

Technical Documentation for Delivery Cost Computer

Description: This project implements REST API that calculates delivery cost and interfaces with another REST API to check if there is a voucher code that will provide discounts

Scope and Assumptions:

1. This system will be deployed on a local server. In this case, it can run on a machine for this example.
2. No frontend implementation and deliverable is a backend project that exposes web services that will perform the functions mentioned in the description.
3. Postman will be used to test how the system will perform.
4. Security is not in scope.
5. Validation is not in scope.
6. Interfacing Web Service is up and running.
7. Interfacing Web Service Definition is as below

Tech Stack:

List the technologies used in the project

1. Spring Framework - Core, Web, Web Flux
2. Spring Boot
3. Maven
4. Lombok

Component Breakdown

- CostCalculatorController
- CostComputerService

Utility Breakdown

- Rules
- Volume Calculator

DTO Model

Volume
BigDecimal weight
BigDecimal height
BigDecimal width
BigDecimal length
String voucherCode

API Reference:

1. Compute Delivery Cost

Description: It will calculate delivery cost based on table below and subtract discounts based on a voucher code using interfacing REST API

The rules for calculating the cost of delivery are in order of priority:

Priority	Rule Name	Condition	Cost
1 (Highest)	Reject	Weight exceeds 50kg	N/A
2	Heavy Parcel	Weight exceeds 10kg	PHP 20 * Weight (kg)
3	Small Parcel	Volume is less than 1500 cm ³	PHP 0.03 * Volume
4	Medium Parcel	Volume is less than 2500 cm ³	PHP 0.04 * Volume
5 (Lowest)	Large Parcel		PHP 0.05 * Volume

Location: [api/v1/costComputer](#)

HTTP Method: Post

Request Json:

```
{
  "weight": 10,
  "height": 25,
  "width": 100,
  "length": 1
}

{
  "weight": 10,
  "height": 25,
  "width": 100,
  "length": 1,
  "voucherCode": "MYNT"
}
```

Positive Response Sample

Body	Cookies	Headers (5)	Test Results	200 OK	971 ms	170 B	Save Response	...
Pretty	Raw	Preview	Visualize	JSON				
1	112.50							

Negative Response Sample

Body	Cookies	Headers (4)	Test Results	500 Internal Server Error	63 ms	274 B	Save Response	...
Pretty	Raw	Preview	Visualize	JSON				
1	{							
2	"timestamp": "2024-10-04T06:01:51.162+00:00",							
3	"status": 500,							
4	"error": "Internal Server Error",							
5	"path": "/api/v1/costComputer"							
6	}							

Interfacing REST API

URL: <http://localhost:9081/api/demo/voucher/{VoucherCode}&key={apiKey}> (To be changed with mynt web service)

Response Json Sample:

```
{
    "code": "ABC",
    "discount": 10.0,
    "expiry": "2025-12-10",
    "errorMessage": null
}
```

Error Handling:

1. If Item weight is more than 50, RejectItemException will be thrown
2. If there is error in accessing interfacing Rest API, timeout error and internal server error will be thrown
3. If Interfacing REST API returns HTTP 400, then delivery Cost will not have discount.

Links

- Cost Computer Git Location - <https://github.com/thirdylopez/costComputer>
- Interfacing REST API Dummy - <https://github.com/thirdylopez/demo>