

Example API Call:

A request/response to/from the api.frankfurter.app API might look like the following:

```
GET https://api.frankfurter.app/2020-07-07?from=NZD&to=USD&_id=
```

```
{
  "amount": 1.0,
  "base": "NZD",
  "date": "2020-07-07",
  "rates": {
    "AUD": 0.94212,
    "USD": 0.65411
  }
}
```

When converting your line amounts, please pay attention to the direction of the exchange rate you've retrieved from api.frankfurter.app e.g. USD → NZD → NZD → USD. Each line amount should be converted from the line currency to the invoice currency.

Valid Currencies are

AUD Australian Dollar
BGN Bulgarian Lev
BRL Brazilian Real
CAD Canadian Dollar
CHF Swiss Franc
CNY Chinese Renminbi Yuan
CZK Czech Koruna
DKK Danish Krone
EUR Euro
GBP British Pound
HKD Hong Kong Dollar
HUF Hungarian Forint
IDR Indonesian Rupiah
ILS Israeli New Sheqel
INR Indian Rupee
ISK Icelandic Krona
JPY Japanese Yen
KRW South Korean Won
MXN Mexican Peso
MYR Malaysian Ringgit
NOK Norwegian Krone
NZD New Zealand Dollar
PHP Philippine Peso
PLN Polish Zloty
RON Romanian Leu
SEK Swedish Krona
SGD Singapore Dollar
THB Thai Baht
TRY Turkish Lira
USD United States Dollar
ZAR South African Rand

Instruction

Your objective is to create a multi-currency invoicing application which uses frankfurter.app as the exchange rate input.

The expected interface is shown on the right.

The application should be implemented as a [Next.js](#) application, using [Material UI](#) as the UI library.

The application will be required to calculate the correct invoice totals. We expect the correct result is always shown on screen by the application. The step to calculate total for each invoice is outlined below:

1. Use the [frankfurter.app](#) API to retrieve the exchange rate for each the currency pairs.
2. Calculate each line amount in the base currency and accumulate the total
3. Display the invoice total in the required area.

On success:
Relevant totals are summarised in **Totals** section.

On error:

- On input error, the relevant input field should be highlighted as red, (see example below)
- Other errors should be displayed as alert.

Amount
-700
Amount must be greater than 0

Error: fetching exchange rate.

Special validation rule:

Please ensure each line item with in ONE invoice is unique.

e.g.

OK:
Intel Core i9, 700, USD
Intel Core i7, 700, USD

OK:
Intel Core i9, 800, USD
Intel Core i9, 900, USD

OK:
Intel Core i9, 700, USD
Intel Core i9, 1200, AUD

NOT OK:
Intel Core i9, 700, USD
Intel Core i9, 700, USD

When this validation error occurs, all 3 input fields should be in **ERROR** state, with validation message "Line item must be unique."

Import / Export

Invoice JSON here.

Done

Evaluation Criteria

1. We will check that you have correctly followed the instructions.
2. After reviewing your code, test your application extensively against a set of predefined scenarios to ensure your application has catered for additional edge cases.
3. We will score your submission against:

- Code Design
- Quality
- Error Handling
- Code Performance
- Security
- Operability
- Documentation

Time Limits

We expect a solution can be completed within 1-3 hours total development time.

Please do not attempt to add additional features we have not asked for. We want a working solution which addresses our evaluation criteria - nothing more.

If you do not believe you can complete a solution in under 3 hours, please let us know. We do not "police" this time limit - it simply exists to be respectful of your time.

Assumptions;

- Exchange rates should be calculated at a precision of **4 decimal places** - you must round the Exchange Rates API rates before using them to convert line amounts to line totals.
- Line totals and the invoice total only need to be calculated to **2 decimal places** - you must round each line total
- When rounding these numbers, you should round according to standard rules. Rounding should match the [Google Sheets ROUND](#) function, for example.

Multi Currency Invoice

Invoice Date: 07/07/2020

Base Currency: New Zealand Dollar

Line Items

Description: Intel Core i9

Amount: 700

From: United States Dollar

Remove

Description: ASUS ROG Strix

Amount: 500

From: Australian Dollar

Remove

Add Line Item

Total: 1600.86

Invoice Date: 07/08/2020

Base Currency: Euro

Line Items

Description: Intel Core i9

Amount: 700

From: United States Dollar

Remove

Description: ASUS ROG Strix

Amount: 500

From: Australian Dollar

Remove

Add Line Item

Total: 927.49

Import

Export

Totals

Invoice Totals:

Euro: 927.49

New Zealand Dollar: 1600.86

Invoice Line Totals:

Australian Dollar: 1000.00

United States Dollar: 1400.00

Total of the invoice in base currency.

Remove Line Item
Upon clicking the button, the invoice line item is removed from the invoice.

Add Line Item
Upon clicking the button, an empty invoice line item is added to the invoice.

Add Invoice
Upon clicking the button, a new invoice is added.

Invoice Total:
Shows sum of invoiced total grouped by base currency.

Invoice Line Totals:
Shows sum of amount of invoice line, grouped by invoice line currency (from).

Import / Export Invoices

Paste into / Copy from the JSON representation of the invoices here. See example input for detail.