**Django is a MVT pattern(Model,View and Template)

Starting django;

1. virtualenv project
2. Scripts\activate

[if this command gives error like this :

cannot be loaded because the execution of scripts is disabled on this system

then run the windows powershell as administrator and run this command there:

Set-ExecutionPolicy RemoteSigned

Important Note: When you are done, you can set the policy back to its default value with:

Set-ExecutionPolicy Restricted

now run the Scripts\activate again]

3. Now the virtual environment is activate as you can see (project) is on the left side
4. Now install django:

pip install Django==4.2.1

As everything is installed by this time. Now we should run it.

django-admin startproject mysite [here mysite is the name]

**init and wsgi file is required to run the python modules

**settings and url files where we will actually make changes

Now for running server we have to follow these steps:

for example we want to run manage.py file so the instructions are:

1. cd mysite
2. python manage.py runserver

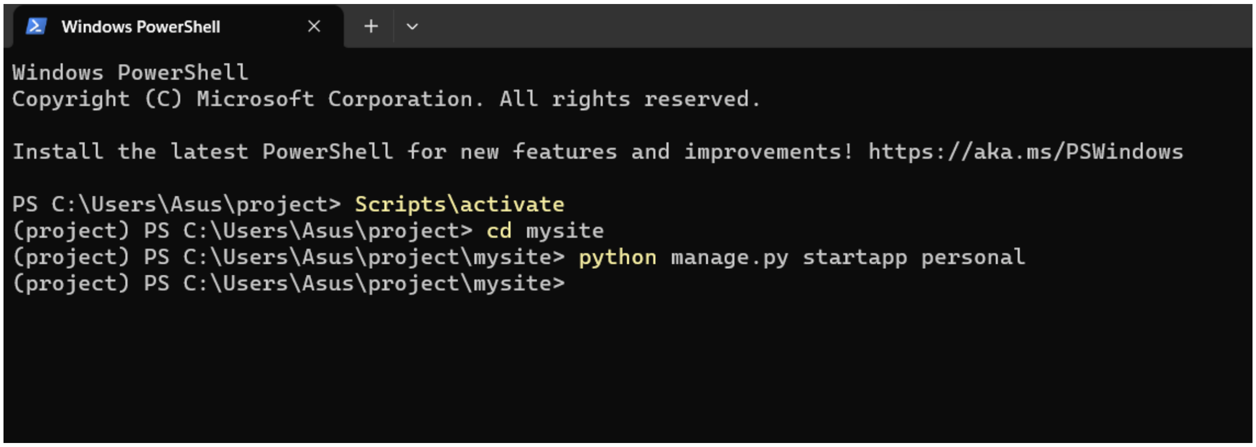
you will see a port

ctrl+click on that and voila your server is running perfectly on your browser

Working procedures:

1. **Now** everytime you add a app you have to add that name on settings.py

For example you add a name personal:



```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Asus\project> Scripts\activate
(project) PS C:\Users\Asus\project> cd mysite
(project) PS C:\Users\Asus\project\mysite> python manage.py startapp personal
(project) PS C:\Users\Asus\project\mysite>
```
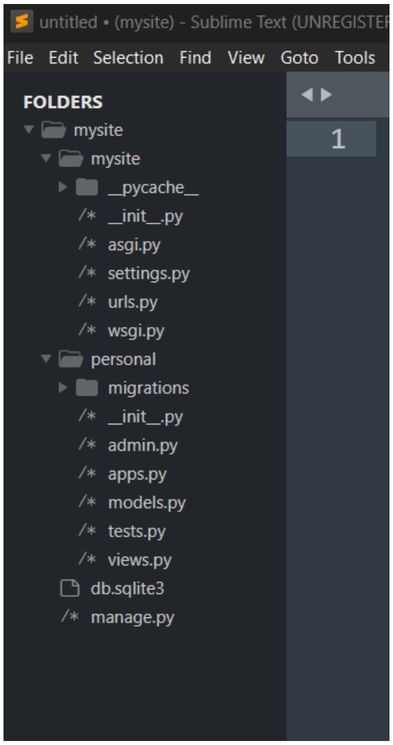
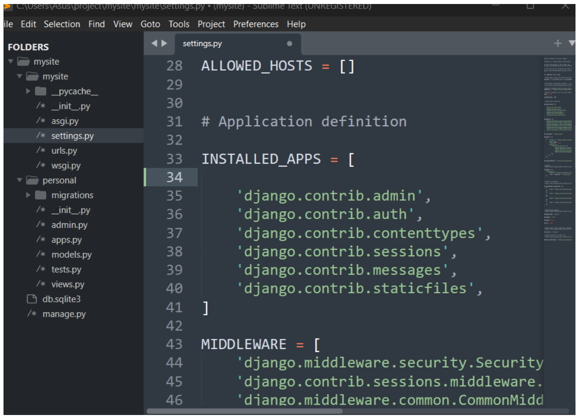
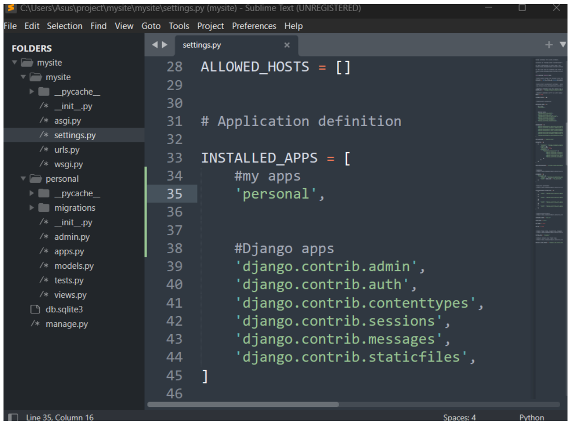

2. **Now** you have to add this personal app on settings.py



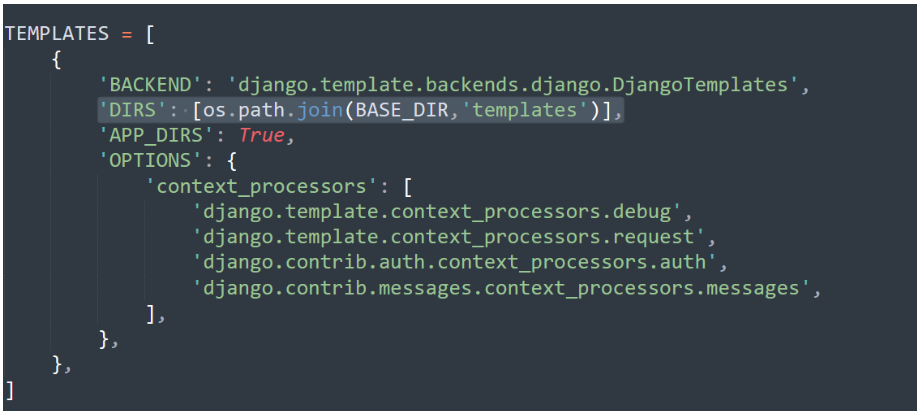


```
ALLOWED_HOSTS = []


# Application definition

INSTALLED_APPS = [

    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
]

MIDDLEWARE = [
    'django.middleware.security.Security
    'django.contrib.sessions.middleware.
    'django.middleware.common.CommonMidd
```



```
ALLOWED_HOSTS = []


# Application definition

INSTALLED_APPS = [
    #my apps
    'personal',


    #Django apps
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
]

```

3. **Now** as I created another folder named templates but in different root so I have to mention the location in settings:



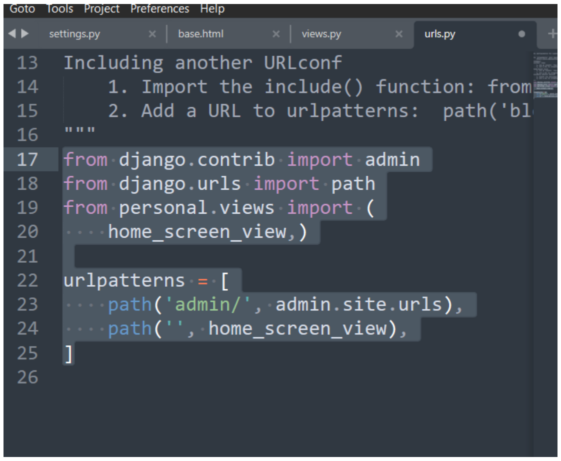
```
TEMPLATES = [
    {
        'BACKEND': 'django.template.backends.django.DjangoTemplates',
        'DIRS': [os.path.join(BASE_DIR,'templates')],
        'APP_DIRS': True,
        'OPTIONS': {
            'context_processors': [
                'django.template.context_processors.debug',
                'django.template.context_processors.request',
                'django.contrib.auth.context_processors.auth',
                'django.contrib.messages.context_processors.messages',
            ],
        },
    },
]
```

Here BASE_DIR means the root folder under which my templates folder is in.
Now for showcasing base.html which is the front end part we need some back end works which will help to showcase the base.html file.
For that personal->views.py->

```
# Create your views here.
def home_screen_view(request):
        print(request.headers)
        return render(request, "base.html", {}) // {} database information
```

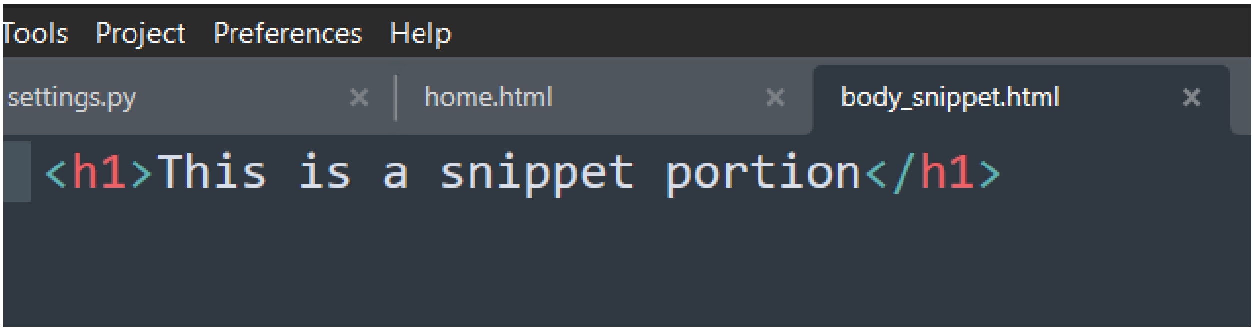
4. **Now** we have to add URL for the page we want to see

mysite->urls.py->

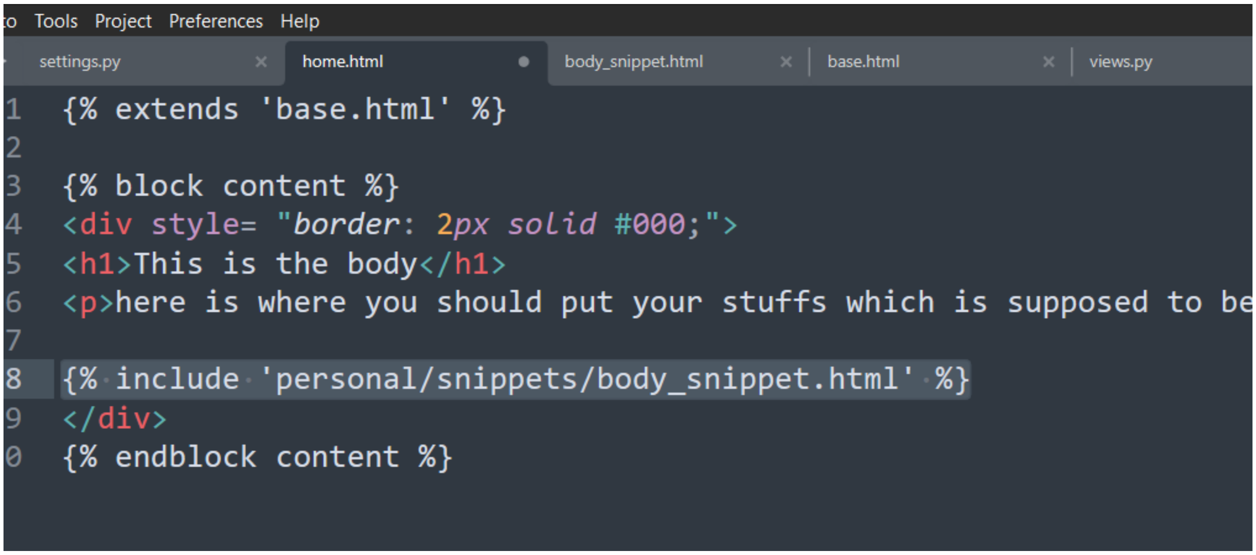


```
Including another URLconf
    1. Import the include() function: from
    2. Add a URL to urlpatterns:  path('bl
"""
from django.contrib import admin
from django.urls import path
from personal.views import (
    home_screen_view,)

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

Django snippets:



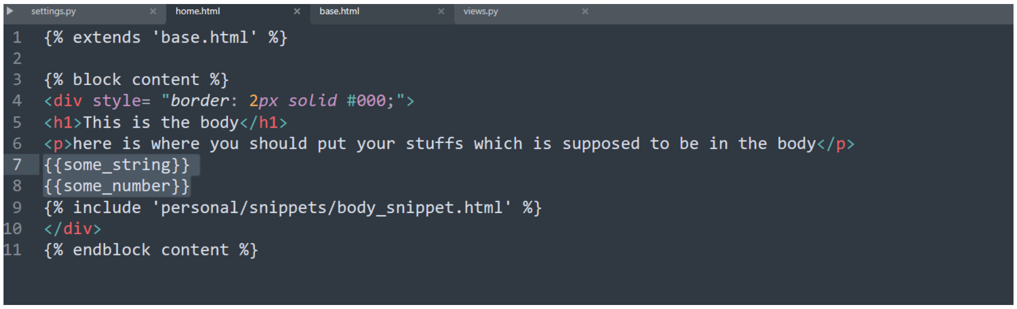
```html
<h1>This is a snippet portion</h1>
```



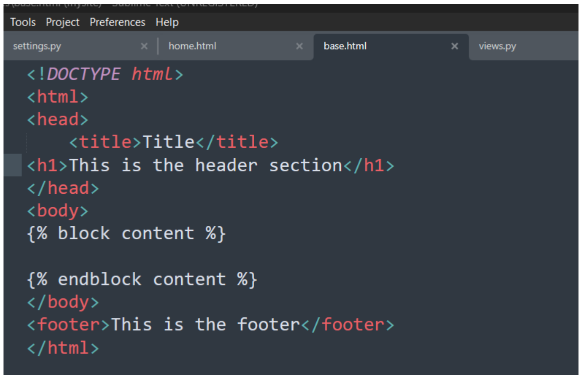
```html
{% extends 'base.html' %}

{% block content %}
<div style= "border: 2px solid #000;">
<h1>This is the body</h1>
<p>here is where you should put your stuffs which is supposed to be

{% include 'personal/snippets/body_snippet.html' %}
</div>
{% endblock content %}
```

Passing Variables to a Template with Django:

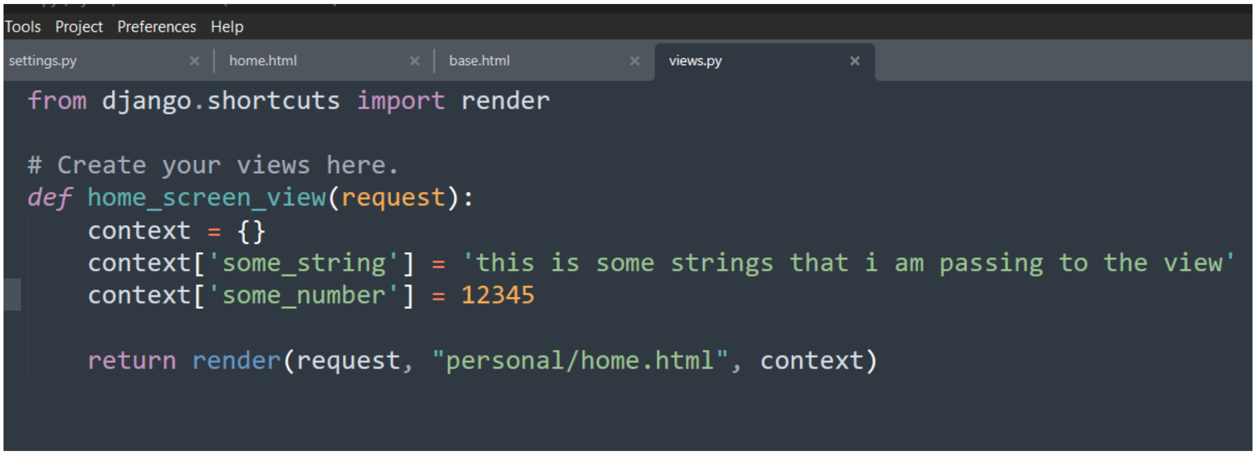
How to return data from the view and display it on the template.



```
{% extends 'base.html' %}

{% block content %}
<div style= "border: 2px solid #000;">
<h1>This is the body</h1>
<p>here is where you should put your stuffs which is supposed to be in the body</p>
{{some_string}}
{{some_number}}
{% include 'personal/snippets/body_snippet.html' %}
</div>
{% endblock content %}
```

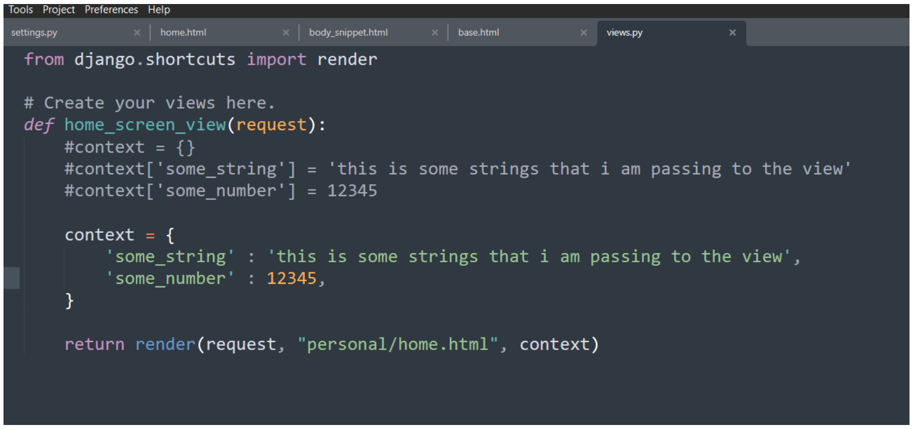


```
<!DOCTYPE html>
<html>
<head>
    <title>Title</title>
<h1>This is the header section</h1>
</head>
<body>
{% block content %}

{% endblock content %}
</body>
<footer>This is the footer</footer>
</html>
```



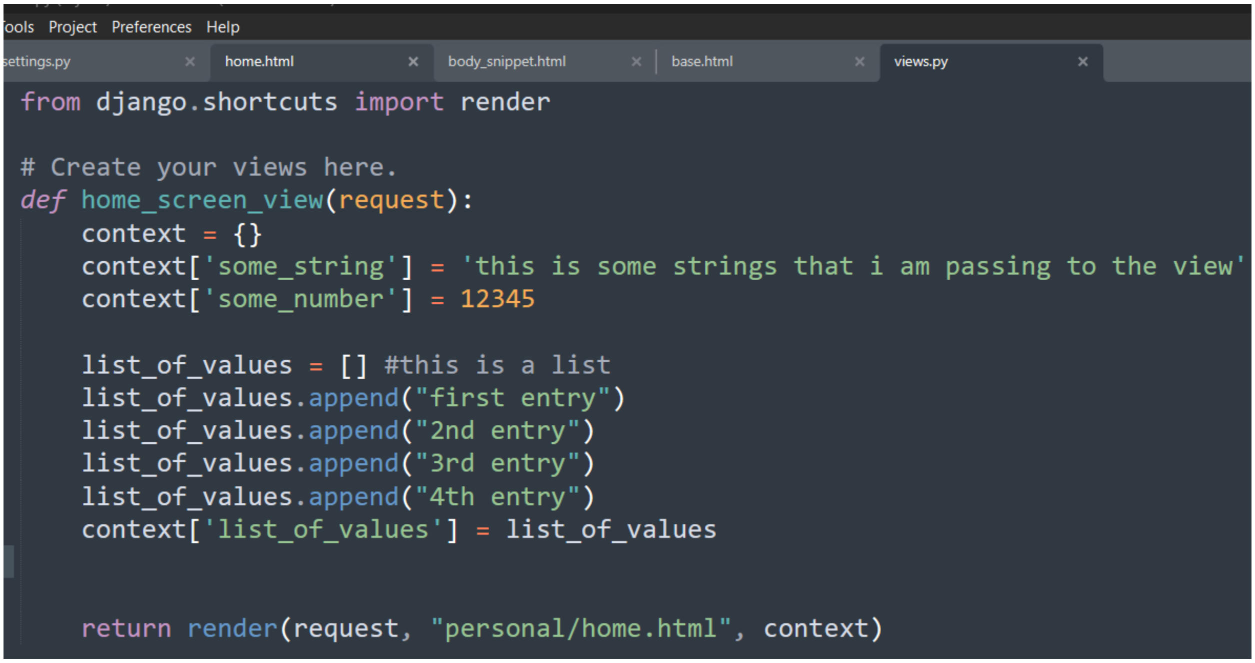
```
from django.shortcuts import render

# Create your views here.
def home_screen_view(request):
    context = {}
    context['some_string'] = 'this is some strings that i am passing to the view'
    context['some_number'] = 12345

    return render(request, "personal/home.html", context)
```

or

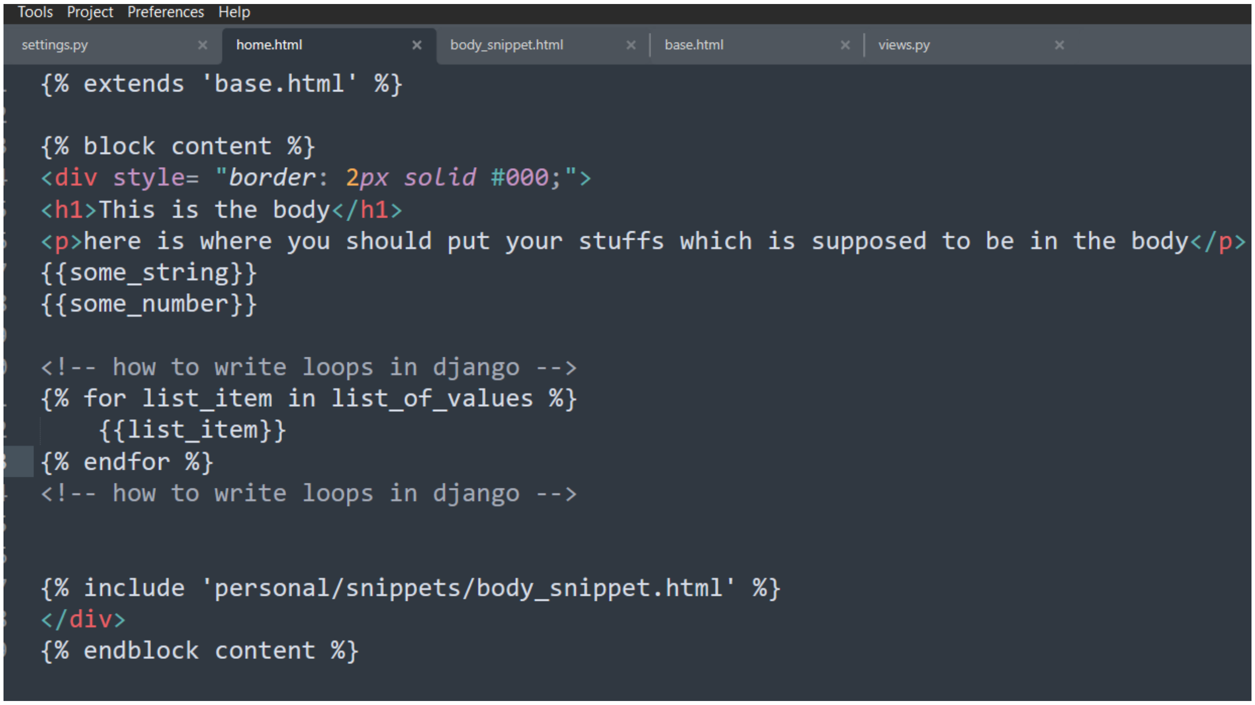


```
from django.shortcuts import render

# Create your views here.
def home_screen_view(request):
    #context = {}
    #context['some_string'] = 'this is some strings that i am passing to the view'
    #context['some_number'] = 12345

    context = {
        'some_string' : 'this is some strings that i am passing to the view',
        'some_number' : 12345,
    }

    return render(request, "personal/home.html", context)
```

Printing list in Loops in django:

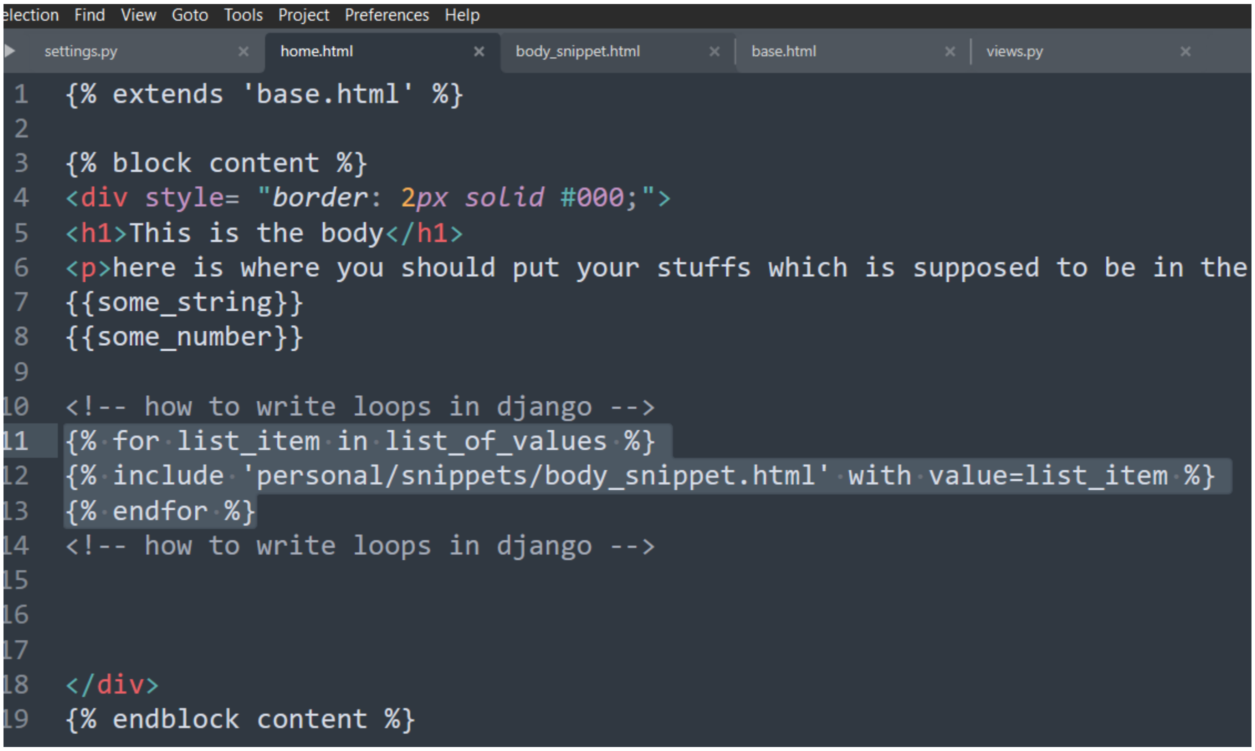


```python
from django.shortcuts import render

# Create your views here.
def home_screen_view(request):
    context = {}
    context['some_string'] = 'this is some strings that i am passing to the view'
    context['some_number'] = 12345

    list_of_values = [] #this is a list
    list_of_values.append("first entry")
    list_of_values.append("2nd entry")
    list_of_values.append("3rd entry")
    list_of_values.append("4th entry")
    context['list_of_values'] = list_of_values


    return render(request, "personal/home.html", context)
```

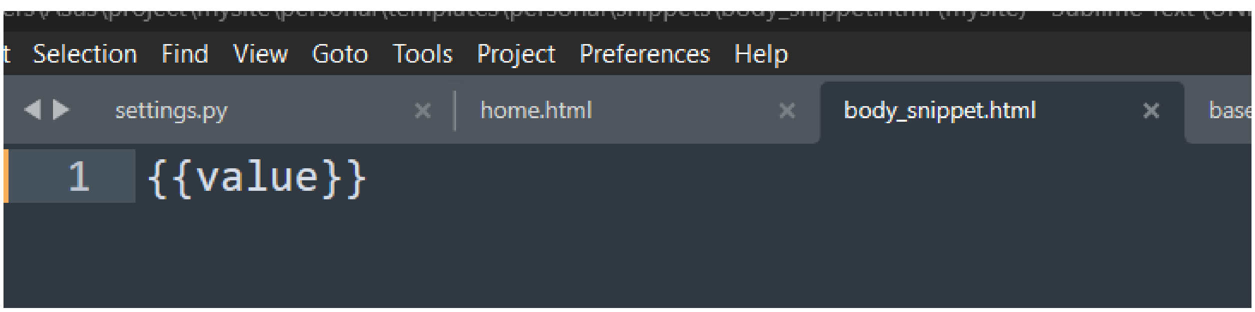


```html
{% extends 'base.html' %}

{% block content %}
<div style= "border: 2px solid #000;">
<h1>This is the body</h1>
<p>here is where you should put your stuffs which is supposed to be in the body</p>
{{some_string}}
{{some_number}}

<!-- how to write loops in django -->
{% for list_item in list_of_values %}
    {{list_item}}
{% endfor %}
<!-- how to write loops in django -->


{% include 'personal/snippets/body_snippet.html' %}
</div>
{% endblock content %}
```

Now passing snippet through loops:



```
{% extends 'base.html' %}

{% block content %}
<div style= "border: 2px solid #000;">
<h1>This is the body</h1>
<p>here is where you should put your stuffs which is supposed to be in the
{{some_string}}
{{some_number}}

<!-- how to write loops in django -->
{% for list_item in list_of_values %}
{% include 'personal/snippets/body_snippet.html' with value=list_item %}
{% endfor %}
<!-- how to write loops in django -->



</div>
{% endblock content %}
```

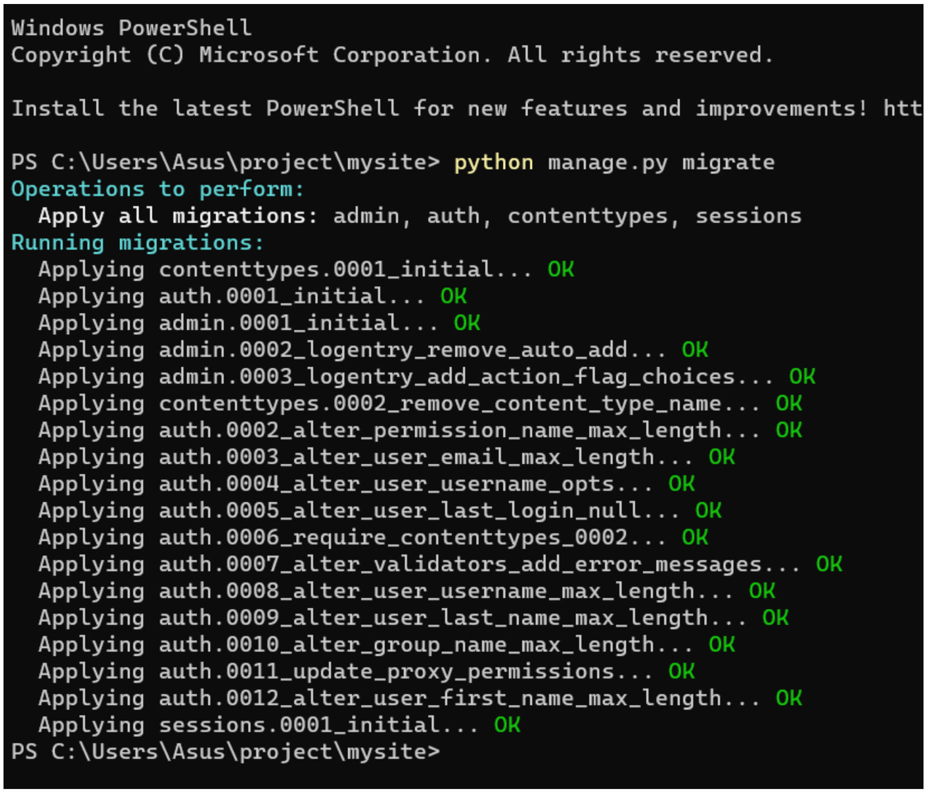


```
{{value}}
```

Django Admin panel and Superuser:

- Firstly set up your database

Go to windows powershell and type **python manage.py migrate**



```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! htt

PS C:\Users\Asus\project\mysite> python manage.py migrate
Operations to perform:
  Apply all migrations: admin, auth, contenttypes, sessions
Running migrations:
  Applying contenttypes.0001_initial... OK
  Applying auth.0001_initial... OK
  Applying admin.0001_initial... OK
  Applying admin.0002_logentry_remove_auto_add... OK
  Applying admin.0003_logentry_add_action_flag_choices... OK
  Applying contenttypes.0002_remove_content_type_name... OK
  Applying auth.0002_alter_permission_name_max_length... OK
  Applying auth.0003_alter_user_email_max_length... OK
  Applying auth.0004_alter_user_username_opts... OK
  Applying auth.0005_alter_user_last_login_null... OK
  Applying auth.0006_require_contenttypes_0002... OK
  Applying auth.0007_alter_validators_add_error_messages... OK
  Applying auth.0008_alter_user_username_max_length... OK
  Applying auth.0009_alter_user_last_name_max_length... OK
  Applying auth.0010_alter_group_name_max_length... OK
  Applying auth.0011_update_proxy_permissions... OK
  Applying auth.0012_alter_user_first_name_max_length... OK
  Applying sessions.0001_initial... OK
PS C:\Users\Asus\project\mysite>
```
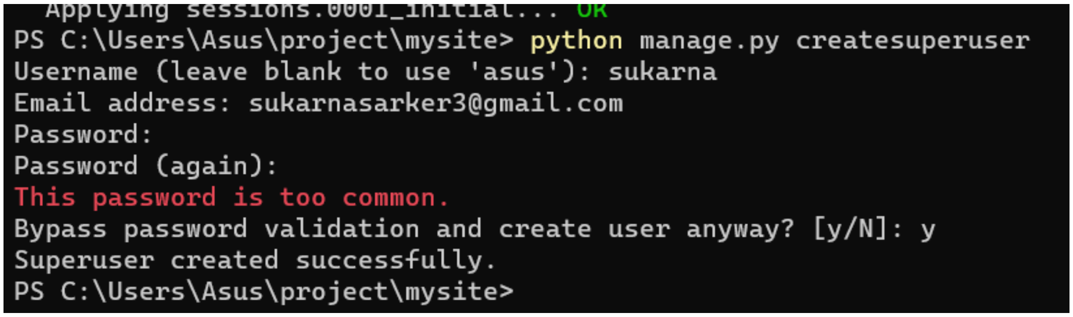
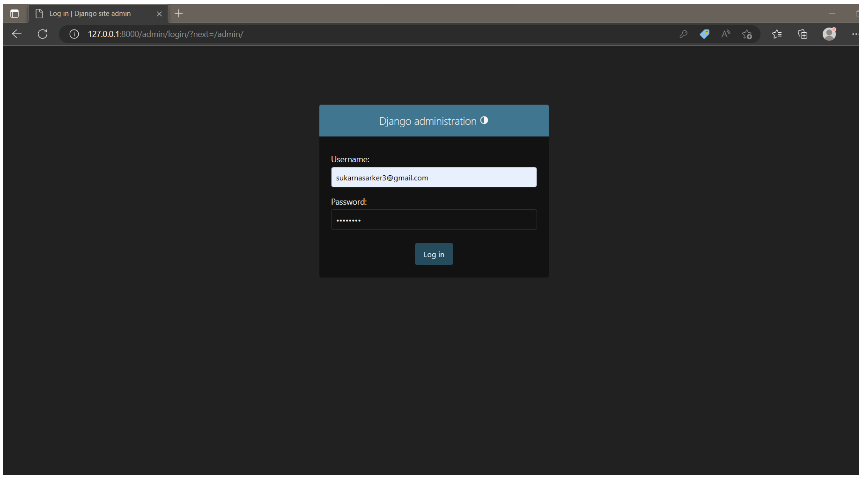

- Now we have to create a user with which we can log in with.

Go to windows powershell and type **python manage.py createsuperuser**



```
  Applying sessions.0001_initial... OK
PS C:\Users\Asus\project\mysite> python manage.py createsuperuser
Username (leave blank to use 'asus'): sukarna
Email address: sukarnasarker3@gmail.com
Password:
Password (again):
This password is too common.
Bypass password validation and create user anyway? [y/N]: y
Superuser created successfully.
PS C:\Users\Asus\project\mysite>
```

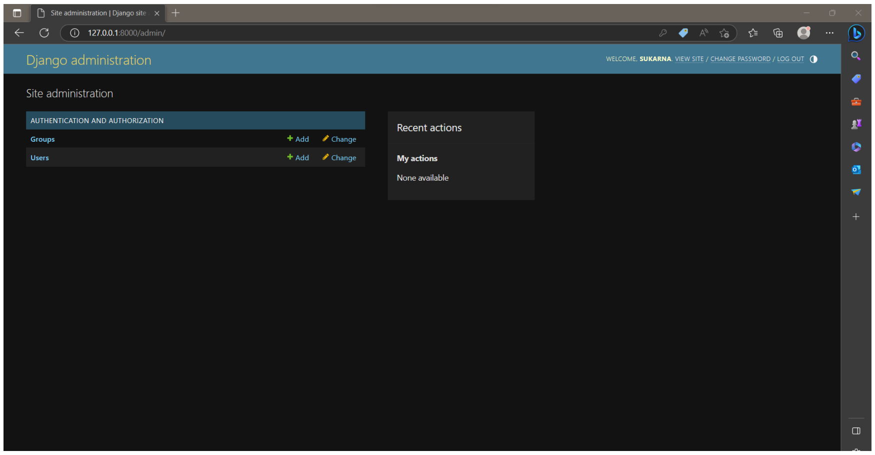
- Enter your username and pw what you have just typed at ….:8000/admin page:


Log in | Django site admin
127.0.0.1:8000/admin/login/?next=/admin/
Django administration

Username: sukarnasarker3@gmail.com

Password: ••••••••

- Django had made some common stuffs for you already


Site administration | Django site
127.0.0.1:8000/admin/
Django administration
WELCOME, SUKARNA. VIEW SITE / CHANGE PASSWORD / LOG OUT

Site administration

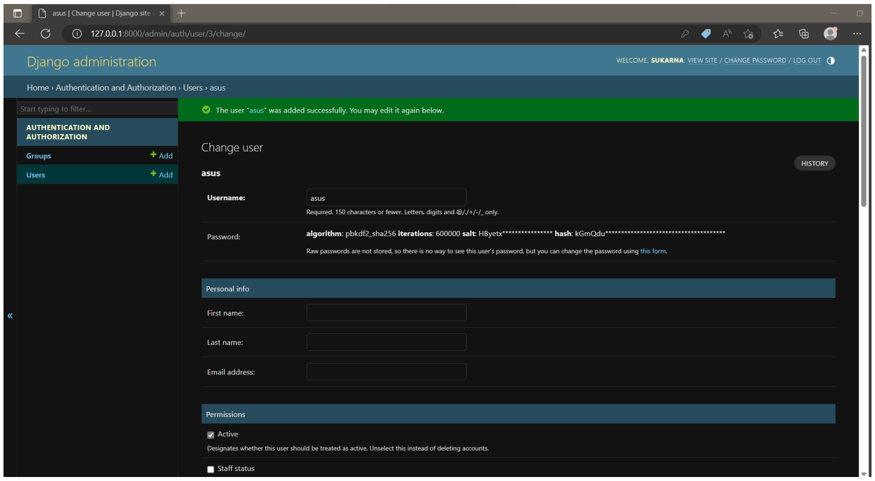
AUTHENTICATION AND AUTHORIZATION		
Groups	+ Add	Change
Users	+ Add	Change

Recent actions

My actions

None available

- You can add another user here by clicking add on the user portion


asus | Change user | Django site
127.0.0.1:8000/admin/auth/user/3/change/
Django administration
WELCOME, SUKARNA. VIEW SITE / CHANGE PASSWORD / LOG OUT
Home › Authentication and Authorization › Users › asus
Start typing to filter...
AUTHENTICATION AND AUTHORIZATION
Groups + Add
Users + Add
HISTORY

The user "asus" was added successfully. You may edit it again below.

Change user

asus

Username: asus

Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Password: **algorithm**: pbkdf2_sha256 **iterations**: 600000 **salt**: HByetx**************** **hash**: kGmQdu**************************************

Raw passwords are not stored, so there is no way to see this user's password, but you can change the password using this form.

Personal info

First name:

Last name:

Email address:

Permissions

☑ Active

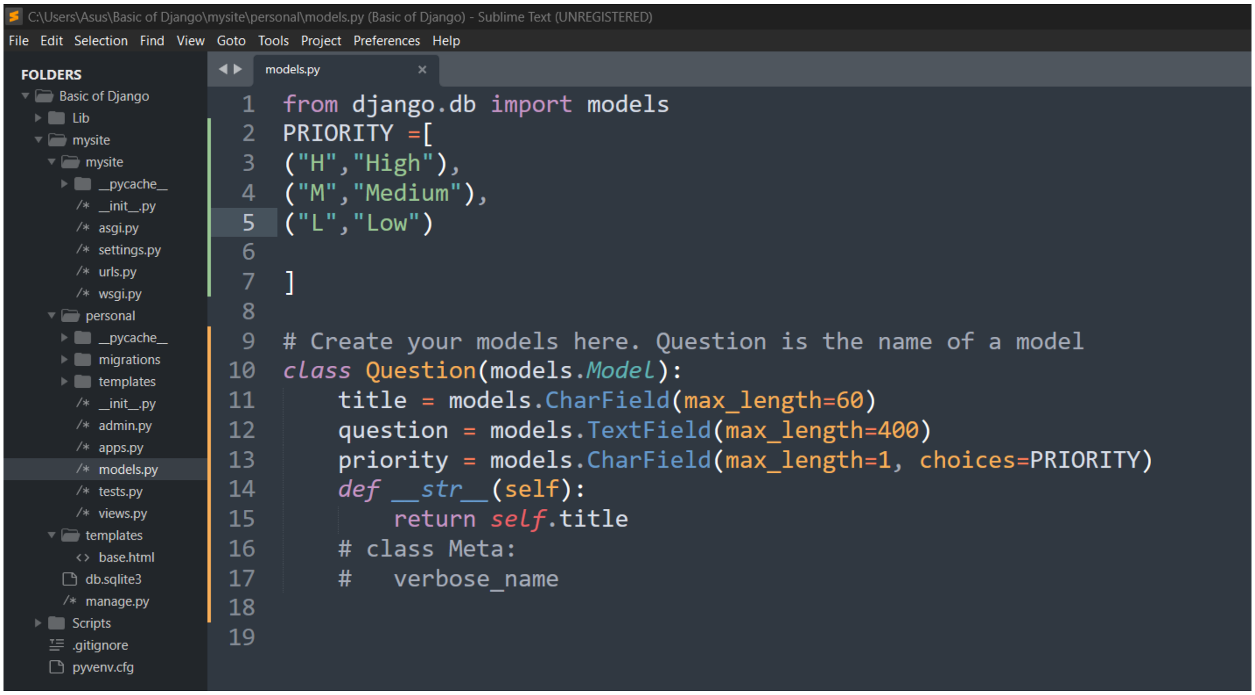
Designates whether this user should be treated as active. Unselect this instead of deleting accounts.

□ Staff status

How to add tables,delete,add information on the tables of the database:

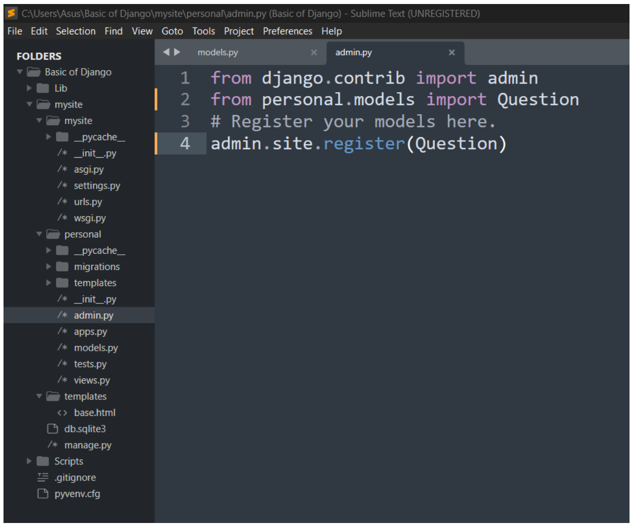
**Django models are basically used to model the database of my database.

- Create your first model.
  personal->personal->models.py



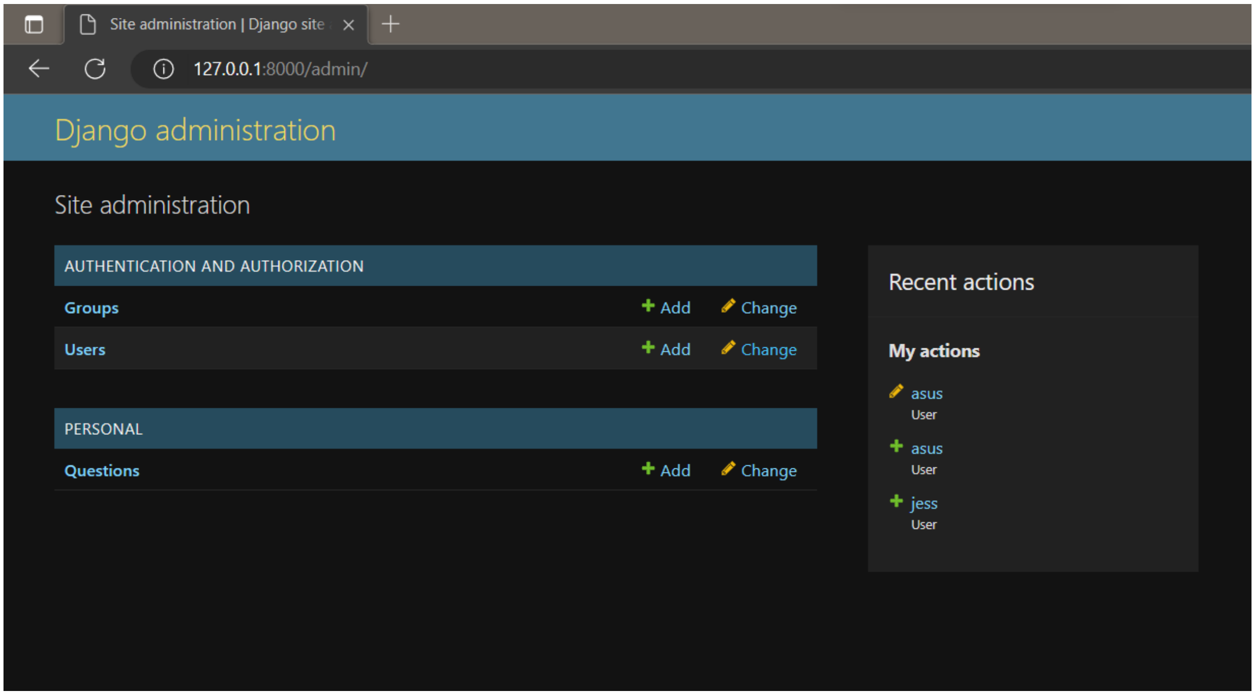
```
from django.db import models
PRIORITY =[
("H","High"),
("M","Medium"),
("L","Low")

]

# Create your models here. Question is the name of a model
class Question(models.Model):
    title = models.CharField(max_length=60)
    question = models.TextField(max_length=400)
    priority = models.CharField(max_length=1, choices=PRIORITY)
    def __str__(self):
        return self.title
    # class Meta:
    #   verbose_name
```

- Now I need to insert this in my database: **python manage.py makemigrations**
  This command added Question as a table in the database
- Now we have to migrate them: **python manage.py migrate**
- Now go to admin.py and

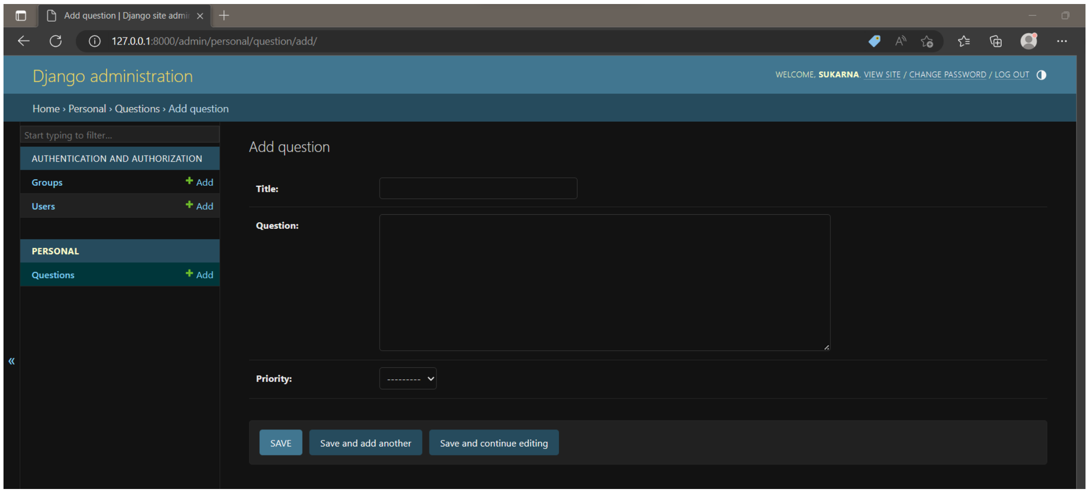


```
from django.contrib import admin
from personal.models import Question
# Register your models here.
admin.site.register(Question)
```

So what I am doing is saying that I have created a new table named Question and I want to see it on the admin console.



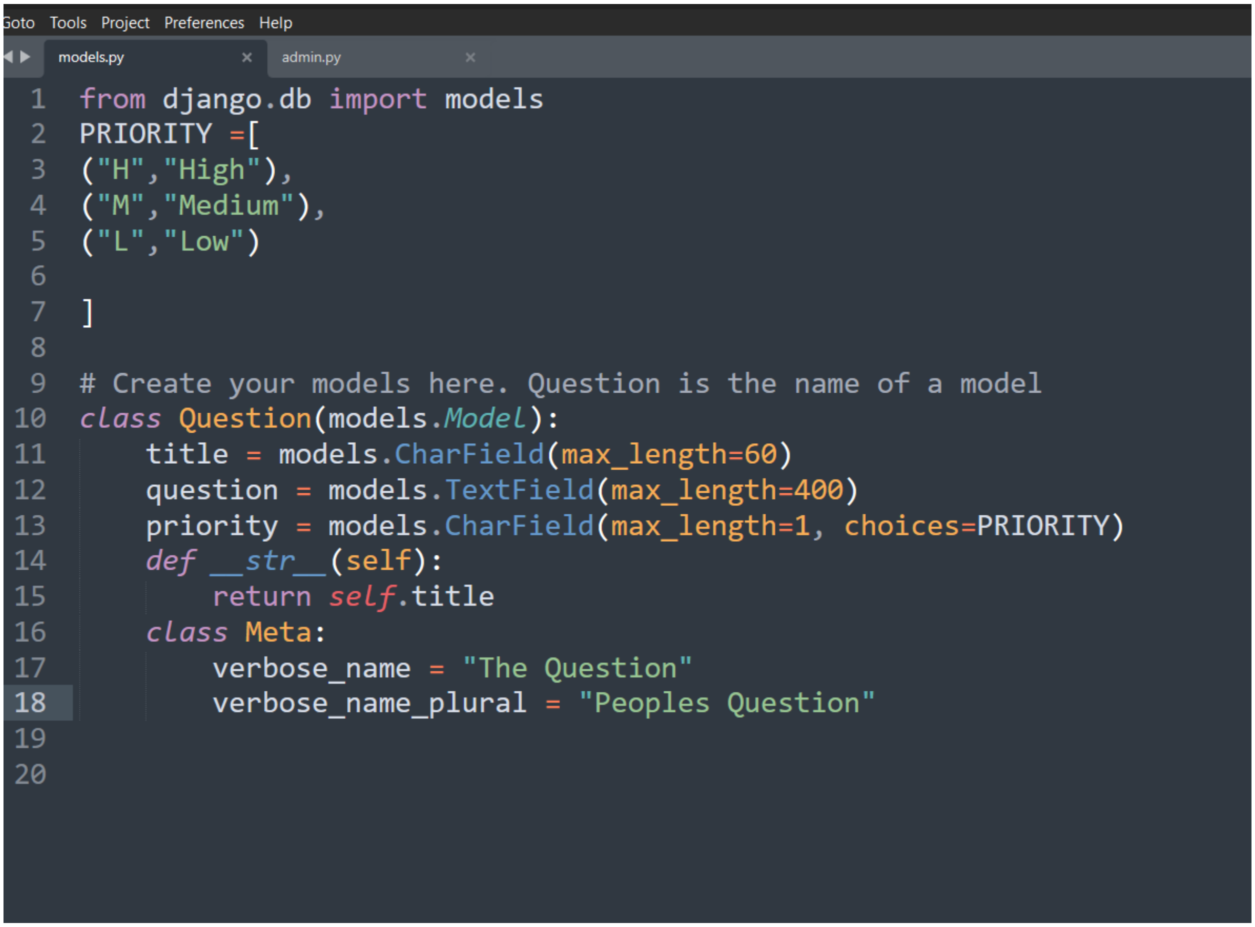
And the Question table is here:


Add question | Django site admin
127.0.0.1:8000/admin/personal/question/add/
Django administration
WELCOME, SUKARNA. VIEW SITE / CHANGE PASSWORD / LOG OUT
Home › Personal › Questions › Add question
Start typing to filter...
AUTHENTICATION AND AUTHORIZATION
Groups
+ Add
Users
+ Add
PERSONAL
Questions
+ Add
«
Add question
Title:
Question:
Priority:

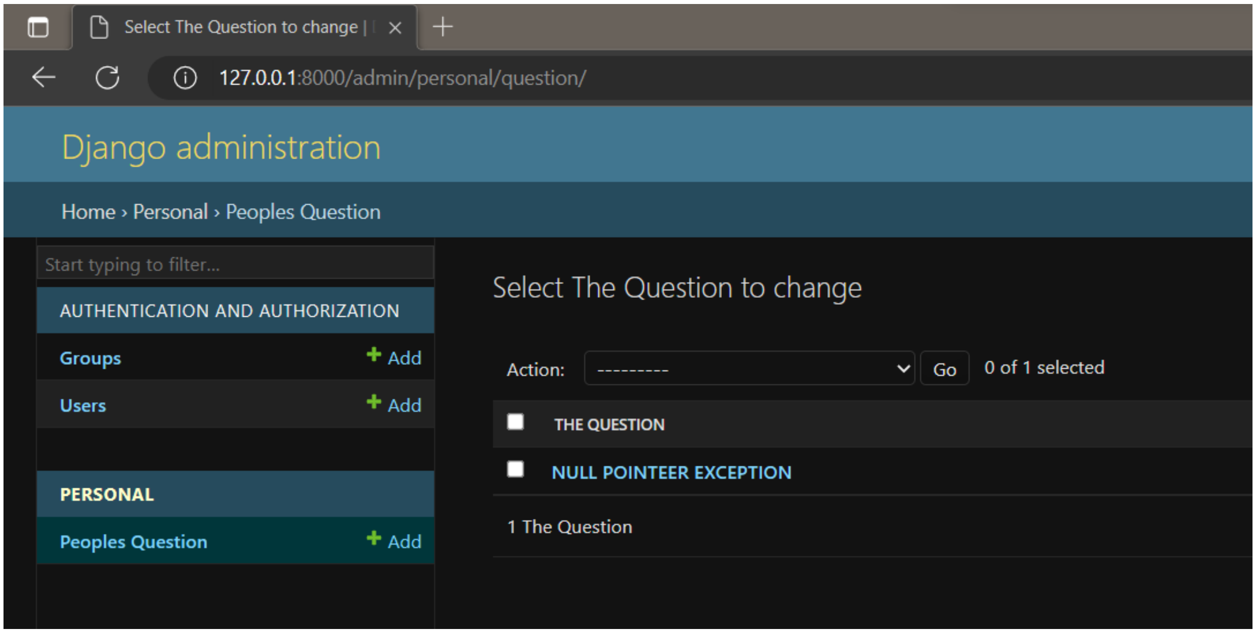
SAVE
Save and add another
Save and continue editing

You can also see the title,question and priority fields here which you wrote on models.py

- Now if you add the meta portion like the code below it will change the Questions into Peoples Question and Question which is inside of Questions into The Question



```python
from django.db import models
PRIORITY =[
("H","High"),
("M","Medium"),
("L","Low")

]

# Create your models here. Question is the name of a model
class Question(models.Model):
    title = models.CharField(max_length=60)
    question = models.TextField(max_length=400)
    priority = models.CharField(max_length=1, choices=PRIORITY)
    def __str__(self):
        return self.title
    class Meta:
        verbose_name = "The Question"
        verbose_name_plural = "Peoples Question"


```


Select The Question to change |
127.0.0.1:8000/admin/personal/question/
Django administration
Home › Personal › Peoples Question
Start typing to filter...
AUTHENTICATION AND AUTHORIZATION
Groups
+ Add
Users
+ Add
PERSONAL
Peoples Question
+ Add
Action:

Go

Select The Question to change

0 of 1 selected

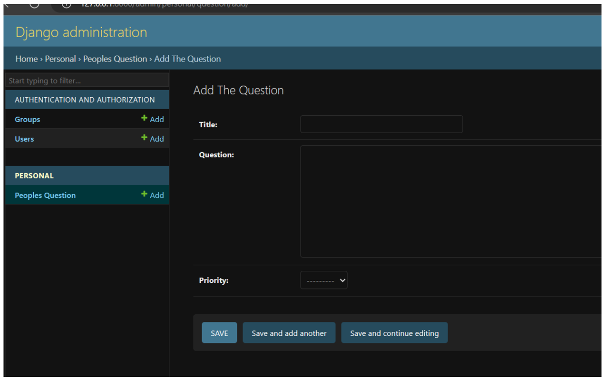
□ THE QUESTION

□ NULL POINTEER EXCEPTION

1 The Question

Displaying data from database:

Here you have Title,Question,Priority.



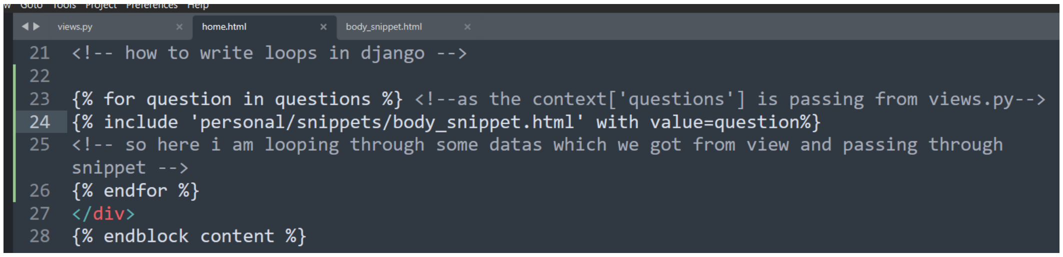
Django administration
Home › Personal › Peoples Question › Add The Question
Start typing to filter...
AUTHENTICATION AND AUTHORIZATION
Groups + Add
Users + Add
PERSONAL
Peoples Question + Add
Add The Question
SAVE
Save and add another
Save and continue editing

Title:

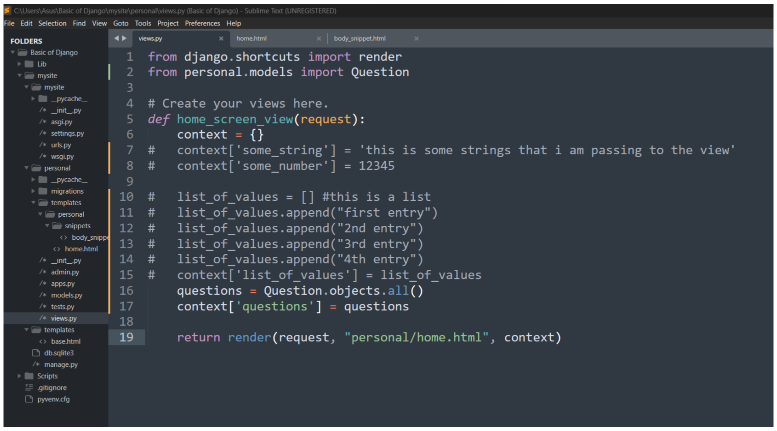
Question:

Priority: ---------

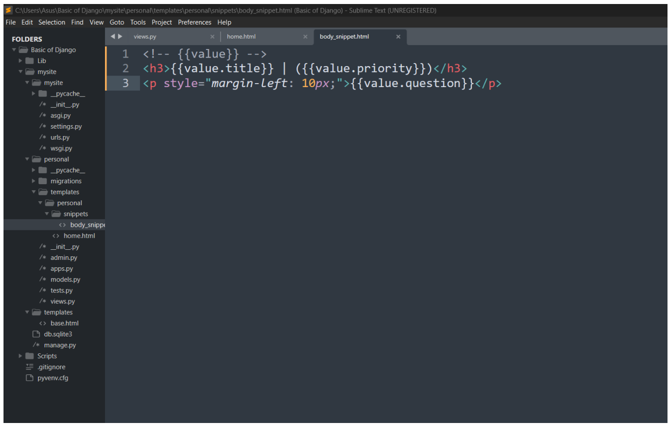
So I am selecting each of these individual properties and moving them to home.html questions where each question has the parameter name value and then in body_snippet I am doing value.title,value.priority,value.question



```
<!-- how to write loops in django -->

{% for question in questions %} <!--as the context['questions'] is passing from views.py-->
{% include 'personal/snippets/body_snippet.html' with value=question%}
<!-- so here i am looping through some datas which we got from view and passing through snippet -->
{% endfor %}
</div>
{% endblock content %}
```



```python
from django.shortcuts import render
from personal.models import Question

# Create your views here.
def home_screen_view(request):
    context = {}
#   context['some_string'] = 'this is some strings that i am passing to the view'
#   context['some_number'] = 12345

#   list_of_values = [] #this is a list
#   list_of_values.append("first entry")
#   list_of_values.append("2nd entry")
#   list_of_values.append("3rd entry")
#   list_of_values.append("4th entry")
#   context['list_of_values'] = list_of_values
    questions = Question.objects.all()
    context['questions'] = questions

    return render(request, "personal/home.html", context)
```



```
<!-- {{value}} -->
<h3>{{value.title}} | ({{value.priority}})</h3>
<p style="margin-left: 10px;">{{value.question}}</p>
```