

Programming Assignment for the Position of Software Engineer (KTP Associate)

Report

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Developed functionality

About

The following is a brief description of the development of a web application (accessible at nt294.pythonanywhere.com) that enables an end user to query the Countries GraphQL API for information about a given country, specifically its continent, capital city, national languages, and native name if applicable.

The application was developed using the Django framework, and is comprised of a single view, *main_page*. This view utilises the GQL library to send a request the Countries GraphQL API to obtain a full list of countries and their respective ID codes, which is passed to the page before it is served to the client. This approach ensures that the client has an accurate list of countries to select from without having to perform the full look-up itself.

Upon page load the user selects a country from the dropdown menu, triggering a JavaScript function *sendQuery(country)* with the selected country as its input. *SendQuery* utilises the Fetch API to form a POST request based on the input country, which is then sent to the Countries GraphQL API, subsequently returning a JSON text response (Figure 1). Relevant information from the JSON response is extracted and formatted appropriately to be displayed within a div in the DOM, allowing the user to view the retrieved information about their chosen country.

The frontend interface was adapted from an open-source Bootstrap component [1] [2], and the application was deployed on the web hosting service PythonAnywhere.

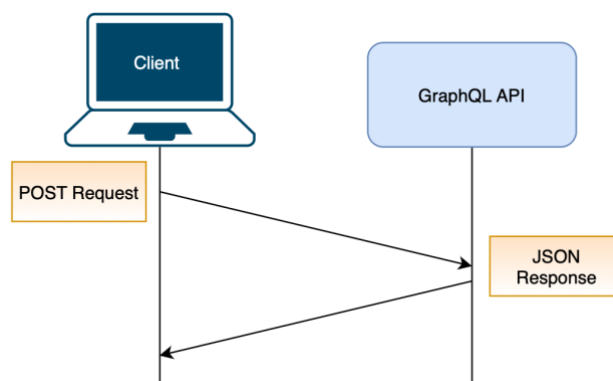


Figure 1: Communication with the GraphQL API using the Fetch API

Deploying locally

To deploy the application locally on the Django development server, accessible at localhost:8000, the following steps need to be taken on a machine with a valid git and Python 3 installation:

1. Clone the repository from https://github.com/nt294/GraphQL_Programming_Assignment
2. Navigate to the directory containing the 'manage.py' file and run the following commands:
 - \$ pip install -r requirements.txt
 - \$ python manage.py makemigrations
 - \$ python manage.py migrate
 - \$ python manage.py runserver

References

- [1] SaminOnline, “Bootstrap 4 Animated Dynamic Form,” [Online]. Available: <https://bootsnipp.com/snippets/4MrdQ>.
- [2] Bootsniipp, “Snippets License (MIT license),” [Online]. Available: <https://bootsnipp.com/license>.