

Django

January 7, 2019

1 Django

1.1 Create a project (application container)

- Creates a directory with same name
- A `manage.py` utility to manage project
- a directory containing
 - `settings.py` to setup applications
 - `urls.py` to setup URL to application/function mapping
 - `wsgi.py` WSGI interpreter to use in Apache or other web servers

```
In [6]: %%sh
        django-admin startproject d2017
```

```
CommandError: '/home/d2017' already exists
```

```
In [2]: %cd d2017
```

```
/home/d2017
```

1.2 Create an application

Use `manage.py` to create your application. `manage.py startapp applicationname`

This will create application directory and put necessary files in it: * `models.py` Model descriptions for ORM database mapping * `views.py` Controller functions (functions to call on URL requests) * `admin.py` For administration of application * `apps.py` Application configuration * `tests.py` Test cases and unit testing

```
In [4]: %%!
        python3 manage.py startapp student
```

```
Out[4]: ["CommandError: 'student' conflicts with the name of an existing Python module and can
```

1.3 Update Model

Update `models.py` for your data if there is any.

1.4 Create database

`models.py` contain the application data. In the first time and each time `models.py` is modified, call `makemigrations` and `migrate` to update database.

Depending on the database back end choosen in `settings.py` it will create/update the tables. Default backend is `sqlite3`.

```
In [10]: %%!
```

```
python3 ./manage.py makemigrations
python3 ./manage.py migrate
```

```
Out[10]: ['No changes detected',
          'Operations to perform:',
          '  Apply all migrations: admin, auth, contenttypes, sessions, student',
          'Running migrations:',
          '  No migrations to apply.']
```

1.5 Update url.py and views.py

Add your views as a function:

```
from django.http import HttpResponse
```

```
# Create your views here.
```

```
def index(request):
    return HttpResponse("Hello, world.")
```

In `urls.py` add an include statement `url(r'^/student/', include('student.urls'))`

1.6 Start Server

`manage.py runserver` will start the server

```
In [24]: %%!
         # following blocks Jupyter, stop kernel
         python3 ./manage.py runserver
```

```
^C
```

```
Out[24]: []
```

`http://localhost:8000/student` will give "Hello world" in the view

```
In [ ]: %%!
        python3 ./manage.py sqlmigrate student 0001
```