Advanced Django Class Based Views

Let’s learn something!

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Django Bootcamp

- Welcome to your first “Advanced” Django Section.
- In this section we will discuss Class Based Views “CBV”

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Django

- Previously we've created views using functions, however Django provides really powerful tools to use OOP and classes to define views.

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- The CBV offers great functionality and for most experienced users of Django, it is their default choice for creating views.
- It is much easier to understand CBV after working with function views!

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- We’ll start off with a simple example of a “Hello World” CBV and then slowly build up to more complex examples and talking about “mix-ins”.
- Let’s get started!

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CBV - Hello World

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- Let’s convert a simple hello world function view into a class based view!
- We will use the simplest available Django View Class:
  - `from django.views.generic import View`

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- We will also have to slightly change the way we call a class based view in the urls.py file of our project.
- We need to add in a .as_view() call off the class, this is an inherited method from the View we mentioned earlier.

CBV - Template Views

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- Now it is time to learn how to use the TemplateView that comes with Django.
- It will make calling templates a breeze!
- Let’s see a comparison between using a function to call a template versus the TemplateView!

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- Function Based View

```
def index(request):
    return render(request,'index.html')
```

- Class Based Template View

```
class IndexView(TemplateView):
    template_name = 'index.html'
```

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- Let’s show the basics of this and then show how to use a Template CBV along with a context dictionary.

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List Views and Detail Views

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- We've learned how to use CBVs to directly show a template, but what about models?
- Often when we have models, we want to either list the records from the model, or show details of a single record.

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- Previously we did this with calls using the Object Relation Mapper directly
- This included things like:
  - `MyModel.objects.all()`
- However these sort of operations are very common!

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- So common that Django has some generic view classes you can inherit to very quickly display information from your model.
- This is where the power of CBV comes to help us out!

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- In this lecture we will quickly create:
  - New Models
  - New Templates
- Then we will focus on:
  - ListView
  - DetailView

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- Previously we've been putting all our templates inside the templates folder within the matching app folder.
- However it is also common practice to do the "reverse", have a template folder inside the app's folder.

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- We’ll show an example of doing that in this lecture as well.
- Let’s get started!

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CRUD

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- You may have heard the term “CRUD” before in web development, but what does it actually mean?
- Contrary to what you might think, it stands for **C**reate **R**etrieve **U**pdate **D**elete
- CRUD is inherent to almost every website!

Django

- Whenever you work with models and databases you will need to perform those four basic actions.
- Luckily, Django has class based views to simplify this entire process for you!

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Django

- We'll start off by exploring how to use the CreateView class.
- Note! While we are using the CreateView class we will purposefully induce a few errors to clarify where certain variable names are coming from!

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- Once we've worked with the CreateView class, working with the UpdateView and DeleteView classes will be very straightforward.

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- A quick note: there will be a lot of interaction between your urls.py, views.py, models.py, and template files!
- If you get stuck on an error triple-check that your code matches the notes exactly!

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- The nature of the interaction between all the files will make it almost impossible to give good help on this in the QA!
- So follow along with the video, and check against the notes!
- Let’s get started!

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