## Objective

The following two tasks are designed to get a feel for your understanding of the React, basic object-oriented design, good programming practices, and ability to learn new material.

You will be building a Springboot backend application paired with a React frontend.

Upload your code to your personal git repository and provide the link.

# Task 1 – Backend

IP Address Management REST API

Create a simple IP Address Management REST API on top of any data store. It will include the ability to add IP Addresses by CIDR block and then either acquire or release IP addresses individually. Each IP address will have a status associated with it that is either “available” or “acquired”.

The REST API must support four endpoints:

1. Create IP addresses - take in a CIDR block (e.g. 10.0.0.1/24) and add all IP addresses within that block to the data store with status “available”
2. List IP addresses - return all IP addresses in the system with their current status
3. Acquire an IP - set the status of a certain IP to “acquired”
4. Release an IP - set the status of a certain IP to “available”

# Task 2 – Frontend

Create a frontend page that supports the REST API backend that you have created from Task 1. You are free to design the frontend for look and feel but your frontend must:

1. Use React.
2. Use MUI -- <https://mui.com/>
3. Connects to the backend you have created from task 1 and support all endpoints created.