

# .NET test

## Tools

In order to complete this test, you need to install the below tools:

- "Visual Studio Community 2017" or above
- "SQL Server Express Edition 2014" or above
- GIT

## Submission format

You need to upload your code to a GitHub repository and provide its URL. This repository should include all your Visual Studio Solution and any SQL script needed to run your project.

If there are special instructions to run the project, those should be provided in a README.md file in your repository.

## Questions

In case you have any question you can contact Alvaro Ruano on [alvaro.ruano@compisolutions.com](mailto:alvaro.ruano@compisolutions.com)

## Requirements

### General description

You'll have to create an application that monitors the [TipoCambio](#) web service provided by *Banco de Guatemala* to get the exchange rate USD/GTQ and save this information to a database each 30 seconds. You'll have to do this according to the requirements provided below.

### Part 1: API for data access (50 points)

You need to create an *ASP .NET Web Application (.NET Framework) - Web API* project, this will be in charge of the data access to a *SQL Server* database which should be named *Exchange*.

This database should contain one table (named *ExchangeRate*) which should store at least the below fields:

- *ID*: an autoincremental integer field
- *Date*: a date and time field
- *Rate*: a floating point field
- *WhenObtained*: a date and time field

In this project you need to add a REST API with three operations:

- GET: api/ExchangeRates - This should return from the DB a list of all the records on *ExchangeRate*
- GET: api/ExchangeRates/ID - This should return from the DB the record with the given ID
- POST: api/ExchangeRates - This should allow a new record to be added to the DB

## **Part 2: Monitor application (50 points)**

You need to create a *Console App (.NET Framework)* project which will be in charge of consuming the [TipoCambio](#) web service and store the obtained information using the *Web API* created in *Part 1*. The application should remain open and repeat the process each 30 seconds until stopped.

The operation that should be used on [TipoCambio](#) web service is [TipoCambioDia](#) .

Also, you should get the API address and execution frequency from *App.Config* file.

## **Extras**

Some extra points will be awarded in case the below tasks are done:

- Use *Entity Framework 6* for database access (+15 points)
- Get database connection string from the *Web.Config* file of the *Web API* (+5 points)