Testing the API with VS-Code

Table of Contents

1. Terminology explained

API

API = Application Programming Interface. **API** is the acronym for Application Programming Interface, which is a software intermediary that allows two applications to talk to each other. In the case of ETIM, we would like to allow other applications such as MDM/PIM/ERP/Ecommerce platforms to communicate with our Classification Management Server to directly consult the latest information on the ETIM classification model.

API server

This is the computer where the requests will be sent to, eventually and hopefully responding with a return message (**response**) with the right information.

Swagger Page

This is where you can find a standardized manual on how to let your application interact with the API. Swagger is a set of open-source tools built around the OpenAPI Specification that can help you design, build, document and consume REST APIs. The major Swagger tools include: Swagger Editor – browser-based editor where you can write OpenAPI specs. Swagger UI – renders OpenAPI specs as interactive API documentation. This Swagger page also allows for quick live testing of API calls.

https://swagger.io/docs/specification/about/

API Call / API Request

An API call, or API request, is a message sent to a server asking an API to provide a service or information. This message is transferred to an API server via a URL over the (HTTPS)

```
▼ POST https://etimapi.etim-international.com/api/v2/Class/Search
  POST /api/v2/Class/Search HTTP/1.1
  Content-Type: application/json
  Authorization: Bearer eyJhbGciOiJSUzI1NiIsImtpZCI6IkE4M0EyMTZDRTFCN0
  OGF3LWsyeHJkU3BDMktwTEdHOCJ9.eyJuYmYiOjE2Mjg4NjE2NjQsImV4cCI6MTYyODg
  UFwaSIsImNsaWVudF9pZCI6Ikplcm9lblZkSG9sc3RUZXN0Q2xpZW50IiwiY2xpZW50X
  ibmItTk8iXSwianRpIjoiNkNEQkVENTY0RURCMjlCQkI4NEIzMjNGN0Q2NTgxNjciLCJ
  79AvDHhlEFj5wt7rbhht8pCYnfWFZd2qCqtBUm_iKU57Vyqd5Nj7YxhRy_FUuuv-a1WO
  EYZjEQULWErkVdBBxE4n9IOQwgHwwoqZrTCIWBD-TCX7FMahRDUgAoBh54lPQdaooR7Q
  User-Agent: PostmanRuntime/7.28.3
  Accept: */*
  Postman-Token: a1cfe6dd-82d6-464f-8255-e1e50197d195
  Host: etimapi.etim-international.com
  Accept-Encoding: gzip, deflate, br
  Connection: keep-alive
  Content-Length: 81
```

API Response

Een API Response or simply "response is exactly what it means: a response from the API server to your request. In plain text a response looks somewhat like this:

▼ Response Headers
    Api-Supported-Versions: "2.0"
    Content-Length: "103027"
    Content-Type: "application/json; charset=utf-8"
    Date: "Fri, 13 Aug 2021 13:37:05 GMT"
    Server: "Kestrel"
▼ Response Body ↗

[{"total":10000,"classes":[{"code":"EC002419","version":6,"status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},
    "status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"code":"EC002420","version":4,"status":5,"mutationDa
    "modelling":false},{"code":"EC002420","version":5,"status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"cc
    "status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"code":"EC002420","version":7,"status":5,"mutationDa
    "modelling":false},{"code":"EC002421","version":4,"status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"cc
    "status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"code":"EC002422","version":4,"status":5,"mutationDa
    "modelling":false},{"code":"EC002422","version":5,"status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"cc
    "status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"code":"EC002423","version":4,"status":5,"mutationDa
    "modelling":false},{"code":"EC002424","version":4,"status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"cc
    "status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"code":"EC002425","version":4,"status":5,"mutationDa
    "modelling":false},{"code":"EC002427","version":4,"status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"cc
    "status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"code":"EC002429","version":4,"status":5,"mutationDa
    "modelling":false},{"code":"EC002430","version":4,"status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"cc
    "status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"code":"EC002431","version":4,"status":5,"mutationDa
    "modelling":false},{"code":"EC002431","version":5,"status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"cc
    "status":5,"mutationDate":"2020-12-02T08:48:51.177Z","modelling":false},{"code":"EC002436","version":4,"status":5,"mutationDa

OR if something goes wrong during communication, a set of standardized error messages may be returned as a response. With these responses, which in fact consists of a data object written in the Java Script Object Notation standard (JSON). This Data object can be absorbed into your own application running on your device.
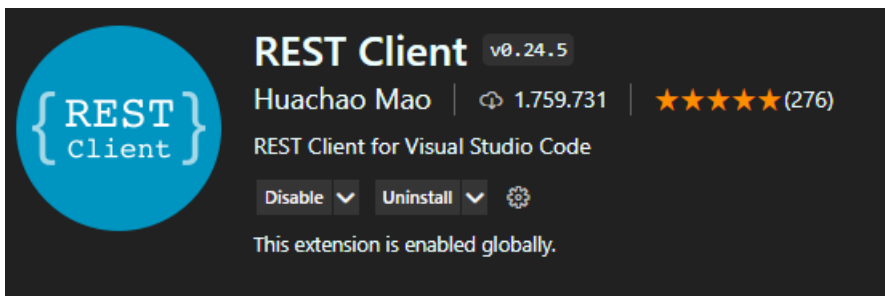
2. Software / tools required to test ETIM API calls

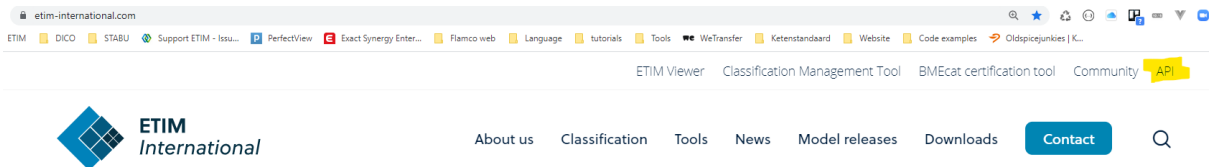Visual Studio Code is a code editor for programmers.

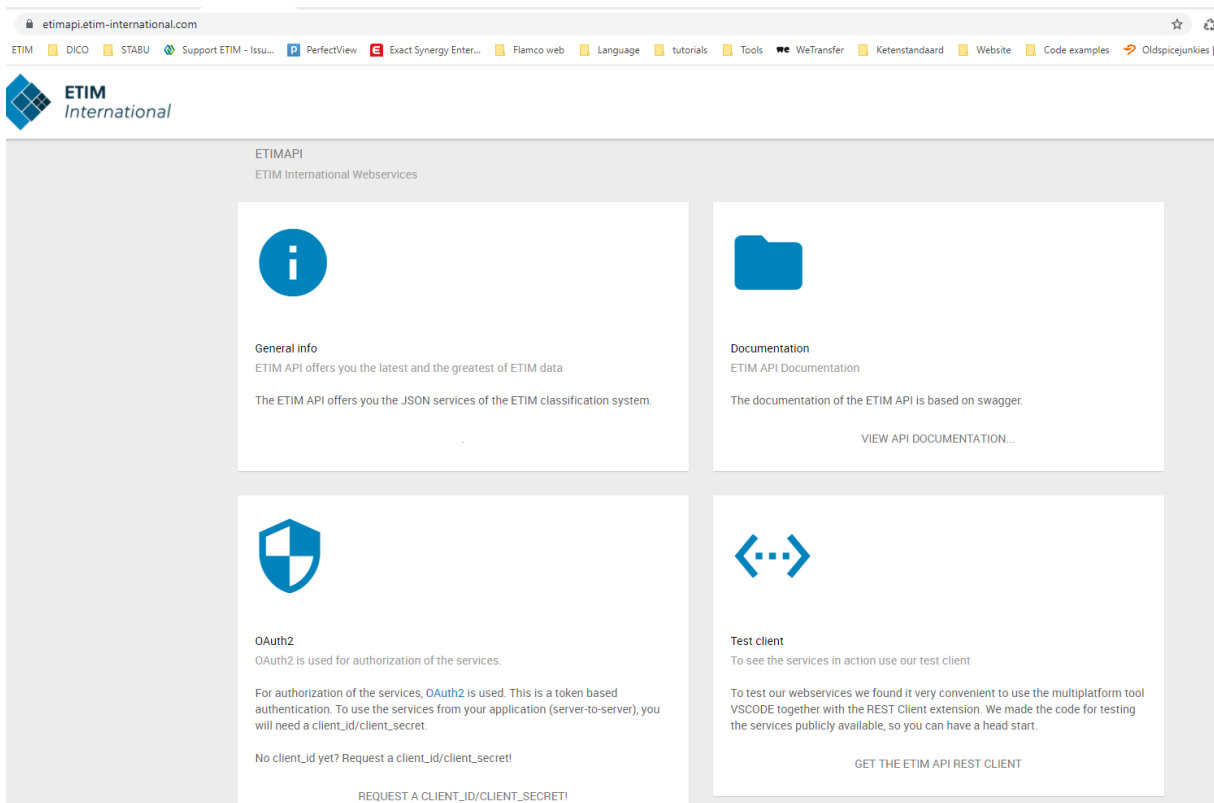https://Code.visualstudio.com

(free – download here)

REST Client is a free extension for VS code. It can be installed within VS code.

3. Available documentation, web-resources and test files

In the right top menu you see a link to the ETIM – API page. This page is completely dedicated to the API.
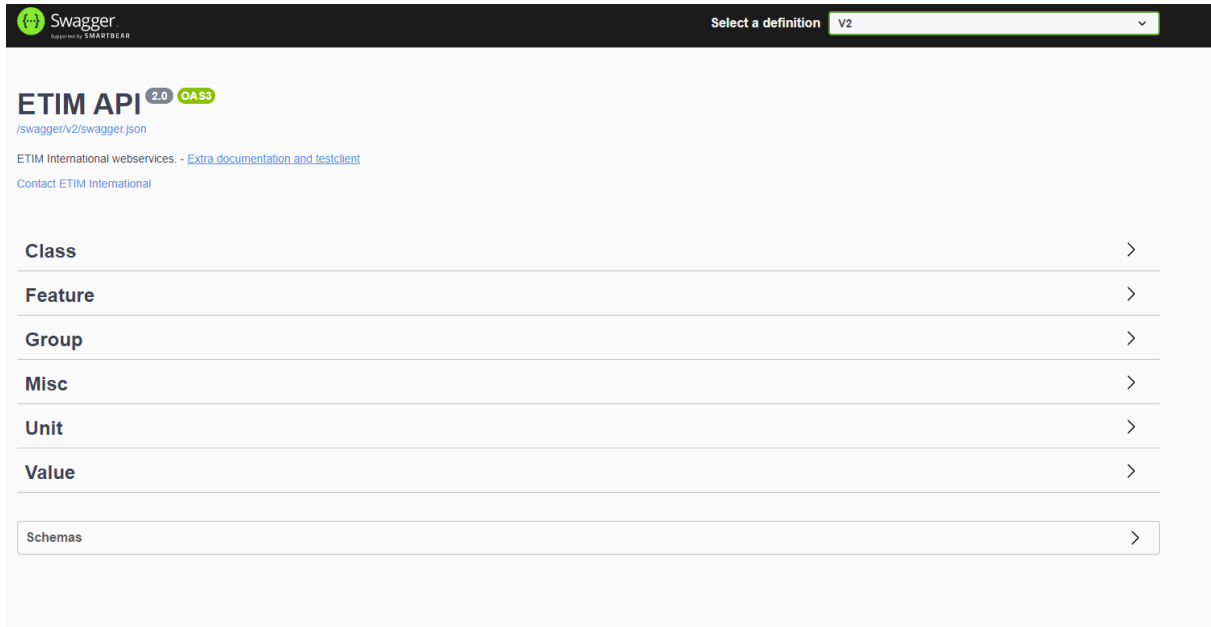

General info

The upper left tile gives you generic info on the API.

OAuth2

On the bottom left tile you can click on a link to request for client credentials. The API can only accessed if you have such credentials. We will explain how to use these credentials further in this document. When credentials are requested, the Client and Secret (username/password) will be sent to you by mail by one of the staff members of ETIM International. This is not an automated process so this may take some time depending on agenda's. Most of the time we are able to react within 1 hour, maybe even within 15 minutes.

Documentation

The upper right tile gives you the link to the documentation page. This is a so-called Swagger page. Here you can find an overview of all available API-calls, which parameters must or can be included and what responses are to be expected. You can even try out a couple of example calls for testing.
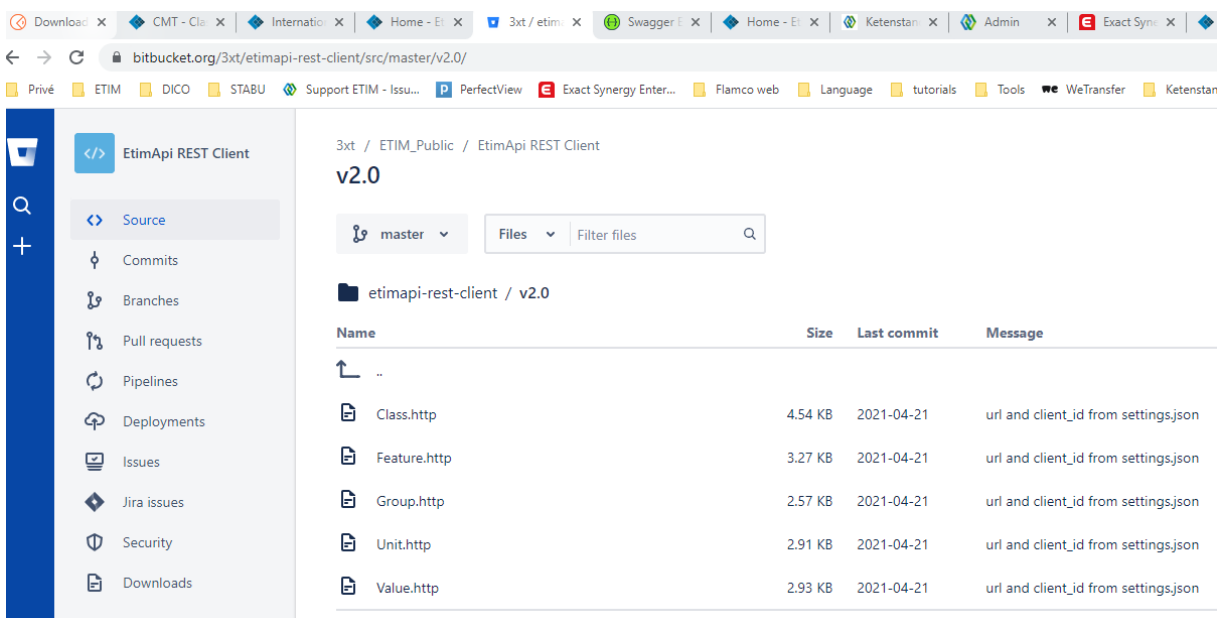
On this Swagger page you can also find a link to a Bitbucket page a.k.a. a git-repository where a full set of testing files with pre-written API calls are made available. These you can use to test your set-up in VS code or Postman. You can clone this repository via a git command or you can use the old-fashioned method of downloading the files to a folder.

https://bitbucket.org/3xt/etimapi-rest-client/src/master/

4. Testing in VS Code: set-up and configuration

- First you will need to install VS code (free – download here)
- Then you will need to install the REST client.
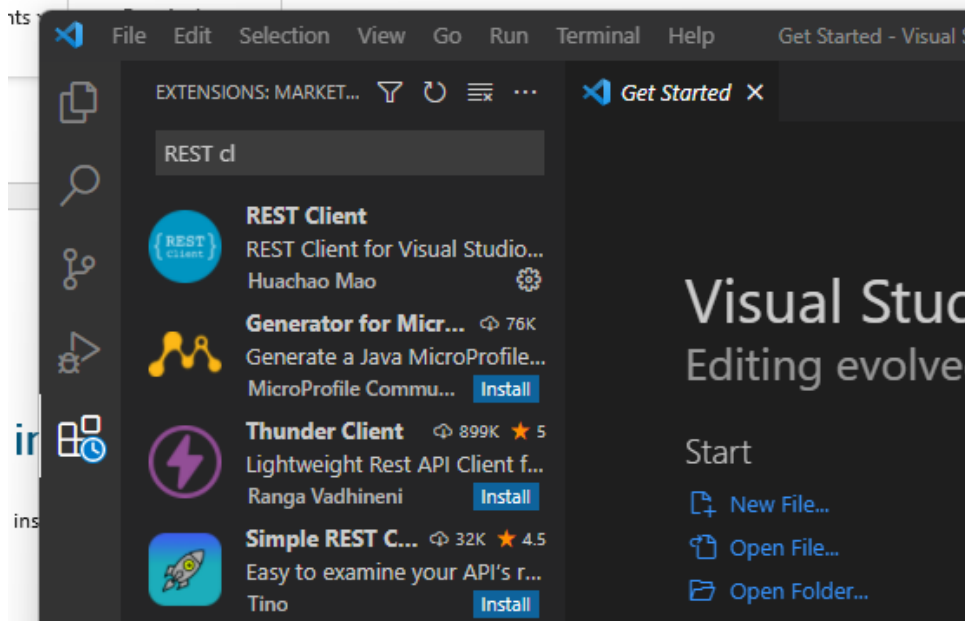
- In VS code, go to FILE -> PREFERENCES -> SETTINGS,
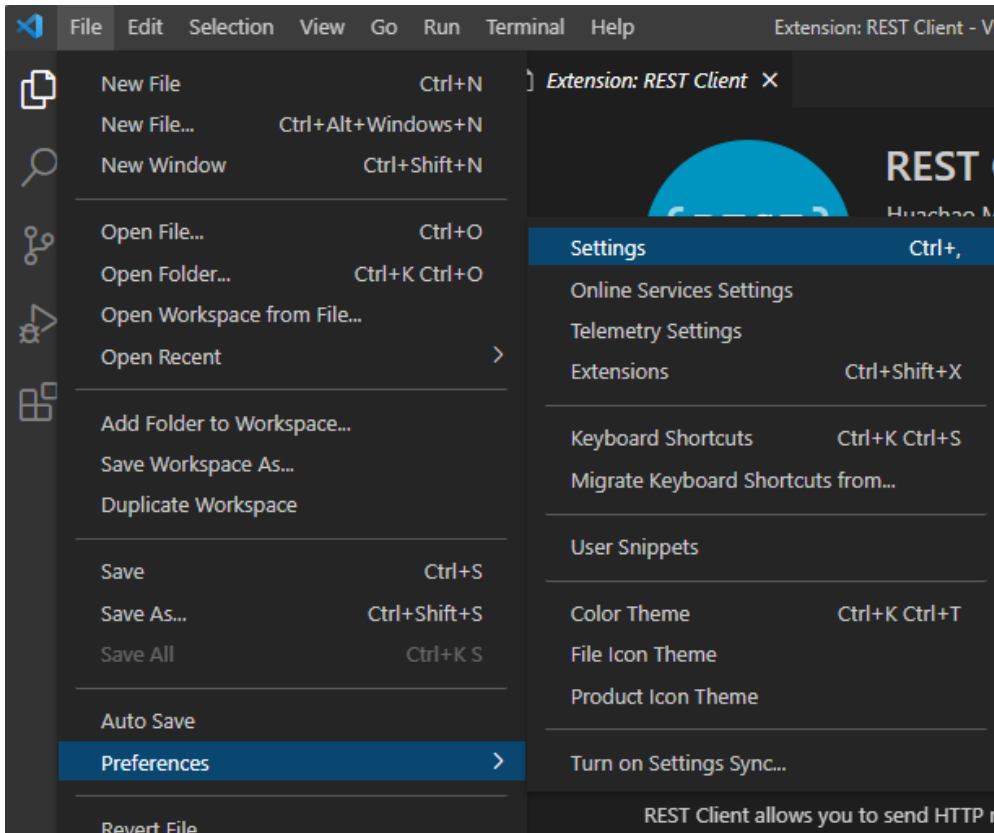
- Choose the chapter "extensions"
- Choose "REST-Client" settings
- Scroll the page down to "Environment Variables and choose "Edit in settings.json"
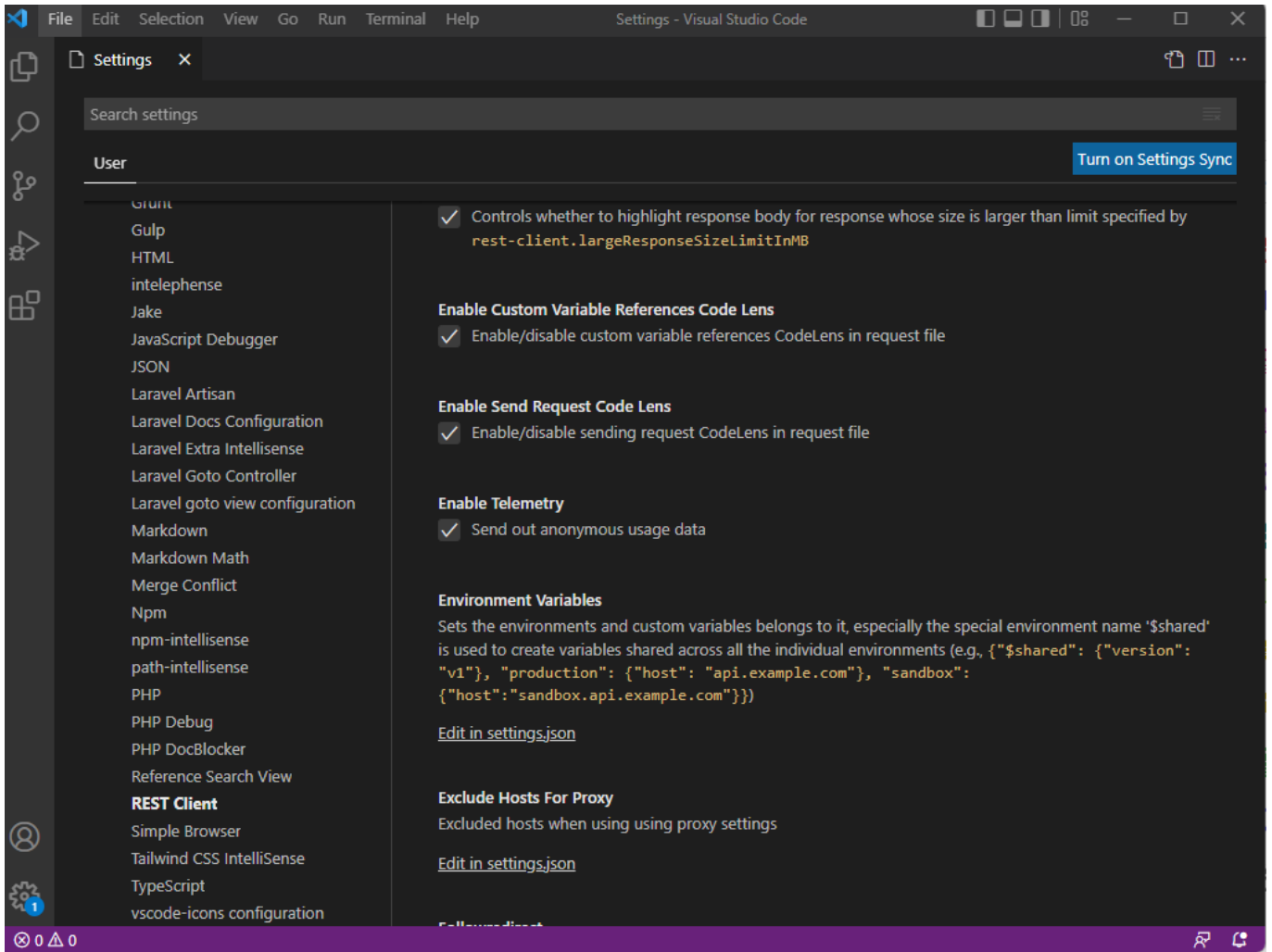
- Then, enter some basic settings and credentials in a section for "ETIM-production" or any other name you would like to name it by, like this:

"ETIM-production": {
"authUrl": "https://etimauth.etim-international.com",
"baseUrl": "https://etimapi.etim-international.com/api/v2.0",
"client_id": "[enter your client id here]",
"client_secret": "[enter your client secret here]",
},

```json
{
    "workbench.colorTheme": "Default Dark+",
    "workbench.iconTheme": "vscode-icons",
    "rest-client.environmentVariables": {

        "$shared": {},

        "ETIM-production": {
            "authUrl": "https://etimauth.etim-international.com",
            "baseUrl": "https://etimapi.etim-international.com/api/v2.0",
            "client_id": "[enter your client id here]",
            "client_secret": "[enter your client secret here]",

        },

    }
}
```

(you will have to enter your own client credentials. If you haven't got them yet, go to page 2 and read how to get them.)

5. Testing in VS code

Now, together with the downloaded or cloned testing examples from the Bitbucket Page you can get to work with testing API calls.Here are the steps on how to actually do a request, and how to review a response.

1) Open a file with test-calls

The API calls are written and grouped in separate files, with the Object in the title. So API calls on classes can be found in Class.http. Let's open this in VS code.

2) Point the REST-client to the right settings

Only after you have opened a file with REST-API calls in them, you will be able to find a menu at the right bottom of VSCode's status bar. Right now it should say "No Environment" or any name pointing to other REST-settings. Click on this to change the pre-loaded credentials and URL's for the ETIM API from the configuration settings.
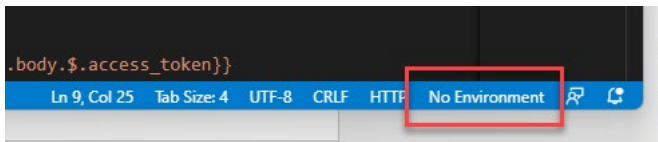
In the top of the screen a drop-down list appears where you can choose the pre-load settings for ETIM-production. The word "production" refers to the live production environment.
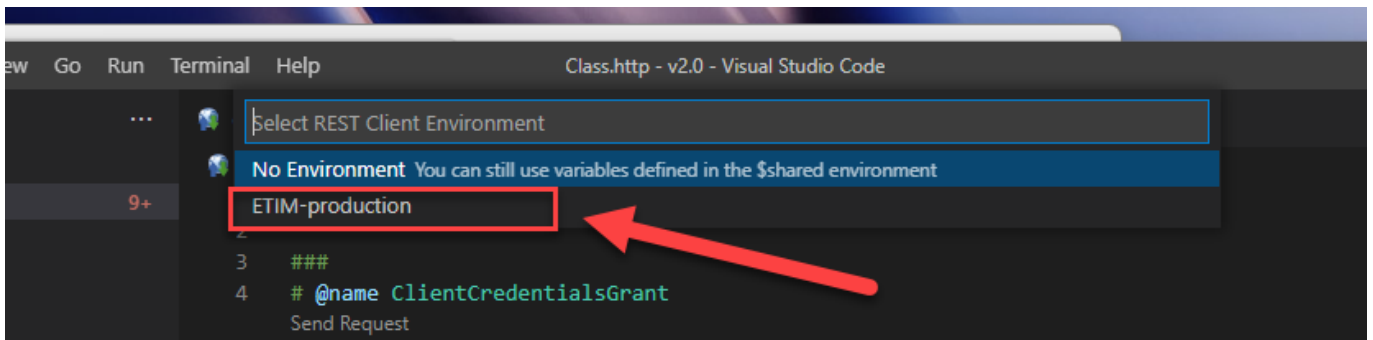
Now you are all set and to connect to the API server of ETIM.

3) Connecting to the server with your client_id and client_secret

Before anything else, you will need to connect to the API server and collect an access token based on your client credentials. An access token is best to be described as a key-card to get into the office that you can reuse during a certain time frame. Here's how to get the token:

- Go to the first set of lines of code that starts with **# @name ClientCredentialsGrant**
- Right-click on the line starting with **POST**, and in the context menu, choose the command **Send Request**

As you can see there is also a short cut key for sending the request.

When the request is sent, the window view changes to a two-column split and in the right column a second file opens where the response will be displayed. If everything went OK, the API server has answered your request with sending you a token which is basically a very long string of characters. See example below or on the next page.

Now you can ask a ton of other questions to the server that you can test, in order to integrate this into your own software later. The examples you will find in the example files that you downloaded from the Bitbucket page.

The Swagger page will give you full disclosure on all the possible parameters you can send with your request, in order to get exactly the results you need. You can filter, switch languages, maximize output and a lot more. On the Swagger page all these options are very meticulously explained per API-call.

Object of type Etim.Models.Elastic.EntitySearchInput.

Example Value | **Schema**

```
EntitySearchInput ∨ {
    from*                integer($int32)
                         maximum: 19000
                         minimum: 0

                         Startposition for paging. From must be less than or equal to 19000. From + size must be less than or equal to 20000

    size*                integer($int32)
                         maximum: 1000
                         minimum: 0

                         Total records per page Size must be less than or equal to 1000. From + size must be less than or equal to 20000

    languagecode*        string

                         Language of the output description fields. Language of the input SearchString if used

    searchString         string
                         nullable: true

                         Search with a specific text in description or synonym

    deprecated           boolean
                         nullable: true

                         Some entities (features, values and units) can be deprecated. This means they may not be used anymore in future. If not set, return both deprecated and not deprecated entities If
                         Deprecated = true, return only deprecated entities If Deprecated = false, return only entities that are not deprecated Only applicable for features, values and units

    modelling            boolean
                         nullable: true

                         Some classes are special Modelling classes. Modelling classes start with MC****** If not set, return both Modelling (MC) and Regular (EC) classes If Modelling = true, return only
                         modelling classes If Modelling = false, return only regular classes Only applicable for classes

    include              IncludeModel ∨ {
                             descriptions        boolean

                                                 Include description field (Class, Group, Feature, Value, Unit) Include synonyms field (Class) Include abbreviation field (Unit) for the specified
                                                 languagecode

                             translations        boolean

                                                 Include translations field (Class, Group, Feature, Value, Unit) Translations consist of a list with all descriptions for the languages the client is entitled to.

                             fields
```

Now you know how to try out the ETIM-API server. So why don't you try out some more requests, and build amazing apps with ETIM Inside!