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# Full Stack Code Challenge

*Build a web app with a corresponding backend for showing and modifying a company structure.*

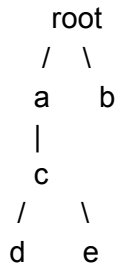
## Assignment Details

### Description

We at Veo want to help our new employees have a better overview of our company structure.

We have our root node (only one, in our case, the CEO) and several child nodes. Each of these nodes may have its own children.

You can imagine the structure being similar to this:



### Backend Tasks

Create **3 endpoints** written in **TypeScript or any other language** that will serve these basic operations:

- Add a new node to the tree
- Get all child nodes of a given node from the tree (just 1 layer of children)
- Change the parent node of a given node

## Frontend Tasks

Create a **frontend in React with a basic UI** for:

- visualizing the active structure of nodes
- adding new nodes to the tree

## Node Structure

A node should have the following data:

- Node ID
- Node name
- Parent node
- Height of the node (in the example above  $\text{height}(\text{root})=0$  and  $\text{height}(a)=1$ )
- Managers should have an extra field specifying the name of the department they are managing
- Developers should have an extra field specifying the name of the programming language they prefer

## Technical Details

- Use TypeScript or any other language for the backend
- Use any framework you would like for the backend (e.g. Express, NestJS, Fastify)
- Use React and React Hooks for the frontend

## Scope

- Work on this assignment **not more than 4 hours**
- We don't expect a complete product
- **Create a repository** and share it with us
- Setup the project as you normally would do
- This is to showcase your technical skills, so add anything that you feel is important in a project
- We would like to see the **progress in git commits**, not one giant push with everything
- Make sure the **README.md** file includes all the steps for running the project

## Outcome

- Send us back an email with the link to your repository
- Be prepared for some technical questions