Introduction

Installation

Settings Module

Requests and Response

Running development server

Django admin site introduction

Installation

- Python Installation
- Django Installation

```
pip install django
```

Settings Module

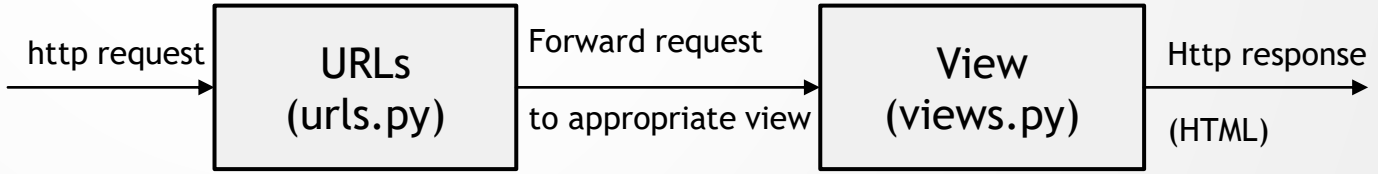
- settings.py – why these variables and values are used

Separating dev, prod, test environments

- Create a folder called settings or config
- Move the settings.py to that dir
- Create a __init__.py
- Create a dev.py, import settings to it, overwrite the values in dev.py
- Repeat the same for prod.py
- In settings.py, point the base dir one step up
- In wsgi.py and manage.py, point the settings to dev
- Run the server

Requests & Response

- When a url is striked in the web browser, ***urls.py*** is involved to map the path to a view (views.py)
- ***views.py*** is responsible to send a response HTML



Requests & Response

urls.py

```
from .views import index

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', index),
]
```

views.py

```
from django.http import HttpResponse

def index(request):
    return HttpResponse('<b>Hello world<b>')
```

Running development server

- Make a new project directory
- Start the project

```
django-admin startproject mysite
```

- Run the server

```
python manage.py runserver
```

Django admin site introduction

- Apply / enable the default app(s) by migrate

```
python manage.py migrate
```

- Create a super user

```
python manage.py createsuperuser
```

- Run the server and play around admin site

```
python manage.py runserver
```

Template Layer

Overview of template language

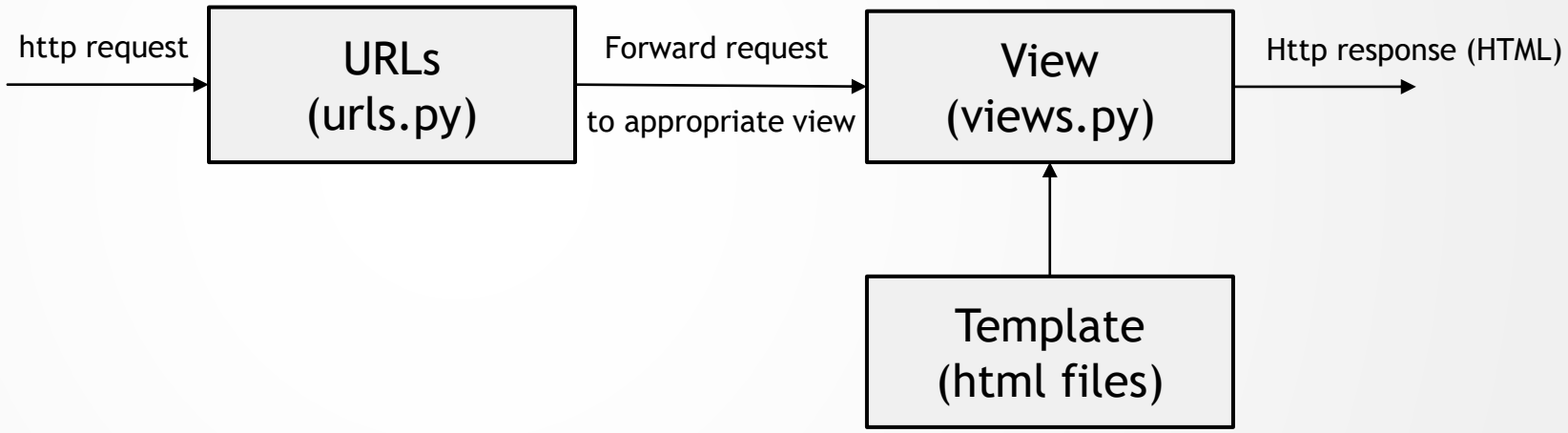
Built-in tags and filters

Humanization

custom tags and filters

csrf token

Overview of template language



Overview of template language

- Start an app

```
>python manage.py startapp members
```

- Add app to Installed Apps
- In project directory, in settings.py, add the newly created members

```
INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'members'
]
```

Overview of template language

- In app directory, create a folder called **templates** →backend → index.html

- Edit index.html

index.html

```
<html >


<style>
body {
    background-color: lightblue;
}
</style>
<body>
     hey
</body>
```

Overview of template language

- Edit members/views.py

views.py

```
def url1(request):
        return render(request,
'backends/blog.html')
```

- Add path to to project's urls.py

urls.py

```
from members.views import page

urlpatterns = [
    path('admin/', admin.site.urls),
    path('members/', page)
]
```

Overview of template language

- Makemigrations

```
>python manage.py makemigrations
```

- Migrate

```
>python manage.py migrate
```

- Run server

```
>python manage.py runserver
```

Built-in tags and filters

- For
- If

- Block

{% block content %}

{% endblock %}

- Extends

{% extends ‘backend/base.html’ %}

Built-in tags and filters

- Passing context from views.py

views.py

```
from django.shortcuts import render

# Create your views here.

context = {'data’: [

{'name': 'jessie', 'department': 'IT', 'count': 1},
{'name': 'malini', 'department': 'Chem’}

]}

def page(request):
        return render(request, 'backend/index.html',
context)
```

Built-in tags and filters

- Using for and if

index.html

```
<h1> my app </h1>
<b> data is </b>

{{ data }}

<b> elements in data </b>

{% for student in data %}
{% if student.name == 'jessie' %}
{{ student.count }}
{% endif %}
{% endfor %}
```

Templates Built-in tags and filters

- Add
- Capfirst

Additional Reference - official doc

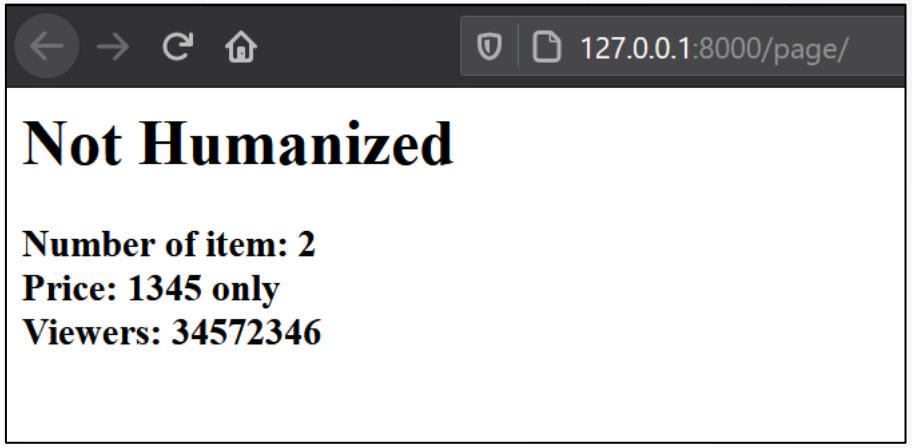
Templates Built-in tags and filters

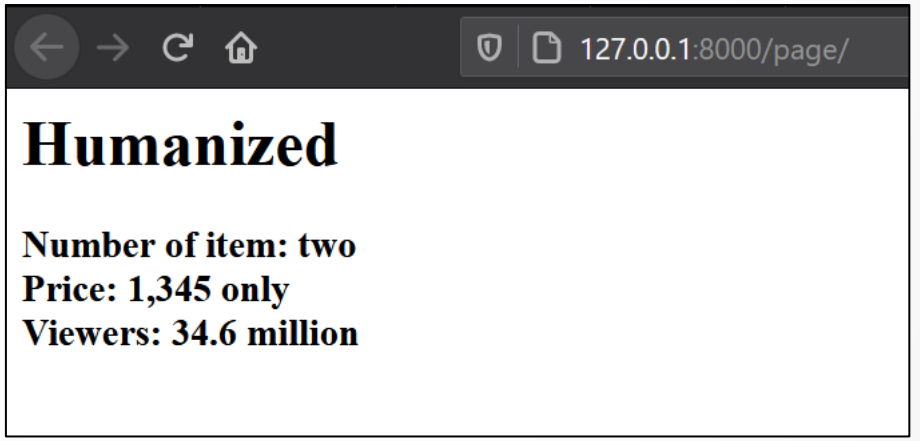
- Using add

index.html

```
<b> elements in data </b>

{% for student in data %}
{% if student.name == 'jessie' %}
{{ student.count|add:1 }}
{% endif %}
{% endfor %}
```

Humanization





Ref:
https://docs.djangoproject.com/en/3.1/ref/contrib/humanize/

Humanization

- In Installed apps add → ***django.contrib.humanize***
- Add context in *views.py*

views.py

```
from django.shortcuts import render

# Create your views here.
context = {
        'num_of_item': '2',
        'price': 1345,
        'viewers': 34572346
}

def page(request):
        return render(request,
'backend/index.html', context)
```

Humanization

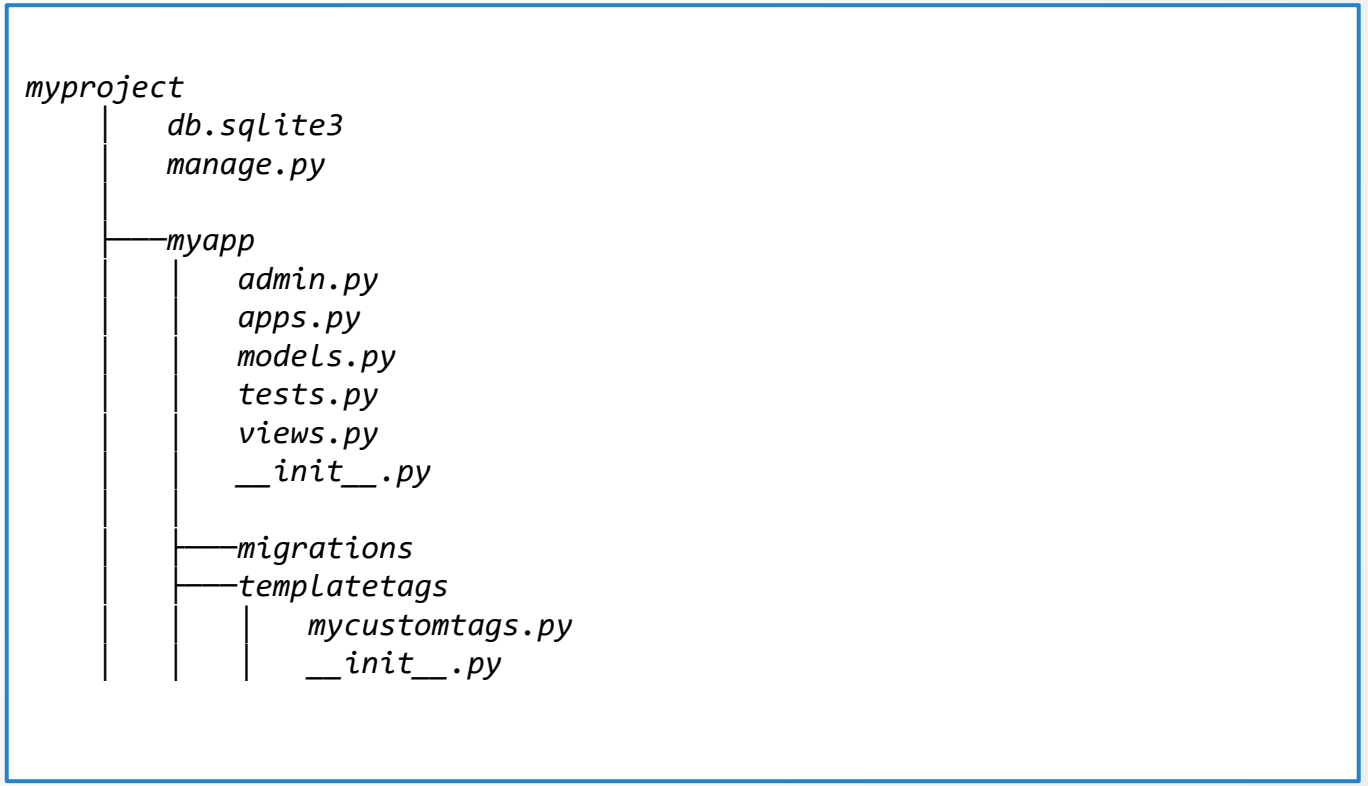
- Edit *index.html*

index.html

```
<h1> My Page </h1>

{% load humanize %}

<h3>
        Number of item:
        {{ num_of_item|apnumber }}
        </br>

        Price:
        {{ price|intcomma }} only
        </br>

        Viewers:
        {{ viewers|intword }}
        </br>

</h3>
```

custom tags and filters - Tags

- Create a directory called ***templatetags*** in app directory
- Create an empty ***__init__.py*** in templatetags to treate the directory as a python package
- Create any py file in templatetags, in this slide we are taking it as ***mycustomtags.py***



custom tags and filters - Tags

- Edit mycustomtags.py

mycustomtags.py

```
from django import template

register = template.Library()

@register.simple_tag
def count_list(lst):
        return len(lst)
```

- Add to *INSTALLED_APPS* → ***'myapp.templatetags.mycustomtags'***

custom tags and filters - Tags

- Context in *views.py*

views.py

```
context = {
        'data' : [1,2,3,4]
}
```

- In *index.html*

index.html

```
<h1> Custom Tags </h1>

{% load mycustomtags %}

{% count_list data %}
```

custom tags and filters - filters

- Create a new python file for a custom filter – example ***mycustomfilters.py***

mycustomfilters.py

```
from django import template


register = template.Library()


@register.filter
def cut(value, arg):
        return value.replace(arg, '')
```

- Add the custom filter to *INSTALLED_APPS* → ***'myapp.templatetags.mycustomfilters'***

custom tags and filters

-

filters

- Make sure you have a string value in *context* in *views.py*

views.py

```
context = {
        'data' : [1,2,3,4],
        'name' : 'malini'
}
```

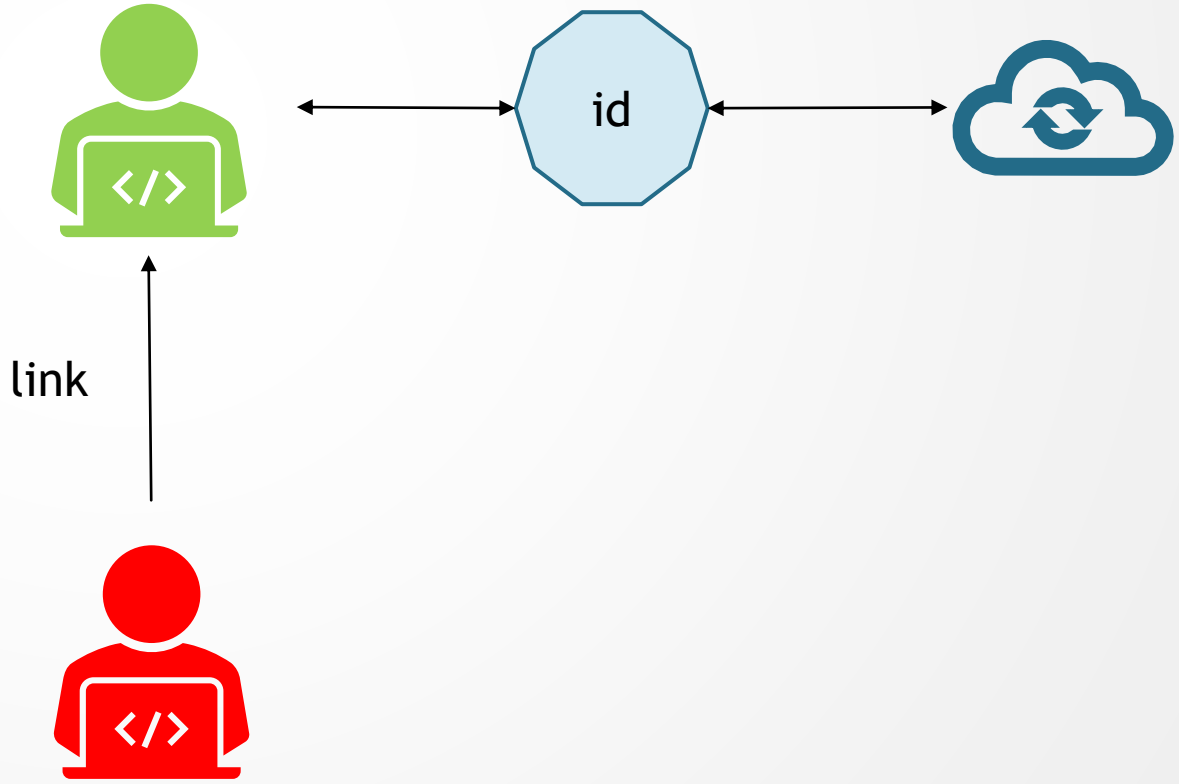
- In *index.html*

index.html

```
<h1> Custom Filters </h1>

{{ name|cut:'a' }}
```

Csrf token

- Csrf – Cross site request forgery
- To know what's csrf – https://www.youtube.com/watch?v=hW2ONyxAySY



To cover

- Inclusion tag – on completion of models
- Csrf – after forms