**Senior backend developer home assignment**

Welcome to Lvble,

In the next few hours you will be designing and developing a nice piece of software related to the US rental market. The exam is built out of 3 parts:

1. Rental market research
2. Coding part: Design and development
3. Wrapping up your code in a docker file

**1. Rental market research**

Please answer the following questions in this file:

1. What is a property manager company and what is their role? Please provide the names of 3 property management companies.
2. What is a property management software company? Please provide the names of 3 property management software companies.
3. What is greystar? How many apartments do they manage? Tell us something interesting about them that we might not know. Do they use property management software? If so, which one? How did you get to that answer?

**2. Technical exam: Design and development**

You are allowed to use any language you want. Preferably Python but again you can use whatever language you want.

Now that you know what a property management software is, we will build some code that interacts with them.

The objective: Build an extendable piece of software that retrieves information from tenant portals and saves the data into a database. We want to get the following information:

* Address where the tenant lives at
* Property management company that manages the apartment
* Tenant email
* Tenant phone number

We want a program that gets 3 parameters and retrieves the data into the database.

For example:

./tenant\_portal\_data\_retriever <tenant\_portal> <username> <password>  
./tenant\_portal\_data\_retriever click\_pay micael.lasry@gmail.com Micael123

After running this, a table in the db will contain the information described above.

For now we know we want to support click pay, activebuilding and rentcafe.

For this exam you will **only** implement the clickpay support.

Feel free to access clickpay with the credentials provided in the example. You can explore the portal but DON'T do any payments or remove any units.

Regarding the DB part, please use sqlite as a file since it's probably the most simple way. Output the file into a db folder.

Please reach out to Lvble for any questions you have.

**3. Wrapping up your code in a docker file**

Before doing this part of the exam, please contact Lvble.

You will finalise this exam by wrapping your code in a docker so I can easily run your code. The program parameters will be passed from the docker arguments. For example:

docker run tenant\_portal\_reader -v db:/app/db click\_pay [micael.lasry@gmail.com](mailto:micael.lasry@gmail.com) Micael123