

# Programming Assignment

Senior Software Engineer – Integrations

## Background

The purpose of this assignment is for the candidate to show elementary mastery of several software engineering disciplines:

1. Solution design
2. Frontend development
3. Algorithmic problem solving
4. Software code delivery

In addition, written communication skills are demonstrated.

## The Task

You are to develop a simple HTTP-based web site with REST API that maintains an integer array, initially empty, and features the following functionality:

- Displays the array content (HTTP) or returns the current array (API)
- Provides functionality to add an integer to the array
- Provides functionality to check whether the array can be split in two, without reordering the elements, so that the sum of the two resulting arrays is equal. For example, array [4, 1, 1, 1, 1] can be split this way (in [4] and [1, 1, 1, 1]), while [1, 1, 5, 3] cannot be split in two arrays with equal sums.

You can use the programming languages or frameworks of your choice. For the “backend” you can store the array persistently in any way you choose.

## Delivery

The assignment is to be delivered as a GitHub repository, and must contain the following parts:

- Design summary
- Code you have written
- API specification
- Instructions how to test the code and APIs
- Short discussion of the efficiency of your algorithm to split and check the array for the described property.

Time to deliver this assignment is limited to 48 hours. The task is to be solved individually – you must not receive assistance from anybody.

In case you have any questions, please contact [tarik@erate.no](mailto:tarik@erate.no) (or by phone +47 93050249).

Good luck!