

## Senvo Backend Developer Coding Challenge

Senvo operates on shipment-related data from e-commerce and logistics systems. The heart of our application is a backend system that parses such data and stores it in PostgreSQL. In order to make this coding challenge close to the kind of work we do, and maybe learn some new tricks from you, we are asking you to write an application that stores and provides shipment invoice data. A shipment is defined by the following attributes:

- Shipment number, also known as the tracking number
- Shipment date: When the package was picked by the carrier
- Destination address consisting of the fields address line 1, address line 2, postal code, city and country code.
- Physical dimensions of the package in cm
- Weight of the package in grams
- Price of the shipment service (amount and currency)
- Name of carrier: Possible values are `dhl-express`, `ups` and `fedex`.

The application should be a JSON API with only one endpoint that accepts two methods:

- `POST` method should accept a list of shipments. The shipments should be saved in a PostgreSQL database, and the status code 201 should be returned. Input should be properly validated.
- `GET` should return a list of shipments, filtered by query parameters. The available filters should be date ranges, carriers, and price ranges. Filters should work additively, i.e. they should function when supplied at the same time.

Aspects that are important for us:

- Correctness mechanisms: Capabilities provided by the Python toolchain to ensure correctness should be used.
- Data validation: All data accepted by the API should be validated, and informative error codes and messages should be returned.

The following would be interesting to see, but are not necessary:

- Performance tests: Means to test the performance of the application
- Telemetry: Structured logging and metrics