

Here is a crib sheet of the process of creating a Django application from scratch. This is a summary of what I've learned up to this point. It's a good idea to be very familiar with this process, and this sheet is useful if you've gotten a good grasp of the concepts they describe.

Install

macOS:

```
> virtualenv djangoEnv
> source djangoEnv/bin/activate
(djangoEnv)>pip install django
```

PC:

```
> python -m virtualenv djangoEnv
> call djangoEnv/scripts/activate
(djangoEnv)>pip install django
```

Create project

```
# 'main' is the project name used below
django-admin startproject main
```

The project has been created, inspect the file & folders created as a result:

- Folder: main
 - File: manage.py <= used to run the application.
 - Folder: main <= contains the files specific to our app.
 - File: __init__.py
 - File: settings.py
 - File: urls.py
 - File: wsgi.py

A few more config items to complete the setup:

- Navigate into the main directory that you just created.

```
> cd main
```

- Make a new apps directory

```
> mkdir apps
```

- Navigate into apps

```
> cd apps
```

- Create an __init__.py file. This just let's Python know that this folder is viewable by Python and can look in here and access the code!

Bash: (Mac, Linux) =>

```
touch __init__.py
```

PCs: (Command Prompt) =>

```
nul> __init__.py <-- You can disregard the Access Denied message
```

Start the new app.

```
> python ../manage.py startapp first_app
```

The app 'first_app' has been created, let's look at the updated file/folder structure

- Folder: main
 - Folder: apps <= created by our steps above
 - File: __init__.py <= created by our steps above
 - Folder: first_app <= created as a result to the call to 'startapp'
 - File: __init__.py
 - File: admin.py
 - File: apps.py
 - File: models.py <= The 'M' in MVC
 - File: tests.py
 - File: views.py <= The CONTROLLER in our MVC pattern
 - File: manage.py <= used to run the application.
 - Folder: main <= contains the files specific to our app.
 - File: __init__.py
 - File: settings.py
 - File: urls.py
 - File: wsgi.py

Open the settings.py file and add a line to your INSTALLED_APPS:

```
INSTALLED_APPS = [
    'apps.first_app', ### <= added this line!
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
]
```

Open the urls.py file, add the line to import include and add a line to include all of the url routes routes.

```
from django.conf.urls import url, include # Notice we added include
from django.contrib import admin
urlpatterns = [
    url(r'^$', include('apps.first_app.urls')) # And now we use include to pull in c
]
```

Now, create the urls.py file in our 'first_app' folder so that the final file/folder structure looks like

- Folder: main
 - Folder: apps <= created by our steps above
 - File: __init__.py <= created by our steps above
 - Folder: first_app <= created as a result to the call to 'startapp'
 - File: __init__.py
 - File: admin.py
 - File: apps.py
 - File: models.py <= The 'M' in MVC
 - File: tests.py
 - File: views.py <= The CONTROLLER in our MVC pattern
 - urls.py <= the file that will handle the routes of our app
 - File: manage.py <= used to run the application.
 - Folder: main <= contains the files specific to our app.
 - File: __init__.py
 - File: settings.py
 - File: urls.py
 - File: wsgi.py

Add some routes to our urls.py file!



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- Installing Django (/m)
- Big Picture (/m)
- ☐ Getting Started (/m)
- ☐ Routes and Controllers (/m)
- ☐ Django views.py(MVC-Controller... (/m)
- Templates and Static Files (/m)
- Time Display (/m)
- ☐ Session Data and Forms (/m)
- Random Word Generator (/m)
- Quiz (/m)
- Survey Form (/m)
- ☐ Context Objects Re-explained (/m)
- ☐ Route Parameters (/m)
- Quiz II (/m)
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In Django we set up our routes this way:

```
from django.conf.urls import url
from . import views
# ^ So we can call functions from our routes!
urlpatterns = [
    url(r'^$', views.index)
]
```

The Flask equivalent:

```
@app.route('/')
def index():
```

Finally, run the app:

```
cd ..
python manage.py runserver
```

Adding views & static files

- Folder: main
 - Folder: apps <= created by our steps above
 - File: __init__.py <= created by our steps above
 - Folder: first_app <= created as a result to the call to 'startapp'
 - Folder: templates
 - Folder: first_app
 - Files: *.html
 - Folder: static
 - Folder: first_app
 - Folder: css
 - Folder: js
 - Folder: images
 - File: __init__.py
 - File: admin.py
 - File: apps.py
 - File: models.py <= The 'M' in MVC
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Example of a Controller action ('View' in Django:)

```
# views.py
...
def index(request):
    return render(request, "first_app/index.html")
```

Implement sessions in our app:

```
# Need to be in same directory as manage.py file
> python manage.py makemigrations
> python manage.py migrate
```

Context

On the server:

```
from django.shortcuts import render, HttpResponseRedirect, redirect
def show_ninja(request, ninja):
    #ninja got passed in through the url parameter!
    context = {'myninja': ninja}
    return render(request, '/myproject/showmyninja.html', context)
```

In our templates:



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Django setup summary sheet | Django Level I - Introduction

<!-- From inside /myproject/showmyninja.html -->
{%myninja%}

Route Parameters

In our urls.py file:

Inside apps/appname/urls.py might look like this:
from django.conf.urls import url
from . import views
urlpatterns = [
 url(r'^en/(?P<djangoversion>{0-9}\.{0-9})/topics/http/urls/\$', views.index)
]

In our views.py file:

from django.shortcuts import render, HttpResponseRedirect, redirect
Create your views here.
def index(request, djangoversion):
 print(djangoversion) # will result in a string e.g. "1.9"
 print("hello, I am your first request")
 return HttpResponseRedirect('hello')

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4/4