Developer Coding Challenge - PHP

Commercial in confidence

Script Task

Create a command line executable PHP script, which accepts a CSV file as input and processes the CSV file (according to the command line directives and assumptions covered later in this document). The parsed file data is to be inserted into a PostgreSQL database. A CSV file containing test data is provided as part of this task, your script must be able to process that file appropriately.

The PHP script will need to correctly handle the following criteria:

- The CSV file will contain user data and have three columns: name, surname, email (see table definition below).
- The CSV file will have an arbitrary list of users.
- The script will iterate through the CSV rows and insert each record into a dedicated PostgreSQL database, into the table "users".
- The "users" database table will need to be created/rebuilt as part of your PHP script. This will be defined as a command line directive below.
- "Name" and "surname" fields should be set to be capitalised eg from “john” to “John” before being inserted into the database.
- Emails need to be set to be lower case before being inserted into the database.
- Your script should validate the email address before inserting, to make sure that it is valid (valid means that it is a legal email format, e.g. "xxxx@asdf@asdf" is not a legal format). If an email fails validation, no insert should be made to the database and an error message should be reported to STDOUT.

We are looking for a script that is robust and gracefully handles errors/exceptions.

The PHP script command line argument definition is outlined later in this document under **Script Command Line Directives** . However, user documentation will be looked upon favourably.

Source Control

All of your work on this coding challenge must be managed using git as the version control system, with the repository made available via online repository: GitHub

(github.com), bitbucket (bitbucket.org) etc. This is how you will deliver your final code once you have completed the challenge.

A repository with only one commit is not acceptable. Showing the development process is just as important as the task itself.

Assumptions

- The deliverable will be a running PHP script – it will be executed on a machine running a currently supported version of Ubuntu.
- The PHP version is 8.3.
- Your git commits should demonstrate your development process history, not just a completed script on a single commit.
- You may wish to rely on one or more libraries being installed via apt-get, pear or composer. This is fine, but these dependencies should be outlined in your submitted install documentation.
- PostgreSQL database server is already installed on the test computer and is version 13 (higher versions are also acceptable). Database user details should be configurable.
- Your PHP script will be called "user_upload.php".
- The CSV file will be called "users.csv" and is provided with this document.

If there are any unclear details here, you are welcome to make assumptions as long as they are clearly stated and documented as part of your deliverables.

Users Table Definition

The PostgreSQL "users" table should contain at least these fields:

- name.
- surname.
- email (email should be set to a UNIQUE index).

Script Command Line Directives

The PHP script should include these command line options (directives):

- --file [csv file name] – this is the name of the CSV to be parsed.

- --create_table – this will cause the PostgreSQL users table to be built (and no further action will be taken).
- --dry_run – this will be used with the --file directive in case we want to run the script but not insert into the database. All other functions will be executed, but the database won't be altered.
- -u – PostgreSQL username.
- -p – PostgreSQL password.
- -h – PostgreSQL host.
- --help – which will output the above list of directives with details.

Questions

The aim of this task is to test both your development skills as well as simulate a real world project task. Guidance can be sought regarding the requirements and deliverables of this task, however questions on “how to do it” won't be accepted.