

# Credit Group Technical Challenge

This is a take-home test to evaluate your collaboration skills and ability to solve high and low level technical problems. We are specifically interested in getting answers to the these questions:

- How do you think about and decompose broad, ambiguous problems?
- How do you handle disagreements with other developers?
- Can you solve programming problems with proper tests and understandable code?

We will use the [Credijusto Engineering Competency Matrix](#) as a basis for evaluating your submitted work.

We're interested in how you communicate, so it's up to you to determine the best way to submit your answer to this challenge. Please reply with your submission to the email address that sent you this challenge.

We know, and appreciate, the fact you've got a busy life and a job. Please take as much time as you deem necessary, but also remember that you don't have to complete each problem before submitting.

Once you reach a point you feel sufficiently demonstrates your understanding and represents your approach to solving the problem at hand, you can submit.

After we review your submission, we will schedule a time to talk with you about your solutions where you'll have a chance to describe your approach and answer any questions we might have.

# The High Level Problem

This scenario is an open-ended question, meant to gauge your ability to solve known problems and anticipate unseen problems.

*“You are the tech lead for a new Credijusto project that collects client information to be run through risk models to determine if they are viable candidates for our loan products. The project has integrations to 3rd party systems like Buró de Crédito, where we can obtain pertinent client financial information to help Credijusto assess the client risk profile. In order to launch this project, we need a production test plan. Please outline, in as much detail as you can the types of tests you would run, how you would run these tests in a live production environment, and how you would accomplish running these tests given you have live 3rd party integrations.”*

## Challenge

Feel free to provide multiple levels of detail, but do not feel obligated to write code.

# The Low Level Problem

## Objective

Build a web service which exposes the current exchange rate of USD to MXN from three different sources in the same endpoint. The response format should be something like the following (feel free to adjust or modify this format):

```
{
  "rates": {
    "provider_1": {
      "last_updated": "2018-04-22T18:25:43.511Z",
      "value": 20.4722
    },
    "provider_2_variant_1": {
      "last_updated": "2018-04-23T18:25:43.511Z",
      "value": 20.5281
    }
  }
}
```

## Requirements

Exchange rate sources:

- [Diario Oficial de la Federación](#) - No API provided, so you will need to scrape the site
- [Fixer](#) - Well documented API in JSON format
- [Banxico](#) - Service SF43718. API returns XML.

You can use any web framework you'd like.

Include tests for your code. If you normally develop with automated tests, please include them; otherwise please include a short list of manual tests.

API should be accessed with an Application Token.

API should have a rate limit per user.

Please upload your exercise code to a publicly accessible GitHub repository. Commit often so we can review the progress of your work.

The project should be Dockerized.

If possible, please deploy your solution to a publicly accessible endpoint. (Heroku is a good, free option).

If not possible to deploy, please provide instructions on how to run your application.

# The Scenario Problem

Several services for which your team is responsible for, depend on another squad's service in production, and depend on mocks of the same service in development and staging.

Your team uses the mocks they have provided in both development and staging. However, there are regular incidents in staging and production due to code changes made by that team which they have not propagated to their mocks.

Your developers are frustrated and losing confidence in their co-workers. The tech lead from the other squad is an [E2 developer](#) and has a reputation for over-confidence and being difficult to work with.

## Challenge

How do you handle this situation?

Please include the responses you anticipate from the other team, as well as your responses to those responses.