
django-wms Documentation

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Daniel Wiesmann

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The Django WMS Framework is a toolkit that makes it easy to integrate a [Web Map Service \(WMS\)](#) or a [x-y-z Tile Map Service](#) into a Django project. Rendering of both vector and raster data formats are supported.

CHAPTER 1

Requirements

The processing of spatial data in `django-wms` relies on `MapServer` and its python bindings `MapScript`. Raster data integration depends on the `django-raster` package. The use of `PostGIS` as the database backend is required as well, for raster integration `PostGIS >= 2.0` is required (see also `django-raster` package).

CHAPTER 2

Installation

1. Install package with `pip install django-wms`
2. Add “wms” to your `INSTALLED_APPS` setting like this

```
INSTALLED_APPS = (  
    ...  
    'wms',  
)
```


The structure of django-wms is closely tied to how MapServer works.

The spatial data rendering in django-wms relies on [MapScript](#), the python-bindings for MapServer. The basic functionality of django-wms is to use mapscript to dynamically produce directives for MapServer. To render spatial data, MapServer is configured through [MapFiles](#) in which global WMS parameters, layers and cartography styles are defined.

The concept of [MAP](#) directives is translated into a `WmsMap` class. [LAYER](#) definitions and classes for symbology and cartography are represented in the `WmsLayer` class within django-wms. A set of [SYMBOL](#) directives for drawing point data are preconfigured as well.

MapScript has its own class definitions for those directives, django-wms simply makes them easy to use in a django project.

Web requests in django-wms are handled through a class based view module `WmsView`. The view can be hooked into a url and will take care of handling WMS and TMS requests automatically.

CHAPTER 4

Example

To create a mapping service, subclass the django-wms layer, map and view classes and connect them to an existing model in django that has a spatial field (such as Point, Polygon, MultiPolygon or Raster). An example `wms_config.py` module could be specified as follows

```
### wms_config.py

# Load django-wms classes
from wms import maps, layers, views

# Load model with spatial field (Point, Polygon, MultiPolygon)
from myapp.models import MySpatialModel

# Subclass the WmsVectorLayer class and point it to a spatial model.
# Use WmsRasterLayer for rasters
class MyWmsLayer(layers.WmsVectorLayer):
    model = MySpatialModel

# Subclass the WmsMap class and add the layer to it
class MyWmsMap(maps.WmsMap):
    layer_classes = [ MyWmsLayer ]

# Subclass the WmsView to create a view for the map
class MyWmsView(views.WmsView):
    map_class = MyWmsMap
```

With the WmsView subclass in place, the only thing left to do to create a functional map service is to hook the view into a url. An example url configuration `urls.py` could be

```
### urls.py

# Import the wms view
from myproject.wms_config import MyWmsView

# Add url patterns to setup map services from the view
urlpatterns = patterns('',
```

```
# This creates a WMS endpoint
url(r'^wms/$', MyWmsView.as_view(), name='wms'),

# This creates a TMS endpoint
url(r'^tile/(?P<layers>[^/]+)/(?P<z>[0-9]+)/(?P<x>[0-9]+)/(?P<y>[0-9]+)(?P<format>
→\.(jpg|\.png)$',
    MyWmsView.as_view(), name='tms'),
)
```

The django-wms package will automatically detect the first spatial field it can find in `MySpatialModel` and create a WMS endpoint from the class based view. If the three arguments `x`, `y` and `z` are found in the urlpattern, the view functions as TMS endpoint.