

# Quotes API

Your task if you choose to accept it is to build an API that supplies currency exchange quotes. The API accepts queries from API clients asking to get a quote for exchanging money from one currency to another. If the client user approves the quote, he can proceed to fulfill the quote. The API calculates the total amount expected in the to\_currency\_code according to an exchange rate provided by 3rd parties.

## API request interface

Method: GET; Request URL: <BASE\_URL>/api/quote

Query parameter	description
<b>from_currency_code</b>	String, 3 letters currency code. Currency to convert from. Examples: USD, EUR, ILS
<b>amount</b>	Integer. The amount to convert in cents Example: 100 (1 USD)
<b>to_currency_code</b>	String, 3 letters currency code. Currency to convert to. Examples: USD, EUR, ILS

## API response interface

Response body: JSON with the following properties.

Property	description
<b>exchange_rate</b>	Decimal, the offered exchange rate. Up to 3 decimal digits Examples: 1.234, 4.5, 2
<b>id</b>	An external reference to uniquely identify the quote Example: 1fd87e4c-4554-4c4b-bc3c-8ef165592ba1
<b>amount</b>	Integer, the expected amount in cents (minor units). Calculated as request amount * exchange_rate Comment: You can select a rounding policy
<b>provider_name</b>	String, the name of the 3rd party exchange providers

## 3rd party exchange providers

We currently have two 3rd party providers

1. ExchangeRate-API
2. Frankfurter

Our service will use these providers' exchange rates in order to give clients users quotes they can later execute and exchange money.

### Exchange Rate API example requests

1. <https://api.exchangerate-api.com/v4/latest/USD>
2. <https://api.exchangerate-api.com/v4/latest/ILS>

### Frankfurter example requests

1. <https://api.frankfurter.app/latest?from=USD>

## Business logic

We want to apply a few rules and constraints for selecting a provider.

1. Not all currency combinations are supported by both providers
2. We want to provide the customer with the best possible rates so we want to select the provider that offers the best rate
3. When the client wants to exchange over 10000.00 USD, we prefer routing to Frankfurter

## Examples

1. Requesting a quote for exchange VES (Venezuelan Bolívares) to USD MUST use the *ExchangeRate-API* provider because it's the only provider which supports VES
2. Assuming *Frankfurter* USD <-> ILS rate is 3.1043 and *ExchangeRate-API* USD <-> ILS rate is 3.11. The returned provider will be *ExchangeRate-API*
3. Assuming both providers support USD <-> EUR with the same rate. If the requested amount is 10001 USD, *Frankfurter* should be chosen

```
curl
http://localhost:3000/api/quote?from_currency_code=EUR&amount=100&to_currency_code=ILS

=> { "exchange_rate": 4.5, "currency_code": "ILS", "amount": 450, "provider_name": "Frankfurter"
}
```