInteger(*args, **kwargs)`

Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.

- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

property value

Set or return de control value.

clean_field()

Validate the value of the Control.

12.2.23 ControllLabel

Title

O Lorem Ipsum é um texto modelo da indústria tipográfica e de impressão. O Lorem Ipsum tem vindo a ser o texto padrão usado por estas indústrias desde o ano de 1500, quando uma misturou os caracteres de um texto para criar um espécime de livro. Este texto não só sobreviveu 5 séculos, mas também o salto para a tipografia electrónica, mantendo-se essencialmente inalterada. Foi popularizada nos anos 60 com a disponibilização das folhas de Letraset, que continham passagens com Lorem Ipsum, e mais recentemente com os programas de publicação como o Aldus PageMaker que incluem versões do Lorem Ipsum.

```
class pyforms_web.controls.control_label.ControllLabel(*args, **kwargs)
```

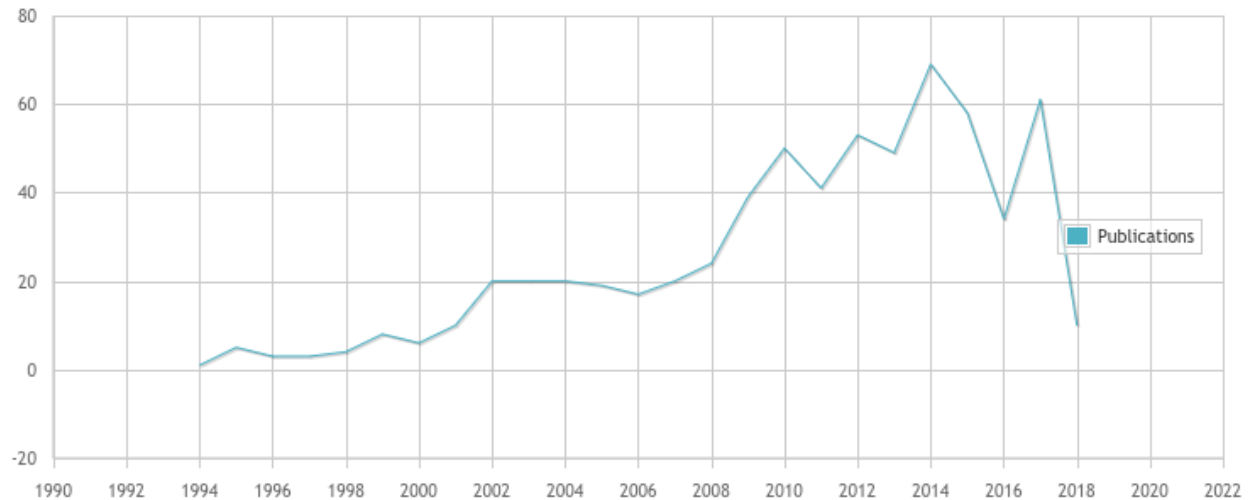
Bases: *pyforms_web.controls.control_base.ControlBase*

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having and error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.

- **readonly** (*bool*) – Set the control as read only. Default = False.
 - **label_visible** (*bool*) – Hide or show the label. Default = True.
-

12.2.24 ControllLineChart



```
class pyforms_web.controls.control_linechart.ControlLineChart(*args, **kwargs)
```

Bases: [pyforms_web.controls.control_base.ControlBase](#)

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

```
remote_data_selected_event()
```

```
data_selected_event(series_index, data)
```

12.2.25 ControllList

class `pyforms_web.controls.control_list.ControllList(*args, **kwargs)`

Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having and error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = True.
- **horizontal_headers** (*list(str)*) – List of headers.
- **select_entire_row** (*bool*) – Flag to select the entire row or individual cells. Default = False.
- **selected_row_index** (*int*) – Default selected row. Default = -1.
- **columns_size** (*list(str)*) – List of css with the size value of each column. Default = None.
- **columns_align** (*list(str)*) – List of css alignment values for each column. Default = [].
- **row_double_click_event** (*function*) – Reference to a function called when the row is double clicked.
- **item_selection_changed_event** (*function*) – Reference to a function called when the selection of an item change.

`item_selection_changed_event()`

`row_double_click_event()`

`append(row)`

`pop(row_index)`

property `horizontal_headers`

property `rows_count`

property `select_entire_row`

property `readonly`

Set or return the control readonly mode.

property `columns_style`

property `selected_row`

property `selected_row_index`

property value

Set or return de control value.

property columns_size**property columns_align**

12.2.26 ControlMultipleChecks

class `pyforms_web.controls.control_multiplechecks.ControlMultipleChecks(*args, **kwargs)`

Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters


- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having and error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

add_item(*label, value=None*)

clear_items()

12.2.27 ControlMultipleSelection

Cnp authors



class `pyforms_web.controls.control_multipleselection.ControlMultipleSelection(*args, **kwargs)`

Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.

- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

`add_item(label, value=None)`

`clear_items()`

12.2.28 ControlMultipleUpload

`class pyforms_web.controls.control_multipleupload.ControlMultipleUpload(*args, **kwargs)`

Bases: `pyforms_web.controls.control_base.ControlBase`

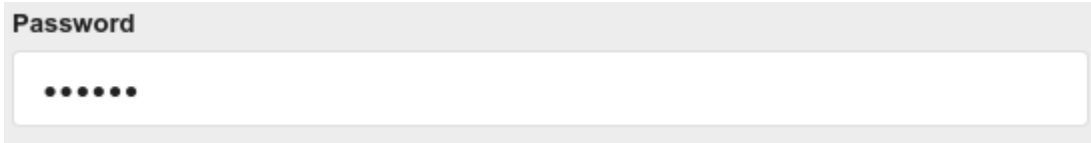
Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

`filepaths()`

`move_to(dest_dirpath)`

12.2.29 ControlPassword



class `pyforms_web.controls.control_password.ControlPassword(*args, **kwargs)`
Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
 - **helptext** (*str*) – Set the help text. Default = None.
 - **default** (*str*) – Set the value. Default = None.
 - **visible** (*bool*) – Set the control visible or hidden. Default = True.
 - **error** (*bool*) – Mark the control as having an error. Default = False.
 - **css** (*str*) – Extra css classes to add to the control.
 - **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
 - **style** (*str*) – Extra style to add to the control.
 - **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
 - **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
 - **readonly** (*bool*) – Set the control as read only. Default = False.
 - **label_visible** (*bool*) – Hide or show the label. Default = True.
-

12.2.30 ControlPieChart

class `pyforms_web.controls.control_piechart.ControlPieChart(*args, **kwargs)`
Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.

- **readonly** (*bool*) – Set the control as read only. Default = False.
 - **label_visible** (*bool*) – Hide or show the label. Default = True.
-

12.2.31 ControlProgress

class pyforms_web.controls.control_progress.**ControlProgress**(*args, **kwargs)

Bases: [pyforms_web.controls.control_base.ControlBase](#)

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having and error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

property min

property max

12.2.32 ControlQueryList

class pyforms_web.controls.control_querylist.**ControlQueryList**(*args, **kwargs)

Bases: [pyforms_web.controls.control_base.ControlBase](#)

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having and error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.

- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

item_selection_changed_client_event()

item_selection_changed_event()

export_csv_event()

Event called to export the queryset to excel

export_csv_http_response()

property export_csv_columns

Sets and gets the list of columns to be used in the cvs export By default it will assume the self.list_display value

property export_csv

Flag to activate or deactivate the csv export button

property selected_row_id

property columns_size

property columns_align

property value

Set or return de control value.

page_changed_event()

sort_changed_event()

filter_changed_event()

filter_event()

page_event()

sort_event()

format_filter_column(col_value)

queryset_to_list(queryset, list_display, first_row, last_row)

serialize_filters(list_filter, queryset)

12.2.33 ControlSimpleLabel

class pyforms_web.controls.control_simplelabel.**ControlSimpleLabel**(*args, **kwargs)

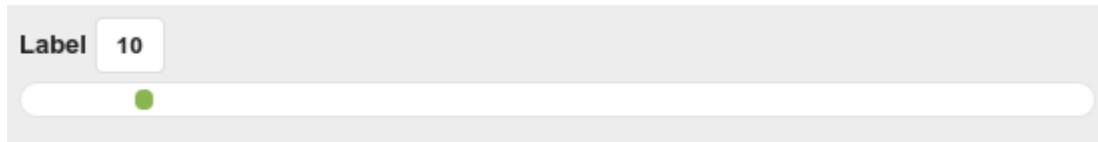
Bases: [pyforms_web.controls.control_base.ControlBase](#)

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.

- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

12.2.34 ControlSlider



class `pyforms_web.controls.control_slider.ControlSlider(*args, **kwargs)`

Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

property `min`

property `max`

12.2.35 ControlSpacer

class `pyforms_web.controls.control_spacer.ControlSpacer(*args, **kwargs)`
Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
 - **helptext** (*str*) – Set the help text. Default = None.
 - **default** (*str*) – Set the value. Default = None.
 - **visible** (*bool*) – Set the control visible or hidden. Default = True.
 - **error** (*bool*) – Mark the control as having an error. Default = False.
 - **css** (*str*) – Extra css classes to add to the control.
 - **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
 - **style** (*str*) – Extra style to add to the control.
 - **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
 - **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
 - **readonly** (*bool*) – Set the control as read only. Default = False.
 - **label_visible** (*bool*) – Hide or show the label. Default = True.
-

12.2.36 ControlTemplate

class `pyforms_web.controls.control_template.ControlTemplate(*args, **kwargs)`
Bases: `pyforms_web.controls.control_base.ControlBase`

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.
- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field div that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

property `template`

12.2.37 ControlText

First name

First name

```
class pyforms_web.controls.control_text.ControlText(*args, **kwargs)
```

Bases: [pyforms_web.controls.control_base.ControlBase](#)

Parameters `on_enter_event` (*function*) – Event called when the Enter key is pressed.

`on_enter_event()`

Event called when the Enter key is pressed

12.2.38 ControlTextArea

Biography

Adam Kampff was born and raised in a small town south of Buffalo, NY. He played American football and once convinced his Grandparents to buy him a laser. He studied astrophysics at Harvard University in Cambridge, MA and spent many hours at the observatory, where he worked the overnight shift at a radio telescope and thought about the brain. Adam stayed at Harvard for his PhD in neuroscience, during which he designed and built the laser scanning microscopes that he needed to investigate neural circuits that control the visual behavior of fish. After graduating in 2009 and receiving a postdoctoral fellowship from the Harvard's Mind, Brain and Behavior program, Adam set out to clarify how the mammalian

```
class pyforms_web.controls.control_textarea.ControlTextArea(*args, **kwargs)
```

Bases: [pyforms_web.controls.control_text.ControlText](#)

Parameters `on_enter_event` (*function*) – Event called when the Enter key is pressed.

`stream(func)`

12.2.39 ControlTime

```
class pyforms_web.controls.control_time.ControlTime(*args, **kwargs)
```

Bases: [pyforms_web.controls.control_base.ControlBase](#)

Parameters

- **label** (*str*) – Control label.
- **helptext** (*str*) – Set the help text. Default = None.
- **default** (*str*) – Set the value. Default = None.
- **visible** (*bool*) – Set the control visible or hidden. Default = True.
- **error** (*bool*) – Mark the control as having an error. Default = False.

- **css** (*str*) – Extra css classes to add to the control.
- **field_css** (*str*) – Extra css classes to add to the field dive that encapsulates the control.
- **style** (*str*) – Extra style to add to the control.
- **field_style** (*str*) – Extra style to add to the field div that encapsulates the control.
- **enabled** (*bool*) – Set the control enabled or disabled. Default = True.
- **readonly** (*bool*) – Set the control as read only. Default = False.
- **label_visible** (*bool*) – Hide or show the label. Default = True.

property value

Set or return de control value.

12.3 Django admin

12.3.1 ModelAdminWidget

Suppliers

+ Add

ChromoTek GmbH
QUIMIGEN,S.L.
Alcon Portugal – Produtos e Equipamentos Oftalmológicos, Lda.
Danysoft Internacional S.L
Fondazione Casa Sollievo della Sofferenza
Fundación Parque Científico de Madrid
Waters Technologies LC-MS Portugal Unipessoal, Lda.
100 DECIBEL ISOLAMENTOS
2007.COM INT.TEC.INF. COMUNIC.
27115

1 2 3 4 5 6 >

```
class pyforms_web.widgets.django.modeladmin.ModelAdminWidget(*args, **kwargs)
    Bases: pyforms\_web.basewidget.BaseWidget
```

The class is used to generate an admin interface for ModelAdmin.MODEL.

```

from suppliers.models import Supplier

class SupplierAdminApp(ModelAdminWidget):

    MODEL = Supplier
    TITLE = 'Suppliers'

```

Parameters

- **title** (*str*) – Title of the app. By default will assume the value in the class variable TITLE.
- **model** (*django.db.models.Model*) – Model the App will manages. By default will assume the value in the class variable MODEL.
- **editform_class** (*class*) – Class used to generate the edition form. By default will assume the value in the class variable EDITFORM_CLASS.
- **parent_pk** (*int*) – (optional) Used to generate the inline interface. Primary key of the parent model
- **parent_model** (*Model*) – (optional) Used to generate the inline interface. Parent model

MODEL = None

class: Model to manage

TITLE = None

str: Title of the application

EDITFORM_CLASS

class: Edit form class

alias of *pyforms_web.widgets.django.modelform.ModelFormWidget*

ADDFORM_CLASS = None

class: Create form class

USE_DETAILS_TO_ADD = True

boolean: Use the flag to create the ControlEmptyWidget self._details. This control is used to load the ADDFORM_CLASS.

USE_DETAILS_TO_EDIT = True

boolean: Use the flag to create the ControlEmptyWidget self._details. This control is used to load the EDITFORM_CLASS.

INLINES = []

list(class): Sub models to show in the interface

LIST_FILTER = None

list(str): List of filters fields

LIST_DISPLAY = None

list(str): List of fields to display in the table

LIST_HEADERS = None

list(str): Table columns headers. It will override the LIST_DISPLAY

LIST_COLS_SIZES = None

list(str): Table columns sizes. Should use style units.

LIST_COLS_ALIGN = None

list(str): Table columns alignments. Should use style units.

SEARCH_FIELDS = None

list(str): Fields to be used in the search

EXPORT_CSV = False

boolean: Flag to activate the export of data to csv. The value of this flag is overwritten by the function `has_export_csv_permissions`

EXPORT_CSV_COLUMNS = None

list(str): List of fields to export to the csv file. By default it will assume the fields in the `LIST_DISPLAY` variable

EXPORT_CSV_HEADERS = {}

dict(str: str): Provide custom header labels to fields listed in `EXPORT_CSV_COLUMNS`, e.g. `{ 'date': 'Procedure Date' }`

CONTROL_LIST

class: Control to be used in to list the values

alias of `pyforms_web.controls.control_querylist.ControlQueryList`

FIELDSETS = None

Formset of the edit form

READ_ONLY = []

list(str): List of readonly fields

LIST_ROWS_PER_PAGE = 10

int: number of rows to show per page

LIST_N_PAGES = 5

int: number of pages to show in the list bottom

ADD_BTN_LABEL = '<i class="plus icon"></i> Add'

str: Label of the add button

property selected_row_object

django.db.models.Model: Return the current selected row object. If no row is selected return None.

get_toolbar_buttons(*has_add_permission=False*)

This function generate the formset configuration for the top buttons,

Returns: list(str): Returns the formset configuration that will be append to the end of the fieldsets.

populate_list()

Function called to configure the `CONTROL_LIST` to display the data

get_queryset(*request, queryset*)

The function retrieves the queryset used to populate the list.

Parameters `queryset` (`django.db.models.query.QuerySet`) – Default queryset used to populate the list. This queryset may have already applied the next filters: - If this class is being used as a inline app, the filters to select only the rows related with the parent app are applied. - If the model being managed by this class has a function called `get_queryset(request, queryset)`, the filters applied by this function are applied. (this helps maintaining the visualization rules on the side of the model)

Returns: `django.db.models.query.QuerySet`: Returns the queryset used to populate the list.

get_related_field_queryset(*request, list_queryset, field, queryset*)

Called to return the main list filters for the ForeignKeys and ManyToMany fields.

Parameters

- **request** (*django.http.request.HttpRequest*) – HttpRequest originating the call of this function.
- **list_queryset** (*django.db.models.query.QuerySet*) – Queryset of the main list.
- **field** (*django.db.models.fields.Field*) – Related django field.
- **queryset** (*django.db.models.query.QuerySet*) – Default queryset for the related field.

Returns: *django.db.models.query.QuerySet*: Results.

hide_form()

Function called to hide the form

show_create_form()

Show an empty form for creation

show_edit_form(obj_pk=None)

Show the edition form for a specific object

Parameters **obj_pk** (*int*) – Primary key of the object to be shown in the edit form.

get_editmodel_class(obj)

Gets the pyforms app to edit the object

Parameters **obj** (*django.db.models.Model*) – Object to be edited

set_parent(parent_model, parent_pk)

Function called to set prepare the Application to work as an inline

Parameters

- **parent_model** (*django.db.models.Model*) – Model of the parent Edition form
- **parent_pk** (*int*) – Primary key of the parent object

has_add_permissions()

Function called to check if one has permission to add new objects.

Returns: bool: True if has add permission, False otherwise.

has_view_permissions(obj)

Function called to check if one has permission to view the current queryset.

Parameters **obj** (*django.db.models.Model*) – object to view.

Returns: bool: True if has view permissions, False otherwise.

has_remove_permissions(obj)

Function called to check if one has permission to remove the current queryset.

Parameters **obj** (*django.db.models.Model*) – object to remove.

Returns: bool: True if has remove permissions, False otherwise.

has_update_permissions(obj)

Function called to check if one has permission to update the current queryset.

Parameters **obj** (*django.db.models.Model*) – object to update.

Returns: bool: True if has update permissions, False otherwise.

has_export_csv_permissions(*user*)

Function called to check if one has permission to export the objects to csv.

Parameters `django.contrib.auth.models.User` – User to check the permission.

Returns: bool: True if has permissions, False otherwise.

get_export_csv_columns(*user*)

Function called to get the columns for the csv export.

Parameters `django.contrib.auth.models.User` – User to check the permission.

Returns: list(str): List of columns names.

filter_event()

Function called when the filter is updated.

12.3.2 ModelFormWidget

Dementia Consortium funding

Opportunity details

Subject
Grants

☐ Published

☒ Rolling

Fund. opportunity name
Dementia Consortium funding

Deadline (lisbon time)
Deadline (lisbon time)

☒ LOI

Loi deadline
Loi deadline

Full proposal deadline
Full proposal deadline

Link
https://goo.gl/RDLp8A

Topics
Neurodegenerative Diseases x

Financing info

Financing agency
Alzheimer's Research UK

Currency
GBP

Payment frequency
total

Funding type

Funding value
250000

Duration in months
24

```
class pyforms_web.widgets.django.modelform.ModelFormWidget(*args, **kwargs)
```

Bases: `pyforms_web.basewidget.BaseWidget`

When a Pyforms application inherit from this class a form for the model `ModelFormWidget.MODEL` is created.

Usage example:

```
from funding.models import FundingOpportunity

class EditFundingOpportunitiesApp(ModelFormWidget):

    TITLE = "Edit opportunities"
    MODEL = FundingOpportunity

    FIELDSETS = [
        'h2:Opportunity details',
        segment([
            ('subject', 'fundingopportunity_published', 'fundingopportunity_rolling
→)'),
            ('fundingopportunity_name', 'fundingopportunity_end'),
            ('_loi', 'fundingopportunity_loideadline', 'fundingopportunity_
→fullproposal'),
            ('fundingopportunity_link', 'topics'),
        ]),
        'h2:Financing info',
        segment([
            ('financingAgency', 'currency', 'paymentfrequency'),
            ('fundingtype', 'fundingopportunity_value', 'fundingopportunity_duration
→)'),
        ]),
        'h2:Description',
        segment([
            'fundingopportunity_eligibility',
            'fundingopportunity_scope',
            'fundingopportunity_brifdesc',
        ])
    ]
```

Parameters

- **title** (*str*) – Title of the app. By default will assume the value in the class variable `TITLE`.
- **model** (*django.db.models.Model*) – Model with the App will represent. By default will assume the value in the class variable `MODEL`.
- **inlines** (*list*(*ModelAdminWidget*)) – Sub models to show in the interface
- **fieldsets** (*list*(*str*)) – Organization of the fields
- **parent_pk** (*int*) – Parent model key
- **parent_model** (*django.db.models.Model*) – Parent model class
- **pk** (*int*) – Model register to manage

MODEL = None

class: Model to manage

TITLE = None

str: Title of the application

INLINES = []
list(class): Sub models to show in the interface

FIELDSETS = None
Formset of the edit form

READ_ONLY = []
list(str): List of readonly fields

HAS_CANCEL_BTN_ON_EDIT = True
bool: Flag to show or hide the cancel button

HAS_CANCEL_BTN_ON_ADD = True
bool: Flag to show or hide the cancel button

CLOSE_ON_REMOVE = False
bool: Close the application on remove

CLOSE_ON_CANCEL = False
bool: Close the application on cancel

POPULATE_PARENT = True
bool: Call populate_list function of the parent application when object is saved, updated or deleted

SAVE_BTN_LABEL = '<i class="save icon"></i> Save'
str: Label for the save button

CREATE_BTN_LABEL = '<i class="plus icon"></i> Create'
str: Label for the create button

CANCEL_BTN_LABEL = '<i class="hide icon"></i> Close'
str: Label for the cancel button

REMOVE_BTN_LABEL = '<i class="trash alternate outline icon"></i> Remove'
str: Label for the delete button

POPUP_REMOVE_TITLE = 'The next objects are going to be affected or removed'
str: Label for the popup window for the delete confirmation

property parent_object

property model_object
django.db.models.Model object: Return the current object in edition.

update_permissions_variables()

get_readonly(*default*)
The function returns the readonly fields to be set in the form.
Parameters default (*list(str)*) – Default readonly configuration.

Returns: list(str): Read only fields. Check class variable READ_ONLY to know more about it.

get_fieldsets(*default*)
The function returns the fieldsets organization to be set in the form.
Parameters default (*list(str)*) – Default fieldsets configuration.

Returns: list(str): fieldsets. Check class variable FIELDSETS to know more about it.

get_buttons_row()
This function generate the formset configuration for the save, create, cancel and remove buttons,

Returns: list(str): Returns the formset configuration that will be append to the end of the fieldsets.

hide_form()

This functions hides the create and edit form.

show_form()

This shows the create and edit form.

cancel_btn_event()

Event called when the cancel button is pressed

autocomplete_search(queryset, keyword, control)

Function used by a combobox to get the items dynamically

Parameters

- **queryset** (*django.db.models.query.QuerySet*) – Queryset from where to filter the results
- **keyword** (*str*) – Keyword for filter the results
- **pyforms.controls.BaseControl** – Control calling the autocomplete

Returns: *django.db.models.query.QuerySet*: Queryset used to update the autocomplete control

get_related_field_queryset(field, queryset)

Function called to manages the query for related fields like ForeignKeys and ManyToMany.

Parameters

- **field** (*django.db.models.fields.Field*) – Related django field.
- **queryset** (*django.db.models.query.QuerySet*) – Default queryset for the related field.

Returns: *django.db.models.query.QuerySet*: Results for the search in the format.

update_related_field(field, pyforms_field, queryset)

Function called update the related fields like ForeignKeys and ManyToMany.

Parameters

- **field** (*django.db.models.fields.Field*) – Related django field.
- **pyforms_field** (*ControlBase*) – Pyforms field that will be updated.
- **queryset** (*django.db.models.query.QuerySet*) – Default queryset for the related field.

show_create_form()

This function prepares the fields to be shown as create form.

update_callable_fields()

Update the callable fields after the form is saved.

update_autonumber_fields()

Update the auto number fields after the form is saved.

show_edit_form(pk=None)

This function prepares the fields to be shown as edit form.

Parameters **pk** (*int*) – Primary key of the object to be show in the edit form.

Returns:

django.db.models.Model object Returns the object in edition.

delete_event()

Function called to delete the current object in edition.

Returns:

bool True if the object was deleted with success, False if not.

popup_remove_handler(*popup=None, button=None*)

Function that handles the buttons events of the object delete confirmation popup.

Parameters

- **popup** (*BaseWidget*) – Popup application.
- **button** (*str*) – Label of the pressed button.

create_newobject()

Function called to create a new object of the model.

Returns:

django.db.models.Model object Created object

save_object(*obj, **kwargs*)

Function called to save the object It validates the form fields values.

Parameters

- **obj** (*django.db.models.Model*) – Object to save.
- **kwargs** (*dict*) – Any named argument passed to this function will be passed to the Model save method. Example: Model.save(****kwargs**).

validate_object(*obj*)

Function called the model object

Parameters **obj** (*django.db.models.Model*) – Object to validate.

Returns:

django.db.models.Model object Created object or None if the object was not saved with success.

update_object_fields(*obj*)

Update the obj fields values with the form inputs values

Parameters **obj** (*django.db.models.Model*) – Object to update the values.

Returns:

django.db.models.Model Updated object.

save_related_fields(*obj*)

Save related fields

Parameters **obj** (*django.db.models.Model*) – Parent object to save.

Returns:

django.db.models.Mode Object passed as parameter

save_form_event(obj)

Function handling the form save. This function, updates the obj with the form values, validate the obj fields, and call the save_event function.

Parameters **obj** (*django.db.models.Model*) – Model object used for the save.

Returns:

boolean It returns True or False if the save was successfully.

save_event(obj, new_object)

Function handling the form save. This function, updates the obj with the form values, validate the obj fields, and call the save_event function.

Parameters

- **obj** (*django.db.models.Model*) – Model object used for the save.
- **new_object** (*Boolean*) – Flag indicating if it is an Add or Update.

Returns:

boolean It returns True or False if the save was successfully.

get_visible_fields_names()

Function called to get names of the visible fields.

Returns:

list(str) List names of the visible fields.

create_model_formfields()

Create the model edition form.

save_btn_event()

Event called by the save button

has_add_permissions()

The functions returns if the user has permissions to add objects or not.

Returns: bool: True if has add permissions, False otherwise.

has_view_permissions()

The functions returns if the user has permissions to view the queryset or not.

Returns: bool: True if has view permissions, False otherwise.

has_session_permissions(user)

It verifies if a user has permissions to execute the application during the runtime.

Parameters **params** (*User*) – User to avaiuate the permissions.

has_remove_permissions()

The functions returns if the user has permissions to remove the current queryset or not.

Returns: bool: True if has remove permissions, False otherwise.

has_update_permissions()

The functions returns if the user has permissions to update the current queryset or not.

Returns: bool: True if has update permissions, False otherwise.

12.3.3 ModelViewFormWidget

General Information

Responsible

admin.it

Requester name

admin.it

Supplier

General Human Resources

Description

Notes

Description

Ricardo Jorge Vieira Ribeiro's - contract

Amount (net)

1.03

Currency

Currency

Payment method

Payment method

Requisition number

Requisition number

Requisition date

2018-05-26

Purchase date

Purchase date

Delivery date

Delivery date

```
class pyforms_web.widgets.django.modelviewform.ModelViewFormWidget(*args, **kwargs)
    Bases: pyforms_web.widgets.django.modelform.ModelFormWidget
```

When a Pyforms application inherit from this class a form for the model ModelViewFormWidget.MODEL is created with all the fields in the fieldset in read only mode.

Usage example:

```

from suppliers.models import Order

class OrderView(ModelViewFormWidget):
    MODEL = Order
    TITLE = 'Order in read-only'

    FIELDSETS = [
        'h3:General Information',
        ('responsible', 'order_req'),
        'supplier',
        {'a:Description':['order_desc'], 'b:Notes':['order_notes']},
        ('order_amount', 'currency', 'order_paymethod'),
        ('order_reqnum', 'order_reqdate'),
        ('order_podate', 'order_deldate')
    ]

```

Parameters

- **title** (*str*) – Title of the app. By default will assume the value in the class variable TITLE.
- **model** (*django.db.models.Model*) – Model with the App will represent. By default will assume the value in the class variable MODEL.
- **inlines** (*list*(*ModelAdminWidget*)) – Sub models to show in the interface
- **fieldsets** (*list*(*str*)) – Organization of the fields
- **parent_pk** (*int*) – Parent model key
- **parent_model** (*django.db.models.Model*) – Parent model class
- **pk** (*int*) – Model register to manage

13.1 BaseWidget

class BaseWidget(*widget_id, widget_name, controls, parent_id, data*)

BaseWidget class handles the communication with the server python application.

Arguments

- **widget_id** (string()) – BaseWidget id.
- **widget_name** (string()) – BaseWidget name.
- **controls** (list(ControlBase)()) – List of the BaseWidget controls.
- **parent_id** (string()) – Parent widget id.
- **data** (object()) – Object instance with the application data.

BaseWidget.activate_load_event()

Event that check if the loading event should be on or off.

Returns bool –

BaseWidget.app_id(name)

Returns the App id.

Returns string –

BaseWidget.close()

Close the app.

BaseWidget.close_sub_apps()

Close child apps

BaseWidget.control_id(name)

Returns the BaseWidget id.

Returns string –

BaseWidget.deserialize(data)

Deserializes the application from the data sent by the server.

Arguments

- **data** (object()) – Data to deserialize.

BaseWidget.find_control(name)

Returns a control.

Arguments

- **name** (string()) – Control name.

Returns **ControlBase** –

BaseWidget.fire_event(*dom_id, event, show_loading*)

Fire an application event.

Arguments

- **dom_id** (string()) – Python object name.
- **event** (string()) – Event name.
- **show_loading** (bool()) – Flag to activate the loading.

BaseWidget.jquery()

Get the jquery object.

Returns **jquery** – .

BaseWidget.key_pressed(*evt*)

Function called when the key is pressed.

BaseWidget.loading()

Activate the load.

BaseWidget.not_loading()

Deactivate the loading.

BaseWidget.parent_widget()

Returns the parent BaseWidget.

Returns **BaseWidget** –

BaseWidget.query_server(*params*)

Query the server.

Returns **object** – .

BaseWidget.refresh_timeout_event()

Function used to call the server refresh_event.

BaseWidget.serialize()

Serializes the application to send to the server.

Returns **object** – .

BaseWidget.serialize_data(*data*)

Serializes the application to send to the server.

Returns **object** – .

BaseWidget.update_controls()

Update controls with the values from the server.

13.2 Controls

Every Control implemented in Python as a **javascript class** responsible for handling the Control in the client side. All these controls inherit from the ControlBase class.

class ControlBase(*name, properties*)

ControlBase class implements the basic control functionalities.

Arguments

- **name** (string()) – Name of the control.
- **properties** (string()) – Properties of the control.

ControlBase.**after_init_control**()

Function called after the init_control function. It applies the controls most common configurations.

ControlBase.**app_id**()

Widget id.

Returns string – .

ControlBase.**apply_deserialization**(*data*)

Function called after the deserialization of the server data. It applies the controls most common configurations.

Arguments

- **data** (object()) – Data sent by the server.

ControlBase.**control_id**()

Control id.

Returns string – .

ControlBase.**deserialize**(*data*)

Deserialize the data from the server. This function is called at the initialization of the control and every-time data is received from the server.

Arguments

- **data** (object()) – Data sent by the server.

ControlBase.**disable**()

Disable the control.

ControlBase.**enable**()

Enable the control.

ControlBase.**get_value**()

Get the value of the control.

Returns jquery – .

ControlBase.**hide**()

Hide the control.

ControlBase.**init_control**()

Function called to initialize the control html and events.

`ControlBase.init_help()`

Get the help text as a tag.

Returns `string` – .

`ControlBase.jquery()`

JQuery object of the control html.

Returns `jquery` – .

`ControlBase.jquery_place()`

JQuery object of the div where the control is placed.

Returns `jquery` – .

`ControlBase.place_id()`

Div id where the control is placed.

Returns `string` – .

`ControlBase.serialize()`

Serializes the control data to send back to the server.

Returns `object` – .

`ControlBase.set_css(css)`

Sets the css classes for the control. Previously added classes will be removed.

Arguments

- **css** (`string()`) – String with the css classes to add.

`ControlBase.set_field_css(css)`

Sets the css classes for the field where the control is. Previously added classes will be removed.

Arguments

- **css** (`string()`) – String with the css classes to add.

`ControlBase.set_inline()`

Set the label inline.

Returns `string` – .

`ControlBase.set_label(value)`

Sets the label of the control.

Arguments

- **value** (`string()`) – Label to set.

`ControlBase.set_required(value)`

Sets the label of the control.

Arguments

- **value** (`string()`) – Label to set.

`ControlBase.set_value(value)`

Sets the value of the control.

Arguments

- **value** (`object()`) – Value to set.

`ControlBase.show()`

Show the control.

`ControlBase.update_server()`

Function called before the serialization. It is used to decide if the control should be updated in the server.

13.3 PyformsManager

Note: Located in the `pyforms.js` file.

class PyformsManager()

PyformsManager is the class than manages all the pyforms client side interaction.

`PyformsManager.add_app(app)`

Add an app to the manager.

Arguments

- `app` (`BaseWidget()`) – BaseWidget instance.

`PyformsManager.checker_loop()`

check what it do

`PyformsManager.close_layout_place(layout_position)`

Close a layout.

Arguments

- `layout_position` (`int()`) – Layout id.

`PyformsManager.find_app(app_id)`

Search an app using the id.

Arguments

- `app_id` (`string()`) – BaseWidget id.

`PyformsManager.find_control(control_id)`

Search for a control by its id.

Arguments

- `control_id` (`string()`) – Control id.

`PyformsManager.garbage_collector()`

Check if applications are still in use, if not remove them

`PyformsManager.open_application(app_data)`

Open an application.

Arguments

- `app_data` (`object()`) – App data.

`PyformsManager.query_server(basewidget, data2send, show_loading)`

Contact the server to submit and receive updates.

Arguments

- `basewidget` (`BaseWidget()`) – BaseWidget object.
- `data2send` (`object()`) – Object with the data to send.
- `show_loading` (`bool()`) – Flag to activate the app loading (optional).

`PyformsManager.register_checkloop(check_event)`

Check what it does

`PyformsManager.register_layout_place(place_id, place_generator, place_activator, place_closer)`

Register a new layout for the applications.

Arguments

- **place_id** (`string()`) – App id.
- **place_generator** (`function()`) – Function that will generate the html container for the applications.
- **place_activator** (`function()`) – Function to active the layout when it exists.
- **place_closer** (`function()`) – Function to destroy the layout.

`PyformsManager.remove_app(app_id, app_index)`

Remove an app from the manager. If the `app_index` parameter is not defined it will search for the index using the `app_id` parameter.

Arguments

- **app_id** (`string()`) – BaseWidget id.
- **app_index** (`int()`) – BaseWidget index (optional).

`PyformsManager.split_id(control_id)`

Parse the control id

Arguments

- **control_id** (`string()`) – Control id.

Returns `list(str)` – [`widget_id`, `control_name`]

13.4 Other functions

Note: Located in the `pyforms-hub.js` file.

error_msg(*msg*)

Function called to show a message. This function can be overwritten.

Arguments

- **msg** (`string()`) – Message.

run_application(*application, constructor_params, method_params*)

Function called to execute a pyforms application.

Arguments

- **application** (`string()`) – Full python module path of the Widget to be executed.
- **constructor_params** (`object()`) – Widget parameters.
- **method_params** (`object()`) – Functions and parameters to be executed after the Widget initialization.

pyforms_checkhash()

Function called to check if there is a hash command to be executed. Url hash can be used to open an application.

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