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API开发利器：Postman

- 最新版本：`v2.0`
- 更新时间：`20190529`

鸣谢

感谢我的老婆陈雪雪的包容理解和悉心照料，才使得我`crifan`有更多精力去专注技术专研和整理归纳出这些电子书和技术教程，特此鸣谢。

简介

在涉及HTTP方面的后台REST API开发时，往往会需要调试API接口。这方面有很多工具，其中最好用的算是接下来要介绍的Postman了。

源码+浏览+下载

本书的各种源码、在线浏览地址、多种格式文件下载如下：

Gitbook源码

- crifan/api_tool_postman: API开发利器：Postman

如何使用此Gitbook源码去生成发布为电子书

详见：crifan/gitbook_template: demo how to use crifan gitbook template and demo

在线浏览

- API开发利器：Postman book.crifan.com
- API开发利器：Postman crifan.github.io

离线下载阅读

- API开发利器：Postman PDF
- API开发利器：Postman ePub
- API开发利器：Postman Mobi

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Postman简介

我们在后台开发期间，尤其是HTTP的RESTful API时，往往需要在实现了后台的接口代码后，找合适的工具去调试以验证和确保自己的API接口是可以正常工作的。

这时候，找到合适的API调试工具，就显得很重要。因为合适的工具可以极大地提高工作效率，减少生命的浪费。

之前用过一些工具，最终发现Postman是个非常好用的API调试工具，所以在此推荐之。

关于PostmanPostman，其官网有言简意赅的介绍：

> Postman helps you develop APIs faster
>
> 让（作为后台开发人员的）你开发API接口时更方便和快捷

-》利用Postman：

- 可以方便的调试API接口
- 还可以把各个API内容发布为文档，方便其他（比如移动端等）人员查看接口详情

下面就来详细的解释Postman的各种功能的用法。

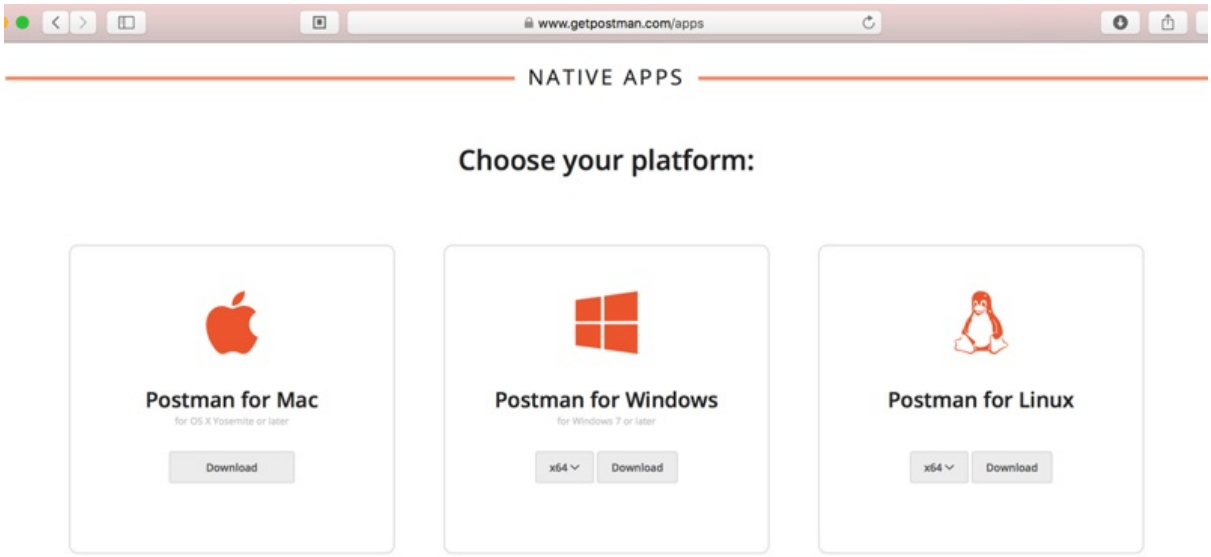
Postman下载

Postman有两种形式：

- Chrome App：Postman for Chrome
  - > 由于Chrome本身快要废弃Chrome App模式了，所以Postman的Chrome App模式也已废弃逐渐不用了
- app软件：建议下载（不同平台的）独立的软件去使用

下面主要介绍下载安装独立版本app软件的Postman的过程：

去主页Postman | Supercharge your API workflow找到：Postman | Apps



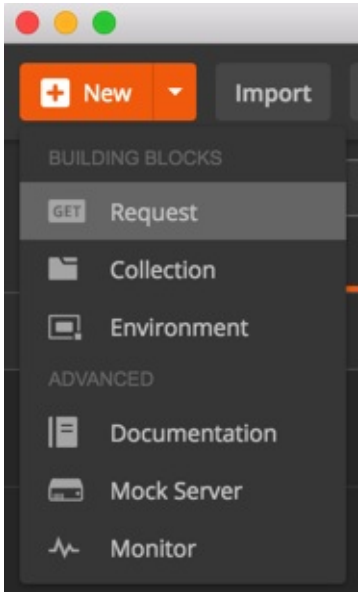
去下载自己平台的版本：

- Mac
- Windows（x86/x64）
- Linux（x86/x64） 即可。

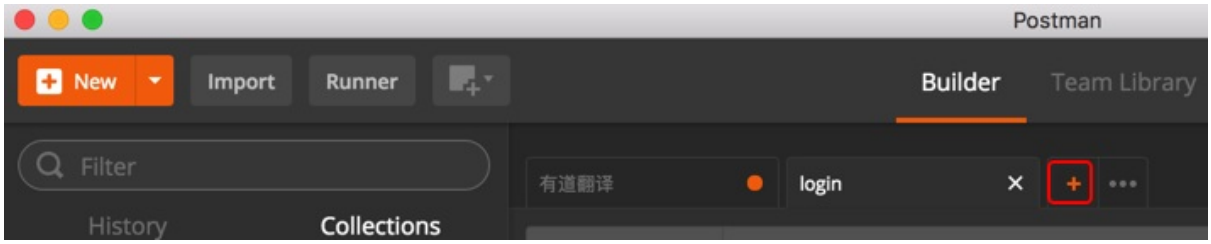
Postman功能：Request

新建Request

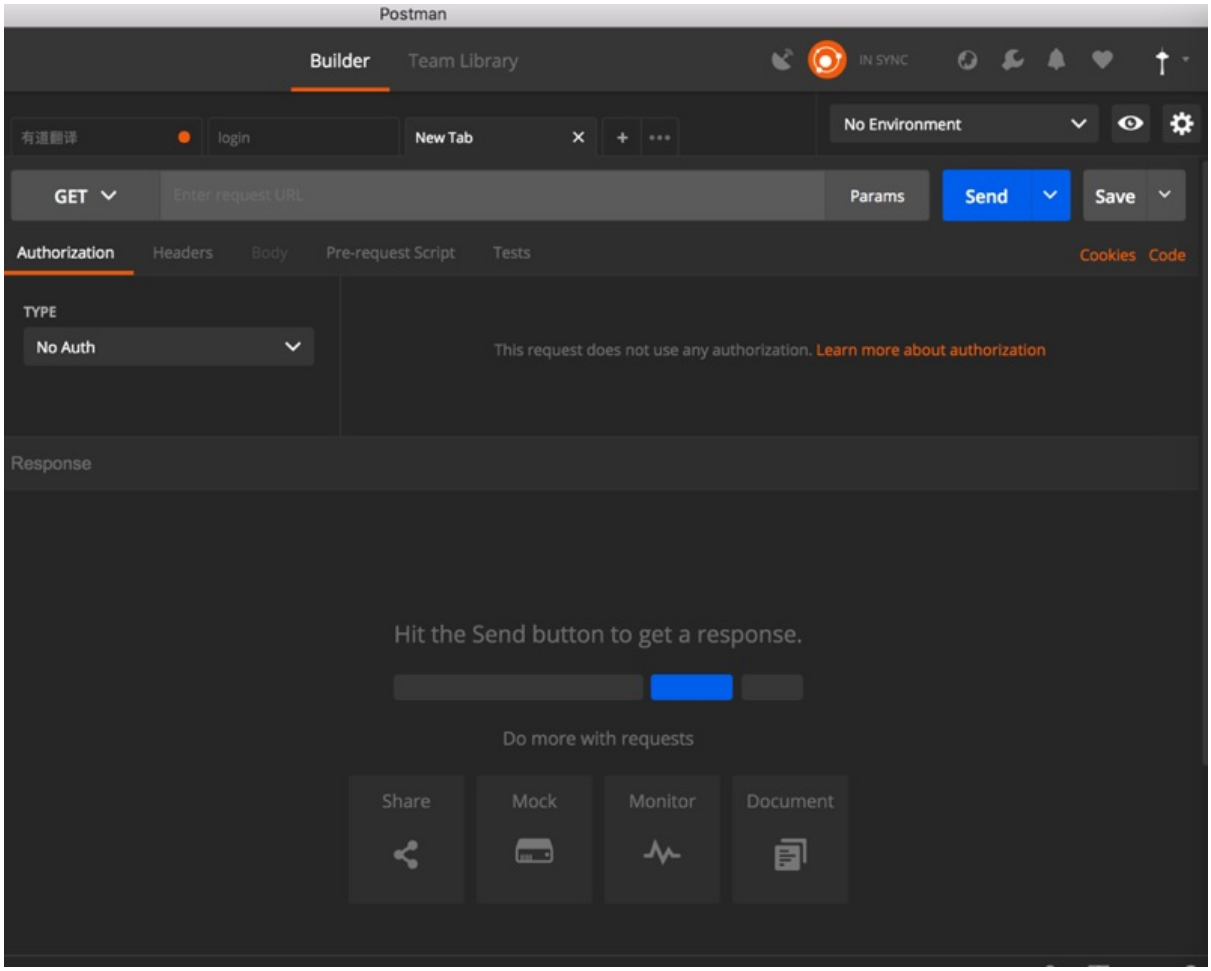
去新建接口，即对应的Request：`New -> Request`



或，在右边的Tab页面中点击加号+：

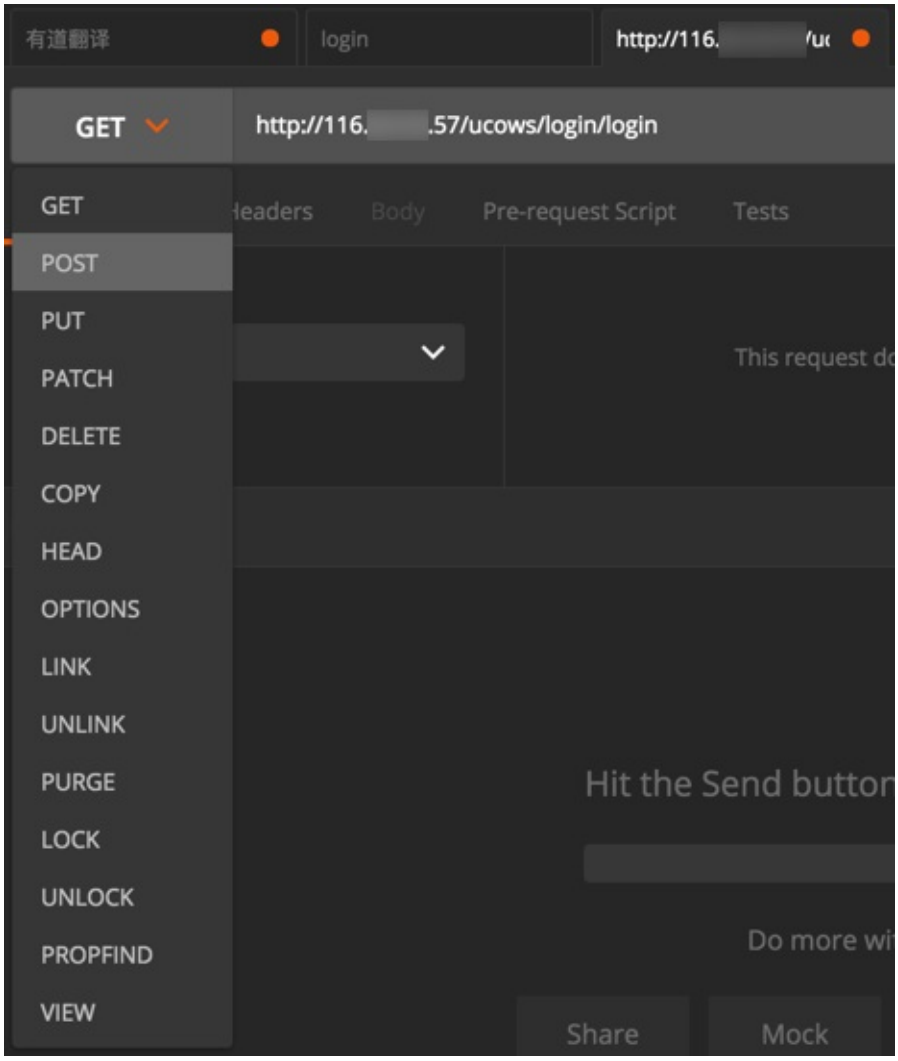


即可看到新建的Tab页：

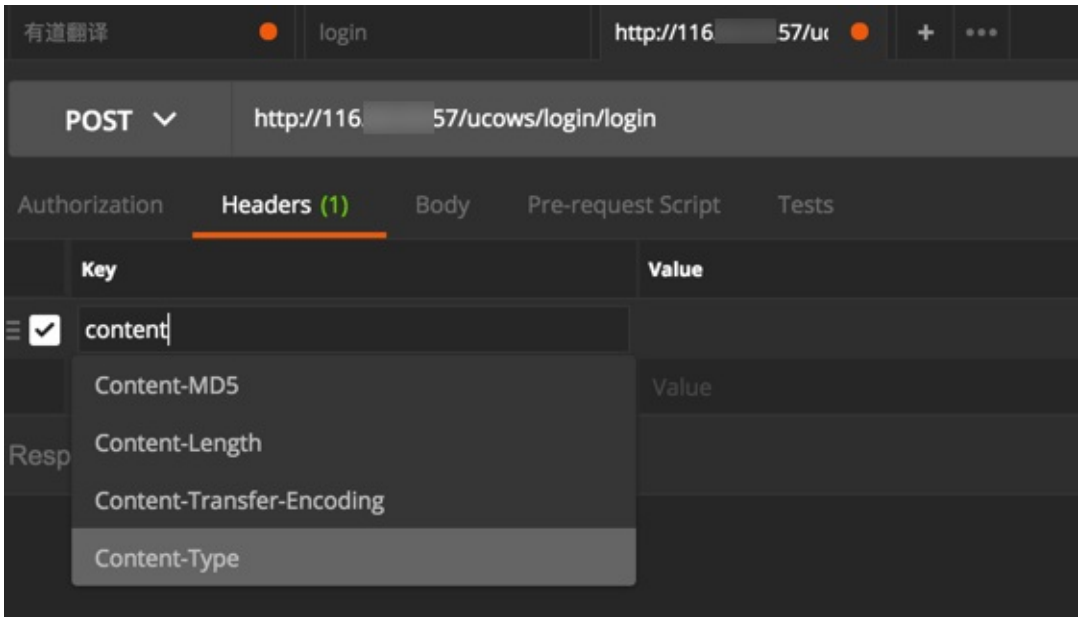


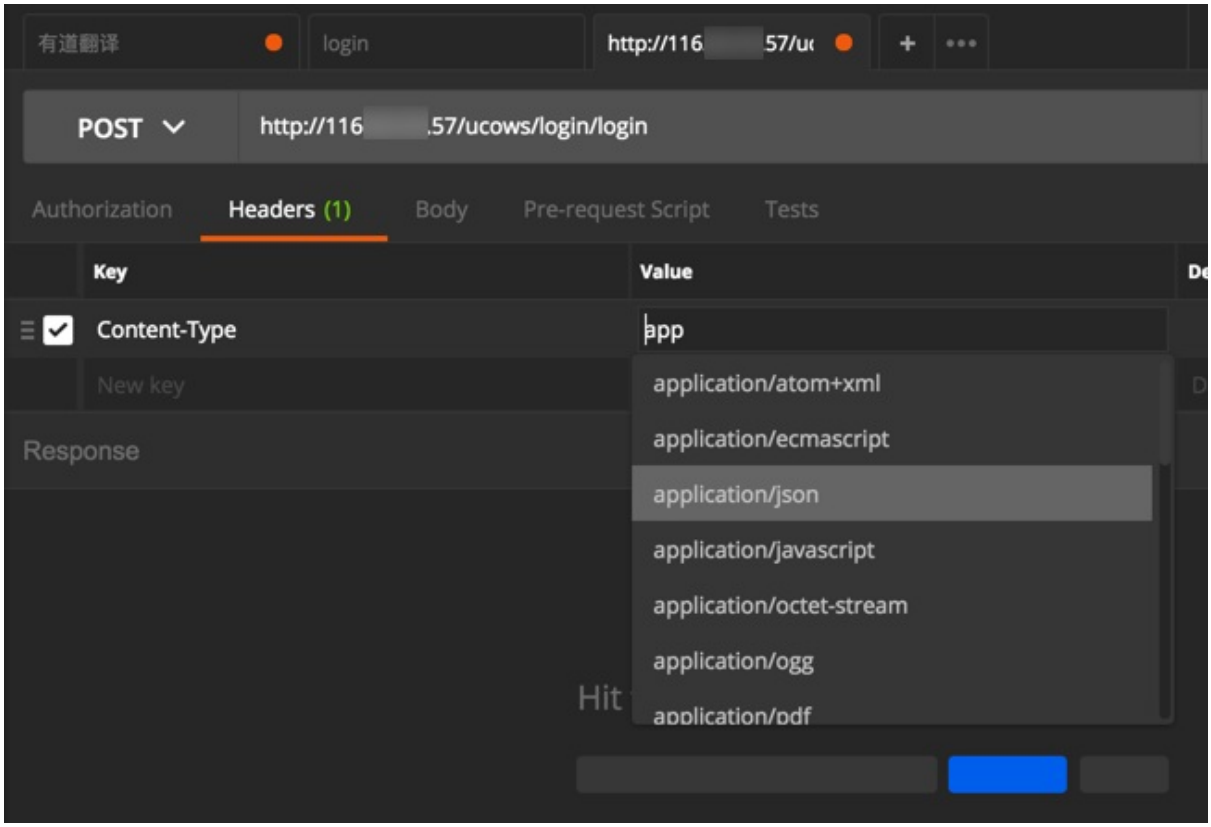
然后：

- 设置HTTP的Method方法和输入api的地址

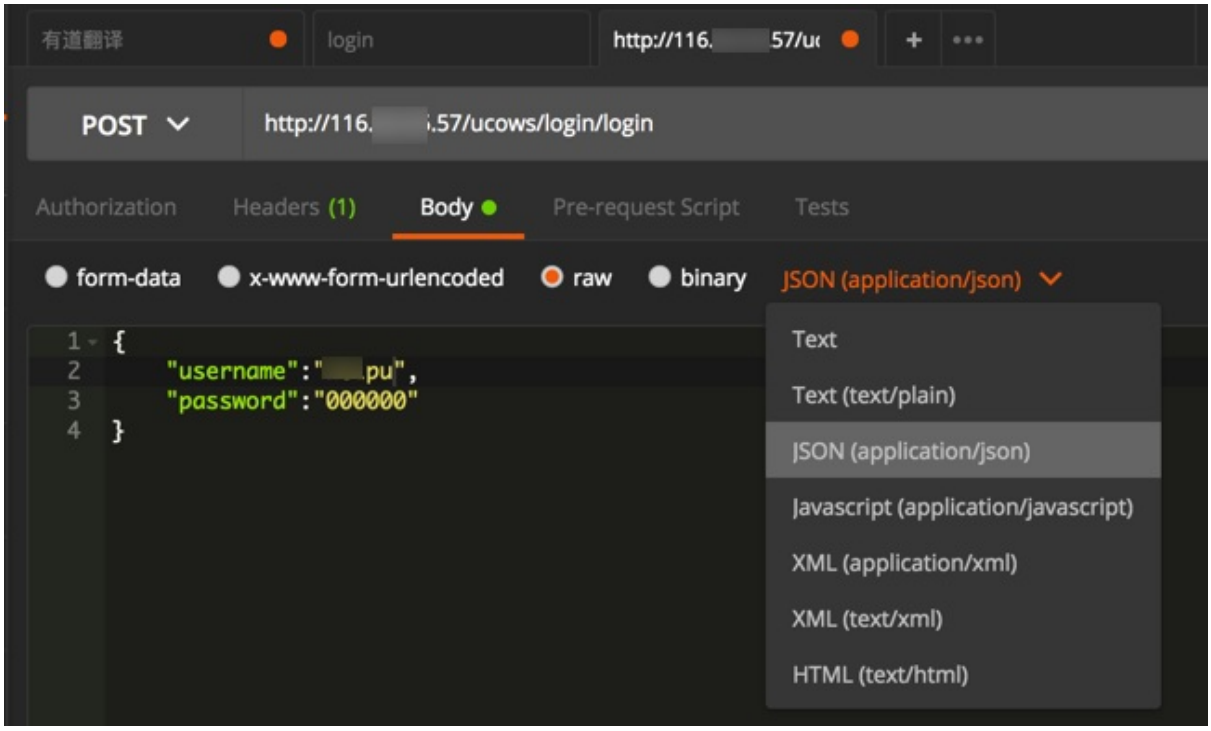

有道翻译
login
GET
http://116.57/ucows/login/login
GET
POST
PUT
PATCH
DELETE
COPY
HEAD
OPTIONS
LINK
UNLINK
PURGE
LOCK
UNLOCK
PROPFIND
VIEW
Pre-request Script
Tests
Share
Mock

- 设置相关头信息

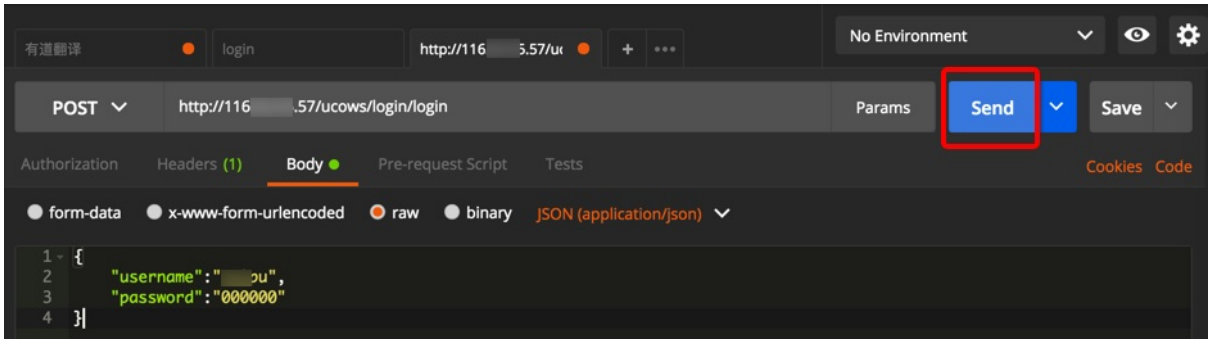

有道翻译
login
POST
http://116.57/ucows/login/login
Authorization
Headers (1)
Body
Pre-request Script
Tests
Key
Value
content
Content-MD5
Content-Length
Content-Transfer-Encoding
Content-Type



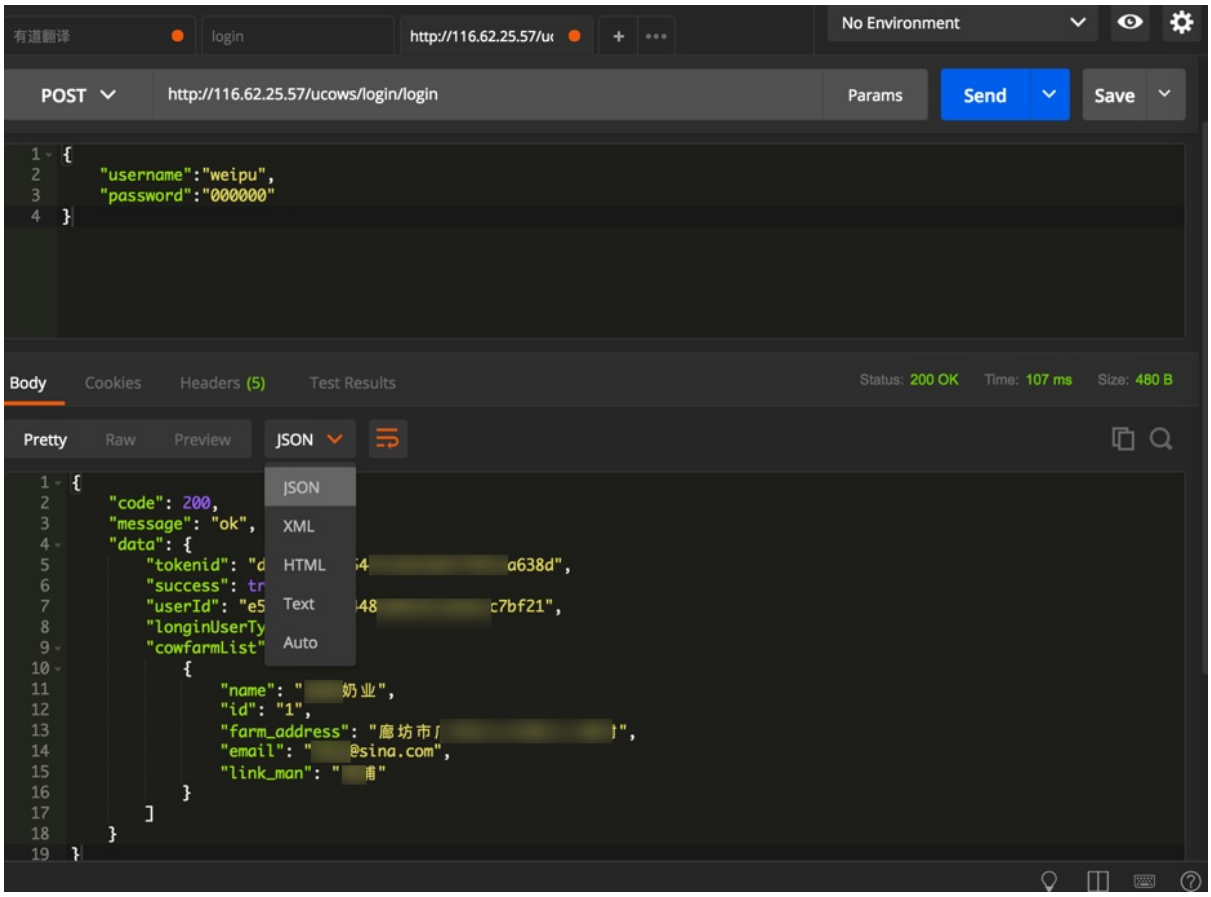
- 设置相关GET或POST等的参数



都填写好之后，点击Send去发送请求Request：

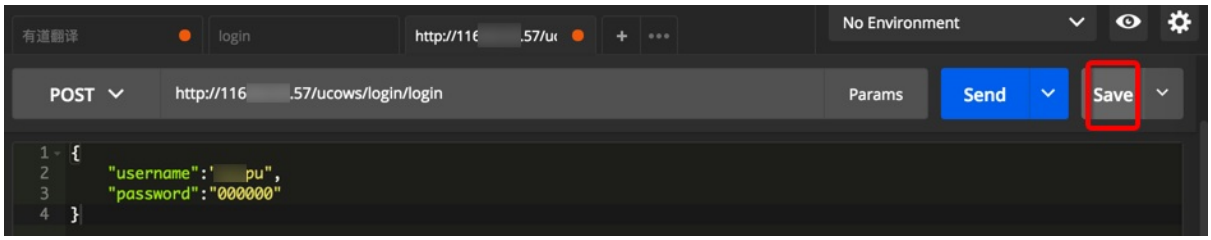


即可看到返回的响应Response的信息了：



然后可以重复上述修改Request的参数，点击Send去发送请求的过程，以便调试到API接口正常工作为止。

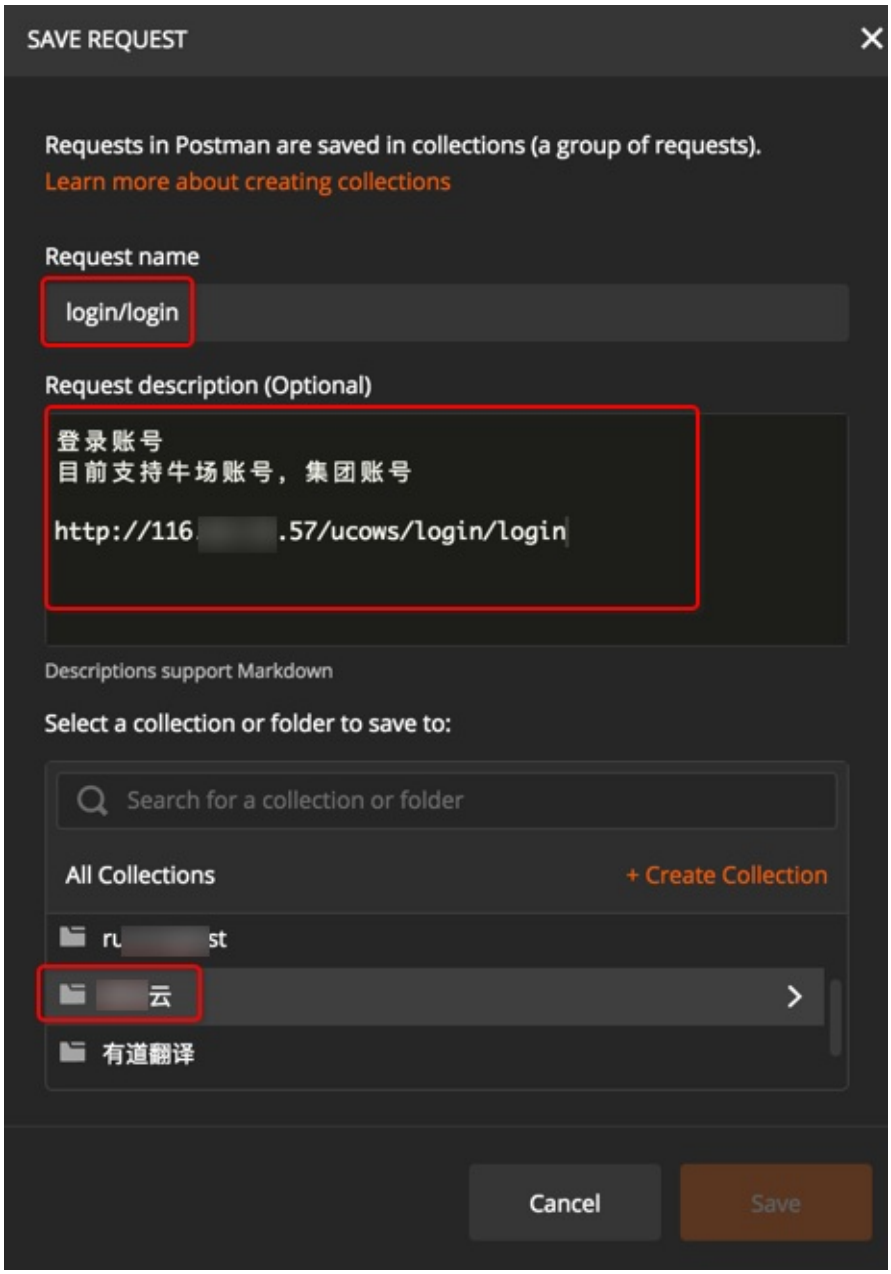
待整个接口都调试完毕后，记得点击Save去保存接口信息：



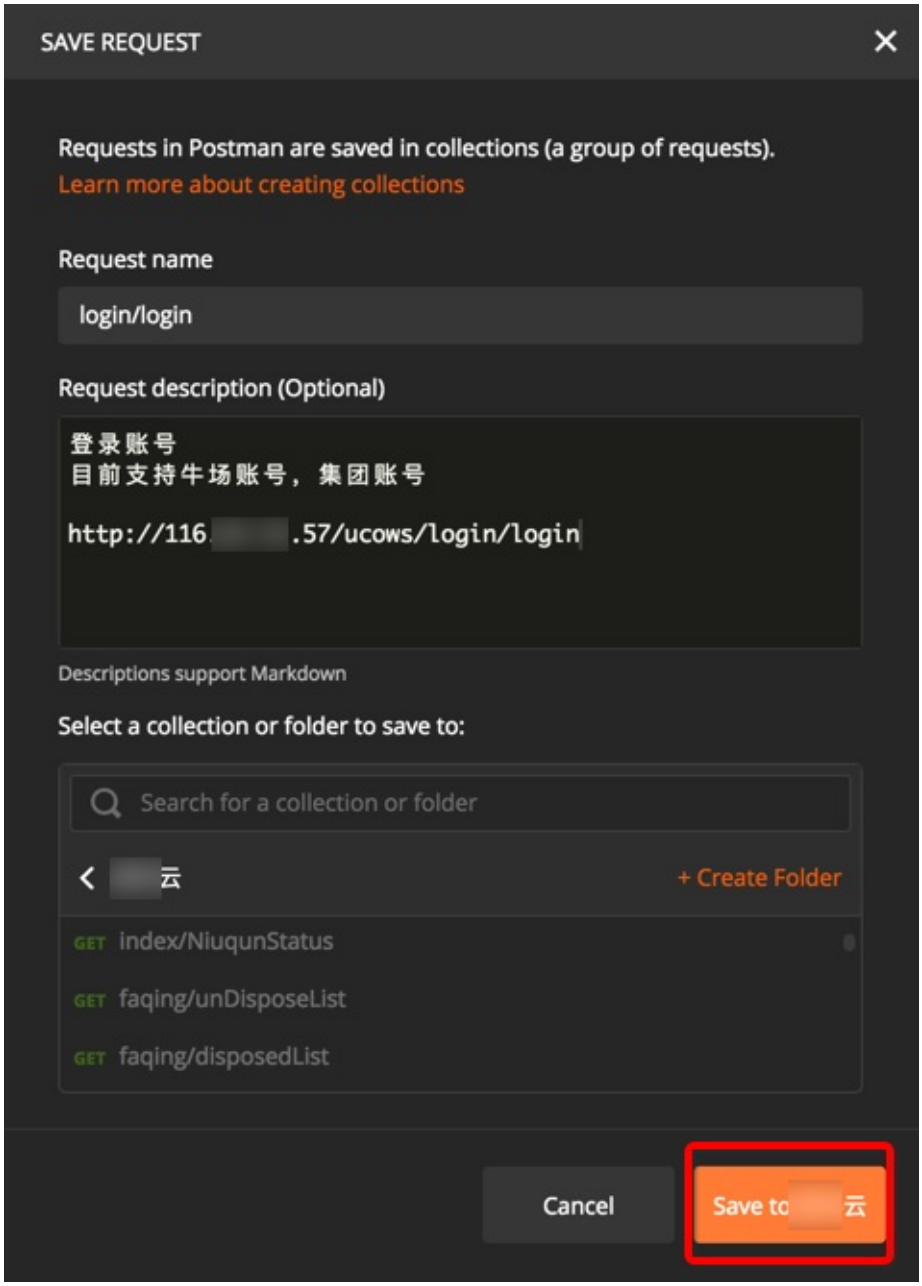
去保存当前API接口，然后需要填写相关的接口信息：

- Request Name: 请求的名字
  - 我一般习惯用保存为 接口的最后的字段名，比如 `http://{{server_address}}/ucows/login/login` 中的 `/login/login`
- Request Description: 接口的描述

    - 可选 最好写上该接口的要实现的基本功能和相关注意事项
    - 支持Markdown语法
- Select a collection or folder to save: 选择要保存到哪个分组（或文件夹）
    - 往往保存到某个API接口到所属的该项目名的分组

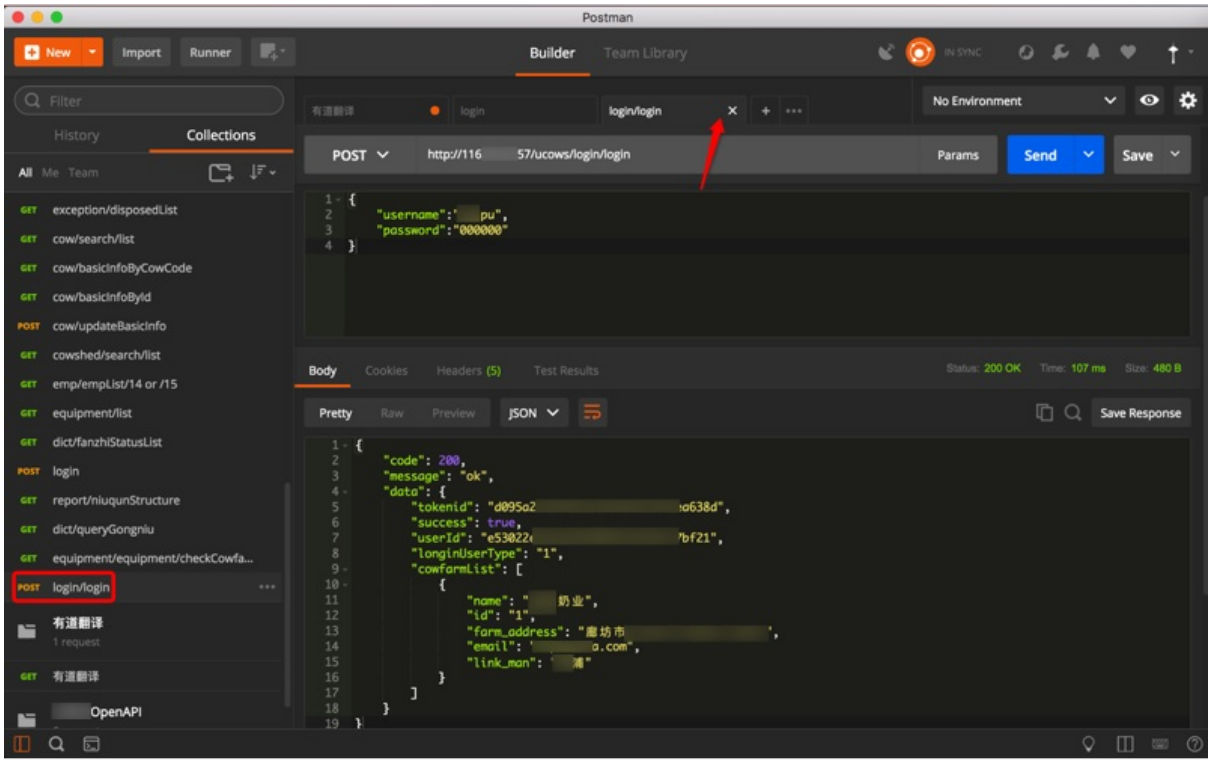


填写好内容，选择好分组，再点击保存：



此时，Tab的右上角的黄色点（表示没有保存）消失了，表示已保存。

且对应的分组中可以看到对应的接口了：



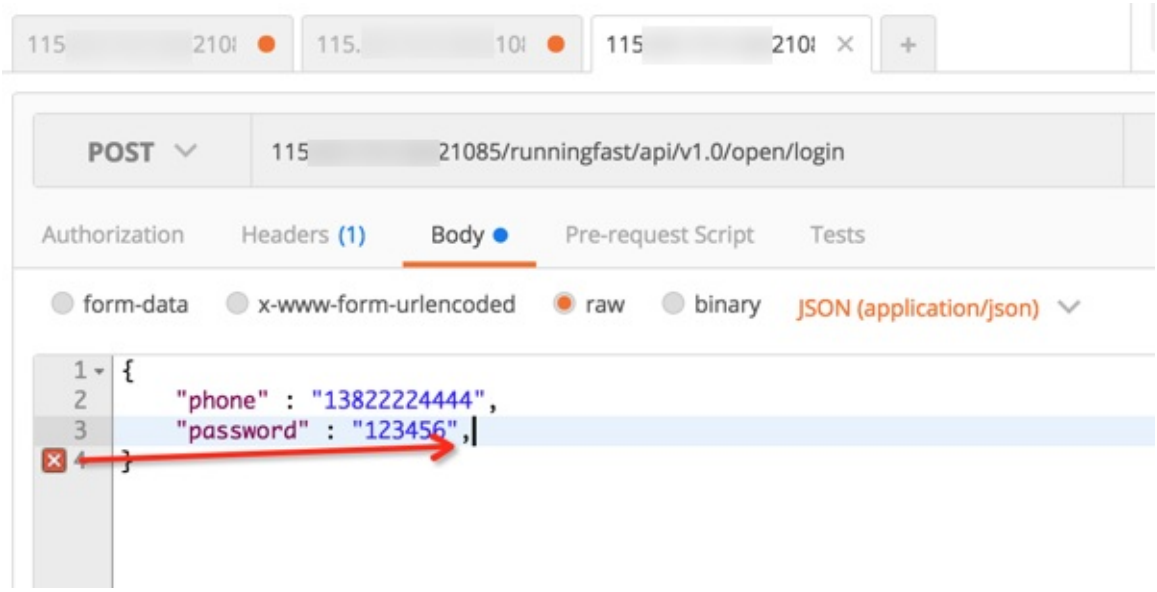
默认不保存返回的Response数据

- 直接点击Save去保存，只能保存API本身（的Request请求），不会保存Response的数据
- 想要保存Response数据，需要用后面要介绍的 多个Example

JSON语法检查

在写POST时的Body中的JSON参数时，如果语法出错会智能提示。

比如json的值的行末多余逗号：



GET的Request的多参数

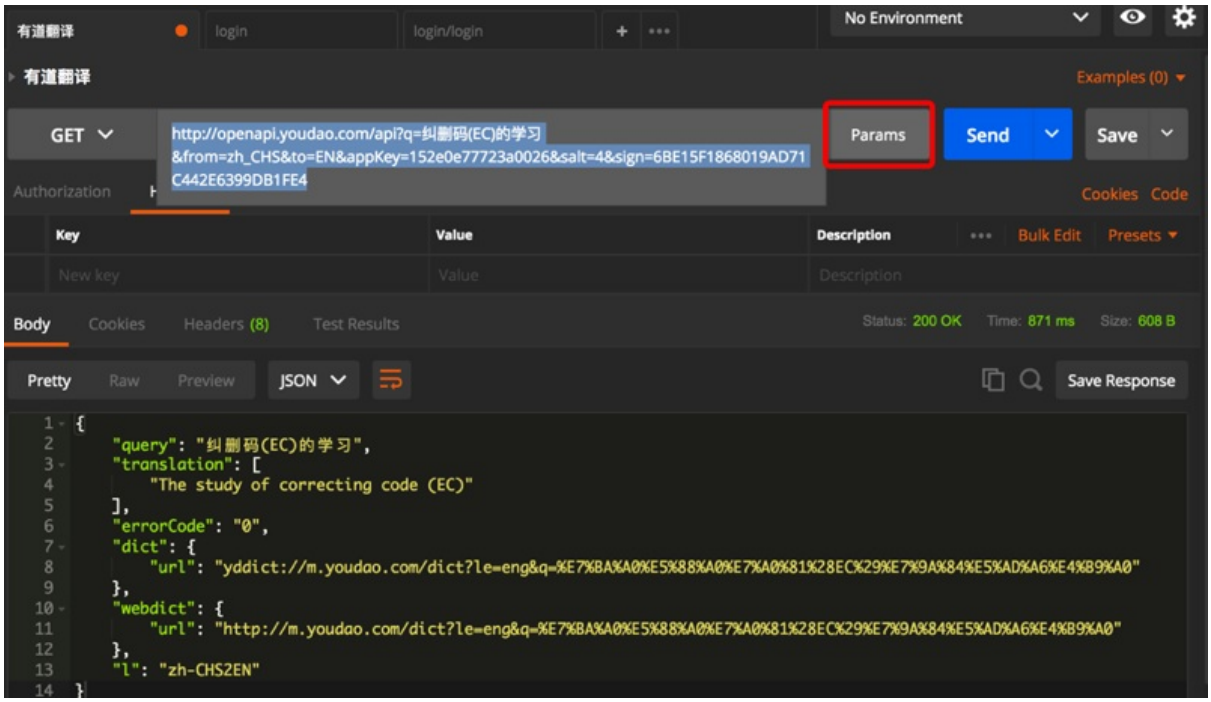
在GET请求中有多个参数需要处理的时候，Postman中有很多方便的手段去操作：

自动解析多个参数Params

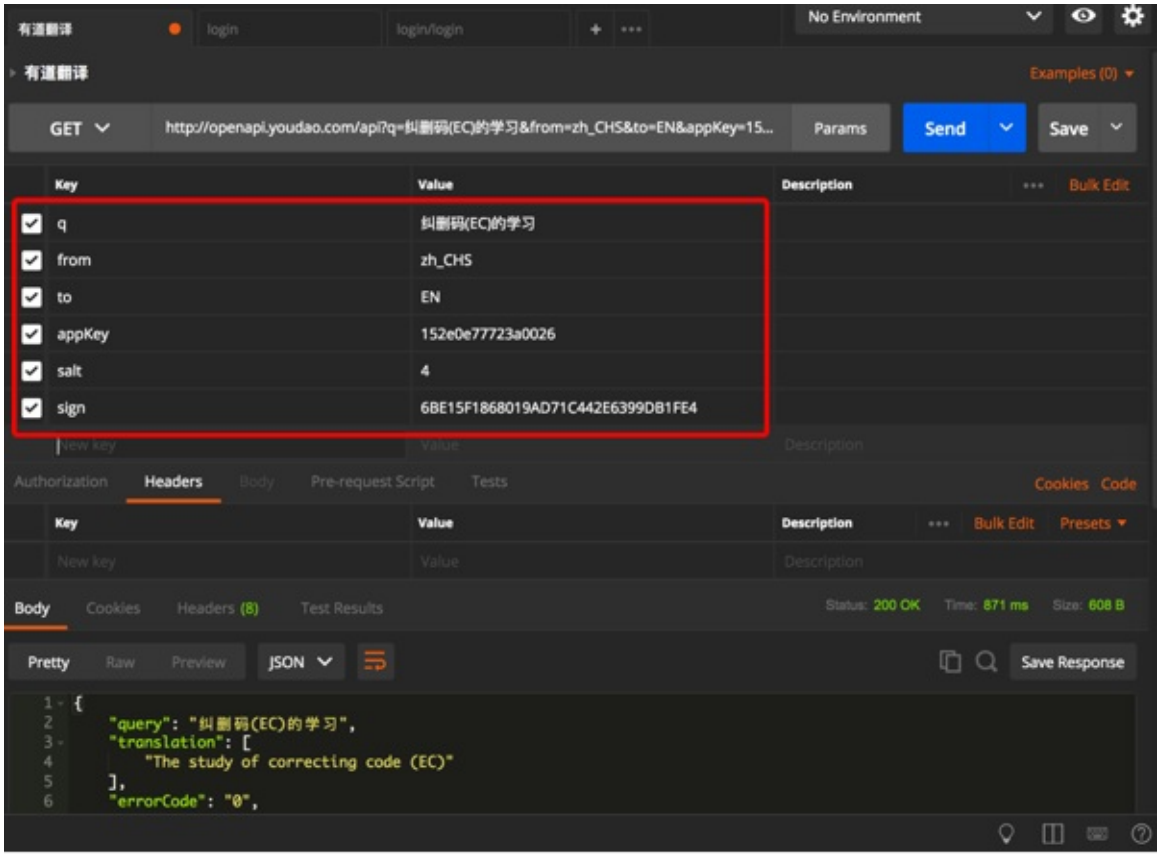
比如，对于一个GET的请求的url是：`http://openapi.youdao.com/api?q=纠删码(EC)的学习&from=zh_CHS&to=EN&appKey=152e0e77723a0026&salt=4&sign=6BE15F1868019AD71C442E6399DB1FE4`

对应着其实是`?key=value`形式中包含多个Http的GET的query string=query parameters

Postman可以自动帮我们解析出对应参数，可以点击Params：



看到展开的多个参数：



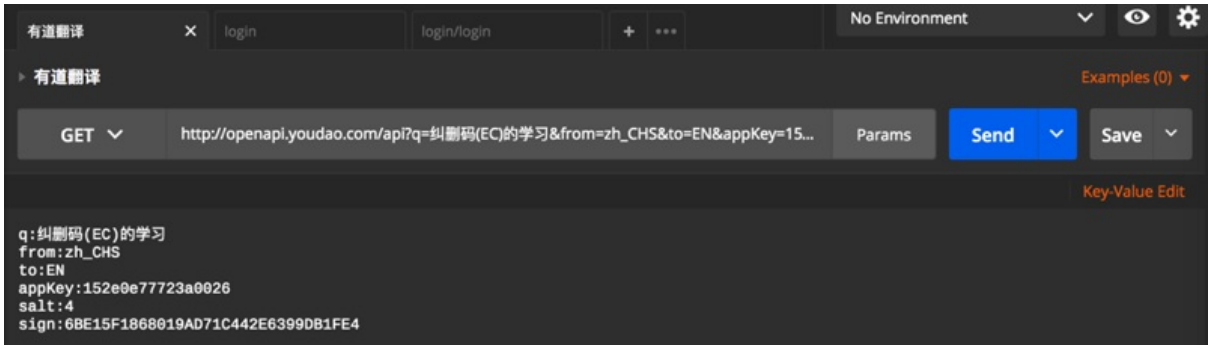
如此就可以很方便的修改，增删对应的参数了。

不勾选某些参数达到临时禁用的效果

且还支持，在不删除某参数的情况下，如果想要暂时不传参数，可以方便的通过不勾选的方式去实现：

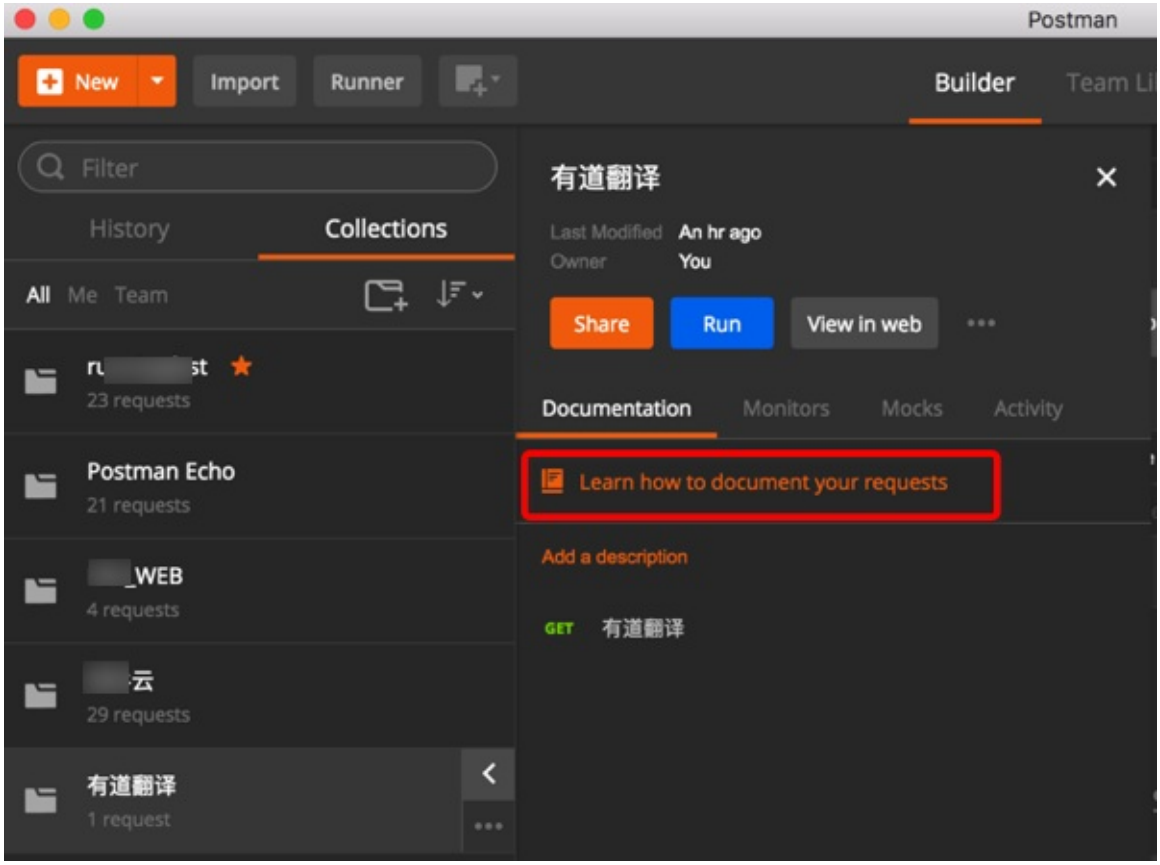
批量编辑GET的多个参数

当然，如果想要批量的编辑参数，可以点击右上角的Bulk Edit，去实现批量编辑。



给接口添加描述

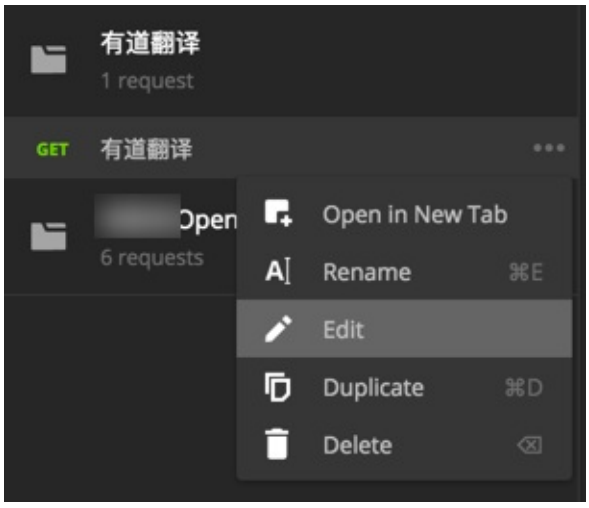
通过看到：



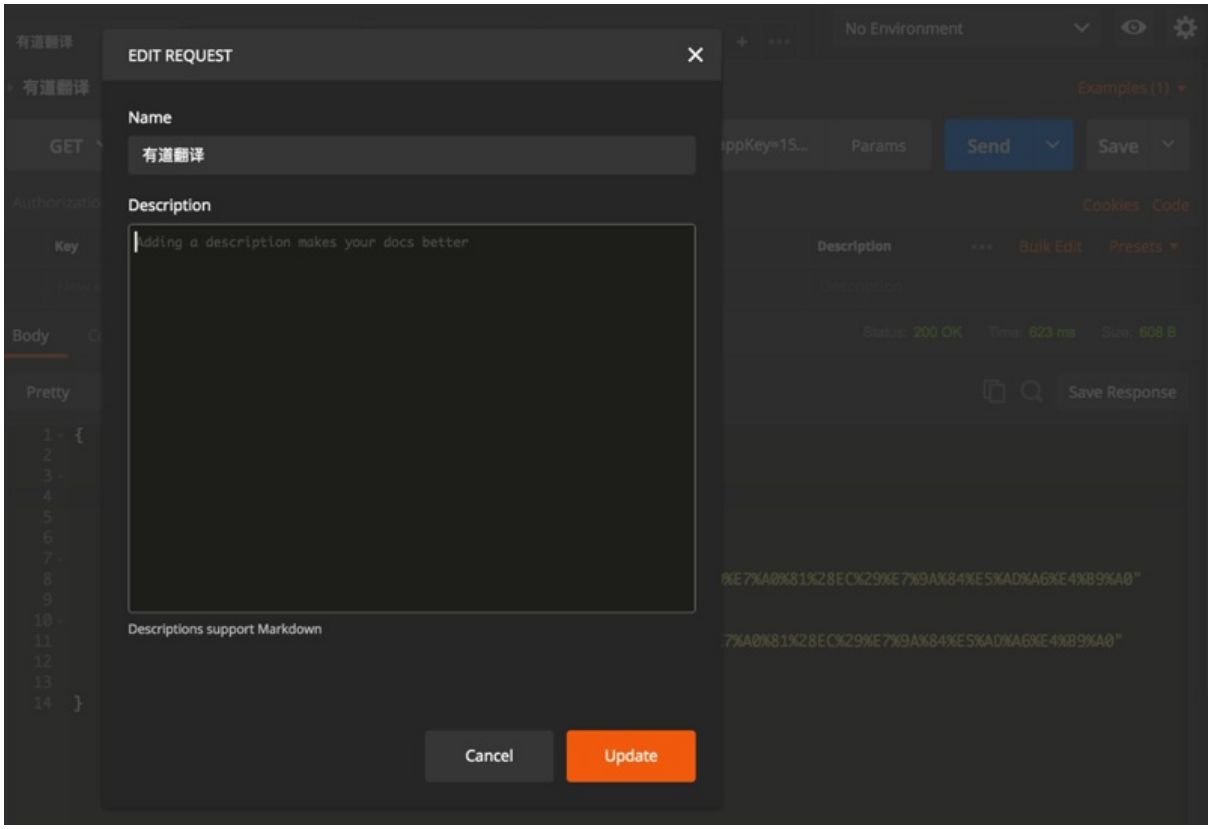
Intro to API documentation

得知，API的描述中，也支持Markdown的。

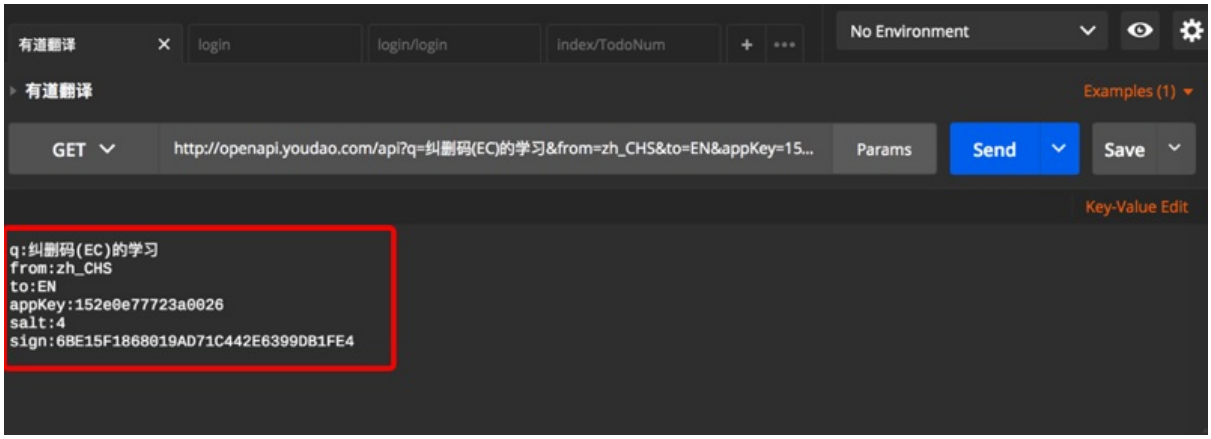
所以，可以很方便的添加有条理的接口描述，尤其是参数解释了：



可以看到 `Descriptions support Markdown`



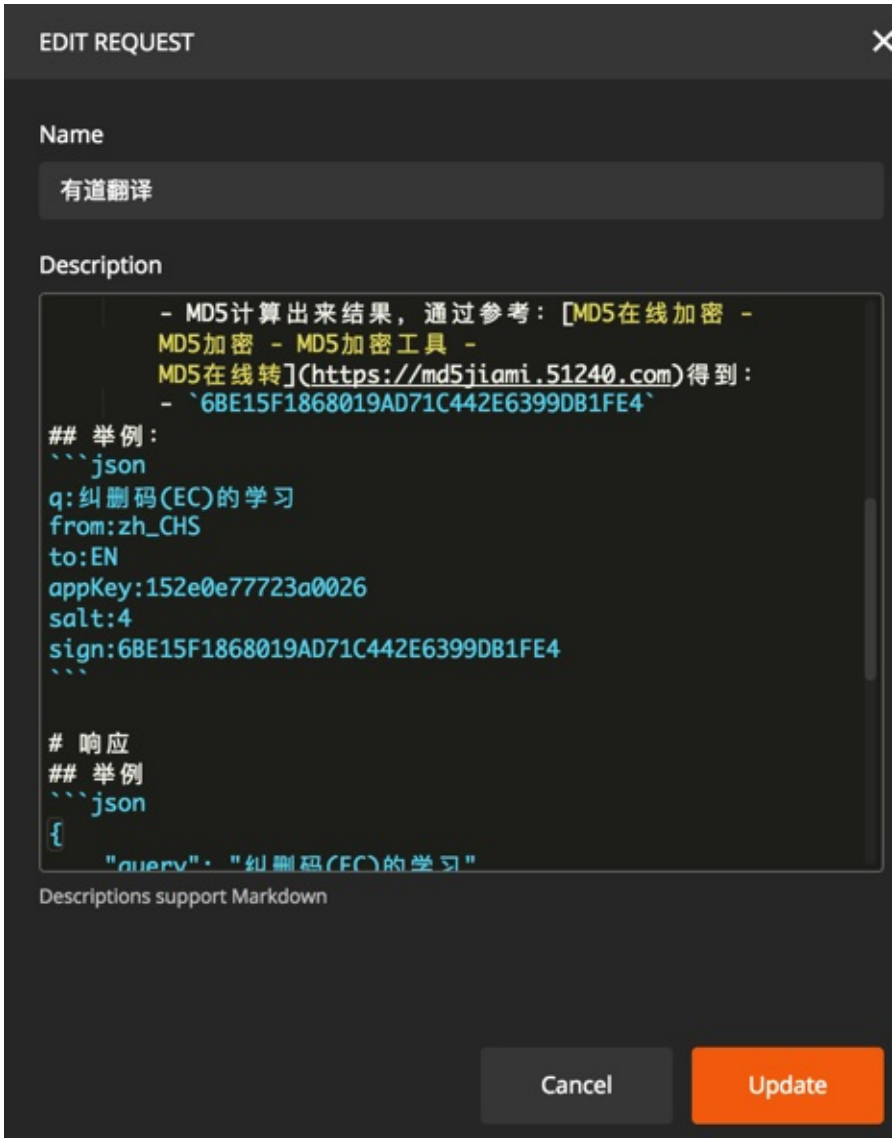
而对于要解释的参数，可以通过之前的 `Param -> Bulk Edit` 的内容：



拷贝过来，再继续去编辑：


EDIT REQUEST
Name
有道翻译
Description
调用`有道`的API实现将`中文`翻译为`英文`
请求
请求参数
- `q`: query string, 查询字符串
- `from`: 从什么语言, 原始语言
- `to`: 翻译为, 目标语言
- `appKey`:自己`有道智云`账号中创建的应用的`应用ID`
- `salt`:给MD5算法加的`盐`, 一般用任意随机数即可
- `sign`:MD5加密后的值=md5(appKey+q+salt+密钥)
- 经过验证, 好像大小写均可
- 举例:
- appKey=应用ID=152e0e77723a0026
- q=纠删码(EC)的学习
- salt=4
- 密钥=应用密钥=sYmnnOaisQgZZrlrBFozWAtsaRyyJg4N
- -》appKey+q+salt+密钥 =
152e0e77723a0026纠删码(EC)的学习4sYmnnOaisQgZZrlrB
Descriptions support Markdown
Cancel
Update

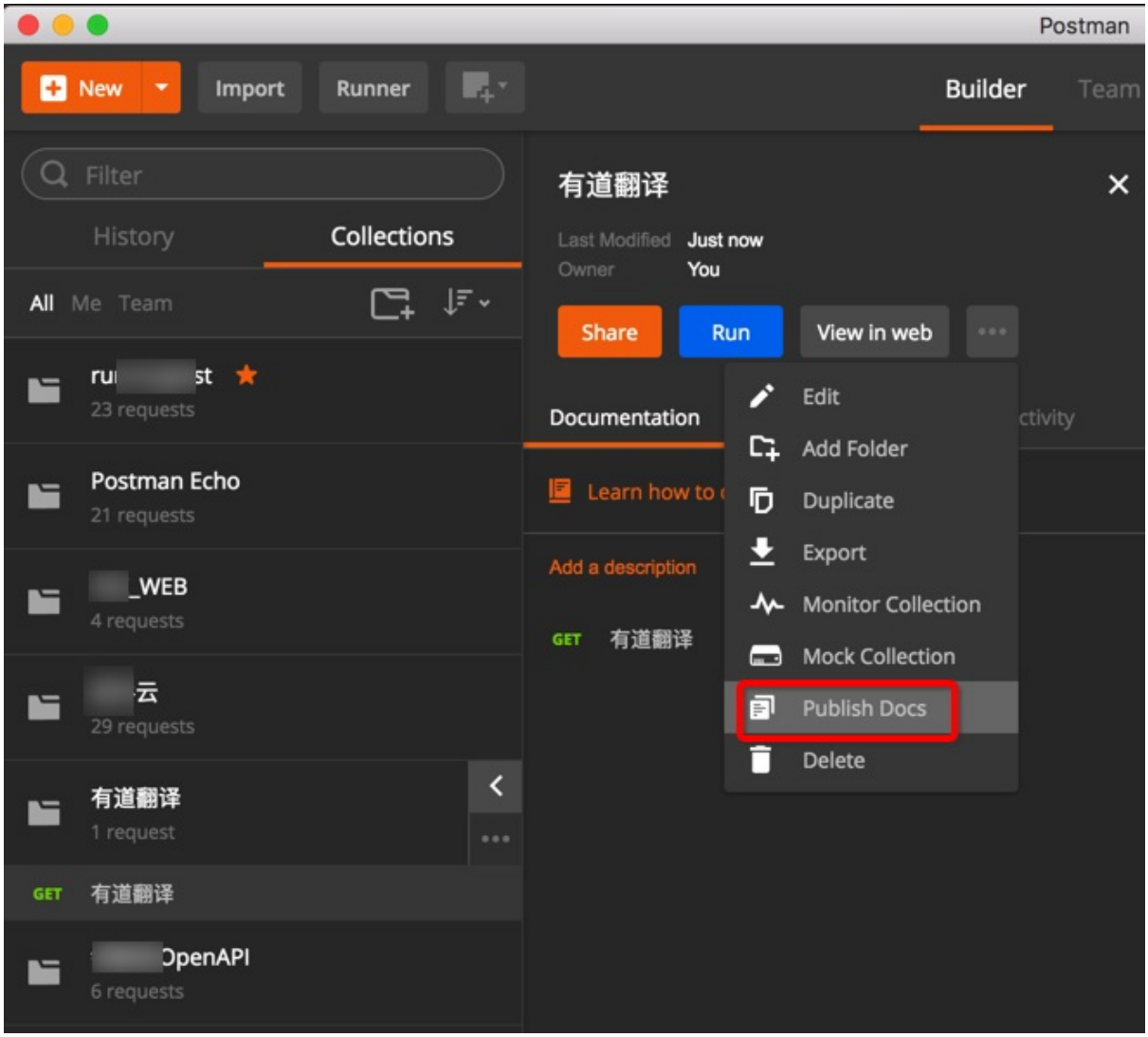
以及添加更多解释信息：



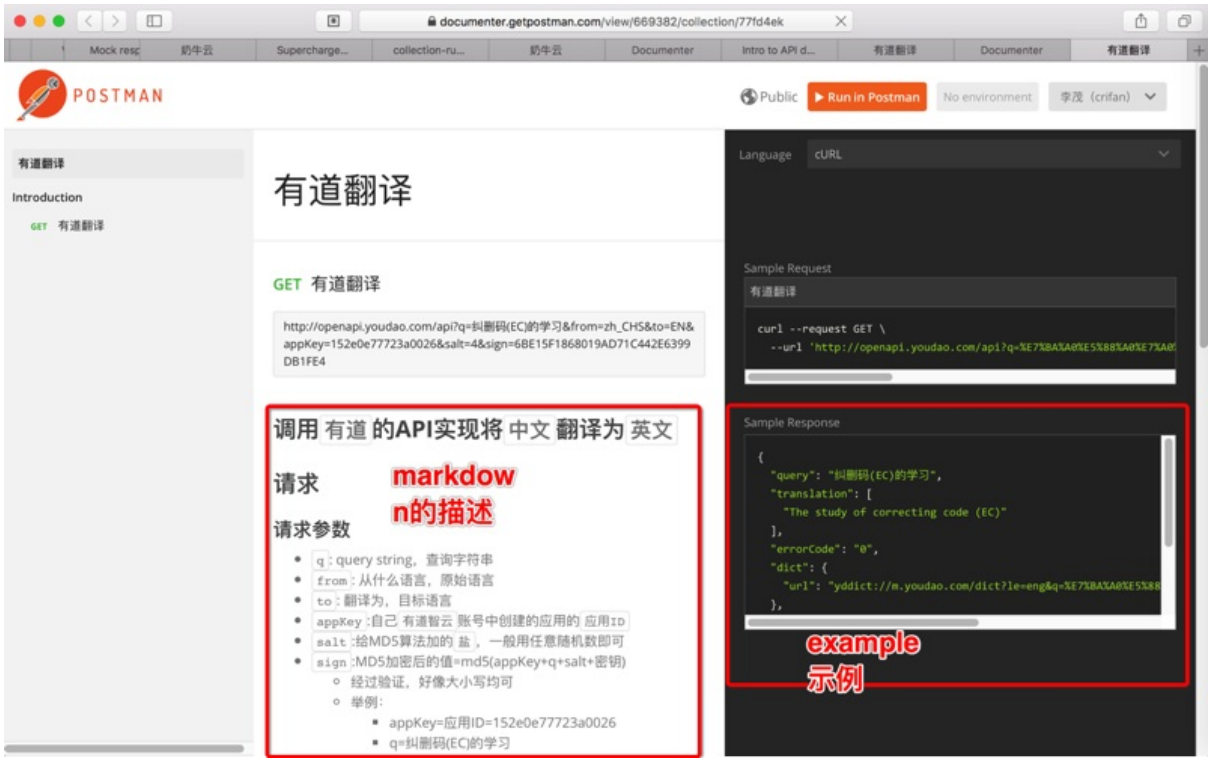
点击Update后，即可保存。

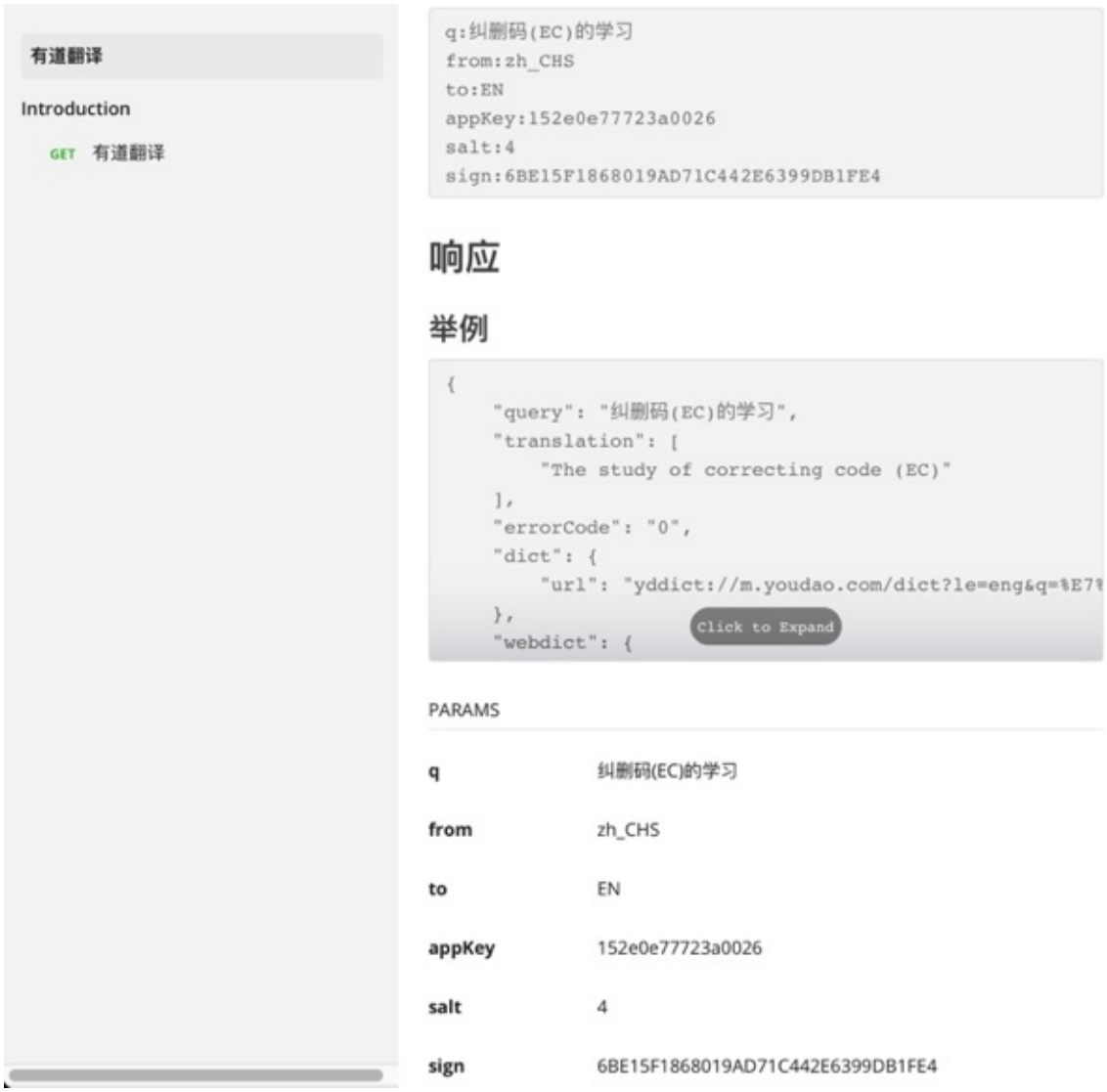
发布后带Markdown描述的API的效果

去发布后：


Postman
New
Import
Runner
Builder
Team
Filter
History
Collections
All
Me
Team
23 requests
Postman Echo
21 requests
_WEB
4 requests
29 requests
有道翻译
1 request
GET
有道翻译
OpenAPI
6 requests
有道翻译
Last Modified
Just now
Owner
You
Share
Run
View in web
Documentation
Learn how to
Add a description
GET
有道翻译
Edit
Add Folder
Duplicate
Export
Monitor Collection
Mock Collection
Publish Docs
Delete

对应的效果：有道翻译


documenter.getpostman.com/view/669382/collection/77fd4ek
POSTMAN
Public
Run in Postman
No environment
李茂 (crifan)
有道翻译
Introduction
GET 有道翻译
有道翻译
GET 有道翻译
http://openapi.youdao.com/api?q=纠删码(EC)的学习&from=zh_CHS&to=EN&appKey=152e0e77723a0026&salt=4&sign=6BE15F1868019AD71C442E6399DB1FE4
调用 有道 的API实现将 中文 翻译为 英文
请求
markdown
n的描述
请求参数
q：query string，查询字符串
from：从什么语言，原始语言
to：翻译为，目标语言
appKey：自己 有道智云 账号中创建的应用的 应用ID
salt：给MD5算法加的 盐，一般用任意随机数即可
sign：MD5加密后的值=md5(appKey+q+salt+密钥)
经过验证，好像大小写均可
举例：
appKey=应用ID=152e0e77723a0026
q=纠删码(EC)的学习
Language
cURL
Sample Request
curl --request GET \
--url 'http://openapi.youdao.com/api?q=%E7%BA%A0%E5%88%A0%E7%A0
Sample Response
{
"query": "纠删码(EC)的学习",
"translation": [
"The study of correcting code (EC)"
],
"errorCode": "0",
"dict": {
"url": "yddict://m.youdao.com/dict?le=eng&q=%E7%BA%A0%E5%88
},
example
示例



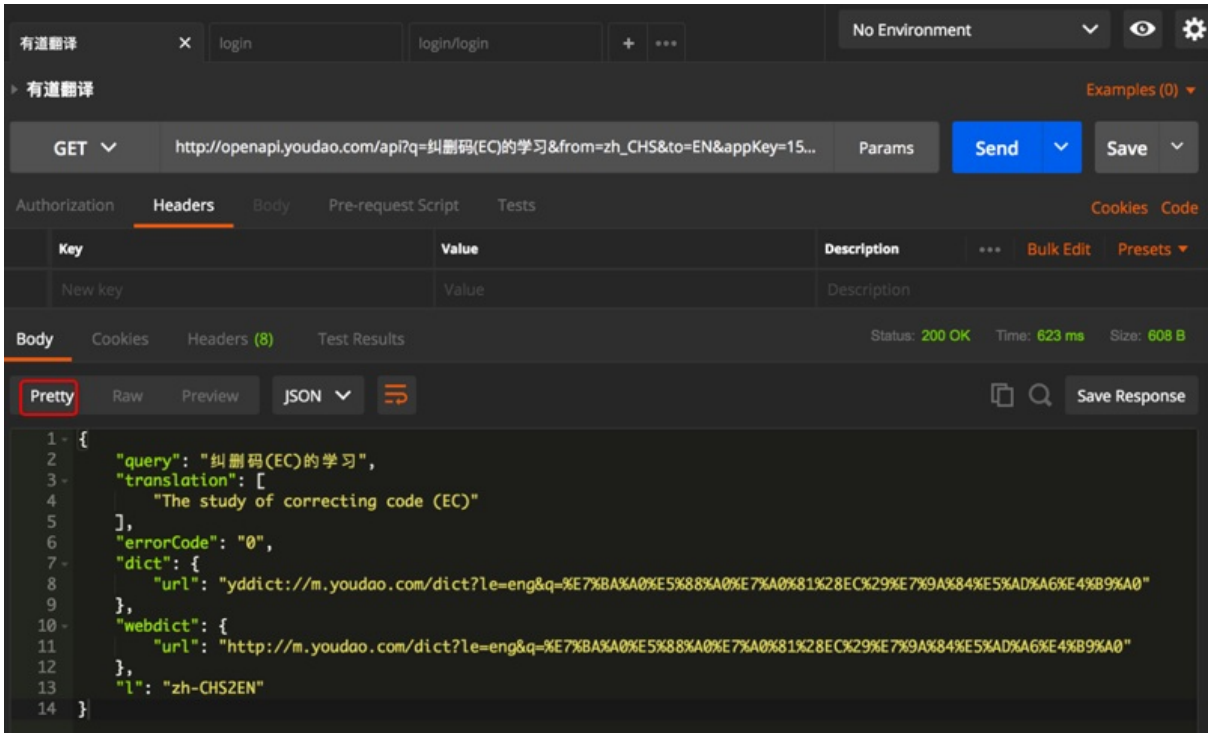
Postman功能：Response

Postman中对于Response响应，也有很多方便好用的功能。

Response数据显示模式

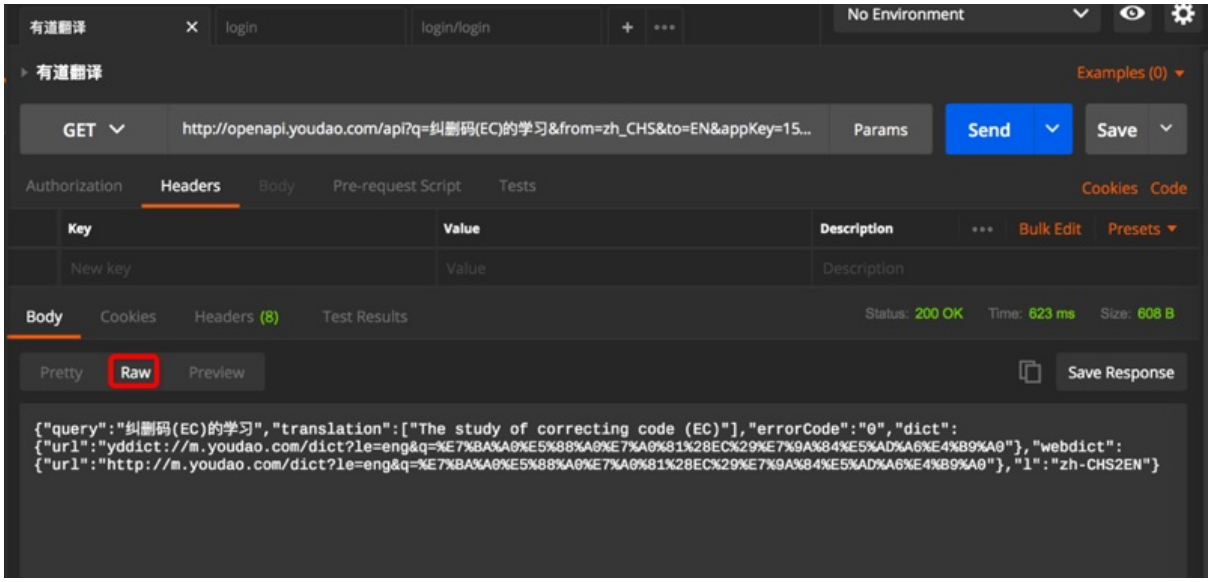
Postman对于返回的Response数据，支持三种显示模式：

默认 格式化后的Pretty模式



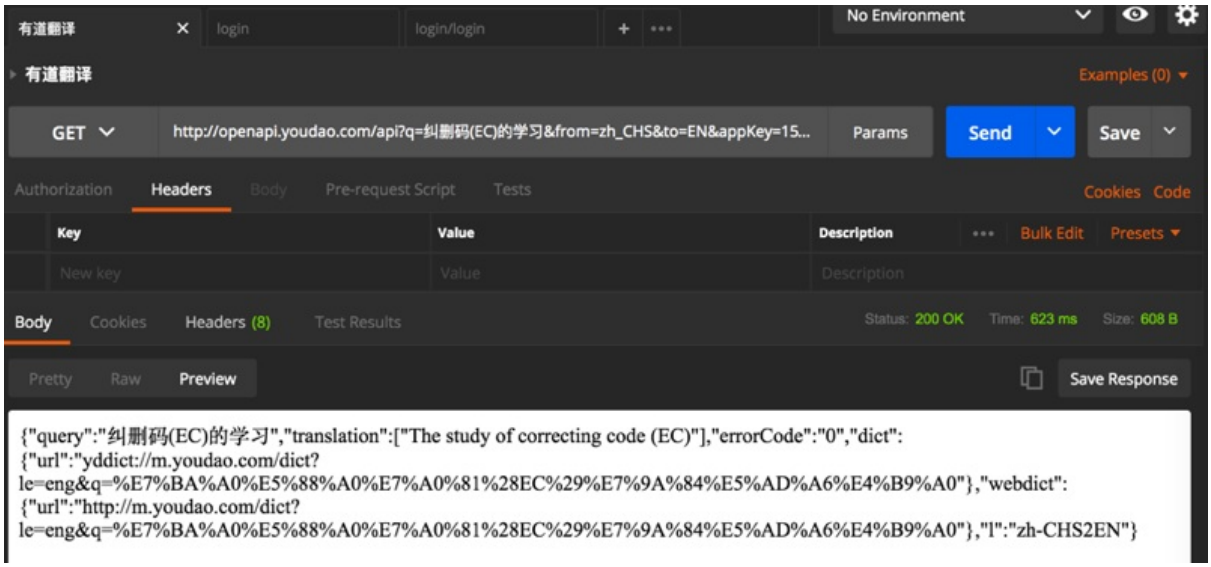
Raw原始模式

点击Raw，可以查看到返回的没有格式化之前的原始数据：



Preview预览模式

以及Preview，是对应Raw原始格式的预览模式：

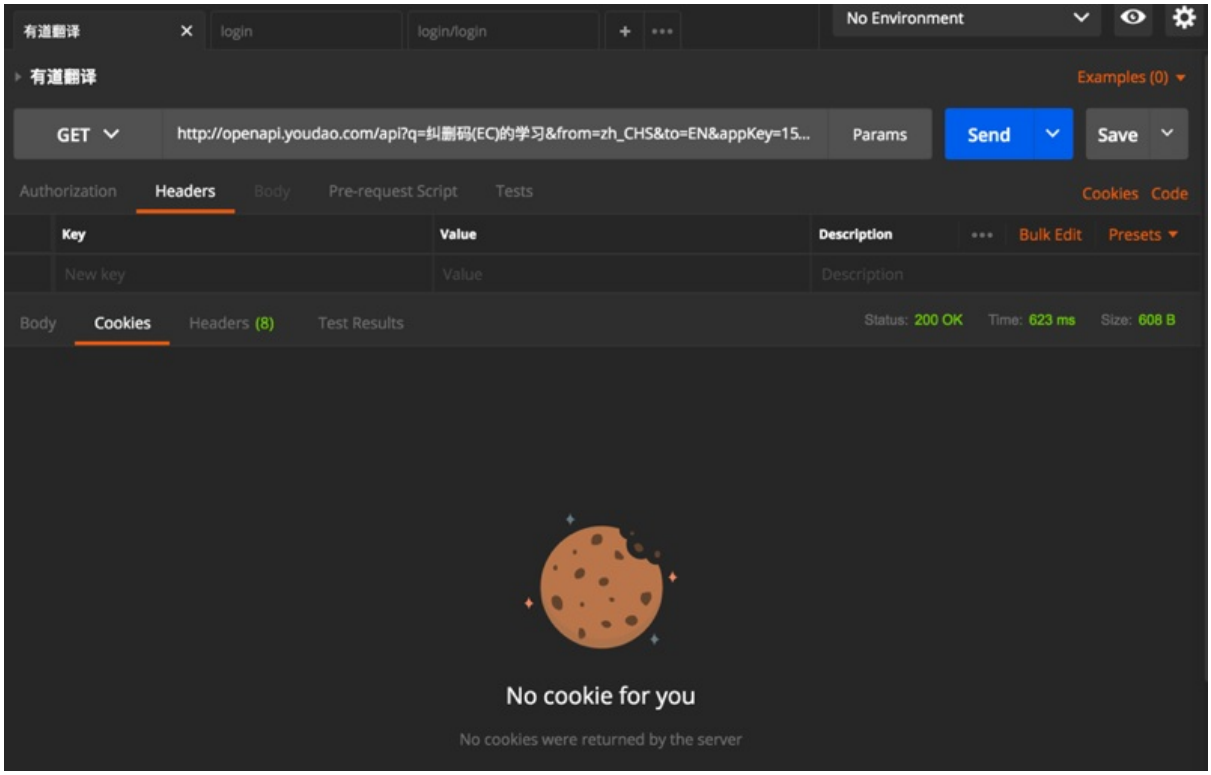


Preview这种模式的显示效果，好像是对于返回的是html页面这类，才比较有效果。

Response其他功能

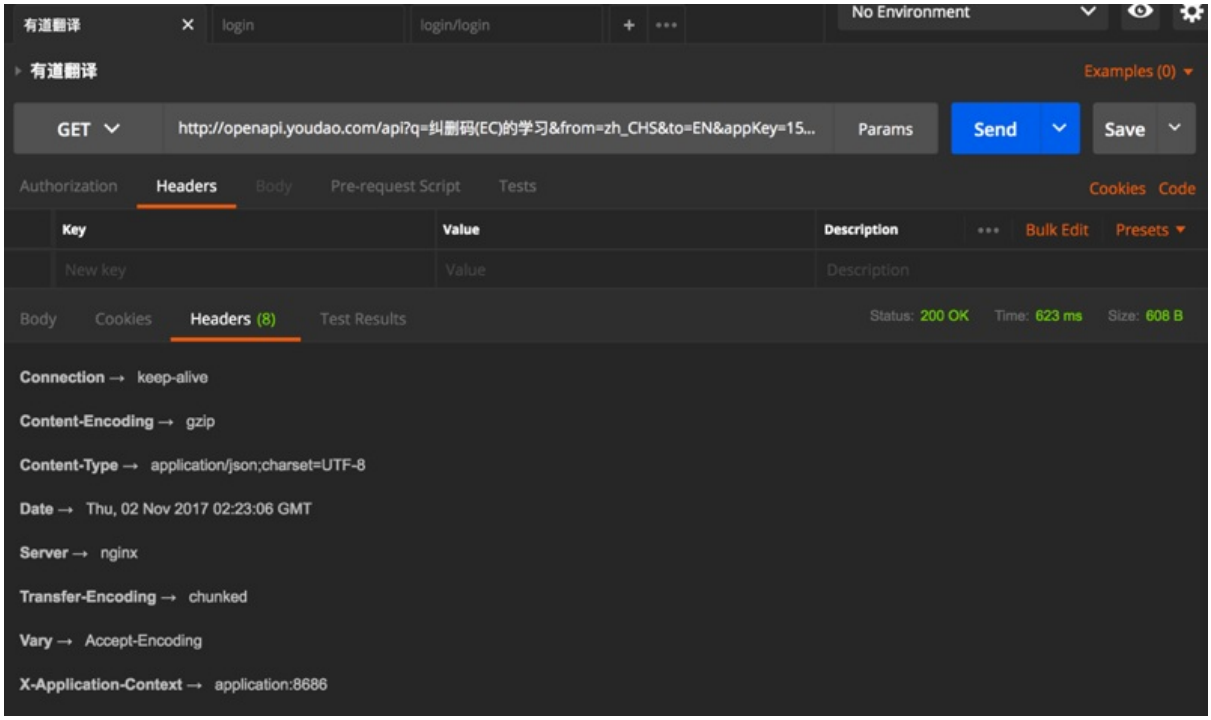
Response的Cookies

很多时候普通的API调用，倒是没有Cookie的：



Response的Headers头信息

举例，此处返回的是有Headers头信息的：

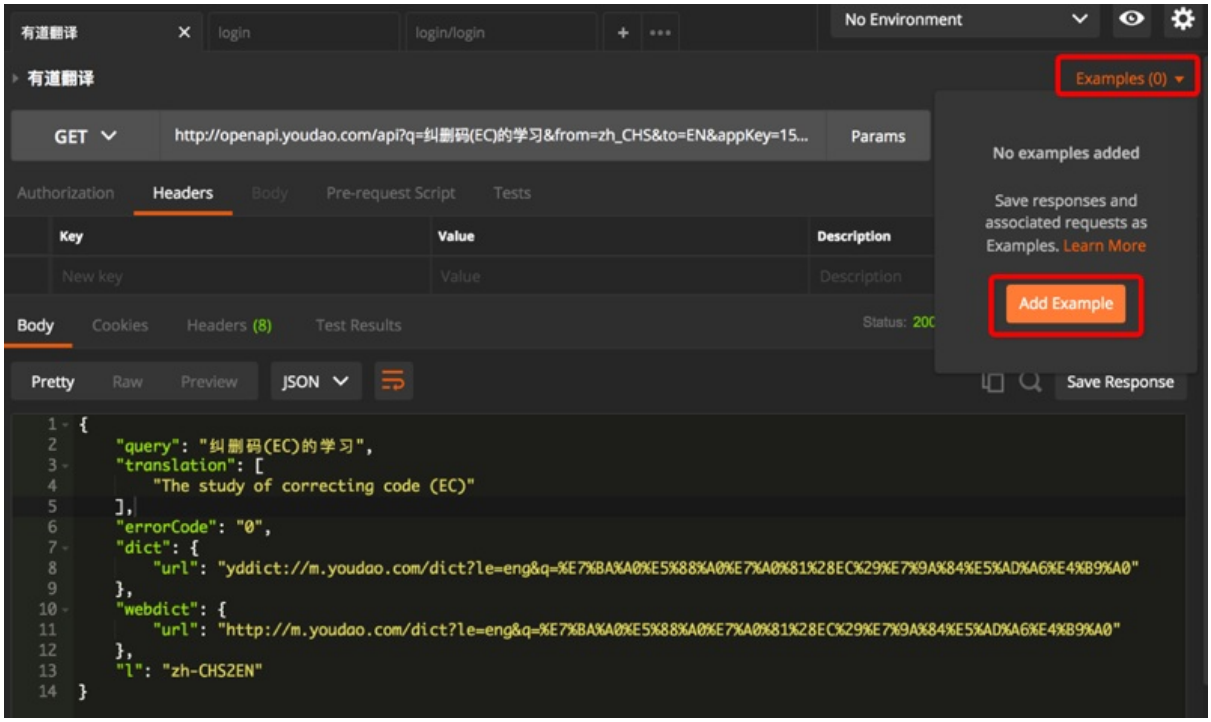


可以从中看到服务器是Nginx的。

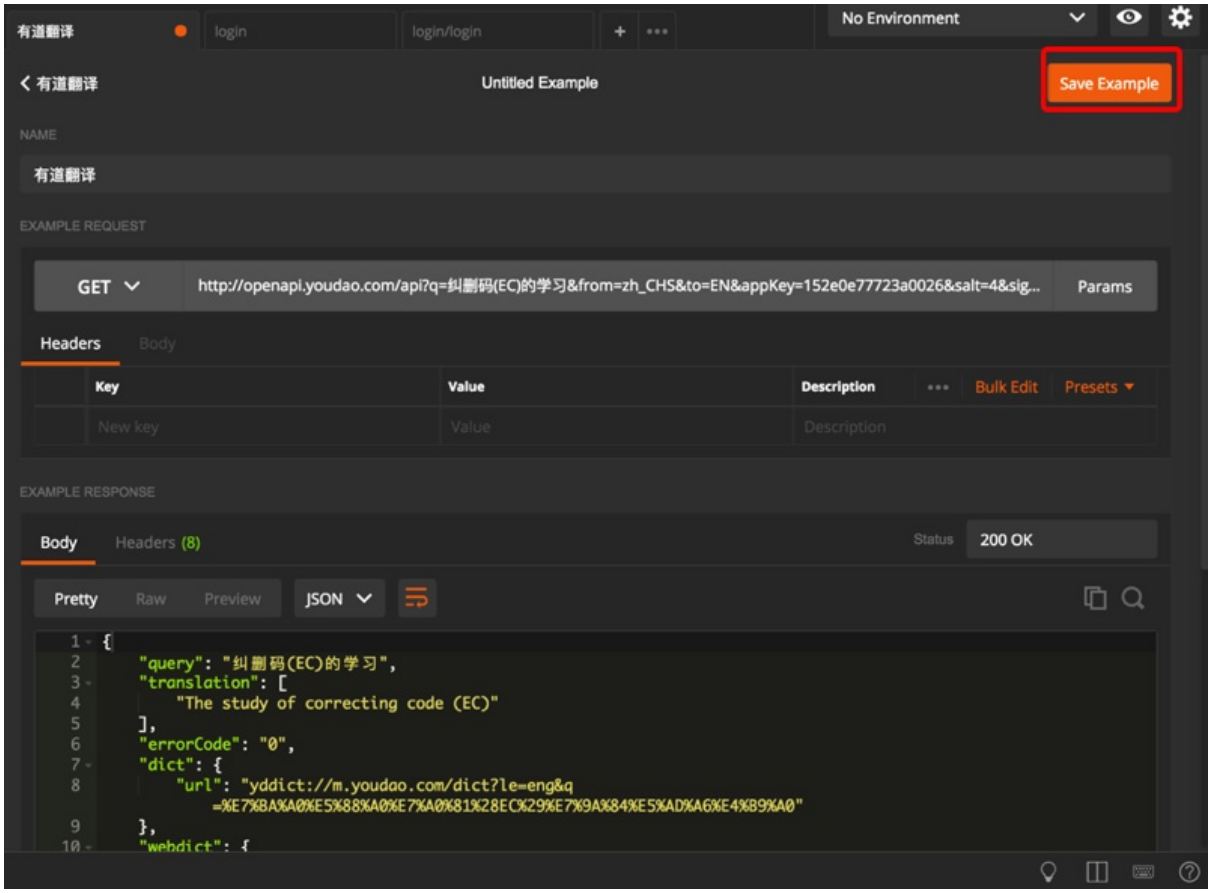
保存多个Example

之前想要实现，让导出的API文档中能看到接口返回的Response数据。后来发现是Example这个功能去实现此效果的。

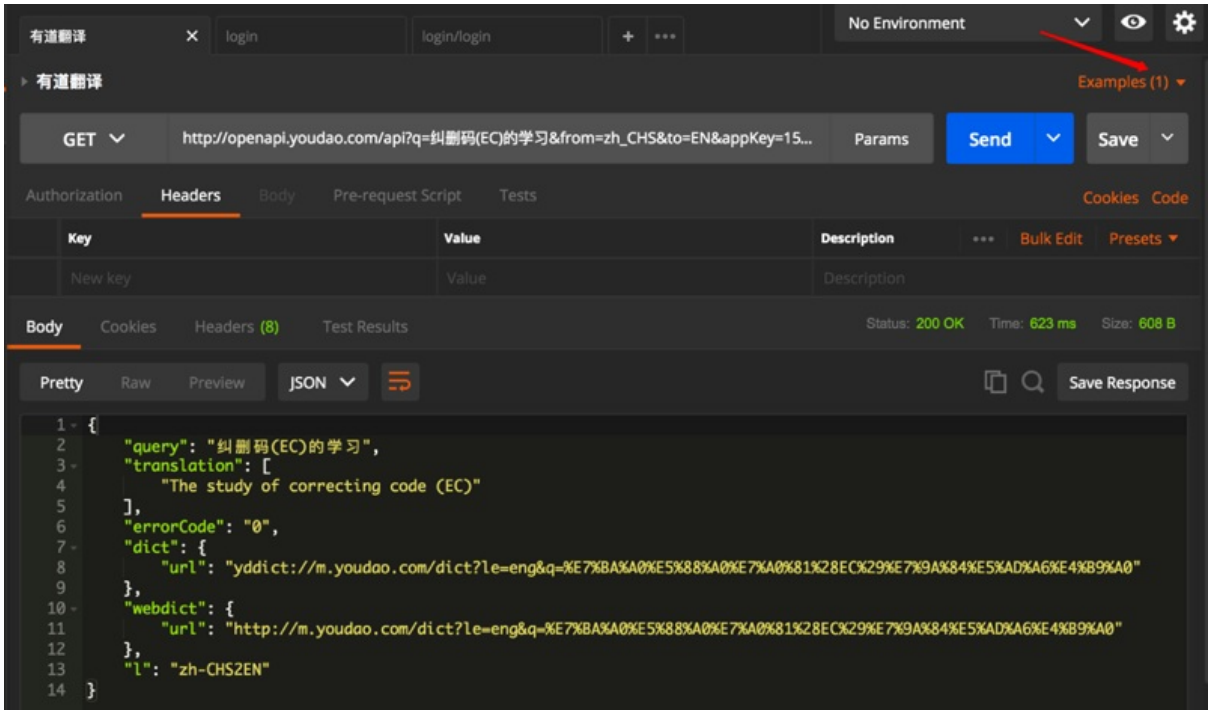
如何添加Example



继续点击Save Example：

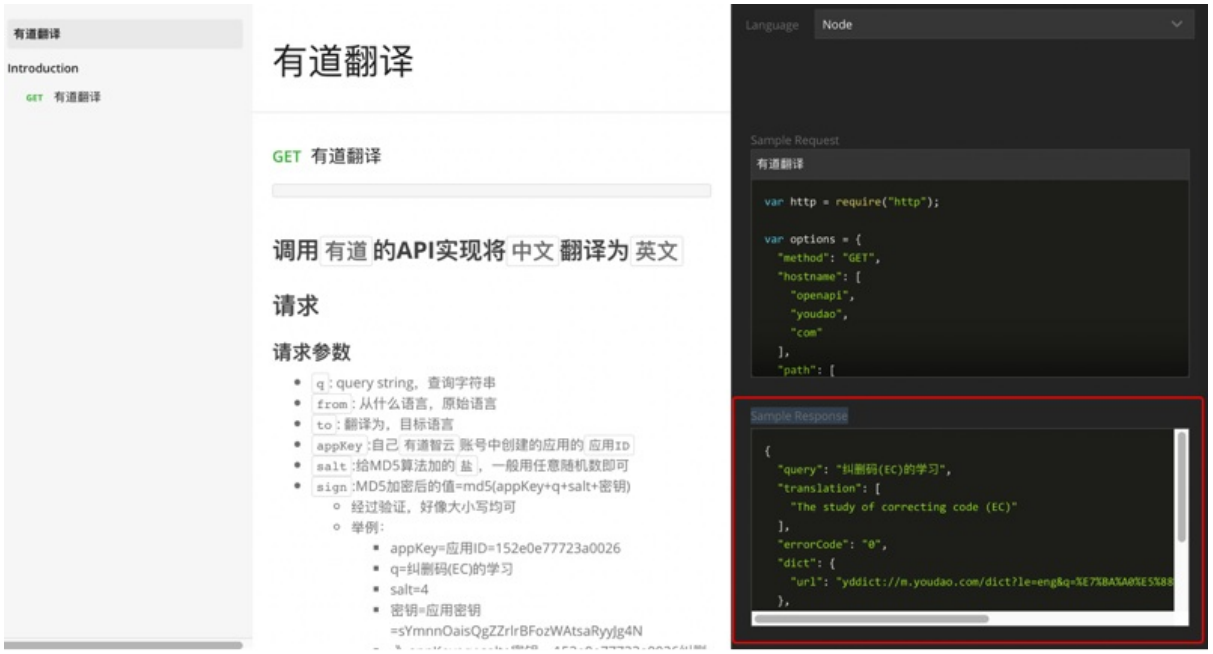


保存后，就能看到Example(1)了：

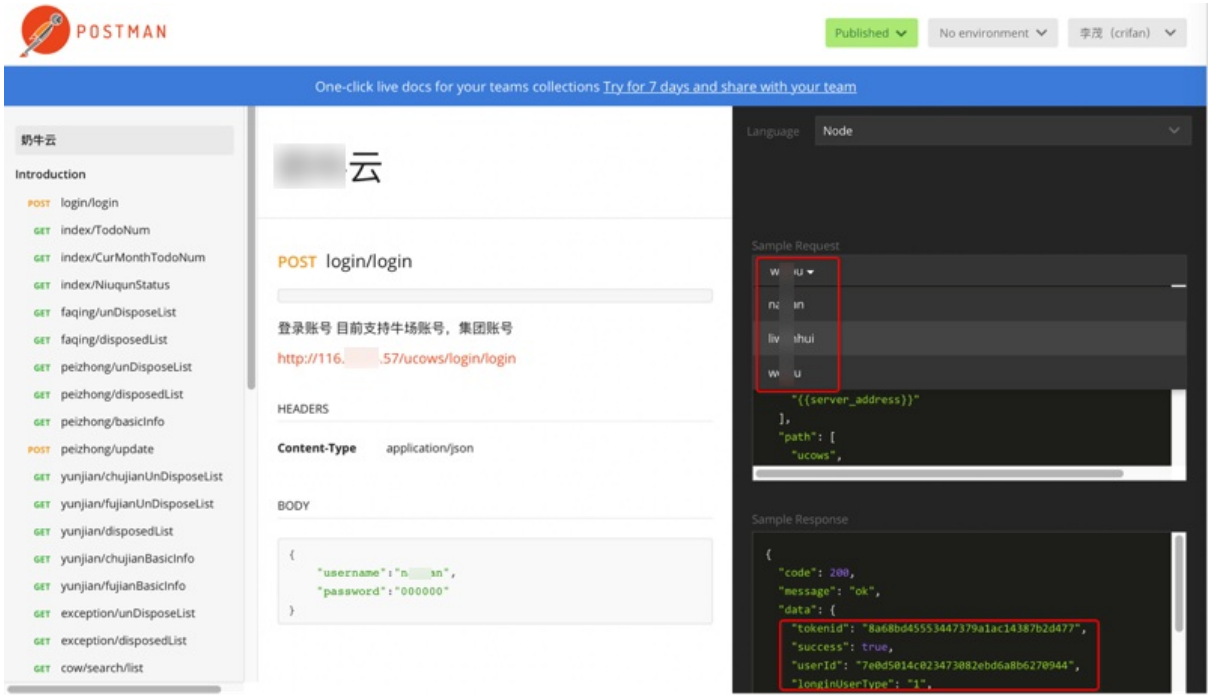


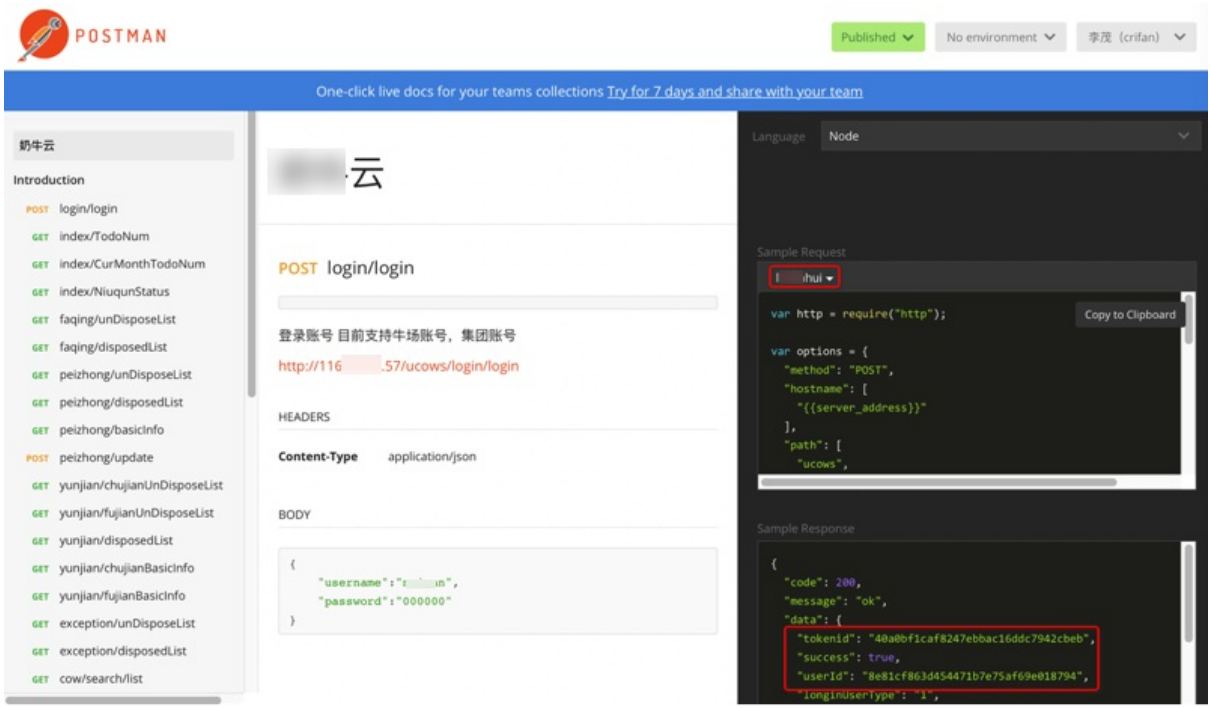
单个Example在导出的API文档中的效果

然后再去导出文档，导出文档中的确能看到返回数据的例子：



多个Example在导出的API文档中的效果





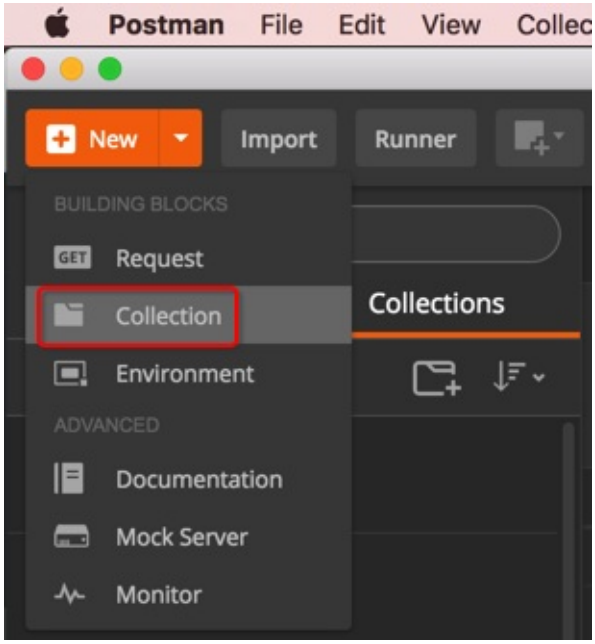
Postman功能：其他工具和功能

此处接着介绍Postman的其他一些功能或有用的工具。

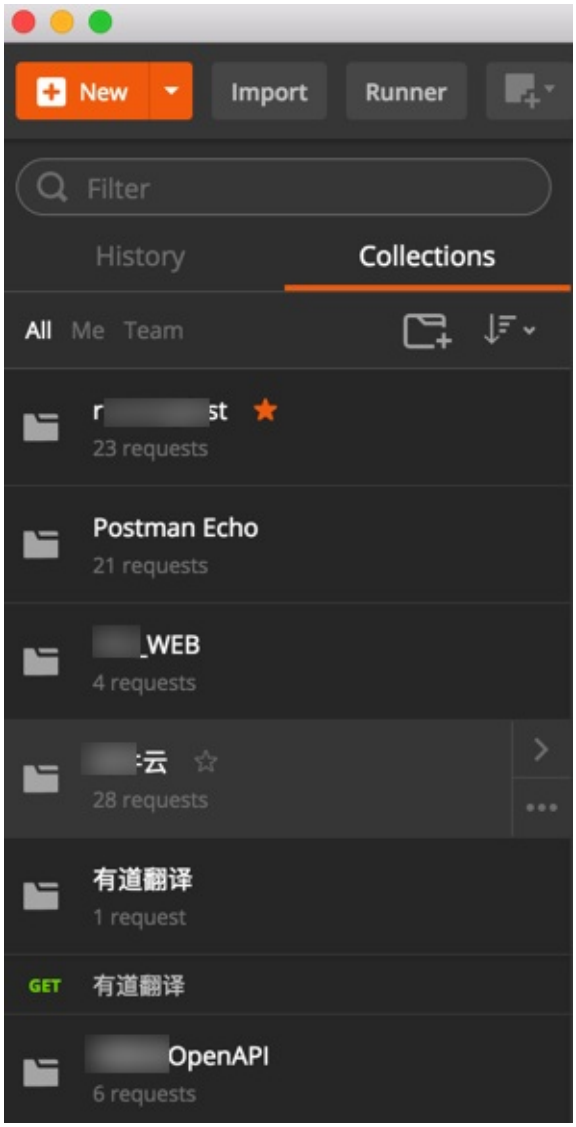
分组Collection

在刚开始一个项目时，为了后续便于组织和管理，把同属该项目的多个API，放在一组里

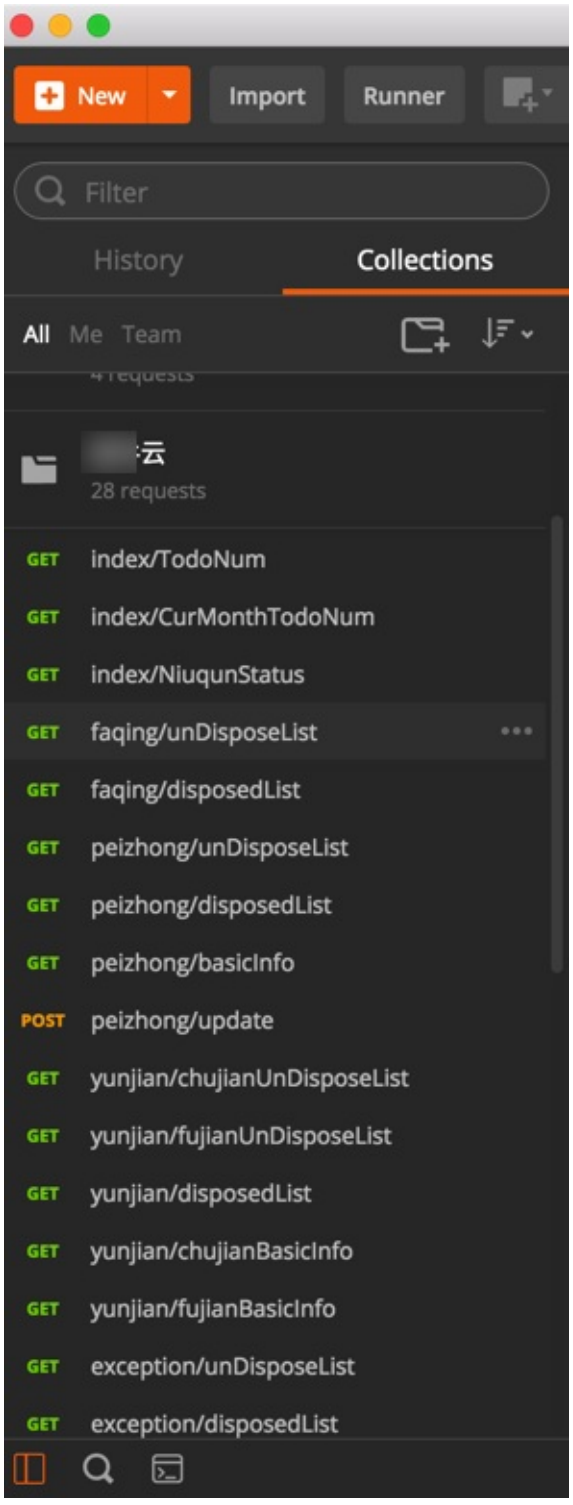
所以要先去新建一个Collection: `New -> Collection`



使用了段时间后，建了多个分组的效果：

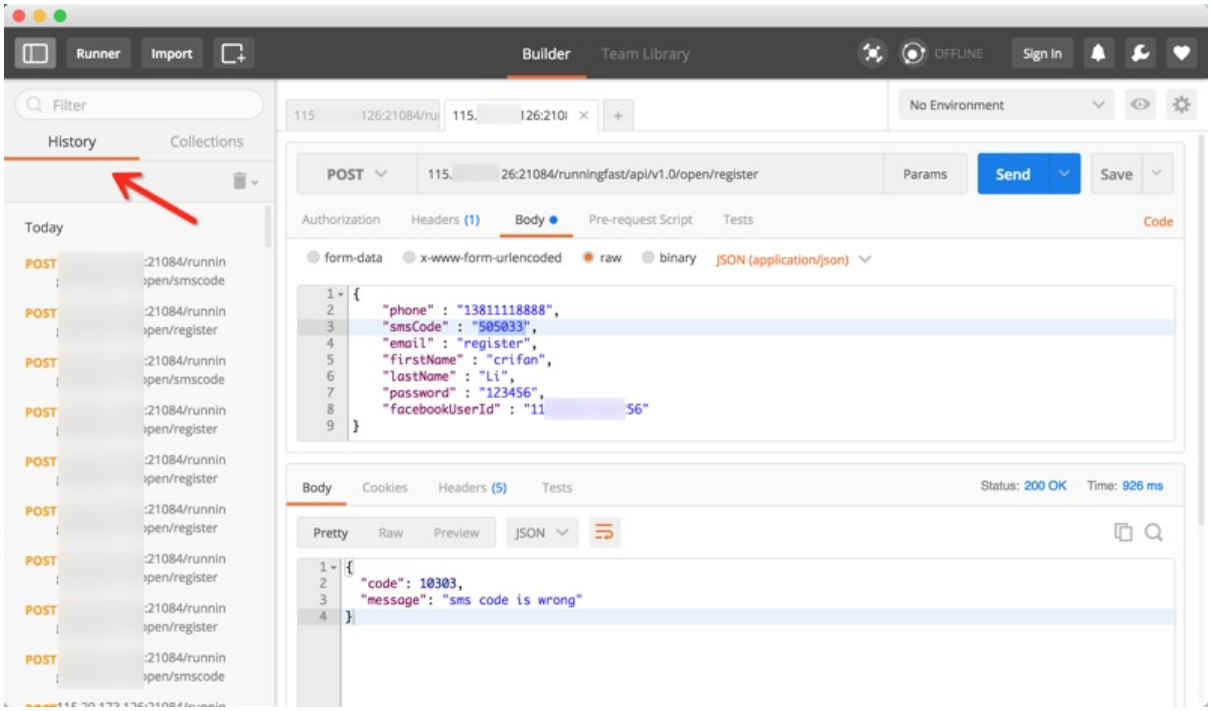

New
Import
Runner
Filter
History
Collections
All
Me
Team
23 requests
Postman Echo
21 requests
_WEB
4 requests
28 requests
有道翻译
1 request
GET
有道翻译
OpenAPI
6 requests

单个分组展开后的效果：



历史记录History

Postman支持history历史记录，显示出最近使用过的API：



用环境变量实现多服务器版本

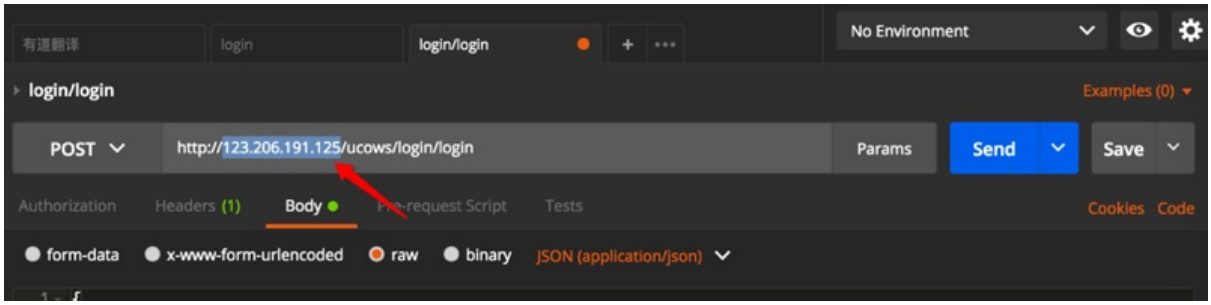
现存问题

在测试API期间，往往存在多种环境，对应IP地址（或域名也不同）

比如：

- Prod: `http://116.62.25.57/ucows`
  - 用于开发完成发布到生产环境
- Dev: `http://123.206.191.125/ucows`
  - 用于开发期间的线上的Development的测试环境
- LocalTest: `http://192.168.0.140:80/ucows`
  - 用于开发期间配合后台开发人员的本地局域网内的本地环境，用于联合调试API接口

而在测试API期间，往往需要手动去修改API的地址：



效率比较低，且地址更换后之前地址就没法保留了。

另外，且根据不同IP地址（或者域名）也不容易识别是哪套环境。

解决办法

小幺鸡的线上环境和本机环境的切换

之前得知小幺鸡，简单好用的接口文档管理工具 -》发送JSON-演示项目 中有个好用的功能：

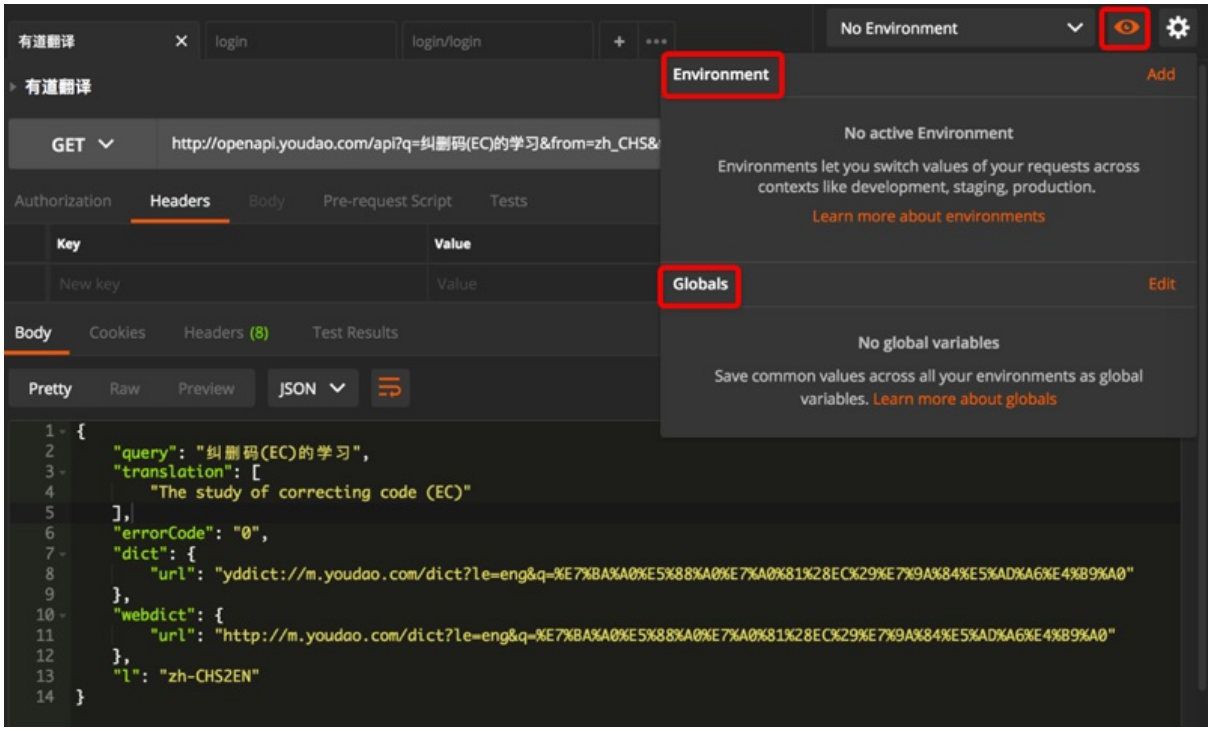
支持不同环境：

- 线上环境
- 本地环境

等，当时以为Postman不支持呢

Postman支持用Environment环境变量去实现多服务器版本

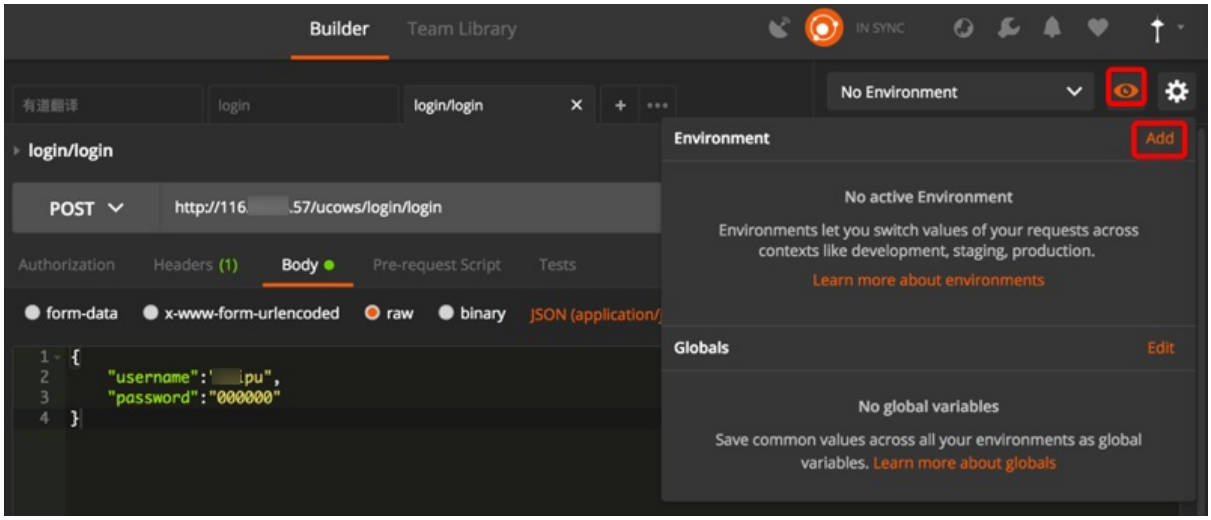
后来发现Postman中，有Environment和Global Variable，用于解决这个问题，实现不同环境的管理：



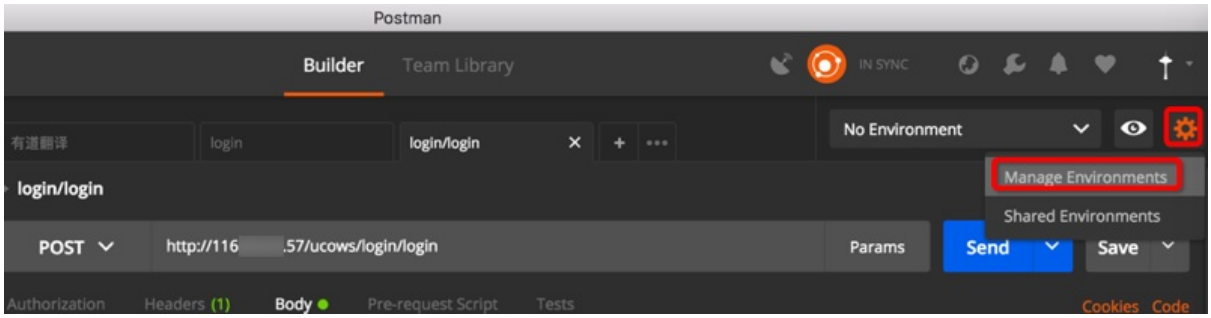
-》很明显，就可以用来实现不用手动修改url中的服务器地址，从而动态的实现，支持不同服务器环境:

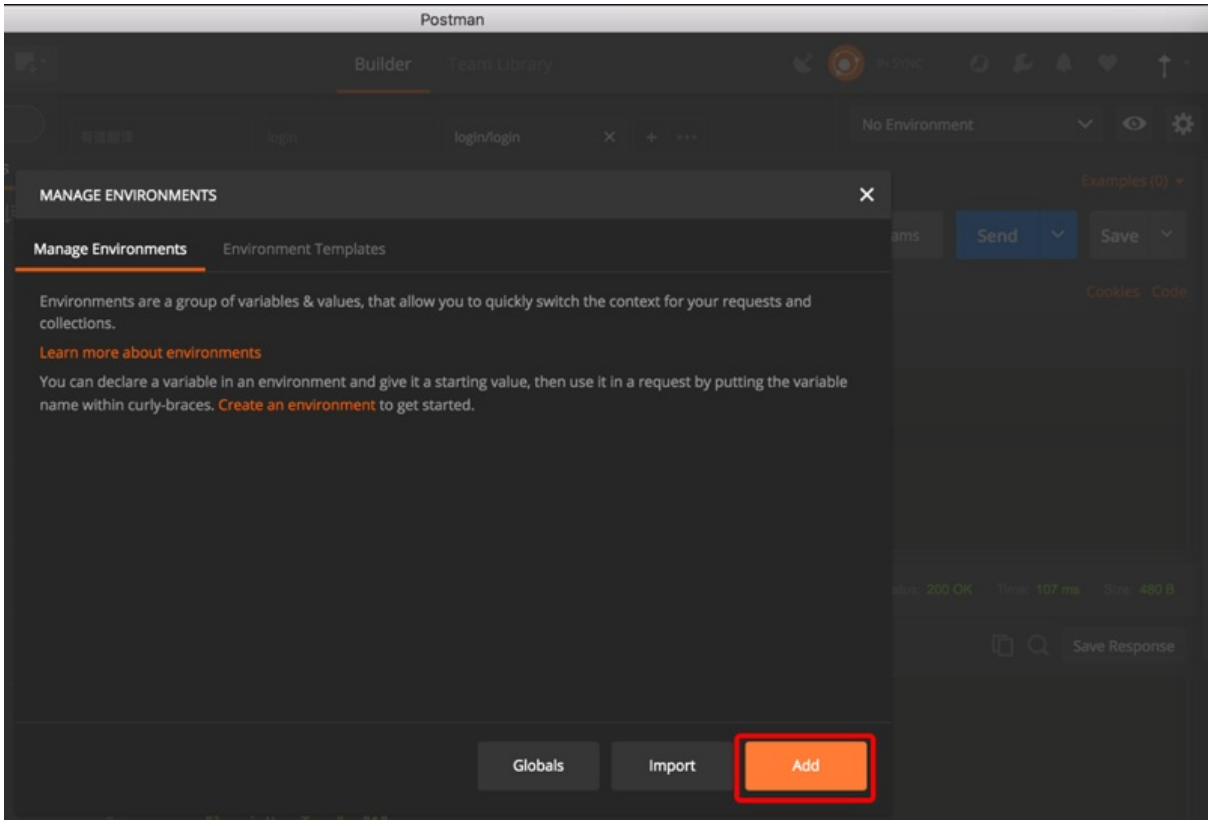
- Production生产环境
- Development开发环境
- Local本地局域网环境

如何使用Enviroment实现多服务器版本



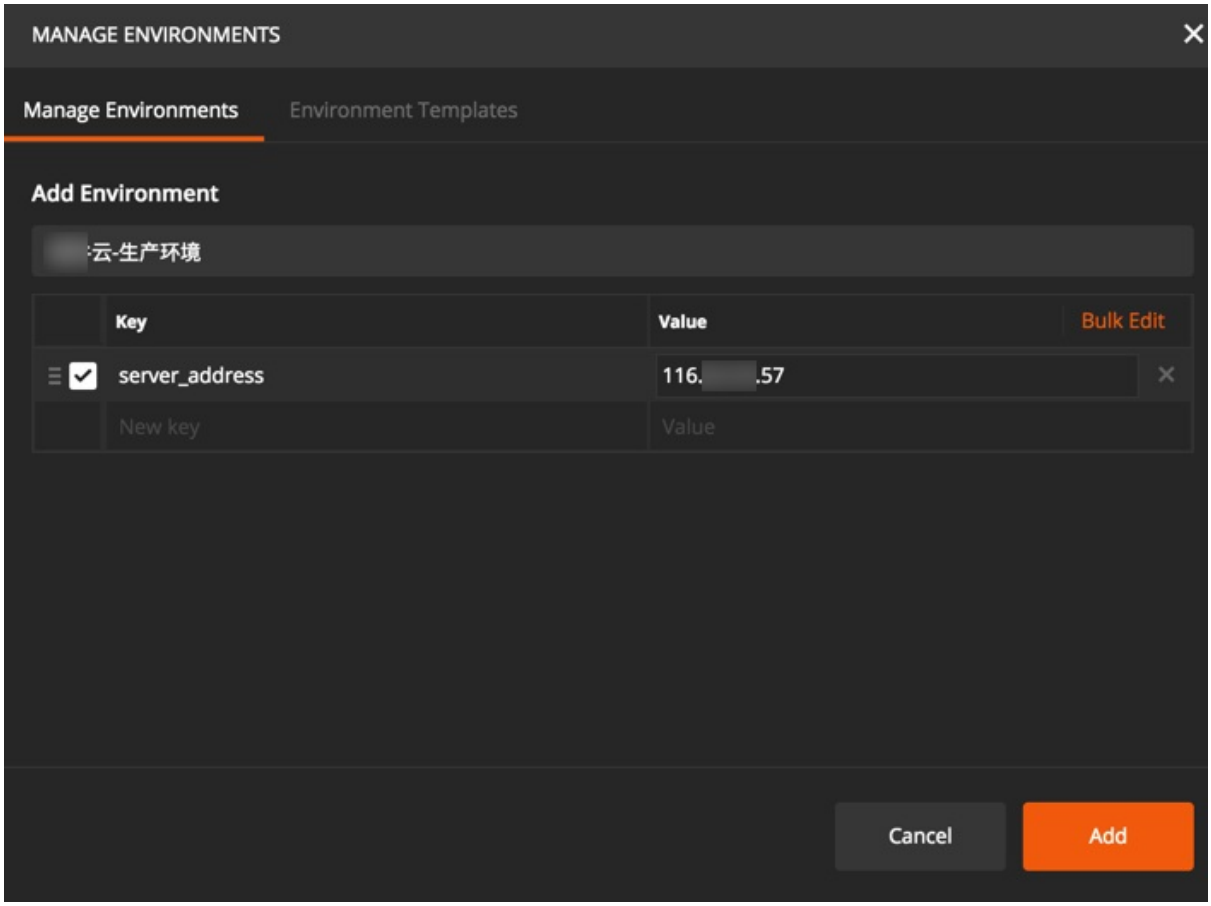
或者:



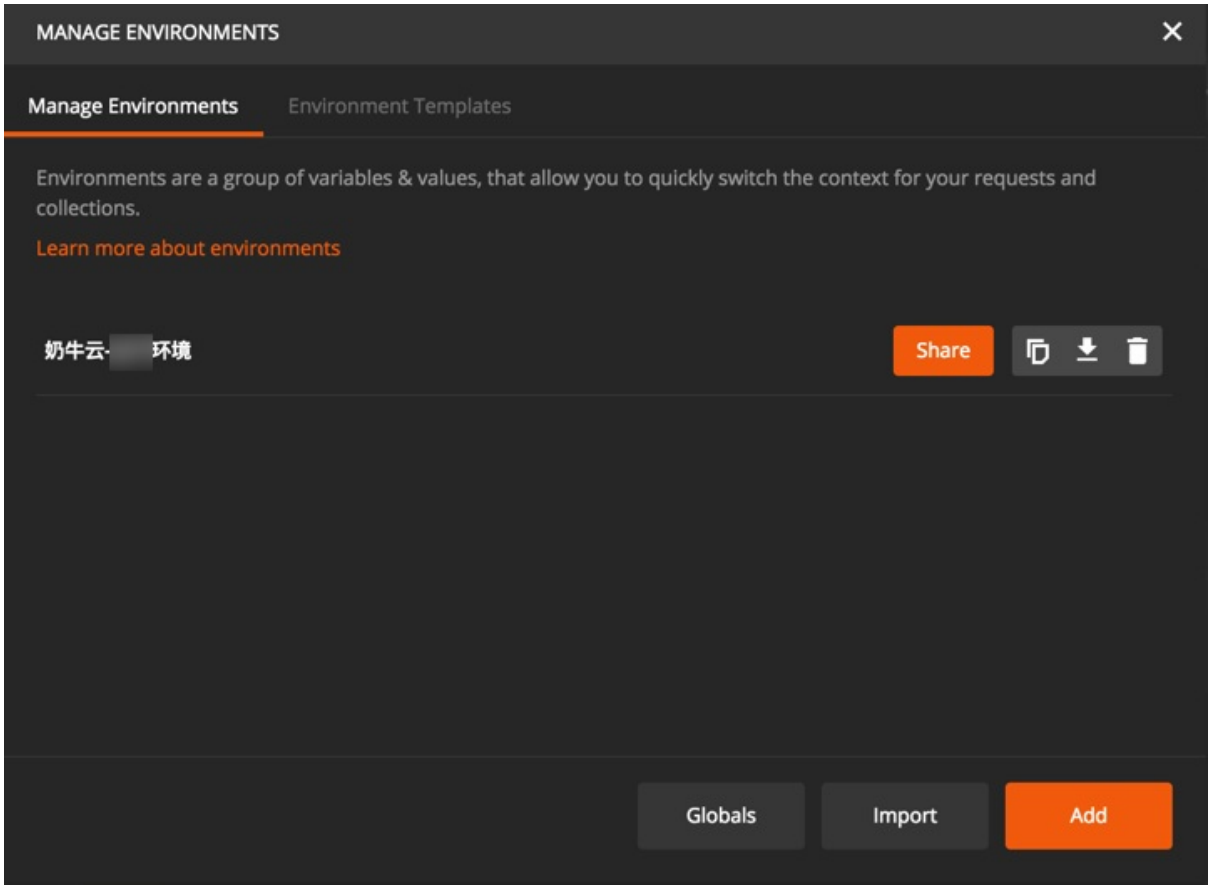


> Environments are a group of variables & values, that allow you to quickly switch the context for your requests and collections.
>
> Learn more about environments
>
> You can declare a variable in an environment and give it a starting value, then use it in a request by putting the variable name within curly-braces. Create an environment to get started.

输入Key和value：


MANAGE ENVIRONMENTS
Manage Environments
Environment Templates
Add Environment
云-生产环境
Key
Value
Bulk Edit
server_address
116. .57
New key
Value
Cancel
Add

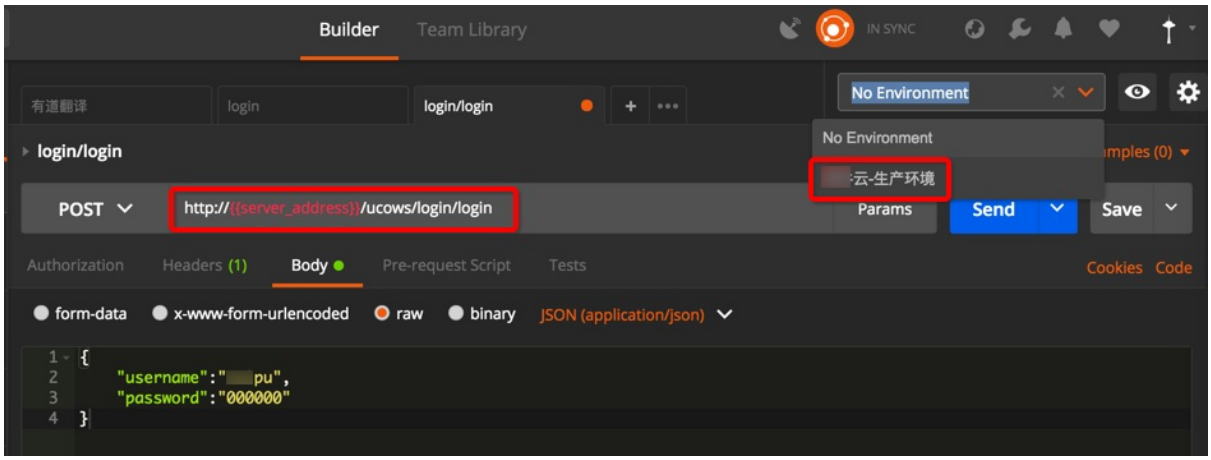
点击Add后：


MANAGE ENVIRONMENTS
Manage Environments
Environment Templates
Environments are a group of variables & values, that allow you to quickly switch the context for your requests and collections.
Learn more about environments
奶牛云- 环境
Share
Globals
Import
Add

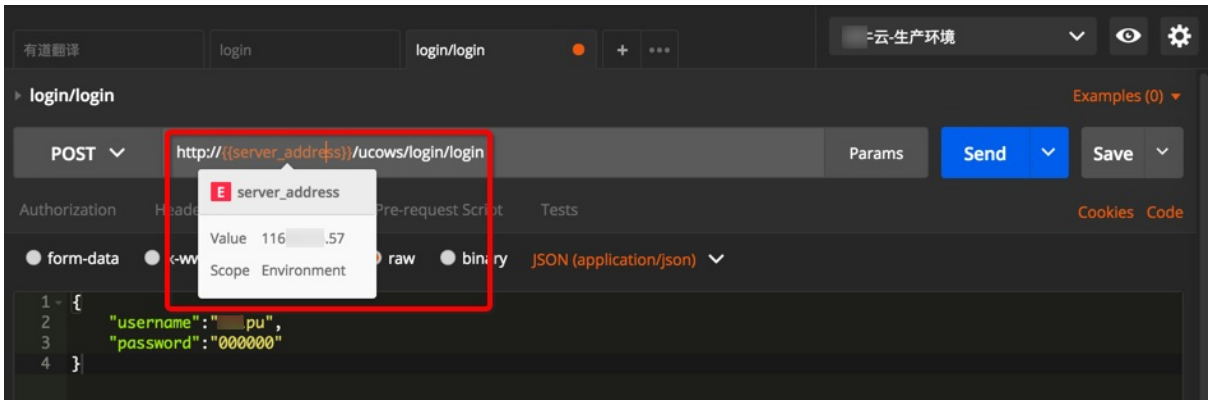
环境变量可以使用的地方

- URL
- URL params
- Header values
- form-data/url-encoded values
- Raw body content
- Helper fields
- 写test测试脚本中
  - 通过postman的接口，获取或设置环境变量的值。

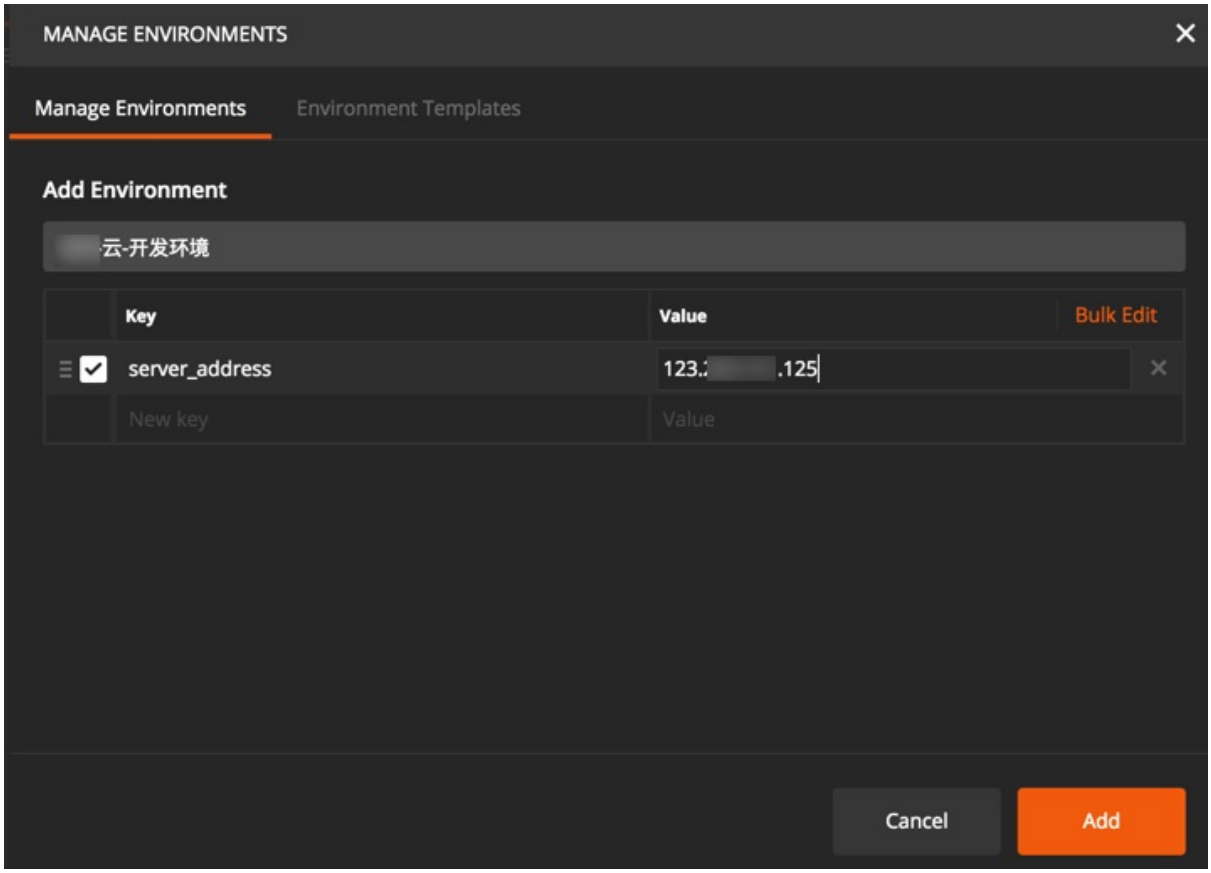
此处把之前的在url中的IP地址（或域名）换成环境变量：



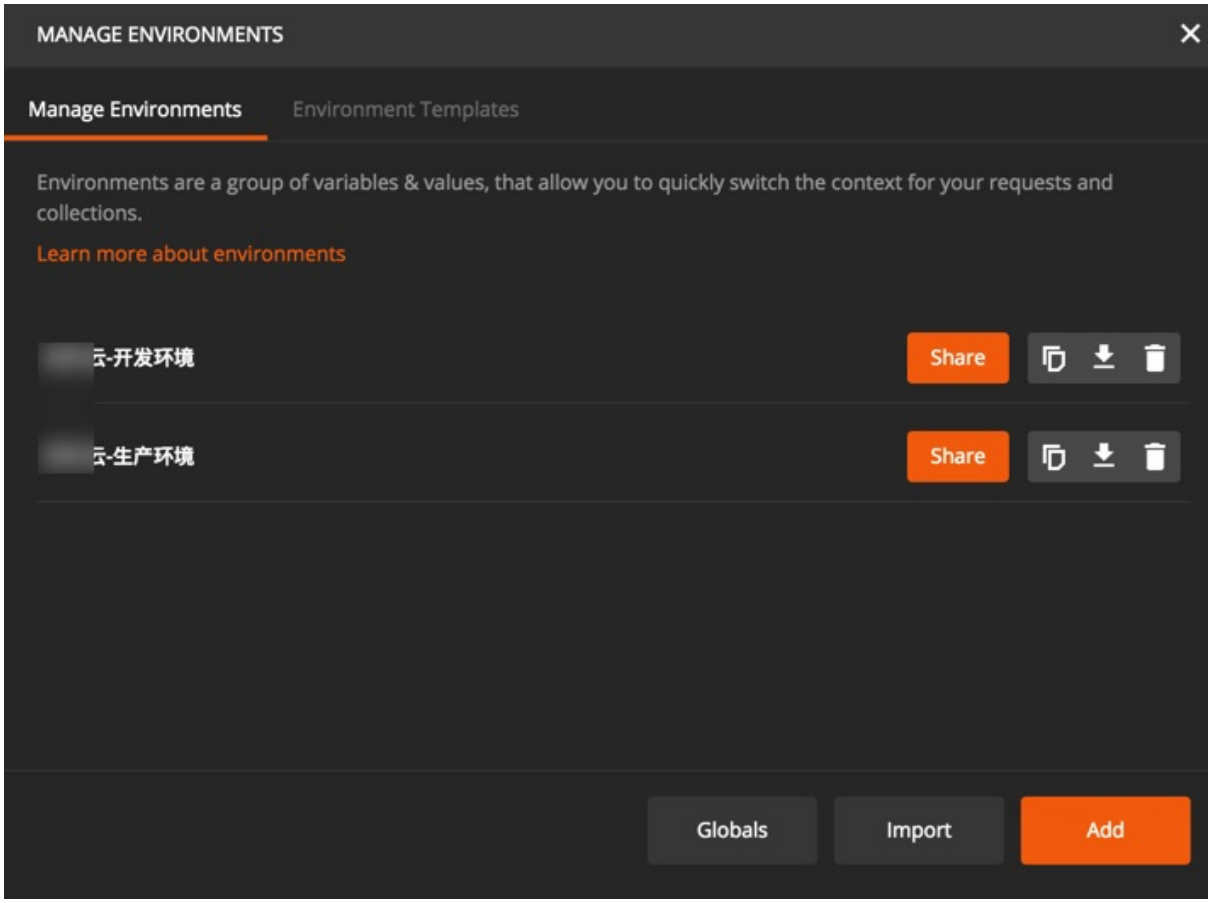
鼠标移动到环境变量上，可以动态显示出具体的值：



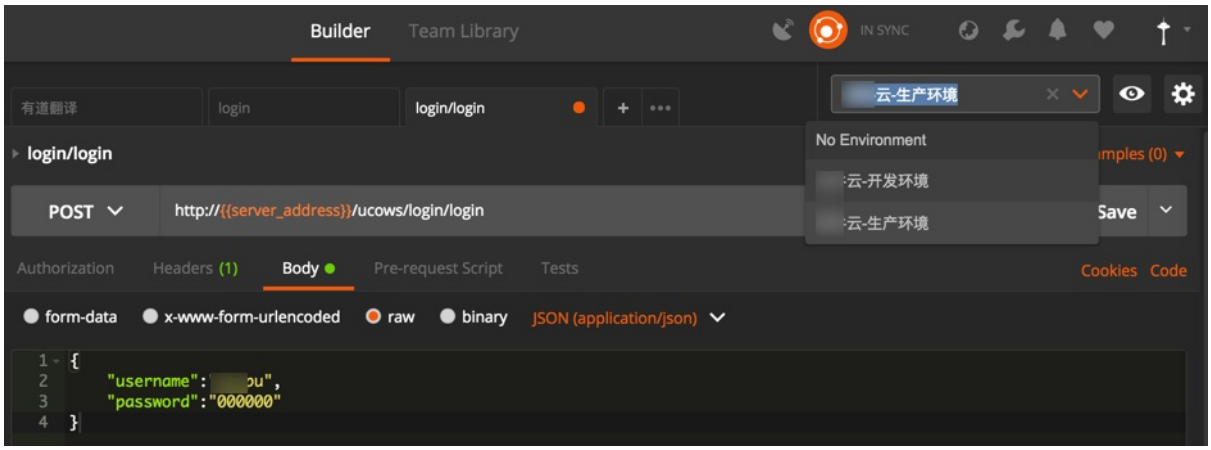
再去添加另外一个开发环境：



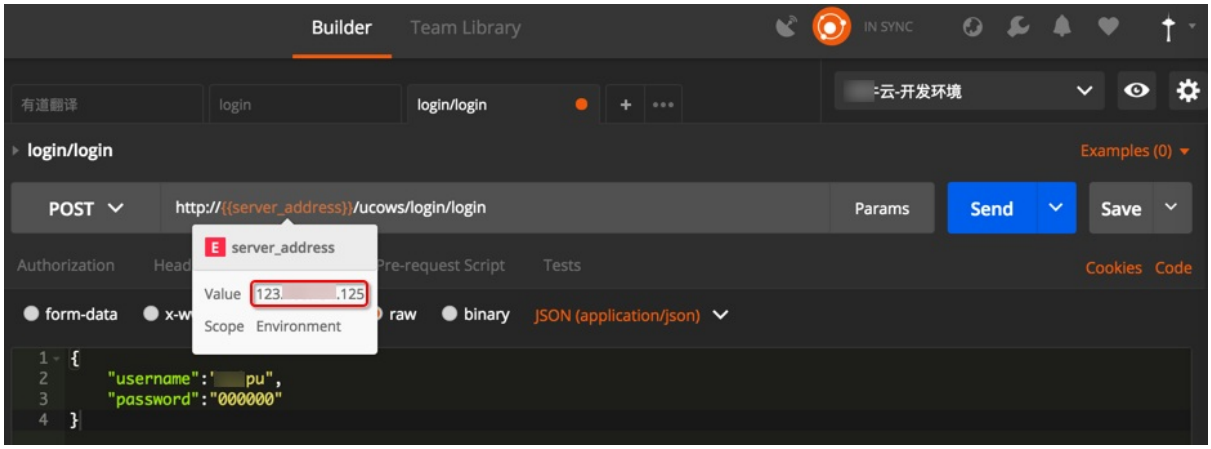
则可添加完2个环境变量，表示两个服务器地址，两个版本：



然后就可以切换不同服务器环境了：



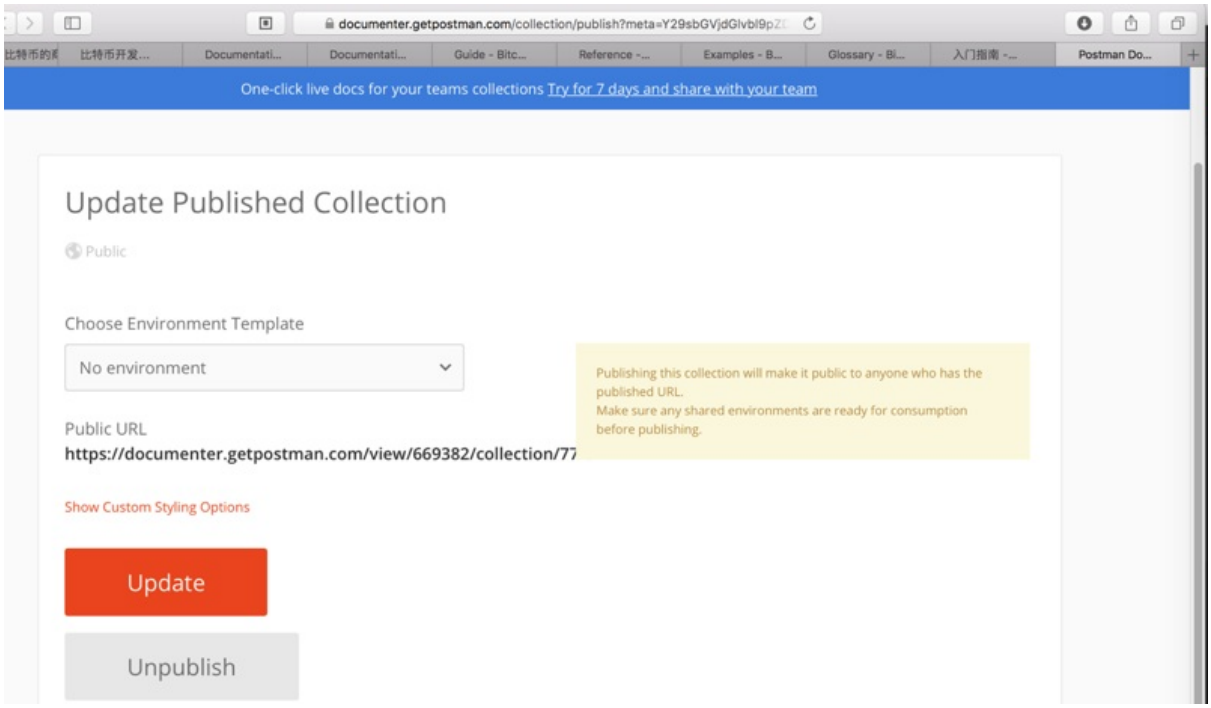
可以看到，同样的变量server_address，在切换后对应IP地址就变成希望的开发环境的IP了：

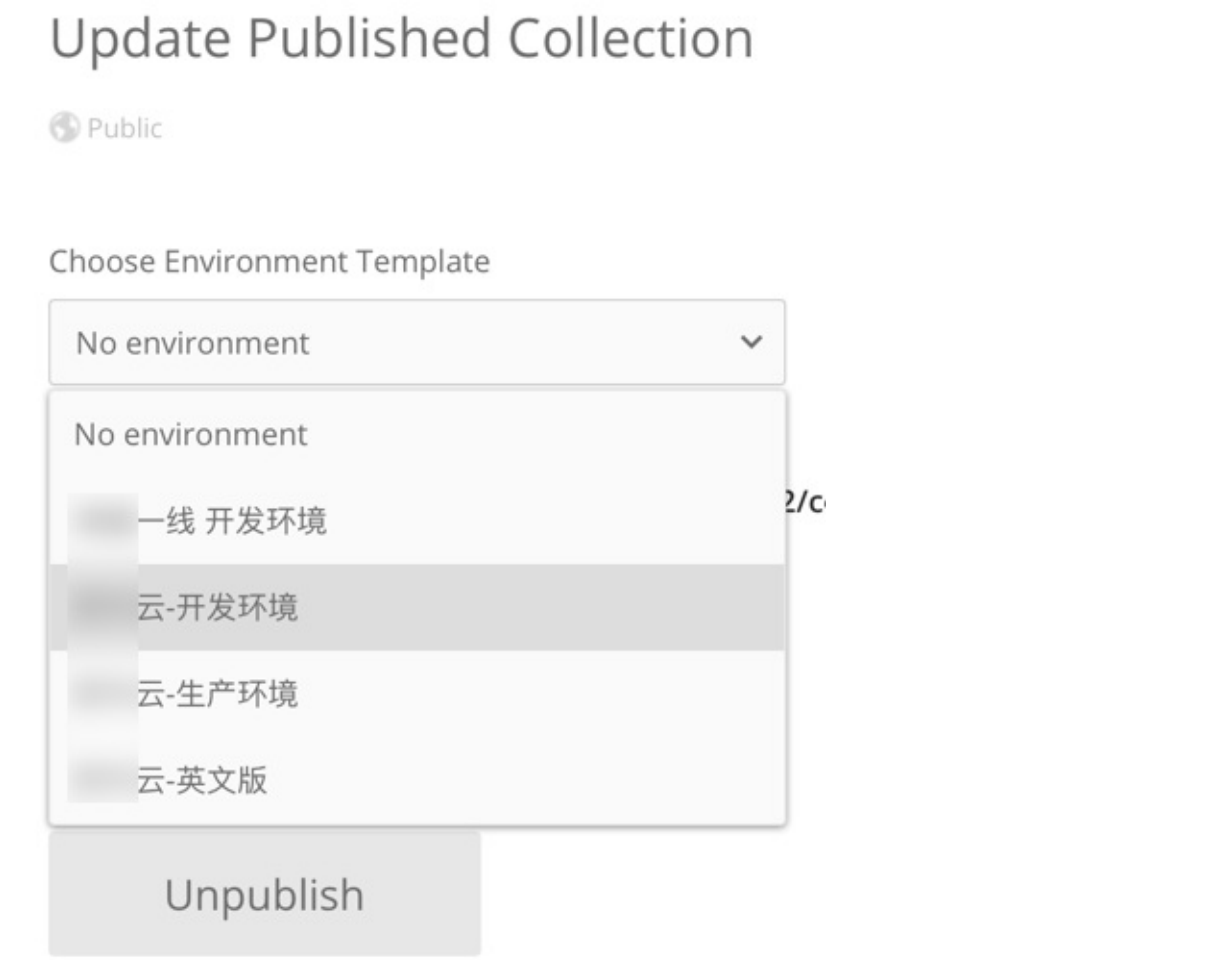


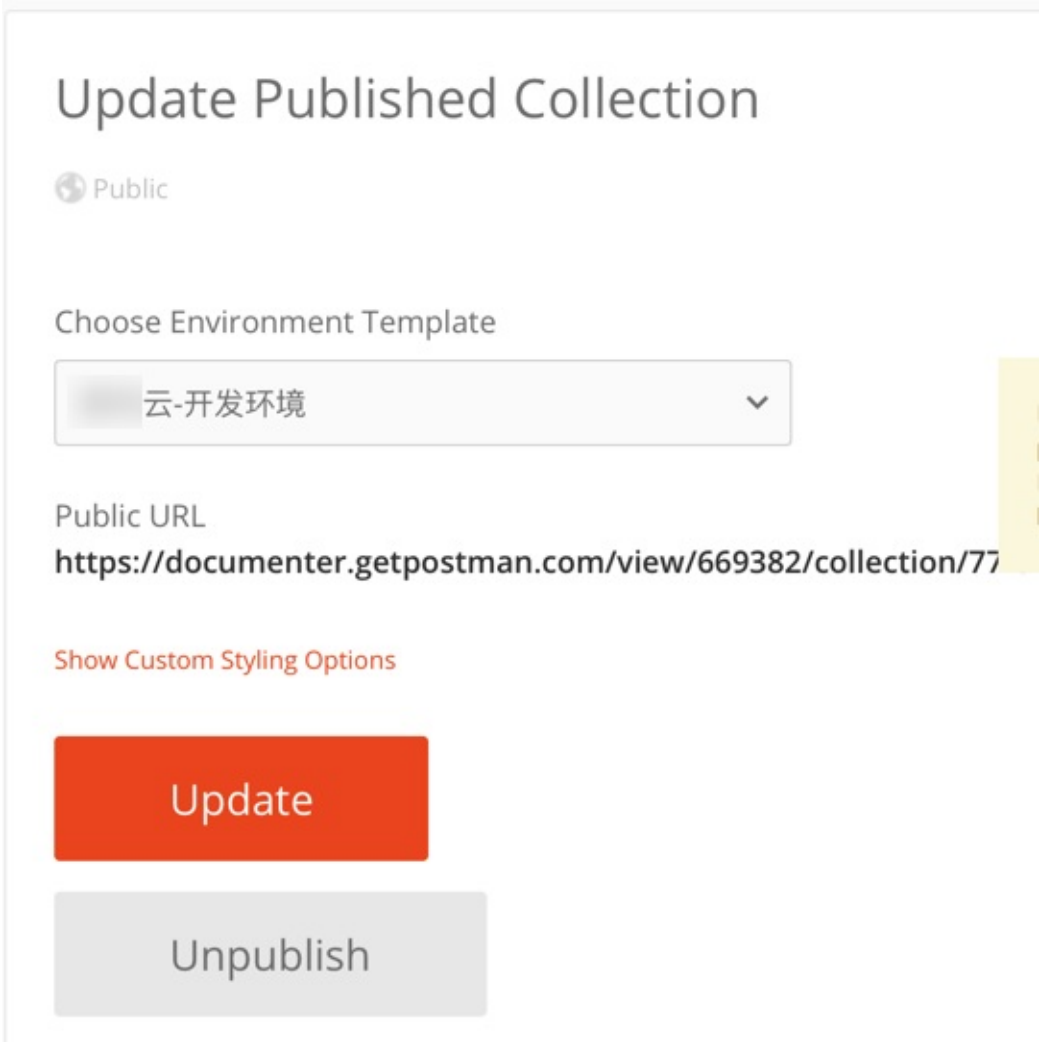
Postman导出API文档中多个环境变量的效果

顺带也去看看，导出为API文档后，带了这种Environment的变量的接口，文档长什么样子：

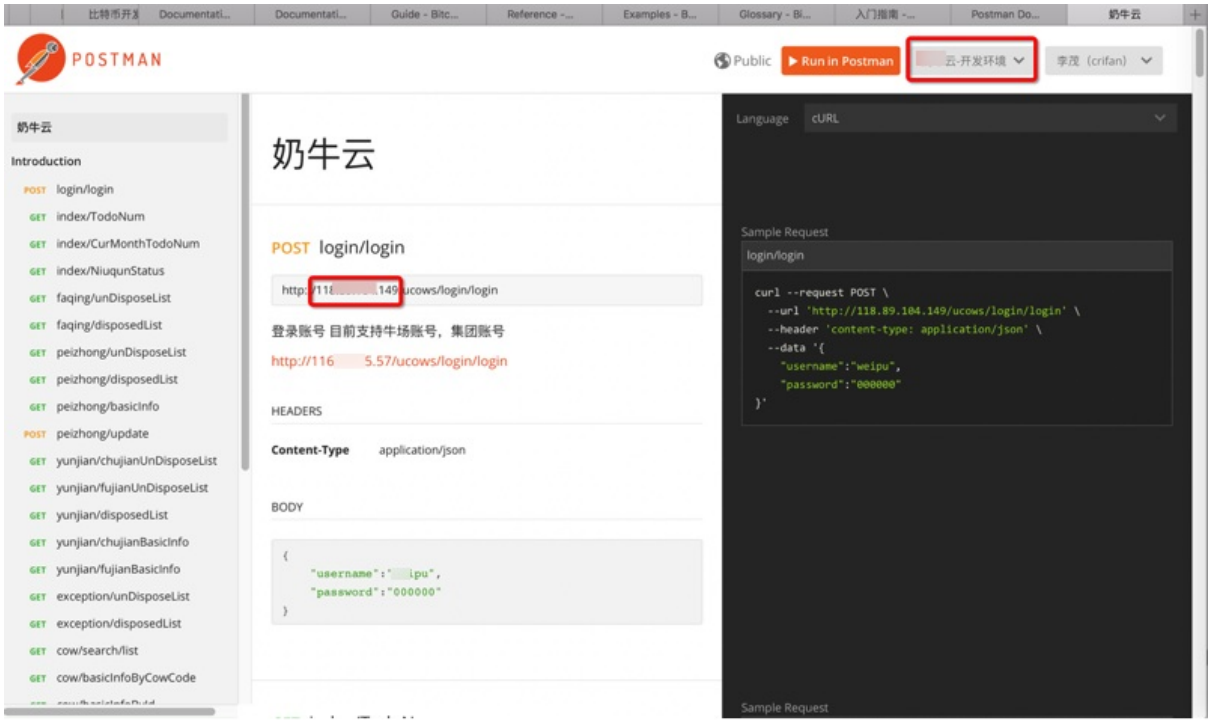
发现是在发布之前，需要选择对应的环境的：


documenter.getpostman.com/collection/publish?meta=Y29sbGVjdGlvbl9pZ
One-click live docs for your teams collections Try for 7 days and share with your team
Update Published Collection
Public
Choose Environment Template
No environment
Publishing this collection will make it public to anyone who has the published URL.
Make sure any shared environments are ready for consumption before publishing.
Public URL
https://documenter.getpostman.com/view/669382/collection/77
Show Custom Styling Options
Update
Unpublish

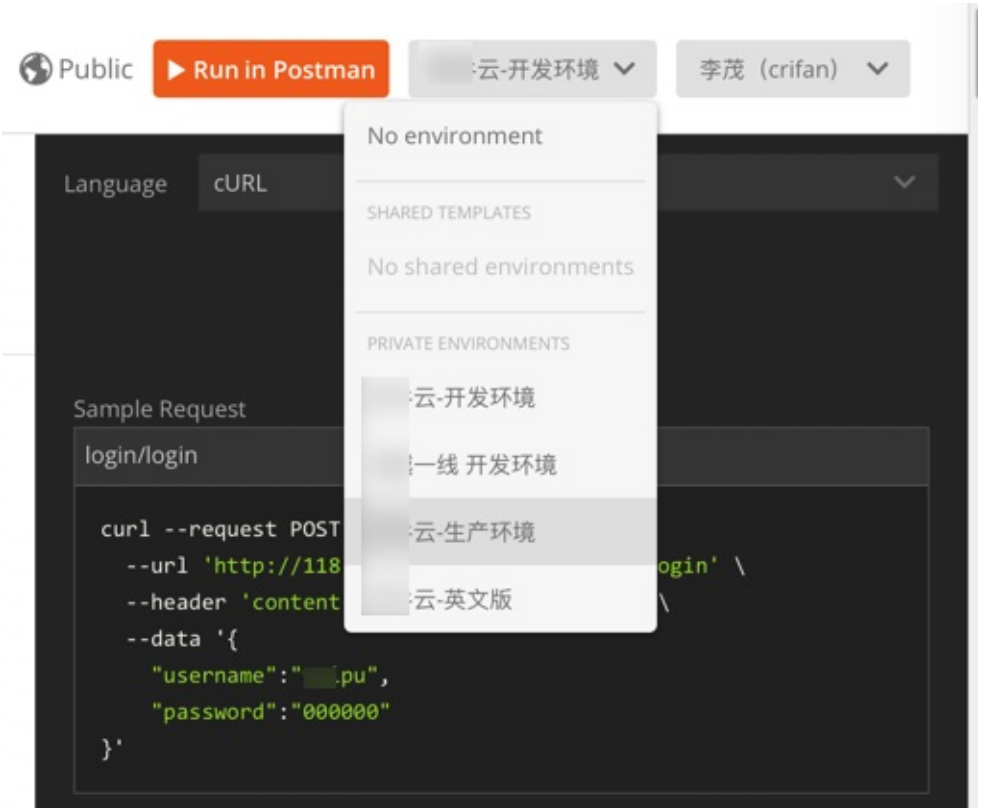

Update Published Collection
Public
Choose Environment Template
No environment
No environment
一线 开发环境
云-开发环境
云-生产环境
云-英文版
Unpublish



发布后的文档，可以看到所选环境和对应服务器的IP的：

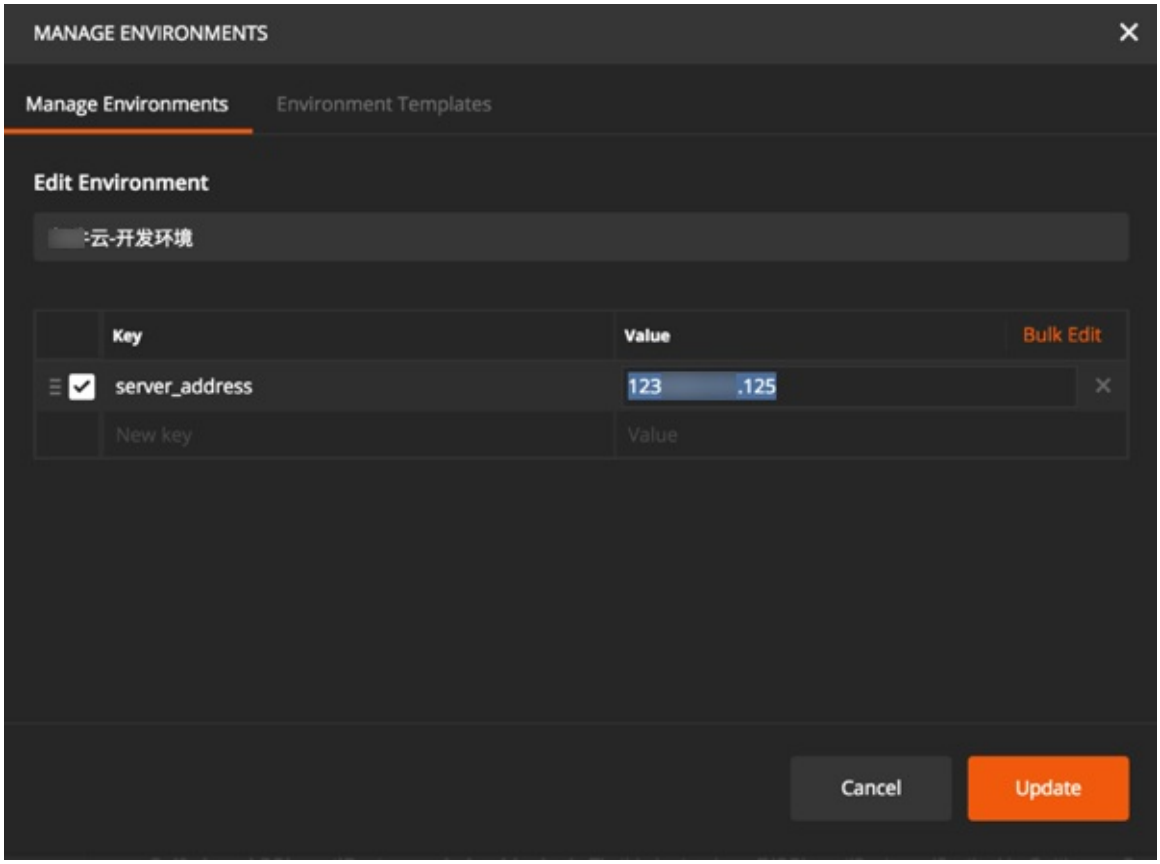


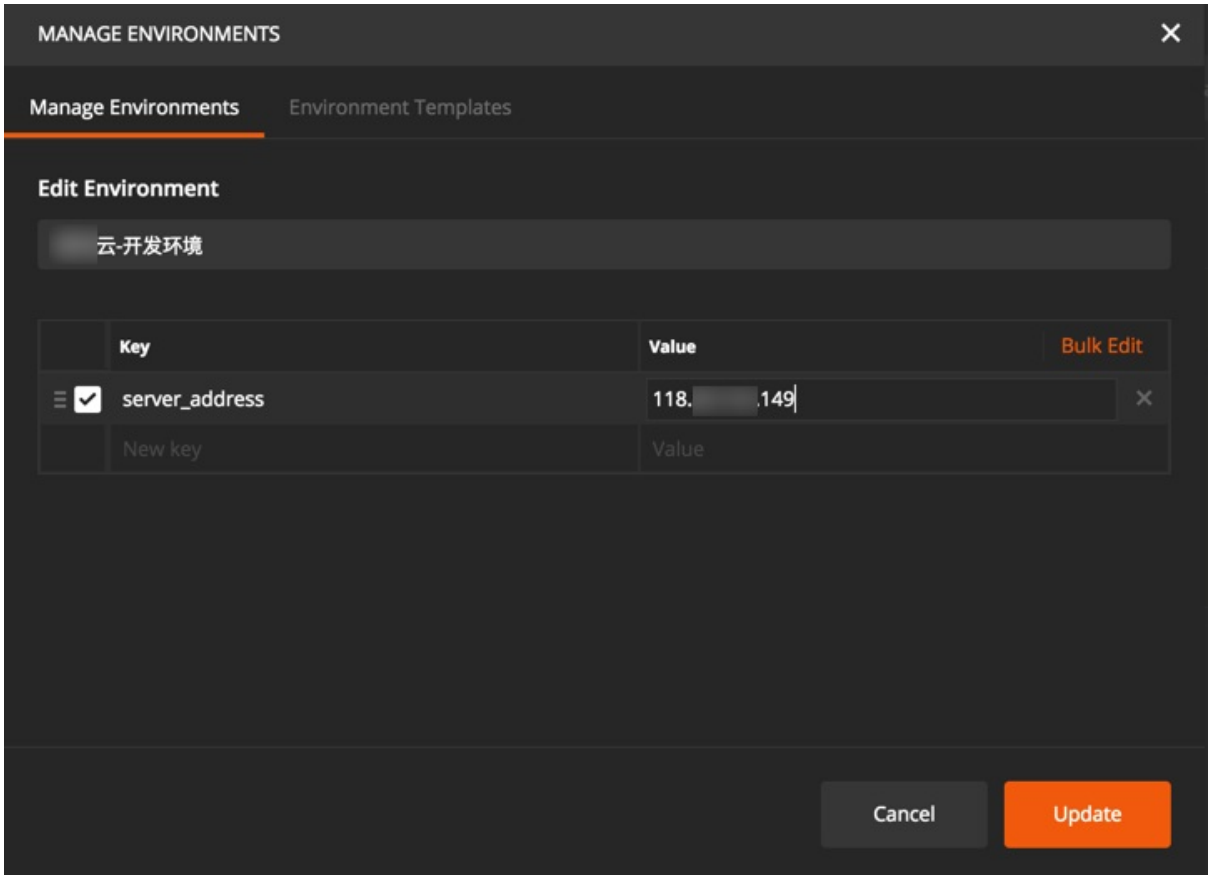
当然发布文档后，也可以实时切换环境：



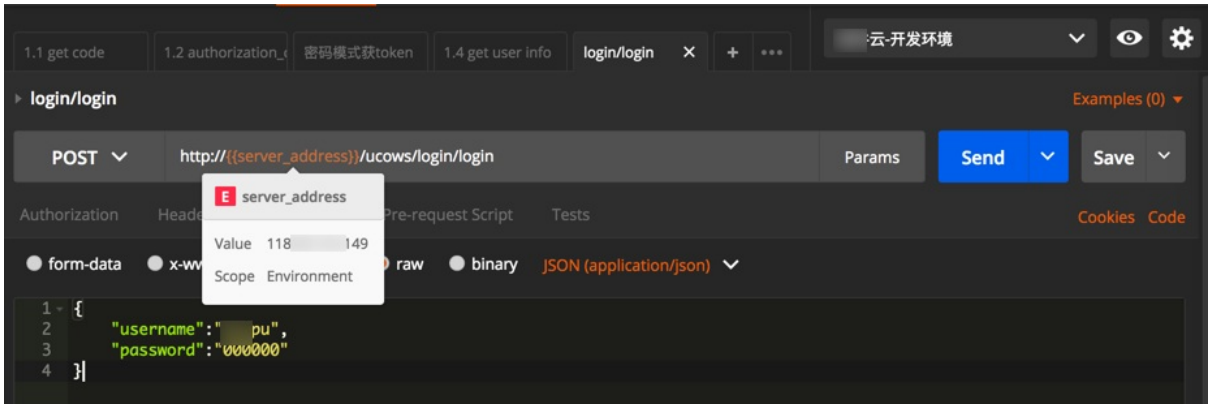
环境变量的好处

当更换服务器时，直接修改变量的IP地址：





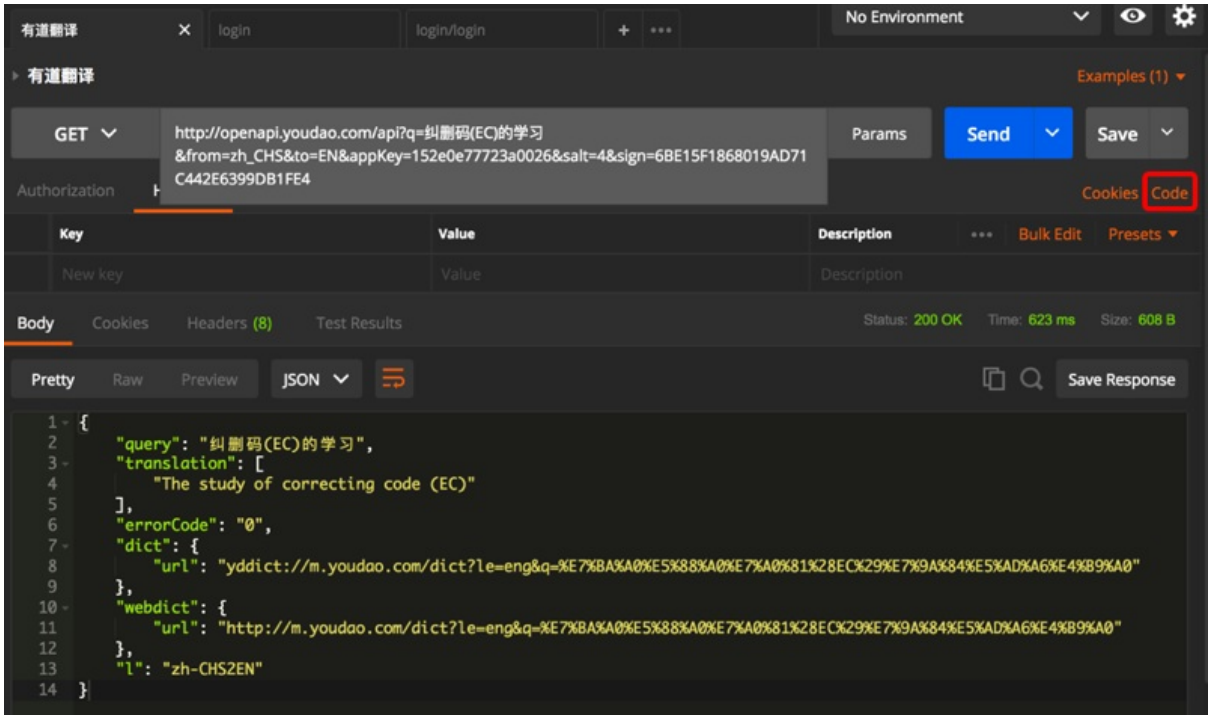
即可实时更新，当鼠标移动到变量上即可看到效果：



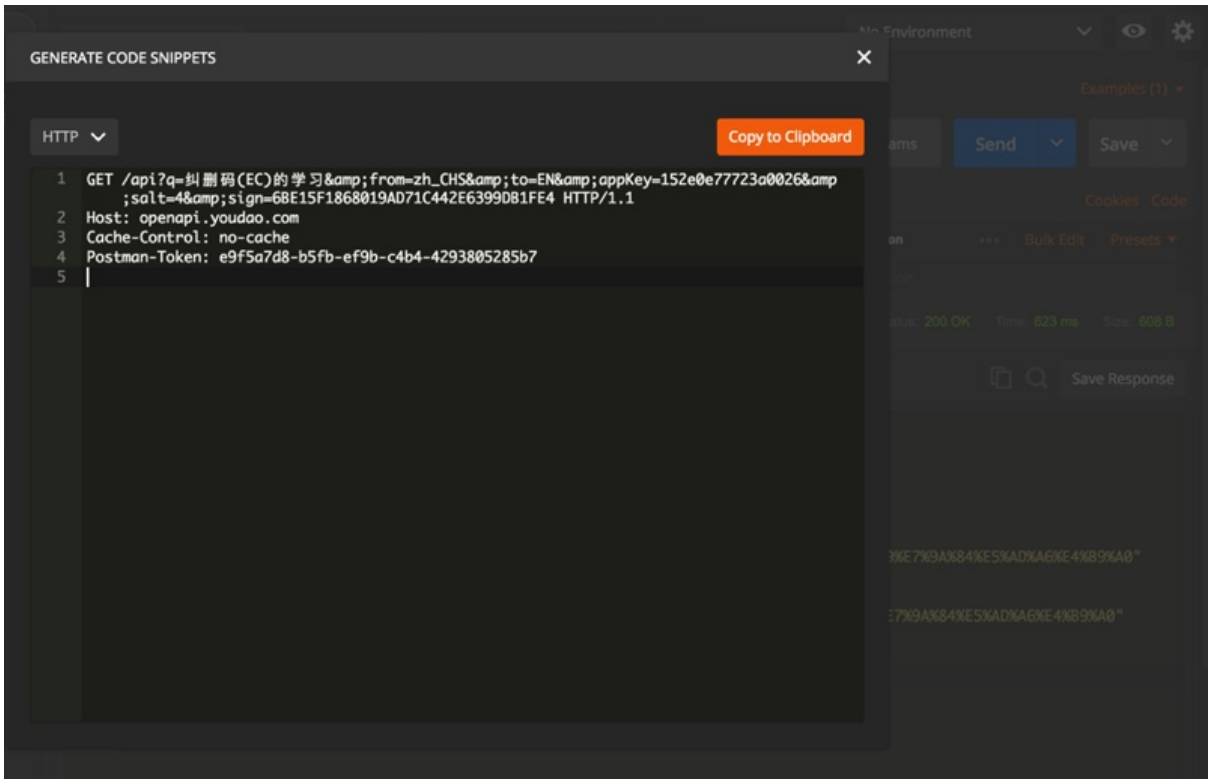
代码生成工具

查看当前请求的HTTP原始内容

对于当前的请求，还可以通过点击Code



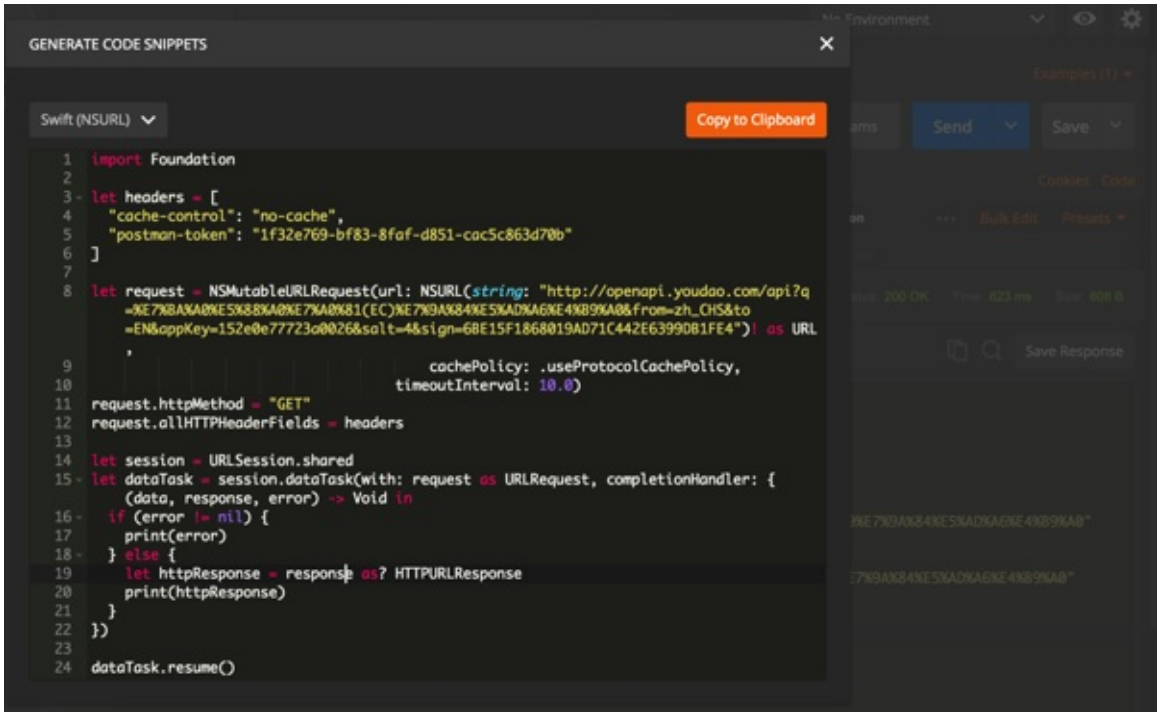
去查看对应的符合HTTP协议的原始的内容：



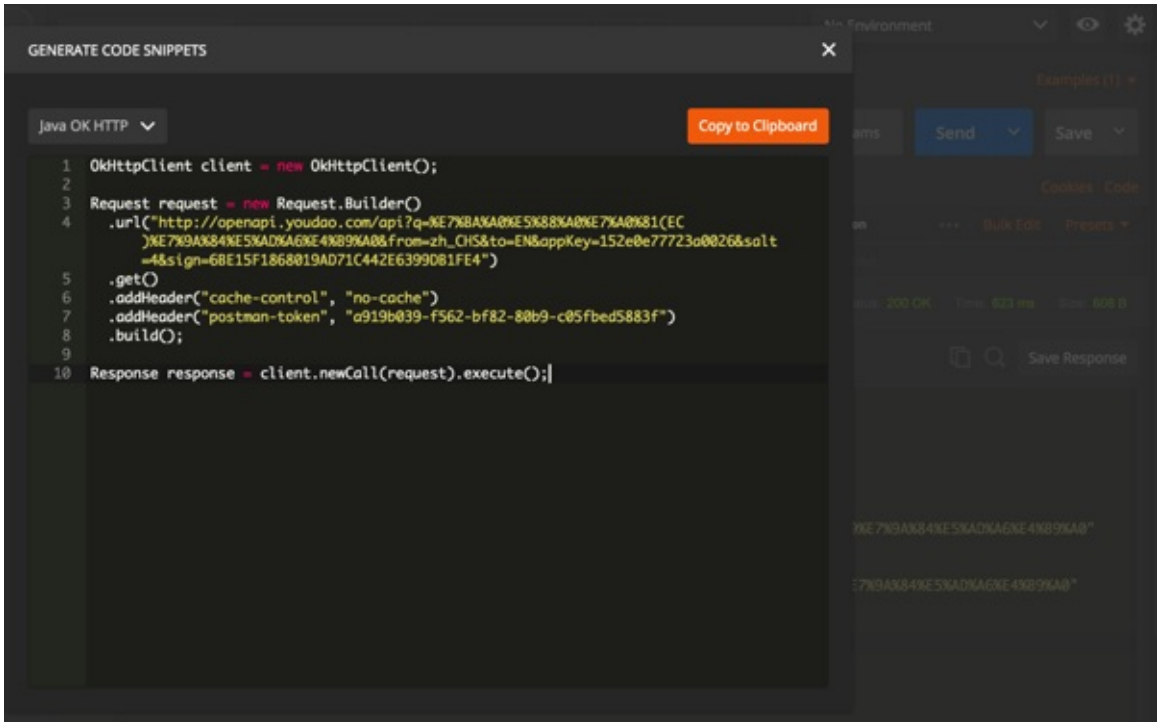
各种语言的示例代码Code Generation Tools

比如：

Swift语言

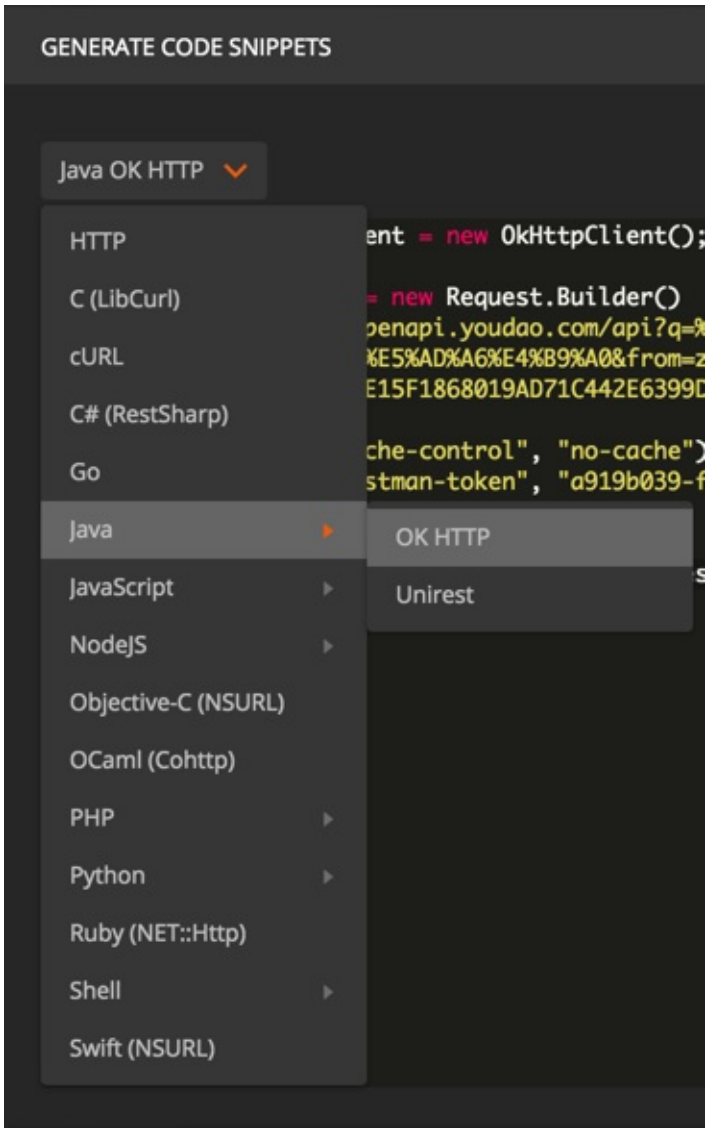


Java语言



其他各种语言

还支持其他各种语言：



目前支持的语言有：

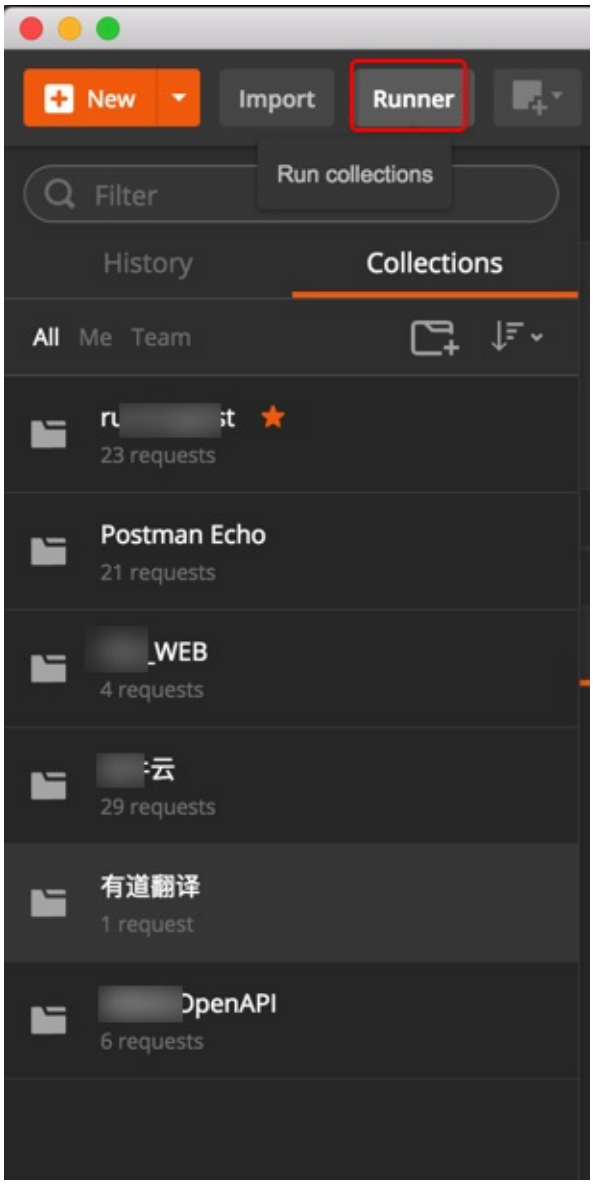
- HTTP
- C (LibCurl)
- cURL
- C#(RestSharp)
- Go
- Java
  - OK HTTP
  - Unirest
- Javascript
- NodeJS
- Objective-C(NSURL)
- OCaml(Cohttp)
- PHP
- Python
- Ruby(NET::Http)
- Shell

- Swift(NSURL)

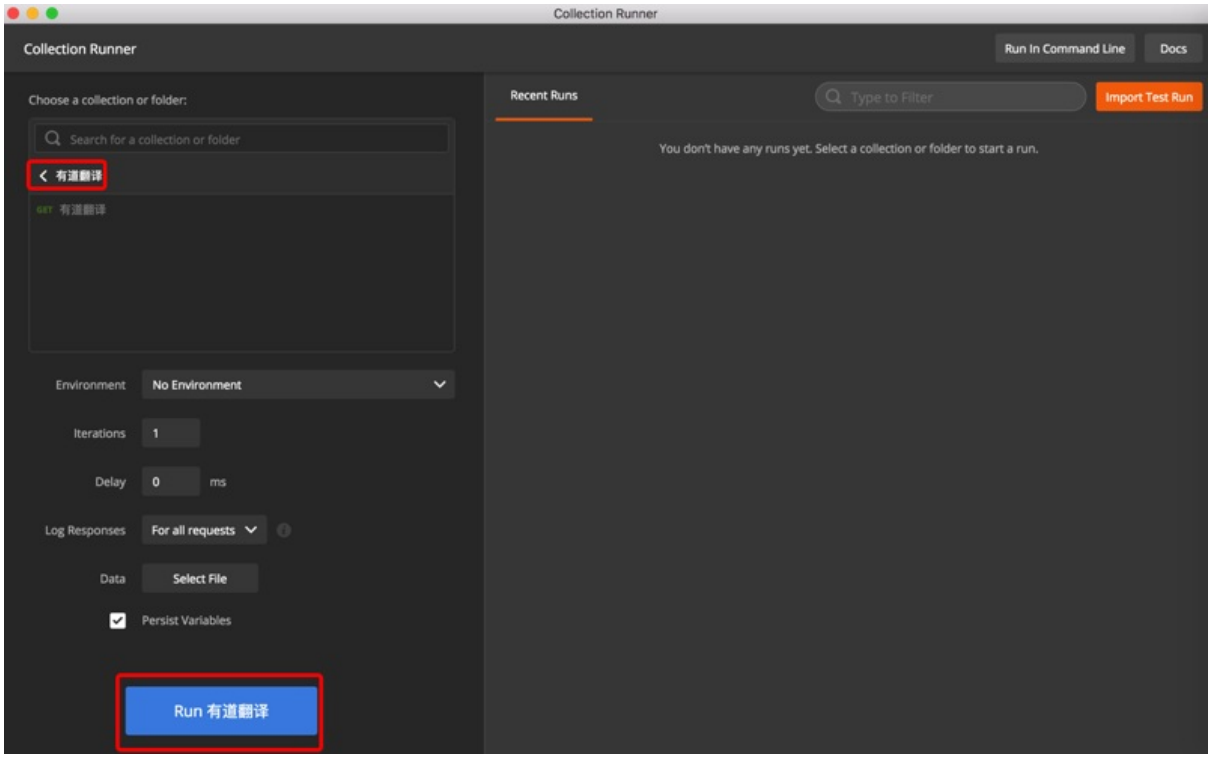
代码生成工具的好处是：在写调用此API的代码时，就可以参考对应代码，甚至拷贝粘贴对应代码，即可。

测试接口

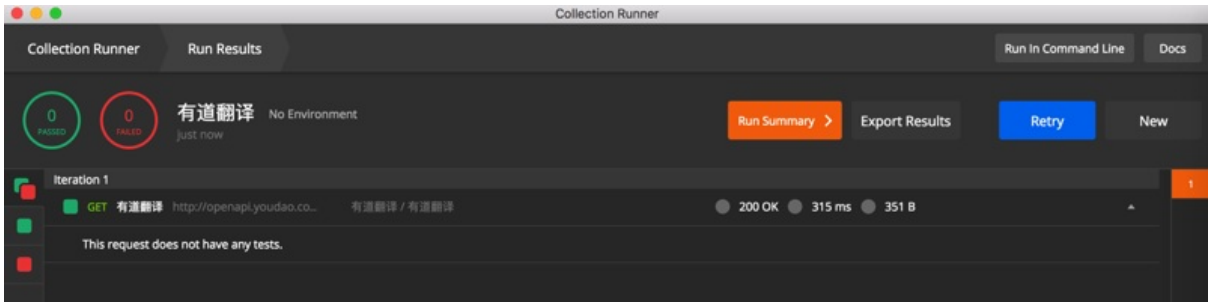
选中某个分组后，点击Runner



选中某个分组后点击Run



即可看到测试结果：



-》好像是需要自己预先去添加test，然后才能测试的。

关于此功能的介绍可参考Postman官网的git图

TODO

待后续有空继续完善此处Postman测试接口的内容。

Mock Server

TODO：

关于Mock功能，抽空去参考：

What is Postman Pro

-》

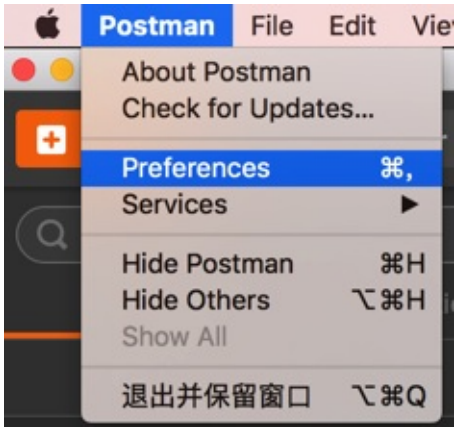
Mock responses in Postman by using Examples – Postman Blog

试试。

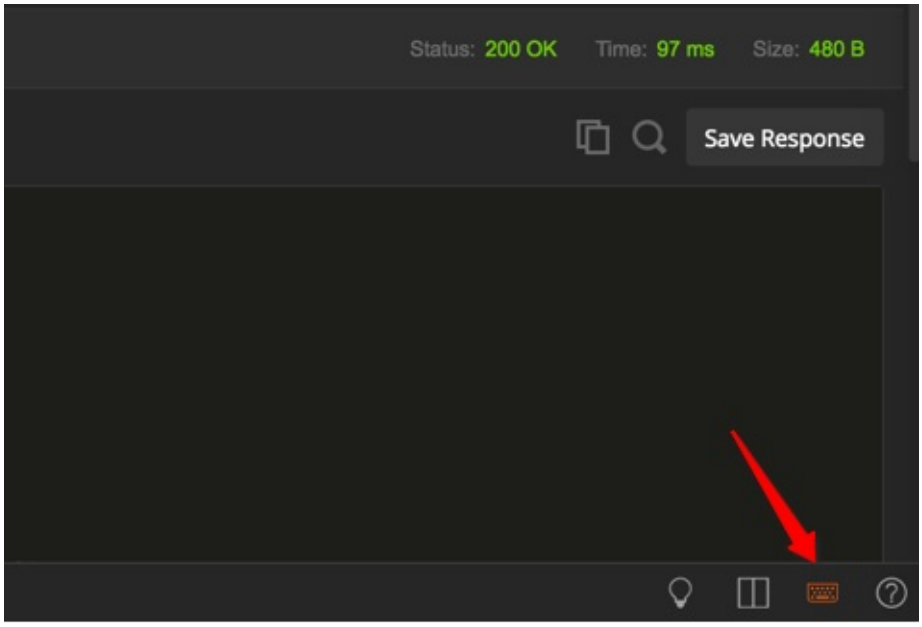
Postman功能：界面和配置

打开Postman的设置有两种方式：

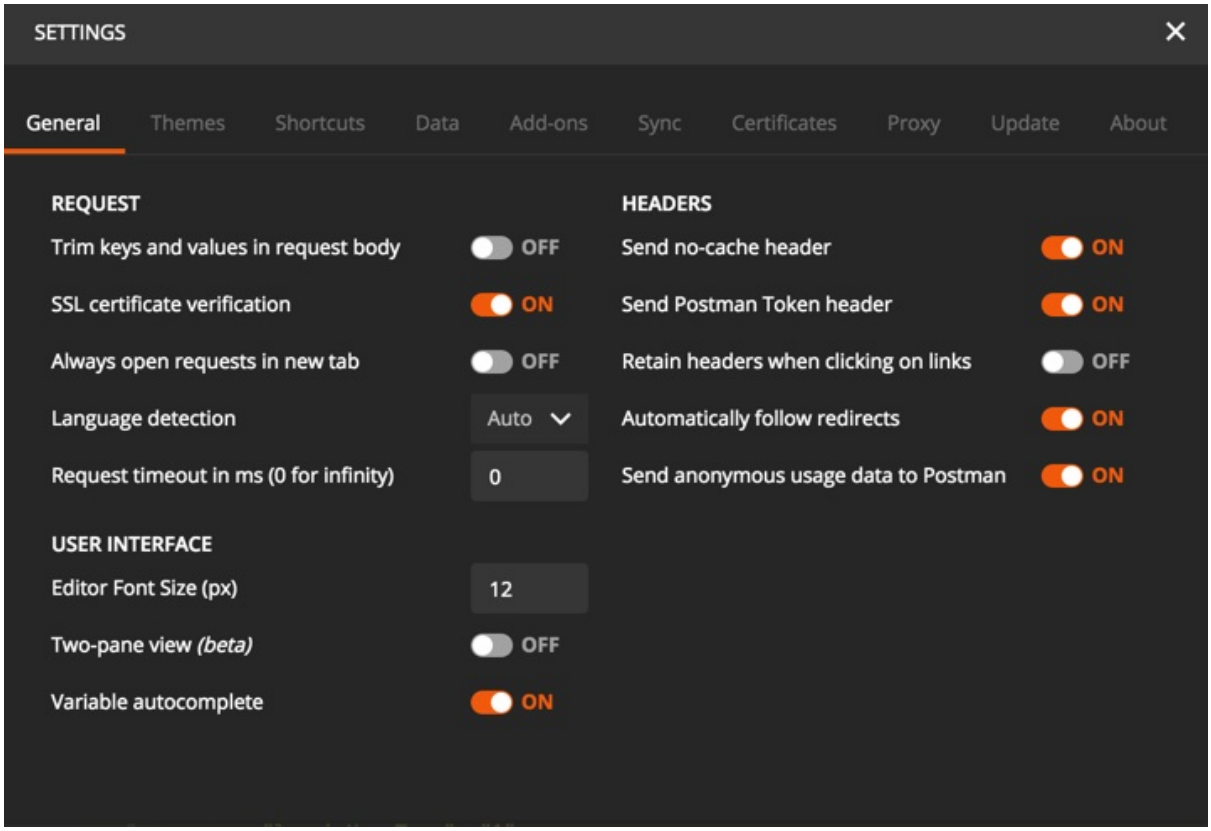
Postman -> Preferences



点击右下角的键盘按钮



都可以打开配置界面：



接下来介绍一些常见界面和功能的设置。

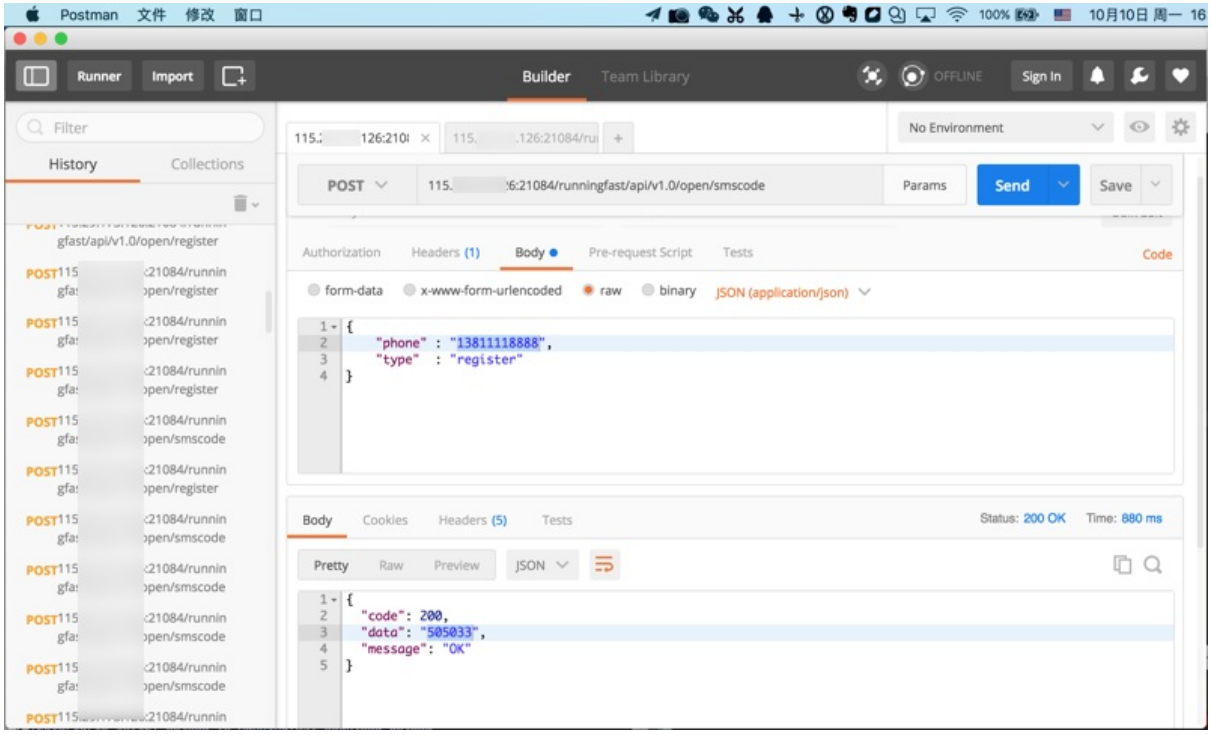
多Tab分页

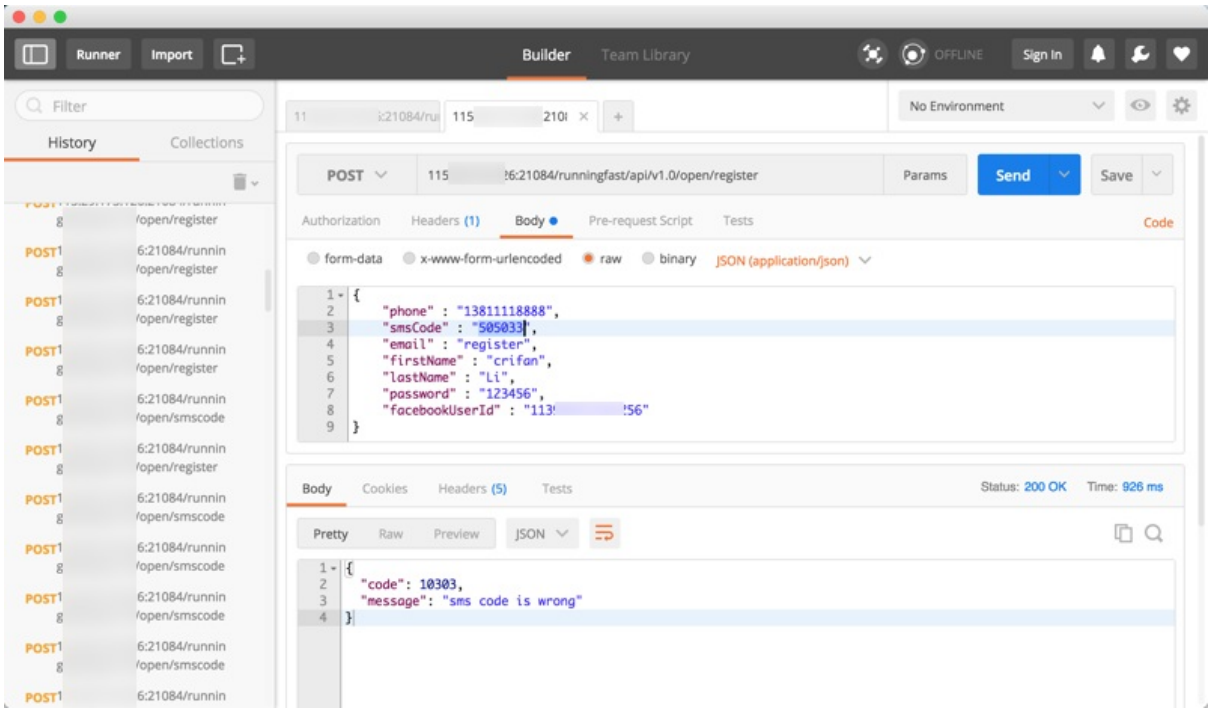
Postman支持多tab页，于此对比之前有些API调试工具就不支持多Tab页，比如 `Advanced Rest Client`

多tab的好处：

方便在一个tab中测试，得到结果后，复制粘贴到另外的tab中，继续测试其它接口

比如此处tab1中，测试了获取验证码接口后，拷贝手机号和验证码，粘贴到tab2中，继续测试注册的接口

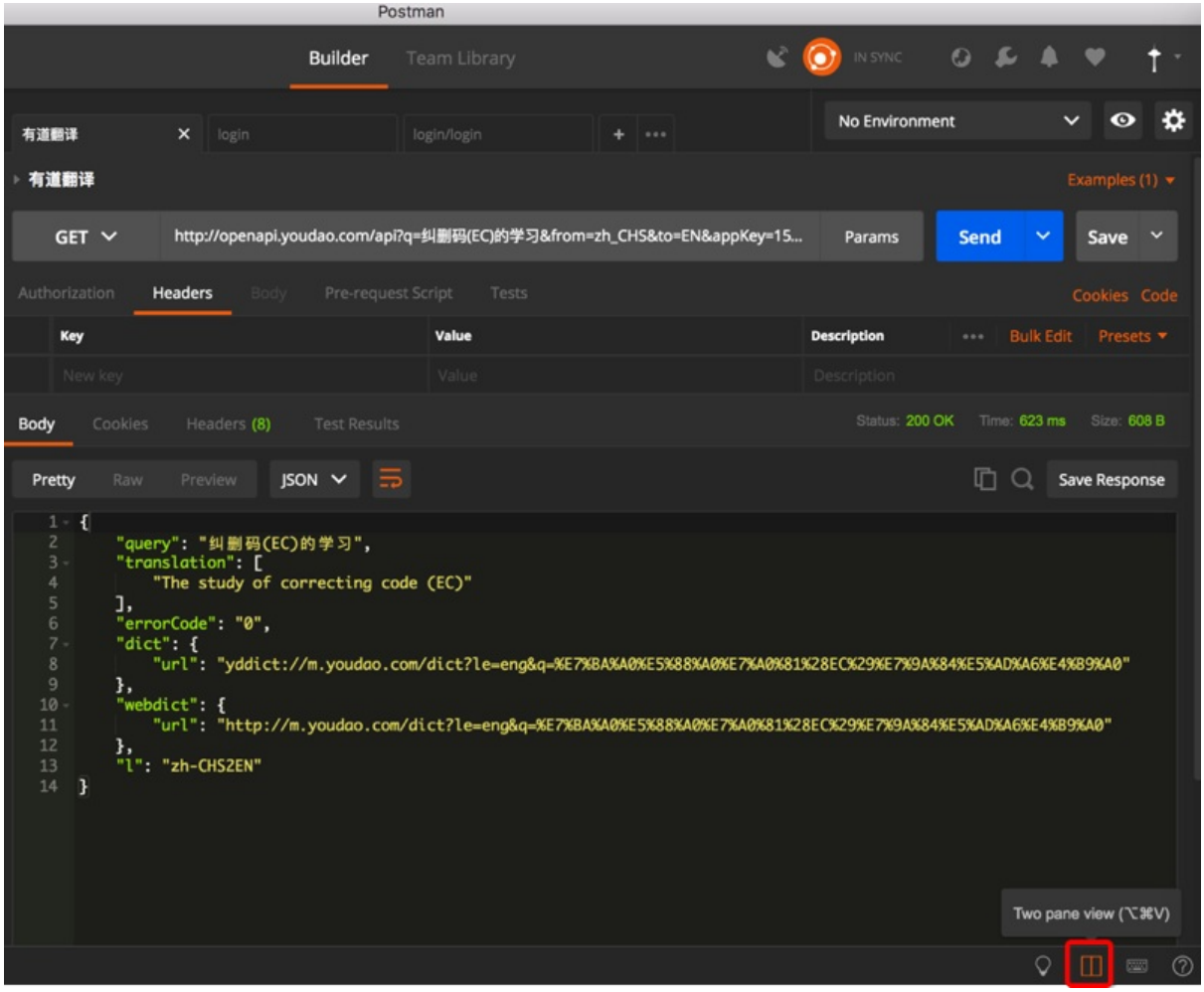




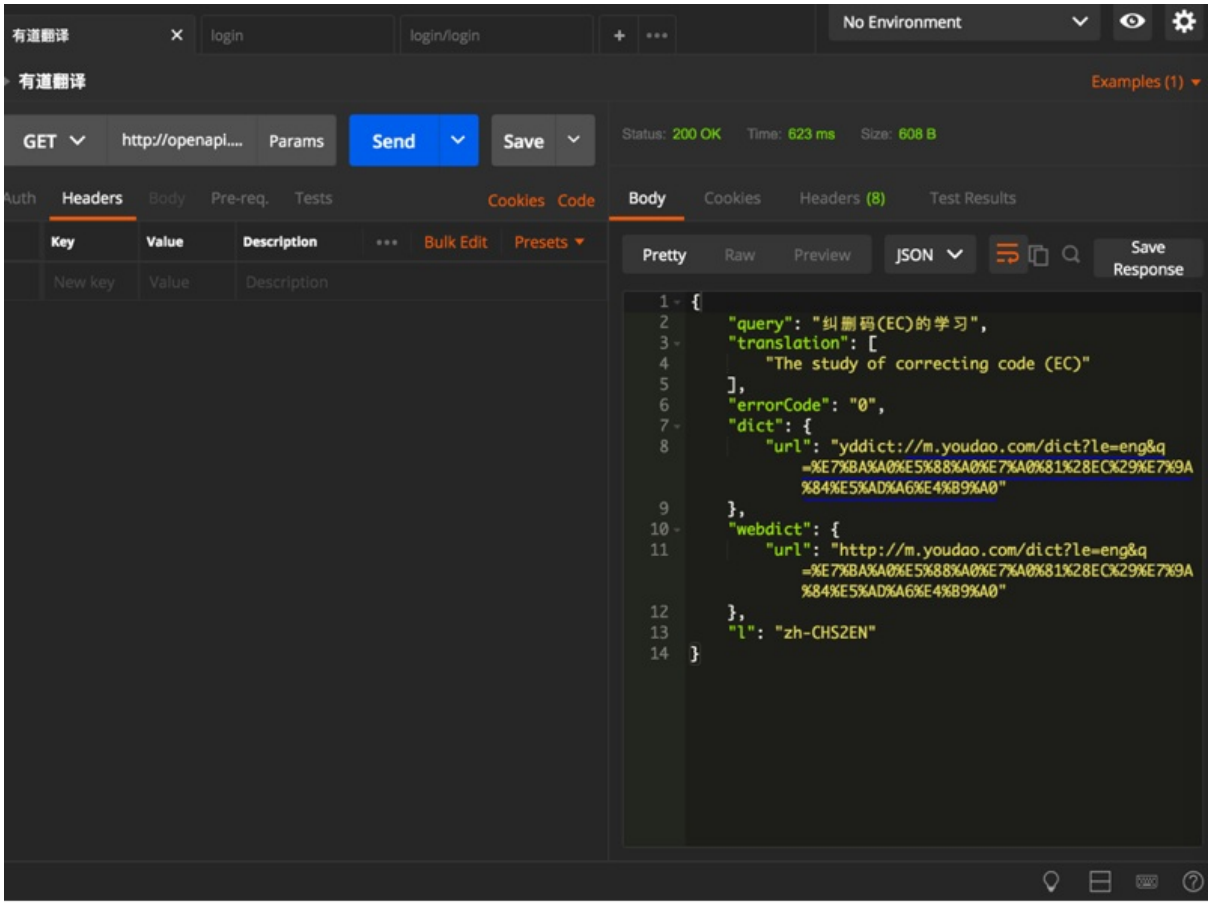
12-29 15:29:47

界面查看模式

Postman的默认的Request和Response是上下布局：



此处点击右下角的 `Two pane view`，就变成左右的了：



左右布局的用途

对于数据量很大，又想要同时看到请求和返回的数据的时候，应该比较有用。

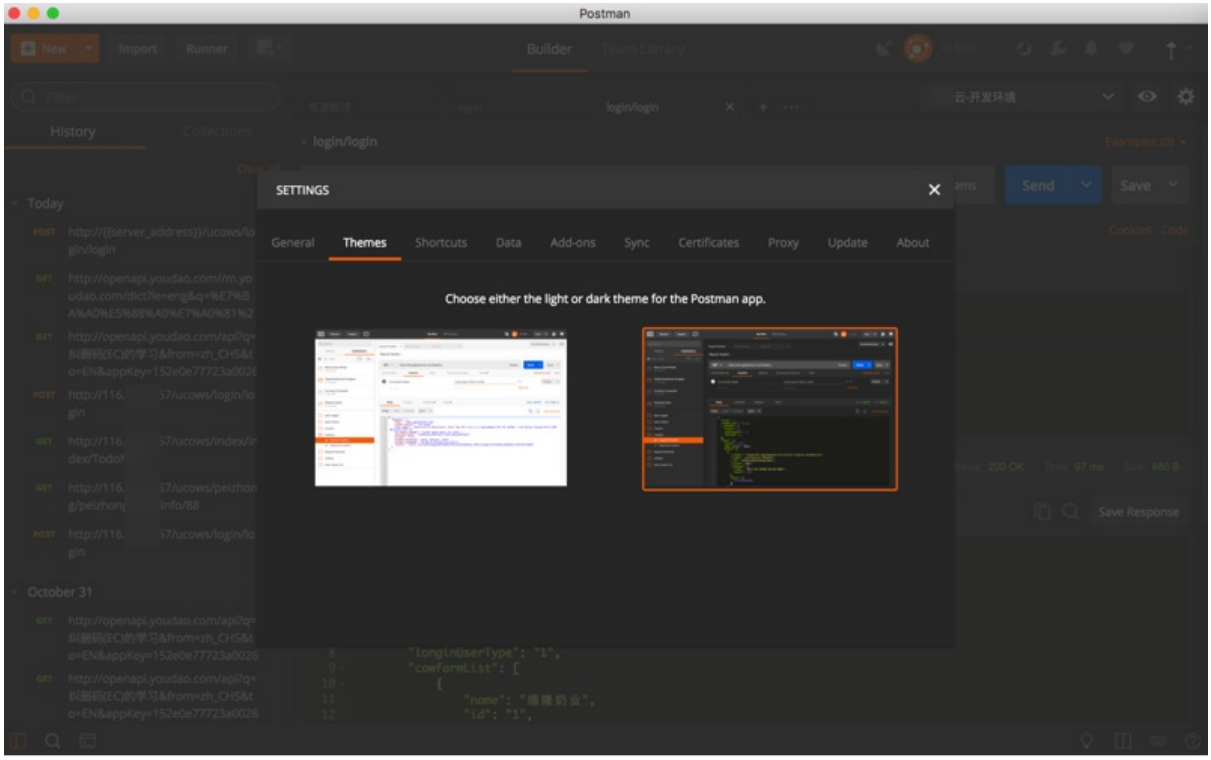
多颜色主题

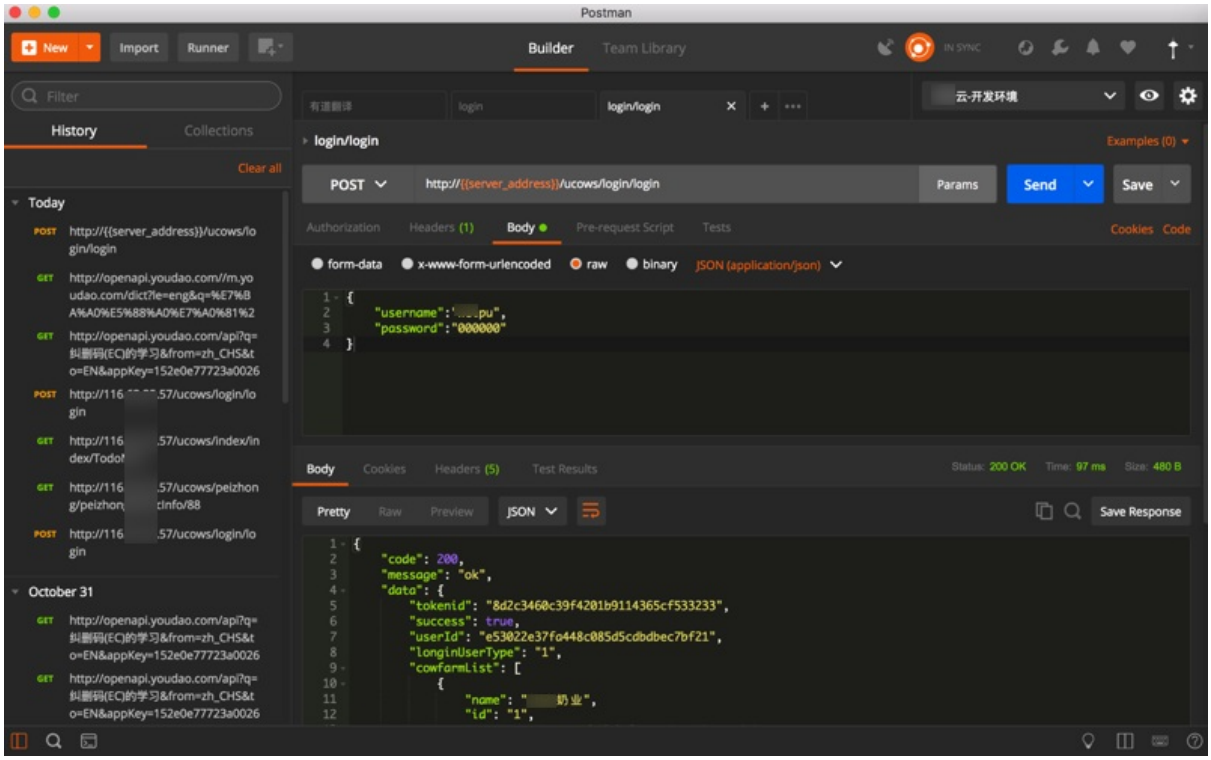
Posman支持两种主题：

深色主题

深色：

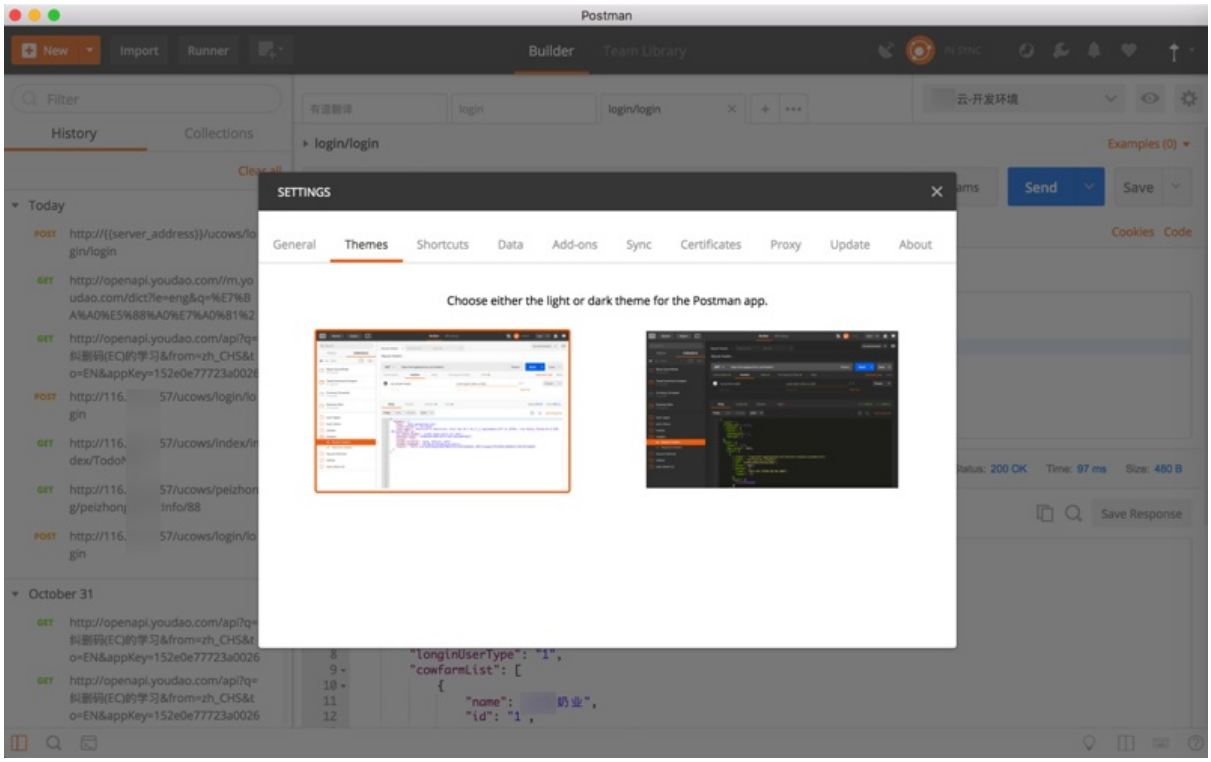
当前是深色主题，效果很不错：

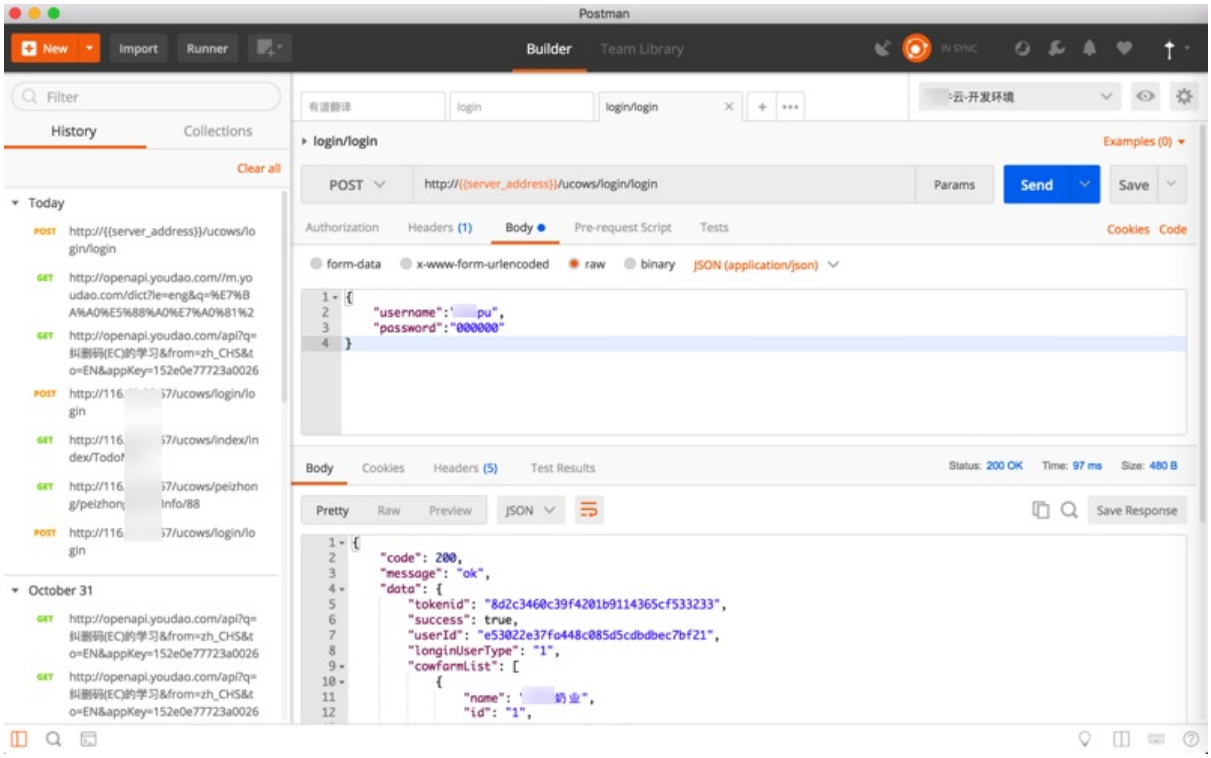




浅色主题

可以切换到 浅色主题：





Postman生成API文档

在服务端后台的开发人员测试好了接口后，打算把接口的各种信息发给使用此API的前端的移动端人员时，往往会遇到：

- 要么是用复制粘贴 -> 格式不友好
- 要么是用Postman中截图 -> 方便看，但是不方便获得API接口和字段等文字内容
- 要么是用Postman中导出为JSON -> json文件中信息太繁杂，不利于找到所需要的信息
- 要么是用文档，比如去编写Markdown文档 -> 但后续API的变更需要实时同步修改文档，也会很麻烦

这都会导致别人查看和使用API时很不方便。

-> 对此，Postman提供了发布API文档的功能，可以很好的解决此类问题。

预览和发布API文档

下面介绍Postman中如何预览和发布API文档。

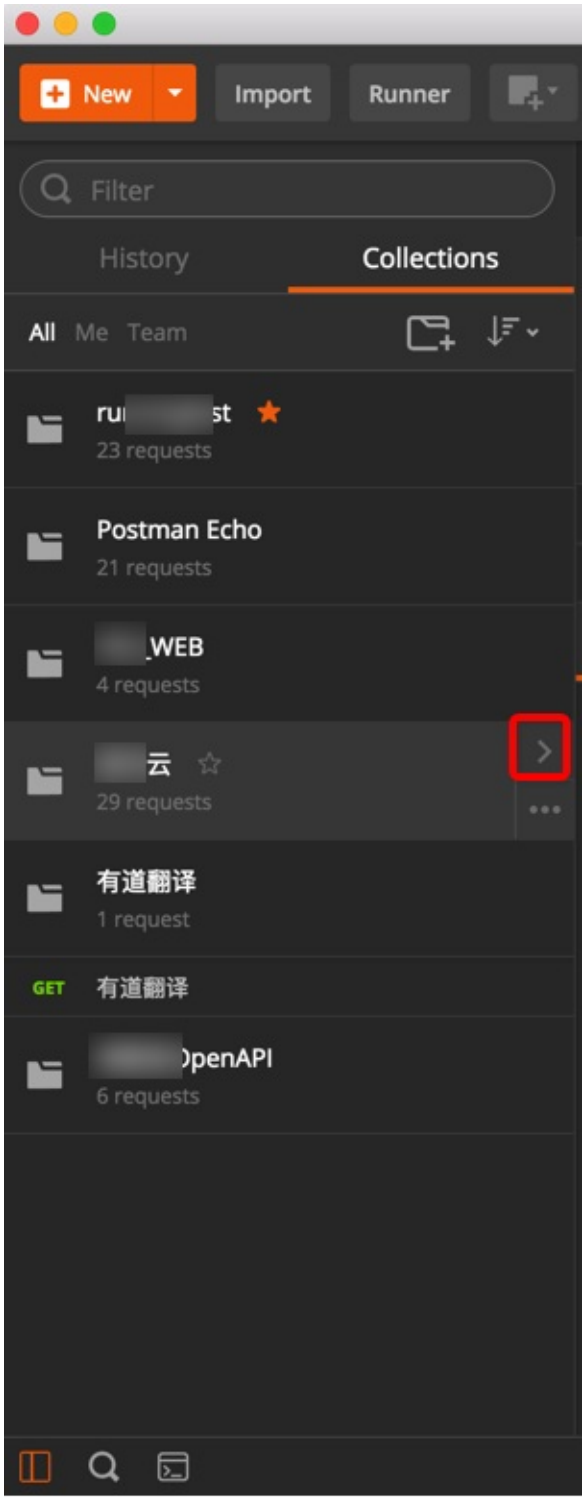
简要概述步骤

1. Collection
2. 鼠标移动到某个Collection，点击 三个点
3. Publish Docs
4. Publish
5. 得到Public URL
6. 别人打开这个Public URL，即可查看API文档

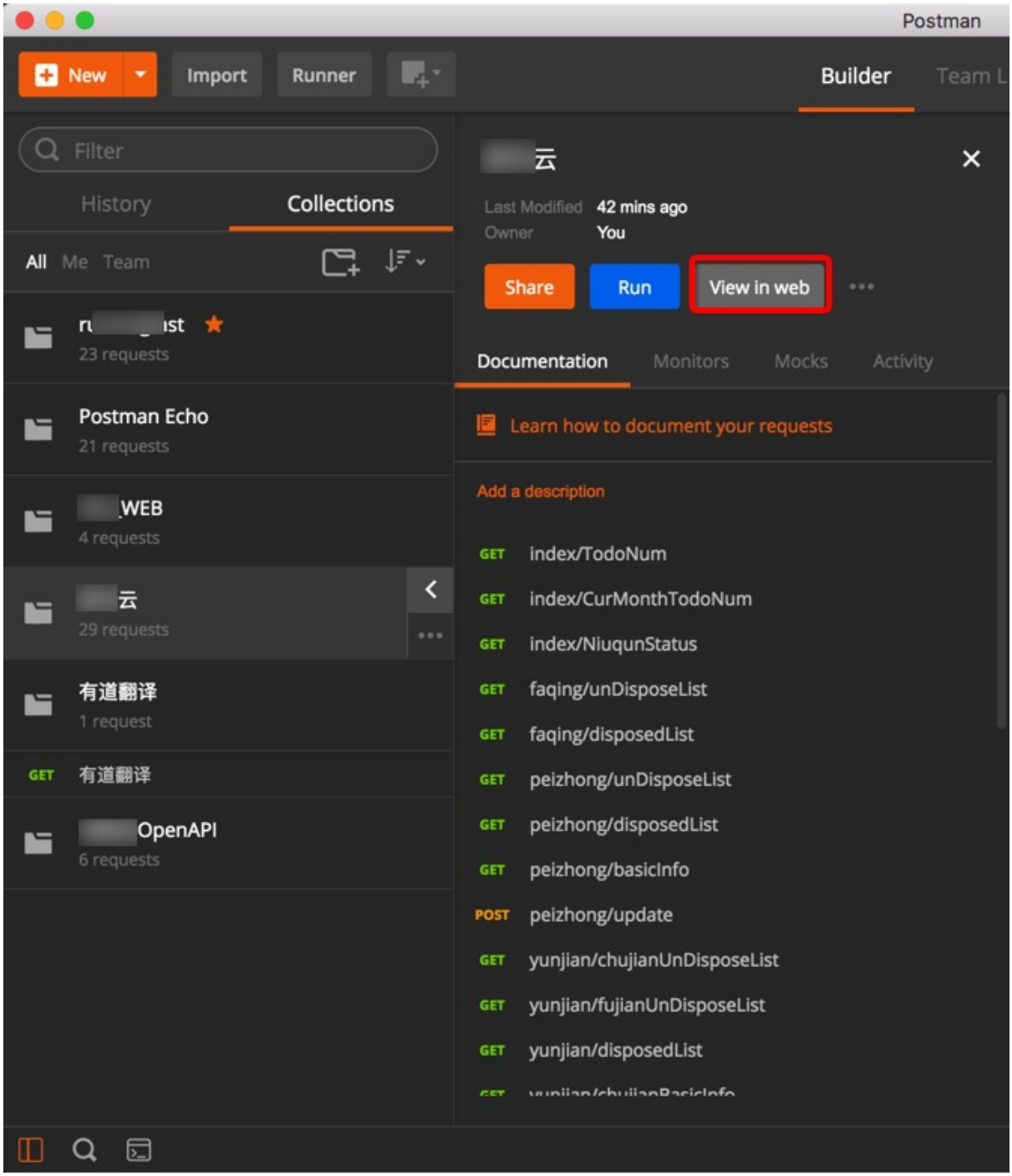
详细解释具体操作

预览API文档

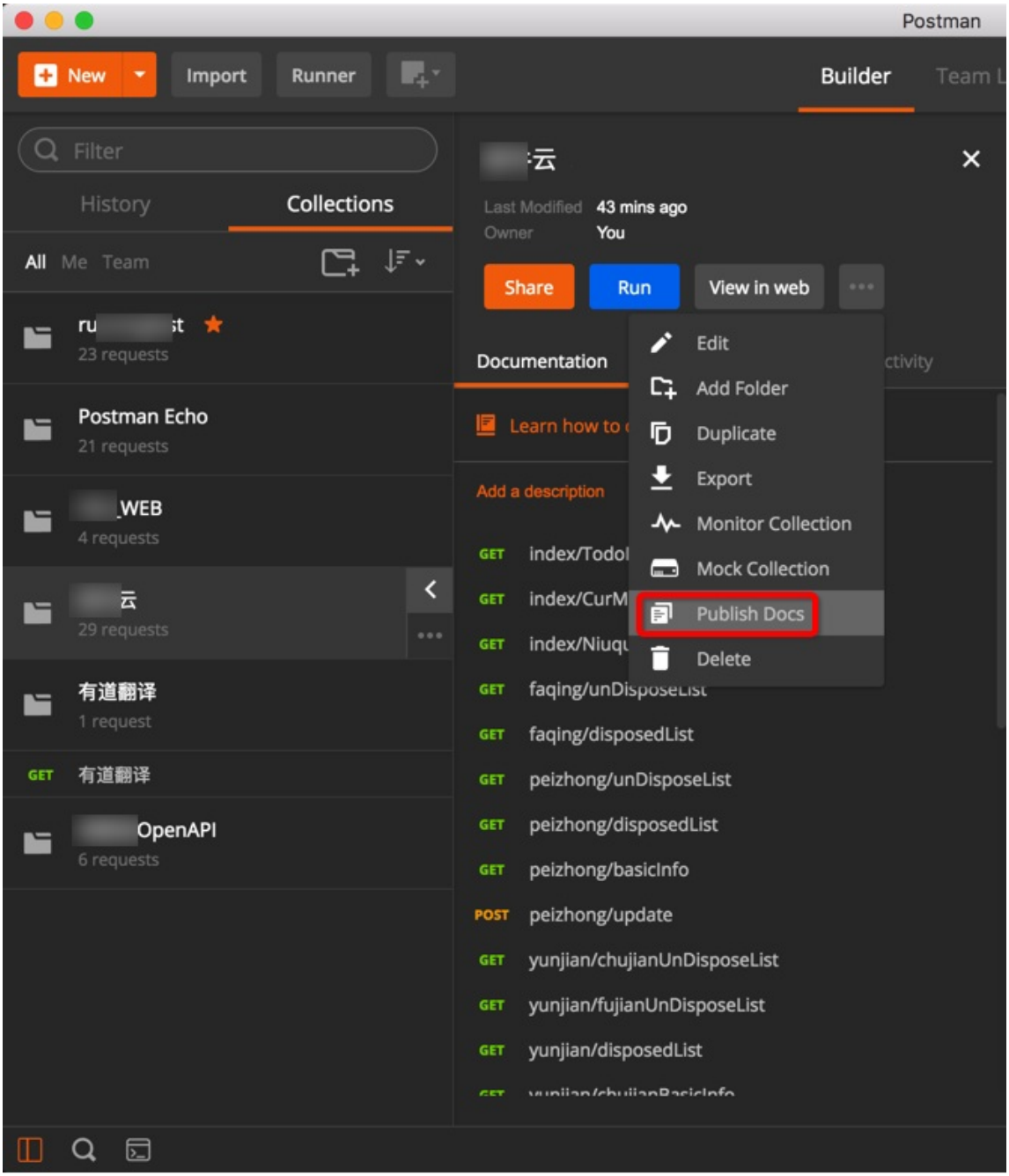
点击分组右边的大于号>



如果只是预览，比如后台开发员自己查看API文档的话，可以选择：View in web



> 等价于点击Publish Docs去发布：



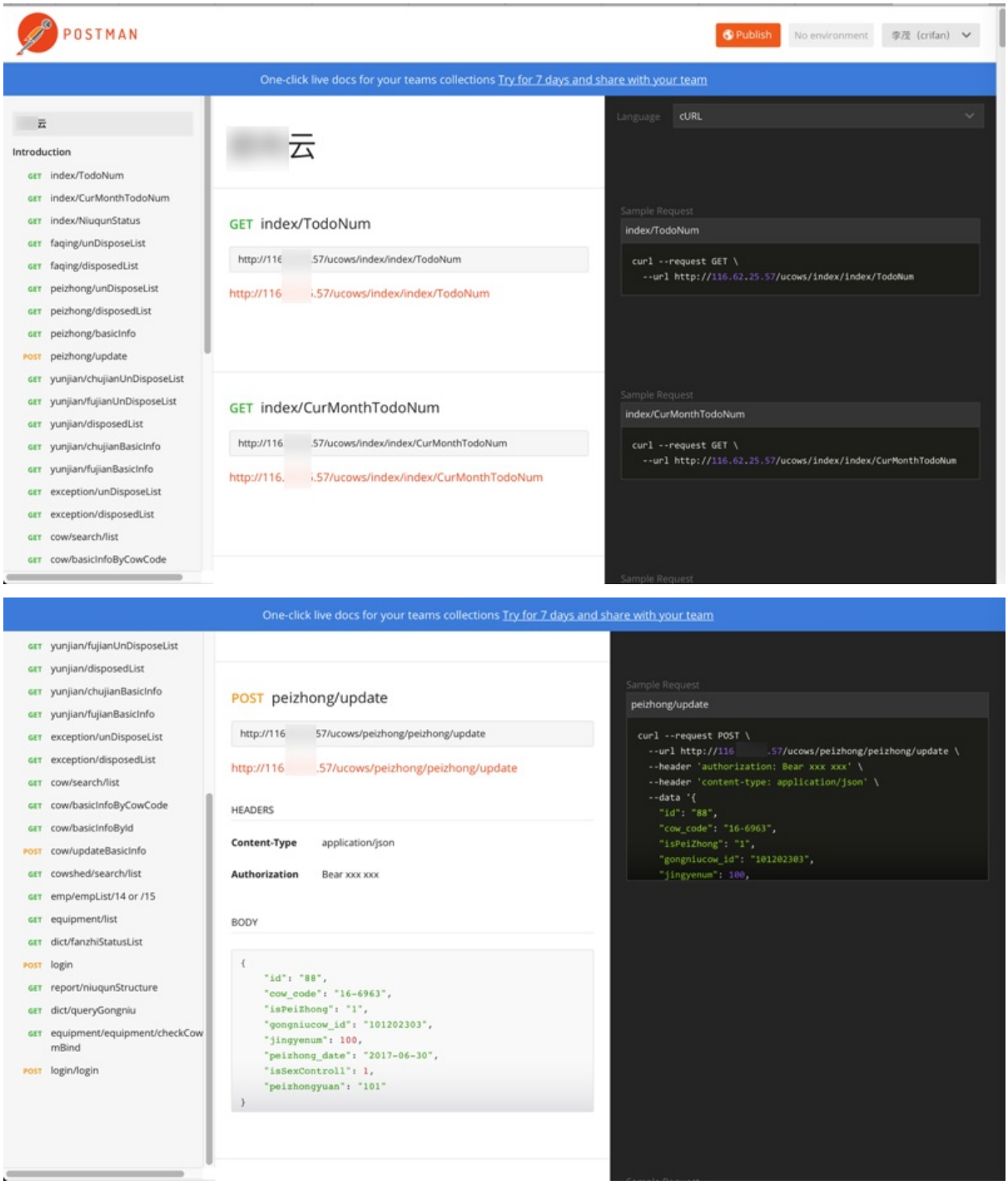
View in Web后，有 Publish的选项（见后面的截图）

View in Web后，会打开预览页面：

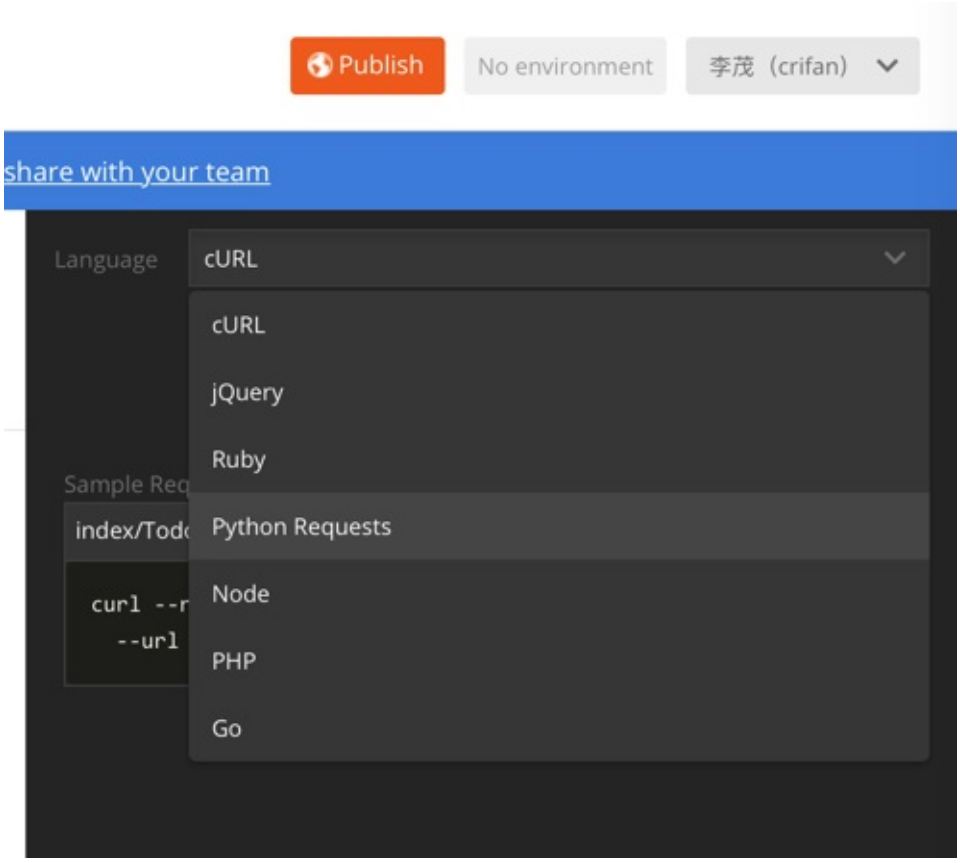
比如：

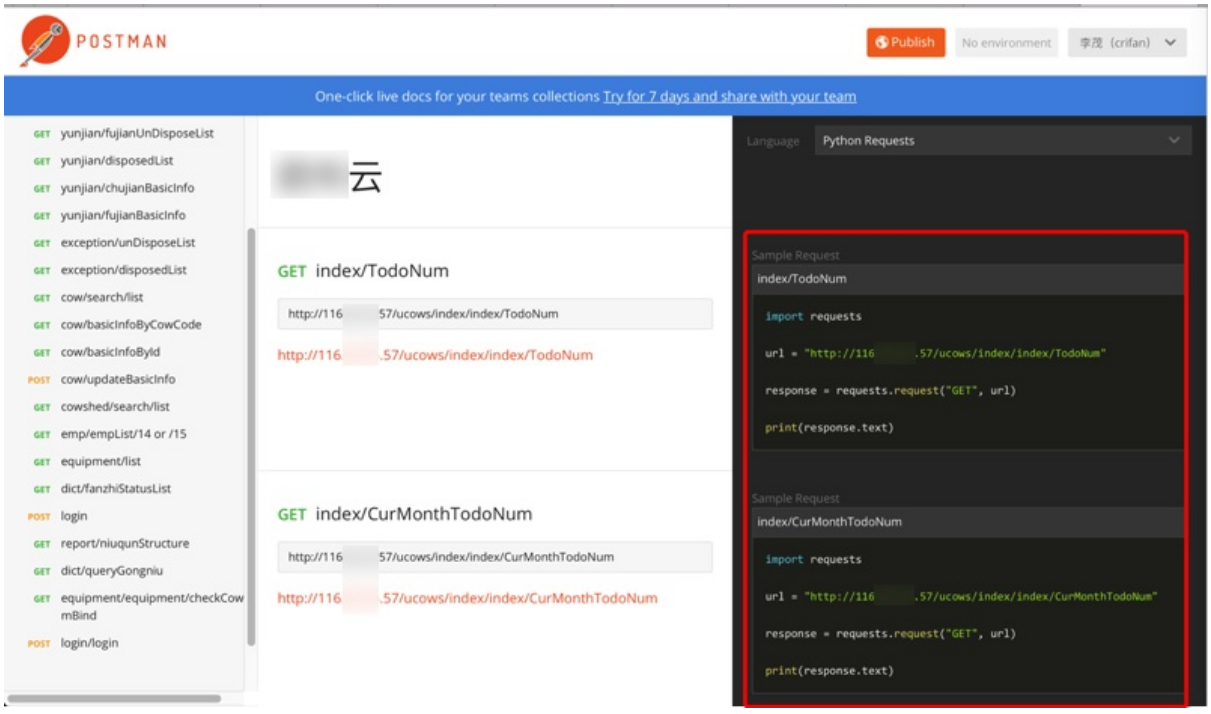
奶牛云

```
https://documenter.getpostman.com/collection/view/669382-42273840-6237-dbae-5455-26b16f45e2b9
```



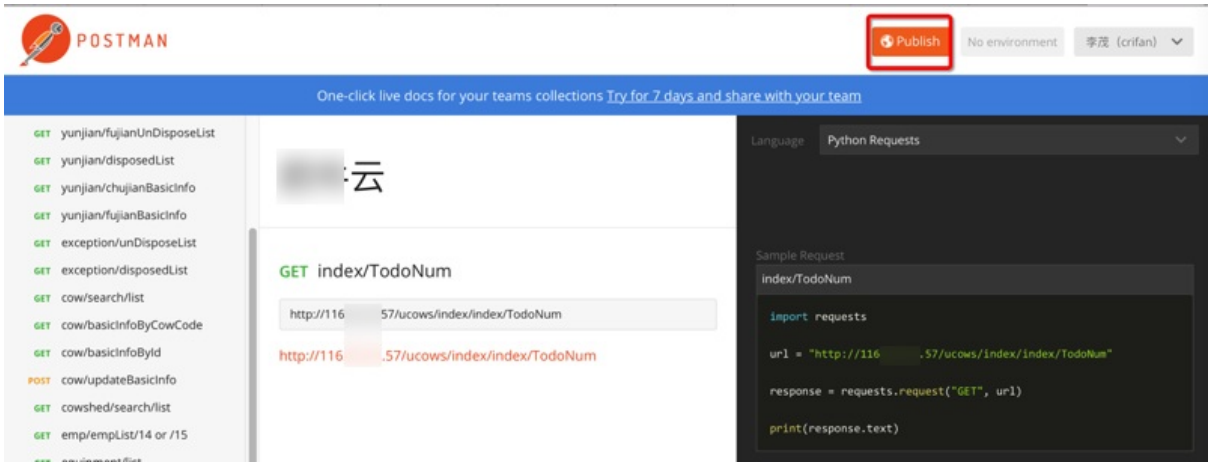
而右边的示例代码，也可以从默认的cURL换成其他的：





发布API文档

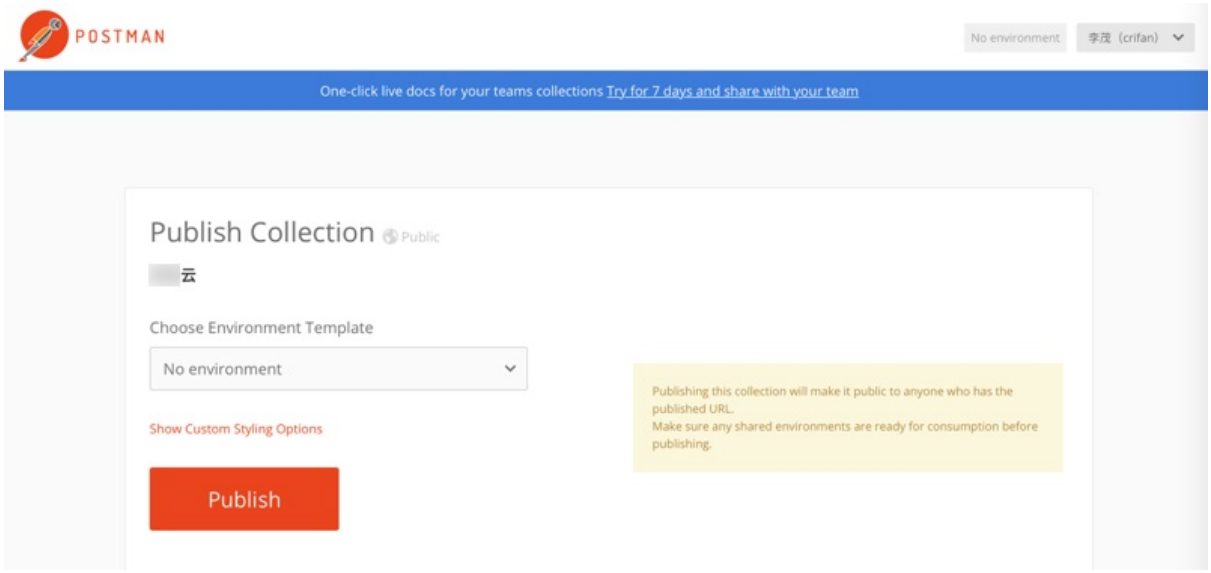
如果想要让其他人能看到这个文档，则点击 Publish：



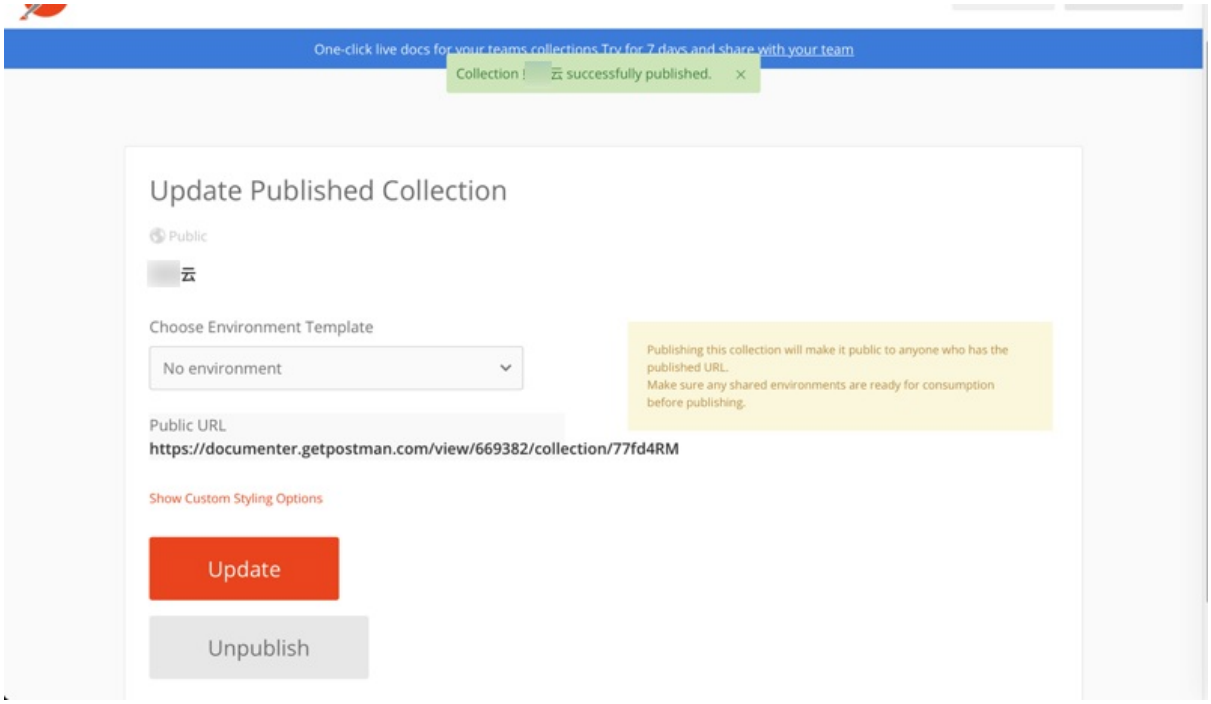
然后会打开类似于这样的地址：

Postman Documenter

```
https://documenter.getpostman.com/collection/publish?meta=Y29sbGVjdGlvbl9pZD00MjI3Mzg0MC02MjM3LWRiYWUtNTQ1NS0yNmIxNmY0NWUyYjkmb3duZXI9NjY5MzgyJmNvbGxlY3Rpb25fbmFtZT0lRTUlQTUlQjYlRTclODklOUI1RTQlQkElOTE=
```



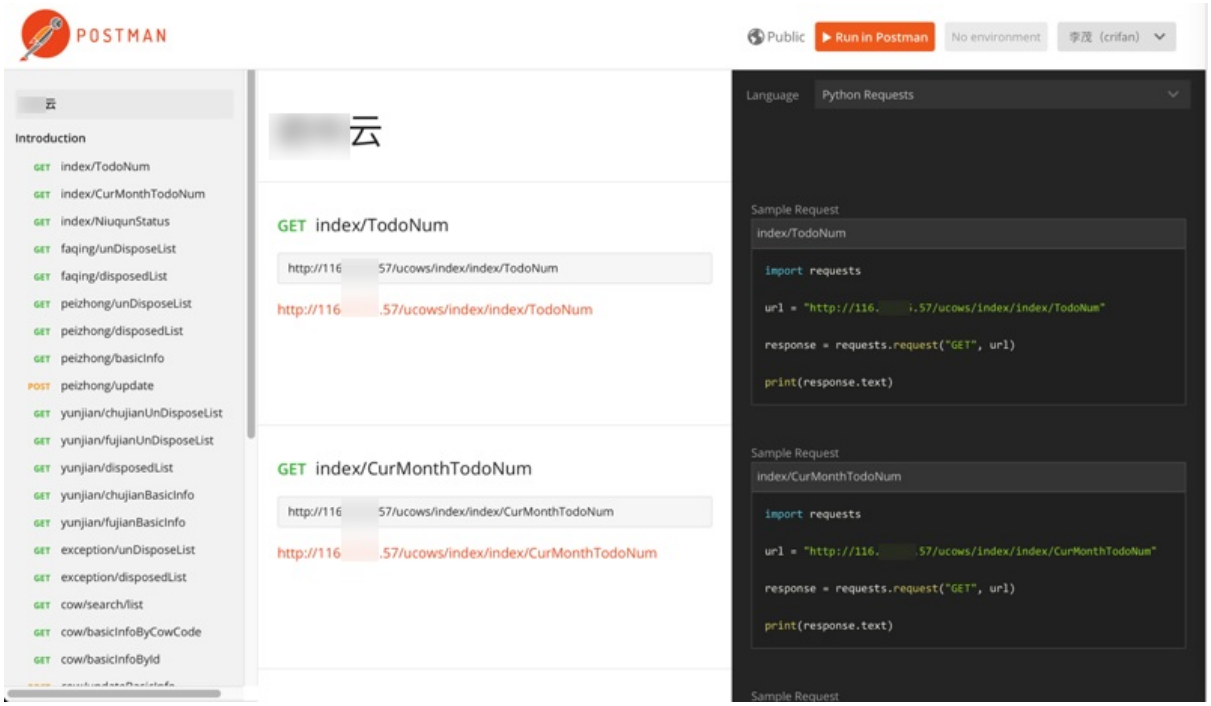
点击Publish后，可以生成对应的公开的网页地址：



打开API接口文档地址：

```
https://documenter.getpostman.com/view/669382/collection/77fd4RM
```

即可看到（和前面预览一样效果的API文档了）：

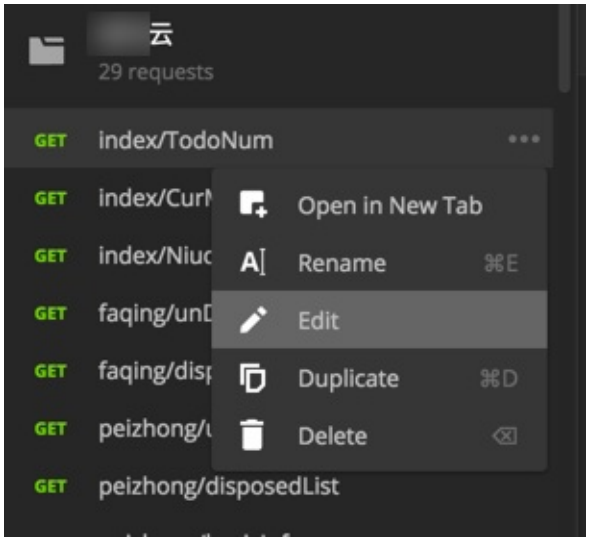


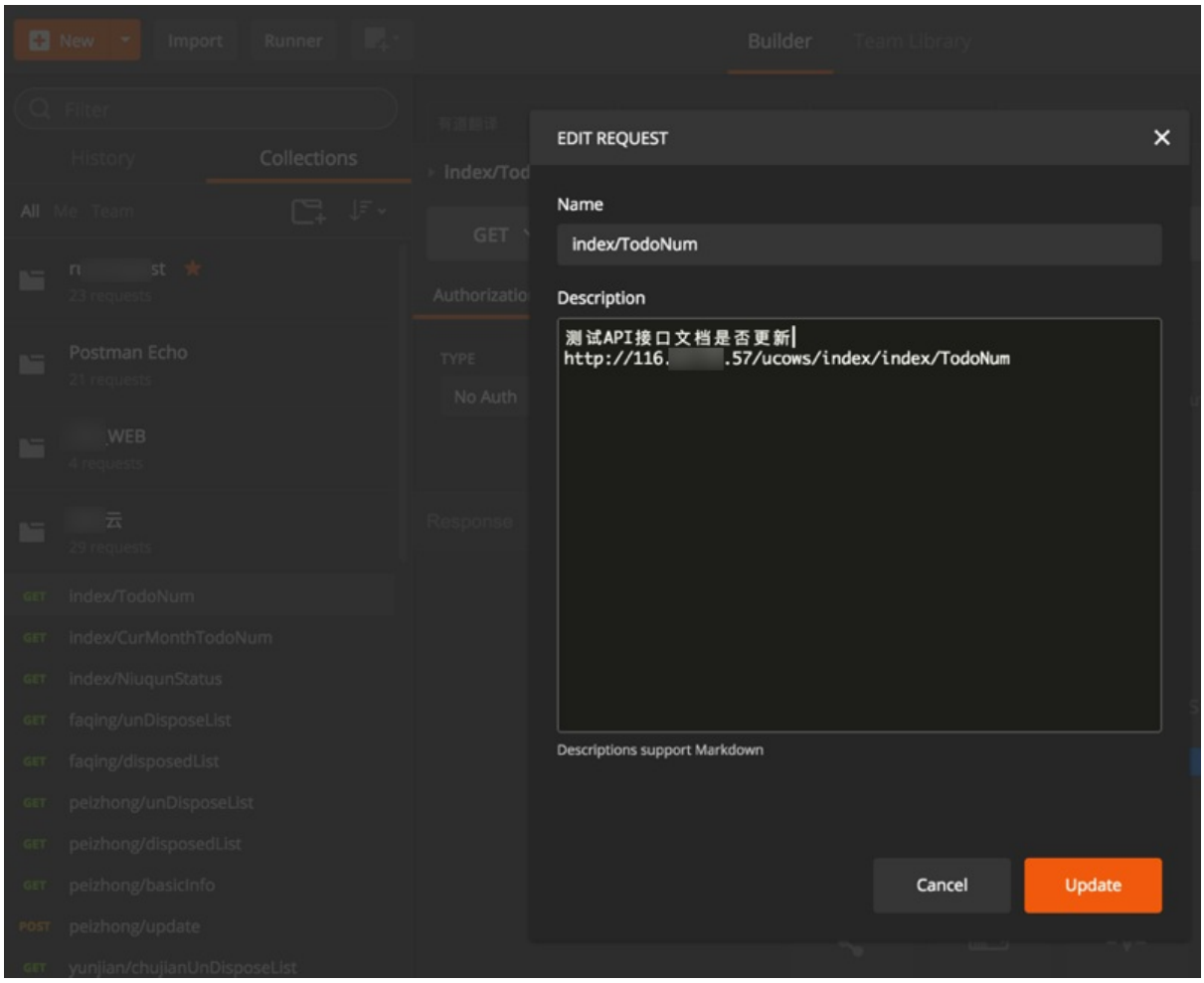
如此，别人即可查看对应的API接口文档。

已发布的API文档支持自动更新

后续如果自己的API接口修改后：

比如：



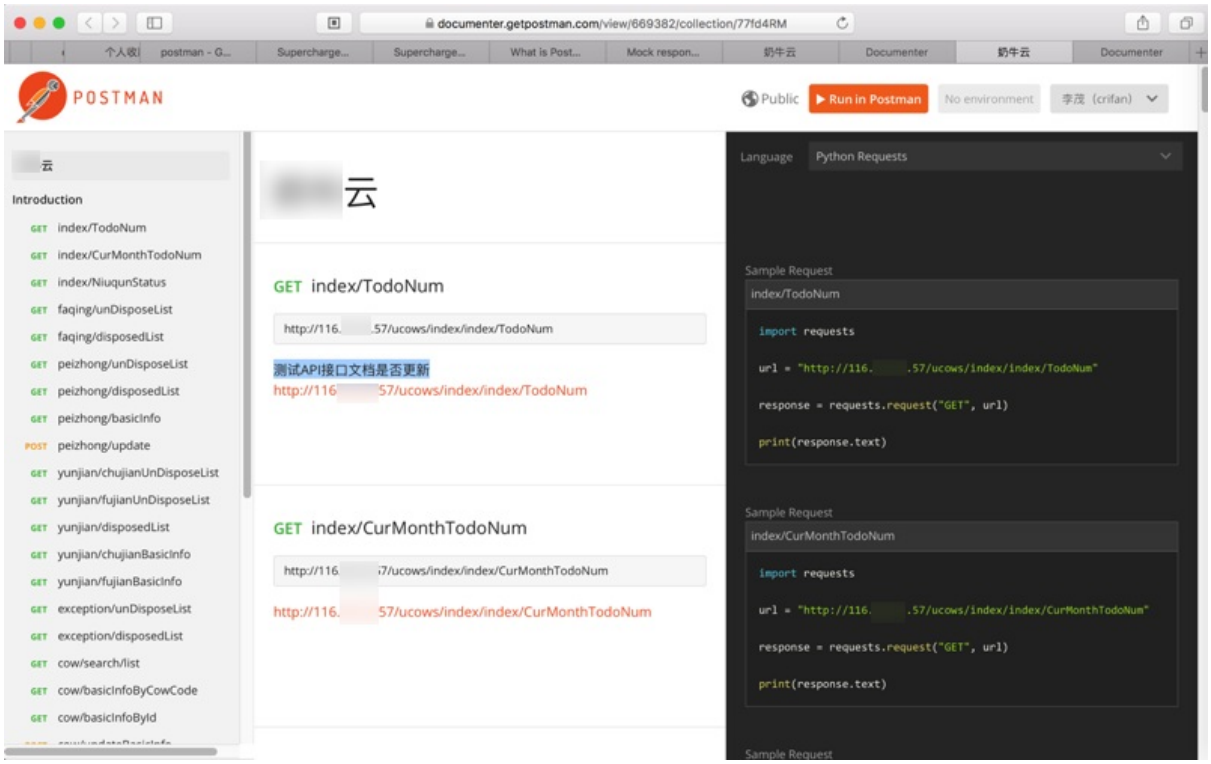


（后来发现，不用再去进入此预览和发布的流程，去更新文档，而是Postman自动支持）

别人去刷新该文档的页面：

```
https://documenter.getpostman.com/view/669382/collection/77fd4RM
```

即可看到更新后的内容：



附录

下面列出相关参考资料。

参考资料

- Manage environments
- postman-变量/环境/过滤等 - 简书
- Postman使用手册3——环境变量 - 简书
- postman使用之四：切换环境和设置读取变量 - 乔叶叶 - 博客园
-