Test task for Ektaco .NET back-end developer position.

A client needs a REST API, which will allow to manage products. Using the API it should be possible to add and get products to / from a database. Each product has a group where it belongs and can be in only one group at any given time. Products without a group are not supported. Product groups can have sub groups. The client also wants to see the group structure as a tree.

The client has multiple stores where products are sold. There should be a way to store information which product can be sold in which store and get a list of products sold in this store. A product can be sold in multiple stores and multiple stores may have the same product for sale.

Please create such a REST API.

The API should have:

1.   An endpoint which will allow to add a product. The product should have a name, info regarding the group it belongs to, when it was added, price, price with VAT and VAT rate (%) for that product. It should also have the option to add product to store or stores here. In the input if either 2 values from price, price with VAT, VAT rate are provided, third one should be calculated in the API if not provided. For example, if price and VAT rate are given, price with VAT should be calculated on the spot and so on.

2.   An endpoint which will return one product by product id. If the id is empty, return all of the products. The product object returned should have name, product group name to which the product belongs, time when it was added, price, price with VAT and VAT rate. Also array of store(s) where product exists.

3.   An endpoint which will return product groups as tree with child groups. The group object here should have a name, its id and Id of its parent group and child groups (if there are no child groups this can be an empty array).

5.   For Stores and Product Groups feel free to add data directly to the database yourself as you see fit. Would be nice to see at least 3 stores, enough groups to build a tree with two main nodes and two child nodes for each and to have all stores have 1-2 distinct products.

The outcome should be a .NET or .NET Core WEB API project written in C#. The API should support only JSON content type. You are free to use any approach to solving this task. Use any frameworks you see fit. Input data should have reasonable validation.

Upload the project to version control (for example you can use bitbucket, it supports a few private repositories for free). The project should have instructions on how to get it working. Do not make it too complicated to get the project to work though. If there are any SQL scripts used attach them to the project with an explanation on how to use them.

If you have questions, feel free to ask.