

# 1 ORCID API

## 1.1 API 类型和功能

参考：<https://members.orcid.org/api/about-orcid-apis>

API	特征
<b>公共 API</b> <a href="#">具有 ORCID iD 的任何人都可以免费使用公共 API</a>	<ol style="list-style-type: none"><li>1. <b>验证</b>：获取用户经过身份验证的 ORCID iD</li><li>2. <b>读（公共）</b>：读取 ORCID 记录的公共数据</li><li>3. <b>创建</b>：帮助研究人员使用我们的按需创建流程注册 ORCID iD</li></ol>
<b>成员 API</b> <a href="#">ORCID 成员组织</a> (任何人都可以免费使用沙盒测试环境)	<ol style="list-style-type: none"><li>1. <b>读（限制）</b>：读取 ORCID 记录上的受限访问数据</li><li>2. <b>添加</b>：将新项目发布到记录中</li><li>3. <b>更新</b>：编辑或删除您之前添加的项目</li><li>4. 一个<b>集成</b>（客户端凭据）</li></ol>
<b>高级会员 API</b> <a href="#">高级 ORCID 会员组织</a> (任何人都可以免费使用沙箱测试环境)	<ol style="list-style-type: none"><li>1. <b>Webhooks</b>：接收用户 ORCID 记录更新的通知</li><li>2. 最多五个<b>集成</b>（客户端凭据）</li></ol>

## 1.2 API 及服务(scope)范围

范围	活动	方法和要求	通过获取访问令牌	过期日期在	API
/authenticate /认证	<a href="#">使用 ORCID 获取 ORCID iD 或 Authenticate</a>	没有 API 调用。客户端仅检索 OAuth 访问令牌。	<a href="#">3-legged OAuth</a>	当用户过期或撤销时	公共和会员 API
/read-limited /读受限	<a href="#">阅读记录中的公共和有限可见项目</a>	GET	<a href="#">3-legged OAuth</a>	当用户过期或撤销时	会员 API
/activities/update /活动/更新	<a href="#">添加, 更新和删除研究活动</a>	POST, PUT, DELETE	<a href="#">3-legged OAuth</a>	当用户过期或撤销时	会员 API
/person/update /人/更新	<a href="#">添加更新并删除个人信息</a>	POST, PUT, DELETE	<a href="#">3-legged OAuth</a>	当用户过期或撤销时	会员 API
/read-public /读公	<a href="#">阅读记录中的公共信息并搜索记录</a>	GET	客户凭证	当被 ORCID 撤销时	公共和会员 API
/webhook /网络挂接	<a href="#">注册 webhook</a>	PUT	客户凭证	当被 ORCID 撤销时	高级会员 API

## 1.3 请求地址

[https://github.com/ORCID/ORCID-Source/tree/master/orcid-model/src/main/resources/record\\_2.0#scopes](https://github.com/ORCID/ORCID-Source/tree/master/orcid-model/src/main/resources/record_2.0#scopes)

Action	HTTP method	Scope	URL
Read the entire record	GET	/read-limited or /read-public	https://[HOST]/v2.0/[ORCID]/record
Read an activities section	GET	/read-limited or /read-public	https://[HOST]/v2.0/[ORCID]/[SECTION]s
Read a person section	GET	/read-limited or /read-public	https://[HOST]/v2.0/[ORCID]/[SECTION]
Read a single item	GET	/read-limited or /read-public	https://[HOST]/v2.0/[ORCID]/[SECTION]/[PUT-CODE]
Add a person item	POST	/person/update	https://[HOST]/v2.0/[ORCID]/[SECTION]
Update a person item	PUT	/person/update	https://[HOST]/v2.0/[ORCID]/[SECTION]/[PUT-CODE]
Delete a person item	DELETE	/person/update	https://[HOST]/v2.0/[ORCID]/[SECTION]/[PUT-CODE]
Add an activity	POST	/activities/update	https://[HOST]/v2.0/[ORCID]/[SECTION]
Update an activity	PUT	/activities/update	https://[HOST]/v2.0/[ORCID]/[SECTION]/[PUT-CODE]
Delete an activity	DELETE	/activities/update	https://[HOST]/v2.0/[ORCID]/[SECTION]/[PUT-CODE]
Add multiple works	POST	/read-limited or /read-public	https://[HOST]/v2.0/[ORCID]/works
Read multiple works	GET	/activities/update	https://[HOST]/v2.0/[ORCID]/works/[PUT-CODE1], [PUT-CODE2]
Search records	GET	/read-public	https://[HOST]/v2.0/search?q=[SOLR-QUERY]*

[HOST] is the ORCID environment you are using

- [api.sandbox.orcid.org](https://api.sandbox.orcid.org) for the Member API on the ORCID Sandbox
- [pub.sandbox.orcid.org](https://pub.sandbox.orcid.org) for the Public API on the ORCID Sandbox (/read-public scope only)
- [api.orcid.org](https://api.orcid.org) for the Member API on the production ORCID Registry
- [pub.orcid.org](https://pub.orcid.org) for the Public API on the production ORCID Registry (/read-public scope only)

[ORCID] is the ORCID iD for the record.

[SECTION] can be one of the following:

- activities
- address
- biography \*
- education
- email \*
- employment
- external-identifiers
- funding
- keywords
- other-names
- researcher-urls
- peer-review
- person \*
- personal-details \*
- work

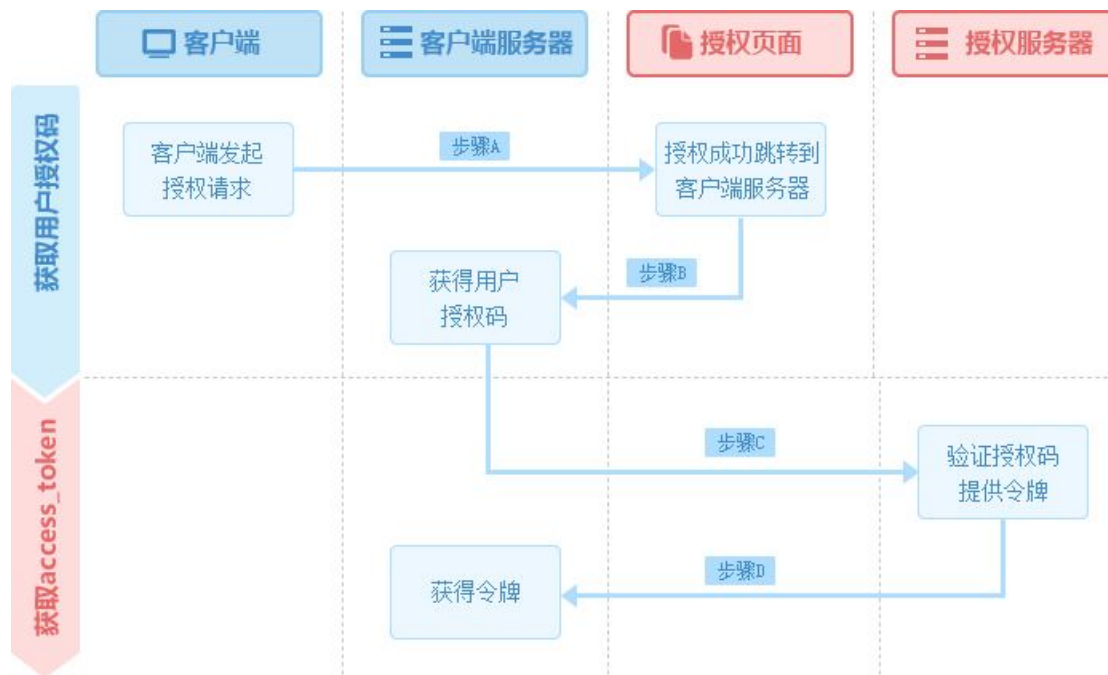
## 2 ORCID iD 操作

### 2.1 OAUTH 协议

OAUTH 协议为用户资源的授权提供了一个安全的、开放而又简易的标准。与以往的授权方式不同之处是 OAUTH 的授权不会使第三方触及到用户的帐号信息(如用户名与密码), 即第三方无需使用用户的用户名与密码就可以申请获得该用户资源的授权, 因此 OAUTH 是安全的。oAuth 是 Open Authorization 的简写。

### 2.2 获取授权

参考：<https://members.orcid.org/api/oauth>



## 步骤 A，客户端发起授权请求

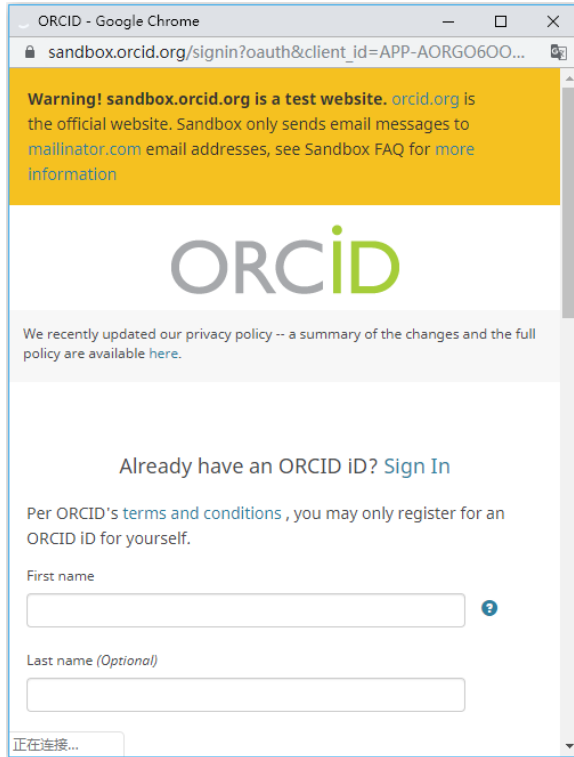
可在网页中嵌入 ORCID 登录链接，如下图



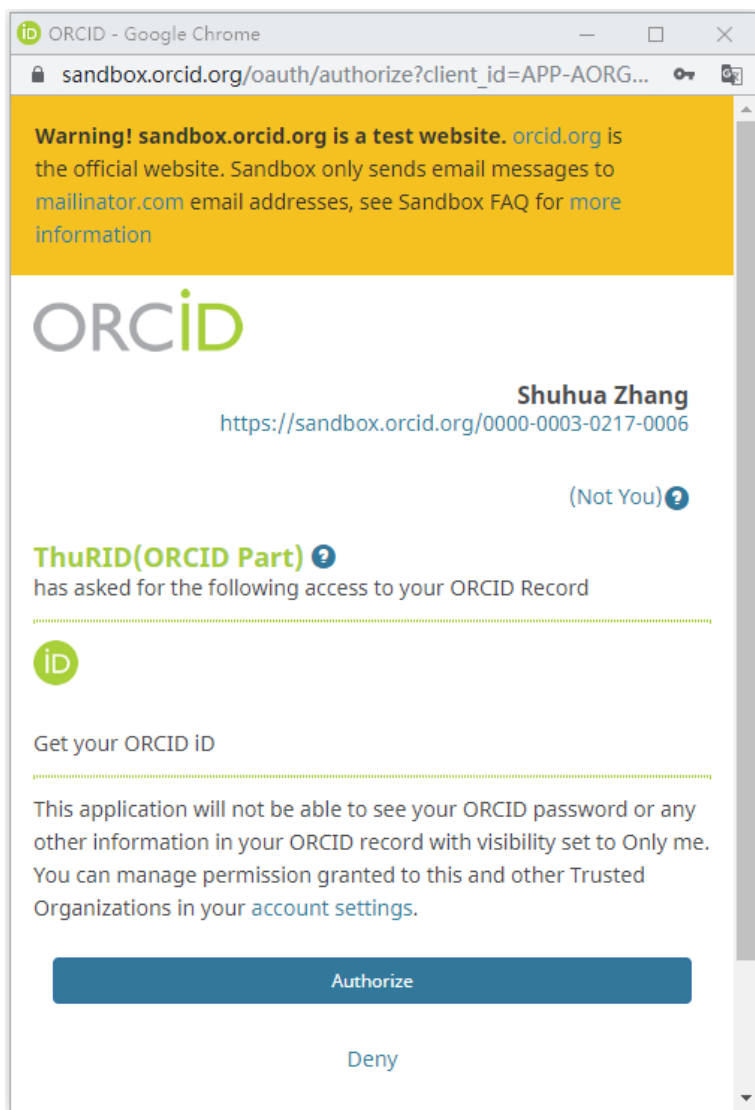
URL 示例，其中 scope 可同时包含多个服务范围

[https://sandbox.orcid.org/oauth/authorize?client\\_id=APP-AORGO6OOSBZ25ZAJ&response\\_type=code&scope=/authenticate%20/read-limited%20/activities/update%20/person/update&redirect\\_uri=%20http://lib.tsinghua.edu.cn/dra/](https://sandbox.orcid.org/oauth/authorize?client_id=APP-AORGO6OOSBZ25ZAJ&response_type=code&scope=/authenticate%20/read-limited%20/activities/update%20/person/update&redirect_uri=%20http://lib.tsinghua.edu.cn/dra/)

用户点击链接后，跳出如下登录界面



如果用户已注册过 ORCID ID，可以直接进行登录，登录后进入授权页面，如下图



用户点击“Authorize”进行授权，网页跳转到事先配置好的页面（会员提供 URL，ORCID 进行配置），如下图

## 步骤 B，获得用户授权码



URL 中会返回 6 位授权码。此页面应单独开发，实现发起请求获得令牌，提示用户必要信息，引导用户关闭此页面。

## 步骤 C，验证授权码提供令牌

命令示例：

```
curl -i -L -H "Accept: application/json" -d "client_id=APP-AORGO6OOSBZ25ZAJ&client_secret=9b8415fd-267e-4f5d-a35b-0bb2e26c61cd&grant_type=authorization_code&code=3UEucW&redirect_uri=http://lib.tsinghua.edu.cn/dra/" "https://sandbox.orcid.org/oauth/token"
```

## 步骤 D，获得令牌

步骤 C 中命令返回结果包含 access\_token：

```
{"access_token":"00fa0234-d45d-414d-8f80-3856d73c54xx","token_type":"bearer","refresh_token":"eb54f2c8-72e1-4217-a1d8-1179b761a958","expires_in":631138518,"scope":"/authenticate /activities/update /person/update","name":"Shuhua Zhang","orcid":"0000-0003-0217-0006"}
```



## 2.3 添加地址数据

包含步骤 D 中的 access\_token 命令示例：

```
curl -i -H "Content-type:application/vnd.orcid+xml" -H "Authorization: Bearer 00fa0234-d45d-414d-8f80-3856d73c54xx" -d "@E:\tsinghuaLibrary\ORCID\沙盒测试\curl-7.64.1-win64-mingw\bin\address.xml" -X POST https://api.sandbox.orcid.org/v3.0/0000-0003-0217-0006/address
```

address.xml 文件格式如下：

```
<?xml version="1.0" encoding="UTF-8"?>
<address:address xmlns:address="http://www.orcid.org/ns/address"
  xmlns:common="http://www.orcid.org/ns/common" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.orcid.org/ns/address ../address-2.0.xsd">
  <address:country>US</address:country>
</address:address>
```

返回结果：

```
E:\tsinghuaLibrary\ORCID\curl-7.64.1-win64-mingw\bin>curl -i -H "Content-type:application/vnd.orcid+xml" -H "Authorization: Bearer 00fa0234-d45d-414d-8f80-3856d73c54xx" -d "@E:\tsinghuaLibrary\ORCID\沙盒测试\curl-7.64.1-win64-mingw\bin\address.xml" -X POST "https://api.sandbox.orcid.org/v3.0/0000-0003-0217-0006/address"
HTTP/1.1 201 Created
Server: nginx/1.10.0
Date: Tue, 10 Sep 2019 10:08:55 GMT
Content-Type: application/vnd.orcid+xml; qs=5; charset=UTF-8
Content-Length: 0
Connection: keep-alive
Access-Control-Allow-Origin: *
Cache-Control: no-cache, no-store, max-age=0, must-revalidate
Pragma: no-cache
Expires: 0
X-XSS-Protection: 1; mode=block
X-Frame-Options: DENY
X-Content-Type-Options: nosniff
Location: http://api.sandbox.orcid.org/v3.0/0000-0003-0217-0006/address/5754
```

## 2.4 读取地址数据

命令示例：

```
curl -i -H "Accept: application/vnd.orcid+xml" -H "Authorization: Bearer 00fa0234-d45d-414d-8f80-3856d73c54xx" https://api.sandbox.orcid.org/v2.1/0000-0003-0217-0006/record
```

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<address:addresses path="/0000-0003-0217-0006/address" xmlns:internal="http://www.orcid.org/ns/internal" xmlns:funding="
http://www.orcid.org/ns/funding" xmlns:preferences="http://www.orcid.org/ns/preferences" xmlns:address="http://www.orcid
.org/ns/address" xmlns:education="http://www.orcid.org/ns/education" xmlns:work="http://www.orcid.org/ns/work" xmlns:dep
recated="http://www.orcid.org/ns/deprecated" xmlns:other-name="http://www.orcid.org/ns/other-name" xmlns:history="http://
www.orcid.org/ns/history" xmlns:employment="http://www.orcid.org/ns/employment" xmlns:error="http://www.orcid.org/ns/er
ror" xmlns:common="http://www.orcid.org/ns/common" xmlns:person="http://www.orcid.org/ns/person" xmlns:activities="http:
//www.orcid.org/ns/activities" xmlns:record="http://www.orcid.org/ns/record" xmlns:researcher-url="http://www.orcid.org/
ns/researcher-url" xmlns:peer-review="http://www.orcid.org/ns/peer-review" xmlns:personal-details="http://www.orcid.org/
ns/personal-details" xmlns:bulk="http://www.orcid.org/ns/bulk" xmlns:keyword="http://www.orcid.org/ns/keyword" xmlns:ema
il="http://www.orcid.org/ns/email" xmlns:external-identifier="http://www.orcid.org/ns/external-identifier">
  <common:last-modified-date>2019-09-10T10:08:55.149Z</common:last-modified-date>
  <address:address put-code="5754" visibility="private" path="/0000-0003-0217-0006/address/5754" display-index="0">
    <common:created-date>2019-09-10T10:08:55.149Z</common:created-date>
    <common:last-modified-date>2019-09-10T10:08:55.149Z</common:last-modified-date>
    <common:source>
      <common:source-client-id>
        <common:uri>https://sandbox.orcid.org/client/APP-AORG0600SBZ25ZAJ</common:uri>
        <common:path>APP-AORG0600SBZ25ZAJ</common:path>
        <common:host>sandbox.orcid.org</common:host>
      </common:source-client-id>
      <common:source-name>ThuRID (ORCID Part)</common:source-name>
    </common:source>
    <address:country>US</address:country>
  </address:address>
</address:addresses>
```