
django.js Documentation

Release 0.6.3

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CONTENTS

Django.js provides tools for JavaScript development with Django.

Django.js is inspired from:

- [Miguel Araujo's verbatim snippet](#).
- [Dimitri Gnidash's django-js-utils](#).

Note: This is currently a work in progress (API will not be stable before 1.0) so don't expect it to be perfect but please [submit an issue](#) for any bug you find or any feature you want.

COMPATIBILITY

Django.js requires Python 2.7 and Django 1.4+.

INSTALLATION

You can install Django.JS with pip:

```
$ pip install django.js
```

or with easy_install:

```
$ easy_install django.js
```

Add `djangojs` to your `settings.INSTALLED_APPS`.

Add `djangojs.urls` to your root `URL_CONF`:

```
urlpatterns = patterns('',
    ...
    url(r'^djangojs/', include('djangojs.urls')),
    ...
)
```


DOCUMENTATION

3.1 Template tags

3.1.1 Initialization

You can either:

- load the template tag lib into each template manually:

```
{% load js %}
```

- load the template tag lib by adding to your `views.py`:

```
from django.template import add_to_builtins

add_to_builtins('djangojs.templatetags.js')
```

If you want to use boolean parameters, Django.js provide the `djangojs.context_processors.booleans` to help. Simply add it to your `settings.CONTEXT_PROCESSORS`. If not, you should use the string versions: `param="True"`.

3.1.2 Usage

`django_js`

A `{% django_js %}` tag is available to provide the Django JS module. After loading, you can use the Django module to resolve URLs and Translations:

```
{% django_js %}
<script>
  console.log(
    Django.url('my-view', {key: 'test'}),
    Django.file('test.json'),
    Django.context.STATIC_URL
  );
</script>
```

It supports the following keyword parameters (in this order if you want to omit the keyword):

Parameter	Default	Description
jquery	true	Load the jQuery library
i18n	true	Load the javascript i18n catalog
csrf	true	Patch jQuery.ajax() for Django CSRF

You can disable all these features by simply providing arguments to the template tag:

```
{% django_js jquery=false i18n=false csrf=false %}
```

Internationalization

When the `{% django_js %}` template tag is included in a page, it automatically:

- loads the django javascript catalog for all supported apps
- **loads the django javascript i18n/I10n tools in the page:**
 - `gettext()`
 - `ngettext()`
 - `interpolate()`

You can disable this feature by setting the `i18n` keyword parameter to `false`.

Note: You can filter included apps by using either the settings whitelist `settings.JS_I18N` or the settings blacklist `settings.JS_I18N_EXCLUDE` or both. For more information, see [Settings](#).

jQuery Ajax CSRF

When the `django_js` template tag is initialized it automatically patches `jQuery.ajax()` to handle CSRF tokens on ajax requests.

You can disable this feature by setting the `csrf` keyword parameter to `false`.

You can manually enable it later with:

```
Django.jquery_csrf();
```

verbatim

A `{% verbatim %}` tag is available to ease the JS templating. It escapes a specific part. For example, you may want a subpart of your template to be rendered by Django:

```
<script type="text/x-handlebars" id="tpl-django-form">
  <form>
    {% verbatim %}
      {{#if id}}<h1>{{ id }}</h1>{{/if}}
    {% endverbatim %}
    {{ yourform.as_p }}
  </form>
</script>
```

Note: Starting from Django 1.5, use the included `verbatim` tag.

jquery_js

The `{% jquery_js %}` tag only load the jQuery library.

You can override the version either by passing the version as a parameter or setting the version with the `settings.JQUERY_VERSION` property. For more informations, see *Settings*.

You can optionnaly load the jQuery Migrate plugins for legacy support with jQuery 1.9.0+.

```
{% jquery_js %}
{% jquery_js "1.8.3" %}
{% jquery_js migrate=true %}
```

The `django_js` tag automatically load jQuery so no need to manually load it unless you set `jquery=false`.

javascript/js

The `javascript` and `js` tags are the same quick helper to include javascript files from `{{STATIC_URL}}`:

```
{% javascript "js/my.js" %}
{% js "js/my.js" %}
```

is equivalent to:

```
<script type="text/javascript" src="{% static "js/my.js" %}"></script>
```

CSS

The `css` tag is a quick helper to include css files from `{{STATIC_URL}}`:

```
{% css "css/my.css" %}
```

is equivalent to:

```
<link rel="stylesheet" type="text/css" href="{% static "css/my.css" %}" />
```

js_lib

The `js_lib` tag is a quick helper to include javascript files from `{{STATIC_URL}}js/libs`:

```
{% js_lib "my-lib.js" %}
```

is equivalent to:

```
<script type="text/javascript" src="{{STATIC_URL}}js/libs/my-lib.js"></script>
```

3.2 Django javascript module

3.2.1 Reverse URLs

The Django.js library expose reverse urls to javascript. You can call the `Django.url()` method with:

- an url name without arguments

```
Django.url('my-view');
```

- an url name and a variable number of arguments

```
Django.url('my-view', arg1, arg2);
```

- an url name and an array of arguments

```
Django.url('my-view' [arg1, arg2]);
```

- an url name and an object with named arguments

```
Django.url('my-view', {arg1: 'value1', arg2: 'value2'});
```

- an url name with one or more namespaces

```
Django.url('ns:my-view');
```

```
Django.url('ns:nested:my-view');
```

You can use anonymous forms (variable arguments and array) with named arguments in urls but you can't use object form with anonymous arguments.

Note: You can filter included urls names and namespaces by using either the settings whitelists and blacklists: `settings.JS_URLS`, `settings.JS_URLS_EXCLUDE`, `settings.JS_URLS_NAMESPACES`, `settings.JS_URLS_NAMESPACES_EXCLUDE`. For more informations, see [Settings](#).

3.2.2 Static URLs

You can obtain a static file url with the `static` or `file` methods:

```
Django.static('my-data.json');  
Django.file('my-data.json');  
Django.static('another/data.pdf');  
Django.file('another/data.pdf');
```

3.2.3 Context

Django.js wraps some Django values normally accessible in the template context:

- `Django.context.STATIC_URL`
- `Django.context.MEDIA_URL`
- `Django.context.LANGUAGES`
- `Django.context.LANGUAGE_CODE`
- `Django.context.LANGUAGE_NAME`
- `Django.context.LANGUAGE_NAME_LOCAL`
- `Django.context.LANGUAGE_BIDI`

In fact, any value contributed by a context processor and serializable will be accessible from `Django.context`.

3.2.4 User and permissions

Django.js allows you to check basic user attributes and permissions from client side. You can simply access the `Django.user` object or call the `Django.user.has_perm()` method:

```
console.log(Django.user.username);

if (Django.user.is_authenticated) {
    do_something();
}

if (Django.user.is_staff) {
    go_to_admin();
}

if (Django.user.is_superuser) {
    do_a_superuser_thing();
}

if (Django.user.has_perm('myapp.do_something')) {
    do_something();
}
```

3.2.5 CSRF Tokens

Django.js provides some helpers for CSRF protection.

- return the value of the CSRF token

```
Django.csrf_token();
```

- return the hidden input element containing the CSRF token, like the `{% csrf_token %}` template tag

```
Django.csrf_element();
```

3.3 Javascript test tools

Django.js provide tools for easy javascript testing.

3.3.1 Views

Django.js provides base views for javascript testing. Instead of writing a full view each time you need a Jasmine or a QUnit test view, simply use the provided `JasmineView` and `QUnitView` and add them to your `test_urls.py`:

```
from django.conf.urls import patterns, url, include

from djangojs.views import JasmineView, QUnitView

urlpatterns = patterns('',
    url(r'^jasmine$', JasmineView.as_view(js_files='js/specs/*.specs.js'), name='my_jasmine_view'),
    url(r'^qunit$', QUnitView.as_view(js_files='js/tests/*.tests.js'), name='my_qunit_view'),
)
```

Both view have a `js_files` attribute which can be a string or and array of strings. Each string can be a static js file path to include or a glob pattern:

```
from djangojs.views import JasmineView

class MyJasmineView(JasmineView):
    js_files = (
        'js/lib/my-lib.js',
        'js/test/*.specs.js',
        'js/other/specs.*.js',
    )
```

jQuery can automatically be included into the view by setting the `jquery` attribute to `True`:

```
from djangojs.views import JasmineView

class MyJasmineView(JasmineView):
    jquery = True
    js_files = 'js/test/*.specs.js'
```

Django.js can automatically be included into the view by setting the `django_js` attribute to `True`:

```
from djangojs.views import JasmineView

class MyJasmineView(JasmineView):
    django_js = True
    js_files = 'js/test/*.specs.js'
```

These views extends the Django `TemplateView` so you can add extra context entries and you can customize the template by extending them.

```
from djangojs.views import QUnitView

class MyQUnitView(QUnitView):
    js_files = 'js/test/*.test.js'
    template_name = 'my-qunit-runner.html'

    def get_context_data(self, **kwargs):
        context = super(MyQUnitView, self).get_context_data(**kwargs)
        context['form'] = TestForm()
        return context
```

Two extensible test runner templates are provided:

- `djangojs/jasmine-runner.html` for jasmine tests
- `djangojs/qunit-runner.html` for QUnit tests

Both provides a `js_init` block, a `js_content` block and a `body_content` block.

```
{% extends "djangojs/qunit-runner.html" %}

{% block js_init %}
    {{ block.super }}
    {% js "js/init.js" %}
{% endblock %}

{% block js_content %}
    {% load js %}
    {% js "js/tests/my.tests.js" %}
{% endblock %}
```



```
{% block body_content %}
  <form id="test-form" action="{% url test_form %}" method="POST" style="display: none;">
    {{csrf_token}}
    {{form}}
  </form>
{% endblock %}
```

You can inspect django.js own test suites on github.

If you just need the Django.js compatible runners, you can include the following templates (depending on your framework):

- **QUnit:**
 - djangojs/qunit-runner-head.html
 - djangojs/qunit-runner-body.html
- **Jasmine:**
 - djangojs/jasmine-runner-head.html
 - djangojs/jasmine-runner-body.html

3.3.2 Test cases

A Phantom.js test runner parsing TAP is provided in 3 flavours:

- `JsTestCase` that runs javascript tests against Django livenesserver TestCase.
- `JsFileTestCase` that runs javascript tests against a static html file
- `JsTemplateTestCase` that runs javascript tests against a rendered html file (but without livenesserver running)

Note: Whatever TestCase you choose, it should output TAP. If you don't have complex and specific needs, you just have to use the provided template and extend them if needed.

Jasmine/QUnit support are provided with `JasmineSuite` and `QUnitSuite` mixins.

To use it with the previously defined views, just define either `url_name` or `filename` attribute:

```
from djangojs.runners import JsTestCase, JsFileTestCase, JsTemplateTestCase
from djangojs.runners import JasmineSuite, QUnitSuite
```

```
class JasminTests(JasmineSuite, JsTestCase):
    urls = 'myapp.test_urls'
    title = 'My Jasmine suite'
    url_name = 'my_url_name'
```

```
class QUnitTests(QUnitSuite, JsFileTestCase):
    filename = '/tmp/my-runner.html'
```

```
class JasminTests(JasmineSuite, JsTemplateTestCase):
    template_name = 'my/template.html'
    js_files = 'js/test/other/*.js'
```

The verbosity is automatically adjusted with the `-v/--verbosity` parameter from the `manage.py test` command line.

Warning: Phantom.js is required to use this feature and should be on your `$PATH`.

3.4 Integration with other Django apps

3.4.1 Django Absolute

Django Absolute contribute with the following context variables:

- `ABSOLUTE_ROOT`
- `ABSOLUTE_ROOT_URL`
- `SITE_ROOT`
- `SITE_ROOT_URL`

They will be available into `Django.context` javascript object (nothing new, this the default behavior). But, two more methods will be available:

- `Django.absolute()` to reverse an absolute URL based on request
- `Django.site()` to reverse an absolute URL based on Django site

If you try to call these methods without `django-bsolute` installed, a `DjangoJsError` will be thrown.

3.5 Settings

You can tune a little Django.js behaviour using settings. Django.js provide the following optionnal settings:

3.5.1 JQUERY_VERSION

Specify the jQuery version to use. If not specified, default to last version.

Django.js provide the following versions:

- 1.8.3
- 1.9.0
- 1.9.1

3.5.2 JS_URLS

Serialized URLs names whitelist. If this setting is specified, only named URLs listed in will be serialized.

- Default value: `None`
- Expected: a list of URLs names to include only

3.5.3 JS_URLS_EXCLUDE

Serialized URLs names blacklist. If this setting is specified, named URLs listed in will not be serialized.

- Default value: None
- Expected: a list of URLs names to exclude

3.5.4 JS_URLS_NAMESPACES

Serialized namespaces whitelist. If this setting is specified, only URLs from namespaces listed in will be serialized.

- Default value: None
- Expected: a list of URL namespaces to include only

3.5.5 JS_URLS_NAMESPACES_EXCLUDE

Serialized namespaces blacklist. If this setting is specified, URLs from namespaces listed in will not be serialized.

- Default value: None
- Expected: a list of URL namespaces to exclude

3.5.6 JS_I18N_APPS

Serialized translations whitelist. If specified, only apps listed in will appear in the javascript translation catalog.

- Default value: None
- Expected: a restricted application list to include in the javascript translation catalog

3.5.7 JS_I18N_APPS_EXCLUDE

Serialized translations blacklist. If specified, apps listed in will not appear in the javascript translation catalog.

- Default value: None
- Expected: an application list to exclude from the javascript translation catalog

3.5.8 Usage exemple

You could have, in your `settings.py`:

```
# Exclude my secrets pages from serialized URLs
JS_URLS_EXCLUDE = (
    'my_secret_page',
    'another_secret_page',
)
# Only include admin namespace
JS_URLS_NAMESPACES = (
    'admin',
)
# Only include my apps' translations
JS_I18N_APPS = ('myapp', 'myapp.other')
```

3.6 API

3.6.1 djangojs – Main package

Django.js provide better integration of javascript into Django.

```
djangojs.JQUERY_DEFAULT_VERSION = '1.9.1'
    Packaged jQuery version
```

3.6.2 djangojs.views – Javascript views helpers

This module provide helper views for javascript.

```
class djangojs.views.JsInitView(**kwargs)
    Bases: django.views.generic.base.TemplateView

    Render a javascript file containing the URLs mapping and the context as JSON.
```

```
class djangojs.views.JsonView(**kwargs)
    Bases: django.views.generic.base.View

    A views that render JSON.
```

```
class djangojs.views.UrlJsonView(**kwargs)
    Bases: djangojs.views.JsonView

    Render the URLs as a JSON object.
```

```
class djangojs.views.ContextJsonView(**kwargs)
    Bases: djangojs.views.JsonView

    Render the context as a JSON object.
```

```
class djangojs.views.JsTestView(**kwargs)
    Bases: django.views.generic.base.TemplateView

    Base class for JS tests views

    django_js = False
        Includes or not Django.js in the test view

    jquery = False
        Includes or not jQuery in the test view.

    js_files = None
        A path or a list of path to javascript files to include into the view.
```

- Supports glob patterns.
- Order is kept for rendering.

```
class djangojs.views.JasmineView(**kwargs)
    Bases: djangojs.views.JsTestView

    Render a Jasmine test runner.
```

```
class djangojs.views.QUnitView(**kwargs)
    Bases: djangojs.views.JsTestView

    Render a QUnit test runner
```

theme = 'qunit'
 QUnit runner theme.
 Should be one of: qunit, gabe, ninja, nv

3.6.3 djangojs.runners – Javascript unittest runners

This module provide Javascript test runners for Django unittest.

class `djangojs.runners.JsTestCase` (*methodName='runTest'*)
 Bases: `djangojs.runners.PhantomJsRunner`, `django.test.testcases.LiveServerTestCase`

A PhantomJS suite that run against the Django LiveServerTestCase

url_args = None
 an optionnal arguments array to pass to the `reverse()` function

url_kwargs = None
 an optionnal keyword arguments dictionary to pass to the `reverse()` function

url_name = None
 a mandatory named URL that point to the test runner page

class `djangojs.runners.JsFileTestCase` (*methodName='runTest'*)
 Bases: `djangojs.runners.PhantomJsRunner`, `unittest.case.TestCase`

A PhantomJS suite that run against a local html file

filename = None
 absolute path to the test runner page

class `djangojs.runners.JsTemplateTestCase` (*methodName='runTest'*)
 Bases: `djangojs.runners.JsFileTestCase`

A PhantomJS suite that run against a rendered html file but without server.

Note: Template is rendered using a modified static storage that give `file://` scheme URLs. To benefits from it, you have to use either the `static` template tag or one the `djangojs` template tags.

Warning: Template is not rendered within a request/response dialog. You can't access the request object and everything that depends on the server.

jquery = False
 Includes or not jQuery in the test view. Template has to handle the `use_jquery` property.

js_files = None
 A path or a list of path to javascript files to include into the view.

- Supports glob patterns.
- Order is kept for rendering.

template_name = None
 absolute path to the test runner page

exception `djangojs.runners.JsTestException` (*message, failures=None*)
 Bases: `exceptions.Exception`

An exception raised by Javascript tests.

It display javascript errors into the exception message.

class `djangojs.runners.JasmineSuite`

Bases: `object`

A mixin that runs a jasmine test suite with PhantomJs.

class `djangojs.runners.QUnitSuite`

Bases: `object`

A mixin that runs a QUnit test suite with PhantomJs.

class `djangojs.runners.AbsoluteFileStorage` (*location=None, base_url=None*)

Bases: `django.core.files.storage.FileSystemStorage`

A storage that give the absolute file scheme URL as URL.

3.6.4 `djangojs.utils` – Miscellaneous helpers

This modules holds every helpers that does not fit in any standard django modules.

It might be splitted in futur releases.

`djangojs.utils.urls_as_dict()`

Get the URLs mapping as a dictionary

`djangojs.utils.urls_as_json()`

Get the URLs mapping as JSON

class `djangojs.utils.ContextSerializer`

Bases: `object`

Serialize the context from requests.

classmethod `as_dict(request)`

Serialize the context as a dictionary from a given request.

classmethod `as_json(request)`

Serialize the context as JSON from a given request.

class `djangojs.utils.StorageGlobber`

Bases: `object`

Retrieve file list from static file storages.

classmethod `glob(files=None)`

Glob a pattern or a list of pattern static storage relative(s).

3.6.5 `djangojs.tap` – Tap format parser

This module provide test runners for JS in Django.

class `djangojs.tap.TapParser` (*yield_class=<class 'djangojs.tap.TapTest'>, debug=False*)

Bases: `object`

A TAP parser class reading from iterable TAP lines.

3.6.6 `djangojs.templatetags.js` – Javascript template tags

Provide template tags to help with Javascript/Django integration.

class `djangojs.templatetags.js.VerbatimNode` (*text_and_nodes*)

Bases: `django.template.base.Node`

Wrap `{% verbatim %}` and `{% endverbatim %}` around a block of javascript template and this will try its best to output the contents with no changes.

```
{% verbatim %}
    {% trans "Your name is" %} {{first}} {{last}}
{% endverbatim %}
```

`djangojs.templatetags.js.css` (*filename*)

A simple shortcut to render a link tag to a static CSS file

`djangojs.templatetags.js.django_js` (*context, jquery=True, i18n=True, csrf=True*)

Include Django.js javascript library in the page

`djangojs.templatetags.js.javascript` (*filename*)

A simple shortcut to render a script tag to a static javascript file

`djangojs.templatetags.js.jquery_js` (*version=None, migrate=False*)

A shortcut to render a script tag for the packaged jQuery

`djangojs.templatetags.js.js` (*filename*)

A simple shortcut to render a script tag to a static javascript file

`djangojs.templatetags.js.verbatim` (*parser, token*)

Renders verbatim tags

`djangojs.templatetags.js.verbatim_tags` (*parser, token, endtagname*)

Javascript templates (jquery, handlebars.js, mustache.js) use constructs like:

```
{{if condition}} print something{{/if}}
```

This, of course, completely screws up Django templates, because Django thinks `{{ and }}` means something.

The following code preserves `{{ }}` tokens.

This version of verbatim template tag allows you to use tags like `url {% url name %}`. `{% trans "foo" %}` or `{% csrf_token %}` within.

Inspired by:

- Miguel Araujo: <https://gist.github.com/893408>

3.6.7 `djangojs.context_processors` – Context processors

`djangojs.context_processors.booleans` (*request*)

Allow to use booleans in templates.

See: <http://stackoverflow.com/questions/4557114/django-custom-template-tag-which-accepts-a-boolean-parameter>

3.7 Changelog

3.7.1 0.6.3 (2013-03-08)

- Fix CSRF misspelling (thanks to Andy Freeland)
- Added some client side CSRF helpers (thanks to Andy Freeland)

- Upgrade to jQuery 1.9.1 and jQuery Migrate 1.1.1
- Do not clutter url parameters in `js`, `javascript` and `js_lib` template tags.

3.7.2 0.6.2 (2013-02-18)

- Compatible with Django 1.5

3.7.3 0.6.1 (2013-02-11)

- Added `static` method (even if it's a unused reserved keyword)

3.7.4 0.6 (2013-02-09)

- Added basic user attributes access
- Added permissions support
- Added `booleans` context processor
- Added jQuery 1.9.0 and jQuery Migrate 1.0.0
- Upgraded QUnit to 1.11.0
- Added QUnit theme support
- Allow to specify jQuery version (1.8.3 and 1.9.0 are bundled)

3.7.5 0.5 (2012-12-17)

- Added namespaced URLs support
- Upgraded to Jasmine 1.3.1
- **Refactor testing tools:**
 - Rename `test/js` into `js/test` and reorganize test resources
 - Renamed `runner_url*` into `url*` on `JsTestCase`
 - Handle `url_args` and `url_kwargs` on `JsTestCase`
 - Renamed `JasmineMixin` into `JasmineSuite`
 - Renamed `QUnitMixin` into `QUnitSuite`
 - Extracted runners initialization into includable templates
- Added `JsFileTestCase` to run tests from a static html file without live server
- Added `JsTemplateTestCase` to run tests from a rendered template file without live server
- **Added some settings to filter scope:**
 - Serialized named URLs whitelist: `settings.JS_URLS`
 - Serialized named URLs blacklist: `settings.JS_URLS_EXCLUDE`
 - Serialized namespaces whitelist: `settings.JS_URLS_NAMESPACES`
 - Serialized namespaces blacklist: `settings.JS_URLS_NAMESPACES_EXCLUDE`

- Serialized translations whitelist: `settings.JS_I18N_APPS`
- Serialized translations blacklist: `settings.JS_I18N_APPS_EXCLUDE`
- Expose PhantomJS timeout with `PhantomJsRunner.timeout` attribute

3.7.6 0.4 (2012-12-04)

- Upgraded to jQuery 1.8.3
- Upgraded to Jasmine 1.3.0
- Synchronous URLs and context fetch.
- Use `django.utils.termcolors`
- **Class based javascript testing tools:**
 - Factorize `JsTestCase` common behaviour
 - Removed `JsTestCase.run_jasmine()` and added `JasmineMixin`
 - Removed `JsTestCase.run_qunit()` and added `QUnitMixin`
 - Extract `TapParser` into `djangojs.tap`
- Only one Django.js test suite
- Each framework is tested against its own test suite
- Make jQuery support optionnal into `JsTestCase`
- Improved `JsTestCase` output
- Drop Python 2.6 support
- Added API documentation

3.7.7 0.3.2 (2012-11-10)

- Optionnal support for Django Absolute

3.7.8 0.3.1 (2012-11-03)

- Added `JsTestView.django_js` to optionnaly include `django.js`
- Added `js_init` block to runners to templates.

3.7.9 0.3 (2012-11-02)

- Improved `ready` event handling
- Removed runners from `urls.py`
- Added documentation
- Added `ContextJsonView` and `Django.context` fetched from `json`.
- Improved error handling
- Added `DjangoJsError` custom error type

3.7.10 0.2 (2012-10-23)

- Refactor template tag initialization
- Provides Jasmine and QUnit test views with test discovery (globbing)
- Provides Jasmine and QUnit test cases
- Added `Django.file()`
- Added `{% javascript %}`, `{% js %}` and `{% css %}` template tags

3.7.11 0.1.3 (2012-10-02)

- First public release
- Provides `django.js` with `url()` method and constants
- Provides `{% verbatim %}` template tag
- Patch `jQuery.ajax()` to handle CSRF tokens
- Loads the `django javascript` catalog for all apps supporting it
- Loads the `django javascript` i18n/l10n tools in the page

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