Topic: Custom Management Command Part 6: Adding Comments or Messages

Speaker: Udemy Instructor Rathan Kumar | Notebook: Django: Automating Common Tasks

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Django has built-in MESSAGES FRAMEWORK that we can use to show ERROR OR SUCCESS MESSAGES. See Django's documentation.

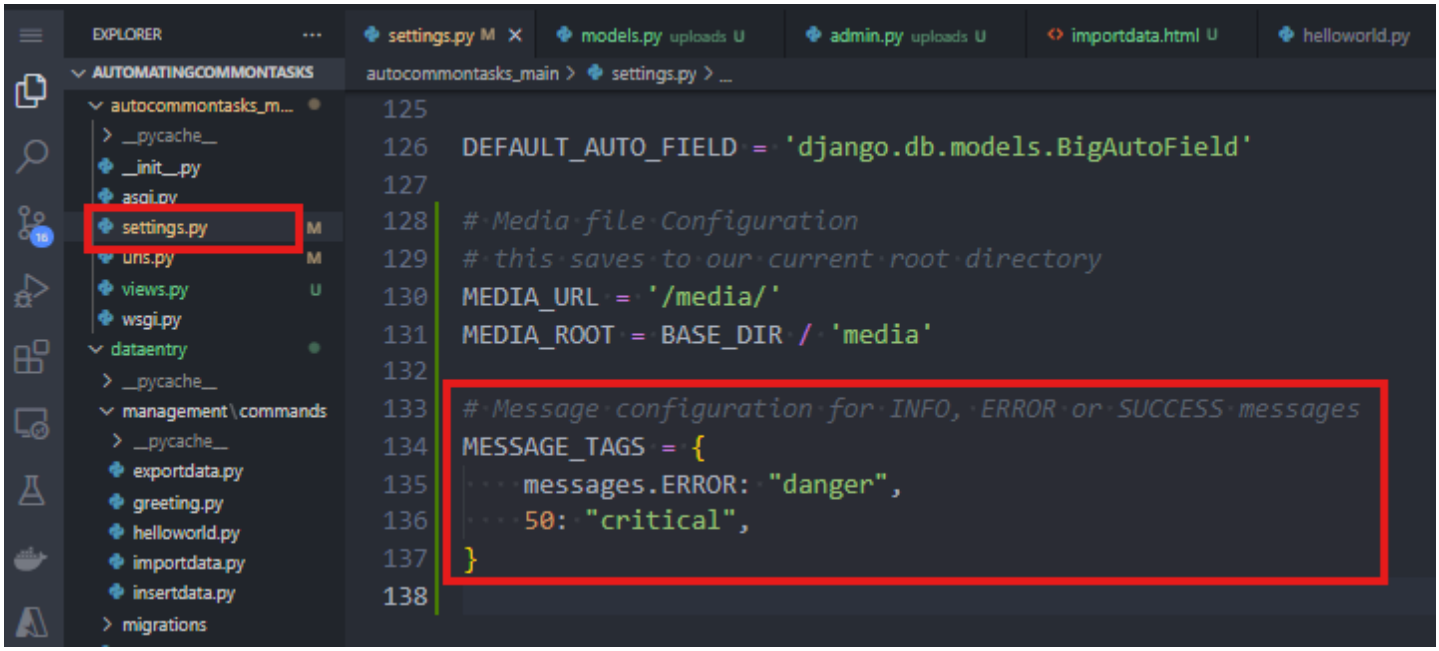
SETTINGS.PY has already the configurations needed to support the messages.

1. So, we just need to include the following in our SETTINGS.PY.

From Django documentation, we copy this and modify based on our needs.

```
from django.contrib.messages import constants as messages

MESSAGE_TAGS = {
    messages.INFO: "",
    50: "critical",
}
```

in our SETTINGS.PY, we modify it to where 'danger' is a bootstrap name.



2. Then in the TEMPLATES FOLDER, create a new HTML, ALERT.HTML and design as:

from our documentation:

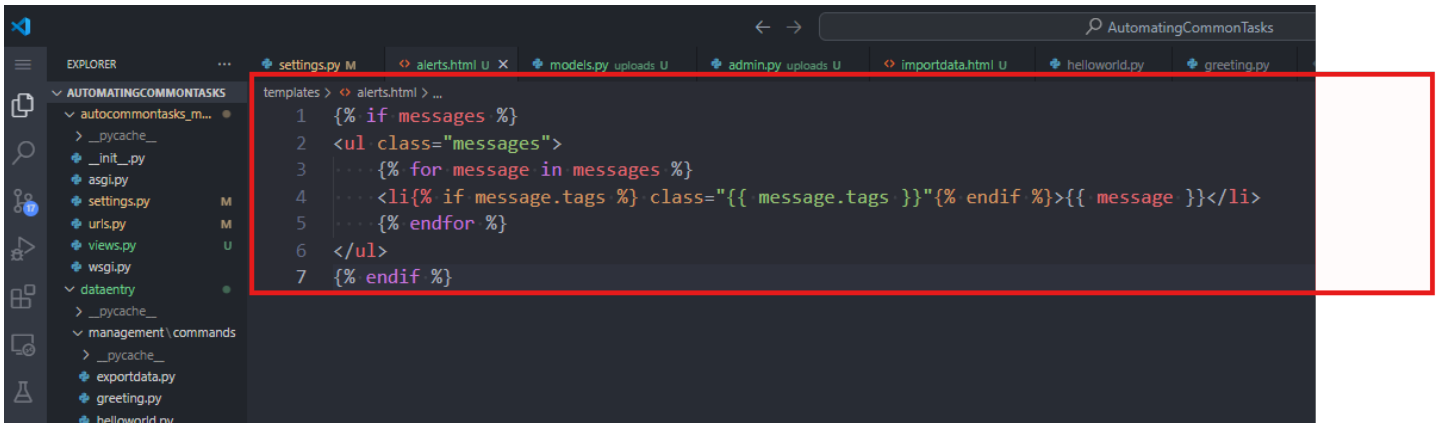
Displaying messages ¶

get_messages(*request*)[source] ¶

In your template, use something like:

```
{% if messages %}
<ul class="messages">
    {% for message in messages %}
    <li{% if message.tags %} class="{{ message.tags }}"{%
endif %}>{{ message }}</li>
    {% endfor %}
</ul>
{% endif %}
```

So, in our ALERTS.HTML, we add the same code:

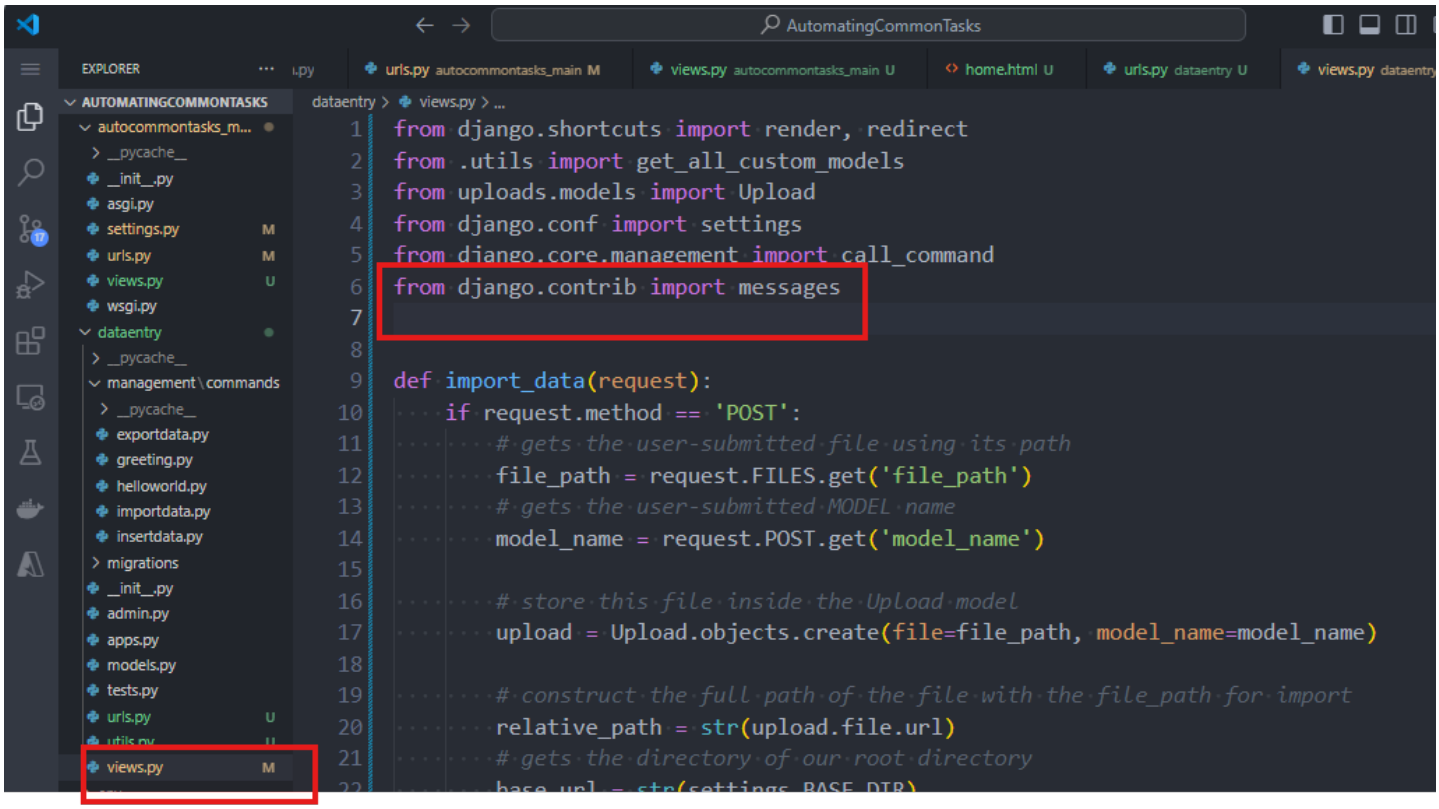


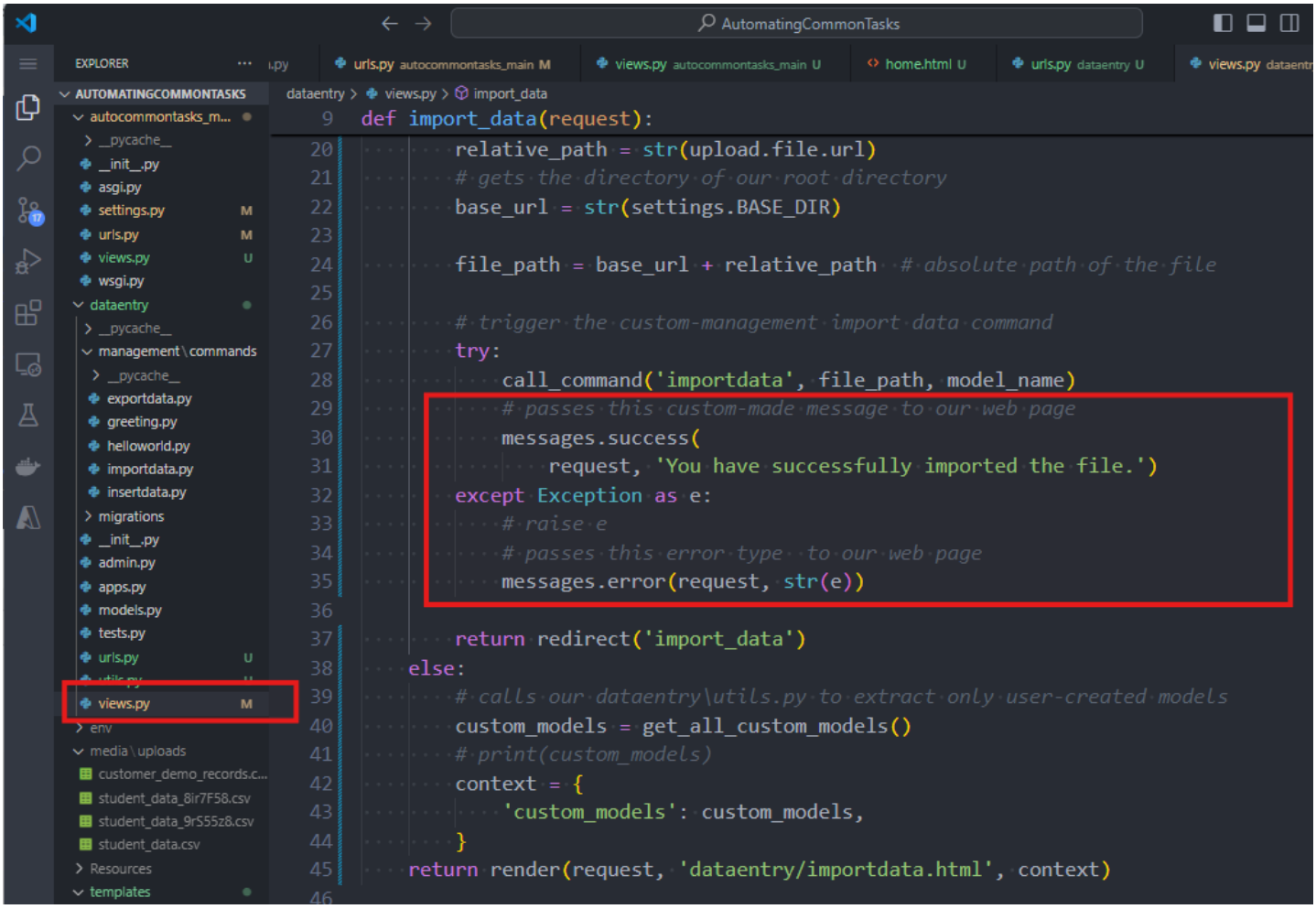
3. Now you can call this ALERTS.HTML in ANY HTML that will require messages or comments.

So, in DATAENTRY\IMPORTDATA.HTML, we add

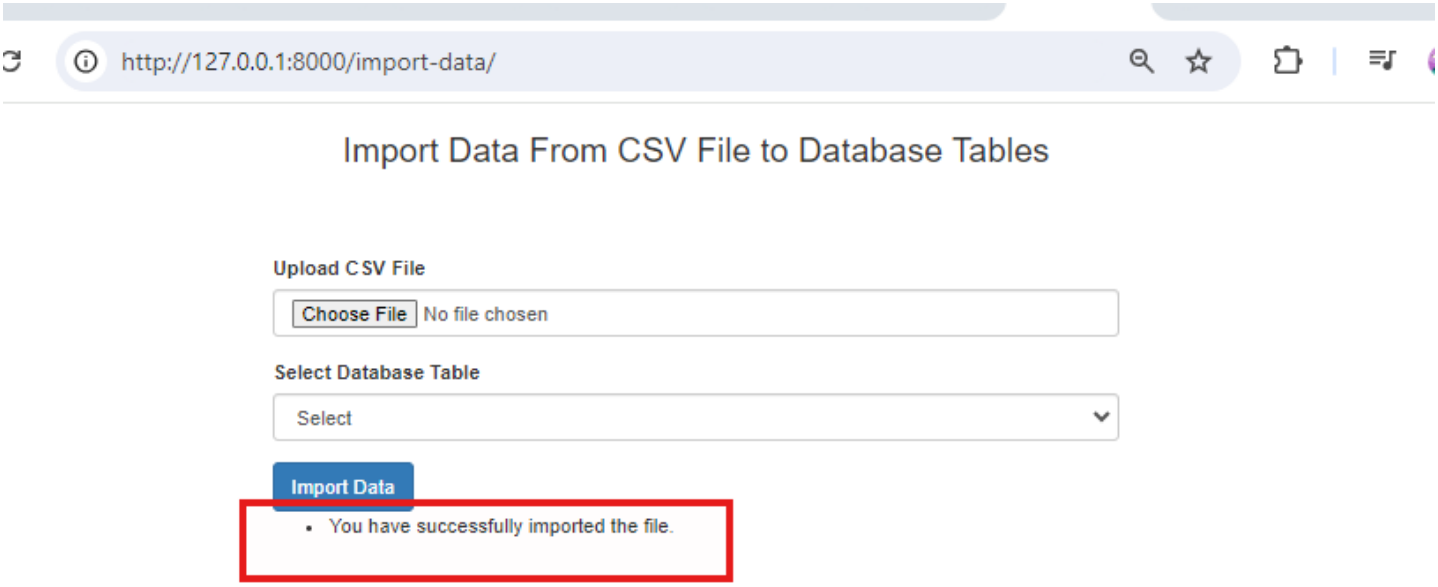
```
<div class="container">
    <h3 class="text-center">Import Data From CSV File to Database Tables</h3>
    <form action="{% url 'import_data' %}" method="POST" enctype="multipart/form-d
        style="max-width: 600px;margin:auto;padding-top: 50px; ">
        {% csrf_token %}
        <div class="form-group">
            <label for="file_path">Upload CSV File</label>
            <input type="file" name="file_path" class="form-control" required>
        </div>

        <div class="form-group">
            <label for="model_name">Select Database Table</label>
            <select name="model_name" class="form-control" required>
                <option value="" disabled selected>Select</option>
                {% for model in custom_models %}
                <option value="{{model}}">{{model}}</option>
                {% endfor %}
            </select>
        </div>

        <input type="submit" value="Import Data" class="btn btn-primary">

        <!-- insert our custom alert messages-->
        {% include 'alerts.html' %}

    </form>
```

4. To add our custom messages, we go to DATAENTRY\VIEWS.PY





5. Now when you add a CSV file again, you should be able to see an error message.



6. Now to make the style of the message that follows the bootstrap style, go to this [BOOTSTRAP ALERT documentation,]

https://getbootstrap.com/docs/4.0/components/alerts/

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Examples

Alerts are available for any length of text, as well as an optional dismiss button. For proper styling, use one of the eight **required** contextual classes (e.g., `.alert-success`). For inline dismissal, use the alerts jQuery plugin.

This is a primary alert—check it out!

This is a secondary alert—check it out!

This is a success alert—check it out!

This is a danger alert—check it out!

This is a warning alert—check it out!

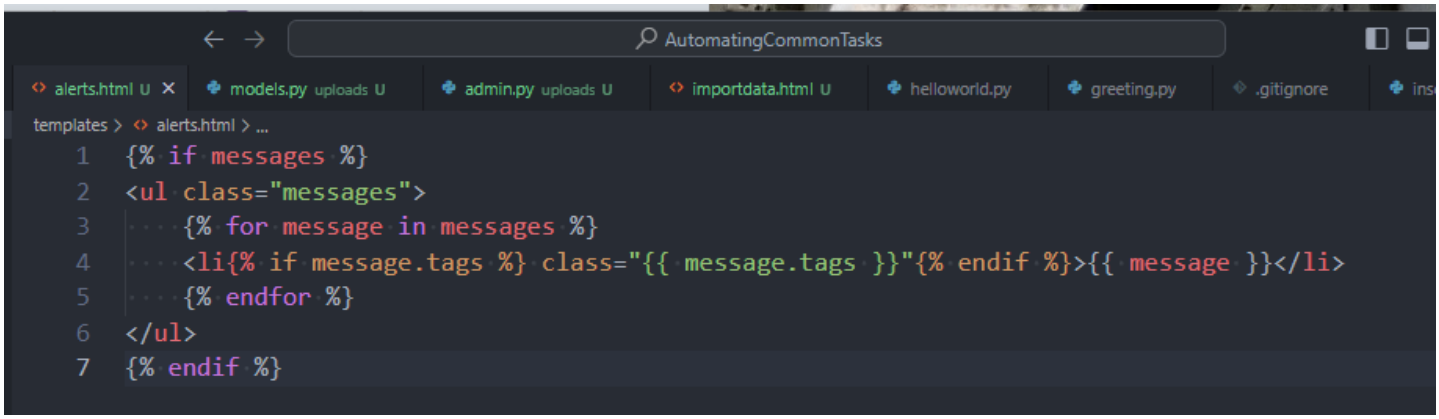
This is a info alert—check it out!

This is a light alert—check it out!

This is a dark alert—check it out!

```
<div class="alert alert-primary" role="alert">
  This is a primary alert—check it out!
</div>
<div class="alert alert-secondary" role="alert">
  This is a secondary alert—check it out!
</div>
<div class="alert alert-success" role="alert">
  This is a success alert—check it out!
</div>
<div class="alert alert-danger" role="alert">
  This is a danger alert—check it out!
</div>
<div class="alert alert-warning" role="alert">
  This is a warning alert—check it out!
</div>
```

ALERTS.HTML BEFORE:

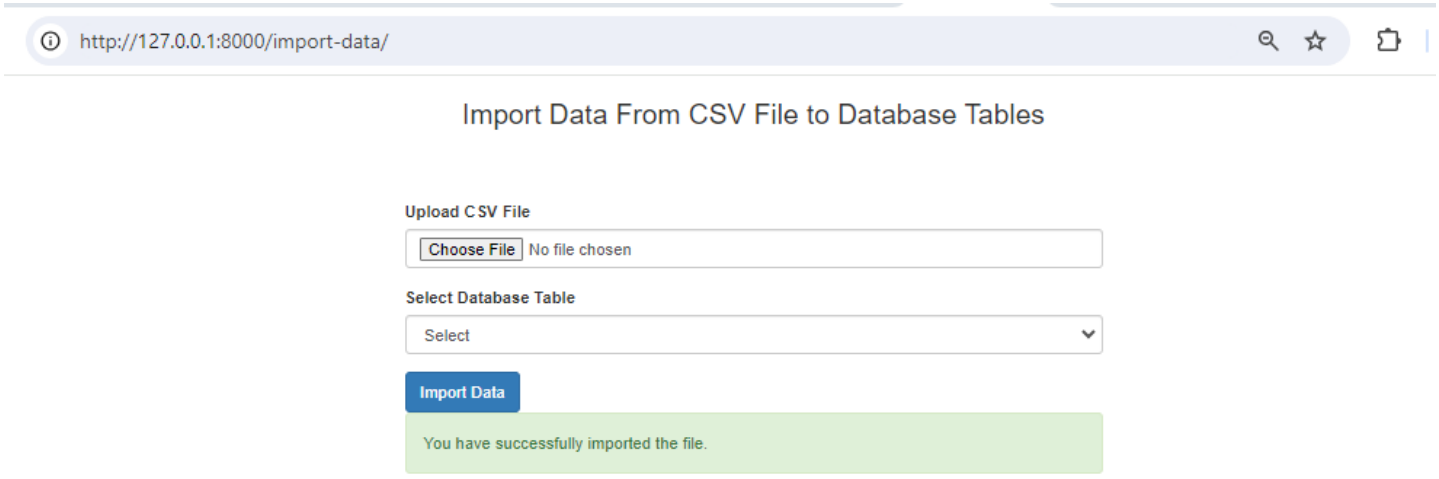


ALERTS.HTML AFTER:

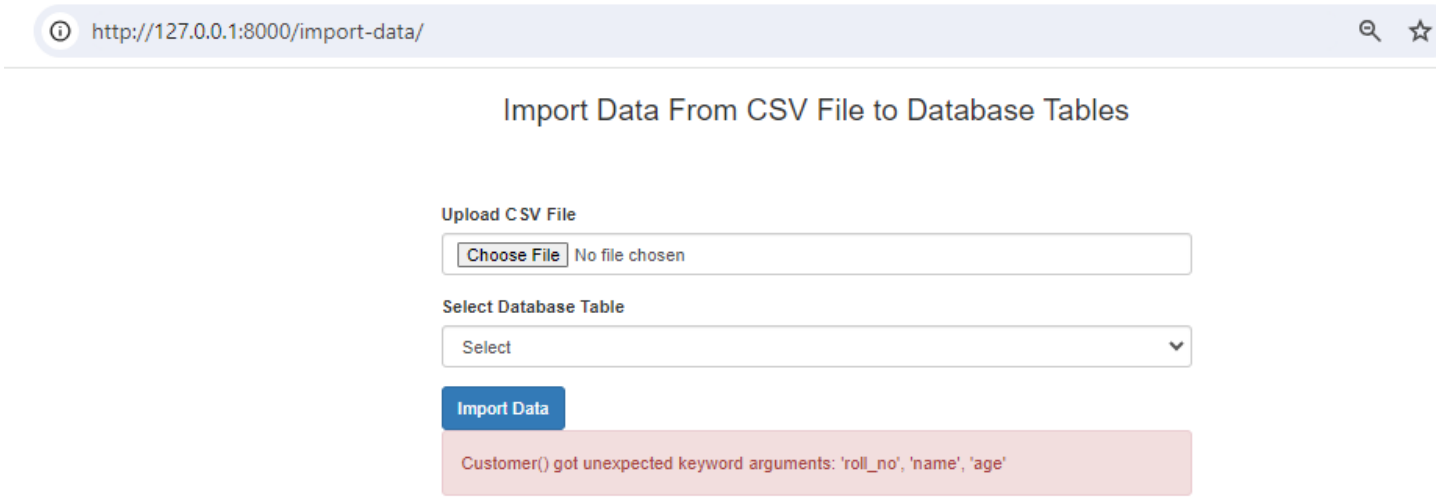
```
templates > alerts.html > ...
1  {% if messages %}
2  <div class="messages">
3      {% for message in messages %}
4      <div
5          {% if message.tags %} class=" alert alert-{{ message.tags }}" {% endif %}>{{ message }}
6      </div>
7      {% endfor %}
8  </div>
9  {% endif %}
```

7. Run the server again and check the message shown.

Saving Student.CSV to Student Model.



Saving Student.CSV to Customer Model



Or a different file to CUSTOMER model.

8. To modify the error message into something user-friendly especially the user has used a different file with a different model, we update our IMPORTDATA.PY

To get the fields of our model, in our IMPORTDATA.PY, we add this:

```
# compare CSV header with the model's field names and throw appropriate message
# get all the field names of the model that we found
model_fields = [field.name for field in target_model._meta.fields]
print(model_fields)
```

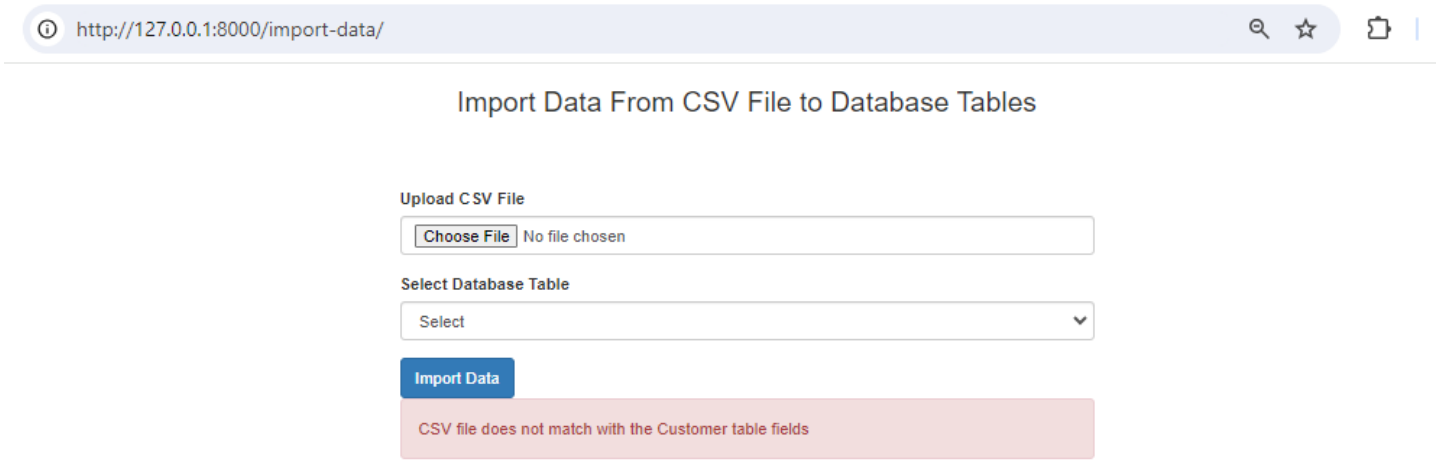
So, when we upload our STUDENT.CSV FILE, we see this in our terminal:

```
[11/Aug/2024 15:41:11] "GET /import-data/ HTTP/1.1" 200 1907
['id', 'roll_no', 'name', 'age']
Data imported from the CSV file successfully.
```

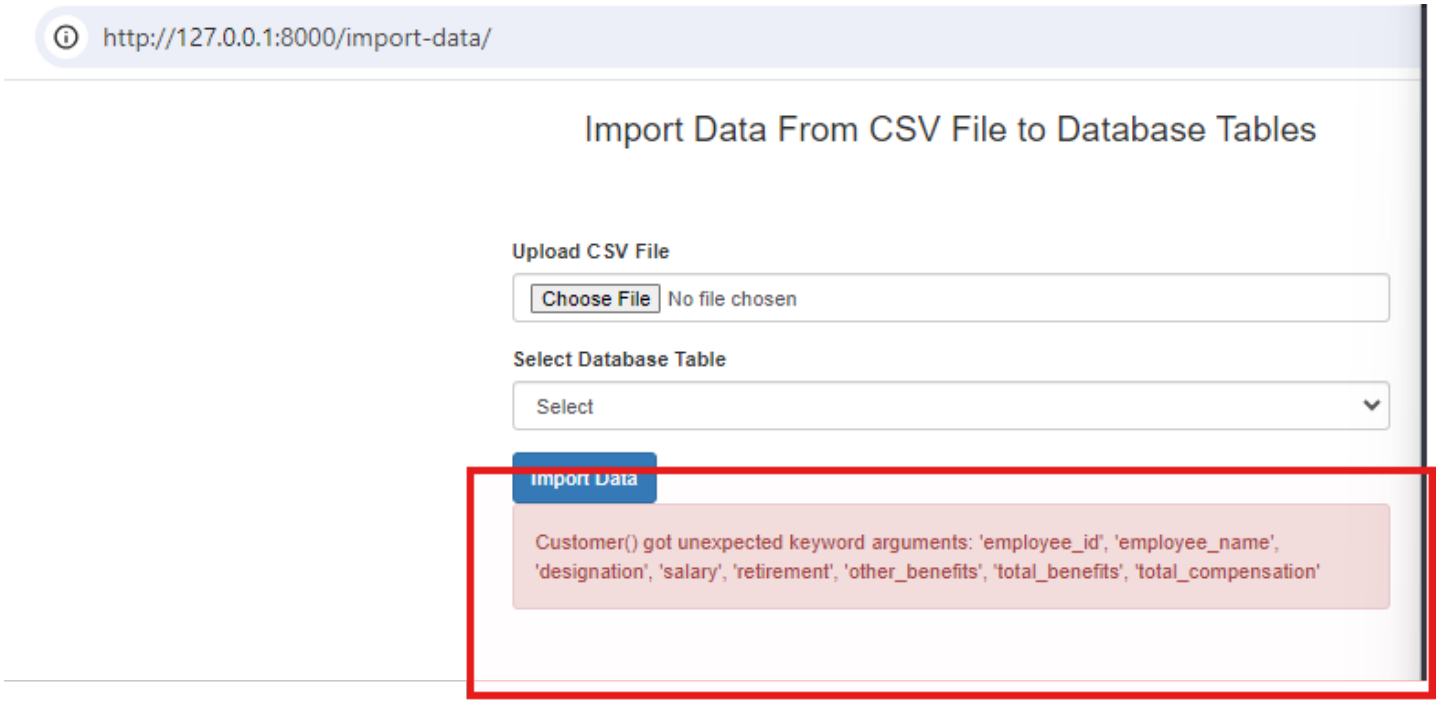
CUSTOMER MODEL:

```
Django version 4.2.14, using settings 'autocommontasks_main.setting
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.

['id', 'customer_name', 'country']
[11/Aug/2024 16:07:29] "POST /import-data/ HTTP/1.1" 302 0
[11/Aug/2024 16:07:29] "GET /import-data/ HTTP/1.1" 200 2251
```

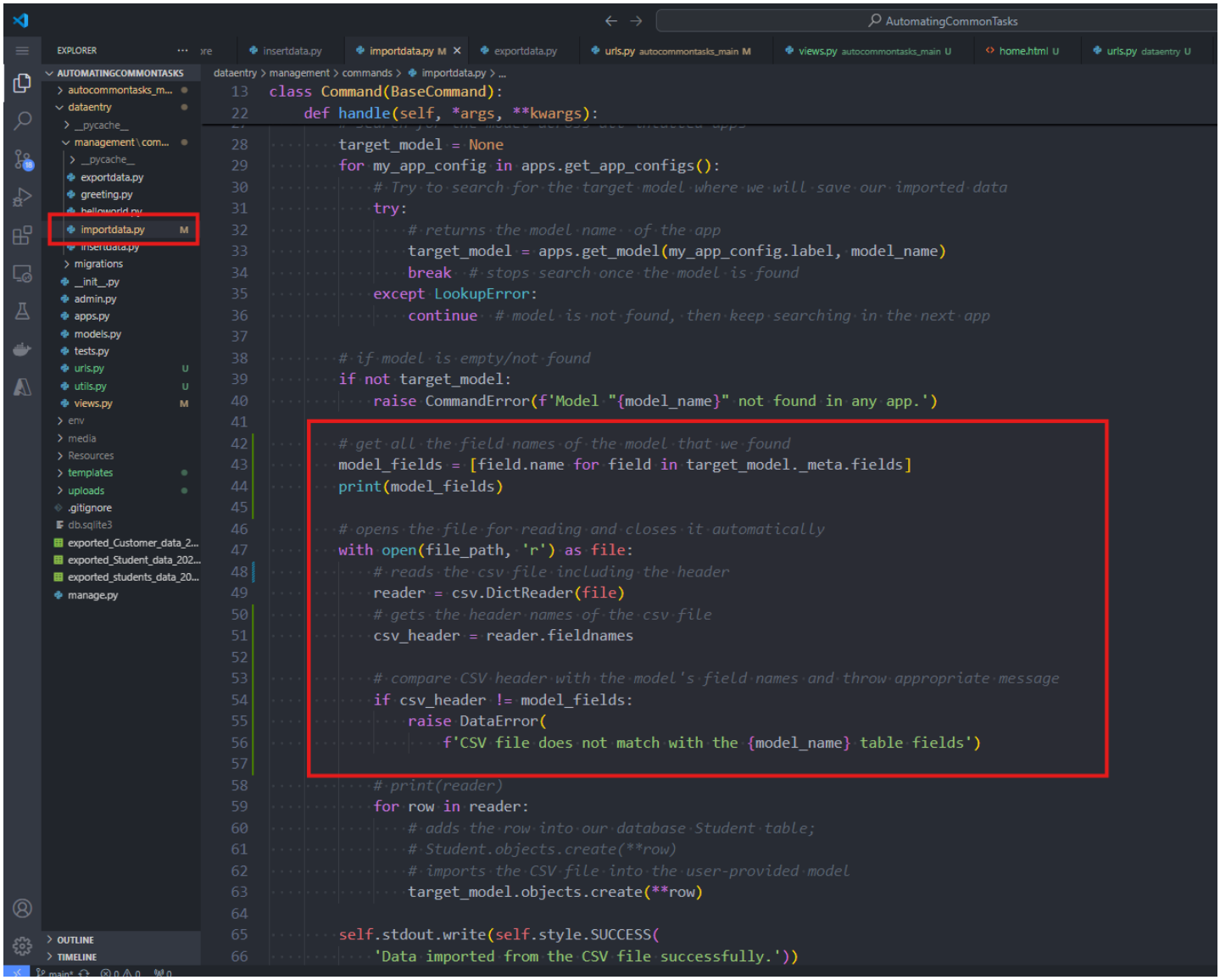
So, when we import a different file like EMPLOYEE.CSV into CUSTOMER Model, we get this user- friendly message:



Instead of this:



9. Your IMPORTDATA.PY should be:



10. But this will give us an error message since we have the the field 'ID' in our table but not in our CSV file, so we update our IMPORTDATA.PY as

```python
# get all the field names of the model that we found EXCEPT THE PK or ID
model_fields = [field.name for field in target_model._meta.fields if field.name !=
                'id']
print(model_fields)

# opens the file for reading and closes it automatically
with open(file_path, 'r') as file:
    # reads the csv file including the header
    reader = csv.DictReader(file)
    # gets the header names of the csv file
    csv_header = reader.fieldnames

    # compare CSV header with the model's field names and throw appropriate message
    if csv_header != model_fields:
        raise DataError(
            f'CSV file does not match with the {model_name} table fields')
```

11. IF WE WANT TO HIDE THE ERROR MESSAGES RIGHT AWAY AFTER IT WAS DISPLAYED, we create a JAVASCRIPT. But we need to update our SETTINGS.PY STATIC FILES.

FROM:

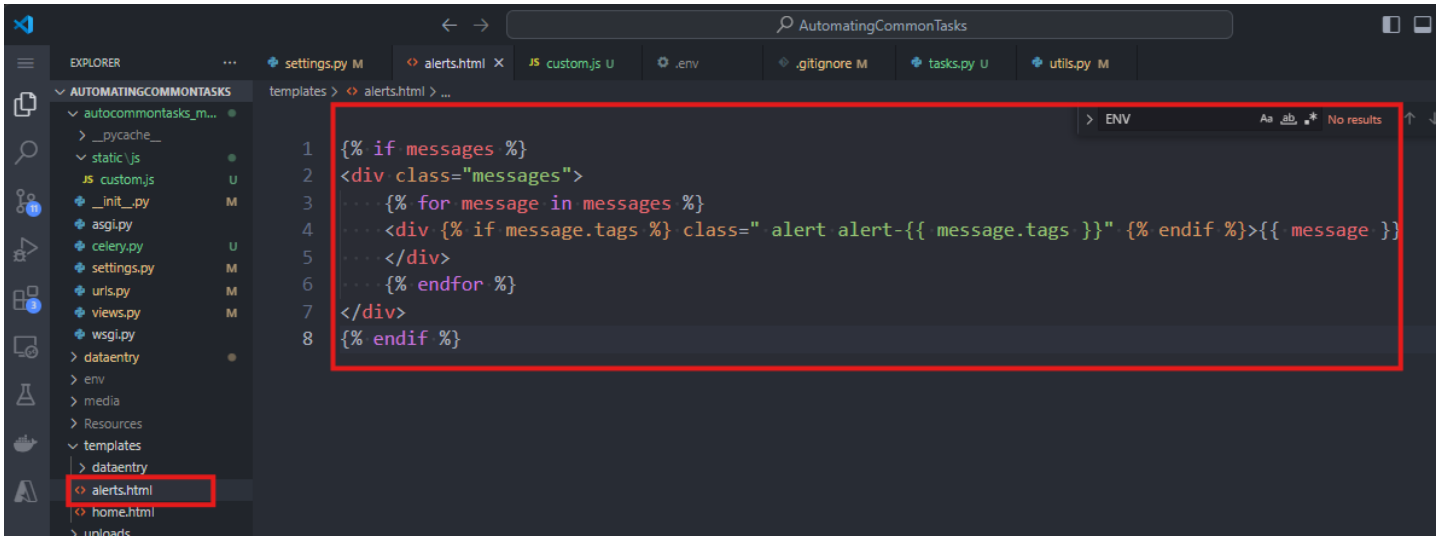
```python
# Static files (CSS, JavaScript, Images)
# https://docs.djangoproject.com/en/4.2/howto/static-files/

STATIC_URL = 'static/'
```

TO:

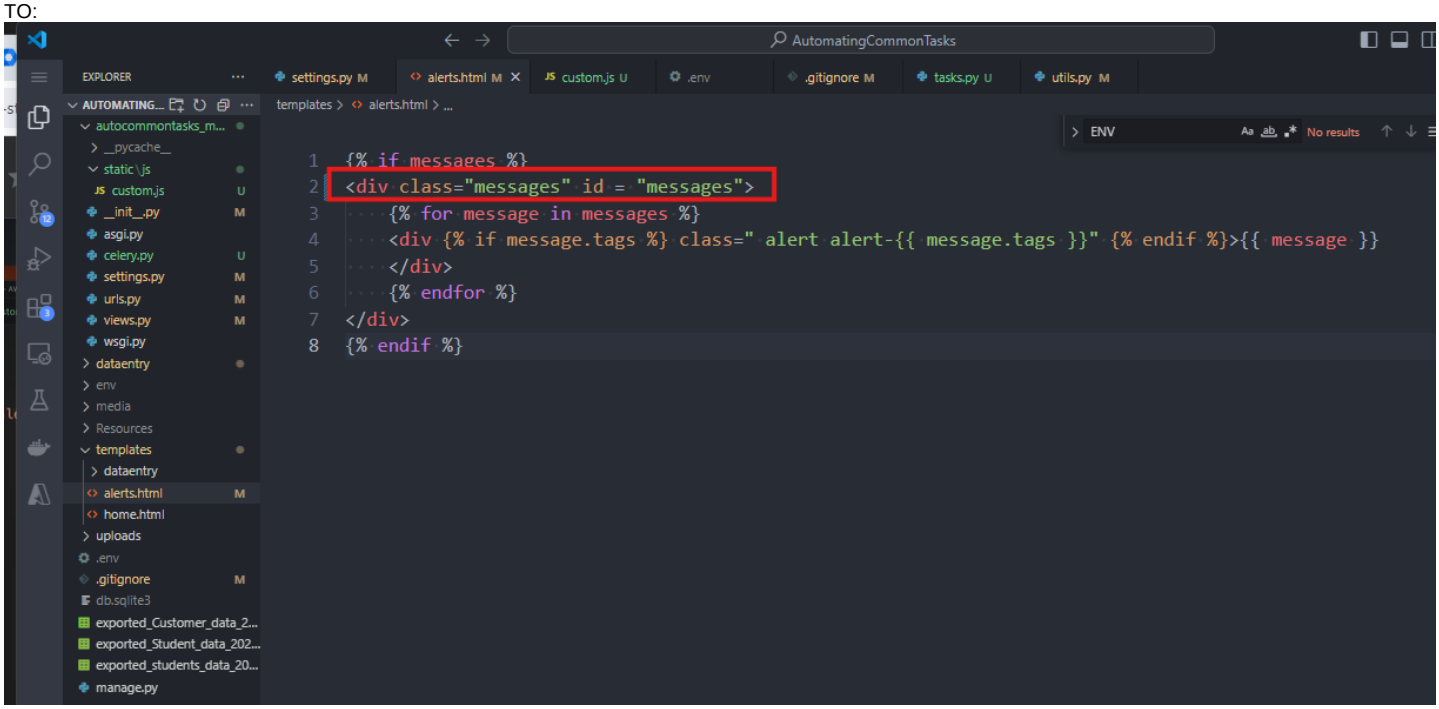
```python
STATIC_URL = 'static/'
STATICFILES_DIRS = ['autocommontasks_main/static'] # this is the source folder
# this is the destination folder after COLLECTSTATIC command
STATIC_ROOT = BASE_DIR / 'static'
```

12. Create an ID FOR YOUR ALERTS.HTML

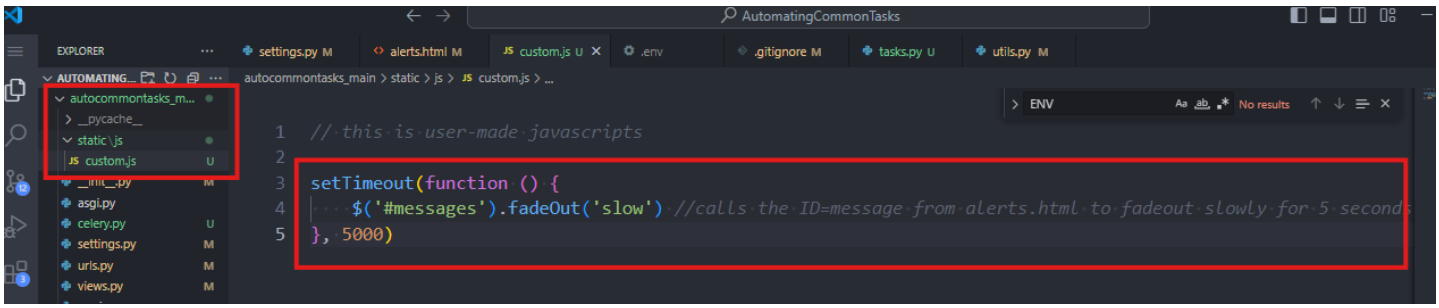
FROM:



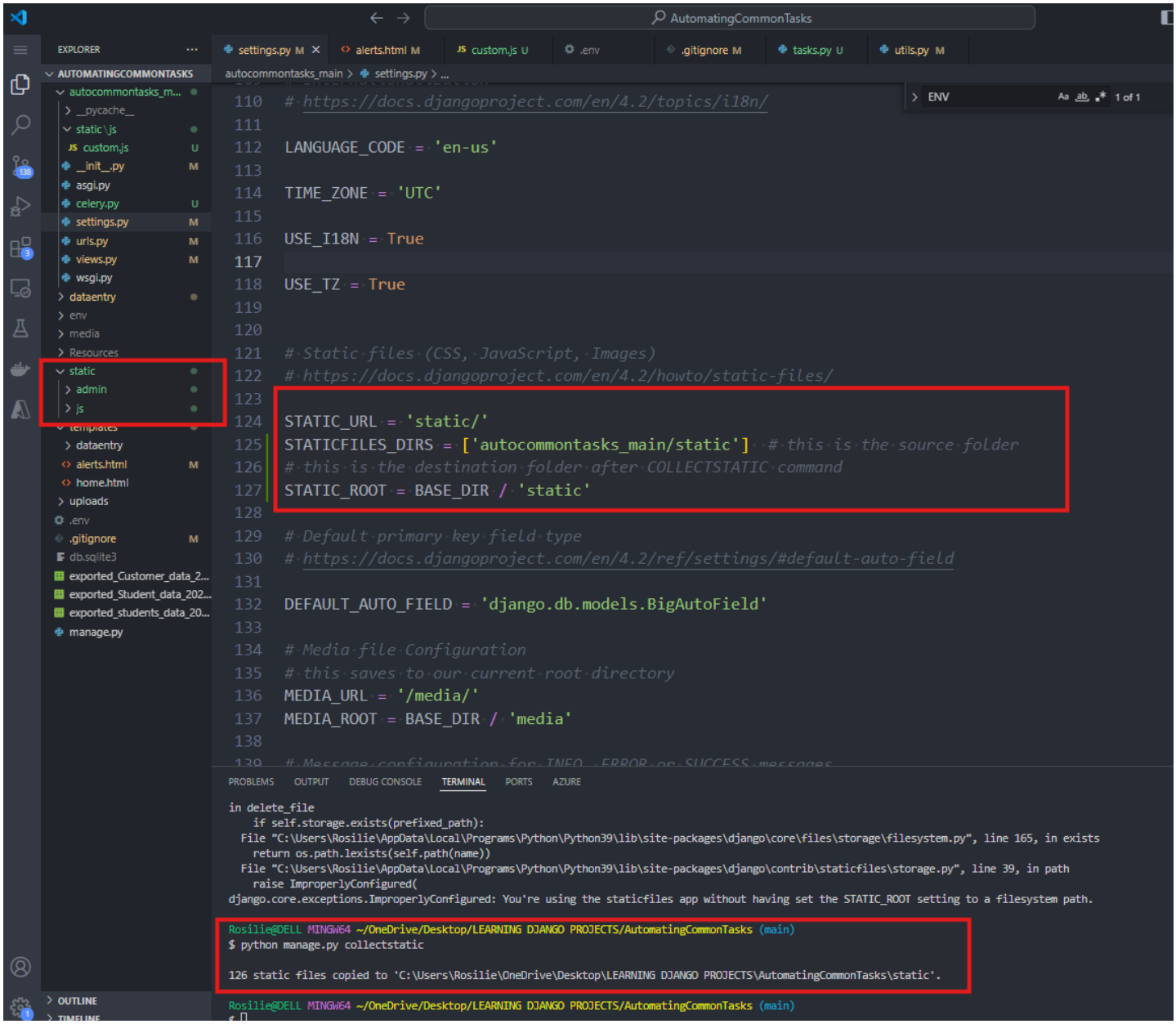
TO:



13. In our main project, we create a new folder and JS file, so in AUTOCOMMONTASKS_MAIN\STATIC\JS\CUSTOM.JS

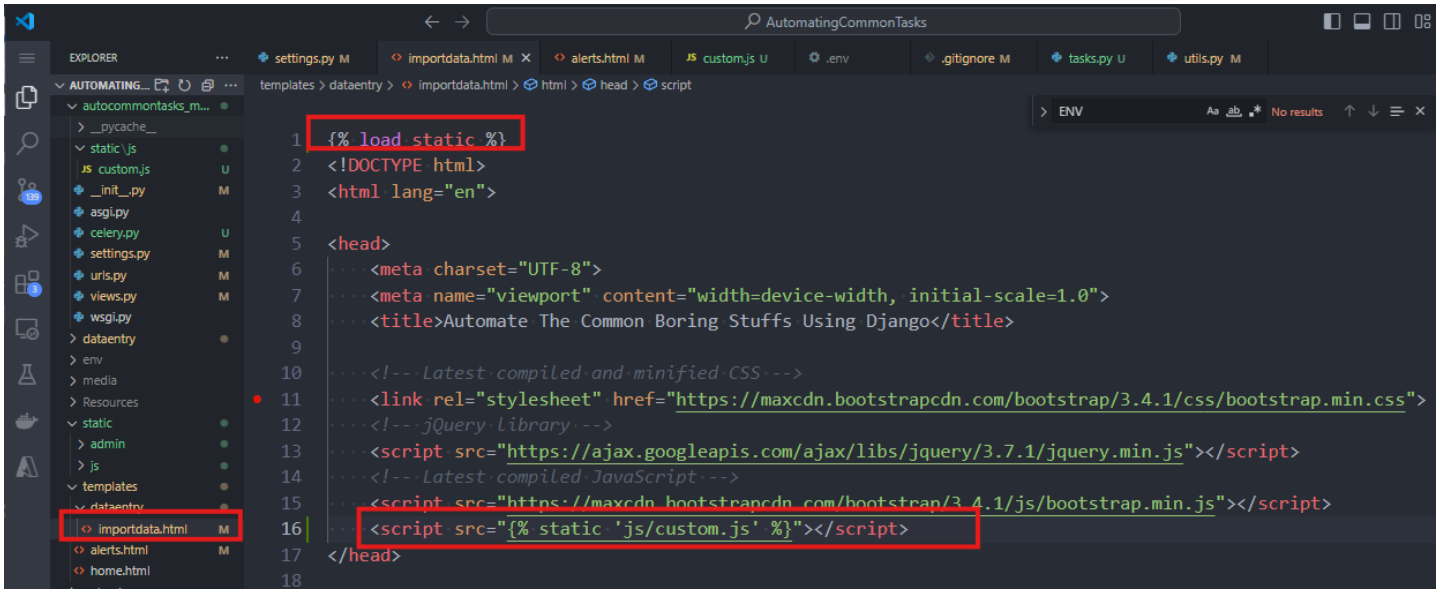


14. Since we have our own static files like CUSTOM.JS, we need to run COLLECTSTATIC COMMAND in our DJANGO-SERVER bash terminal. This will create a new folder STATIC in the root directory.

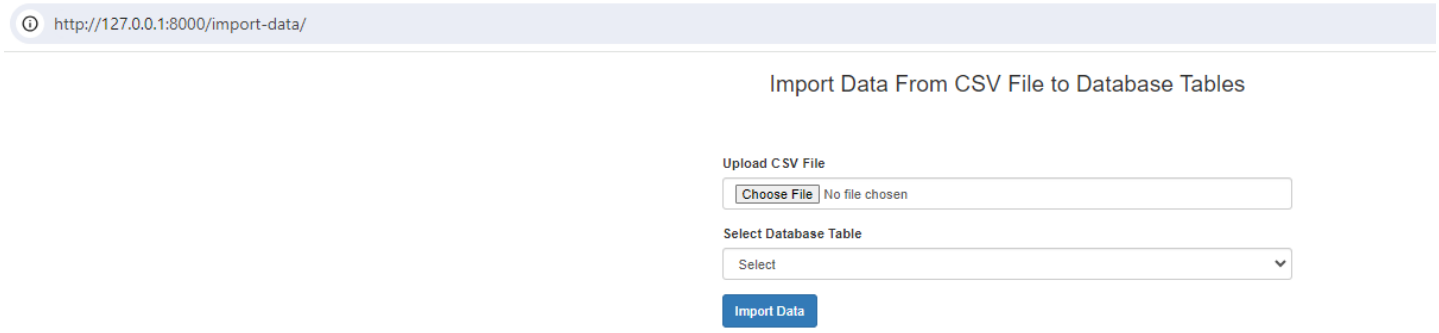



```
Rosilie@DELL MINGW64 ~/OneDrive/Desktop/LEARNING DJANGO PROJECTS/AutomatingCommonTasks (main)
$ python manage.py collectstatic

126 static files copied to 'C:\Users\Rosilie\OneDrive\Desktop\LEARNING DJANGO PROJECTS\AutomatingCommonTasks\static'.
```

15. Include this CUSTOM.JS JAVASCRIPT FILE in our DATAENTRY.HTML



16. Run the Django server again for testing. After 5 seconds, your alert message should disapper.



Push all changes to Github.
