# Objective

Implement a backend application using Python that imports a JSON file provided by Propylon with hierarchical structure (tree) into a database of your choice. The database structure can follow any model that candidate considers as suitable in terms of tables, relations and columns to meet the requirements.

Each element in the tree has a field called “level”, which represents the position in the hierarchy. Therefore, when the tree is built respecting the sequence and level of elements, the level needs be used to determine children and parent components.

Once this JSON file is imported into a database, create an API endpoint that returns the next 20 elements from the tree, which is stored in the database, passing the element ID as a parameter.

Optionally, you can build a frontend application written in any modern JavaScript framework of your choice (React is our preference), to show a representation of the tree returned by the backend endpoint.

# Example

**JSON file**

**Text

Description automatically generated**

**Expected structure returned by the API endpoint**

* **Chapter 1 (level 1)**
  + **Chapter 1.1 (level 2)**
  + **Chapter 1.2 (level 2)**
    - **Chapter 1.2.1 (level 3)**
    - **Chapter 1.2.2 (level 3)**
* **Chapter 2 (level 1)**

In this sample, the elements Chapter 1.1 and Chapter 1.2 should be children of Chapter 1, following the same logic for the remaining items in the JSON file. Note that the API endpoint must retrieve the data from the database after the JSON file is being imported.

# Timeframe

Please return your solution within five days of receipt of the test. If this timeline poses any issues, please reach out to gavin.cassidy@propylon.com and [alexandre.cardoso@propylon.com](mailto:alexandre.cardoso@propylon.com) to discuss.

# Delivery

The solution can either be delivered through a private, shared Git repository, or via email as a Zip file.

In the case of an emailed Zip, zip the project folder and send it to Greg and Alex (contact details above). Should your email client reject the ZIP for containing source code, please encrypt the ZIP with the password "propylon". This should bypass any checks by the mail server