RESTful API for beginners

202312051457
Status: #documentation

https://medium.com/@shifrb/what-is-rest-a-simple-explanation-for-beginners-part-2-rest-constraints-129a4b69a582

Hi, I am Nathalie, and our group is developing a few RESTful APIs. I am working on the one for eRA.

API stands for **Application Programming Interface** and this establishes a **connection** between programs so they can transfer data.

If there is an API, it means that only part of the data in the back end database is exposed to the client. The client could be the frontend of API, (a web interface for example) or an external program, like Postman,, R or Python programs.

To get this data, a correctly structured **request** has to be sent to the API. If the request meets the desired requirements, a response which contains the data gets sent back to where the request was made. This response usually comes in the form of JSON or XML data.

In some cases, you'll need some sort of **authorization** or authentication to gain access to the data.

A **documentation** will tell you what data is available and how to structure your request to get a valid response.

Let's see if we have understood all that using a **real-life example:**

Imagine visiting a new restaurant. You're there to order food, and since you haven't been there before, you don't exactly know what type of food they serve.

The server then approaches you with a menu so you can pick what you'd like to eat. After making your choice, the server then goes to the kitchen and gets your food.

In this case, the waiter is the API who is connecting you to the kitchen. The API's documentation is the menu. The request is made when you pick what you'd like to eat, and the response is the food being served.

An API that complies with some or all of the six guiding constraints of REST is considered to be RESTful.

So what is happening with the **LTEs and the eRA database**?

eRA provides a permanent secure storage of Data for the Long-Term experiments, and also weather data.

First, a new **kitchen (database)** is being developed by Richard in POSTGRES. The new structure will enable to put a lot more information on the **experiment** design, data description, metadata and also to be standardised. POSTGRES is also a lot better at handling **geolocalisation**, so the data providers and users will have a lot more to play with.

Next, we are working on the "waiter": the new API.

We had a **meeting** recently with potential users and providers, to talk about the changes and start the conversation about what kind of dishes they want served! It was very successful: there was a great exchange of ideas.

I will be using **LARAVEL** to design the API, which I used last year to deliver a tool for the curation of the metadata. : it is a PHP **framework** which offers a safe and coherent structure to design web interface, programmatic APIs and documentations.

We already have our authentication ready. Please let me know if you would like to be the firsts to try our wonderful dishes!