
django-report-builder Documentation

Release 1.13

Burke Software and Consulting LLC

December 29, 2014

1	Quick Start Guide	3
1.1	Installation	3
1.2	Settings	3
1.3	Asynchronous Report Generation	4
1.4	Fieldsets	4
2	Extending and integrating django-report-builder	5
2.1	Format	5
2.2	Integrations	5
3	How To Use Django-Report-Builder	7
3.1	Creating a New Report	7
3.2	Editing a Report	8
3.3	Using the Report Filters Tab	9
4	Code	11
5	Discussion	13

A GUI for Django ORM. Build custom queries and display results. Targets sys admins and capable end users who might not be able to program or gain direct interactive shell access.

Quick Start Guide

1.1 Installation

1. `pip install django-report-builder`
2. Add `report_builder` to `INSTALLED_APPS`
3. Add `url(r'^report_builder/', include('report_builder.urls'))` to `url.py` url patterns
4. Sync your database, we don't recommend running migrations on the initial install.

```
./manage.py syncdb --all
./manage.py migrate --fake report_builder
```

5. Use Django admin to start building reports.

1.2 Settings

You may include and exclude fields or entire models.:

```
REPORT_BUILDER_INCLUDE = []
REPORT_BUILDER_EXCLUDE = ['user'] # Allow all models except User to be accessed
```

You may also limit which fields in a model can be used. Just add this property to a model:

```
report_builder_exclude_fields = () # Lists or tuple of excluded fields
```

You may set a custom model manager for all models:

```
REPORT_BUILDER_MODEL_MANAGER = 'on_site' #name of custom model manager to use on all models
```

You may also set a custom model manager per model. Just add the custom model manager and this property to a model:

```
report_builder_model_manager = on_site #reference to custom model manager to use for a model
```

Export to Report action is disabled by default. To enable set:

```
REPORT_BUILDER_GLOBAL_EXPORT = True
```

1.3 Asynchronous Report Generation

This feature is experimental for now. It's main purpose at this time is heroku support.

Sometimes it's useful to generate long running reports with a background worker. Defaults to off. Advantages of this option

- Works better with Heroku which limits requests to 30 seconds
- Run a report, close your browser, come back later to a finished report
- Download the last report that was run instead of regenerating
- Nicer status messages about report status

1.3.1 Installation

1. Set up Celery
2. Set `REPORT_BUILDER_ASYNC_REPORT = True` in `settings.py`

1.4 Fieldsets

It's possible to group fields together in fieldsets. This might be useful if you have many fields in a model. It follows syntax like Django Admin [fieldsets](#)

Add `report_builder_fieldsets` to your model in `models.py`. Classes are optional. Right now the only functional class is 'collapse' which will hide the fields until clicked on. Fieldsets can even be recursive!

Example:

```
report_builder_fieldsets = (  
    ('Names', {  
        'fields': ('first_name', 'last_name'),  
    }),  
    ('More', {  
        'fields': ('id', 'city'),  
        'classes': ('collapse',),  
    }),  
)
```

Extending and integrating django-report-builder

2.1 Format

Note many python format features require ≥ 2.7 <http://docs.python.org/2/library/string.html#string-formatting>

You may add formats in `/admin/report_builder/format`. See <http://docs.python.org/2/library/string.html#format-examples>

There are also some examples included in the south migrations. If you use south django-report-builder comes with a few formats for you.

2.2 Integrations

Give django-report-builder a native look and feel. django-sis shows a good example of a django-grappelli like style.

https://github.com/burke-software/django-sis/tree/master/templates/report_builder

Note I use django-apptemplates in this example to specify which app template I'm extending.

How To Use Django-Report-Builder

Django-SIS is a good example integration of report_builder. Note we've given report_builder a grappelli theme by modifying templates.

Access the admin report builder site (sampleurl/admin/report_builder). The following report builder dashboard screen appears:

Need a report? Here is where you can download and create custom reports based on current information.

Reports

View Starred Reports + Add report

8 total

Starred	Edit	Name	Description	Root model	Created	Modified	User created	Download	
<input type="checkbox"/>			Sample Import 2	Reports first name, last name, sex and number of visits for each applicant	applicant	May 24, 2013	May 28, 2013	juan	
<input type="checkbox"/>			Student Info	This report will pull various information on each student.	student	May 17, 2013	May 17, 2013	juan	
<input type="checkbox"/>			A report	Misc student data- custom fields	student	April 30, 2013	May 28, 2013	(None)	
<input type="checkbox"/>			CWSP1	First trimester student-worker data	student worker	April 30, 2013	May 28, 2013	(None)	
<input type="checkbox"/>			test		student	April 13, 2013	April 20, 2013	(None)	

Filter

Your starred reports

All

Root model

All

Created

Any date

Modified

Any date

This dashboard will allow the user to view any reports that have previously been created. Additionally, users will have the option of utilizing the available filter to quickly access, sort, and view previous reports by status, date, and root model.

Starred Reports are utilized to mark important reports, or reports that will be frequently generated. Users may quickly sort the dash to view only starred reports by selecting the **View Starred Reports** button located towards the top of the dashboard.

3.1 Creating a New Report

From the report builder main screen described above, select **Add Report** located at the top right-hand corner of the dash. The *Add Report* screen displays- **name** and **root model** (students, applicants, workers, etc.) are required fields.

Add report

It may also be helpful to include an extended description as shown above to provide other users with a more clear direction of how the report is used. Once the information has been entered, select **Save**. Your newly created report will now show as the most recent report in the dash, where you can then edit accordingly:

Reports View Starred Reports + Add report

9 total Filter

Starred	Edit	Name	Description	Root model	Created	Modified	User created	Download	Copy
<input checked="" type="checkbox"/>		Basic Student-Worker Information	This report will generate some basic student-worker information required by the CWSP staff to be updated once a month.	student worker	May 28, 2013	May 28, 2013	juan		
<input type="checkbox"/>		Sample Import 2	Reports first name, last name, sex and number of visits for each applicant	applicant	May 24, 2013	May 28, 2013	juan		

3.2 Editing a Report

All created reports have the option of being edited. Using the newly created report from above, to begin editing, select the pencil icon located under the **Edit** column by the respective report, in this instance: Basic Student-Worker Information.

Home > Reports > Report object

Set report fields for Basic Student-Worker Information Description: This report will generate some basic student-worker information required by the CWSP staff to be updated once a month Last updated: May 28, 2013 Model: student worker

Expand Related Fields:

Search Fields

- student worker
- aggregate_set
- am_route [ForeignKey]
- appt_student
- applicant_set
- asphistory_set
- attendance_set
- awardstudent_set

Fields - drag fields to add

Search Fields

- ADP Number [CharField]
- alert [CharField]
- alt_email [CharField]
- Birth Date [DateField]
- cache_gpa [DecimalField]
- city [CharField]
- date_dismissed [DateField]
- Working Day [CharField]
- email [CharField]
- First Name [CharField]
- grad_date [DateField]
- ID [AutoField]

Report Display Fields | Report Filters | Preview Report

Order	Delete	Field	Name	Sort	Desc?	Width	Aggregate	Format	Total	Group
↓	<input type="checkbox"/>	First Name [CharField]	First Name		<input type="checkbox"/>	15	-----	-----	<input type="checkbox"/>	<input type="checkbox"/>
↓	<input type="checkbox"/>	Last Name [CharField]	Last Name		<input type="checkbox"/>	15	-----	-----	<input type="checkbox"/>	<input type="checkbox"/>
↓	<input type="checkbox"/>	sex [CharField]	sex		<input type="checkbox"/>	15	-----	-----	<input type="checkbox"/>	<input type="checkbox"/>
↓	<input type="checkbox"/>	username [CharField]	username		<input type="checkbox"/>	15	-----	-----	<input type="checkbox"/>	<input type="checkbox"/>
↓	<input type="checkbox"/>	Working Day [CharField]	Working Day		<input type="checkbox"/>	15	-----	-----	<input type="checkbox"/>	<input type="checkbox"/>
↓	<input type="checkbox"/>	(workteam) team name [CharField]	team name		<input type="checkbox"/>	15	-----	-----	<input type="checkbox"/>	<input type="checkbox"/>

Drag fields here

Save

With the **Report Display Fields** tab selected, click and drag the fields from the list of available options located at the bottom-left side of the screen into the empty area located directly to the right while the appropriate tab is still selected. **Save** your selection.

Note: The **Expand Related Fields** field located in the box above the current fields list allows users to access expanded fields/information. Selecting one option will generate the expanded fields in the box below where you can then drag

and drop into the space available accordingly.

After dragging your specified fields and saving, users then have the option to preview the report by selecting the **Preview Report** tab. This will generate a preview, where users can then export into an Excel/Libre-Calc document, as shown below:

Report Display Fields	Report Filters	Preview Report			
Download full xlsx					
First Name	Last Name	sex	username	Working Day	team name
Yet	anotherstest		ytest	Monday	ASC Marketing
Valeria	Asample		vasample	Tuesday	test2
Hazel	Bender		hbender	Monday	President's Team
Erin	Blackwell		eblackwell	Monday	Training Work Team
Lillian	BLEVINS	Female	lblevins	Friday	President's Team
Charlotte	BOND	Female	cbond	Wednesday	ASC Marketing
Allison	BROWNING	Female	abrowning	Friday	team 1
Tracey	Bullock		tbullock	Monday	Training Work Team

3.3 Using the Report Filters Tab

The **Report Filters** option is designed to give users the ability to further refine their data. Refining information functions similar to editing your report, simply select the **Report Filters** tab and use the available fields list to drag and drop into the empty area.

Using the example above, consider the use case of a user wanting to pull the student-worker data from before, but only for males working on Mondays.

1. Drag and drop **Working day** and **sex** into the open area as shown below.
2. Under the **value** header, select Monday, and Male accordingly.
3. Click **Save** then enter preview tab to view and download into Excel.

Report Display Fields	Report Filters	Preview Report		
<input type="checkbox"/> Distinct (Removes duplicates)				
Delete?	Field	Filter Type	Value	Exclude?
⌵ <input type="checkbox"/>	Working Day [CharField]	Contains (case-insensitive)	Monday	<input type="checkbox"/>
⌵ <input type="checkbox"/>	sex [CharField]	Contains (case-insensitive)	Male	<input type="checkbox"/>
Drag fields here				
Save				

Report Display Fields	Report Filters	Preview Report			
Download full xlsx					
First Name	Last Name	sex	username	Working Day	team name
Luke	COLON	Male	lcolon	Monday	test2
Matthew	HOLCOMB	Male	mholcomb	Monday	team 1
Luke	MCCONNELL	Male	lmconnell	Monday	SuperTeam
Christopher	NIELSEN	Male	cnelsen	Monday	President's Team
Connor	SANFORD	Male	csanford	Monday	SuperTeam

Code

<https://github.com/burke-software/django-report-builder>

Discussion

Let us know your thoughts at <https://google.com/+Burkesoftware> or consider sending some pull requests our way!