College of Engineering, Construction and Living Sciences
Bachelor of Information Technology
IN608: Intermediate Application Development Concepts
Level 6, Credits 15

Practical 09 Django 3: Forms & Class-Based Views

Due Date: 07-05-2021 at 5pm

In this practical, you will complete a series of tasks covering today's lecture. This practical is worth 2% of the final mark for the IN608: Intermediate Application Development Concepts course.

Before you start, in your practicals repository, create a new branch called **09-practical**.

Task 1

Create a Django project called `dog`. `cd` to `dog`, create a virtual environment & install Django. Create an app called `practical09dogsearch`. Please ensure you configure your app in `dog/settings.py` & `dog/urls.py`. In the `practical09dogsearch` directory, create a directory called `templates` & sub-directory called `practical09dogsearch`. In `templates/practical09dogsearch`, create two `HTML` files called `index.html` & `results.html`.

In `models.py`, copy & paste the `Dog` model from the previous practical.

In `index.html`, create an `HTML` form. The form `action` should map to the `results` function in `views.py` & the `method` should be `POST`. For adaptability, friendliness, grooming needs & trainability, use radio buttons. For physical needs, use a select drop down. For each `HTML` form element, i.e., input & select, set the `name` attribute to the appropriate `Dog` model field & set the `value` attribute to the appropriate `RANGE_CHOICE` actual value. Add a `submit input` below the mentioned elements.

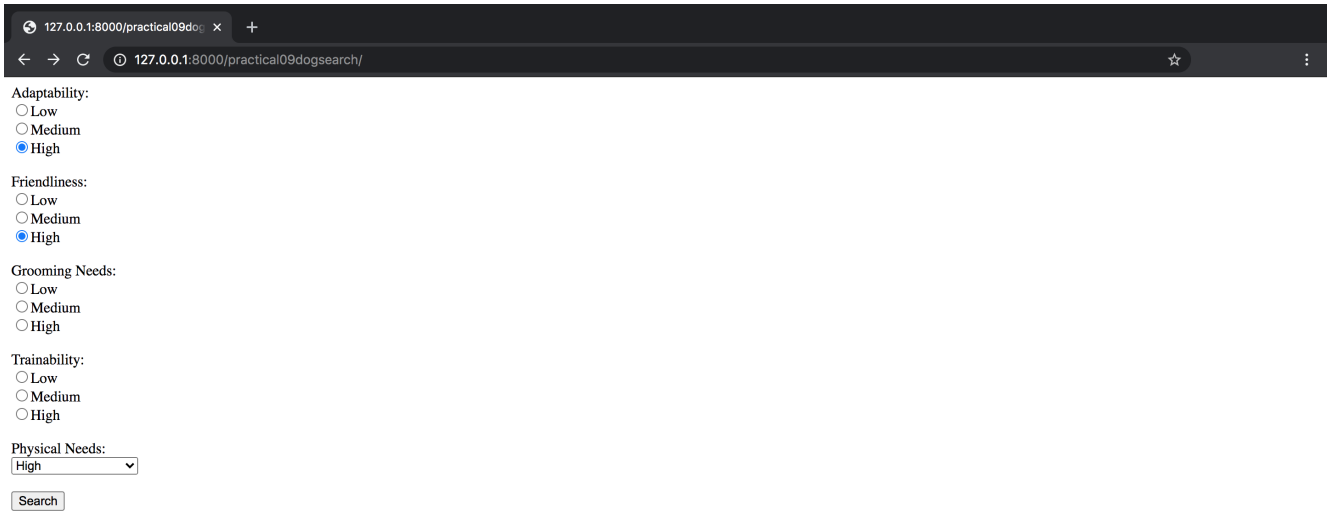
In `views.py`, create a class called `IndexView` which extends `generic.TemplateView`. In this class, set the `template_name` to `practical09dogsearch/index.html`. Create a function called `results`. In this function, you will query the `Dog` model using `filter` & return a `QuerySet` containing objects that match the given lookup arguments. In this instance, the lookup arguments will be the items in `POST` request. Render the `details.html` template with a `context` dictionary containing the `QuerySet`. In `details.html`, if the `QuerySet` in `context` is not empty, display the length of the `QuerySet` & `context` in a nicely formatted `HTML` table. If the `QuerySet` in `context` is empty, display an appropriate message.

Create a file called `urls.py` in the `practical09dogsearch` app directory. In `urls.py`, set the `app_name` to `practical09dogsearch` & create two URLs which map to the `IndexView` class & `results` function in `views.py`.

Expected Output

Run the command `python manage.py runserver` then navigate to http://127.0.0.1:8000/practical09dogsearch/

Note: The user should be able to search on any combination of fields.



1 dog matched your search.

Breed	Height	Weight	Life Span	Adaptability	Friendliness	Grooming Needs	Trainability	Physical Needs
Afghand Hound	25 inches	55 pounds	11 years	High	High	Low	Medium	High

No dogs available.

Deployment link: https://int-app-dev-practical-09.herokuapp.com/practical09dogsearch/

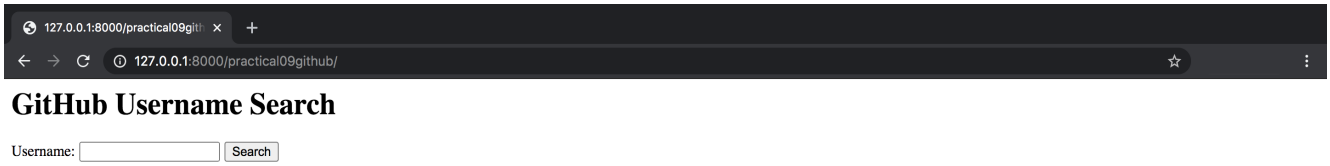
Resources

- Django Queries
- MySQL Client

Task 2

Create a Django project called `github`. `cd` to `github`, create a virtual environment & install Django. Create an app called `practical09github`. Please ensure you configure your app in `github/settings.py` & `github/urls.py`. In the `practical09github` directory, create a directory called `templates` & sub-directory called `practical09github`. In `templates/practical09github`, create two `HTML` files called `index.html` & `details.html`.

In `index.html`, create an `HTML` form. The form `action` should map to the `details` function in `views.py` & the `method` should be `POST`. Add a `text input` with the `name` attribute value of `username` & `submit input`.



In `views.py`, create a class called `IndexView` which extends `generic.TemplateView`. In this class, set the `template_name` to `practical09github/index.html`.

Create a function called `details`. In this function, get the `POST POST username` from the form. Use the `POST username` value & make a `GET` request to `https://api.github.com/users/<username>`. **Note:** replace `<username>` with the `POST username` value. Please view the example response: https://api.github.com/users/grayson-orr

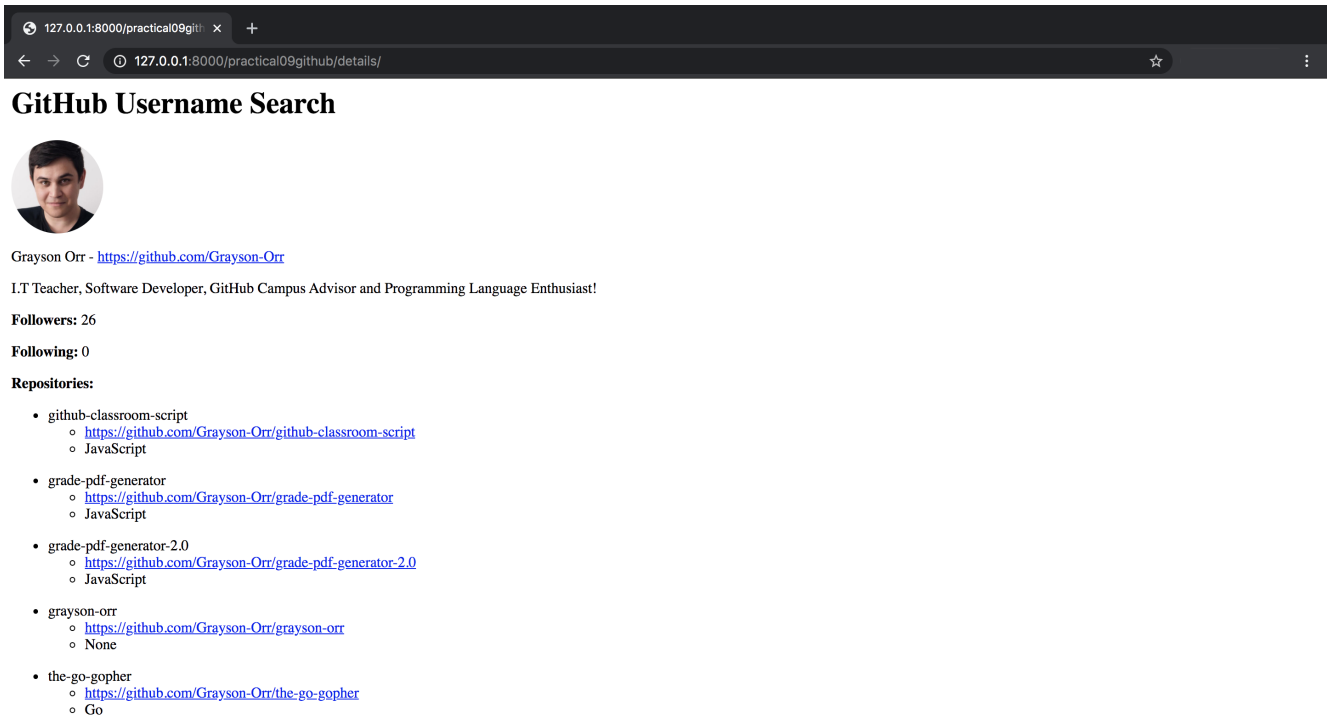
Create a dictionary called `context`. If a `POST username` value is found, add the response contents from the `GET` request to the dictionary. In addition, make another make a `GET` request to `repos_url`. The response content will contain a list of repository information for that particular **GitHub** user. Add the response content to `context`. Please ensure correct error checking.

In `details.html`, display the `context` dictionary in the same format as shown in the expected output.

In `urls.py`, set the `app_name` to `practical09github` & create two URLs which map to the `IndexView` class & `details` function in `views.py`.

Expected Output

Run the command `python manage.py runserver` then navigate to http://127.0.0.1:8000/practical09github/



Deployment link: https://int-app-dev-practical-09.herokuapp.com/practical09github/

Resources

- GitHub Developer API