

Test_Assignment - By Himanshu Gupta

REST API for Foreign Exchange Rates

This repository consists of below files:

- **Application** - Consists of the main function and configuration of swagger API.
- **Controller** - Consists of end-point urls.
- **Model** - Consists of currency, rate and date (to be stored in in-memory database).
- **Repository** - The methods used to interact with database are present.
- **Service** - Xml parser (or Rest API call) and other conversion logics are present.
- **Properties** - Consists of in-memory DB details.
- **XML file** - Consists of exchange rates on different time period (based on currency).

Standalone Foreign Exchange Rate Application

Prerequisites

- [Java]
- [Tomcat 8.5]

Technologies Used

- Spring Boot
- Spring MVC Test framework and JUnits
- Swagger API
- Xml Parser
- RestTemplate
- Maven

Installation Steps

1. Clone the Git Repository.
2. Build the project using Maven: `mvn clean install -under \ForeignExchangeRateAPI`
3. The `jar` file will be created under the target folder - `\target\ForeignExchangeRate-0.0.1-SNAPSHOT.jar`
4. Run Application by either of the below commands: i.) `mvn spring-boot:run - under \ForeignExchangeRateAPI\ OR ii.) java -jar ForeignExchangeRate-0.0.1-SNAPSHOT.jar - under \target folder run command`

Usage

Below are the different REST APIs calls which can be made (List Of Operations):


1. GET `http://localhost:8081/api/foreignExRate/getAllCurrency` - Get all the available Currency
2. GET `http://localhost:8081/api/foreignExRate/getAllRates` - Get all the available Rates at all available dates
3. GET `http://localhost:8081/api/foreignExRate/all/{date}` - Get the Foreign Exchange Rate at a Particular day
4. GET `http://localhost:8081/api/foreignExRate/convertRatesToEuro` - Convert Amount in other currency to Euro
5. GET `http://localhost:8081/api/foreignExRate/convertRates` - Convert Amount in currency 1 to currency 2
6. GET `http://localhost:8081/api/foreignExRate/getAllRatesByCurrency` - Get all Rates by Currency
7. GET `http://localhost:8081/api/foreignExRate/{date}` - Get all Rates By Date and Currency

Both have embedded Tomcat and in-memory ActiveMQ. The application can be accessible using the below URL.

The Request can be initiated using POSTMAN or SWAGGER console.

`http://localhost:8081/swagger-ui.html#1/` - SWAGGER URL for initiating GET Request.

Snippet of Swagger API and Postman:

 **swagger**

default (v2/api-docs) ▾

Explore

Exchange Rate API

This API provides the details about the Exchange Rates

Created by Himanshu

API : Exchange Rate Service

Show/Hide | List Operations | Expand Operations

GET	/api/foreignExRate/all/{date}	Get All Rates By Date
GET	/api/foreignExRate/convertRates	Convert By Date From Currency 1 to Currency 2 with Amount X
GET	/api/foreignExRate/convertRatesToEuro	Convert By Date From Currency 1 to Euro with Amount X
GET	/api/foreignExRate/getAllCurrency	Get All the Available Currency
GET	/api/foreignExRate/getAllRates	Get All the Available Rates
GET	/api/foreignExRate/getAllRatesByCurrency	Get All Rates By Currency
GET	/api/foreignExRate/{date}	Get all Rates By Date and Currency

[BASE URL: /]

Response Content Type */* ▼

Parameters

Parameter	Value	Description	Parameter Type	Data Type
date	<input type="text" value="2020-12-15"/>	date	path	date-time

Response Messages

HTTP Status Code	Reason	Response Model	Headers
401	Unauthorized		
403	Forbidden		
404	Not Found		

Try it out!

[Hide Response](#)

Curl

```
curl -X GET --header 'Accept: application/json' 'http://localhost:8081/api/foreignExRate/all/2020-12-15'
```

Request URL

```
http://localhost:8081/api/foreignExRate/all/2020-12-15
```

Response Body

```
[
  {
    "currency": "BRL",
    "rate": 6.1783,
    "date": "2020-12-15"
  },
  {
    "currency": "NZD",
    "rate": 1.7174,
    "date": "2020-12-15"
  },
  {
    "currency": "INR",
    "rate": 89.34,
    "date": "2020-12-15"
  },
  {
    "currency": "CAD",
    "rate": 1.5473,
    "date": "2020-12-15"
  }
]
```

Response Code

```
200
```

Response Headers

```
{
  "content-type": "application/json;charset=UTF-8",
  "date": "Sat, 19 Dec 2020 02:17:42 GMT",
  "transfer-encoding": "chunked"
}
```

GET

/api/foreignExRate/convertRatesToEuro

Convert By Date From Currency 1 to Euro with Amount X

Response Class (Status 200)

double

Response Content Type

/

Parameters

Parameter	Value	Description	Parameter Type	Data Type
date	2020-12-15	date	query	date-time
currencyFrom	USD	currencyFrom	query	string
amount	10000	amount	query	double

Response Messages

HTTP Status Code	Reason	Response Model	Headers
401	Unauthorized		
403	Forbidden		
404	Not Found		

Try it out!

Hide Response

Curl

curl -X GET --header 'Accept: application/json' 'http://localhost:8081/api/foreignExRate/convertRatesToEuro?date=2020-12-15¤t

Request URL

http://localhost:8081/api/foreignExRate/convertRatesToEuro?date=2020-12-15¤cyFrom=USD&amount=10000

Request URL

http://localhost:8081/api/foreignExRate/convertRatesToEuro?date=2020-12-15¤cyFrom=USD&amount=10000

Request Headers

{
 "Accept": "*/*"

Response Body

8237.232289950576

Response Code

200

Response Headers

{
 "content-type": "application/json;charset=UTF-8",
 "date": "Sat, 19 Dec 2020 02:21:06 GMT",
 "transfer-encoding": "chunked"
}

Search Postman

Invite

Upgrade

GET http://localhost:8081...

No Environment

http://localhost:8081/api/foreignKeyExRate/getAllRatesByCurrency?currency=USD

Save

</>

GET

http://localhost:8081/api/foreignKeyExRate/getAllRatesByCurrency?currency=USD

Send

Params

Authorization

Headers (7)

Body

Pre-request Script

Tests

Settings

Cookies

Query Params

	KEY	VALUE	DESCRIPTION		Bulk Edit
<input checked="" type="checkbox"/>	currency	USD			
	Key	Value	Description		

Body

Cookies

Headers (3)

Test Results

Status: 200 OK

Time: 1651 ms

Size: 290.61 KB

Save Response

Pretty

Raw

Preview

Visualize

JSON

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

```
{
  "currency": "USD",
  "rate": 1.1789,
  "date": "1999-01-04"
},
{
  "currency": "USD",
  "rate": 1.179,
  "date": "1999-01-05"
},
{
  "currency": "USD",
  "rate": 1.1743,
  "date": "1999-01-06"
}
```