

Python Developer assignment

Introduction

In this task, you will work with a very basic e-commerce data tracking mechanism. The application will simply collect the data about items that the user adds to their cart.

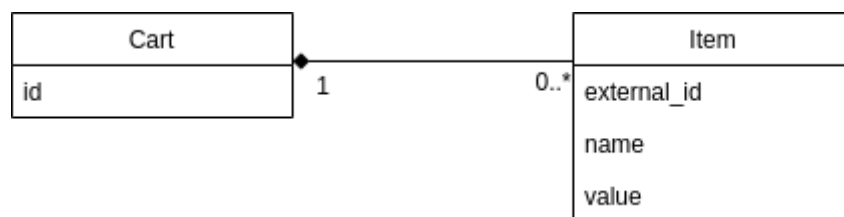
You may assume that there is some kind of javascript code placed in various stores that will feed the data to our tracker (according to the specification listed below).

Model

The data model for this task has been largely simplified and contains only 2 classes:

- Cart – represents a single container that aggregates items the user added,
- Item – represents a single product in the cart (identified by an external product id), contains basic details such as name and value (expressed in cents).

Model



Specification

Your task is to implement in Python an HTTP endpoint in any framework of your choice according to the following specification.

Use JSON as the request format. Store the data in PostgreSQL.

Cart Tracking

Description

POST /item

This endpoint adds an item to the current cart using the following logic:

- if a cart has not yet been created for this session, it creates one first and sets its ID in a cookie,
 - otherwise, simply read the cart ID from the cookie,

- if an item with a given `external_id` already exists in the current cart, it updates it instead.

Parameters

Name	Type	Description	Required
<code>external_id</code>	str	Product ID of the item	yes
<code>name</code>	str	Name of the item	no
<code>value</code>	int	Value of the item (in cents)	no

Cookies

This cookie should be set by the application when a new cart is created and expire in 72 hours.

Name	Type	Description
<code>cart_id</code>	str	ID of the current cart.

Returns

204 No Content

Performance

The tracker is expected to receive massive amounts of data, so the time it takes to process a single request and generate the response is critical.

The key part of this task (and primary rating criteria) is implementing a tracker with this requirement in mind.

Tip: Consider the actual requirements for the tracker to render the response – delay database operations whenever possible. The cart's ID does not have to be sequential.

Guidelines

- Use Python 3.10 or newer.
- Follow Python standards and good practices.
- Remember to implement unit and integration tests for any code you write (pytest is recommended).
- Check your code with some linters before submitting the solution.
- Include a README.md file with instructions for running the application and its.
- Running the application in a containerized environment is a plus.