

Billy Coding challenge

FIFO inventory

To prove your abilities to solve tasks in an efficient and straight-forward way, you'll implement an API, that support basic inventory actions. To calculate your inventory throughout time, you'll use the FIFO (First in, First out) principle.

Your implementation should preferably be written in either PHP or Node.js, since that's the two most commonly used programming language at Billy. While the implementation is up to you, the service should be self-sustained, production ready. Consider the service to be public, so omit any authentication / authorization logic, but make sure it has correct execution logic (start / stop), error handling, logging and it's covered by tests.

Actions that should be supported:

- Buy item
- Sell item
- Adjust quantity of items

Your input for buying an item, should be the purchase date, quantity, and item cost price. Your input for selling an item, should be the sell date and quantity.

You should also be able to retrieve the quantity for all items, current value from cost price, and sold value.

We appreciate automated tests a lot, and everything that we built, should be well-tested.

Please document the decision making while building this service (work log). API documentation for the service will be a plus

Your solution should be able to answer the following questions correctly, given the following variables presented in the tables:

Sebastian is a bullpen dealer, who makes a living from buying and selling ballpens.

Sebastian buys:

Date	Quantity	Cost per pen
Jan 1st 2016	200	10
Jan 5th 2016	250	15
Jan 10th 2016	150	12.5

Sebastian sells:

Date	Quantity
Jan 3rd 2016	50
Jan 8th 2016	225
Jan 11th 2016	50

- How many pens does Sebastian have in stock ultimo Jan 11th 2016?
- What is the value of the inventory ultimo Jan 11th 2016?
- What are the costs of pen solds ultimo Jan 11th 2016?