restAPI using Flask and MySQL

Laboratory Report

Author: Hector Alarcon Flores

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1 Introduction

Nowadays there are a lot of information we have to be able to handle properly. To do so, we store data in *databases*. In this project data will be retrieved from a *MySQL* database using Flask (Python).

2 Objectives

The main goal of this project is to extract data succesfully from a database and create a route where users can download a .csv file containing such data well organized.

- To create a route which enables downloading data.
- To connect and retrieve data from a MySQL database
- To organize data into a .csv file.

3 Decisions

Through this project I've made some decisions in order to make this project to work correctly

3.1 Database

As mentioned before I retrieved all the information from a created MySQL database. I used **mysql connector** framework to be able to extract all necessary information. The database is never modified / updated in any ways. Only process was to get data.

3.2 UI / frontend

There is no frontend or UI for this project. There is a route which allows users to see the data on screen as a JSON object instead of downloading the file. This route is :

localhost:5000/show

It also enables the same query params as if downloading file.

3.3 Methods

There are 2 main methods in db.py that allows to retrieve all data and organize it correctly.

- **getUsers()**: firstly extracts data from *User* and sets it in a dictionary containing userID : user information. Once all basic information of every user is extracted we move on to extracting its contracts.

All contracts has to meet the query requierements, if none, every contracted will be retrieved and established. Therefore this methods returns a dictionary.

- **dict_to_list()** : With this method I organize the data into a list of list containing the information organized as requested.

4 Resources used

This section will cover all the resources used to make possible this project :

- framework **Flask** to create the whole rest API.
- framework mysql-connector to acces database
- frameworks *unicodedata, re, json* to edit/ transform data.
- *Visual Studio* as a text editor.
- *Insomnia* to simulate requests.
- *GitHub* as a repository manager.

The project will be found on :

`https://github.com/hectorAlarcon/restapi-mysql-test`